

HUM BUCKING DEVICE

In an old edition of an English magazine, the "Radio Constructor" of June 1963, I came across an interesting idea for "hum-bucking" in the front end of high gain amplifiers. The circuitry, although quite simple, may prove handy to other readers of your magazine, in cases of persistent hum troubles with equipment operated from the 50Hz power mains.

From the circuit it can be seen that, in addition to a conventional heater/cathode hum balancing control across the filament winding, there are two extra potentiometers which connect back to the grid of the input valve.

The 100 ohm potentiometer is used to cancel "in phase" hum which may be present at the grid of the valve. The 100K potentiometer and the two .02mfd capacitors form a phase shift network and this potentiometer is used to cancel any "out of phase" hum on the grid of the valve.

Though I have not tried the idea personally, it has been suggested that this arrangement could be most useful if applied to the first vertical amplifier valve in an oscilloscope, since it would enable hum present in the wiring to equipment under test to be neutralised. For this purpose the in-phase and out-of-phase hum pots. would need to be readily accessible.

