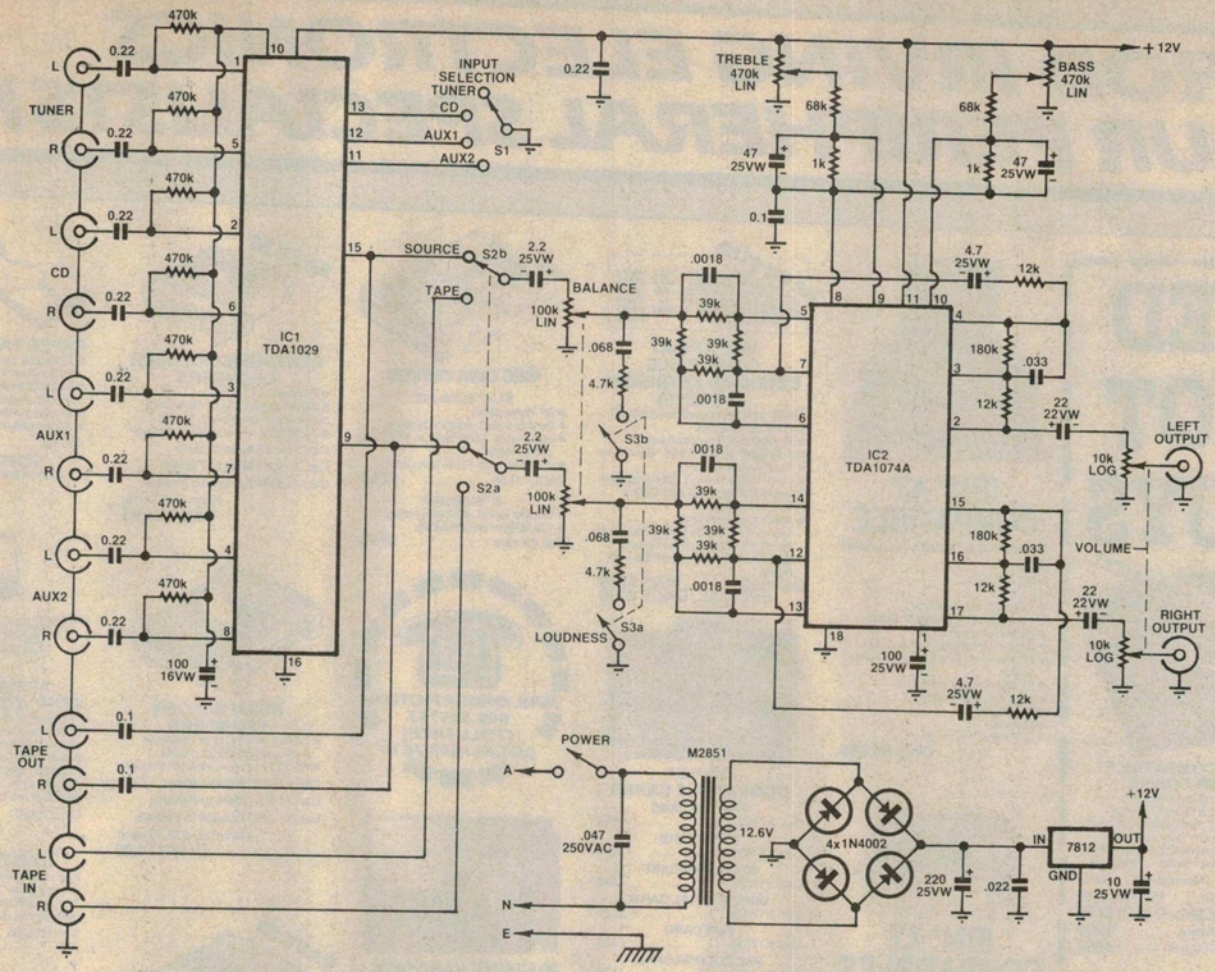

IC preamplifier

Using just two ICs, this stereo preamplifier has four line-level inputs plus tape in and out. Controls include balance, bass, treble, volume and loudness. There is no preamplifier for a phono input.

Harmonic distortion of the circuit is typically 005% at 5V RMS output for a frequency range from 20Hz to 20kHz. Signal to noise ratio is typically 120dB with respect to 6V output and the frequency response is flat from 20Hz to 20kHz.

Bass and treble controls have a maximum 12dB boost or cut at 100Hz and 8kHz respectively.

The TDA1029 is a dual four channel signal source switch. Each input is capacitively connected to the IC which is biased via the 470kΩ resistors connected to pin 10. Selection of an input is made with switch S1 while Tape monitor switching conventionally switches the signal using double pole switch, S2.

Signal from switch S2 is balanced using a dual ganged linear potentiometer. A loudness control comprising a 4.7kΩ resistor and 0.068μF capacitor is switched in circuit using switch S3.

IC2 is a dual tandem electronic potentiometer circuit designed for use as a tone control. The tone control operates by adjusting the DC voltage on the requisite pins of the TDA1074. For treble, this is pin 9 and for bass, pin 10. Components connected to pins 5, 7 and 8 set the left treble response while the components connected to pins 12, 13 and 14 set the right treble response. For the bass control, components connected to pins 2, 3 and 4 set the left and components connected to pins 15, 16 and 17 set the right channel response.

Both bass and treble controls are 470kΩ linear potentiometers. The volume control is at the output of IC2 and is a dual ganged 10kΩ logarithmic pot.

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