

FOURTEENTH EDITION

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# THE RADIO AMATEUR'S HANDBOOK

BY THE HEADQUARTERS STAFF OF  
THE AMERICAN RADIO RELAY LEAGUE



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PUBLISHED BY  
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## FOREWORD

IN PRESENTING the 1937 edition of THE RADIO AMATEUR'S HANDBOOK the publishers again express the hope that it will be found as helpful as the previous editions and enjoy as whole-hearted a reception at the hands of the amateur fraternity.

The *Handbook* is intended both as a reference work for member-operators of the American Radio Relay League and other skilled amateurs and as a source of information to those wishing to participate in amateur radio activities but having little or no idea how to get started. The choice and sequence of material have been planned with particular thought to the needs of the practising amateur but each topic has been so treated as to cover amateur practice all the way from the most simple to the most comprehensive.

As in previous editions, a particular effort has been made to restrict the material treating apparatus design and construction to examples of modern, sound and well-tried practice. Planned as a practical rather than a theoretical work, theoretical discussions have been made as simple and fundamental as possible and the chief effort directed at practical means for securing results — which, after all, is the principal aim of the amateur in radio.

The *Handbook* had its rather modest beginnings in 1925 when Mr. F. E. Handy, for many years the League's communications manager, commenced work on a small manual of amateur operating procedure in which it was deemed desirable to include a certain amount of "technical" information, since an amateur's results are so greatly influenced by the disposition and adjustment of his apparatus. When Mr. Handy completed his manuscript he had written a considerable-sized book of great value. It was published in 1926 and enjoyed an instant success. Produced in the familiar format of the League's magazine, *QST*, it was possible to distribute for a very modest charge a work which in volume of subject matter and profusity of illustration surpassed most available texts selling for several times its price. Mr. Handy revised several successive editions as reprinting became necessary. With the fourth edition, in 1928, he was joined in this duty by the undersigned, who was directing the technical development program which the A.R.R.L. was then conducting for the special purpose of developing new apparatus and new methods which would meet the difficulties imposed upon amateur radio by the provisions of the new international radio treaty which was to take effect in 1929. Three editions appeared under this joint authorship. By that time, extremely rapid technical progress was upon us and it became apparent that the *Handbook* to serve its purpose demanded a frequent and comprehensive rewriting of its technical material. Now in the headquarters establishment of the League at West Hartford there are many technically-skilled amateurs, each a specialist in his field. It was therefore but natural that with the preparation of the seventh edition in 1930 the technical chapters of the *Handbook* should be given into

their hands. Since that time the publication has been a family affair, the joint product of the headquarters staff.

To a total of twenty-two printings the fame of the *Handbook* has echoed around the world. More than three hundred and seventy thousand copies have been distributed at this writing. Its success has been really inspiring. Quantity orders have come from many a foreign land; schools and technical classes have adopted it as a text; but most important of all, it has become the right-hand guide of practical amateurs in every country on the globe. But amateur radio moves with amazing rapidity and the best practices of yesterday are quickly superseded by the developments of to-day. The very success of the book as a publication brings a new responsibility to us, the publishers — the *Handbook* must be kept up to date.

Because the present year has seen further sweeping changes in amateur practice it has been necessary again to undertake a comprehensive revision for this edition. We are happy at the same time again to expand the size of the book. Most of the chapters have been entirely rewritten. All of them have been thoroughly modernized.

This edition again represents the collaboration of many members of the A.R.R.L. staff. The first two chapters are from the pen of Mr. A. L. Budlong, the assistant secretary of the League. The several chapters on fundamental principles, on receiver design and construction and on radio-telephony are the work of Mr. James J. Lamb, the technical editor of *QST*. Mr. George Grammer, the assistant technical editor of *QST*, has again been responsible for the chapters on vacuum tubes and those treating the design and construction of transmitters. The general subject of instruments and measurements has, in this edition, been covered by Mr. Clinton B. DeSoto while the chapters on antennas, power supply and keying have been rewritten by Mr. Donald H. Mix, of the League's technical information service. Mr. Clark C. Rodimon, managing editor of *QST*, has again revised the chapter on station assembly while Mr. Handy, our communications manager, has rewritten the chapters on the A.R.R.L. Communications Department, on operating a station and on message handling. The chapters on ultra-high-frequency working have been prepared by the undersigned.

By no means the least useful feature of this edition is the quite extensive catalog advertising that accompanies it. It is not generally regarded as in good taste to make any editorial reference to the existence of advertising, but this case we believe to be different. To be truly comprehensive as a handbook — to fill all the functions one visualizes with the word "handbook" — this book must bring the reader data and specifications on the manufactured products which are the raw material of amateur radio. Our advertisers have collaborated with us in this purpose by presenting here not mere advertising but catalog technical data. The amateur constructor and experimenter should find it convenient to possess in such juxtaposition both the constructional guidance he seeks and the needed data on his *matériel*. Both are necessary ingredients of the complete standard manual of amateur high-frequency communication.

We shall all feel very happy if the present edition brings as much assistance and inspiration to amateurs and would-be amateurs as have its predecessors.

ROSS A. HULL  
EDITOR

WEST HARTFORD, October, 1936.

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CONTENTS

HIRAM PERCY MAXIM. . . . .	<i>Frontispiece</i>
FOREWORD . . . . .	v
THE AMATEUR — HIS CODE OF ETHICS . . . . .	viii
CHAPTER ONE — THE STORY OF AMATEUR RADIO . . . . .	1
CHAPTER TWO — GETTING STARTED . . . . .	9
CHAPTER THREE — FUNDAMENTAL ELECTRICAL PRINCIPLES . . . . .	17
CHAPTER FOUR — RADIO CIRCUIT AND WAVE FUNDAMENTALS . . . . .	34
CHAPTER FIVE — VACUUM TUBES . . . . .	51
CHAPTER SIX — RECEIVER CIRCUIT DESIGN . . . . .	87
CHAPTER SEVEN — RECEIVER CONSTRUCTION . . . . .	114
CHAPTER EIGHT — PRINCIPLES OF TRANSMITTER DESIGN . . . . .	141
CHAPTER NINE — TRANSMITTER CONSTRUCTION . . . . .	176
CHAPTER TEN — KEYING . . . . .	205
CHAPTER ELEVEN — FUNDAMENTALS OF RADIOTELEPHONY . . . . .	216
CHAPTER TWELVE — BUILDING RADIOTELEPHONE TRANSMITTERS . . . . .	228
CHAPTER THIRTEEN — RECEIVERS FOR THE ULTRA-HIGH FRE- QUENCIES . . . . .	242
CHAPTER FOURTEEN — ULTRA-HIGH-FREQUENCY TRANSMITTERS . . . . .	258
CHAPTER FIFTEEN — POWER SUPPLY . . . . .	275
CHAPTER SIXTEEN — ANTENNAS . . . . .	300
CHAPTER SEVENTEEN — INSTRUMENTS AND MEASUREMENTS . . . . .	328
CHAPTER EIGHTEEN — ASSEMBLING THE STATION . . . . .	342
CHAPTER NINETEEN — OPERATING A STATION . . . . .	351
CHAPTER TWENTY — MESSAGE HANDLING . . . . .	366
CHAPTER TWENTY-ONE — LEAGUE OPERATING ORGANIZATION . . . . .	379
APPENDIX . . . . .	389
INDEX . . . . .	417
CATALOG ADVERTISING SECTION . . . . .	425

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