

## **Installation instructions for the Windfreak SynthUSBii v1. (Please read all the way through once before beginning.)**

### **Drivers:**

Please run SynthUSBIISerialxx.exe before plugging in the synthesizer. Choose 32 or 64 bit depending on your OS. For Windows 7, 8 or Vista right click and select "Run as Administrator". *Windows 8 will require temporarily disabling the requirement for signed drivers. Please read Win8DriverHelp.pdf on the CD for instructions.*

When you plug in the Synthesizer for the first time, Windows should recognize a new device and finish installing the drivers. Double check in Control Panel / Device Manager if there seem to be problems.

### **Software:**

After drivers are installed and the hardware plugged in there are 4 options.

- 1). Double click on SynthUSBii\_x.vi in the source code directory if you have Labview 2011 or later installed. Please contact [dgoins@windfreaktech.com](mailto:dgoins@windfreaktech.com) for older versions of labview.
- 2). Install Setup.exe from the installer directory. This installs the Labview runtime engine. It also installs the SynthUSBii software which you should be able to find under Start/All Programs.
- 3). If you already have the labview runtime engine, and the drivers installed you can use the executable by itself as a standalone program.
- 4). Use terminal.exe which is a 3<sup>rd</sup> party program. Connect to the proper COM port (1-7 only). Click to enable DTR and RTS. Type "?" in the white send box in the transmit section to begin.

### **Hardware:**

The Windfreak SynthUSBii is designed to work with USB power. Make sure your USB port can supply 200mA of current before plugging in this device. (Most newer PCs are capable of this). Windfreak Technologies assumes no responsibility for any damage the Synthesizer may cause to customer equipment. When first plugging in the SynthUSBii, whether to a PC or just to USB power, it will go to its factory eeprom setting. The factory setting is typically 1GHz with a power setting of a0 which corresponds to about -8dBm.

The RF connector is high performance and needs to be treated with care. Avoid torquing or bending via the RF connector and this will keep the center pin solder from cracking. Of course, try to reduce the possibility of ESD when handling.

### **Operation of WFT Software:**

Plug in at least one synthesizer to USB before starting the software. Wait for a few seconds for the device to register on the USB bus and then start the software. The "Device Under Control" box in the top right hand side of the GUI shows the serial number of the device under control. If you plug in multiple devices click "Scan USB" under the Generator tab to go back and forth between controlling the different devices. Please leave all hardware plugged in until the software is closed out. This will avoid USB issues. In the case that you do a lot of USB communication to a device that is not plugged in, it may require a computer restart to clear out the USB buffer.

The software is mostly intuitive. A couple pointers are: To enter frequency and other values use the keypad, PC keyboard or knob. Press "Enter From Keypad" if you used the keypad. Otherwise hit enter on the PC keyboard if you typed in the value. Use the knob for fine tuning the frequency. Adjust the sensitivity of the knob with the Knob Step Size drop down box. Adjust RF Power with the slider on the right.

Finally, hover with your mouse over various items in the software to get hints or instructions.

### **Troubleshooting:**

*LED D1 doesn't light after connecting USB:* Possible problem with PC and Vusb power. Try a different PC, USB port and or cable. D1 also blinks when there is USB communications. D1 also toggles during sweeps.

*RF Lock LED D2:* If Lock doesn't light it could be because settings in the "PLL Cntrl" tab are faulty. Click Re-Init Defaults on the Reg Cntrl tab. Try using Re-Init for other issues too.

If you can't get it to work contact David Goins at [dgoins@windfreaktech.com](mailto:dgoins@windfreaktech.com).

**Schematics and Reference Designator Map are located on the CD shipped with the device.**