



Windfreak Technologies, LLC.
SynthHD Mini Quick Start Instructions
Please read all the way through once before beginning

Important Info on Drivers: If you are using the software GUI installer, the installer will install the hardware drivers together with the GUI. Windows 10 comes with drivers, but you can still choose to install or not install the Windfreak Drivers in Win10 during the GUI install process if desired. If you choose not to install and there is an issue with Windows 10 communicating with the hardware go to the Extras/Driver folder and install the driver. The proper name of the Windfreak driver is “Windfreak Serial USB Devices” or if using Win10 drivers is “USB Serial Device”.

Note: Verify your USB port can supply up to 600mA. Attach proper 50 ohm loads on the RF output when RF is enabled. Observe proper ESD precautions as the SynthHD Mini is susceptible, especially in dry climates. Always keep and transport the device in its silver Ziplock ESD bag.

There are three options to get the SynthHD Mini software going:

- 1) Install setup.exe from the GUI installer directory if not done already. This installs the drivers and the Labview runtime engine. It also installs the SynthHD Mini GUI which you should be able to find under Start/All Programs or your Desktop.
- 2) Install drivers and double click on SynthHD Mini_xx.vi in the source code directory if you have 32 bit Labview 2017 or later installed. For 64 bit Labview you will need to use the 64 bit lvserial located in the Extras/lvserial folder.
- 3) If you already have the 2017 32 bit Labview Runtime Engine installed, install drivers then double click on SynthHD Mini_xx.exe in the Extras folder to run as a portable executable.

Plug in the SynthHD Mini to USB. From the factory the SynthHD Mini should be generating 1GHz at ~0dBm.

Windows should recognize a new device and finish installing the drivers once you plug in the hardware for the first time.

Once you see a Device Under Control and no Com Error on the right you should be linked. You can unplug the SynthHD Mini as long as you don't click anything on the control GUI. If you unplug and re-plug, click Scan Devices to resync the software with the hardware. The hardware always comes up with its internally programmed settings of frequency, amplitude, and modulation. Refer to the Software Operating Manual for more detailed information on the software.

Troubleshooting:

Software doesn't recognize the SynthHD Mini: Make sure your PC has the ability to source 600mA to USB. If not try a powered USB hub, or try the HD Mini USB Breakout Board (not included). Double check the drivers are installed properly by going into Control Panel – Device Manager – Ports (COM & LPT) and check that the driver is there. Try unplugging the SynthHD Mini and make sure it goes away and comes back when you plug it back in. Note your COM port assigned. If you don't have a COM port assigned try re-installing the drivers, a different USB cable or a different USB port. While it's possible to use NI VISA with the SynthHD Mini, the GUI does not. This was done to remove incompatibility with other vendors VISA software. In its place, it is important that lvserial.dll sit in the same folder as SynthHDMini_xx.exe (or *.vi). When working with the source code, lvserial.dll as distributed works with 32 bit Labview installations. There are 64 bit lvserial installers and source code in the Extras folder.

Signal isn't there: If you have programmed the nonvolatile memory on the device previously, the device will power up with those settings. Click Scan Devices and look through the software to make sure the device has RF enabled and the level is something you can see. Verify no sweeps, triggers or modulations are enabled. If the Reference was programmed to be external, re-set it to internal. Check cables and your test equipment.

If you cant get it to work contact David Goins at dgoins@windfreaktech.com.