

### **Line Stages :**

This section will present several line stage options which can be employed singly or in conjunction with any of the previously presented phono stages. Three designs will be presented with increasing levels of complexity, features and performance. Two of the designs presented include the ability to switch select the output polarity, a feature important to those who believe in the audibility of absolute polarity on certain types of program material.

### **One Tube Line Stage:**

A very simple one tube inverting line stage suitable for use with the simplest phono stage will be presented first. Requiring only one tube per channel, and a handful of parts it is economical and can provide up to 20dB of gain, and has a low output impedance. It should be noted that the output is inverted in polarity relative to the input.

### **Specifications :**

- 1 5751 employed per channel
- High voltage supply of +300Vdc regulated at a total of 4mA. (stereo)
- Tightly regulated and filtered filament supply of 12.6Vdc at 300mA total. (stereo)
- Gain: Approximately 20dB @ 1KHz, not load dependent.
- Response  $\pm 0.25$ dB from 20Hz - 20KHz
- THD < .1% @ 1.0Vrms, 1KHz (Somewhat tube dependant)
- High SNR

### **Details:**

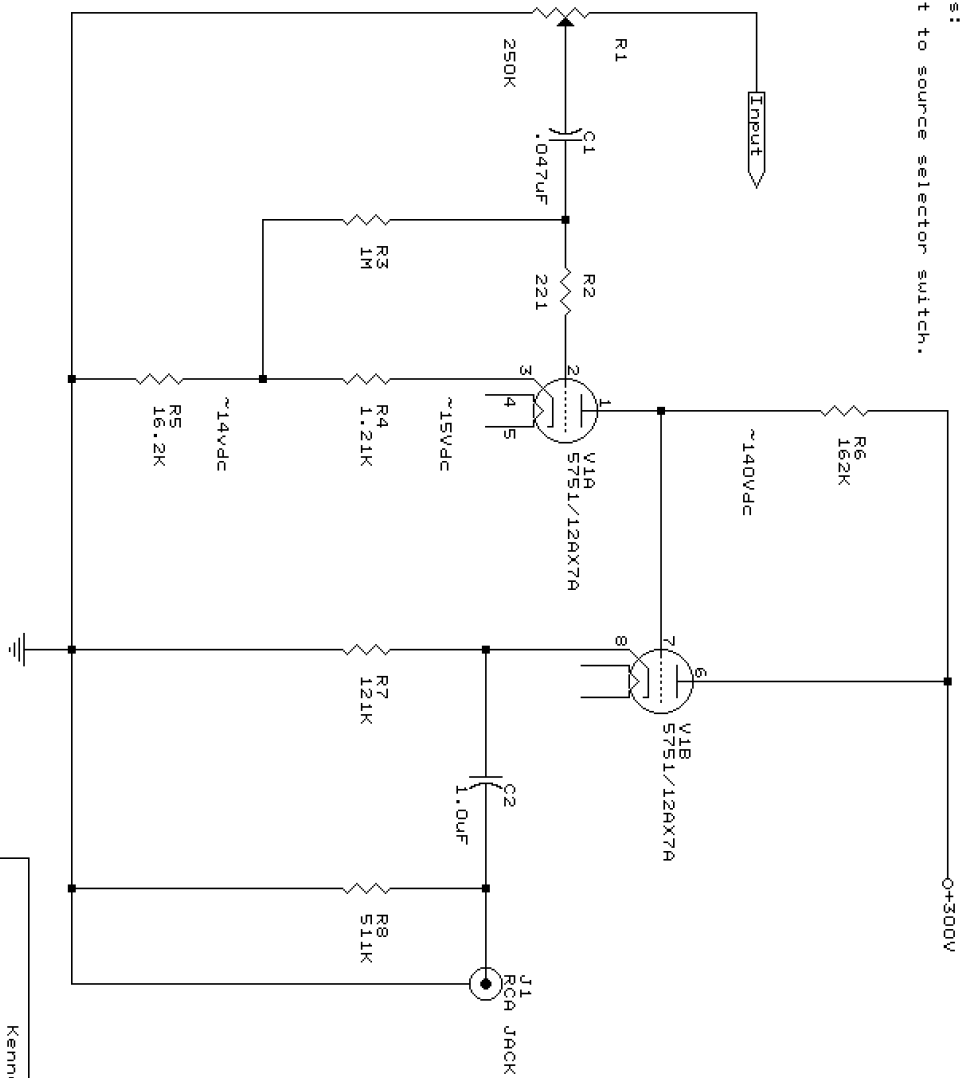
- Local feedback employed in gain stage both for distortion reduction and to set the gain.
- Cathode follower output provides very low output impedance.
- High input impedance reduces interaction with volume control.

The downsides are as follows:

- This simple stage is phase inverting, and this may be important if you listen to acoustic music with vocals or massed vocals.
- No polarity switching.

This design is easily constructed, and with the right parts will provide a high level of transparency. The circuit can drive long, moderately capacitive interconnects without problems.

Notes:  
Input to source selector switch.



Kennedy Tube Audio		
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