

## ■ Equipment Review

# Yaesu FT-51R Dual Band Handheld Transceiver

Reviewed by Ron Fisher VK3OM\*

It's been quite a while since I have done a VHF/UHF review. This one came along at just the right time; I happened to call in at the Federal Office to drop off some material for the magazine the day before setting off for a three week trip to New Zealand. Would I be interested in looking at a new dual band handheld? Seeing that I was ready to pack two transceivers, one for two metres, the other for 70 cm, how could I refuse the offer of just taking the one, and a new

one at that. So, the FT 51R has been tested over many hundreds of kilometres of New Zealand roads.

If you are planning a trip to ZL, it is essential to have 70 cm as well as two metres. On 70 cm, they have an incredible system of linked repeaters that covers the whole country from north to south. From Christchurch in the South Island I could easily talk to my friends in Auckland.

Well, enough of that, what about the

FT-51R? The FT-51R is, in fact, the big brother of the diminutive FT-11R two metre handheld transceiver. When I say "big brother", I don't mean big in size but big on features. The FT-51R features both two metre and 70 cm operation with simultaneous dual band receive capability and extended range receive coverage, including the aircraft band with AM detection. All of this in a package only 5.8 cm wide, 12 cm high and 3 cm deep which includes the two watt output battery. The higher power output batteries increase the height a small amount.

The transceiver is supplied with an antenna, nicad battery and an Australian approved charger. The supplied battery gives the transceiver two watts power output. Optional batteries allow up to five watts output.

Perhaps the most interesting feature of the FT-51R is the scrolling instructions built into the larger-than-usual LCD. Yaesu call this feature "windows". Not quite the same as the "Windows" you might find on your

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IBM clone computer, but more "windows" into the works of the FT-51R that will help you sort out the very friendly operating options that the rig presents. The amount of information that the display delivers is quite amazing. Let's run through a few of its features.

The spectrum scope gives a visual picture of what is going on on frequencies other than the one you are actually using. If a frequency becomes active, you just have to centre the "pip" in the display using the tuning control and you are there. Of course, the two operating frequencies displayed on the readout are capable of receiving two signals at the same time, either on the same band or on different bands. As well, each frequency has its own "S" meter and if you decide to change either the audio gain or the squelch, this is also displayed by a bar graph. Transmit power output is also displayed as a bar graph. The display will even tell you which battery you have fitted (in case you have forgotten!) and its present state of charge. Both the receive audio gain and squelch settings are set using up/down buttons, with audio being the primary function and the squelch selected via the "F" (function) button. In fact, the only rotary control on the transceiver is the VFO/memory selector on the top panel. Each of the twenty control buttons below the display have dual functions selected via the "F" button.

### On the Air

With the rush to get away on our holiday, the first chance I had to read the instruction book was on the plane on the way to Auckland. Unfortunately, I wasn't able to have the FT-51R in front of me while doing this. The Yaesu looks just like a cellular phone and airline staff are paranoid about using these while in the air. However, by arrival time I was



sure that I would be able to call my ZL friend on our pre-arranged 70 cm frequency. I did and got through the first time.

The first thing I noted was that the audio output from the speaker was lacking when using the rig in a high ambient noise area. It was really better to treat the transceiver as a mobile phone and hold it up to your ear. Depending on how quiet your car is, an external speaker could be an advantage. But, for normal use around the house, there was plenty of audio.

The received audio quality was very good considering the speaker is only about 25 mm in diameter. Reports on the transmitted audio quality were excellent, indicating a well balanced

response and optimum deviation. I also tested the audio with the MH-12 speaker microphone. Transmit quality was identical to the inbuilt microphone with the received audio slightly more restricted than the internal speaker. Acoustic output was slightly less from the external unit.

The MH-12 is now an old model and I note that Yaesu now offer three optional speaker microphones. There is the MH-32A2B which is a miniature size model, the MH-35A2B standard size model which, no doubt, replaces the MH-12, and the super model, the MH-29A2B which has its own inbuilt digital display and control buttons. None of these were supplied with our review transceiver so, unfortunately, I cannot comment on their relative performance. I would be most interested to test these three units, in particular the remote control model with the inbuilt display, some time in the future. Dick Smith Electronics please note.

Transmitter power output was measured at 2.3 watts on 146 MHz and 1.5 watts on 435 MHz. The antenna that

Yaesu supply with the FT-51R is a new design which is claimed to give better performance than some of the usual rubber dummy loads. I took along a Diamond RH-77 which, although twice the length of the Yaesu antenna, did not appear to work any better.

There are also three optional battery packs which give the choice of either longer battery life or higher transmit power output. The FNB-38 9.6 volt battery gives the FT-51R a power output of 5 watts. There is no provision to power the FT-51R directly from a standard car battery for mobile operation. The transceiver is rated for a maximum of 11 volts input, not 12, and certainly not 13.8 volts. If you do need to use the rig in your car, you will need the Yaesu E-DC-12 mobile power

adaptor which gives a regulated output of 11 volts to both power the transceiver and also trickle charge the battery. The E-DC-12 terminates in a special fitting that clips onto the battery fitted to the transceiver.

For home use, the FT-51R is supplied with a very neat base charging stand and a wall plug-pack to supply the required charging voltage. This plug-pack has been modified by Dick Smith staff to give the correct charging current. This all works well, with one exception. There is no LED on the charging stand to show that charging is actually taking place. The old CA-2 stand that I use with my FT-23 and FT-411 does have an LED which is very reassuring. Also, both of the adaptors use a 2.5 mm audio plug for the DC connection which can accidentally short the DC supply unless they are pushed in with care. A proper DC connector should have been used.

### The Bottom Line

If you are in the market for a dual band handheld transceiver, the Yaesu FT-51R should be near the top of your list. I have always thought that Yaesu handhelds are more user-friendly than many other makes. The wide band receiver has excellent sensitivity right across the range. It is especially good on the aircraft band and actually ran rings around two dedicated air band receivers that I use from home. I note from American advertisements for the FT-51R that Yaesu can supply a software program to operate your transceiver from your PC. If available here, this could be a most interesting addition to your transceiver.

The review FT-51R was supplied by Dick Smith Electronics to whom you should address your enquiries. The FT-51R sells for \$899 and this includes a 4.8 volt rechargeable battery, base charging stand and wall plug charger.

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## WIA News

### Antenna Design to Deflect Mobile Telephone Radiation Fears?

Amid speculation and controversy over whether or not radio-frequency radiation from handheld mobile phones causes cancer in some users, engineers from the Queensland Griffith University claim to have successfully designed an antenna for mobile phones that deflects the electromagnetic radiation away from the phone user's head.

Recent media reports have kept alive fears that the radio-frequency radiation from mobile phones may cause brain or other cancers. Recent scientific studies on a possible link between mobile phone use and cancers in users have been inconclusive on the matter of causality, or the likely mechanism if low level radio-frequency radiation is linked to cancer.

After four years of work, the university engineers said their antenna reduces the exposure level to only 0.1% of that currently experienced when using today's mobile phones. In addition, they said the antenna leads to an increase in battery life of more than 70% and the phone's range by 50%.

The Griffith University is seeking a manufacturer to produce the antenna so that it can be sold worldwide.

The Australian Standard AS 2772 presently applies to RF exposure limits from radio-frequency devices, including mobile phones. For those concerned about the health implications of radio-frequency radiation, two very clearly written articles are recommended: "Are Radio Waves Dangerous To Your Health?", and "Does Your Station Comply With RF Field Limit Standards?", written by Andrew Corney ZL2BBJ and published in the NZART journal Break-In, November and December issues 1995, respectively.

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