

CONTENTS

<i>Chapter</i>	<i>Page</i>
1. TUNED CIRCUITS:	
Introduction	1
Introduction to tuned circuits	3
Expressing vectors algebraically	6
Series resonance	13
Parallel resonance	25
Tuned circuits as filters	32
Inductively coupled tuned circuits	39
2. OPERATING PRINCIPLES OF THE ELECTRON TUBE:	
Types of emission	48
Types of emitters	50
Heating the emitter	52
Physical characteristics of electron-tube materials	53
Diodes	55
Triodes	60
Multielement tubes	71
Tubes operating at ultrahigh frequencies	80
Gas-filled tubes	82
Cathode-ray tubes	89
3. POWER SUPPLIES FOR ELECTRONIC EQUIPMENTS:	
Introduction	94
Cathode heating power	95
B-voltage supplies	97
Voltage-multiplying circuits	142
Grid-bias voltages	146
Electromechanical systems	151
4. INTRODUCTION TO ELECTRON-TUBE AMPLIFIERS:	
Classification of amplifiers	161
Distortion in amplifiers	174
Coupling methods	181

<i>Chapter</i>	<i>Page</i>
5. ELECTRON-TUBE AMPLIFIER CIRCUITS:	
Direct-current amplifiers.....	207
Feedback amplifiers.....	211
Tuned amplifiers.....	219
Video amplifiers.....	235
Cathode followers.....	241
Phase inverters.....	248
6. AUDIO POWER AMPLIFIERS:	
General.....	256
Class-A triode amplifiers.....	257
Push-pull power amplifiers.....	274
The decibel.....	284
7. OSCILLATORS:	
Inductance-capacitance oscillators.....	294
Resistance-capacitance oscillators.....	317
8. MODULATION AND DEMODULATION:	
Introduction.....	337
Amplitude modulation.....	338
Frequency modulation.....	354
Demodulation of a-m waves.....	368
Demodulation of f-m waves.....	387
9. TRANSMITTERS:	
Introduction.....	397
Continuous-wave transmitters.....	401
Amplitude-modulated radiotelephone trans- mitter.....	435
Frequency-modulated radiotelephone trans- mitter.....	449
10. TRANSMISSION LINES:	
Introduction.....	457
Characteristic impedance of a transmission line.....	458
Wave motion on an infinite line.....	463
Line reflections.....	465
Nonresonant lines.....	471
Resonant lines.....	472
Types of transmission lines.....	480
Measurements on r-f lines.....	490
Applications of resonant lines.....	497

<i>Chapter</i>	<i>Page</i>
11. ANTENNAS AND PROPAGATION:	
Principles of radiation.....	509
Basic antenna principles.....	517
Basic types of antennas.....	525
Antenna tuning.....	529
Radiation pattern for half-wave antennas.....	530
Antenna coupling.....	533
Propagation of radio waves.....	534
12. ELEMENTARY COMMUNICATIONS RECEIVERS:	
Introduction.....	550
T-r-f receivers.....	551
Superheterodyne receivers.....	561
F-m receivers.....	585
13. ELECTRONIC TEST EQUIPMENT:	
Cathode-ray oscilloscope.....	603
Synchroscope.....	618
Electronic switching.....	619
Absorption wave meter.....	623
Grid-dip meter.....	624
Frequency standards.....	625
Radio-interference field-intensity meter.....	631
Spectrum analyzer.....	635
Capacitance-inductance-resistance bridges.....	637
Tube testers.....	639
Volt-ohm-ammeter—electronic.....	644
Test-tool set.....	648
14. INTRODUCTION TO RADAR:	
Elements of radar.....	653
Functional components.....	672
Radar system constants.....	673
Elementary radar transmitter and receiver.....	678
Radar special circuits.....	687
<i>Appendix</i>	
I. Answers to quizzes.....	693
II. Electronic color coding and symbols.....	713
INDEX.....	723