



the irca technical column

The Kenwood R-2000

by Don Moman

The R-2000 is Kenwood's latest general coverage receiver. It features a highly developed memory/VFO/scanning system of tuning that is far ahead of other sets in this price class (which is \$799 in Canada). Its RF circuitry is much like that in the R-600 (rather than the R-1000)--good on SW, but rather weak when it comes to handling the strong signals encountered on the MW band. As a result, I would have to rate the R-2000 under the R-1000 and the Yaesu FRG-7700, both of which are in turn rated under the ICOM IC-R70. However, the sensitivity of the R-2000 is superb and the low internal noise is a pleasant change from the rather noisy R-1000! This together with the excellent tuning/memory system combine to make the '2000 a very appealing set for the SWL. Serious MW DXers will find it lacking in front end selectivity--a situation that is common to other "under \$1000" sets with the notable exception of the IC-R70.

Basics... 150 kHz-30 MHz (can be tuned continuously with the VFO's, no need to press any other UP/DOWN controls). Unlike other sets that may state a lower frequency limit which can be exceeded with reduced specs, the R-2000 will NOT tune below 150 kHz. Contains 10 VFO's which are continuously tuneable. Each stored VFO frequency will also store the mode as well, a very handy feature. All or some of the memory VFO's can be scanned at your discretion--and the scan feature can be used between any two frequencies stored in VFO 9 and 0. Scanning and tuning speed can be varied--50 Hz/500 Hz/ 5 kHz per step. Unfortunately no form of RIT is provided to allow tuning between 50 Hz steps. The full potential of exalted carrier tuning with the '2000 is therefore somewhat restricted. ALL mode squelch is provided and can be user modified to stop scanning, but the usefulness of squelch on our noisy SW bands is somewhat questionable. I rarely find the signals strong enough and/or the noise to be weak enough to justify using the squelch. It's much better suited to VHF/UHF listening. The R-2000 has the FM mode as standard--useful only for those intending to use a VHF converter (terminals provided) or wishing to listen to the FM'ers on the 10 meter ham band. Two 24 hour (finally!) clocks are provided as well as an ON/OFF timer, with the usual rear panel contacts. My first comment was "why two 24 hour clocks?", as the one for local time is usually more convenient if kept in standard 12 hour format. No sleep timer is provided, and the timer function overrides the power switch, which can be less than convenient.

Sensitivity and Selectivity... As mentioned earlier, the sensitivity is very good, especially noticeable on the higher SW frequencies. On some weak 10 m hams it was judged slightly more sensitive than the IC-R70. On MW, the '2000 does not seem especially "hot" but even so, the 10/20/30 dB attenuator control is often needed to prevent severe overload. The LW band is also easily overrun by strong CCB signals, since the LW and MW (up to 1 MHz) share the same input bandpass filter. A tuneable preselector would greatly improve these bands (but would tend to defeat use of memory and scanning capabilities--ed.).

Selectivity is provided by 455 kHz ceramics rated at 6 kHz wide and 2.7 kHz narrow. I find the wide filter to be nearer to 8 kHz. Although they appear to be inexpensive type ceramics, their shape factors are quite respectable. No notch filter or pass band tuning/ IF shift controls are available. A high quality 500 Hz CW filter is an available option, but no voice bandwidth filter options are provided. It's interesting to note that another Kenwood product, the TS 430s transceiver uses similar circuitry to the '2000, but has 8.8 MHz IF crystal filters which offer superior shape factors compared to ceramics. Several bandwidth options are also provided. The 430s has a general coverage receiver, of course, and is also equipped with a notch filter and IF shift circuitry.

Operating Convenience... The '2000 is very frequency agile and the 10 memory/VFO system has been well thought out. The UP/DOWN MHz keys change the MHz rapidly and need not be pushed once per MHz (as in the R70); when held down the MHz band changes quickly. Frequency readout is to xxxxx.x kHz and no offset is required for SSB tuning. One can switch from USB to LSB by a touch of a button, with no receiver tuning required. The R-2000 is, by far, the most convenient and flexible set I've ever seen or used.

Audio quality is excellent, thanks in part to the large front mounted speaker. Volume is more than adequate, and the tonal range (with the wide filter) is the best I've noted in a SW communications receiver. The tone control is unusually flexible in shaping the audio passband.

The S meter is adequate, but not particularly accurate. It took only 13 uV to read S9 at 14 MHz, while at 650 kHz it took 66 uV. Above S9, indicated 10 dB differences in signal were generally closer to 13 dB.

AGC FAST/SLOW is provided, with what I feel to be good choices of time constants. No AGC off or RF gain is provided, which is unfortunate, as used together, they can improve reception of weak, static ridden signals.

The RF Attenuator circuit provides 10, 20 or 30 dB of loss, and is quite effective in reducing MW overload. The usual comment applies--when you get rid of the overload you often get rid of the weak DX too! If manufacturers insist on building front ends that need attenuators, then I wish they would use a continuously variable resistor (like Heathkit did on the SB-303) that allows one to fine tune the amount of attenuation needed to overcome the overload. In any case, it can be added externally.

The tuning knob is somewhat "rubbery" (like the R-600) and lacks the extreme smoothness of other sets such as the R-1000. If you haven't already guessed, the tuning knob isn't coupled to a standard VFO but rather to a digital encoder. Stability is excellent due to all the PLL circuitry and the digital VFO. However, the BFO is non-synthesized (it's conventional LC) and is relatively unstable compared to preferred crystal or synthesized BFO's found in other sets in this price range. I noted the LSB BFO was off from 100-150 Hz, something that shouldn't be allowed to happen in a set of this price class. The BFO circuitry is especially prone to drift if exposed to wide temperature extremes--like they get on DX'peditions during an Alberta winter!

All VFO data, frequency and mode (very nice by the way) is protected against erasure by a lithium cell with an estimated 5 year life. Unfortunately, the clocks are lost if power is interrupted. A small inconvenience, but annoying.

Conclusions.... The two main competitors to the R-2000, the Yaesu FRG-7700 (with memory) and the ICOM IC-R70 are both priced from \$150 to \$200 more, which may remove some of the competition right there! It's hard to fault the R-2000 from the standpoint of features and convenience, but there are a few fine points (some not so fine, depending on your viewpoint. I guess) that are lacking the performance offered by these other sets. With all the pros and cons of any receiver, it's the final result --audio--that counts. And it's been my experience that it's very rarely that one set will produce significantly better reception than the other. I will say, however, that the serious LW/MW DXer in a typical location, i.e. lots of strong locals, will likely have an overload problem, and I'd suggest they strongly consider the IC-R70 which lacks some of the features, but has it where it counts--the front end! Now if Kenwood had used the \$150 difference in price advantage to "steal" more of the circuitry from the TS430 transceiver--crystal filters, IF shift, notch etc., and upgrade the front end, we could have the best of both. Dreamer!....

