

*EXPERIMENTAL  
ELECTRONICS FOR  
STUDENTS*

# EXPERIMENTAL ELECTRONICS FOR STUDENTS

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# Preface

Electronics is essentially an experimental subject and enables a wealth of experimental work to be undertaken at relatively low cost. In any modestly equipped electrical engineering or physics laboratory, it is possible to plan interesting experiments to study active and passive components, basic circuit functions, modular encapsulations and monolithic integrated circuits. The work may range from the formal investigation of a device new to the student to the design and construction of quite advanced, modern measurement and control systems.

There are few books which guide experimental work in electronics. This text aims to rectify this by giving detailed descriptions of a series of experiments all of which have been thoroughly tested by students in physics, electronics, electrical engineering and instrumentation at The Polytechnic of Central London. Moreover, several of these experiments would seem to be appropriate for the current development of interest in courses in electronics in schools because several of them have been undertaken with considerable success by first-year sixth-form students who have come to Central London for special courses. They would also assist an introductory course in electronics for students from other disciplines and have been tried out in this way at The Polytechnic.

The authors are convinced that experimental work in

## PREFACE

electronics should be introduced at an early stage in schools, certainly in sixth-form work if not at more elementary stages. The reasons for this are fourfold: the subject forms a natural extension to elementary electric circuit practice; it has an inherent fascination for many students; the devices and components are readily available at low cost and it enables the student to gain a real insight into present-day practice in science and technology.

In many of the experiments described sufficient background information has been provided for a student to proceed without a formal lecture. This makes a self-study programme easy to plan. Teachers will find this experimental guide helpful when introducing a new circuit configuration or planning project work.

It is hoped that the ideas and suggestions contained in this book will be of value in the many courses involving electronics in secondary and tertiary education.

London, 1979.

K J C  
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