

reasonable for a receiver of this wide spectrum coverage (quoted at -50dB up to 460MHz and -40dB above) and will be helped by resonant aerials if these are used. During operation, some air traffic was found within the 2 metre amateur band (my QTH is fairly close to Gatwick and under Amber One air route) and the odd taxi popped up where it shouldn't. This is a difficult problem to overcome unless banks of switched preselector filters are used which increases the cost a lot.

Signals From Within . . .

There are a number of sproggies within the coverage, as one might expect, although they were not mentioned in the specification. There are quite a lot of weak ones not worth detailing, but also some very strong ones which will cause problems if you monitor near them. In particular, 70.103, 70.112 and 70.119 have S9+ spurii nearby. These are associated with the second harmonic of one of the conversion crystals on 35.06MHz. Likewise, higher harmonics give rise to more on 105.18, 140.24 etc, these two also being S9. Again, the 10.245MHz conversion crystal (the IF's are 45.754, 10.7 and 455kHz) gives audible harmonics from the 6th upwards but at very low levels.

Frequency Control

The scanning and general frequency control facilities are comprehensive and include the ability to computer-interface the rig using the Yaesu CAT system to a home computer. This does open a lot of possibilities looked at later.

Basic frequency control is via an optional encoder/front panel tuning knob and a keypad - the latter appears a bit more durable than some offerings. Rotating the tuning knob produces changes in frequency by increments depending on both the mode and the step rate selected via a front panel button. For AM wide and FM narrow, the step rates are 5, 10, 12.5 and 25kHz - these are shown on the digital display at the right hand side. With SSB (USB or LSB) and AM narrow, the step rate reduces to 100Hz or 1kHz, again selectable but this time not indicated by the

display. Finally, for FM wide, the only step rate is 100kHz.

The Display

The 9600 uses a green fluorescent type of display, easily readable under any lighting conditions, showing the frequency in the form '200.101.2' (ie to 100Hz). In addition there are various annunciators for mode and frequency step rate, plus the memory channel which when used displays two digits, such as '45'. It also incorporates the 'S' meter, a bargraph-type display with the colour changing to red when over S9.

The initial dial frequency can be entered in several ways. The usual one will be via the keypad and is a simple operation; you punch in the full frequency required (adding a preceding '0' if under 100MHz), then press 'dial'. Error entries get a double beep, while correct ones are marked by a single beep (you can't kill the beep if it annoys you!). You can then tune around from that entered frequency. The alternative is to recall a start frequency from memory by punching in the two figure memory channel, then pressing 'M-D' (memory to dial). All keypad entries can be cancelled via the CE button.

100 Memories

In all, the FRG9600 has 100 memory channels available (101, if you include the dial setting), each of which will hold the frequency *and* mode for that channel. Inputting to a memory is quite simple if you have a frequency on dial which you wish to store, say in memory channel 03, then you punch in '03', followed by the 'D-M' button. The receiver stays in the dial state. To recall a memory there are two options: you can punch in the two digit memory number followed by the 'MR' (memory recall) button. The memory channel number is then displayed to the right of the main frequency display, together with the memory frequency. Alternatively just press 'MR', in which case the receiver goes to the last selected memory.

Once a memory channel is on display, there are several options as to how you move around. Rotating the main tuning knob will step through all memory channels which

have something stored in them. If you have information stored only in channels 01, 05, 13, 56, 78 and 99 then it will ignore all the others and just show these in a continuous rotating sequence.

The other methods illustrate one limitation of the rig, which is that the memories are not continuous but split into ten banks of ten memories numbered 00-09, 10-19, 20-29 etc. The main tuning dial is the only method (other than computer control) by which all the memories can be continuously checked. If you opt to scan the memories, you are limited to scanning one memory 'block' at a time. This is itself is not a major problem with such a wide frequency spectrum available it means you are not forced to scan every channel if you don't want to. However, the option to scan all 100 memories is not available (again, except by computer control when you can have thousands of memory channels if you want to). Looking through one bank of memories can either be accomplished manually by using the 'up' and 'down' buttons (these also step the frequency when in dial mode); or, by pressing one of these two buttons for about half a second.

The scan rate is about 2 channels per second with options on how the scan is stopped. Option 1 uses the squelch and stops as soon as this is opened by a signal. While stopped, each digit in the display is flashed briefly over a period of 8 seconds, and at the end of this time the scanning resumes. Also, every time the scan halts, you get a beep which will drive you round the bend after a while.

Option 2 is designed to overcome the 'dead carrier' syndrome where the receiver spends a lot of time on plain carriers (or even the sproggies . . .). Another button, the AF scan, will only allow the scan to stop if there is modulation on the carrier, irrespective of the squelch setting. This is fine as an idea, but suffers on AM from the same problem as the squelch. You still tend to need a strongish carrier to stop the scan for some reason.

Once you have a memory frequency up on the dial, you cannot immediately tune away from it, or change the mode it is associated with. However, if you press 'M-D' the memory transfers to the dial