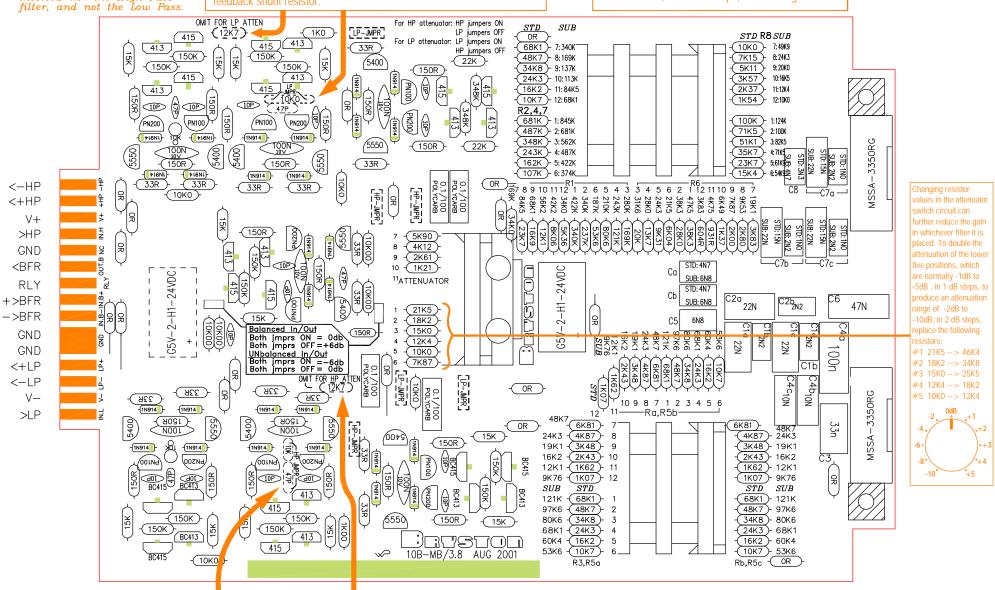
To quickly reduce HP gain by 5dB, remove the 12K7 altogether and replace the 10K0 with a jumper wire. This assumes that the attenuator is inserted in the High Pass filter and not the LW Pass.

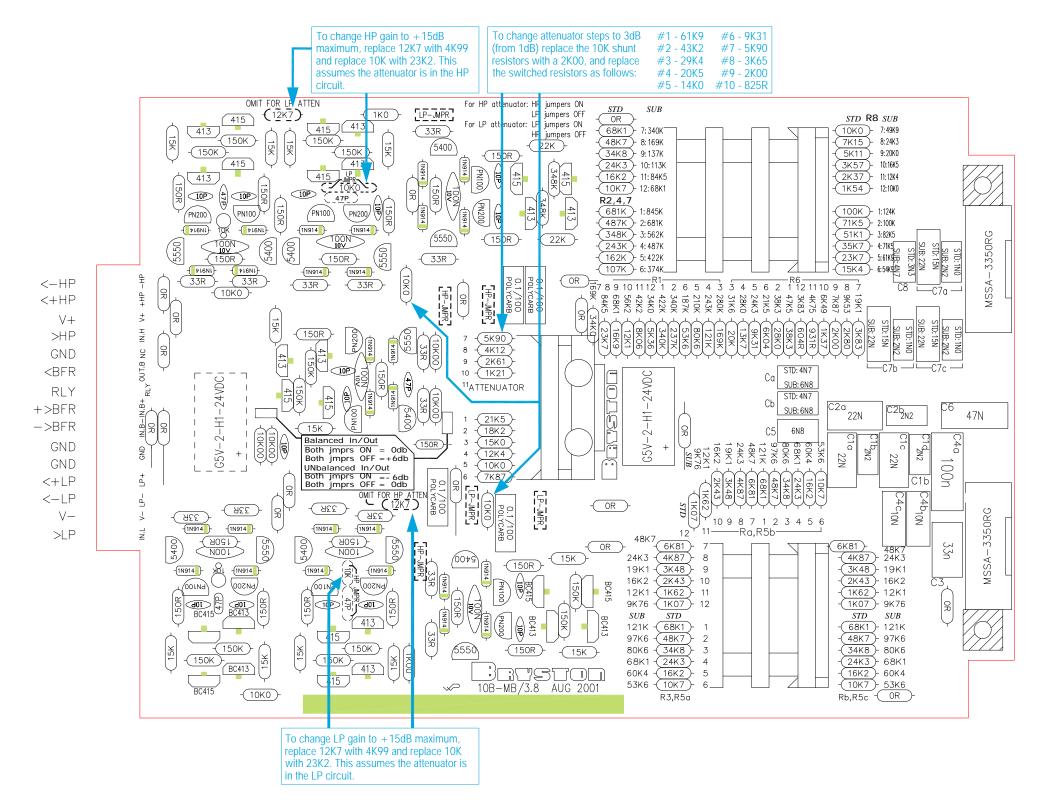
Gain in the HIGH pass filter is determined by an output stage that is the same as the LOW pass output stage. The same formulas specified below for the LOW pass output stage can be applied to the HIGH pass output stage, where the 10K0 is the feedback resistor and the 12K7 is the feedback shunt resistor.

Whichever filter has the 11 position rotary attenuator (HIGH pass or LOW pass) will normally have +5dB of gain. Note that the attenuator simply subtracts from zero to 11dB, in one dB steps, from the signal.



To add gain in the LOW pass filter by 5dB, remove the "HP Jumper" and install the 10K resistor and 47P cap as well as the 12K7 resistor. All these parts are drawn with dashed lines. To increase the gain by 10dB replace the 12K7 resistor with 4K64. For 12dB, replace the 12K7 with 3K32, and for 20dB use 1K10. The formula for the gain of the output stage is: log((10K/12K7)+1)x20

To determine the replacement value for the 12K7 resistor for specific gains use the formula:  $10K/((10 \land (\mathcal{X}/20))-1)$  where  $\mathcal{X}$  is the desired gain in decibels.



## TO INSERT THE 11 POSITION SWITCHED ATTENUATOR IN THE Low Pass FILTER INSTEAD OF THE High Pass FILTER:

