

ELECTRONIC VIBRATO

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Construction of a vibrato circuit that can be added to an amplifier to be used with musical instruments.

THIS SIMPLE addition to any existing amplifier will make such an amplifier suitable for use with musical instruments.

Basically, the circuit is a phase-shift oscillator, the output of which is capacitively coupled to the plate of the first audio stage of the amplifier. The generated sine wave adds to or subtracts from the plate voltage, depending on the phase angle of the generated cycle. The frequency of oscillation is approximately 8 cps and may be conveniently raised or lowered, if so desired, by changing the value of any one of the 2-megohm resistors in the network. (See Fig. 1.)

Plate and heater voltages can be obtained from the existing power supply in any straight a.c. amplifier. If an a.c.-d.c. type amplifier is used, the plate voltage may be obtained from it, but heater requirements are met by using an auxiliary transformer (117-volt input, 6.3-volt @ .3 amp. output). Plate current is on the order of a few milliamperes.

The amplitude of the vibrato is adjusted for best sound with the 2-megohm potentiometer. When vibrato is not

desired, the control is turned to zero.

The small amount of space required by this circuit makes it possible to build the unit right on the chassis of the existing amplifier. Use shielded lead wire to and from the vibrato amplitude control.

A 6SC7 tube was chosen as there were already two in the amplifier with which the circuit was used. However, a 6SL7GT can be substituted for it directly as the pin connections for the triode section shown are the same. Any ordinary high-mu triode can be used, providing the necessary socket and pin changes are made.

Fig. 2. Circuit arrangement showing how vibrato circuit is connected to a dual-channel or single-channel amplifier stage.

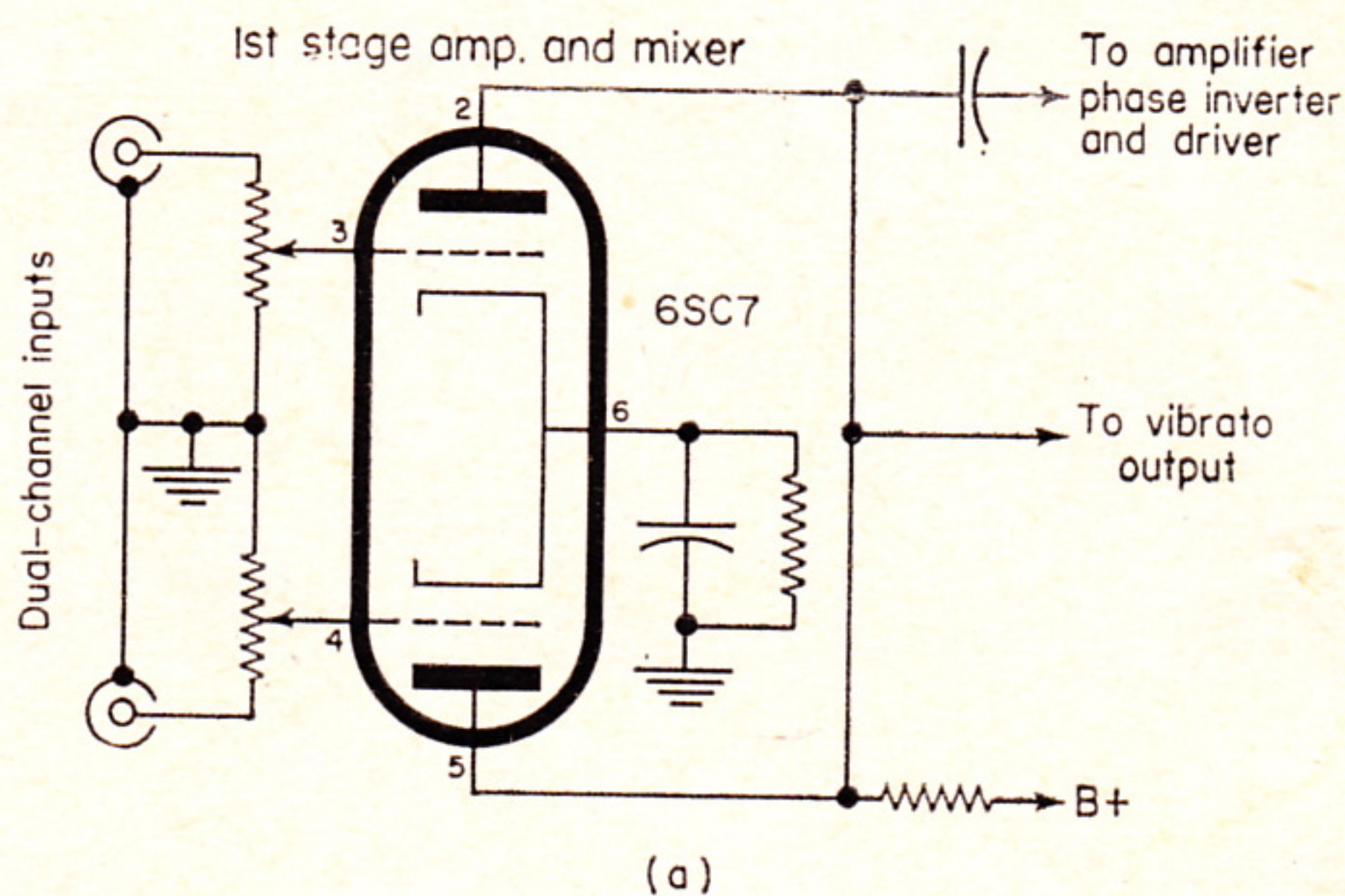


Fig. 1. Circuit diagram of the phase-shift oscillator that provides vibrato.

