

REFERENCE DATA

for

RADIO ENGINEERS

second edition

Federal Telephone and Radio Corporation

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Second Edition

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Foreword

Widespread acceptance of the four printings of the first edition of Reference Data for Radio Engineers prompted this larger and improved second edition. Like its predecessor, it is presented by the Federal Telephone and Radio Corporation as an aid in the fields of research, development, production, operation, and education. In it will be found all the material that proved so useful in the first edition along with much additional data—some the result of helpful suggestions from readers, others stemming from rapid advances in the art, and still others now made possible by declassification of many war developments.

While the general arrangement remains unchanged, the present edition has been greatly enlarged and a subject index included. Chapters on transformers and room acoustics have been added. The material on radio propagation and radio noise has been revised. Because of their importance in television, in radar, and in laboratory technique, the data on cathode-ray tubes have been considerably expanded.

The section on electrical circuit formulas has been greatly enlarged; additions include formulas on T-II and Y- Δ transformations, amplitude modulation, transients, and curves and numerous formulas on selective circuits. The attenuator section contains comprehensive design formulas and tables for various types of attenuators. The number of mathematical formulas also has been considerably increased.

As revised, the wave-guide chapter includes equations for both rectangular and cylindrical guides plus illustrations of field distribution patterns. Several methods of coupling to the $TE_{0,1}$ mode are illustrated. A table of standard rectangular wave guides and connectors, giving useful frequency range and attenuation, has been added. Design curves for the gain and beam width of rectangular electromagnetic horn radiators are included, and a simple formula for the gain of a paraboloid reflector is given.

Many very helpful suggestions were received from the Armed Services.

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