General Troubleshooting Tips and Hints

No output-Incorrect output

One of the best and easiest troubleshooting tools when using the Quantum Composers pulse generators is the "recall 0" function. If the unit is exhibiting unexpected behavior, no output, or if the output is not what it should be the first thing that should be done is to recall the "0" memory location. The "0" memory location is an non-editable memory location that contains the factory defaults. Loading this memory location will reset all user defined output settings back to the original factory default settings that were loaded when the unit was first shipped. These settings include system mode, channel mode, channel width and delay, period, trigger and gate settings, and channel output voltage. On most units the unit will default back to a continuous system mode with a channel width of 1us and a period of 100us. The output voltage setting will default back to TTL (5V) active high output. Recalling the default settings will not reset the Baud rate or GPIB address.

There are 2 ways to recall the default settings: either through the front panel or by the use of the recall command. From the front panel, access the memory recall page by pressing the yellow function button (FUNC or FUNCTION) followed by the number 9 button (RECALL). This will bring up a page that states the recall number, memory location name, and a message line that reads "To load press RECALL". Place the cursor on the recall number line by using the next button. Use the up and down arrows to change the recall number to 0. By default the page will load with the "0" bin selected. To recall the selected bin press the function button followed by the number 9 button. The message line at the bottom of the screen will change to "**Recalling Setup**" and then change again to "Config recalled".

The command to recall the default configuration is the same for all of the Quantum Composers pulse generators. After establishing communication with the pulse generator through any of the available communication methods (see the Communicating using Comm Terminal user guide for help) send the command "*RCL 0".

Using the "recall 0" clears the majority of errors typically seen by customers using the pulse generators. At this point the unit should be able to produce a 1us wide pulse when the run/stop button is pressed or the ":PUL0:STAT 1" command is sent.

Standby button by-pass

Users sometimes want the ability to integrate the Quantum Composers pulse generators into a larger system and have the ability to control the overall system power from a single point such as a surge protector. The Quantum Composers 9520 and 9530 series pulse generators currently incorporate two switch controls: a true AC cut-off switch (located on the rear of the unit) and a stand-by power switch (located on the front panel). For customers wishing to power on the unit purely by controlling the AC mains voltage a stand-by button by-pass jumper needs to be installed on the unit main board.
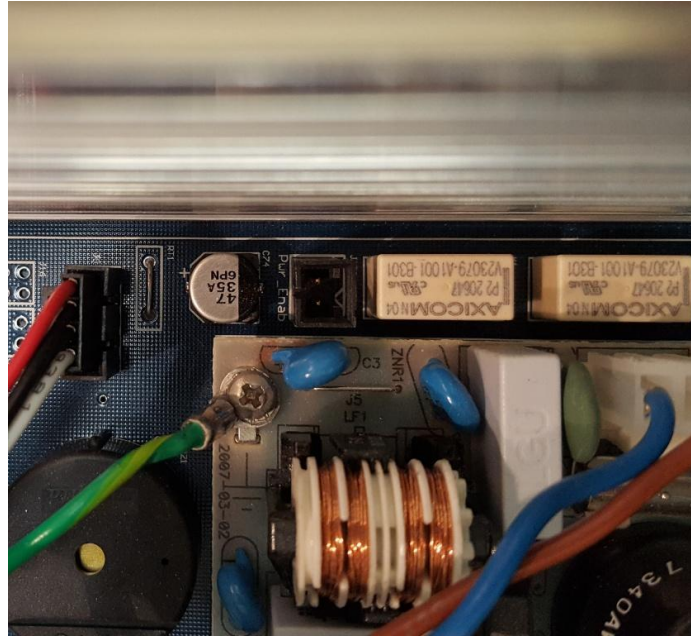
For the 9520 series:

Remove the front and rear bezels by grasping the bezel in middle and pull away from the end of the unit while pulling out from the side of the chassis.

Once both bezels are removed, remove the top two screws from the front panel and rear panel. The lid can now be removed.

Locate the 2-pin header J10 that is labeled "Pwr_Enab". The header is located in the front right hand corner of the main board next to two large white relays and the power supply. This header needs to be shorted with a standard shorting jumper (Sullins Connector Solutions part number SPC02SYN or similar). Once the jumper is installed the front panel stand-by button will no longer work.

Location of J10 relative to power supply and relays in a 9520 series pulse generator

For the 9530 series:

Remove the screws that secure the lid to the chassis (there are 12 total). Locate the 2-pin header J4 that is labeled "Pwr_Enab". The header is located next to the power supply and is in between two 4-pin headers . This header needs to be shorted with a standard shorting jumper (Sullins Connector Solutions part number SPC02SYN or similar). Once the jumper is installed the front panel stand-by button will no longer work.
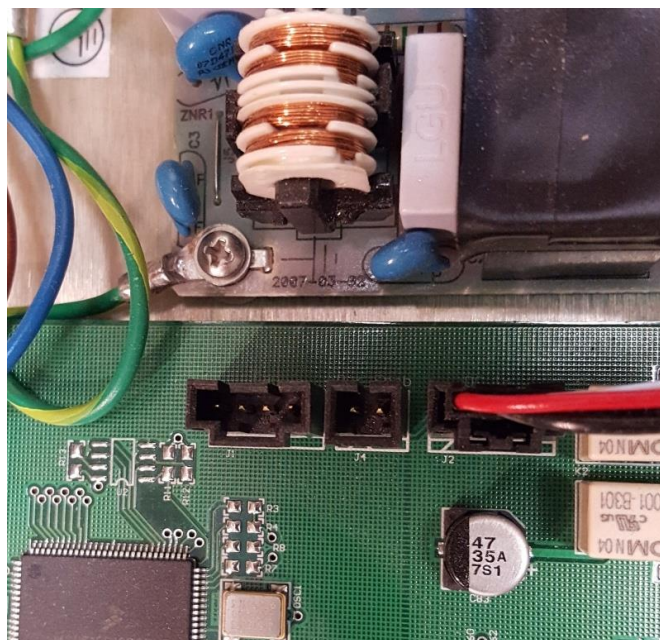
Location of J4 in a 9530 series pulse generator