



# EQUIPMENT REVIEW

## DICK SMITH EXPLORER

Evan Jarman, VK3ANI  
TECHNICAL EDITOR

### 70 CM VHF-FM TRANSCEIVER

This is a very interesting new piece of equipment for, unlike most available today, it is a kit. It requires the odd spare few hours before switching on to build and test, but does give the satisfaction of being home built. It is a big thrill when some replies are received to that first call on a home-brew rig. I know, as all my gear is home made, including a kit.

The unit received however, was already built and was to be put through the paces. It came through very well.

#### ON BENCH

Designed for VHF mobile use on 70 cm, it is about the same size as most other mobile gear. The case is plastic and the circuitry, with front and back panels, form a "H" shape enclosed in the case. The speaker was mounted on the case. No mounting bracket was received with the unit but slots on the side showed that this had been thought of.

The unit came without a manual, for at that time it was being prepared, so no specifications were given as to performance. Some specifications were later obtained and the unit tested against these. It complied with these easily, but it should be mentioned that the unit received did not have all the options so power consumption, on receive, was well within the published 340 mA.

#### ON AIR

On air performance received commendation from all those who heard it. On the receive side the audio was clean and easily equal to all receivers that were compared with it. Sensitivity was good but when compared with others, two were better but one was not. On the only DX tried from Cape Otway (Victoria) to Burnie (Tasmania) it was able to hear and be heard while other gear I had could not get through.

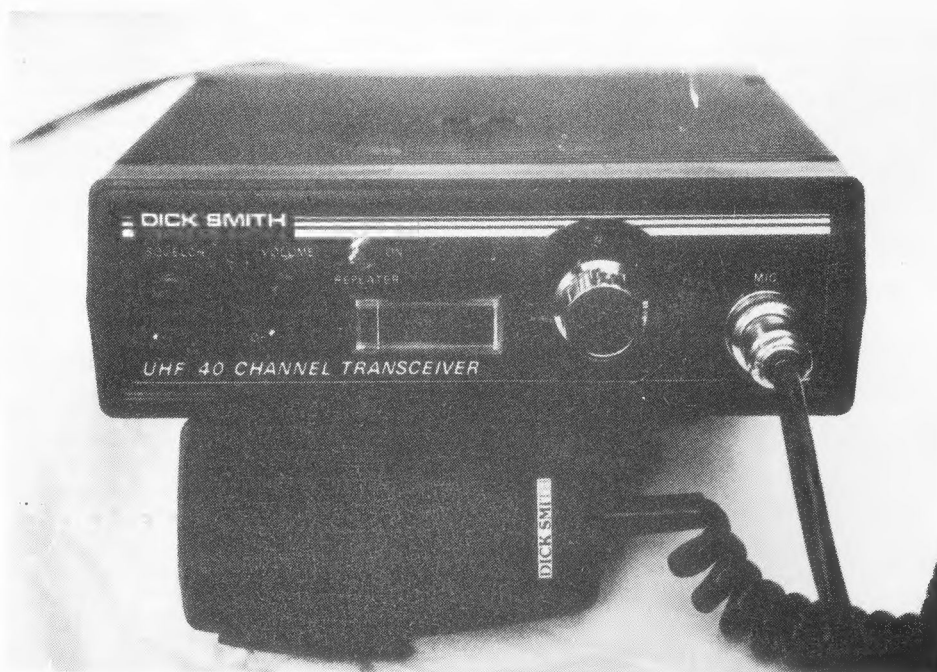
I should mention that all the units that I tested it against are commercially available.

The power of the transmitter, quoted (5 watts), was all that was required for cross city communication. One of the features of 70 cm FM vs 2 m FM is its ability to penetrate buildings; solid communication was possible inside basement car parks, under railway bridges, nearly anywhere. The only thing that managed to stop it was a big mound of dirt. Working simplex from one side of a city to another mobile was nearly always possible in Melbourne. In Adelaide it did not miss a beat.

It was susceptible to some desensitisation when close to other transmitters that were near in frequency. In a test, the receiver was blocked but it required a 20 watt transmitter 10 metres away to do it and only because it was on the next channel.

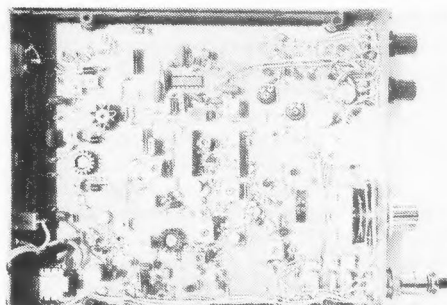
#### OPERATING

This radio has the basic controls, volume,



mute channel select and a switch to turn on the repeater off set.

The only control that caused any trouble was the channel select. It is a 40 position switch and gives the channel number by a LED illuminating a perspex cursor on the knob. From the side it looked like a different channel was in use and the back lash in the switch nearly let another channel number over the light. A pair of thumbnail switches could be an alternative.



#### LOOKING INSIDE

Opening the unit showed the reason why the "S" meter did not work: it was not connected. That is the meter may not have been connected but the light in the meter certainly was, and worked well.

However my greatest disappointment was indeed not a design fault. It was the soldering. It looked as if it had been put together with an enormous iron and an acid pot! Even so, still it worked, and worked well. While a great

improvement can be made by those who are willing to take some care in the construction it does show that it is capable of withstanding a great variety of soldering techniques.

#### OVERALL

The unit was taken on a couple of trips (Sydney and Adelaide) and worked well. No complaints were received about the "on air" quality of the rig and most were complementary about "home brew" making it onto the band.

Most expressed concern about their ability to construct it but when shown the radio were delighted about how it all fitted together. It showed that the schematic circuit should not be used as a gauge of difficulty in construction.

It is a fine performer compared with other amateur units and as a means to get on the band: value for money.

The unit is sold as a kit of parts by Dick Smith Electronics and well worth consideration.

#### CONCLUDING

I mentioned that the S meter is not connected. On subsequent investigation it was found that a separate option kit is available for S meter, repeater offset and selectivity. This was not available on the prototype although space is available. Although the repeater off set switch was there it was not used for I was more interested in testing the unit on simplex.

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