

Tim Kirby G4VXE takes a break from his *World of VHF* column to review the latest exciting arrival from China.

The Wouxun KG-UV920R

Twin Band 144/432MHz Mobile/Base Transceiver



First Impressions

On unpacking the radio, the first impression was of a solidly constructed radio of a decent size and weight. It didn't feel flimsy.

The front panel boasts an excellent sized display, which I guessed would be easy to read in the car – it certainly was in the shack when I connected it up on arrival! There are quite a few controls on the front panel and I wondered whether it would be a bit 'busy' and whether some of the buttons would be a bit small when using the rig mobile. Actually, this proved not to be the case.

The display defaults to an easy to read blue background but you can make it change colour when you are transmitting or when a signal is received. Perhaps this would be useful if you were monitoring a frequency for a transmission with the volume turned down?

The volume on the rig is actually quite loud, even at low settings and in the shack, I found that a setting of 1, on a scale of 1 to 10, was quite adequate.

Note: Interestingly, in his blog, **Jeff Dale VA3ISP** describes some modifications that he has made to reduce the audio level.

If you have used the Wouxun hand-held radios, you'll find the method of configuring repeater splits, setting the Continuous Tone Coded Squelch System (CTCSS) tones and so on very familiar – the menu operation is almost identical on the KG-UV920R to the hand-helds. Nevertheless, I did resort to the instruction manual straightaway as the rig was not pre-programmed with repeater shifts (which is not a criticism, as particularly on 433MHz, both 1.6 and 7.6MHz splits are in use in the UK – so you might well have to change the setting in any case).

The KG-UV920R mobile has been rumoured for a long time and indeed, seemed to be close to coming to market about 18 months ago, but ended up being re-designed. So, I was excited when the Editor offered me the chance to have a look at the

rig. Why? Wouxun have developed a reputation, along with some of the other Chinese manufacturers for producing equipment that's good quality – but at a reasonable price. So, I wondered – would the KG-UV920R follow this trend?

Paraphrased Manufacturer's Overview

At this stage in the review I normally include the manufacturers overview of the rig. I've paraphrased it slightly, as if we print it verbatim, you'll think that we have made a lot of grammatical errors. (More on this later).

Overview of functions;

- Twin-band transmit.receive.
- Features v.h.f. transmit – u.h.f. receive or u.h.f. transmit – v.h.f. receive.
- Dual-band, simultaneous reception.
- 999 memory channels.
- Dual Display – large liquid crystal display display – (l.c.d.) with independent control for v.h.f. and u.h.f. radios
- Remote head mounting capability.
- Cross-band repeat.
- Output 50W v.h.f. and power output 40W at u.h.f.
- Multiple speaker configurations.
- Includes DTMF encoding and decoding.
- Priority channel scanning.
- Voice guide.

Perhaps this is an opportune moment to mention the manual. It's attractively produced and someone has obviously made an effort to make the style and tone 'friendly'. Under the section 'First QSO' it starts, "Do you want to hurry up and use your transceiver?" After reading these chapters and sections you will know how to broadcast your voice out into the sky". You can't read that and not smile, can you?

All the information that you need to operate the radio is contained in the manual – but the manual isn't very logically organised and some of the descriptions of the functions aren't very clear. So, if you are the sort of person that likes things just so and clearly documented – this may not be the radio for you. However, if you are willing to work with it, experiment a little and perhaps use the wealth of information about the rig on the Internet – then you'll be just fine.

My initial adjustments were to turn off the 'voice guide' and the beep function – I didn't feel I needed audio confirmation of each change that I made to the settings. However, I do of course realise that these same features could be a blessing and a boon to some users, so I'm pleased to confirm that they work well. I also made sure that the **Time Out Timer** was set to a suitable value. While these timers are obviously useful for Private Mobile Radio (PMR) usage, they can be more of a nuisance than a value in most Amateur applications.

A First QSO

Having connected the rig to a power supply and an antenna (the connector is an SO-239) I had a quick tune around both 144 and 433MHz. The receiver was clearly very sensitive. Certainly the S-meter – which is a bargraph type indicator – has a tendency to read high, but actually as I've already noted, the receiver seemed very sensitive. The GB3UK repeater on the Cotswolds some 54km (40 miles) away was noticeably stronger on the Wouxun than on the Yaesu FT-7900 that I routinely use in the shack. **Ian Hopkins G4WUH** who has also been using a KG-UV920R for a few weeks confirms this.

For a first QSO, I programmed up the offset and CTCSS tone for GB3UK and put a call through the repeater. **Ken Easty G3LVP** kindly responded and confirmed that I was a good solid signal into the repeater. Initially, Ken reported that my audio did not sound very good. By way of a comparison, I switched over to another rig which Ken said sounded the same. It was at that stage that we realised the problem was that I had a



Unusually for a mobile transceiver the microphone supplied with the KG-UV920R is fitted with a small loudspeaker.

heavy cold and in fact the Wouxun was providing suitably good audio quality to make this apparent! In subsequent QSOs after my cold had subsided, Ken and other stations were able to confirm that the audio from the Wouxun was excellent quality!

The next job was to program up some memories so that I could try the rig for a few days in the car on my commute from home to the railway station. I programmed up a handful of repeaters on both 144 and 433MHz at various distances to give the rig a fair trial.

Programming the memories was relatively straightforward – although some users have said that it's much easier to use a computer and a programming lead. However, I didn't test this as I don't have a programming lead. Despite this I was easily able to store the frequencies I needed and then to be able to move through them in memory channel mode.

In The Car

The first bit of good news was that the rig was easy to fit in the car. It readily fitted in the centre console of my VW Polo. I should also add that the head of the rig can be separated from the body and the two connected with a separation cable which was supplied. In my car I did not need to try this out, but it was pleasing that the cable was supplied.

Another flexibility one of the 'user friendly' aspect with the rig is that there are two speakers on the rig itself and there's also a speaker built into the microphone. This means that if you have fitted the body of the rig under the seat in your car, you can easily use the microphone as an extension speaker

rather than having to arrange another speaker.

I did find that the receive audio in the car was a little disappointing. Because I'd had to turn up the volume on the rig to overcome the vehicle noise, I found that some 'well modulated' signals were too much for the internal loudspeakers in the rig. But I think an external speaker would help here and I found some improvement by enabling the audio from the speaker in the microphone.

The rig worked well generally and I enjoyed having it in the car for a few days. Other Amateurs reported good signals from me and I found the excellent receive performance useful on some of the weaker u.h.f. repeaters that I use from time to time. For example, GB3TD (south east of Swindon) is quite weak at the far end of my commute – but it was noticeably easier to copy on the KG-UV920R than on the Yaesu FT-8900 which I normally use in the car. The power levels are useful and sensible; 50/20/10/5W on v.h.f. and 40/20/10/5W on u.h.f. which I found covered most eventualities.

Twice, I noticed that the 145MHz receiver 'collapsed' with r.f. overload at the time I was close to some masts, so I suspect that a strong nearby transmission caused some problems. The flip side of this is that the receiver has wide coverage and I was able to monitor the Marine band as well as PMR446 channels, which you may well find of interest or use.

The microphone supplied with the KG-UV920R is quite sizeable and has a dual-tone multi-frequency (DTMF) keypad. The keypad 'repeats' the majority of the rig's front panel controls which I found was quite useful. The microphone connection is different on the Wouxun to the Yaesu that I normally use, so I wasn't able to use my normal hands-free microphone kit which was disappointing.

I've no doubt however, that you'll either be able to construct your own adapter cable or source a hands-free kit configured for the KG-UV920R. Because the microphone is quite large (my wife **Julie** compared it to a Blackberry smartphone, which isn't wholly unfair), I found extended transmissions a strain on the thumb! A welcome reminder to be brief perhaps!

The rig contains a Band II f.m. radio (88-108MHz) and I found I could leave one side of the radio on a repeater with the other side tuned to the local radio station on Band II. When the repeater came into use the Band II station was muted (excellent facility!) and the broadcast receiver will also store 20

Band II stations in its memories.

The rig also features a cross-band repeater feature which worked fine – with the limitation that I found that I found that the transceiver would not transmit on a repeater channel. I set the input frequency on 433MHz and wondered if I could use the cross-band repeater to monitor the GB3WH 145MHz repeater (I couldn't). However, the rig was quite happy to cross-band to a 145MHz simplex channel. I've never used cross-band repeat on any rig I've had although I know it's a feature of interest to those readers who work with the Radio Amateur Emergency Network (RAYNET).

Overall Impressions

My overall impressions? I enjoyed using the Wouxun KG-UV920R, particularly in the shack. Using it mobile, I found the the handling of high volume audio a little lacking on the internal speakers. The receiver is particularly sensitive which was useful, but this comes at the cost of susceptibility to strong local transmissions, particularly at v.h.f. Output power levels are useful and adequate. The dual-receiver/dual-display worked well and was particularly easy to see when mobile.

Wouxun's reputation has been built on providing good quality, simple to use equipment at the right price. I feel that they have set the price a little high on this rig (this is not a criticism of UK dealers, as it is similar across worldwide markets). At £230 it is only just cheaper than a Yaesu FT-7900 dual-band model, for example. Admittedly this doesn't feature dual-receiver/dual-display. If the KG-UV920R was priced a little more competitively, in the way that the Wouxun hand-helds were, then I feel it would represent an even more attractive proposition.

In summary, I think that if you are looking for a dual-band v.h.f./u.h.f. rig to have in the shack or in the car – this is definitely one to consider. Our thanks to Martin Lynch and Sons for providing the review rig and on the same day that the shipment arrived from China. Thank you Martin!



Specifications

Frequency range:	136-174MHz and 400-480MHz
Frequency step:	5/6.25/10/12.5/20/25/30/50/100kHz
Memory channels:	999
Operating temperature:	-20°C to 40°C
Antenna impedance:	50Ω
Power requirement:	13.8V d.c. ±15% (negative ground)
Weight:	1.437kg (including microphone)
Dimensions:	140 x 44 x 207mm

Transmitter

	Wide bandwidth	Narrow bandwidth
Adjacent channel power	>70dB	>60dB
S/N Ratio	>40dB	>36dB
Spurious	>60dB	>60dB
Max deviation	±5kHz	±2.5kHz
Frequency stability	±2.5ppm	
Audio distortion	<5%	
Output power	v.h.f. 50/20/10/5W u.h.f. 40/20/10/5W	

Receiver

	Wide bandwidth	Narrow bandwidth
Adjacent channel sensitivity	>70dB	>60dB
Intermodulation	>65dB	>60dB
Spurious response	>70dB	>70dB
S/N Ratio	>45dB	>40dB
Audio distortion	<5%	
Audio power	Transceiver <3W Hand microphone <1W	
Sensitivity	v.h.f./u.h.f. 0.25µV	

Reviewed: The Wouxun KG-UV920R Twin Band 144/432MHz Mobile/Base Transceiver

Supplier: Martin Lynch & Sons Ltd.

Pros: Versatile – and an excellent size display – if you are looking for a dual-band v.h.f./u.h.f. rig to have in the shack or in the car – this is definitely one to consider.

Cons: All the information that you need to operate the radio is contained in the manual – but the manual isn't very logically organised and some of the descriptions of the functions aren't very clear.

Price: Usual price is £229.95 but for *PW* readers only it is £219.95 with free UK carriage. Please confirm Code PW12 offer when ordering.

Contact details:
Martin Lynch G4HKS
ML&S Martin Lynch & Sons Ltd.,
Outline House
73 Guildford Street
Chertsey
Surrey KT16 9AS
 Tel:
0345 2300 599
 E-mail:
Martin@MLandS.co.uk
 FAX:
(01932) 567222
 Website:
www.MLandS.co.uk