Television Principles and Practice

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Preface

The aim of this book is to present the reader with a comprehensive description of the principles involved in the operation and servicing of modern TV receivers. The treatment of the subject is such that it should appeal to students preparing for examinations of the City and Guilds Institute for **Radio, TV and Electronics Mechanics**. In this connection the syllabuses of the two options, Television (Colour and Monochrome) and Additional TV, receive extensive coverage.

Students taking CGLI **Radio, TV and Electronics Technicians** course, as well as the various 'television options' within the **Technician Education Council** framework, should also find the text of considerable assistance.

Many service engineers who wish to refresh their knowledge will find the subject presented in an easy-to-follow manner.

The contents of the book reflect the circuit techniques adopted in modern TV receivers; these include transistors, I.C.s, thyristors, valves (still used in many time base circuits) and other devices as appropriate.

The first three chapters cover the important aspects of colour perception and the formation of monochrome and colour signals (with special reference to the PAL system). A review of a complete TV receiver in block diagram form is presented in chapter 4; this provides the basis for detailed circuit descriptions in later chapters.

Chapters 5 to 7, inclusive, cover the main signal path from the tuner to the video (luminance) amplifiers and decoder. Practical circuits and principles of the inter-carrier sound reception are fully outlined in chapter 8. The field and line time base circuits (including e.h.t. generation) are featured in chapters 9 and 10. This is followed in chapter 11 by a description of picture tubes, including delta gun and in-line tubes, together with information about convergence and pincushion correction circuits.

Receiver setting-up procedures are outlined in chapter 12, including details of test cards F and G. Aerials and practical aspects of their installation are discussed in chapter 13; finally, in chapter 14 receiver power supplies are described, ranging from simple rectifier circuits to switched-mode arrangements.

Throughout the book, reference is made to the practical aspects of TV servicing and to the accompanying safety considerations.

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