

IRE Transactions on Microwave Theory and Techniques

Cumulative Index* 1953-1956

CONTENTS

1953

Volume MMT-1, Number 1, March, 1953

- A New Chart for the Solution of Transmission Line and Polarization Problems, *Georges Deschamps*
- Some Coupled-Wave Theory and Application to Waveguides (Abstract), *S. E. Miller*
- Audio Modulation Substitution System for Microwave Attenuation Measurements, *John Korewick*
- The Microwave Interferometer for Measuring the Time Displacement of a Projectile Within the Barrel of a Gun (Abstract), *H. C. Hanks, Jr.*
- Performance of Ferrites in the Microwave Range (Abstract), *A. G. Fox*
- Microstrip—A New Microwave Transmission Technique (Abstract), *H. F. Engelmann*
- X-Band Rotary Joint, *H. J. Riblet and R. L. Williston*
- Doubly Compensator Tunable Cavity, *T. S. Saad*
- Compact Top-Wall Hybrid Junction, *Eugene Hodge*
- Duplexing Filter Design at 2000 Mc, *D. R. Crosby*
- A Standard Waveguide Spark Gap, *David Dettinger and R. D. Wengenroth*
- A Rotary Joint for Two Microwave Transmission Channels of the Same Frequency Band (Abstract), *H. P. Raabe*

Volume MTT-1, Number 2, November, 1953

- Instrumentation of Microwave Electron Resonance in Magnetic Fields, *R. D. Mackey and W. D. Hershberger*
- Properties of Ferrites in Waveguides, *N. G. Sakiotis and H. N. Chait*
- A Coaxial Magic-T, *T. Morita and L. S. Sheingold*
- Broad-Banding Circular Polarizing Transducers, *D. L. Murgum*
- Two Types of Waveguide Switches, *Amasa Pratt*
- Attenuation and Power-Handling Capability of Helical Radio-Frequency Lines, *J. H. Bryant and E. J. White*
- Annular Resonant Slots in Dielectric Filled Circular Waveguide, *Marvin Cohn*
- Errata

1954

Volume MTT-2, Number 1, April, 1954

- The Microwave System of the Michigan-Wisconsin Pipeline Company, *W. P. Maginnis and H. Place*
- Microwave Site Selection in Undeveloped Country, *R. D. Pynn*
- Microwave Repeater Site Planning and Development, *R. D. Chapman*
- Remote Control of Standby Engine Generator Sets over a Microwave System, *Robert L. Halvorson*
- Application of Companders to FM Radio Systems with Frequency Division Multiplexing, *M. C. Harp, M. H. Kebby, and E. J. Rudisuhle*

* This Index is published to facilitate the use of early issues of these TRANSACTIONS.

- A Double Side-Band Amplitude-Modulated Multiplex System for Use over Microwave Radio, *Nelson B. Tharp* 41
- A Microwave System for Trunk Service, *J. J. Lenehan* 50
- A Microwave Radio System for Pipeline Use (Abstract), *Ed Dyke* 60
- Microwave and VHF Radio Installation for the Union Electric System, *George W. Fox* 63
- Microwave Radio Relay Link for Military Use, *Sidney Metzger* 84
- Transco Microwave System, *H. A. Rhodes* 89
- Microwave Testing with Millimicrosecond Pulses, *A. C. Beck* 93
- Theoretical Aspects of Microstrip Waveguides (Abstract), *G. A. Deschamps* 100
- Considerations in Klystron Design for Microwave Relay Systems, *R. W. Olthuis* 103

Volume MTT-2, Number 2, July, 1954

- Symposium on Modern Advances in Microwave Techniques 1
- Frequency Curves 1
- A Traveling-Wave Electron Deflection System, *R. C. Honey* 2
- Crystal Checker for Balanced Mixers, *P. D. Strum* 10
- A Technique for Stabilizing Microwave Oscillators, *Jerome L. Altman* 16
- Use of Crystals in Balanced Mixers, *Jesse Taub and Paul J. Giordano* 26
- A Coaxial Line Filled with Two Non-concentric Dielectrics, *D. J. Angelakos* 39
- H₀₁ Mode Circular Waveguide Components, *D. A. Lanciani* 45
- Characteristic Impedance of the Shielded-Strip Transmission Line, *Seymour B. Cohn* 52
- Bibliography on Directional Couplers, *Richard F. Schwartz* 58
- Addenda 64

Volume MTT-2, Number 3, September, 1954

- Optical Methods for the Measurement of Complex Dielectric and Magnetic Constants at Centimeter and Millimeter Wavelengths, *T. E. Talpey* 1
- Millimeter Wave Spectroscopic Components, *W. C. King* 13
- Harmonics at Millimeter Wavelengths, *A. H. Nethercot, Jr.* 17
- Millimeter Wave Generation by Cerenkov Radiation, *M. Danos and H. Lashinsky* 21
- Stabilization of Reflex Klystrons by High-Q External Cavities, *S. J. Rabinowitz* 23
- Superheterodyne Receiver for the 100 to 150-kmc Region, *C. M. Johnson* 27
- Magnetron Research at Columbia Radiation Laboratory, *M. J. Bernstein and N. M. Kroll* 33
- Low Loss Dielectric Waveguides, *M. T. Weiss and E. M. Gyorgy* 38
- An Experimental Broad-Band Helix Traveling-Wave Amplifier for Millimeter Wavelengths, *S. D. Robertson* 48
- A Calorimeter for Power Measurements at Millimeter Wavelengths, *W. M. Sharpless* 45
- The Use of Flat Waveguide in the Millimeter Range (Abstract), *S. Hopfer* 54

Volume MTT-3, Number 1, January, 1955

George Clark Southworth (Frontispiece).....	2
The Challenge (editorial), <i>G. C. Southworth</i>	3
A Method of Forming a Broad-Band Microwave Frequency Spectrum, <i>R. E. Wall, Jr. and A. E. Harrison</i>	4
A Turnstile Polarizer for Rain Cancellation, <i>P. A. Crandell</i>	10
Graphical Filter Analysis <i>H. N. Dawirs</i>	15
A Waveguide Impedance Meter for the Automatic Display of Complex Reflection Coefficient, <i>H. L. Bachman</i>	22
A Method of Measuring Dissipative Four-Poles Based on a Modified Wheeler Network, <i>H. M. Altschuler</i>	30
Notes on Crystal Mixer Performance, <i>W. L. Pritchard</i>	37
Intrinsic Insertion Loss of a Mismatched Microwave Network, <i>K. Tomiyasu</i>	40
Correspondence.....	
Klystron Noise, <i>P. D. Strum</i>	45
A Practical Method of Locating Waveguide Discontinuities, <i>O. T. Neau</i>	46
Contributors.....	

Volume MTT-3, Number 2, March, 1955

Microwave Printed Circuits—A Historical Survey, <i>R. M. Barrett</i>	1
Microwave Strip Circuit Research at Tufts College, <i>A. D. Frost and C. R. Miggins</i>	10
Characteristics and Some Applications of Stripline Components <i>W. E. Fromm</i>	13
Photoetched Microwave Transmission Lines, <i>N. R. Wild</i>	21
Characteristics and Application of Microstrip for Microwave Wiring, <i>M. Arditi</i>	31
Miniature Strip Transmission Line for Microwave Applications, <i>E. N. Torgow and J. E. Griemsmann</i>	57
Strip Type Components for 2,000 Mc Receiver Head End, <i>K. E. Zublin</i>	65
Properties of Dielectric Image Lines, <i>D. D. King</i>	75
Practical Dielectric-Filled Waveguide, <i>T. N. Anderson</i>	82
Measurement of Attenuation and Phase Velocity of Various Laminate Materials at L-Band, <i>M. E. Ringenbach and H. W. Cooper</i>	87
Rigorous Determination of the Parameters of Microstrip Transmission, <i>K. G. Black and T. J. Higgins</i>	93
The Mutual and Input Impedance of Strips Between Parallel Planes, <i>W. H. Hayt, Jr.</i>	114
Problems in Strip Transmission Lines, <i>S. B. Cohn</i>	119
Capacity and Characteristic Impedance of Strip Transmission Lines with Rectangular Inner Conductors, <i>N. A. Begovich</i>	127
Equivalent Circuits for Discontinuities in Balanced Strip Transmission Line, <i>A. A. Oliner</i>	134
A Universal Approximate Formula for Characteristic Impedance of Strip Transmission Lines with Rectangular Inner Conductors, <i>R. L. Pease and C. R. Miggins</i>	144
Stripline Radiators, <i>E. G. Fubini</i>	149
Slot Array Employing Photoetched Tri-Plate Transmission Lines, <i>D. J. Sommers</i>	157
Band-Pass Filters Using Stripline Techniques, <i>E. H. Bradley and D. R. White</i>	163
Resonator and Preselector in Balanced Stripline, <i>M. Michelson and J. F. Moore</i>	170
A Broad-Band Microstrip Crystal Mixer with Integral D-C Return, <i>E. Carlson</i>	175
Contributors.....	178

Volume MTT-3, Number 3, April, 1955

William Walden Mumford (Frontispiece).....	2
Keep Abreast of Microwave Art (Editorial), <i>W. W. Mumford</i>	3
Report of Advances in Microwave Theory and Techniques—1954, <i>D. D. King</i>	4
Planar Transmission Lines, <i>D. Park</i>	8
Measurement of Time-Quadrature Components of Microwave Signals, <i>J. H. Richmond</i>	13

MTT CUMULATIVE INDEX—2

Optimum Design of Stepped Transmission-Line Transformers, <i>S. B. Cohn</i>	16
The Use of Scattering Matrices in Microwave Circuits, <i>E. W. Mathews, Jr.</i>	21
Some Applications and Characteristics of Ferrite at Wavelengths of 0.87 Cm and 1.9 Cms, <i>C. Stewart</i>	27
Probes for Microwave Near-Field Measurements, <i>J. H. Richmond and T. E. Tice</i>	32
Measurement Techniques for Multimode Waveguides, <i>A. C. Beck</i>	35
Correspondence.....	
Reports of International Organizations, <i>L. G. Cumming and W. W. Mumford</i>	42
Addenda to "Bibliography on Directional Couplers," <i>R. G. Medhurst and R. F. Schwartz</i>	42
Biographies of Authors.....	44

Volume MTT-3, Number 4, July, 1955

Message from the Editor, <i>T. S. Saad</i>	1
Double-Ridge Waveguide for Commercial Airlines Weather Radar Installation, <i>T. N. Anderson</i>	2
Simplified Calculation of Antenna Patterns with Application to Radome Problems, <i>J. H. Richmond</i>	9
A Modulator Scattering Technique for Measurement of Field Distributions, <i>J. H. Richmond</i>	13
Potential Solution of a Homogeneous Strip-Line of Finite Width, <i>W. H. Hayt, Jr.</i>	16
Resonant Frequencies of Higher-Order Modes in Radial Resonators, <i>D. C. Stinson</i>	18
A Shunt Technique for Microwave Measurements, <i>H. M. Altschuler and A. A. Oliner</i>	24
A Rotary Joint for Two Microwave Transmission Channels of the Same Frequency Band, <i>H. P. Raabe</i>	30
Transverse Electric Resonances in a Coaxial Line Containing Two Cylinders of Different Dielectric Constant, <i>J. W. Carr</i>	41
The Operation of Bolometers under Pulsed Power Conditions, <i>M. Sucher and H. J. Carlin</i>	45
Correspondence.....	
Proceedings or Transactions?, <i>J. R. Pierce</i>	53
Impedance Matching, <i>N. Balabanian</i>	53
Authors in this Issue.....	54

Volume MTT-3, Number 5, October, 1955

Message from the Editor.....	1
Ernst Weber (Frontispiece).....	2
Microwaves—Science and Art (Editorial), <i>Ernst Weber</i>	3
Shunt Impedance of Klystron Cavities, <i>E. L. Ginzton and E. J. Nalos</i>	4
Planar Transmission Lines—II, <i>D. Park</i>	7
A High-Speed Broadband Microwave Waveguide Switch, <i>W. L. Teeter</i>	11
Effect of Ellipticity on Dominant-Mode Axial Ratio in Non-circular Waveguides, <i>P. I. Sandmark</i>	15
The Design of Ridged Waveguides, <i>S. Hopfer</i>	20
Shielded Coupled-Strip Transmission Line, <i>S. B. Cohn</i>	29
High-Power Ferrite Load Isolators, <i>A. Clavin</i>	38
Step-Twist Waveguide Components, <i>H. A. Wheeler and H. Schwiebert</i>	44
A Double-Ground-Plane Strip-Line System for Microwaves, <i>B. A. Dahlman</i>	52
Correspondence.....	
Transmission Characteristics of Sandwiches (1), <i>H. F. Mathis</i>	57
Measurement of Reflection Coefficients through a Lossless Network (II), <i>H. F. Mathis</i>	58
Authors in this Issue.....	58

Volume MTT-3, Number 6, December, 1955

Foreword, <i>H. Engelmann</i>	1
Wave Coupling by Warped Normal Modes, <i>A. G. Fox</i>	2
Investigation of VHF Nonoptical Propagation between Sardinia and Minorca, <i>J. M. Clara and A. Antinori</i>	7

Data on the Temperature Dependence of X-Band Fluorescent Lamp Noise Sources, <i>W. W. Mumford and R. L. Schafersman</i>	12	Phase Shift and Attenuation in a Transmission Line, <i>H. F. Mathis</i>	130
Phase Shift by Periodic Loading of Waveguide and Its Application to Broad-Band Circular Polarization, <i>A. J. Simmons</i>	18	A Novel Technique for Making Precision Waveguide Twists, <i>E. M. T. Jones and R. C. Honey</i>	131
900-Mc PTM Over-the Horizon Radio Link, <i>F. J. Altman, R. E. Gray, A. G. Kandoian, and W. Sichak</i>	22	On Symmetrical Matching, <i>H. F. Mathis</i>	132
A Method for the Accurate Measurement of the Noise Temperature Ratio of Microwave Mixer Crystals, <i>R. E. Davis and R. C. Dearle</i>	27	Contributors	133
Circuit Components in Dielectric Image Lines, <i>D. D. King</i>	35		
Applications of the Turnstile Junction, <i>M. A. Meyer and H. B. Goldberg</i>	40		
The Ultra-Bandwidth Finline Coupler, <i>S. D. Robertson</i>	45		
Microwave Traveling-Wave Tube Millimicrosecond Pulse Generators, <i>A. C. Beck and G. D. Mandeville</i>	48		
E-Plane Forked Hybrid-T Junction, <i>W. K. Kahn</i>	52		
A Switch-Detector Circuit, <i>F. S. Coale</i>	59		
The Regeneration of Binary Microwave Pulses, <i>O. E. DeLange</i>	62		
Noise Measurements in the UHF Range, <i>E. Maxwell and B. J. Leon</i>	62		
Authors in this Issue	62		

1956

Volume MTT-4, Number 1, January, 1956

Message from the Editor	1	Impedance and Polarization-Ratio Transformations by a Graphical Method Using the Isometric Circles, <i>E. F. Bolinder</i>	176
Frontispiece: A. G. Clavier	2	A Broad-Band Dual-Mode Circular Waveguide Transducer, <i>R. D. Tompkins</i>	181
Editorial: "Wire" vs "Wireless" Communication, <i>A. G. Clavier</i>	3	Correction to "A Switch Detector Circuit," <i>F. S. Coale</i>	183
The Characteristic Impedance of a Slotted Coaxial Line, <i>R. E. Collin</i>	4	Correspondence	
Broadband Ferrite Microwave Isolator, <i>P. H. Vartanian, J. O. Melchor, and W. P. Ayres</i>	8	Planar Transmission Lines—II, <i>D. Park and A. J. Giger</i>	184
An Approximate Analysis of Coaxial Line with a Helical Dielectric Support, <i>J. W. E. Griemsmann</i>	13	Rebuttal, <i>D. Park</i>	184
Improved Microwave Noise Measurements Using Ferrites, <i>C. H. Mayer</i>	24	Determination of the Parameters of Cavities Terminating Transmission Lines, <i>R. A. Lebowitz and M. W. St. Clair</i>	184
The Characteristic Impedance of the Shielded Slab Line, <i>R. H. T. Bates</i>	28	A Low VSWR Matching Technique, <i>P. A. Rizzi</i>	184
Characteristics of a New Serrated Choke, <i>K. Tomiyasu and J. J. Bolus</i>	33	Microwave Equipment for College Laboratories, <i>R. J. Reich</i>	187
Microwave Filters Utilizing the Cutoff Effect, <i>P. A. Rizzi</i>	36	Russian Edition of "Principles and Applications of Waveguide Transmission"	187
Technique of Pulsing Low Power Reflex Klystrons, <i>J. I. Davis</i>	40	Contributors	187
Some Properties of Image Circles, <i>H. F. Mathis</i>	48		
Determination of the Parameters of Cavities Terminating Transmission Lines, <i>R. A. Lebowitz</i>	51		
Correspondence			
Double-Ridge Waveguide, <i>T. N. Anderson</i>	54		
On a Variable Impedance Termination for Testing High Power Components, <i>R. T. Stegen and A. Clavin</i>	54		
Roster of PGM-TT Members	55		
Biographies of Authors	62		

Volume MTT-4, Number 2, April, 1956

Frontispiece	65	National Symposium on Microwave Techniques: Foreword, <i>R. F. Schwartz</i>	192
Editorial, <i>H. A. Wheeler</i>	66	Nonuniform, Inhomogeneous, and Anisotropic Waveguides, <i>R. W. Klopfenstein</i>	193
Report of Advances in Microwave Theory and Techniques—1955	68	Open Wire Lines, <i>G. Goubau</i>	197
Coupled-Strip-Transmission Line Filters and Directional Couplers, <i>E. M. T. Jones and J. T. Bolljahn</i>	75	Rectangular and Ridge Waveguide, <i>T. N. Anderson</i>	201
Absolute Measurement of Receiver Noise Figures at UHF, <i>E. Maxwell and B. J. Leon</i>	81	A Broad-Band Microwave Circulator, <i>E. A. Ohm</i>	210
Design and Development of Strip-Line Filters, <i>E. H. Bradley</i>	86	The Excitation of Surface Waveguides and Radiating Slots by Strip-Circuit Transmission Lines, <i>A. D. Frost, C. R. McGeech, and C. R. Mingins</i>	218
Measurement of Crystal Impedances at Low Levels, <i>H. N. Dawirs and E. K. Damon</i>	94	The Turnstile Circulator, <i>P. J. Slen</i>	223
Long-Line Effect and Pulsed Magnetrons, <i>W. L. Pritchard</i>	97	Nonreciprocal Two-Ports Represented by Modified Wheeler Networks, <i>H. M. Altschuler and W. K. Kahn</i>	228
The Use of Non-Euclidean Geometry in Measurements of Periodically Loaded Transmission Lines, <i>R. L. Kyhl</i>	111	Criteria for the Design of Loop-Type Directional Couplers for the L Band, <i>P. P. Lombardini, R. F. Schwartz, and P. J. Kelly</i>	234
The New Microwave Frequency Standard by Quenching Oscillator Control, <i>N. Sawazaki and T. Honma</i>	116	Improved Rectangular Waveguide Resonance Isolators, <i>M. T. Weiss</i>	240
Determining Attenuation of Waveguide from Electrical Measurements on Short Samples, <i>A. F. Pomeroy and E. M. Suarez</i>	122	An Automatic Gain Control System for Microwaves, <i>J. P. Vinding</i>	244
Correspondence		A Method of Analysis of Symmetrical Four-Port Networks, <i>J. Reed and G. J. Wheeler</i>	246
Planar Transmission Lines, <i>D. Park</i>	130	Broad-Band Waveguide Series T for Switching, <i>J. W. E. Griemsmann and G. S. Kasai</i>	252
		A Traveling-Wave Directional Filter, <i>F. S. Coale</i>	256
		Miniaturization of Microwave Assemblies, <i>L. Lewin</i>	261
		Recent Advances in Finline Circuits, <i>S. D. Robertson</i>	263
		Recent Advances in Waveguide Hybrid Junctions, <i>P. A. Loth</i>	268
		Contributors	272

AUTHOR INDEX

A

Allen, P. J. (Oct 223) 1956
 Altman, F. J. (Dec 22) 1955
 Altman, J. L. (Jul 16) 1954
 Altschuler, H. M. (Jan 30) (Jul 24) 1955;
 (Oct 228) 1956
 Anderson, T. N. (Mar 82) (Jul 2) 1955;
 (Jan 54) (Oct 201) 1956
 Angelakos, D. J. (Jul 39) 1954
 Antinori, A. (Dec 7) 1955
 Arditì, M. (Mar 31) 1955
 Ayres, W. P. (Jan 8) 1956

B

Bachman, H. L. (Jan 22) 1955
 Balabanian, N. (Jul 53) 1955
 Barrett, R. M. (Mar 1) 1955
 Barthel, D. R. (Jul 173) 1956
 Bates, R. H. T. (Jan 28) 1956
 Beck, A. C. (Apr 93) 1954; (Apr 35) (Dec 48)
 1955
 Begovich, N. A. (Mar 127) 1955
 Bernstein, M. J. (Sep 33) 1954
 Black, K. G. (Mar 93) 1955
 Bolinder, E. F. (Jul 176) 1956
 Bolljahn, J. T. (Apr 75) 1956
 Bolus, J. J. (Jan 33) 1956
 Bowie, D. M. (Jul 137) 1956
 Bradley, E. H. (Mar 163) 1955; (Apr 86)
 1956
 Bryant, J. H. (Nov 33) 1953

C

Cacheris, J. C. (Jul 152) 1956
 Carlin, H. J. (Jul 45) 1955
 Carlson, E. (Mar 175) 1955
 Carr, J. W. (Jul 41) 1955
 Chait, H. N. (Nov 11) 1953
 Chapman, R. D. (Apr 16) 1954
 Chisholm, R. M. (Jul 166) 1956
 Clara, J. M. (Dec 7) 1955
 Clavier, A. G. (Jan 2, 3) 1956
 Clavin, A. (Oct 38) 1955; (Jan 54) 1956
 Coale, F. S. (Dec 59) 1955; (Jul 183) (Oct
 256) 1956
 Cohn, M. (Nov 39) 1953
 Cohn, S. B. (Jul 52) 1954; (Mar 119)
 (Apr 16) (Oct 29) 1955
 Collin, R. E. (Jan 4) 1956
 Cooper, H. W. (Mar 87) 1955
 Crandell, P. A. (Jan 10) 1955
 Crosby, D. R. (Mar 31) 1953
 Cumming, L. G. (Apr 42) 1955

D

Dahlman, B. A. (Oct 52) 1955
 Damon, E. K. (Apr 94) 1956
 Danos, M. (Sep 21) 1954
 Davis, J. I. (Jan 40) 1956
 Davis, R. E. (Dec 27) 1955
 Dawirs, H. N. (Jan 15) 1955; (Apr 94) 1956
 Dearle, R. C. (Dec 27) 1955
 DeLange, O. E. (Dec 62) 1955
 Deschamps, G. (Mar 5) 1953
 Deschamps, G. A. (Apr 100) 1954
 Dettinger, D. (Mar 39) 1953
 Dropkin, H. A. (Jul 152) 1956
 Dyke, E. (Apr 60) 1954

E

Engelmann, H. F. (Mar 22) 1953; (Dec 1)
 1955

F

Fox, A. G. (Mar 22) 1953; (Dec 2) 1955
 Fox, G. W. (Apr 63) 1954
 Fromm, W. E. (Mar 13) 1955
 Frost, A. D. (Mar 10) 1955; (Oct 218) 1956
 Fubini, E. G. (Mar 149) 1955

G

Giger, A. J. (Jul 184) 1956
 Ginzton, E. L. (Oct 4) 1955; (Jul 135, 136)
 1956
 Giordano, P. J. (Jul 26) 1954
 Goldberg, H. B. (Dec 40) 1955
 Goubau, G. (Oct 197) 1956
 Gray, R. E. (Dec 22) 1955
 Griemsmann, J. W. E. (Mar 57) 1955;
 (Jan 13) (Oct 252) 1956
 Gyorgy, E. M. (Sep 38) 1954

H

Hadge, E. (Mar 29) 1953
 Halvorson, R. L. (Apr 32) 1954
 Hanks, H. C., Jr. (Mar 22) 1953
 Harp, M. C. (Apr 36) 1954
 Harrison, A. E. (Jan 4) 1955
 Hayt, W. H. (Mar 114) (Jul 16) 1955
 Hershberger, W. D. (Nov 3) 1953
 Higgins, T. J. (Mar 93) 1955
 Honey, R. C. (Jul 2) 1954; (Apr 131) 1956
 Honma, T. (Apr 116) 1956
 Hopfer, S. (Sep 54) 1954; (Oct 20) 1955

J

Jaynes, E. T. (Jul 140) 1956
 Johnson, C. M. (Sep 27) 1954
 Jones, E. M. T. (Apr 75, 131) 1956

K

Kahn, W. K. (Dec 52) 1955; (Oct 228) 1956
 Kandoian, A. G. (Dec 22) 1955
 Kasai, G. S. (Oct 252) 1956
 Kebby, M. H. (Apr 36) 1954
 Kelleher, K. S. (Jul 137) 1956
 Kelly, P. J. (Oct 234) 1956
 King, D. D. (Mar 75) (Apr 4) (Dec 35) 1955;
 (Apr 68) 1956
 King, W. C. (Sep 13) 1954
 Klopfenstein, R. W. (Oct 193) 1956
 Korewick, J. (Mar 14) 1953
 Kroll, N. M. (Sep 33) 1954
 Kyhl, R. L. (Apr 111) 1956

L

Lanciani, D. A. (Jul 45) 1954
 Lashinsky, H. (Sep 21) 1954
 Lebowitz, R. A. (Jan 51) (Jul 184) 1956
 Lenehan, J. J. (Apr 50) 1954
 Leon, B. J. (Dec 62) 1955; (Apr 81) 1956
 Lewin, L. (Oct 261) 1956
 Lombardini, P. P. (Oct 234) 1956
 Loth, P. A. (Oct 261) 1956

M

Mackey, R. C. (Nov 3) 1953
 Maginnis, W. P. (Apr 1) 1954
 Mandeville, G. D. (Dec 48) 1955
 Margerum, D. L. (Nov 24) 1953
 Mathis, H. F. (Oct 57, 58) 1955; (Jan 48)
 (Apr 130, 132) 1956
 Matthews, E. W. (Apr 21) 1955
 Maxwell, E. (Dec 62) 1955; (Apr 81) 1956
 Mayer, C. H. (Jan 24) 1956
 McGeoch, C. R. (Oct 218) 1956
 Medhurst, R. G. (Apr 42) 1955
 Melchor, J. L. (Jan 8) 1956
 Metzger, S. (Apr 84) 1954
 Meyer, M. A. (Oct 40) 1955
 Michelson, M. (Mar 170) 1955
 Miller, S. E. (Mar 14) 1953
 Mingins, C. R. (Mar 10, 144) 1955; (Oct
 218) 1956
 Moore, J. F. (Mar 170) 1955
 Morita, T. (Nov 17) 1953
 Mumford, W. W. (Apr 2, 3, 42) (Dec 12)
 1955

N

Nalos, E. J. (Oct 4) 1955
 Neau, O. T. (Jan 45) 1955
 Nethercot, A. H., Jr. (Sep 17) 1954

O

Ohm, E. A. (Oct 210) 1956
 Oliner, A. A. (Mar 134) (Jul 24) 1955
 Olthuis, R. W. (Apr 103) 1954

P

Park, D. (Apr 8) (Oct 7) 1955; (Apr 130)
 (Jul 184) 1956
 Pease, R. L. (Mar 144) 1955
 Pierce, J. R. (Jul 53) 1955
 Place, H. (Apr 1) 1954
 Pomeroy, A. F. (Apr 122) 1956
 Pratt, A. (Nov 30) 1953
 Primich, R. I. (Jul 156) 1956
 Pritchard, W. L. (Jan 37) 1955; (Apr 97)
 1956
 Pynn, R. D. (Apr 9) 1954

R

Raabe, H. P. (Mar 48) 1953; (Jul 30) 1955
 Rabinowitz, S. J. (Sep 23) 1954
 Reed, J. (Oct 246) 1956
 Reich, R. J. (Jul 187) 1956
 Rhodes, H. A. (Apr 89) 1954
 Riblet, H. J. (Mar 23) 1953
 Richmond, J. H. (Apr 13, 32) (Jul 9, 13)
 1955
 Ringenbach, M. E. (Mar 87) 1955
 Rizzi, P. A. (Jan 36) (Jul 184) 1956
 Robertson, S. D. (Sep 48) 1954; (Dec 45)
 1955; (Oct 263) 1956
 Rudisuhle, E. J. (Apr 36) 1954

S

Saad, T. S. (Mar 25) 1953; (Jul 1) 1955
 St. Clair, M. W. (Jul 184) 1956
 Sakiotis, N. G. (Nov 11) 1953
 Sandsmark, P. I. (Oct 15) 1955
 Sawazaki, N. (Apr 116) 1956
 Schafersman, R. L. (Dec 12) 1955

Schwartz, R. F. (Jul 58) 1954; (Apr 42) 1955; (Oct 192, 234) 1956
 Schwiebert, H. (Oct 44) 1955
 Sharpless, W. M. (Sep 45) 1954
 Sheingold, L. S. (Nov 17) 1953
 Sichak, W. (Dec 22) 1955
 Simmons, A. J. (Dec 18) 1955
 Sommers, D. J. (Mar 157) 1955
 Southworth, G. C. (Jan 2, 3) 1955
 Stegen, R. T. (Jan 54) 1956
 Stewart, C. (Apr 27) 1955
 Stinson, D. C. (Jul 18) 1955
 Strum, P. D. (Jul 10) 1954; (Jan 45) 1955; (Jul 145) 1956
 Suarez, E. M. (Apr 122) 1956
 Sucher, M. (Jul 45) 1955

T

Talpey, T. E. (Sep 1) 1954
 Taub, J. (Jul 26) 1954
 Teeter, W. L. (Oct 11) 1955
 Tharp, N. B. (Apr 41) 1954
 Tice, T. E. (Apr 32) 1955
 Tomiyasu, K. (Jan 40) 1955; (Jan 33) 1956
 Tompkins, R. D. (Jul 181) 1956
 Torgow, E. N. (Mar 57) 1955

V

Vartanian, P. H. (Jan 8) (Jul 140) 1956
 Vinding, J. P. (Oct 244) 1956

W

Wait, J. R. (Jul 143) 1956
 Wall, R. E., Jr. (Jan 4) 1955
 Weber, E. (Oct 2, 3) 1955
 Weiss, M. T. (Sep 38) 1954; (Oct 240) 1956
 Wengenroth, R. D. (Mar 39) 1953
 Wentworth, F. L. (Jul 173) 1956
 Wheeler, G. J. (Oct 246) 1956
 Wheeler, H. A. (Oct 44) 1955; (Apr 66) 1956
 White, D. R. (Mar 163) 1955
 White, E. J. (Nov 33) 1953
 Wild, N. R. (Mar 21) 1955
 Williston, R. L. (Mar 23) 1953

Z

Zublin, K. E. (Mar 65) 1955

SUBJECT INDEX

A

Antennas:
 Pattern Calculation, with Application to Radome Problems p 9 Jul 55
 Radar, Currents Excited on a Conducting Surface of Large Radius of Curvature p 143 Jul 56
 Annular Resonant Slots in Waveguide p 39 Nov 53
 Arrays, Parallel Metallic Plates of Finite Thickness for Microwave Systems p 156 Jul 1956
 Attenuation, Helical RF Lines p 33 Nov 53
 Attenuation Measurement by Audio Substitution p 14 Mar 53; Correction to p 44 Nov 53
 Automatic Gain Control System for Microwaves p 244 Oct 56
 Axial Ratio, Dominant Mode, Effect of Ellipticity in Waveguides p 15 Oct 55

B

Bandpass Filters Using Stripline Techniques p 163 Mar 55
 Bibliographies, on Directional Couplers p 44 Apr 55
 Bibliography on Directional Couplers p 58 Jul 54
 Bolometers, Operation under Pulsed Power Conditions p 45 Jul 55

C

Calibration of Two-Port Transmission Line Devices p 173 Jul 56
 Calorimeter for Millimeter Power Measurement p 45 Sep 54
 Cavities, Klystron, Shunt Impedance p 4 Oct 55
 Cavities Termination Transmission Lines, Parameters of p 51 Jan 56; p 184 Jul 56
 Cavity, Tunable, Doubly Compensated p 25 Mar 53
 Cerenkov Radiation, Millimeter Wave Generation p 21 Sep 54
 Chart for Transmission Line and Polarization Problems p 5 Mar 53; Correction to p 44 Nov 53
 Choke, Serrated p 33 Jan 56

Circular Polarization, Produced by Periodic Loading of Waveguide p 18 Dec 55
 Circulators:
 Broad-Band Microwave p 210 Oct 56
 Turnstile p 223 Oct 56
 Coaxial Line:
 Transverse Electric Resonances p 41 Jul 55
 With Two Nonconcentric Dielectrics p 39 Jul 54
 Coaxial Magic T p 17 Nov 53
 Coaxial, Transmission Line:
 Helical Dielectric Support p 13 Jan 56
 Slotted, Impedance of p 4 Jan 56
 College Laboratories, Microwave Equipment for p 184 Jul 56
 Companders for FM Systems p 36 Apr 54
 Coupled-Wave Theory p 14 Mar 53
 Coupler, Fineline p 45 Dec 55
 Couplers:
 Direction, Bibliography p 58 Jul 54
 Directional, for L Band p 234 Oct 56
 Crystal Checker for Balanced Mixers p 10 Jul 54; p 45 Jan 55
 Crystal Diodes, Measurement of Impedance p 94 Apr 56
 Crystal Mixers:
 Broadband Microstrip p 175 Mar 55
 Measuring Noise Temperature Ratio p 27 Dec 55
 Performance p 37 Jan 55
 Crystals in Balanced Mixers p 26 Jul 54

D

Detection:
 Microwave, Report of Advances, 1955 p 68 Apr 56
 Of Microwaves, Report of Advances, 1954 p 4 Apr 55
 Switch Detector Circuit p 59 Dec 55; Correction to p 183 Jul 56
 Detectors, Switch-Detector Circuit p 59 Dec 55
 Dielectric Constant, Optical Measuring Method p 1 Sep 54
 Dielectric Filled Waveguide p 82 Mar 55
 Dielectric Image Lines p 75 Mar 55
 Dielectric Image Lines, Circuit Components in p 35 Dec 55

Dielectrics:
 Constant and Loss Tangent, Measurement p 137 Jul 56
 Helix, on Coaxial Line p 13 Jan 56
 Directional Couplers:
 Bibliography p 58 Jul 54; Addenda to p 42 Apr 56
 Loop-Type, for L Band p 234 Oct 56
 Strip Transmission Line p 75 Apr 56
 Dissipative 4-Poles, Measurement by Modified Wheeler Network; p 30 Jan 55
 Double Sideband AM Multiplex System p 41 Apr 54
 Duplexing Filter Design p 31 Mar 53

E

Electron Tubes:
 Klystron:
 Cavities, Shunt Impedance of p 4 Oct 55
 Noise p 45 Jan 55
 Travelling Wave, Generators, Millimicrosecond pulse p 48 Dec 55
 Electrons, Magnetic Resonance of p 3 Nov 53
 Elliptical Transducer, Broad Band p 24 Nov 53
 Engineering Education, Microwave Equipment for College Laboratories p 184 Jul 56
 Equivalent Circuits for Discontinuities in Strip Lines p 134 Mar 55

F

Faraday Rotations, Produced by Ferrites in Waveguides p 27 Apr 55
 Ferrite Performance p 22 Mar 53; p 11 Nov 53
 Ferrites:
 In High Power Load Isolators p 38 Oct 55
 In Waveguides p 27 Apr 55
 Microwave Isolator, Broad-Band p 8 Jan 56
 Microwave Noise Measurements p 24 Jan 56
 Single-Sideband Modulator p 152 Jul 56
 Waveguides, Transversely Magnetized, Propagation p 140 Jul 56
 Field Distributions, Modulated Scattering Measurement Techniques p 13 Jul 55

Filters:

- Bandpass, Use of Strip Line Techniques p 163 Mar 55
- Coupled, for Strip Transmission Lines p 75 Apr 56
- Graphical Analysis p 15 Jan 55
- Microwave Cutoff Effect p 36 Jan 56
- Strip Line, Design of p 86 Apr 56
- Traveling-Wave Directional p 256 Oct 56
- Finline Circuits, Recent Advances in p 263 Oct 56
- Finline Coupler p 45 Dec 55
- Fluorescent Lamps, Temperature Dependence of Noise Sources p 12 Dec 55
- Four-Poles, Dissipative, Measured by Means of Modified Wheeler Network p 30 Jan 55
- Frequency Spectrum, Broadband Microwave, Method of Forming p 4 Jan 55
- Frequency Standards, Multiplication by Quenching Oscillator p 116 Apr 56

G

- Gain Control System, Automatic, for Microwaves p 244 Oct 56
- Generation of Millimeter Waves p 21 Sep 54
- Generator, Standby, Remote Control of p 32 Apr 54
- Generators, Microwave, Report of Advances, 1955 p 68 Apr 56
- Graphical Filter Analysis p 15 Jan 55
- Gyromagnetic Media:
 - Report of Advances, 1954 p 4 Apr 55
 - Report of Advances, 1955 p 68 Apr 56

H

- Harmonics at Millimeter Wavelengths p 17 Sep 54
- Helical RF Lines, Attenuation p 33 Nov 53
- Helix, Dielectric, on Coaxial Line p 13 Jan 56
- Hybrid Junction, Top-Wall p 29 Mar 53
- Hybrid-T Junction, E-Plane Forked p 52 Dec 55

I

- Image Circles p 48 Jan 56
- Image Lines, Dielectric:
 - Circuit Components in p 35 Dec 55
 - Properties of p 75 Mar 55
- Impedance:
 - Crystal, Measurement at Low Levels p 94 Apr 56
 - Matching p 54 Jul 55
 - Measurements, Non-Euclidean, for Transmission Lines p 111 Apr 56
 - Polarization-Ratio Transformations p 173 Jul 56
 - Shielded Slab Line p 28 Jan 56
 - Shunt, of Klystron Cavities p 4 Oct 55
 - Slotted Coaxial Line p 4 Jan 56
 - Of Strip Lines with Rectangular Inner Conductors pp 127, 144 Mar 55
 - Of Strips between Parallel Planes p 114 Mar 55
 - Termination for Testing High Power Components p 54 Jan 56
 - Trough and Slab Lines p 166 Jul 56
 - Waveguide Meter for Automatic Display p 22 Jan 55
- Insertion Loss, of Mismatched Microwave Network p 40 Jan 55
- Interferometer for Projectile Measurements p 22 Mar 53
- International Organizations, Reports of p 42 Apr 55

MTT CUMULATIVE INDEX—6

Isolator:

- Microwave, Broadband Ferrite p 8 Jan 56
- Resonance, Rectangular Waveguide p 240 Oct 56

J

- Junctions, Waveguide Hybrid, Recent Advances in p 268 Oct 56

K

Klystron:

- Cavities, Shunt Impedance p 4 Oct 55
- Design Considerations p 103 Apr 54
- Low Power Reflex, Pulsing Techniques p 40 Jan 56
- Noise p 45 Jan 55
- Stabilization p 23 Sep 54

L

- Laminate Materials, Attenuation and Phase Velocity Measurements at L-Band p 87 Mar 55
- Lenses, Microwave, Array of Parallel Metallic Plates of Finite Thickness for p 156 Jul 56
- Load Isolators, High Power Ferrite p 38 Oct 55

M

- Magic T, Coaxial p 17 Nov 53
- Magnetic Constant, Optical Measuring Method p 1 Sep 54
- Magnetic Resonance of Electrons p 3 Nov 53
- Magnetron Research at Columbia p 33 Sep 54
- Magnetrons, Pulsed, Long-Line Effect p 97 Apr 56
- Measurements:
 - Bolometers, under Pulsed Power Conditions p 45 Jul 55
 - Field Distributions, Modulated Scattering Technique p 13 Jul 55
- Microwave:
 - Nearfield p 32 Apr 55
 - Noise, Using Ferrites p 24 Jan 56
 - Report of Advances, 1954 p 4 Apr 55
 - Report of Advances, 1955 p 68 Apr 56
 - Shunt Technique p 24 Jul 55
- Noise Temperature Ratio of Mixer Crystals p 27 Dec 55
- Receiver Noise at UHF p 81 Apr 56
- Reflection Coefficients p 58 Oct 55
- Time Quadrature Components of Microwave Signals p 13 Apr 55
- Transmission Line Impedance, Non-Euclidean p 111 Apr 56
- Waveguide:
 - Attenuation, on Short Samples p 122 Apr 56
 - Multimode p 35 Apr 55
- Microstrip: p 22 Mar 53
 - Broadband Mixer with Integral DC Return p 175 Mar 55
 - for Microwave Wiring p 31 Mar 55
 - Parameters p 93 Mar 55
 - Receiver Head-End, 2000 Megacycle p 65 Mar 55
 - Waveguides p 100 Apr 54
- Microwave Sources, Report of Advances, 1954 p 4 Apr 55
- Microwaves:
 - Assemblies, Miniaturization of p 261 Oct 56
 - Engineering, Specialization or Diversification p 66 Apr 56
 - Equipment for College Laboratories p 187 Jul 56

Present and Future p 136 Jul 56

- Report of Advances in Theory, 1955 p 68 Apr 56
- Miniaturization of Microwave Assemblies p 261 Oct 56
- Mismatched Microwave Network, Intrinsic Insertion Loss p 40 Jan 55
- Mixers:
 - Balanced, Crystal Checker for p 10 Jul 54
 - Balanced Crystals in p 26 Jul 54
- Crystal:
 - Broadband Microstrip p 175 Mar 55
 - Measuring Noise Temperature Ratio p 27 Dec 55
 - Performance of p 37 Jan 55
- Mode Warping p 2 Dec 55
- Modulators, Compact Microwave Single-Sideband Using Ferrites p 152 Jul 56
- Modulated Scattering Technique for Field Distribution Measurement p 13 Jul 55
- Multiplex System, Double Sideband AM p 41 Apr 54

N

Networks:

- Dielectric Image Lines, Components in p 27 Dec 55
- Equivalent, for Discontinuities in Balanced Strip Line p 134 Mar 55
- Four-Port Symmetrical, Analysis of p 246 Oct 56
- Four-Terminal, Image Circles p 48 Jan 56
- Microwave:
 - Intrinsic Insertion Loss of Mismatched p 40 Jan 55
 - Use of Scattering Matrices p 21 Apr 55
- Modified Wheeler:
 - Measurement of Dissipative 4-Poles p 30 Jan 55
 - Non-Reciprocal Two-Ports Represented by p 228 Oct 56
 - Nonreciprocal Two-Ports, Represented by Modified Wheeler Networks p 228 Oct 56
 - Reflection Coefficient Measurement p 58 Oct 55

Noise:

- Crystal Mixer:
 - Noise-Temperature Ratio Measurement p 27 Dec 55
 - Performance p 37 Jan 55
- Fluorescent Lamps as Source, Temperature Dependence p 12 Dec 55
- Klystron p 45 Jan 55
- Measurements in UHF Range p 62 Dec 55
- in Microwave Devices, Report of Advances, 1954 p 4 Apr 55
- Microwave Measurements, Using Ferrites p 24 Jan 56
- Receiver, Measurements at UHF p 81 Apr 56
- Sources, Microwave, Report of Advances, 1955 p 68 Apr 56
- Temperature p 145 Jul 56
- Normal Mode Warping p 2 Dec 55

O

- Open Wire Lines p 197 Oct 56
- Optical Measurement of Dielectric Constant p 1 Sep 54
- Oscillator Stabilizing p 16 Jul 54
- Oscillators, New Frequency, Standard by Quenching p 116 Apr 56
- Over-the-Horizon Radio Link p 52 Dec 55

P

- Phase Shift by Periodic Loading of Waveguide p 18 Dec 55
- Pipeline Microwave System pp 1, 60 Apr 54
- Planar Transmission Lines p 8 Apr 55; p 7 Oct 55; p 130 Apr 56; p 184 Jul 56
- Polarizer for Rain Cancellation p 10 Jan 55
- Polarization:
 - Chart p 64 Jul 54
 - Circular, Produced by Periodic Loading of Waveguide p 18 Dec 55
 - Problems, Chart for Transmission Line and p 5 Mar 53; Correction to p 44 Nov 53
- Potential Solution of a Homogeneous Strip Line of Finite Width p 16 Jul 55
- Power Capacity Standard p 39 Mar 53
- Preselector in Balanced Strip Line p 170 Mar 55
- Printed Circuits, Historical Survey p 1 Mar 55
- Probes, for Microwave Nearfield Measurements p 32 Apr 55
- Propagation, VHF Non-Optical p 7 Dec 55
- PTM Over-the-Horizon Radio Link p 22 Dec 55
- Pulse, Generator, Millimicrosecond p 48 Dec 55
- Pulsed Power Measurements, Operation of Bolometer p 45 Jul 55
- Pulses:
 - Binary, Regeneration of p 62 Dec 55
 - Millimicrosecond, Testing with p 93 Apr 54

R

- Radar:
 - Currents Excited on Conducting Surface of Large Radius of Curvature p 143 Jul 56
 - Rain Cancellation p 10 Jan 55
 - Weather Installation, Double Ridge Waveguide p 2 Jul 55
- Radial Resonators, Frequencies of Higher Order Modes in p 18 Jul 55
- Radiators, Strip Line p 149 Mar 55
- Radio Relay for Military Use p 84 Apr 54
- Radome:
 - Antenna Pattern Calculation p 9 Jul 55
 - Transmission Characteristics of Sandwiches p 57 Oct 55
- Rain Cancellation p 10 Jan 55
- Receiver, Superheterodyne, 150 KMC p 27 Sep 54
- Receivers:
 - Noise, Measurements at UHF p 81 Apr 56
 - Strip Type Components in p 65 Mar 55
- Reflection Coefficients:
 - Measurement through a Lossless Network p 58 Oct 55
 - Measurement by Waveguide Impedance Meter p 22 Jan 55
- Regeneration of Binary Microwave Pulses p 62 Dec 55
- Repeater Site p 16 Apr 54
- Resonance Isolators, Rectangular Waveguide p 240 Oct 56
- Resonances in a Coaxial Line Containing Dielectrics p 41 Jul 55
- Resonators:
 - in Balanced Strip Line p 170 Mar 55
 - Radial, Frequencies of Higher Order Modes p 18 Jul 55

Rotary Joint:

- Two Channels, Same Frequency p 48 Mar 53
- Two Channels of Same Frequency Band p 30 Jul 55
- X Band p 23 Mar 53

S

- Sandwiches, Transmission Characteristics of p 57 Oct 55
- Shielded-Strip Transmission Line Impedance p 52 Jul 54
- Shunt Impedance of Klystron Cavities p 4 Oct 55
- Shunt Technique for Microwave Measurements p 24 Oct 55
- Signals, Measurement of Time-Quadrature Components p 13 Apr 55
- Site Selection, pp 9, 16 Apr 54
- Slab and Trough Lines, Characteristic Impedance p 166 Jul 56
- Slot Array Employing Photoetched Tri-Plate Transmission Line p 157 Mar 55
- Slots, Radiating, Excitation by Strip-Circuit Transmission Lines p 218 Oct 56
- Sources, Microwave, Report of Advances, 1954 p 4 Apr 55
- Spark Gap as a Power Capacity Standard p 39 Mar 53
- Spectroscope, Paramagnetic p 3 Nov 53
- Spectroscopic Components p 13 Sep 54
- Stabilizing Microwave Oscillators p 16 Jul 54
- Step-Twist Waveguide Components p 44 Oct 55
- Strip Lines:
 - Attenuation and Phase Velocity Measurements p 87 Mar 55
 - Balanced, Resonator and Preselector p 170 Mar 55
 - for Bandpass Filters p 163 Mar 55
 - Component Characteristics and Applications p 13 Mar 55
 - Double Ground Plane System p 52 Oct 55
 - Equivalent Circuits for Discontinuities p 134 Mar 55
 - Excitation of Surface Waveguides and Radiating Slots p 218 Oct 56
 - Filter Design p 86 Apr 56
 - Filters and Directional Couplers p 75 Apr 56
 - Historical Survey p 1 Mar 55
 - Homogeneous, Potential Solution p 16 Jul 55
 - Microstrip:
 - Broadband Mixer with Integral DC Return p 175 Mar 55
 - Parameters p 93 Mar 55
 - for 2000 Megacycle Receiver Head-End p 65 Mar 55
 - Miniature p 57 Mar 55
 - Photoetched Tri-Plate: p 21 Mar 55
 - Employed in Slot Array p 157 Mar 55
 - Problems in p 119 Mar 55
 - Radiators p 149 Mar 55
 - with Rectangular Inner Conductors, Capacity and Characteristic Impedance pp 127, 144 Mar 55
 - Research into Basic Aspects p 10 Mar 55
 - Shielded Coupled Strip p 29 Oct 55
 - Superheterodyne Receiver for 150 KMC p 27 Sep 54
- Switches:
 - High-Speed Waveguide p 11 Oct 55
 - Switch-Detector Circuit p 59 Dec 55; p 183 Jul 56

Waveguide p 30 Nov 53

- Switching, Broad-Band Waveguide Series T p 252 Oct 56

T

- Techniques, Microwave, Report of Advances, 1954 p 4 Apr 55
- Temperature Dependence of X-Band Fluorescent Lamp Noise Sources p 12 Dec 55
- Testing with Millimicrosecond Pulses p 93 Apr 54
- Time Quadrature Components of Microwave Signals p 13 Apr 55
- Transco Microwave System p 89 Apr 54
- Transducer, Elliptical, Broad Band p 24 Nov 53
- Transducers, Broad-Band Dual-Mode Circular Waveguide p 181 Jul 56
- Transmission, VHF Nonoptical Propagation p 7 Dec 55
- Transformers, Stepped Transmission Line p 16 Apr 55
- Transmission Lines:
 - Calibration of Two-Port Devices p 173 Jul 56
 - Chart p 64 Jul 54
 - Chart, and Polarization Problems p 5 Mar 53; Correction to p 44 Nov 53
- Coaxial:
 - Helical Dielectric Support p 13 Jan 56
 - Slotted, Impedance of p 4 Jan 56
- Directional Coupler, Loop-Type for L Band p 234 Oct 56
- Graphical Filter Analysis p 15 Jan 55
- Impedance Matching p 53 Jul 55
- Long Line Effect and Pulsed Magnetrons p 97 Apr 56
- Measurements, Non-Euclidean p 111 Apr 56
- Microwave Isolator, Broadband Ferrite p 8 Jan 56
- Nonuniform, Inhomogeneous, Anisotropic p 193 Oct 56
- Open Wire Lines p 197 Oct 56
- Parameters of Terminating Cavities p 184 Jul 56
- Phase Shift Attenuation p 130 Apr 56
- Planar p 8 Apr 55; p 7 Oct 55; p 130 Apr 56; pp 184 Jul 56
- Shielded-Strip Impedance p 52 Jul 54
- Slab, Shielded, Impedance of p 28 Jan 56
- Strip:
 - Balanced pp 134 175 Mar 55
 - Double Ground Plane System p 52 Oct 55
 - Filter Design p 86 Apr 56
 - Filters and Directional Couplers p 75 Apr 56
 - Microstrip pp 31, 65, 93, 175 Mar 55
 - Miniature p 57 Mar 55
 - Photoetched Tri-Plate pp 21, 157 Mar 55
 - Shielded Coupled p 29 Oct 55
- Strip-Circuit, Excitation of Surface Waveguides and Radiating Slots p 218 Oct 56
- Symmetrical Matching p 132 Apr 56
- Terminating Cavities p 51 Jan 56
- Transformers, Stepped, Design of p 16 Apr 55
- Traveling Wave:
 - Amplifier, Millimeter Wavelength p 48 Sep 54
 - Directional Filter p 256 Oct 56
 - Electron Deflection System p 2 Jul 54
 - Tubes, Generators, Millimicrosecond Pulse p 48 Dec 55

Trough and Slab Lines, Characteristic Impedance p 166 Jul 56
 Trunk Service, Microwave System for p 50 Apr 54
 Turnstile Circulator p 223 Oct 56
 Turnstile Junction p 40 Dec 55
 Turnstile Polarizer for Rain Cancellation p 10 Jan 55

U

Union Electric System Installation p 63 Apr 54

V

Voltage Standing Wave Ratio, Matching Technique p 184 Jul 56

W

Wave Coupling by Warped Normal Modes p 2 Dec 55
 Wave Propagation, in Ferrite-Filled Transversely Magnetized Waveguide p 140 Jul 56
 Waveguide:
 Annular Resonant Slots in p 39 Nov 53

Circular, Components for p 45 Jul 54
 Flat, for Millimeter Range p 54 Sep 54
 Low-Loss Dielectric p 38 Sep 54
 Microstrip p 100 Apr 54
 Switches p 24 Nov 53
 Waveguides:
 Attenuation, Measurements on Short Samples p 122 Apr 56
 Broad-Band Series T for Switching p 252 Oct 56
 Choke, Serrated p 33 Jan 56
 Dielectric Filled p 82 Mar 55
 Discontinuities p 45 Jan 55
 Double-Ridge p 2 Jul 55; p 54 Jan 56
 Ellipticity on Dominant-Mode Axial Ratio p 15 Oct 55
 Ferrite-Filled Transversely Magnetized p 140 Jul 56
 Ferrites, Use of at 0.87 Cm and 1.9 Cms p 27 Apr 55
 Hybrid Junctions, Recent Advances in p 268 Oct 56
 Impedance Meter p 22 Jan 56
 Multimode, Measurement Techniques p 35 Apr 55

Nonuniform, Inhomogeneous and Anisotropic p 193 Oct 56
 Open Wire Lines p 197 Oct 56
 Phase Shift by Periodic Loading p 18 Dec 55
 Rectangular:
 Resonance Isolators p 240 Oct 56
 and Ridge Waveguide p 201 Oct 56
 Report of Advances, 1954 p 4 Apr 55
 Report of Advances, 1955 p 68 Apr 56
 Ridged p 20 Oct 55
 Step-Twist Components p 44 Oct 55
 Surface, Excitation by Strip-Circuit Transmission Lines p 218 Oct 56
 Switch, Broadband, High-Speed p 11 Oct 55
 Symmetrical Matching p 132 Apr 56
 Transducer, Broad-Band, Dual-Mode, Circular p 181 Jul 56
 Turnstile Circulator p 223 Oct 56
 Twists, Techniques for Making p 131 Apr 56
 Weather Radar Installation, Double Ridge Waveguide p 2 Jul 55
 Wire vs Wireless Communication p 3 Jan 56