

Television and Radio

REPAIRING

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TELEVISION AND RADIO REPAIRING

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Preface

By giving simple instructions for testing, repairing, and replacing television and radio parts, this book trains a complete beginner to handle about 75 per cent of the repair jobs that come to the average television and radio service shop. This great amount of progress toward a professional career is possible in just one book because the emphasis is on the simple, practical procedures that are adequate for most repair jobs. Learning the easiest things first gives a feeling of confidence and a sense of rapid progress.

The book is intended both for home study and as a classroom text in vocational schools and high schools. For both types of readers, the goal in writing has been to hold interest by giving practical how-to-do information that can be applied to actual receivers right from the start.

For men working in service organizations as drivers, helpers, or apprentices, the book offers an opportunity for fast upgrading. Larger shops can readily set up their own training program based on a combination of after-hours shop discussion and assigned at-home study in the book. This will permit hiring untrained men whenever experienced servicemen become hard to get and hard to hold.

As a text for company-sponsored training courses in electronic manufacturing plants, the book can train ambitious employees in minimum time to take over more responsible work in production and test departments.

This book starts from scratch. It assumes the reader has had no previous experience in television or in radio. It assumes he knows how to read, has average intelligence, and can follow simple step-by-step instructions, but nothing more. Each tool and part is introduced as if seen by the reader for the first time. Each type of receiver is taken up with a brief and simple get-acquainted description.

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Words are short, for easy reading. Sentences are short, for easy understanding. Paragraphs are short, so important ideas are clear. Bold paragraph headings are used frequently to tell what is coming next and to help find a desired topic.

Chapter organization is planned for easy and logical steps in learning. The first four chapters tell how to get started in servicing, what tools to buy, how to make a service call, how to fix simple troubles without removing the chassis, and how to remove the chassis of a television or radio receiver. The next two chapters tell how to test parts with a multimeter. Three following chapters cover thoroughly the various ways of testing tubes.

Each technique and each new idea is presented when needed, not before, so the reader always sees the practical use for what he is learning. The chapter on how to solder joints thus comes after the tube-testing chapters, because tubes are ordinarily checked before suspecting soldered-in parts.

After soldering comes a group of chapters telling how to test and replace parts that are normally soldered into receiver circuits, including resistors, condensers, controls, switches, coils, transformers, and loudspeakers. One highly practical chapter covers replacement of phono pickups and needles, and another covers cabinet repairs.

The last two chapters complete the practical training by giving step-by-step instructions for installing radio and television antennas.

It is possible to start fixing sets on a business basis after studying only nine chapters. About half the sets go bad because of tubes, and tube troubles have been covered by the end of the ninth chapter. For sets having troubles other than tubes, the reader is told how to farm out the work to shops that specialize in fixing sets for servicemen or dealers on a wholesale basis. On these sets, the beginner gains experience and can usually break even profitwise. Each succeeding chapter after the ninth reduces the percentage of sets on which help is needed, hence boosts the earning-while-learning profits.

By the time the last chapter has been mastered, the percentage of sets requiring outside help has been cut down to around 25 per cent. These remaining sets are the ones that require a knowledge of circuit operation and technical troubleshooting. The reader can continue his studies with carefully chosen advanced texts on servicing or keep up the arrangement of having the tough sets fixed elsewhere, as he chooses.

Appreciation is expressed here to the many firms and individuals who cooperated so wholeheartedly in furnishing practical information and illustrations pertaining to their products. Specific credit is given under the illustrations wherever possible, as a guide for the beginner seeking top-quality test equipment, replacement parts, service manuals, and supplies.

Credit for collaboration is acknowledged as follows: Fred Lingel—Chapters 6, 7, 8, and 9; Harold Mason—Chapter 11; Richard Evans—Chapters 12, 13, and 14; Eugene Ecklund—Chapters 21 and 22; James McDermott—critical review of entire manuscript; Marjorie Appert—typing.

Finally, sincere thanks to my wife Jenny and our children Allan, Mary, and Elaine for their patient understanding during the four long years in which this book was being written.

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