

## WHY USE A PC TO CONTROL A KENWOOD HF RADIO?

This is, it seems to me, a fair question which deserves a serious answer. Just because it can be done doesn't mean it should be. An HF transceiver is not a scanner, after all; it has a tuning knob and a lot of front panel controls which don't have computer equivalents. Why be bothered with computer control?

My answer, based on my own operating experiences, is fourfold:

Computer control allows you to separate tuning from listening in a way that is simply not possible from the receiver front panel.

Once the radio is linked to the computer the same cable can also be used for other functions like logging and loading memory channels. There is no practical substitute for a pc in handling large memory sets like the 100 channels of many Kenwoods.

An external control program can create links between radio functions not usually related, as well as links between radio functions and the outside world.

External software can over-ride the software stored in ROM inside the radio, so your radio works your way, not the manufacturer's.

### (1) TUNING SEPARATED FROM LISTENING

Contemporary Kenwood HF radios have two vfos, but only one receiver, so the radio's front panel only displays one setting and the controls operate only on the displayed vfo. The other vfo is still 'live' but you have no access to it. This is unlike current Kenwood VHF/UHF dual-band handhelds like the TH-77A which actually contain two separate receivers and let you listen to both at once. However...

A control program like Kentrol can display the status of both vfos simultaneously, along with the configuration of the currently selected memory channel, and it allows you to select which vfo the program manipulates independently of which you are listening to. In Kentrol vfo a, vfo b and mem are referred to as 'Sources'. The source being heard is called the 'Active Source', while the source acted on by control commands is the 'Tunable Source'.

Most often, of course, the Active and Tunable sources will be one and the same but you will find that it is very convenient to, for example, tune vfo b to the latest dx spot on the packetcluster while continuing a qso on vfo a.

A separate but related benefit is that you can change the mode even when mem is the Active source. This cannot be done from the front panel of the radio, and is especially handy for sw broadcast listening.

## **(2a) MEMORY MANAGEMENT**

This is perhaps the strongest reason to connect your radio to your pc. The horrible ergonomics of keypad frequency entry on Kenwoods (and all other HF radios except the Lowe HF-225, which has a separate keypad) make entering the contents of 100 memories sheer torture. Even if some way of backing them up was provided, it is hard to imagine anybody switching manually between different memory sets.

A pc totally transforms this situation. At worst, you type the memory contents in via your computer keyboard. More likely, a database program or spreadsheet can be used to import data acquired on diskette or by modem. There are excellent specialist database programs available. Any terminal program that can do an ASCII file transfer can load the settings into the radio.

Now you can have an unlimited number of memory sets on hand, organized in any way you want.

Kentrol can read the contents of the radio's memories to a window or a file, allowing you to attach comments to each channel. You can create new memory sets from the keyboard or by importing frequency and mode information from text files via the Windows clipboard.

There is an extra advantage for TS-940S owners. That radio has four banks of ten memories and requires that bank and channel be selected separately. The bank switch is on top of the radio! Kentrol handles all the mechanics of bank and channel numbering and provides the user with a set of 40 consecutively numbered memory channels, all equally accessible.

The sad exception to all of this is the TS-50S, whose 100 memory channels are not computer-accessible.

## **(2b) LOGGING**

Computer logging doesn't do anything you can't do by hand, but it certainly is convenient.

A fairly basic logger is built into Kentrol. It logs the correct UTC date and time, frequency, mode, band and your comments. I will happily accommodate DDE links to more elaborate logging programs when they come along.

## **(3) LINKS BETWEEN FUNCTIONS & WITH THE OUTSIDE WORLD**

There is little or no interaction between the major controls of your radio for the excellent reason that fixed interactions are impractical, undesirable, or both. A successful exception is the way most models switch from lsb to usb when you tune past 9.5 mhz but accept your override without protest.

Interactions which take place in software on your pc have none of the problems of built-ins and offer many interesting and attractive possibilities. Software links are flexible and dynamic and they can be turned on and off, so we aren't limited to what is appropriate full-time.

Kentrol links radio functions intelligently through its software tuning modes.

In Kentrol's 'Band' tuning mode, the frequency range of the tuning scroll bar depends on the frequency being tuned. The available tuning range changes from the receiver's full range to just the width of the band, if any, in which the tuned frequency falls. If the tuned frequency is not in a ham, bc or utility band, clicking the 'Band' button does nothing.

Using the Jump 'Up' or 'Dn' button takes you to the next band of the same type, whether broadcast, aeronautical, maritime or amateur. This feature will gradually be extended in the utility bands. Standard time signal frequencies are treated as bands, which permits stepping through the group.

The 'Sub' mode in Kentrol zooms in one step farther and sets the mode to match the frequency. When it is in a band, the tuning step is also determined by Kentrol. Normally 1 khz, it becomes 5 khz whenever the tuned frequency falls within a sw broadcast band. In the MW band the step is 10 or 9 khz depending on the choice of ITU Region, and in the Aero Mobile and Maritime phone bands it is 3 khz.

And, in the ham bands which are divided into mode-specific sub-bands, it allows you to jump from one band to the next and stay in the correct sub-band. So, for instance, if you switch to 'Sub' mode when the vfo is tuned to 14.265, Kentrol will automatically set the the scroll bar range to 14236-14350 and the mode to usb. Then, if you click the Jump 'Up' button, the vfo will go to 18.111, which is the start of the phone portion of 17 metres. If you click the 'Jump - Dn' button from 14.265, Kentrol drops below the SSTV sub-band to 14100-14224. On the next click of the Dn button it skips the 30 metre band because it has no phone sub-band, and takes you to the start of 40 metre phone.

The Radio Setup command on the Options menu allows choice of the USA, Canada, Japan or ITU Region I, which determines the sub-band limits for various modes. If there is demand for them, other band plans can be added.

The BandBox provides a way to set the vfo to a particular service (ham(with mode sub-bands), bc, time signals, aero, marine) without having to remember the frequencies. When you make a choice from the Service menu, the active vfo is set instantly to the bottom of the next higher band of the service selected, and the mode is set accordingly.

#### **(4) OVER-RIDING THE BUILT-IN SOFTWARE**

If you use your R-5000 or '40 series Kenwood for digital modes such as rtty, packet, amtor, sitor, etc., you have probably noticed what a pain it is that some bright soul at Kenwood Corp. decided their '40-series radios should display the (imaginary) carrier frequency in (A)FSK mode while the rest of the world tunes by the mark frequency. (Come to think of it, it was probably the same guy who decided to build in an AFSK mode and then label it FSK.)

In the '50 series, Kenwood finally switched to mark frequency tuning.

Fortunately, an external control program uses its own software to decide how to display a frequency, so you can be liberated from such oddities without trading in your 440 for a newer rig. In Kentrol, you always tune rtty by mark tone frequency.