



5030 Quick Start Guide

Step 1: Power Supply Connection

You are going to need a 5V to 15V power supply capable of supplying at least 8 watts. Use the supplied red-black Hirose cable to connect to your power supply. Connect it and you should see two blue LEDs illuminating through the label just near the USB connector. Your 5030 will now be set to 24000MHz at a power level of +0dBm (1mW). See *"Hints and Kinks – Power Supplies"* on back of this document.

Step 2: Heat Sink

The 5030 heat dissipation is approximately 8 Watts in normal operation. Due to its small physical size and bright metal surfaces, it cannot radiate much heat and the case temperature will rise 20 degrees Celsius or more in still air. Heat sinking will be required in order to dissipate the accumulated heat if the synthesizer is powered on for more than a few minutes. For temporary bench top operation place the synthesizer on a 1/4" thick 6"x6" or larger aluminum plate.

Step 3: USB connection

Connect the provided USB cable to your 5030 and host computer. Your computer should recognize it as a new FTDI Virtual Com Port. If you have trouble, then it is likely you do not have the correct VCP (virtual com port) driver. FTDI drivers can be found at <https://ftdichip.com/drivers/vcp-drivers/>.

Step 4: Terminal Program

You will need a terminal program to change your 5030 settings. Any terminal program will work. You can download our custom 5000term from the web: <https://valontechnology.com/5015users/5015.htm>. **5000term.zip**. Unzip and running 5000term.exe will automatically find the correct Virtual Com Port. If you use a different terminal program, your port settings are 9600, 8, None, 1, None.

Step 5: Synthesizer Settings

After launching your terminal program, press the Enter key a few times and check to see that you get a cursor like this: "-1->", if you do, you have successfully established communications with your 5030.

Type **help** to get the help menu

control-c will exit program.

control-f will increase the baud rate to 115200.

control-r will reset the synthesizer to factor default settings..

Consult the **Valon 5030 Operations Manual** for more information on the use of these and other commands.

For the latest 5030 Downloads: <https://www.valontechnology.com/5030users/5030.htm>

5030 Hints and Kinks – Power Supplies

If you are experiencing trouble with the 5030 often the problem is due to the power supply or the power supply connections.

Follow these suggestions to make sure you don't run into start up problems:

1. Lab bench power supply current limit set too low. Make sure the current limit is set well above the required current for the voltage you are operating at. For example if you are using a 6V supply the current will be $8W/6V = 1.34A$. Best to set the current limit to about 1.5A.
2. If you have a fixed output 5V power supply then verify the voltage and minimize the power cable length as much as possible. Avoid using additional clip leads with power supply voltages less than 6V as the extra voltage drop in the cable can be significant.
3. If you are using a laboratory instrument bench power supply, use on/off switch to power on the 5030. Avoid "dialing up" the voltage slowly from 0V. This will sometimes confuse the power-on-reset circuitry resulting in an unlocked synthesizer. **Best to just adjust the output voltage first and then power-cycle the power supply or plug the power cable into the powered on power supply.**



CAUTION: Ensure the RF output is not connected to any load that can provide more than +20dBm reverse power or $> \pm 0$ Vdc.

Above all, if you have trouble or need help just contact us.

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