



Queen Bee Troubleshooting Guide

Testing

The header section on the left side of the Queen Bee has markings showing the voltages that are available at each pin. It should be noted that the power section of Queen Bee is not designed to be a precision power supply. It is acceptable for voltages to be close to the indicated values. It is possible to improve accuracy by using less common resistor values with a lower tolerance if you require improved accuracy.

All headers on the Queen Bee share the pin positioning of the left header for all power rails. The audio rails are reversed on the left header.

Measuring Voltages on the Power Pins

Voltages can be measured by hooking the negative lead of your multi-meter to a ground test connection on the PCB and probing power connections with your positive lead.

Please ensure that the power switch is on, and the LED is lit, before measuring voltages.

Start by testing the 12v header. It should read close to 11.9v.

The 9v header should read close to 9.0v.

The 5v header should read close to 5.2v.

Set the User Select switch to "PWR"

Measure the voltage at the USER header. It should be about .7v less than the voltage of your power supply as measured. The DC output on the label does not always match the actual output.

Set the User Select switch to "Negative" and the Negative Select switch to "-5v"

Measure the voltage at the USER header. It should read close to -5.2v

Set the User Select switch to "Negative" and the Negative Select switch to "-9v"

Measure the voltage at the USER header. It should read close to -8.9v

Set the User Select switch to "Negative" and the Negative Select switch to "-12v"

Measure the voltage at the USER header. It should read close to -11.85v

It is good practice to measure the power pins at every header connection when the Queen Bee is first assembled.



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Testing the Audio Section

The Queen Bee does not require power for routing the audio signal within itself.

Plug in your audio cables taking care that the input and output cables are correctly positioned. If you prefer you can attach a signal generator to the “Signal Input” test loop.

Start by connecting a jumper to the “Output” test jack. If you touch that jumper to the rear terminal of the input jack, you should hear sound. You should also hear sound if you use a jumper to connect the “Signal Input” test loop to the rear terminal of the output jack.

FX Stages Testing

To set up audio testing for the FX Stages you'll need to complete these steps:

- turn the volume all the way up
- set the impedance switches to the “off” position
- press in both “Bypass Effect” buttons (active)
- press in both “Post-FX Return” buttons (active)

You should now hear your audio signal going through the Queen Bee.

The FX stage on the left is stage one. The FX Stage on the right is stage two.

Depress the “Bypass Effect” button for stage one. Your audio signal should disappear if nothing is plugged into the header. Press it in again and it should come back. If this works, your FX Stage One Bypass Effect button is working correctly.

For the next tests set the buttons to these positions:

- “Bypass Effect” buttons- Stage 1 active, Stage 2 inactive
- “Post-FX Return” buttons- Stage 1 active, Stage 2 active

You should hear sound. If not, check the positions of the buttons.

Set the Stage 1 “Post-FX Return” button to inactive. The sound should disappear. If it disappears then the Stage 1 “Post-FX Return” button is working correctly.

Now set the Stage 2 “Bypass Effect” button to active. If you hear sound again that button is working correctly.

Now set the Stage 2 “Post-FX Return” button to inactive. The sound should disappear. If it disappears then the Stage 2 “Post-FX Return” button is working correctly.

A common cause of a button not working correctly is forgetting to solder the connections.



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Impedance Section Testing

To test and Impedance Section start by setting these conditions:

- Impedance switch set to “off”
- Additional impedance switch set to +0
- Impedance potentiometer turned fully left

With these conditions met, measure the resistance between the two impedance test pads. The measurement should be 0 ohms.

Now set the Impedance switch to “on” and measure. It shouldn’t show more than a couple of ohms.

Now you can turn the impedance potentiometer while you’re measuring. You should see a rise in resistance. Towards the end of the turn it should show around 1M.

Now flip the additional impedance switch to +1M. Your resistance reading should jump up to around 2M.

You can repeat the process above to test the impedance section of the other FX Stage.

