2. You are to design a 25 W Class B amplifier with one input that will operate off of a pair of batteries of equal voltage and provide a voltage gain of 100. Assume that available op amps have a gain-bandwidth product of 1 MHz and can come within .3V of the rail voltage. An 8-ohm speaker will be used.

a) (10) If the upper frequency limit of the amplifier is to be 20 kHz, will you need more than one op amp to provide the necessary gain and bandwidth?

b) (10) How can the circuit be designed so that the frequency response goes down to DC?

c) (10) Draw your circuit showing component values. Be sure to minimize component count.

d) (10) What is the minimum value of the battery voltages that still meets the power requirement?

e) (10) What input signal is required to drive the amplifier to full power?