



West Mountain Radio *Nomic* Sound Card/Transceiver Interface

Amateurs have been awakening to the power of computer sound cards. For years sound cards were regarded as entertainment gadgets at best, generating beeps, chimes and “You have mail” announcements in station computers. But thanks to software authors throughout the world, these ubiquitous devices have become essential tools for everything from contest “voice keyers” to computer-based modes such as PSK31, MFSK16, RTTY, SSTV and more.

In terms of connecting a sound card to your transceiver, a shielded audio cable is all you need for reception; no special interfacing required. Transmitting is another matter. You need a way to match the audio level between your sound card output and your transceiver, *and* the means to place your radio into the transmit mode when it is time to send. In many cases, a couple of audio cables and a single-transistor switch on an available COM port will suffice. For quite a few amateurs, however, it isn’t that easy. Isolation and RF problems can introduce hum and other objectionable noises. Keying circuits can refuse to operate, or will operate erratically.

A couple of years ago, West Mountain Radio introduced the RIGblaster interface, which solved most of these problems by consolidating all of the keying and interface connections in one box. Since then, the RIGblaster has become the *de facto* standard. Its transformer isolation, ample RF bypassing, handy audio level adjustments and optically isolated keying take the pain out of interfacing your sound card to your radio. The RIGblaster also offers a jack for your station microphone. With a single push of the button, you can disconnect your sound card audio lines and substitute your microphone (this is particularly convenient for SSTV where image transmissions are often mixed with SSB conversations).

The Nomic

The RIGblaster Nomic represents a natural step in the evolution of this popular interface. I suppose you could call it “Son of RIGblaster.” Nomic is designed for amateurs who need an even more compact sound card interface, one without a microphone option. Smaller than a pack of cigarettes, the Nomic can fit just about anywhere. It doesn’t even require a power supply. (If your station doesn’t have room for a Nomic, you need help!) The Nomic is also ideal for the growing number of hams who enjoy portable operating with their laptop or notebook computers.

The left side of the Nomic enclosure sports a DB-9 serial connection. This is the port for the cable between the Nomic and your computer COM port and it is used solely for placing your radio in the transmit mode. The keying connections to your transceiver



are made through a RJ45 modular telephone-style jack on the right side of the Nomic. This jack is labeled **MIC OUT**, but it doesn’t necessarily need to be connected to your transceiver microphone jack. You can just as easily make the connection to the auxiliary jack.

When you want to transmit, your software creates logic pulses that appear on the COM port’s RTS or DTR pins (the Nomic selects either active pin automatically). The pulses cause the Nomic’s 4N33 optoisolator to conduct, and if you’ve wired the connection to your radio properly, the radio will switch to transmit.

Correct wiring is never a problem. The Nomic package includes a set of four tiny jumper wires and plugs. Remove the four screws that hold the Nomic box in place and you’ll find a 13-pin jumper “header.” By following the instructions in the Nomic manual, you can use these jumpers to assign the microphone audio, microphone ground, PTT (push to talk) ground and PTT “hot” lines to any of the **MIC OUT** jack pins. The benefit may not seem obvious at first, but think carefully. To connect the Nomic to the microphone input of any radio, all you need is a microphone plug to fit the radio, a multiwire shielded cable and a RJ45 plug. (West Mountain Radio sells pre-assembled cables for several transceiver brands.) *It doesn’t matter how the Nomic-to-radio cable is wired.* You simply switch jumpers to make the correct connections and you are done. It doesn’t get more foolproof than this.

Audio from the sound card is fed to the **AUDIO IN** port. If your sound card doesn’t have a line-level output and you have to tap your transmit audio from the sound card speaker jack instead, don’t worry about losing the use of your computer speakers. Just plug your speakers into the Nomic **AUDIO OUT** jack and they’ll work just as well as before.

The Nomic design provides a transformer for transmit audio matching and isolation. A level-adjustment potentiometer on the right side of the Nomic case lets you tweak for just the right level of transmit audio for your radio.

Software

Nomic comes with more than just hardware. The device is shipped with a CD-ROM filled with an astonishing amount of software for PCs (*DOS* and *Windows*). There are freeware and shareware applications to transmit and receive packet (including APRS), AMTOR, PACTOR, RTTY, PSK31, MFSK16, SSTV, CW and even high-speed CW (for meteor scatter)—all requiring nothing more than your computer sound card and the Nomic. The CD even offers a sophisticated color 3D-radio terrain-mapping program written by VE2DBE and a demo logging program known as *VQlog* written by EA6VQ.

With the Nomic interface and its CD-ROM library, you’ll be busy exploring new worlds for a long time! *Manufacturer: West Mountain Radio, 18 Sheehan Ave, Norwalk, CT 06854; tel 203-853-8080; www.westmountainradio.com. \$29.95.*