

ELECTRONICS
AND
ELECTRON TUBES

BY

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TO
D. K. McA.

PREFACE

In the last few years, electron tubes have been finding a rapidly expanding field of application in many kinds of industry. They are "radio tubes" no longer; instead, they are recognized as extremely versatile devices which are supplying solutions to many difficult problems.

The growing interest in all kinds of electron tubes and their applications has created a demand for information about every phase of the art. The author has tried to meet a part of this demand by describing, in this book, the fundamental principles which govern the action of all electron tubes.

Mathematics is used sparingly and confined to the statement of a formula where it is used. Various applications are described or suggested to illustrate the fundamental principles involved. Gas-discharge tubes are allotted more space than usual because of their growing importance.

The bibliography is designed to permit the reader to extend his knowledge of any particular phase of the electron-tube art. For further material, he should consult the extensive bibliography published in *Electrical Engineering* for January, 1935, by J. W. Horton or a shorter one by the present author which appeared in the *General Electric Review* for July, 1935.

A large amount of the material in this book has been published previously in serial form under the same title in the *General Electric Review*. The author wishes to express his thanks for permission to reproduce this in the present book. He also wishes to express his thanks to the General Electric Company for all the photographs and most of the

curves which have been used. The table of values of β^2 which appears in the Appendix is reproduced through the courtesy of the editors of *Physical Review*. Material taken from other sources is acknowledged in the text.

E. D. McARTHUR

SCHENECTADY, N. Y.

June, 1936

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