Lab 11 Class B Amplifiers

1. Assemble the circuit in Fig. 1:

2. Inject a signal of $2V_{PP}$ at 1kHz.

3. Connect channel 1 of the oscilloscope to $V_{OUT.}$ Observe the cross-over distortion and sketch the waveform, Fig. 2. Label the axes and indicate peak to peak voltage.

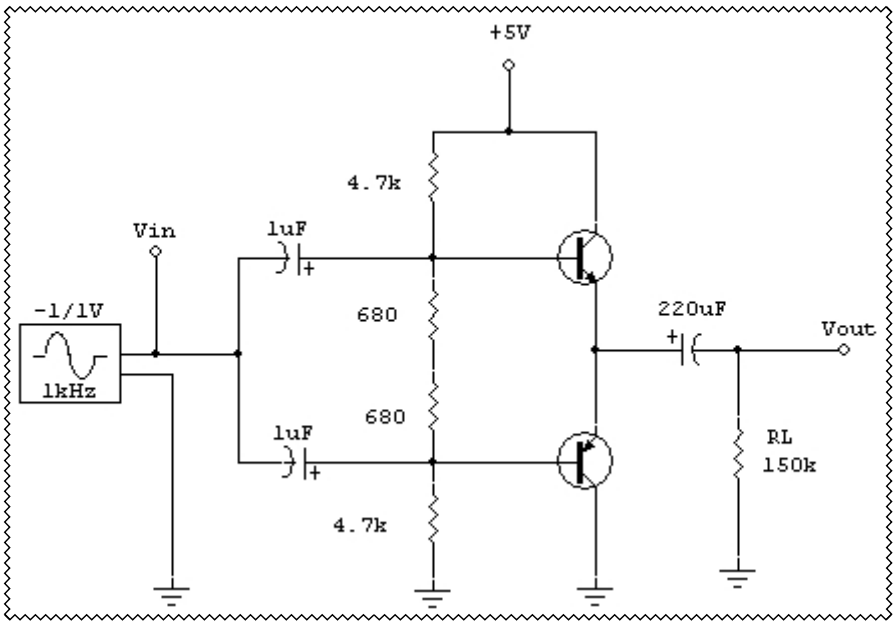

Fig. 1

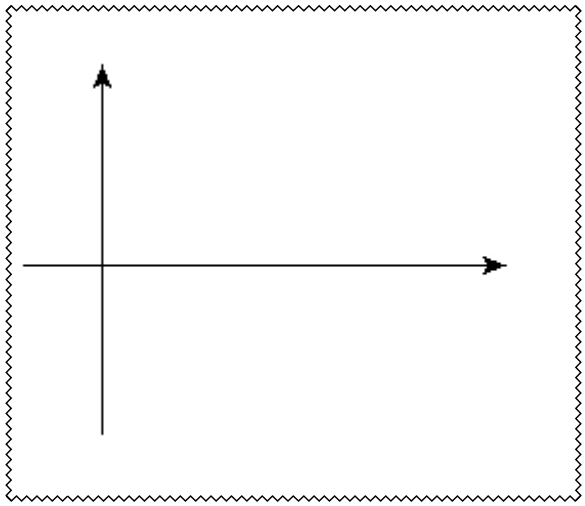
Fig. 2 $V_{OUT}$

4. Assemble the circuit in Fig.3:

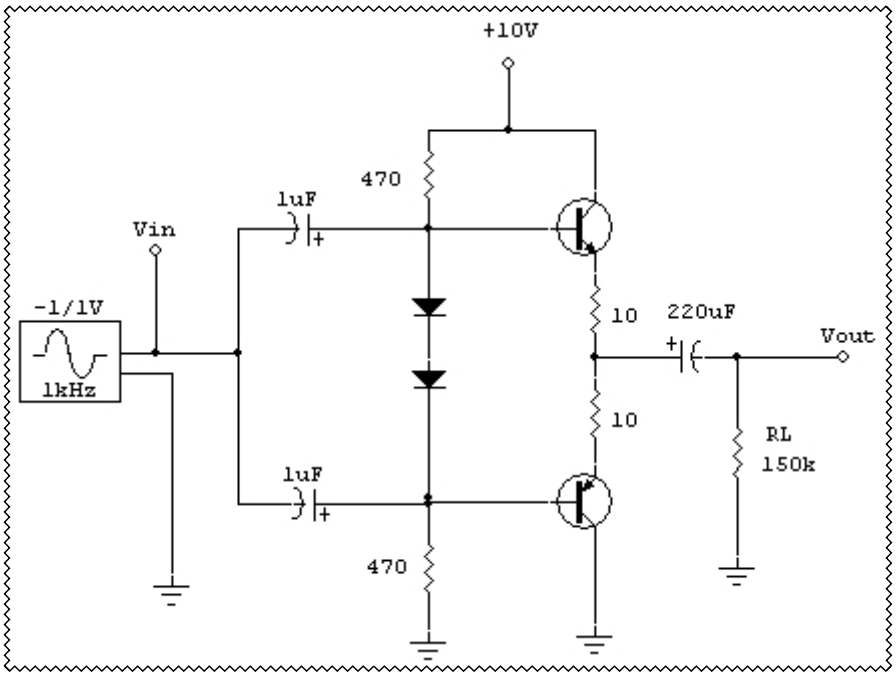

Fig.3

Current Mirror

5. Measure the current in the bias network:

$I_{BIAS}$ = _____

6. Measure the collector current:

$I_C$ = _____

Do the two currents match?

Gain

7. Inject a signal of $2V_{PP}$ at 1kHz.

8. Measure the voltage gain: $A_V = \frac{V_{OUT}}{V_{IN}} =$

9. Sketch the output waveform if Fig. 4:

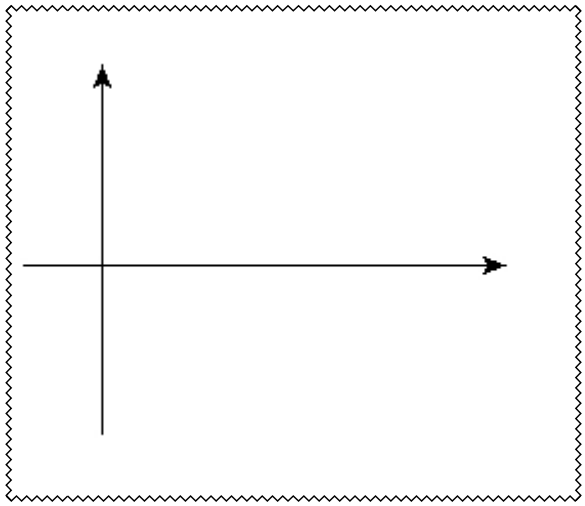
Fig. 4 $V_{OUT}$

10. Has the signal improved? What has happened to the gain?