

## Variable-rate intravenous infusions to mimic the blood levels of peptide hormones produced by physiological stimuli or subcutaneous injection

J.A. PARSONS, B. RAFFERTY, R.W. STEVENSON & JOAN M. ZANELLI

*National Institute for Medical Research and National Institute for Biological Standards and Control*

The extent to which peptide hormones are destroyed or metabolically altered at a subcutaneous site is being studied by measuring post-injection blood levels and reproducing them by i.v. infusion. The techniques involved, which are applicable to human subjects, will be demonstrated on freely-mobile dogs with indwelling

catheters and miniature electrically-controlled syringe pumps. Similar methods are being used to study the relative contributions of various target tissues to the patterns of action of parathyroid hormone and insulin, administered by s.c. or rapid i.v. injection or by more physiological means.

## A low-cost electronic teaching aid

P. GARBUTT<sup>1</sup> & C.M. LAWS  
(introduced by J.B.E. BAKER)

*Department of Pharmacology, Charing Cross Hospital Medical School, Fulham Palace Road, London W.6*

Multiple-choice-question (MCQ) techniques are a familiar feature of student courses; the electronic system demonstrated was designed for pharmacology

<sup>1</sup> Present address: Department of Physics, Royal Marsden Hospital, Downs Road, Belmont, Sutton, Surrey.

MCQ's to provide the lecturer with an immediate indication of class answer percentages, and was installed by laboratory technical staff.

The system comprises (i) a number of simple hand-held answer sets, one of which is issued to each student for the duration of the MCQ test, each having three buttons marked Y (yes), N (no) and D (don't know); (ii) electrical sockets installed round the teaching room and interconnected by a single 5-way cable, into which the answer sets are plugged by the students; and (iii) a small electronic console, which is plugged into any of the above sockets, which calculates and displays on meters the percentage of

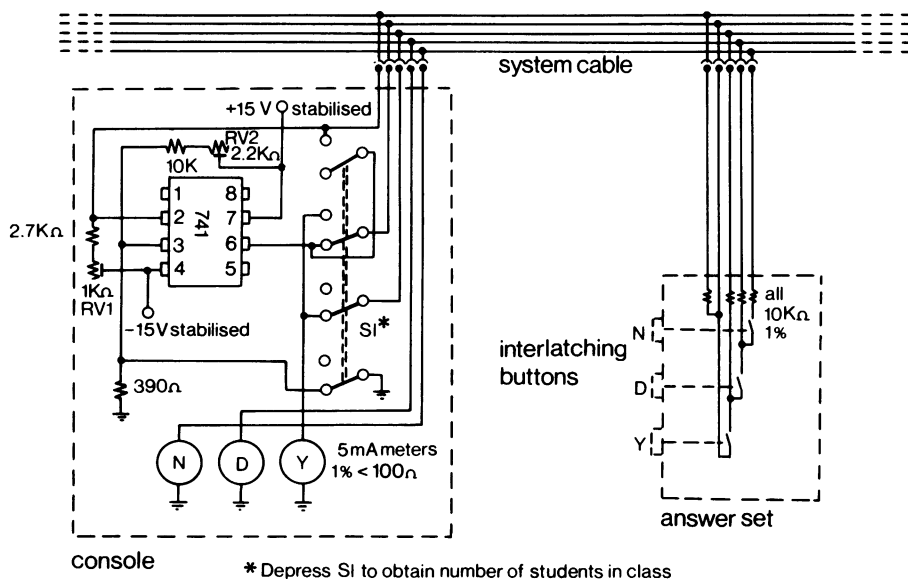


Figure 1 Basic circuit diagram.