

## An apparatus for automatically recording diuresis in laboratory animals

T.W.K. HILL &  
P.J. RANDALL (introduced by J.M.  
ARMSTRONG)

*Pharmacology Laboratory, Wellcome Research Laboratories, Langley Court, Beckenham, Kent BR3 3BS*

An apparatus has been developed for the continuous recording on photographic film of diuresis in laboratory animals. Ten mice are housed in each of 16 metabolic cages, arranged in a circle mounted on a table. Urine from each cage is collected in a measuring cylinder. A 35 mm camera (Shackman Auto Camera, Mark 3) and an electronic flash unit (National PE-

243) are mounted on a motorized turntable revolving once per hour. The volume of urine contained in each cylinder is photographed at predetermined intervals of time. The measuring cylinders containing the urine samples are automatically removed at the end of the experiment enabling subsequent estimation of electrolytes. After development of the film, the urine volumes are read from the negatives, using a projector.

The apparatus has the advantages of providing a permanent record of the data on film and does not require constant supervision. In addition, experiments can be performed during periods of the day or night when stressful stimuli are at a minimum. The apparatus can be readily adapted for use with different laboratory animals, and the effects of diurnal variation in urine excretion on the actions of drugs can be studied.

## A simple and inexpensive device for the *in vivo* detection and counting of ventricular extrasystoles

R.A. BROWN & I. PUGH

*Department of Pharmacology & Biochemistry, Fisons Ltd., Pharmaceutical Division, R. & D. Laboratories, Loughborough, Leics.*

A tedious aspect of experiments aimed either at producing cardiac arrhythmias or assessing potential

antiarrhythmic drugs is the detection and counting of the arrhythmias under examination. Ventricular ectopic beats or extrasystoles are recognized typically by large negative deflections of the lead II or chest leads of the electrocardiogram. We have utilized this effect and report here the development of an inexpensive and simple device to detect and automatically count ventricular extrasystoles. A block diagram of the major interactive components is shown in Figure 1.

After amplification the ECG is switched through one of two clipper diodes admitting either positive only or negative only signals via a Schmitt trigger and

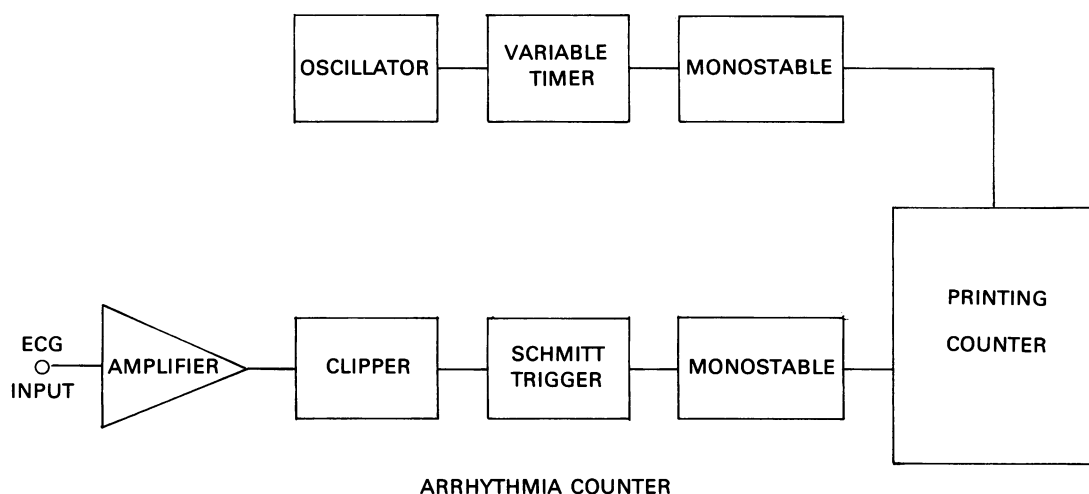


Figure 1