

Beta Release of MAP65 2.0

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Summary: Version 2.0 of MAP65 provides support for single- as well as dual-polarization systems, for sample rates 95238 and 96000 Hz, and for JT65 sub-modes A, B, and C. These new capabilities mean that MAP65 2.0 will be usable with any of the following hardware and software combinations:

- WSE and Linrad
- IQ+ and Linrad
- SDR-IQ or other RFspace radios, with Linrad or SDR-Radio
- FUNcube Dongle and Linrad or SDR-Radio
- SoftRock (or similar) and Linrad or SDR-Radio

Together with xpol yagis (or a dual-polarization feed in your dish), MAP65 2.0 makes for a superb EME system at 144 or 432 MHz. The same is true for single-polarization systems at 1296 MHz. Screen shots showing MAP65 2.0 in operation on 144 MHz are posted at http://www.physics.princeton.edu/pulsar/K1JT/MAP65_2.0.png and http://www.physics.princeton.edu/pulsar/K1JT/MAP65_2.0_MainWindow.png.

Quick-Start Instructions:

1. Use something like "C:\MAP65" rather than "C:\Program Files\MAP65" for the installation directory.
2. If you have not already done so, download and install a package of support files from <http://www.physics.princeton.edu/pulsar/K1JT/OtSupport.exe>
3. Download and install MAP65 2.0 (beta release) from http://www.physics.princeton.edu/pulsar/K1JT/MAP65_200r488.exe
4. On the final screen of the installation wizard you will be offered a chance to run a program that configures optimized FFT routines for your particular computer. Choosing the first (default) checkbox will be adequate for most purposes, and will result in an optimization process that takes a few minutes. Later, you may want to run the batch file "wisdom2.bat" in the installation directory to gain a small additional speed advantage. This second-level optimization may take as long as an hour. Wait until the optimization procedure finishes before proceeding.
5. Start MAP65 by clicking on its desktop icon.

6. On the **Station** tab of the **Setup | Options** screen, enter your callsign and grid locator. Set other parameters as required for your station setup. Be sure to check **Xpol** if yours is a dual-polarization system, and uncheck it for single polarization. In the box labeled **Fadd**, enter the difference between the frequency reported by Linrad or SDR-Radio and the corresponding on-the-air frequency. For example, if your system converts 144.100 MHz to 28.100 MHz, enter 116.0 for **Fadd**. For now you may leave parameters **Fcal** and **Dphi** set to zero. (You will probably want to optimize them later.)
7. Go to the **I/O Devices** tab, select the correct input sample rate for your hardware — either 96000 or 95238 Hz. Choose the output device you wish to use for Tx audio, then return to the **Station** tab and click **OK**.
8. On the **Mode** menu, select JT65 sub-mode A, B, or C.
9. Position the five main windows of MAP65 as you wish, possibly resizing some of them as desired. An example of the setup I use is shown in the first screen shot mentioned above.
10. Start Linrad (or SDR-Radio) and be sure it is configured to send “timf2” data packets to MAP65 on port 50004. After a few seconds, click the **Auto Zero** button at the bottom of the waterfall window to adjust the zero level. You may also want to adjust the spinners labeled **Freq Span** and **Freq Offset** for the most pleasing display of the desired portion of the band. For normal EME activity on the 2m band you will probably want to display a range something like 144.100 to 144.160, which shows on the screen as 100 to 160. On 432 or 1296 MHz, an appropriate range is something like 0 to 90 (i.e., 432.000 to 432.090, etc.).
11. You should now be ready to use MAP65.