

## *How do I?*

### *An occasional series*

#### *This week: Keeping Time*

Digital modes, especially the ones available in the WSJT-X software suite require accurate time keeping for synchronization. The internal clock on your PC is probably wrong. If it is not within 2 seconds of “standard time” then you will struggle to make contacts, if you can at all.

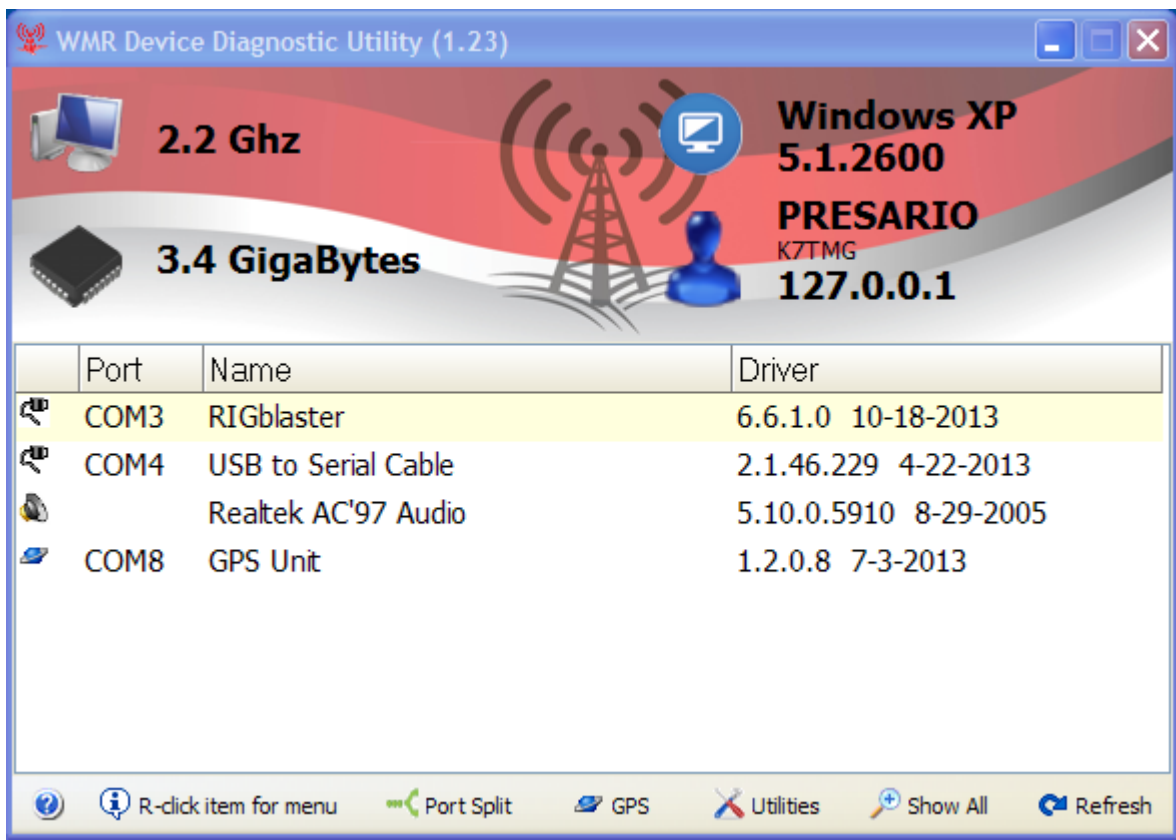
What is standard time: The time provided by the National Institute of Standards (NIST) via its various websites and the WWVB “atomic time” signal. It can also be acquired via the global positioning system (GPS).

Your PC may periodically sync with the Microsoft time keeping service. It is typically 3-4 seconds different from “standard time” and is not accurate enough for our purposes. DIMENSION 4 from [www.thinkman.com/dimension4](http://www.thinkman.com/dimension4) has become the de facto standard for stations with internet access. It is free for non commercial and installs easily. Start your PC, connect to the internet and it will run in the background and automatically update your PC’s time clock.

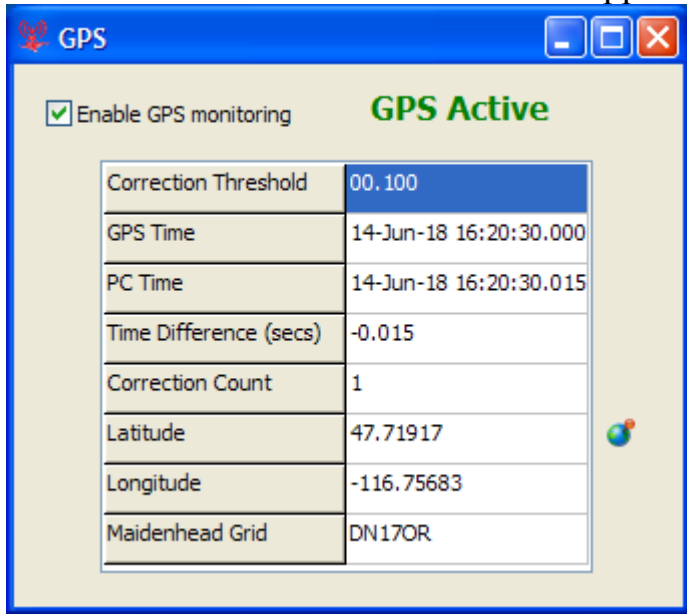
But what if you do not have internet access? Perhaps you are operating portable, or from an off the grid cabin or camp? Mountain West Radio has a solution. They are not the only firm who sells the hardware, but they are the only one I found so far that provides an interface to WSJT-X to make it work.



It is a GPS device that attaches to your PC via a USB port. I had a Garmin GPS device that must be close to 10 years old and could not get it to function like the West Mountain Radio device. I believe the secret sauce is the WMR drivers.



The WMR device diagnostic utility is designed for use with Rig Blaster sound cards. I use a Signalink and this utility and the GPS device works just fine for me. It starts when the PC is started and quickly finds the GPS. Click on the GPS on the bottom menu row above and a screen like this appears:



My time is typically 2-3 seconds off when I start and within 4 corrections is down to .0004 seconds or less variance. List price is \$24.95.

For those who care: GPS time and the US Navy Observatory in Washington DC (via

Dimension 4) has a 0.81 second variance. While a very small part of that is clock drift on my PC, I believe the rest is simply communication lag. Either way, either standard is close enough for the WSJT-X modes. Using the WMR GPS device my typical variance is 0.00 to 0.2 seconds

Catch ya on the air!