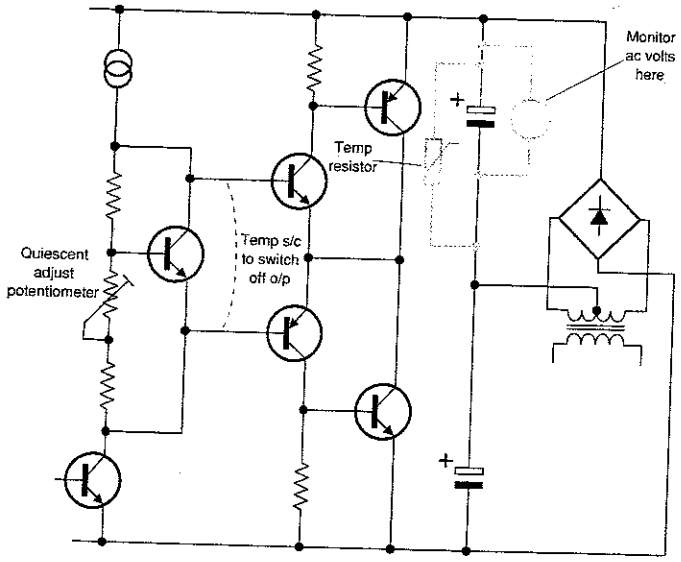

(A87)

Setting up Class AB quiescent current without dismantling the amplifier. Reservoir ripple current is a measure of the current drawn and may be measured instead.

Class AB set-up

Setting up the quiescent current in a Class AB output stage – particularly when no monitoring point is provided, usually requires unsoldering joints to get the meter in series. If the power supply to the amplifier is a conventional mains type with rectifier and reservoir capacitor, this method avoids all that. Ac ripple voltage on the capacitor is proportional to the current drawn and may therefore be used to indicate the quiescent current setting.

To do this, reduce the current in the output stage to zero by setting the potentiometer or shorting the bias network. Connect a resistor across the reservoir of a value to draw a current equal to the required quiescent current, measuring the ripple voltage with an ac millivoltmeter. Now disconnect the shorting resistor and the short on the bias network if you used one; set the potentiometer to give the same reading on the millivoltmeter as before.

S J Kearley
Address not known
(A87)

Infrared remote remote control

A leg-saving circuit, allowing volume on extension speakers to be adjusted from the same room.

When infrared remote control for an audio system is not remote enough, for example when you wish to adjust volume from extension speakers in another room, this circuit detects the ir signal from the controller and transmits it via a twisted pair to another transmitter led near the amplifier.

When quiescent, output Q_7 of IC_1 is high and Tr_2 is off. When the photosensor D_1 detects the ir signal from the remote controller, Tr_1 resets IC_1 to turn Tr_2 on. Current through the sensor develops a signal voltage across R_2, which is amplified by the op-amp and Tr_4, modulated current being driven into the 7/0.2 twisted pair into Led_1 near the amplifier.

After about 1s after the controller pulses have finished, the oscillator formed by the first op-amp has applied enough pulses to the counter ic to drive its Q_7 pin high, which switches off Tr_2 and returns the circuit to its quiescent state. Led_2 confirms the operation.

Diode D_1 and Led_1 are made by Sharp and are obtainable from RS Components. They are used in this circuit because the sensor diode has a filter to prevent ambient light causing current to flow and drain the battery.

Using the Sharp devices allows only 3µA to flow in daylight. If these devices are not used, place the sensor in a position to reduce the ambient light falling on it.

S J Kearley
(A86)