W8BL USB PTS Synthesizer Interface
www.w8bl.com

PTS synthesizers are renowned for their quality and low phase noise. With the *USB PTS Synthesizer Interface* users of these synthesizers can now control them from their PC using the convenient USB connection. In addition, the USB Interface also turns your PTS into a step/sweep frequency generator.

Installation: Just plug the *PTS Interface* into the Centronics connector into the back of the PTS synthesizer and connect to your PC via the included USB cable. A jumper on the pcb allows the interface to be powered from either the PTS or the USB port. The default position powers the interface from the PTS. Install the software to any convenient location on your PC and run the program *Virtual PTS.*

Operation: The *Virtual PTS* software is very intuitive with several ways to enter frequency. Just type the frequency (in hertz) into the start frequency text box (or turn the interactive knobs) and click the *Send* button. To change the output level, turn the level knob and again hit the *Send* button to transfer the new output level to the PTS synthesizer. The software will control up to four different PTS synthesizers. A bcd encoded switch on the interface sets the PTS unit address. The default unit address is 0. Set and save the Model number of your PTS to the interface. If frequency and output level is also saved to interface EEPROM, then those values will automatically be loaded into the PTS the next time the PTS is turned on even if the computer is not attached. (The interface was tested and output level calibrated before shipping using a PTS 310. When your PTS is powered on with the interface connected the interface assumes this model number sets the frequency to 123456789 Hz and the output tom10 dB.)

To use the step/sweep frequency mode on the *Virtual PTS*, type in the start, stop, and step frequencies (in hertz) and enter the sweep time (in seconds). The minimum dwell time for each frequency step is 1 ms. If the sweep time or frequency step you've chosen results in a dwell time of less than 1 ms you will be prompted to enter a higher frequency step or sweep time. Once the sweep parameters have been chosen, just select either the *Start* or *Single* button. Output level across the sweep range is very well leveled.

Note on Amplitude Calibration:
Your *W8BL USB PTS Synthesizer Interface* was calibrated before shipping using a PTS synthesizer and HP power meter to .3 dB. However, the impedance of the level control signal from the interface is relatively high and can't overpower the level setting potentiometer in the PTS synthesizer itself. This internal potentiometer must be disabled in order to get proper dBm calibration. On some PTS models, this pot can be disabled by setting the local level control to "off" using the front panel control. For PTS synthesizers designed for remote control only, the level setting potentiometer is located in the back left hand corner on the board near the Centronics connector. On these models, the potentiometer wiper should be disconnected for proper calibration.