Review

Tim Kirby G4VXE
Willowside, Bow Bank, Longworth, Oxfordshire OX13 5ER
E-mail: **tim@g4vxe.com** Twitter: **g4vxe**

The Wouxun KG-UVD1PL

70/144MHz dual-band hand-held transceiver

Our keen v.h.f. specialist columnist – Tim Kirby G4VXE – has very much enjoyed the latest offering from Wouxon – a 70/144MHz dual-band v.h.f. transceiver. "A real breath of fresh air" he says!

Tim Kirby G4VXE says that the Wouxon transceiver is "A real breath of fresh air".

It's fair to say that the arrival of Wouxun, and the other Chinese manufacturers, onto the Amateur Radio scene has been a real breath of fresh air. Particularly in the hand-held transceiver market, they have challenged the pricing structure of the established manufacturers and come up with some good quality products at very reasonable prices.

Wouxun have offered a single-band 70MHz handheld for a while, but I was very interested to have the opportunity to review one of the new models, which offers both 70 and 144MHz. I felt that the benefits of this over the previous single-band 70MHz model was that when 70MHz is quiet, you at least have the rather more active 144MHz band to fall back on – but yet have the capability to use 70MHz.

About The Rig

So, what do Wouxun say about the KG-UVD1P in their promotional information? The feature list says:

- Frequency Range: 4m (66-88MHz) and 2m (130-174MHz)
- Modes:U-V/U-V/V-V/U-U can be set freely
- 1750Hz tone
- DTMF encoding function
- CTCSS/DCS Scan (Digital/Analog)
- Bright flashlight illumination
- Output power 5W/1W
- English voice guide
- Digital f.m. radio
- Wide/Narrow bandwidth selection(25kHz/12.5kHz)
- Priority scan, add scanning channel
- High/Low power selection
- Channel name edit and display
- 50 Groups CTSS/105Groups DCS
- Multi-frequency steps: (5k/6.25k/10k/25k/50k/100k)
- Multi-scan
- VOX transmission control
- Transmit overtime voice prompt
- Begin/End transmitting beep prompt
- Auto/Manual keypad lock
- Wire clone (can clone other rigs), programmable by computer
- Stopwatch function
- Low voltage voice prompt
- Busy channel lockout

You may think that some of the information provided by Wouxon is a little cryptic and I confess I did too. I've reproduced this directly (not to make fun of it), as actually, it's fairly clear what the meaning is. I'm providing it to give you an indication of what the user manual is like.

As with other Wouxun hand-helds I've seen, the manual is actually quite comprehensive. However, sometimes the way that things are described can be a little confusing and may take a few moments of reading and trying the function to establish exactly how it works.

First impressions

The rig comes neatly packed and is easily put together. The battery needs to be attached to the radio and the flexible dual band 70/144MHz antenna connected using the Wouxun 'standard' reverse-SMA connector. This is all the

The dual band 70 and 144MHz fits nicely into Tim's hand.

Technical specification (as supplied)

Frequency range:	The 70 and 144MHz Amateur Bands
Memory channels	128 channels
Operating voltage	7.4V
Operating temperature	30° to 60°C
Working mode	'Co-channel or Di-channel simplex'
Output power	5W/1W
Modulation	F3E (FM)
Max Frequency Deviation	Less than 5KHz
Spurious radiation	Less than -60dB
Frequency stability	Plus or minus 2.5ppm
Receive sensitivity	Less than 0.2 microvolt
Audio output power	> 500mW
Waterproof	IP55
Dimensions	61 x 119 x 37.5mm
Weight	248g

work of seconds and will not provide you any challenges.

Also included with the rig is a desktop drop-in charger which worked well. Battery life for the rig seemed good. It wasn't quite the sort of battery that you could charge and then almost forget about it – but certainly the battery lasts over several reasonable operating sessions. Unlike some earlier versions of the Wouxun chargers, this one came with a proper UK mains lead/plug.

The rig is well built and attractive. It appears of quite robust construction – perhaps slightly less so than the more expensive handhelds from 'mainstream' manufactures, but the rig feels good in the hand, not too heavy or light and the controls are positive and pleasant to use.

As default, the 'voice guide' is activated which talks you through the different menu options. I found this quite annoying and turned it off! However, if you're visually impaired or even just operating in the dark, this might be a useful facility to you. Likewise, I disabled the keypad beep as I didn't find useful.

I always like to see how much I can do on a new rig without recourse to the User Manual. This rig fared quite well, although I have used Wouxun hand-helds before so I'm familiar with the basic principles of their user interface.

The transceiver I was sent for review was 'unlocked' and could have been used off the Amateur Bands. However, on checking this with Martin Lynch I found that those being sent to to customers would be sent 'locked' to cover the Amateur Bands only. Mine had been sent to me quickly for the review and had bypassed the normal procedures before going on sale.

Actually, during the review process I found it easy to set frequencies either by using the keypad, or by using the 'channel selector' knob on top of the rig. The **A/B** button on the front panel allows you to switch between the two variable frequency oscillators (v.f.o.s). I placed one v.f.o. on 70MHz and the second on 145MHz. However, there's nothing to stop you having both v.f.o.s on 70, or 145MHz. The **TDR** button allows you to switch between single and dual-band receive modes.

Note: Dual-band receive is not quite full dual-band receive. I placed one v.f.o. on 70MHz to receive a signal there, flicked the TDR button to switch to 145MHz and brought up GB3WH, the local 144MHz repeater. I continued to hear the 70MHz signal, rather than the output of GB3WH. But, the function works really well as a **Dual Watch**, so that you can have one v.f.o., let's say, on 70.450MHz and one on 145.500MHz and the moment that one of the frequencies springs into life, then you will hear the activity.

Setting Up The CTCSS

Setting up the continuous tone coded squelch system (CTCSS) did require recourse to the manual to do it through the keypad (we'll discuss programming software a little later) but the process wasn't complicated and worked fine. Repeater shift was already programmed for 144MHz as +600kHz so didn't require adjustment and of course there are no duplex repeaters on 70MHz.

Incidentally, new owners should take the opportunity to set the narrow deviation on each of the bands, but particularly so on 144MHz. All these adjustments were made quickly and after all this, it was soon time to try the rig on air.

On The Air

Tuning around both 70 and 144MHz showed that the receiver was quite sensitive. On 144MHz I was able to hear all the repeaters that I expected to hear from my location over a distance of 40 to 48km (25 to 30 miles). On 70MHz, it's harder to evaluate the sensitivity, but I found that the GB3RAL beacon from Harwell in Oxfordshire was a very solid signal on 70.050MHz.

I did find that the S-meter, a bar graph on the display was quite optimistic and had a tendency to read quite high, even for relatively weak signals. However, this is not a serious concern.

Having checked my repeater shift and CTCSS tone, I put a call through the GB3WH (Swindon 145MHz repeater) and was very pleased to be answered by **Adrian Heath G4GDR**. Adrian

knows my voice and confirmed that the signal sounded like me and was of a good quality and an adequate level. High power on both bands, by the way, is 5W and low power is 1W. These seem sensible and useful power levels depending on where you are; 1W will be adequate for local QSOs and 5W for more distant ones.

On 70MHz, I checked that the signal sounded okay across the shack, using my converted Ascom SE-550 PMR rig as a monitor receiver. The levels sounded good and of course the signal strength was very strong. Despite a number of "CQs" on 70.450MHz from reasonable locations around the village, I was still without a demonstration QSO!

Fortunately, I was able to do some 70MHz tests with two stations, having contacted them using my base station – 25W to a vertical at around 10m (30+ feet). **Matthew James 2E0RNM** (Oxford) is about 19km (12 miles) from me and was a solid signal on the base station. I tried a contact with Matthew using the hand-held from a location in the village which has a good take off in his direction, but he wasn't able to hear me.

Similarly I was pleased to try with **Mark Palmer G0OIW** who was operating portable from Stokenchurch on the Chilterns, an elevated location about 40km (25 miles) from my home. Mark was just able to hear me using the hand-held and the supplied antenna – and I was able to receive him clearly.

I think the message here is that the supplied antenna is very inefficient on 70MHz. It will work very well for QSOs over a few miles – but if you are expecting to work tens of miles or more on the band, even if you are well located, you'll probably be disappointed. Clearly, this isn't the fault of the transceiver, but is just a function of the efficiency of the short antenna on the longer wavelength. If you connect the transceiver to a mobile antenna, on your car, perhaps, using a reverse SMA adapter, you should find that your results are vastly improved by use of the more efficient antenna.

Other features

The rig has a voice operated transmit-receive switching (VOX) feature which could be quite useful. It was easy to configure it to trigger at different levels of voice. The rig also has a Band II broadcast radio built-in and I found this was quite sensitive and was able to receive a variety of local and national stations. This could be a nice feature. The rig would also be a useful scanner on the marine band around 156MHz, although once again, beware of transmitting as there is nothing to prevent the set from doing so.

The transceiver on charge in its special cradle.

Although I wouldn't (of course) recommend a hand-held to use when driving a car, sometimes you may want to be able to take a handheld along to listen to. Bearing this in mind I found the volume of the audio from the rig was loud enough – and clear enough – to use in the mobile environment.

Programming Software

Martin Lynch & Sons Ltd. kindly supplied the rig with the programming lead (from the rig to a USB port) and a miniature CDROM. However, there's no information on the CDROM or included with the programming lead about how to program the radio. The manual doesn't offer much assistance either as although it mentions the USB driver software and the programming software, it doesn't actually tell you where you can obtain them from.

Fortunately, I quickly discovered that the USB driver software was provided on the CDROM included with the Programming Lead. I chose the version of the driver for my operating system, installed that and then re-booted the computer before attaching the programming lead. As soon as I did this, the computer detected a new serial (COM) port and I noted the setting to be used later, COM6.

Where was the programming software? No documentation with either the rig or the programming lead gave this information, which I felt might be off-putting to someone who wasn't so used to hunting things down on the Internet. Fortunately, a quick Google for 'Wouxun kg-uvd1p programming software' resulted in the URL **www.wouxun.com/down_01.asp** where all the Wouxun software can be downloaded. **Note:** Make sure that you choose the right model/software.

I downloaded the software and installed it and found that I was able to use it to program the rig with different frequencies into memory locations including repeater shifts, CTCSS tones etc. Although the software was functional, it was not entirely intuitive.

However, I found that there is an alternative program that can be used for programming Wouxun hand-helds. It's called **KG-UV Commander** and has been written by **Jim Mitchell KC8UNJ**. It can be downloaded from **www.kc8unj.com/kguv.html**

I found the software from KC8UNJ was slightly more straightforward than the Wouxun software. If you have other Wouxun hand-helds and already own a programming cable, then this program may be useful to you. It worked well and as you can see I was able to set up various memories in the rig, upload and then use them.

Hard To Resist!

If you're a 70MHz fan and enjoy portable operation, you'll find this rig hard to resist at the price. But do expect to have to use an external antenna, otherwise your results on 70MHz will probably be disappointing. However, if you're anticipating using 70MHz for local QSOs then the chances are that you will be just fine. On 144MHz performance was good and entirely what I would expect from a good quality hand-held transceiver.

It was disappointing that the instructions with the programming software were virtually non-existent! Nevertheless, it wasn't difficult to work out what to do and how to do it, but a little Internet based research was required. When discussing the programming software with other Wouxun users – several said that they had programmed the set by hand initially with all the memories they needed and didn't anticipate requiring the cable and software.

If you enjoy computers and interfacing with radios, the software path is probably a more flexible way of setting up the rig just as you want. Do bear in mind that the 'replacement' software KG-UV Commander seemed much easier to use than the Wouxun software.

In summing up, I think the Wouxon 70/144MHz transceiver is an exciting rig that represents good value at **£99.99 plus £8.51** courier delivery – and would be fun to put in your pocket as you go out for a walk. Many thanks to **Martin Lynch and Sons Ltd**. for their kind loan of the equipment for review and for their willingness to answer questions. ●