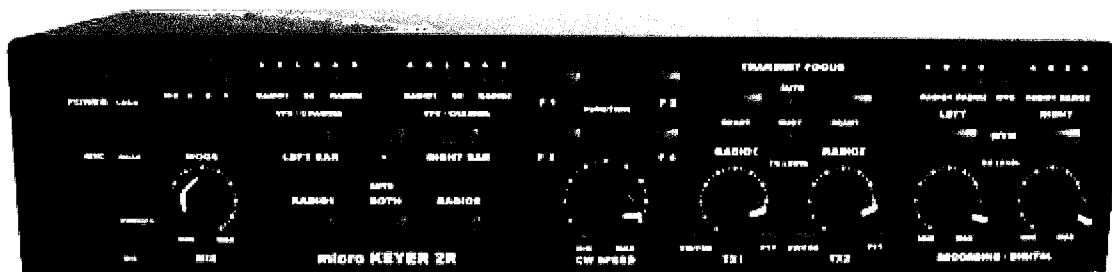


NCJ Reviews the *MicroHAM MK2R+*

When MicroHAM's long-awaited SO2R controller was unveiled at Dayton 2006, it created a lot of buzz. The unit looked very different from any previous designs, and promised many unique capabilities, even though the needed software wasn't quite completed. In the fall, just after the first production units began to be delivered, I asked Joe Subich, W4TV, of *MicroHAM America* for a unit to review in *NCJ*, and he was quick to send me a unit with interconnecting cables for my two radios. It turned out to be Serial No. 1, and an MK2R+ (the "+" denotes presence of two specially-selected sound card chipsets inside the unit, one for voice and the other for digital modes). Both units also incorporate a 2nd-generation Winkey CW keyer chip. From now on, for simplicity, I'll refer simply to the MK2R.



I do not intend here to go through the specifications of the MK2R in any detail. They are available on MicroHAM's US web site at <http://microham-usa.com/Products/mk2r.html>

Instead, I want to focus on what it was like for a fairly computer-savvy old ham to set up and operate the MK2R in three contests— SS CW and SSB, and CQWW CW.

The important thing to understand is how thoroughly MicroHAM's Jozef Urban, OM7ZZ, has thought out the problem of designing a 2-radio controller that will operate effectively and conveniently in all three contest modes. As an example, the MK2R incorporates a special pre-selector, enabled by a jumper inside the unit, so that you can use a single dynamic microphone, such as a Heil HC-4 or HC-5, with a mixture of Icom and non-Icom radios. As another, the controller works with both Windows and DOS-based logging programs, implementing and augmenting their capabilities. As a supplement to the excellent user manual, instructions are available for setting the unit up with all the major contest and non-contest programs.

Unpacking the MK2R, I was immediately struck by the excellent construction, including a sturdy Ten-Tec enclosure, real pushbuttons, and excellent-quality jacks and cables. With anything approaching proper care, this unit should last for many, many years of hard contest use.

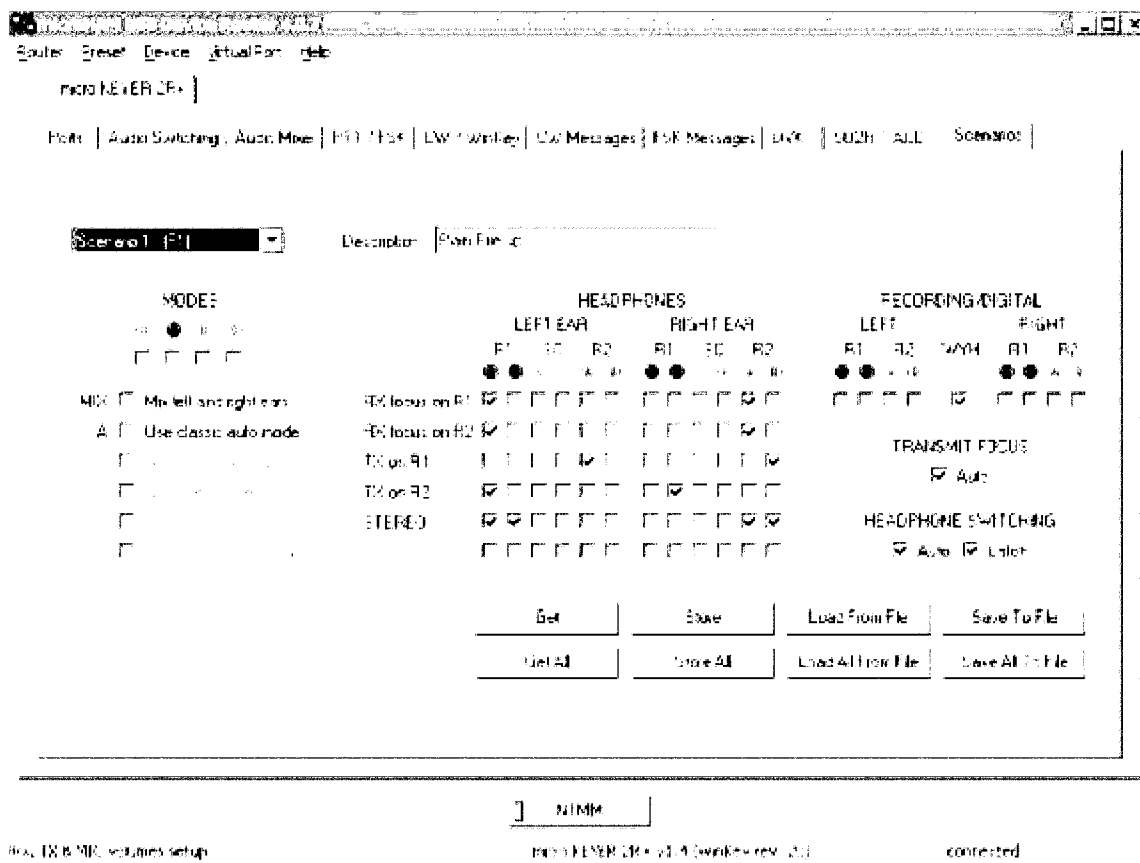
Interconnection with my radios proved no more difficult than with my TopTen DX Doubler. Setup was different, though. The MK2R uses multiple layers of software, firmware and hardware, all of which need to be installed and configured. Between your logging program and the radio are the MicroHAM router software, Microham USB drivers, the MK2R's firmware and its hardware. I don't mean to scare anyone with this description, but this is NOT a unit that you can just plug in and go play. The excellent and very well illustrated user manual takes you step by step through the necessary installation and setup steps – resist the temptation to skip. You most likely will not be

able to set up the Router as you want it simply by relying on the on-screen labels and ToolTips.

Here's an example, from my own experience. Setting up for SS CW, I wanted to be able to hear my own paddle CW (for obvious reasons), yet the most effective SO2R configuration is to put both ears on the non-transmitting radio. Throughout the entire contest, I had to hit a key to temporarily put one radio in each ear, simply to hear the paddlesidetone. Only after the contest did I learn that there is a checkbox in the Router configuration that would have let me hear paddlesidetone without all those gyrations, by switching to the transmitting radio's audio whenever the paddle is pressed. It's a very neat work-around.

Once set up for CW SO2R, the unit works extremely quietly and smoothly. I chose to use the default configuration, which puts one radio in each ear when neither is transmitting, and puts both ears on the non-transmitting radio when the other one is on the air. The only less than perfect functional issue I noticed was some quirkiness in the speed of CW from the built-in Winkey, but I think that may have more to do with the N1MM Logger's management of CW speed in complicated SO2R operation than any basic flaw.

A new, intriguing and, I think, unique feature of the MK2R is a Scenarios tab on the Router setup. Used in conjunction with the F1-F4 buttons on the front panel, plus the "+" button as a "shift" key, this will let you custom program up to 8 different scenarios for earphone switching during SO2R operation. As an aid to the user, MicroHAM has provided 8 pre-programmed scenarios, but your potential for customizing and switching quickly between them is virtually unlimited. To my knowledge, only Win-Test logging software provides this capability by itself; the MK2R can do it with any logging software. The Scenarios tab in the Router setup (see fig. 2) illustrates the flexibility that the MK2R makes available to the SO2R operator.



[Suggested sidebar] SO2R without an LPT Port

With the exception of Win-Test, all major contest logging software uses LPT port signals for automatic control of radio and headphone audio switching (this de facto standard was originally pioneered by CT and NA). This has long been a problem for laptop users, but with the advent of desktop computers that no longer have either hardware serial or LPT ports, and only a small number of PCI slots, it will become critical before too long.

MicroHAM has proposed a new standard for the LPT-less world, specifically for Windows logging programs. In essence, it would use 4 of the non-data lines on a serial port to pass the SO2R signals now handled by the LPT port, and assumes that CW and PTT will be handled by a Winkey or compatible outboard microprocessor keyer, which would share a single USB serial port with the SO2R control signals. The standard is compatible with Win-Test, and has been proposed for addition to N1MM Logger. At this writing, Writelog's plans are unknown. Even the older DOS programs could presumably conform with this standard and extend their usefulness.[End sidebar]

Once CW SS was behind me, I started setting up the MK2R for Phone SS, just 2 weeks later. One of the complications with using sound-card-based DVKs has always been getting levels right, so that "live" audio drives the transceiver to the same output and compression level as "canned" messages. MicroHAM has given this a lot of attention, in the hardware, the software, and best of all, in the user manual. If you carefully follow the step-by-step procedure it outlines, you will wind up with the same levels driving even dissimilar radios, with overall level control on the front panel of the MK2R. The MK2R even lets you listen directly to the output of the soundcard, and, of course, you can use its soundcard for recording, using a variety of third-party recording software,

such as *Audacity*, which lets you set all the recorded files to the same peak level.

I found SSB operation in SS with the MK2R to be as seamless and uneventful as on CW. Then, late in the contest, I suddenly had no playback of recorded messages. After a good deal of poking around, I discovered that Windows XP was no longer able to find the MK2R's Voice CODEC (the onboard voice soundcard). After a panicked e-mail to MicroHAM, I did as I was told, uninstalled and reinstalled the Router, and the soundcard was back. Truly mystifying, and as of this writing, an unsolved mystery – although MicroHAM says this has only occurred with the first two production units, and is exploring the cause.