# Foster WF-100k FAQ

***** Major revisions make on 5/3/09 *****

**How do I remove the spectral tilt that is in the frequency response?**

See the file "WF-100k FR with VR603 adjustments.pdf" posted on the website. This file has frequency response curves with VR603 adjusted to various positions. VR603 is located on the power amplifier PCB. This file shows how the amount of spectral tilt, and overall gain, changes with the adjustment of VR603. As shipped, the position of VR603 gives the amplifier a frequency response shown in the file "WF-100k frequency response.pdf". When VR603 is turned fully counter clockwise, the spectral tilt is almost completely removed. If you want the spectral tilt 100% gone, you will need to jumper a 10k resistor across pin 1 and 3 of VR603.

Once the spectral tilt has been adjusted out of the frequency response, the amplifier has a 3rd order (18dB/octave) HP response with a Q of 0.707 and a corner frequency of 29Hz. Note that the spectral tilt portion of the amplifier circuitry is NOT in the posted schematic. If I can find a 100% accurate schematic for the amplifier, I will post it. DO NOT ask me for one.

**How do I change the high pass (HP) filter/bass boost or frequency?**

Open the link on the sale site labeled "2nd order HP filter calculator.xls". This spreadsheet should open in Excel. If it doesn't when you click on it, you will have to right click on the link, select "Save As", save the file to your hard drive and open it with Excel manually. The instructions in the spreadsheet should be self explanatory on how to calculate the value of the new resistor values. Replacement resistors can be 1/8 or ¼ watt sizes. It won't make any difference. The ¼ watt models may need to be stood up on end to fit on the PCB.

Remove the four screws located near the corners of the amplifier plate. There is no need to remove any of the other screws on the amplifier plate. Pull the bucket off slowly. You will need to unplug the speaker wires from the connector on the PCB. Locate the PCB with the volume control, it contains the resistors that need to be changed, R617 and R618.

Clip the body of the resistors at both ends, so they fall off the PCB, from the component side of the PCB. Unsolder the leads from the sold side. Pull the leads through the PCB from the component side of the PCB. This will keep you from accidently lifting one of the solder pads off of the PCB. Clean the hole with a desoldering pump or solder wick. Install the new resistors. Solder them in place.

Refer to any Chiltons manual for reassembly instructions☺

**How do I bridge two of the WF-100k amplifiers together?**

Step #1) Follow these instructions exactly or really bad things can happen☹

Step #2) Connect the – (black) speaker output leads from both amplifiers together. Solder this and cover it with heat shrink.

Step #3) Connect the + (red) lead from one amplifier to the + terminal on the woofer. Connect the + (red) lead from the other amplifier to the – terminal on the woofer.

Step #4) Use one RCA Y-splitter to send the same signal to each of the amplifier inputs. Each leg of the splitter needs to go to one input on each amplifier. Nothing will be connected to the second RCA input on each amplifier.

You should be able to use the speaker level inputs instead in the same manner as the RCA inputs are used above. I have not tried this, so I'm not 100% it will work properly. DO NOT use the RCA and speaker level inputs at the same time.

Step #5) ****Super critical!**** Set the phase switch on one amplifier to the Norm (0) position. Set the phase switch on the other amplifier to the Rev (180) position. If you need to reverse the phase of the subwoofer output to match the output of your satellite speakers, you must reverse the position of the phase switches ON BOTH of the amplifiers.

Step #6) Put the low pass crossover control on both amplifiers at maximum. These can be used to adjust the crossover frequency of the subwoofer amplifiers if you don't have a receiver with an adjustable crossover on the subwoofer output. If you must use the low pass crossover controls on the amplifiers, be very careful to adjust them to the same position.

Step #7) Put the volume control on both amplifiers at the same setting. Be very careful to adjust them to the same position. The larger the error in the position of the two volume controls, the less power you will be able to get out of one of the amplifiers.

When two WF-100k amplifiers are bridged together, the load must 8ohms or greater. I tested this setup with a 4ohm load and the amplifiers instantly went into protection. It may work with a 6ohm load. I don't know.  Into the 8ohm load, the amplifier pair delivered 220W at 1% THD at 50Hz.