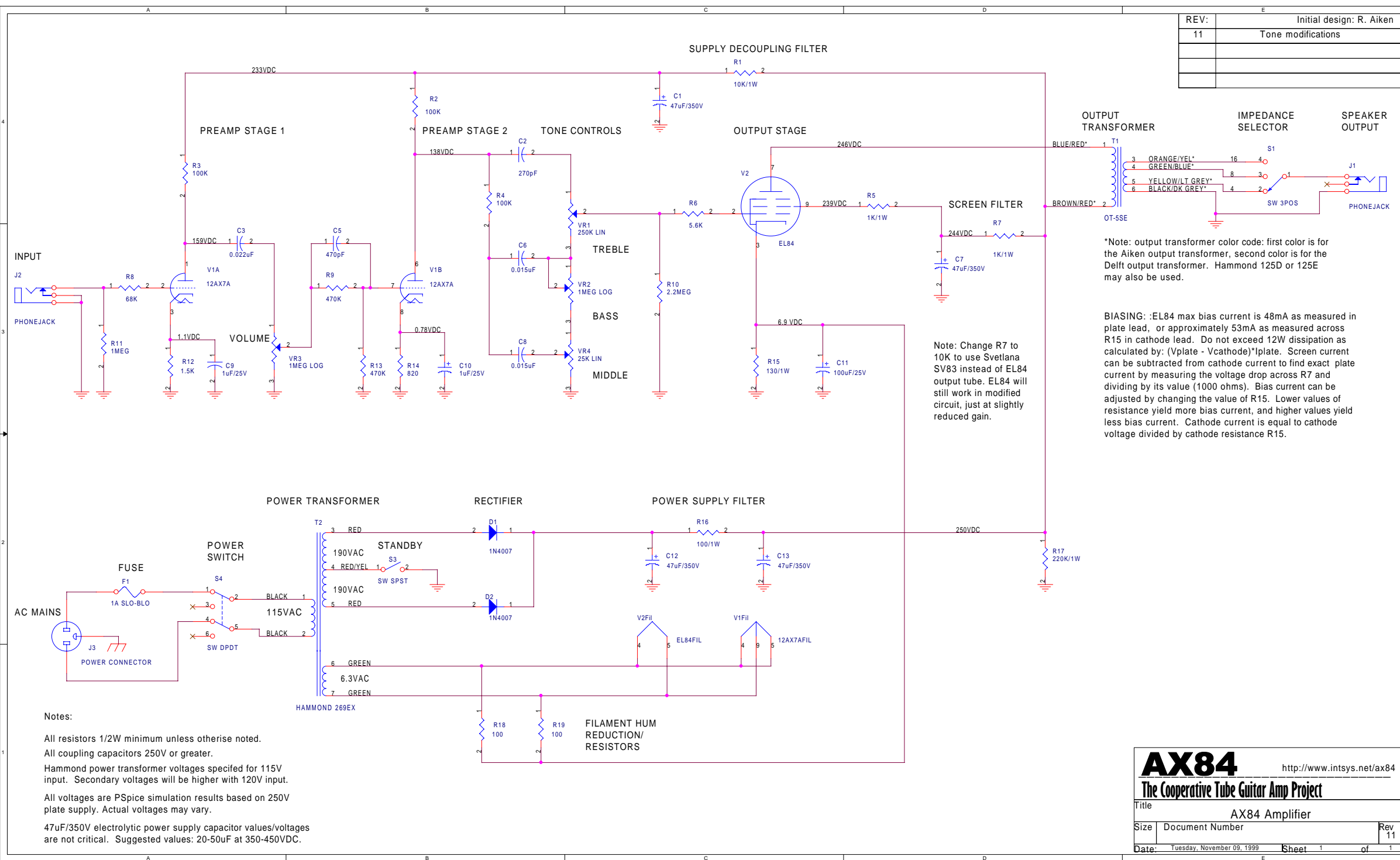


REV:	Initial design: R. Aiken
11	Tone modifications



\*Note: output transformer color code: first color is for the Aiken output transformer, second color is for the Delft output transformer. Hammond 125D or 125E may also be used.

Note: Change R7 to 10K to use Svetlana SV83 instead of EL84 output tube. EL84 will still work in modified circuit, just at slightly reduced gain.

BIASING: EL84 max bias current is 48mA as measured in plate lead, or approximately 53mA as measured across R15 in cathode lead. Do not exceed 12W dissipation as calculated by:  $(V_{plate} - V_{cathode}) \cdot I_{plate}$ . Screen current can be subtracted from cathode current to find exact plate current by measuring the voltage drop across R7 and dividing by its value (1000 ohms). Bias current can be adjusted by changing the value of R15. Lower values of resistance yield more bias current, and higher values yield less bias current. Cathode current is equal to cathode voltage divided by cathode resistance R15.

Notes:  
 All resistors 1/2W minimum unless otherwise noted.  
 All coupling capacitors 250V or greater.  
 Hammond power transformer voltages specified for 115V input. Secondary voltages will be higher with 120V input.  
 All voltages are PSpice simulation results based on 250V plate supply. Actual voltages may vary.  
 47uF/350V electrolytic power supply capacitor values/voltages are not critical. Suggested values: 20-50uF at 350-450VDC.

**AX84** <http://www.intsys.net/ax84>  
 The Cooperative Tube Guitar Amp Project  
 Title: AX84 Amplifier  
 Size: Document Number  
 Date: Tuesday, November 09, 1999 Sheet 1 of 1