# Setting up Tera Term to control analogue output of wireless electronics.

Note: this only works with FW version 4.0 and higher.

Note: The analogue output requires a special cable to be made. This can be ordered from LEAP.

1. Install Tera Term. Its easy to find a download online.
2. Open Tera Term and select “Serial” for the new connection.

Note: Although you can connect over Bluetooth, we recommend that Tera Term connects over cable, leaving the Bluetooth connection available for the Wireless electronics software to run at the same time, if desired.

1. Connect and turn on the wireless electronics to the computer using the supplied microUSB Cable
2. Select a COM port. “COM**x**: Standard serial over USB” and click OK
3. Go to menu: Setup/terminal
   1. IN the “New-Line” box, select CR+LF for Receive and Transmit.
   2. Check the “Local Echo” box
   3. Click OK
4. Go to menu: Setup/serial port
   1. Under “Speed”, select **460800**
   2. In the “Transmit delay” box, change “msec/line” to **100**
   3. Click “new open”
5. Go to menu: Setup/save setup
   1. Save your setup file in a logical place on your computer.

Note: Tera Term is now set up to control the LEAP Wireless Electronics box. If you close and re-open Tera Term, you will need to restore the set up using the file created in step 7 above:

1. Go to menu: Setup/restore setup
   1. Find and select the setup file and click OK.
2. To make sure Tera Term is connected to the electronics, switch the electronics off and on again. A message in the window should confirm connection, also showing “SW V4.0”.
3. Now use the following code (copied into a text file) to configure the analogue output of the wireless electronics.

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conf:ao1:func 1

conf:ao1:link 2

conf:ao1:thr:low 200000

conf:ao1:thr:high 500000

conf:ao2:func 1

conf:ao2:link 4

conf:ao2:thr:low 150000

conf:ao2:thr:high 500000

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The above code has 4 numbers highlighted which represent:

Channel 1 lower capacitance threshold (=0V output)

Channel 1 upper capacitance threshold (=5V output)

Channel 2 lower capacitance threshold (=0V output)

Channel 2 upper capacitance threshold (=5V output)

The highlighted numbers are capacitance in femto Farads. You can use the LEAP wireless Electronics software to observe the capacitance values of interest. Note that the values displayed in the software are in pico Farads and so are 1000 times larger than the numbers displayed in the Wireless electronics software.

1. Go to menu: file/send file and select the txt file you created with the code and threshold values in. Click OK

Tera Term immediately sends the code to the electronics to configure it. A copy of the same code appears on the screen in capital letters, confirming the code was received.

1. Use the special cable, connected to the wireless electronics, to read out the voltages. There are 5 conductors with function as follows:
   1. Green – Channel 1: 0-5V signal
   2. Blue – Channel 2: 0-5V signal
   3. Yellow – GND
   4. White – GND
   5. Screen – GND