MixW RigExpert

If you spend much time around personal computers, you know how ubiquitous USB (Universal Serial Bus) has become. We plug the device of the moment into a thumbnail-sized receptacle and the computer immediately recognizes the new component and configures itself accordingly. Thanks to USB, we no longer have to struggle with serial (COM) and parallel (LPT) ports. In fact, many laptop computers no longer offer such ports.

Amateur Radio manufacturers, however, have been slow to embrace USB. It's easy to understand why. Adding USB capability to a product adds cost, which can be a serious liability in a highly competitive market. Despite this reluctance, we're finally beginning to see USB devices for hams. Among the first is the MixW RigExpert transceiver interface.

Plug and Go

The MixW RigExpert is a USB transceiver interface that allows you to operate several sound-card-based digital modes, key your rig on CW and even perform basic transceiver control (such as changing frequency). The MixW RigExpert *doesn't* use your computer's sound card to work its DSP magic. Instead, it includes its own AC97 sound-processing chipset. Considering the tiny enclosure (about size of a pack of cigarettes), that's a pretty neat feat.

The front of the enclosure sports a socket for the USB cable. On the rear you find a DB-25 connector for the cables to your transceiver. For this review we purchased pre-wired transceiver cables from the RigExpert distributor.

The MixW RigExpert only works with *MixW* multimode software (version 2.11 and higher), or version 1.8 *DigiPan* PSK31 software. It will be interesting to see if other Amateur Radio software developers release updates that enable their applications to "talk" to the MixW RigExpert.

You begin by popping the MixW RigExpert CD into your PC and connecting the RigExpert's USB cable to an available USB port. There is no need for a dc power cable; the RigExpert obtains its power from the USB port.

Within a few seconds *Windows* detects the MixW RigExpert and starts the driver installation wizard. A few mouse clicks later, the MixW RigExpert driver is good to go. It sets itself up as a "virtual COM port" (COM 4, in my case).

With the driver installed, I updated my *MixW* software to the most recent version and gave the RigExpert a try. The result was an immediate *MixW* error message. The message told me that *MixW* couldn't use COM 4 to control my radio. With a little trial and error I discovered that you don't need to specify a COM port in *MixW* for rig control when you are using the RigExpert. You simply set the CAT (Computer-Aided Transceive) port to "unspecified" and the RigExpert takes it from there.

I started *MixW* again, and was greeted with yet another error message. This time it declared that the RigExpert sound hardware was unavailable. The RigExpert's AC97 chipset was communicating on the USB virtual COM 4, but the *MixW* software was looking for RigExpert sound hardware on COM *13*. Ahhah! I opened the sound card dialog in *MixW*, selected COM 4 for RigExpert sound, and all was right with the world.

When I finally ironed out the software glitches, MixW

MixW RigExpert (shown with optional transceiver cables).

RigExpert performed like a champ. I had a blast working PSK31, MFSK16, RTTY (it can do AFSK *and* FSK), SSTV and several other modes. I set up MixW RigExpert on my laptop and discovered that swapping between the desktop and laptop was a breeze. I simply unplugged the USB cable from the desktop PC and inserted it into the laptop. There was no need to use scarce COM port resources and their attendant cables. Best of all, the sound cards in both computers were free for other applications.

The MixW RigExpert has more than enough audio output to drive any transceiver. In fact, I had to carefully adjust the RigExpert output to avoid overdriving. Unfortunately, you can't adjust the RigExpert output while transmitting. This means that you have to set an output level, transmit, note the result, go back to receive and then adjust again. I had to repeat this cycle about six times before I finally achieved the output level I wanted.

MixW RigExpert performed flawlessly as I switched from mode to mode. The only problem I noticed was some RFI on certain bands. The worst was a strong signal that spanned 10 kHz between about 14.095 and 14.105 MHz. I applied ferrite cores to the USB cable and the transceiver harness. They cured the RFI on all bands in short order.

More to Come?

Is MixW RigExpert the vanguard of more Amateur Radio USB devices to come? I certainly hope so. The convenience of USB may attract more hams to digital operating and digital communication in general. (How about a software-defined radio with a USB interface?) To achieve a smooth implementation of USB, however, the Amateur Radio software in our computers will need to become "smarter." For instance, the hassles I endured with the *MixW* software wouldn't have happened if *MixW* had been able to detect the MixW RigExpert configuration and change its own settings to match.

MixW RigExpert is a fine start on the road to plug-and-play digital hamming. It is well crafted and performs beyond expectations. The companion CD is professionally executed—it supplies as much information as possible to lead you through the installation. The MixW RigExpert CD even includes *Linux* source code for savvy developers who want to create *Linux*-based applications for the RigExpert.

Distributed in North America by UZ Tech, 66 Cavell Ave, Etobicoke, ON M8V 1P2, Canada; **www3.sympatico.ca/va3uz/ uztech.html**. *RigExpert interface, $219. Generic transceiver cable set, $12; rig-specific pre-wired cables, $45.*

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