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When I got the opportunity to try the latest h.f. and 50MHz main transceiver from Icom I’d just moved house. My old home had plenty of space for antennas and, although I can have some at my new home, my antenna erecting abilities are now extremely limited. So, I’m now active on the band using very simple wire antennas and my portable ‘long wire’ and dipole arrangements for use from my car.

I’ve evaluated the IC-756PRO from my new home on power levels ranging from 5 to 100W on c.w. and s.s.b. and also from my new vehicle at around 25W. Incidentally - the power limitation when working from my car is because I am very concerned that I could trigger the ‘air bags’ on my VW ‘Sharan’ diesel automatic MPV estate car at any time and particularly when I’m parked and operating in my favourite /P (’stroke Parked’) mode.

The VW handbook for my ‘Sharan’ clearly states that r.f. levels in excess of 10W inside the vehicle can cause problems. So, when using long wires (with the possibility of r.f. in the car) I keep the power well down. What it doesn’t say in the handbook is whether or not this level applies when the car is parked with engine and electrics off and without the alarm system activated. No doubt some reader will help me in this respect but

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Product

The Icom IC-756PRO is a HF & 50MHz transceiver - containing 32 bit floating point, I.F. DSP and also featuring digital twin pass band tuning, real time spectrum scope, dual-watch, a.g.c. loop operation, digital I.F. filter, low distortion r.f. type, speech compressor, built-in RTTY demodulator/dual-peak A.F.P as well as built-in a.a.t.u. and much more.

Accessories

Supplied accessories: d.c. power cable; hand microphone; spare fuses; c.w. keyer plug.

Pros & Cons

Pros: Excellent DSP facilities, selectivity and ease-of-use receiver and transmitter. Greatly improved three colour I.C.D. main display. Excellent 'real time' spectrum scope (Panoramic adapter) type facility. Very interesting built-in RTTY decoder and screen display.

Cons: Main display could do with slightly increased 'brightness' levels. Viewing angle of small RTTY screen critical for comfort and distance. Some front panel controls 'slightly fiddly'.

I experimented with the rig and found that, at 40°, the screen was just about at the correct angle for myself. In saying that though, I must admit that the arthritis in my neck causes extra discomfort.

The main display, including frequency display, spectrum scope, etc., isn't really dependent on the angle for viewing - but for comfortable observation of the fairly small RTTY 'print out' display - I consider that a careful choice of viewing angle is essential. However, although the display is excellent (it's the clearest I've seen recently), I feel that even with the maximum level of 'brightness' selected, there's not a lot of 'reserve'.

In other words, I feel that the display could be a little brighter. Although provided I kept the rig out of the direct sunlight (especially when operating portable from my car), it wasn't a major problem.

As I've said, the display is one of the clearest that's come my way recently and once Icom have adjusted the 'brightness' levels, I feel sure it will be absolutely perfect.

Incidentally, I'm only mentioning this fact because I really do appreciate the quality of the Icom IC-756PRO's display and that it's a major consideration when you're considering a new rig - it only needs a little 'tweaking' from Icom to get it 'just right'.

Built-In RTTY Decode

As I mentioned at the start of this review, the IC-756PRO comes complete with a built-in RTTY decoder, capable of resolving Baudot (mark frequency 2125Hz, shift frequency 170Hz, at 45bps). A rather limited facility, the 'RTTY Gang' might consider - but I can tell you that after using the facility, I've had my 'appetite whetted' for RTTY again!

I also think that Icom have 'made a rod for their own back' here in that now they've provided the RTTY facility... just how long can we expect to wait for built-in FAX, Packet and SSTV? All are possible with modern software packages and I really don't think it will be long before 'updates' are available to enable fortunate 756PRO owners to equip their transceivers.

I was delighted (and not a little surprised) to see just how much Amateur Radio RTTY there is to be 'seen on h.f. nowadays. I was fortunate in this respect because several contests seemed to bring up RTTY operators from all over Europe and, in fact, there seems to be a particular interest in RTTY from the former Soviet Union countries - fortunately, they seem to conduct their QSOs mainly in English.

I spent many happy hours working on my main computer with the Apple Macintosh screen to my left and the Icom IC-756PRO's screen directly in front of me.

I was able to sit and work and 'look in' on many QSOs and pick up some tips where the DX was to be found. It was nice to see just how polite the operating practice is on RTTY, perhaps it's time I really got active on the mode myself!

The built-in RTTY decoder and screen built into the main display is clear and relatively easy to read. In fact, at the normal sort of operating distance away from the front panel - at arm's length - the screen was perfectly readable. However, I did get an extra 'crick in the neck' - and here lies my only real criticism of the RTTY facility!

For prolonged RTTY 'watching' (can you be said to be a 'viewer' I wonder?) I think the transceiver should be mounted (or propped up) at around 30° from the horizontal. (This is in addition to the 'lift' provided by the built-in 'legs', which are mounted just behind and underneath the main front panel).

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With RTTY 'threshold' selection and the ability to select 'Reverse' mode, the decoder is capable of providing a useful monitoring facility and good quality, error-free reception is possible for long periods. In fact, most of the errors were obviously being made by the operators, in the same way I have to apologise to readers for my keyboard mistakes on E-mailed letters.

The IC-756PRO's RTTY facility certainly made me remember the old days when, whilst I was in the Royal Navy, I often had to work near clattering mechanical teleprinter machines. What a difference between them and the modern equipment - I await the next development with interest and think that FAX and SSTV can be said to be a 'viewer' I wonder?) I think the transceiver should be mounted (or propped up) at around 30° from the horizontal. (This is in addition to the 'lift' provided by the built-in 'legs', which are mounted just behind and underneath the main front panel).

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might be welcome!
I was most impressed when the (much slower and nowhere near as sensitive and useful) earlier versions of the 'spectrum screen' appeared on previous Icom equipment. However, as you would expect... things are getting much better and the spectrum scope's display is now approaching what I would expect of the 'spectrum screen' appeared on previous Icom equipment. However, analyser screen.

With the new facility on the 756PRO, the spectrum scope's presentation is constantly on the move (unless you 'freeze it' of course) and is obviously 'breathing'. (By 'breathing' I mean that you can see the display constantly responding to the slightest variation on the amplitude of the signals it's receiving).

Gone are the obvious digital steps of previous displays - this one really does seem 'alive'. In other words, the spectrum display on the screen really does seem as responsive to rapid variations in signal levels, etc., in the same way you would expect a spectrum analyser or 'panoramic' adapter display to be.

In use, the display is so quick that you can now very easily see the wide band interference from thermostats, etc., as their high amplitude signals appear across the screen. You can also see the various 'ionosonde' sweep transmissions as they travel quickly across the screen.

You'll also be able to see the spectral display of the many other transmissions in the bands we use and share. Perhaps like me you may also wonder just what we share our bands with!

From observing the regimented internationally agreed frequency channels of the short wave broadcasters, to seeing those annoying 'carrier swishers' in operation on 7MHz (where most of them seem to operate), you'll see much to help you.

On one 14MHz s.s.b. QSO I was getting 'splatter' from an extremely strong southern European station. One glance at the spectrum scope told me where he was relative to my indicated centre frequency on the same display - and it was a moment's work to adjust the DSP to eliminate the problem. Very satisfying indeed!

On The Air

The transceiver soon proved itself 'On The Air' and I was able to get it set-up and working very quickly indeed.

The more complicated the rig nowadays, the more likely you'll have to get your nose stuck into the manual (always a good idea anyway) and to this end the 80-page plus manual is extremely easy-to-use and very well prepared. However, the 756PRO is 'user friendly' in that respect and after initial set-up I only had to wait for the DSP to calibrate itself, a process which only takes ten seconds.

Operating on 7MHz under very crowded conditions and with a high level of static I found the transceiver proved itself very worthy. The 'whistlers' and 'carrier swishers' that seem to live on this band - usually only bothering s.s.b. QSOs - aren't a problem with the DSP facilities.

One QSO I listened to on 7MHz (a Special Event station was involved) was plagued with one character who was on frequency most of the time. However, I think the Special Event station was equipped with a DSP fitted rig so, like me, they weren't bothered by the nuisance!

Because the IC-756PRO is fitted with many ceramic band-pass filters there are no 'traditional' quartz crystal filters fitted and the transceiver relies on the very high frequency first I.F., the (as already mentioned) many band-pass filters and the final 'digital' (DSP) I.F. - the results are, in my opinion, astounding. For some years now I've thought that the DSP-equipped Kenwood TS-870 was unbeatable - but now I think the performance has at last been overtaken.

The Kenwood TS-870, in my opinion, was the first Amateur Radio DSP-equipped transceiver to treat the digital processing as one of the intermediate frequencies (rather than just an 'add-on' unit on the same chassis). However, I now regard the IC-756PRO to be its worthy challenger in this respect.

Operating on 3.5MHz on c.w. and s.s.b. under very noisy conditions, I found it possible to complete QSOs whereas I'd have no chance with my Alinco DX-70TH, unless I was using an add-on DSP unit. The 756PRO's 'Twin Passband Tuning' (complemented by a helpful 'mimic' diagram on
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**Summary**

I feel sure the IC-756PRO is a model we'll be seeing many facility updates provided for in the future. In fact, like the Kenwood TS-870 became a few years ago - I feel that the '756PRO will become another 'classic' and I look forward to having one in my shack to update. Try as I might, even if I had ten pages in PW, I still couldn't do full justice to the achievements of the Icom designers so far. So, all I can do is to suggest that you try the 'hands on' approach by visiting an Icom dealer. You can only give you a short 'taster' of the technology invested in this transceiver - to appreciate it yourself you'll have to see it in action!

- My thanks go to:
  Martin Lynch & Sons Ltd.
  140-142 Northfield Ave
  Ealing
  London W13 9SB
  Tel: 0208-566 1120
  FAX: 0208-566 1207
  E-mail: sales@MLandS.co.uk
  For the loan of the IC-756PRO.

Apart from several pre-arranged QSOs on 50MHz I found no activity on the band - but the IC-756PRO proved itself on the next band down - 28MHz in no uncertain manner. In fact, I had more QSOs on 'Ten' than any other band because it seemed 'wide open' for the whole of the review period.

The increasingly popular n.b.f.m. mode on 28MHz is attracting a lot of operators nowadays and using 10W or so I was able to work all over Europe. I think that the receiver gave a good account of itself on the n.b.f.m. mode.

**In Rob's Shack?**

So, finally I come to the 'crunch time' where I must convey my opinions - to the best of my ability - as to whether I would like to own an IC-756PRO myself. And simply stated - it has to be a 'Yes'.

During the PW 'into the future' talk at the London Show on Sunday 12th of March, a reader in the audience said that I (G3JXF) "Rarely gave a bad review" - and, although, as you've already read, I have had some criticisms of this transceiver - I'm again not in a position to criticise the manufacturers in any major sense. This is because, for the money, I think the IC-756PRO is an excellent performer and it's good value, especially when you consider the many advanced features.

Having just bought myself an almost new, specially adapted car, this transceiver is out of my price range. But when my finances have recovered I still shall give very serious thought indeed to buying one. The much improved spectrum 'scope, the excellent DSP, and very many other facilities packed into a very reasonably-sized rig make the IC-756PRO very desirable indeed. Although, for myself ... I think the greatly improved spectrum 'scope has got to be one of the most desirable additions, waiting to go on my operating desk!