

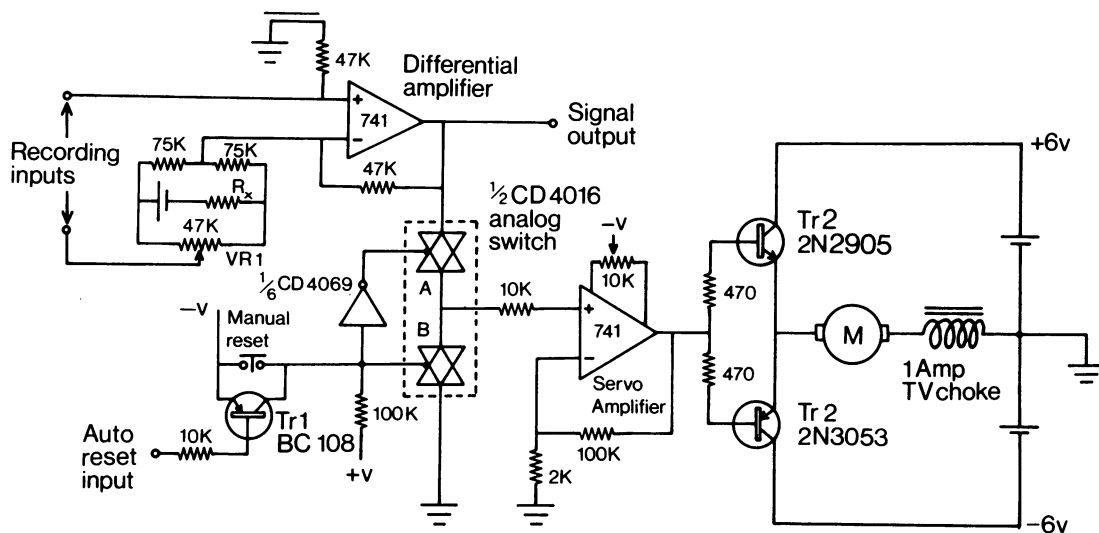
## A versatile device which resets drifting baselines

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Many biological recordings suffer baseline drift and necessitate regular resetting of the pen recorder. The

(M) and small gear box (as used in radio controlled models), to produce zero volts at the signal output when the baseline reset is activated. When the auto reset input is positive, transistor Tr 1 switches on, which results in analog switch A conducting and switch B turning off. The servo amplifier is then looking at the signal output. If this is positive, transistor Tr 3 switches on, the motor is driven and rotates VR 1



**Figure 1** Circuit diagram of device to automatically reset drifting baselines. Rx is chosen for range of off-set required.

unit described here will perform such a reset whenever an external positive pulse is applied to the reset input or when the contacts of the manual reset switch are closed (e.g. by an external timer).

The circuit diagram is shown in Figure 1. The differential amplifier has a constant impedance, variable off-set voltage circuit in its inverting input. The potentiometer (VR 1) is driven by the servo motor

such that the signal output approaches zero volts. At this point the servo amplifier output will also be at zero volts, both transistors Tr 2 and Tr 3 will be switched off and the motor will be stationary. If the signal output is negative this results in transistor Tr 2 turning on and the motor rotates in the opposite direction. When not resetting, the servo amplifier is grounded.