AN APPROACH
TO
AUDIO FREQUENCY AMPLIFIER
DESIGN

A Publication of

The G.E.C. Valve and Electronics Department

PRICE 10/6

Distributed by

CHAPMAN AND HALL LIMITED, 37 ESSEX ST., LONDON, W.C.2.

on behalf of

THE GENERAL ELECTRIC COMPANY LIMITED OF ENGLAND

LONDON

1957

AN APPROACH TO AUDIO FREQUENCY AMPLIFIER DESIGN

The circuit information given in this book does not imply any licence under patents which may be involved

All the amplifiers described have been built and the specifications given were compiled from measurements made on each piece of equipment. The G.E.C. cannot be held responsible for the faulty operation, from whatever cause, of any amplifier made to the specifications herein nor can it undertake the testing or correction of any amplifier so made. The G.E.C. does not manufacture the amplifiers described

PRINTED IN ENGLAND BY
CHENEY & SONS LTD., BANBURY, OXON.

PREFACE

This book has been prepared under the auspices of the G.E.C. Valve and Electronics Department with the aim of presenting, in a readily accessible form, the essential details and circuit diagrams of a comprehensive range of audio-frequency amplifiers. All the designs reflect various aspects of modern technique and have been built and tested. In this field, the experience and accumulated knowledge of the G.E.C., dating back to the earliest days of radio communication and large power valve design, are unique.

Altogether seventeen amplifiers are described, ranging from a "junior" 5-watt ultra-linear circuit to an 1100-watt Class AB2 amplifier. In addition, various pre-amplifier units are discussed so that the information in the following chapters deals with all the equipment necessary between the signal source and the loudspeaker in most domestic, public address and industrial sound installations.

Since the book is essentially a work of reference it contains no constructional information—neither does it claim to be a text book, although as an exposition of modern design practice, it will be of considerable value in this respect.

An Approach to Audio Frequency Amplifier Design is the culmination of considerable design and development work on a.f. amplifiers carried out by W. I. Heath, B.Sc. (Eng.) and D. M. Leakey, B.Sc. (Eng.) in the Research Laboratories of the General Electric Co. Ltd. and by G. R. Woodville in the Applications Laboratory of the M-O. Valve Co. Ltd., a subsidiary of the G.E.C.

LONDON,
December, 1957

C. E. KNIGHT-CLARKE,
Editor

CONTENTS

CHAPTER 6

CHAPTER 7

CHAPTER 8

CHAPTER 9

APPENDIX A

APPENDIX B

APPENDIX C

APPENDIX D