

# Quick Start Guide

## NUE-PSK Digital Modem



### Modem Connections

- 1) **Power:** Either connect two 9V batteries to the clips in the battery compartment (accessible on the underside of the modem), or connect a standard 2.1mm coaxial power plug to supply a DC power source in the range 10-18 volts (center positive). *[If using batteries, they do indeed fit, connector ends facing center, one at an angle and overlapping the other connector. See Operator's Manual for photo.]*
- 2) **Radio:** Use supplied cable to connect three signals (and ground) to your SSB transceiver. See diagram on next page.
- 3) **Kbd:** Connect a standard PC keyboard with PS2-style 6-pin mini-DIN plug to the Kbd connector. A combination PS2/USB-capable keyboard is also supported when used with the common PS2-USB adapter.

### Operation

- 1) **Power On:** Turn on the modem using the On/Off switch. The initial splash screen information will display product name, version number and copyright information. In 2.5 seconds the display will change to show a straight horizontal spectrum baseline with the frequency cursor. The spectrum display represents 500 Hz on the left to 2500 Hz on the right, with the cursor initially positioned in the center at 1500 Hz.
- 2) **Tuning:** Turn on the SSB transceiver and tune to the digital portion of the desired band – e.g., 7070 kHz or 14,070 kHz. If the radio cable is wired correctly, and PSK31 signals can be heard on the band, the modem's spectrum display will show these signals. The spectrum display indicates relative strength of the audio signals in the band. The digital signals present will have a distinctive appearance and you can use any of three methods to tune to the signal of interest. You can: (a) adjust the rig's dial to place the digital audio spectrum over the modem's cursor; (b) use the modem's Tune control to move the cursor to a frequency where a digital signal is seen; or (c) use the keyboard's right/left arrow keys to move up/down at low frequency increments, or the up/down keys to move with bigger steps. When you get close to the digital signal while using the keyboard arrow keys for tuning, the modem software will recognize the presence of a decodable digital signal and will "snap" precisely to it. When using the Tune control you can force a "snap" to the closest digital frequency by tapping the Select pushbutton or by pressing the Enter key on the keyboard.
- 3) **Transmitter Set-up:** It is essential to have the modem Tx Audio drive level and your transceiver power level set properly when using the digital modes. Using a dummy load on the transceiver, set up the rig for normal SSB operation (see your radio's user manual), at the normal power level (say 100 watts PEP). Press F8 on the modem keyboard to generate a continuous tone, and the PTT line should put the rig into transmit. Next adjust the Tx Audio control on the modem to set the transmit level between 15-14% of the rig's rated level (15 watts in this example of a 100 watt rig). Press F8 again to discontinue the modem's Tune mode, remove the dummy load and connect your antenna. You are now ready to use your modem on the air without overmodulating.
- 4) **"Configure" Menu Selection:** Various operating modes and user-configurable settings are available in the Configure menu, accessed by a pressing and holding the Select pushbutton for one second. The selectable items are then shown individually on the screen, as controlled by rotating the Tune control. When the desired item is displayed, you can select it by tapping the Select pushbutton. The Config menu may also be accessed by hitting the keyboard's F12 key. See the table on page two for all available configurable items. When you have completed making the desired settings, tap Select when Exit is showing in order to go back to normal modem use.
- 5) **Typical Operation:** As simple usage scenario may be helpful to illustrate initial modem use. After a digital signal is tuned as described above, and when you are ready to respond to a CQ, press the keyboard's F10 key to go into Tx mode. The display will be cleared and characters you enter on the keyboard will be simultaneously echo'd to the display and sent to the rig via audio tones. When you are finished typing, hit F10 again to toggle back to Rx mode. See the many other macro controls listed on the next page. Enjoy the QSO!