KX1 REV. 1.02 FIRMWARE UPGRADE

Jan. 30, 2006

New firmware installation instructions:

- ❑ **IMPORTANT:** To avoid a lengthy DDS/BFO recalibration procedure, and to simplify other necessary KX1 setup, we strongly recommend that you write down *all* present menu settings (see page 65 of the KX1 manual). These settings are stored in the microcontroller itself, and must be re-entered after the new one is installed.
- ❑ **CAUTION: Place the KX1 on an anti-static mat, or touch a grounded metal surface before each step.**
- ❑ Remove the VFO knob using the hex wrench supplied with the KX1.
- ❑ Remove the bottom cover (two thumb screws). Disconnect the battery.
- ❑ Separate the PC board from the top cover as described in the KX1 manual, Appendix E, page E-1.
- ❑ **CAREFULLY** pry the old microcontroller, U1, out of its socket using a small flat-blade screwdriver.
- ❑ Straighten the pins of the new microcontroller as shown on page 17 of the manual (Figure 5).
- ❑ Orient the new microcontroller so that pin 1 is aligned with the component layout (see Figure 11, page 25).
- ❑ Press the microcontroller firmly down into the socket as far as it will go. MAKE SURE NO PINS ARE BENT as you do this. The microcontroller must be fully seated to allow proper installation of the top cover.
- ❑ Install the PC board and top cover as explained in Appendix E (page E-1, third paragraph). Be sure to use the nylon screw, the only one with a slotted rather than Phillips head, at top-center.
- ❑ Install the VFO knob, connect the battery, and attach the bottom cover.
- ❑ Turn on the KX1. If you don't see the LED display turn on, you may have a bent pin on the microcontroller, or it may be installed backwards or not fully seated.
- ❑ Using the menu, re-enter all of the saved parameters.

Revision 1.02 includes the following new features and other changes:

1. *Support for the KXB3080 option (30- and 80-meter two-band module):*

   On 80 m, the KX1 receives from 1.0-5.5 MHz (CW and LSB RX modes only) and transmits from 3.5-4.0 MHz. Signals outside the 80-m ham band will be attenuated due to the band-pass filter, but you should be able to locate some AM broadcast stations from 1.0-1.6 MHz – a useful feature during portable operation.

   The **B30** menu entry functions as both **B30** and **B80** (band enables for 30 and 80 m). When using this menu entry, tap 1 to select **B30**, or 2 to select **B80**. Set **B30** to **ON** if *either* the KXB30 or KXB3080 option is installed. Also set **B80** to **ON** if the KXB3080 is installed. Otherwise both should be set to **OFF**.

2. *More convenient fast VFO tuning*

   The fast VFO tuning rate is now always 1 kHz within the 80, 40, 30, and 20-meter ham bands, even in LSB/USB receive modes. 5 kHz steps are still used outside these ham bands in voice modes.

3. *Scanning*

   Scanning is very useful on quiet bands, or when you're listening to the KX1 in the background. If you have a limited antenna and/or weak batteries, scanning can help locate a strong station that is likely to hear you.

   To set up scanning, use the **STO** menu function to save scan start/end points in frequency memories 1 & 2, respectively (per-band). With RIT OFF, hold **CLR** for two seconds to start (or continue) scanning. Scanning is "live" (not muted) and continuous. It can be stopped by tapping a switch, turning the VFO, or transmitting. If the VFO is set for 10 or 100 Hz steps, scanning proceeds at 100 Hz per step. If the VFO is set for fast tuning, scanning uses 1 kHz steps (5 kHz outside ham bands in LSB/USB receive modes – see above).

4. The upper limit of the sidetone pitch (**STP** menu entry) is now 650 Hz. 550 to 600 Hz is recommended.

5. Transmit band edges are accurate. In earlier revisions they ranged from 1 to 5 kHz outside the actual band edges.