

IRE Transactions

on

Microwave Theory and Techniques

Volume MTT-8

JANUARY, 1960

Number 1

EDITORIAL BOARD

Editor

Donald D. King

Advertising Editor

Tore N. Anderson

D. J. Angelakos
 W. P. Ayres
 R. W. Beatty
 A. D. Berk
 A. D. Bresler
 J. C. Cacharis
 S. B. Cohn
 R. E. Collin
 I. Goldstein
 R. C. Hansen
 H. Heffner
 E. M. T. Jones
 R. W. Klopfenstein
 P. A. Loth
 R. V. Lowman
 T. Moreno
 S. P. Morgan
 K. S. Packard, Jr.
 M. C. Pease
 J. Reed
 J. M. Richardson
 P. A. Rizzi
 S. D. Robertson
 N. G. Sakiotis
 R. F. Schwartz
 W. Sichak
 D. C. Stinson
 P. D. Strum
 E. Strumwasser
 L. Swern
 E. N. Torgow
 P. H. Vartanian, Jr.
 M. T. Weiss
 G. J. Wheeler
 R. F. Whitmer
 J. C. Wiltse
 F. J. Zucker

TABLE OF CONTENTS

Message from the Editor.	Donald D. King	2
Microwave Prize.		3

CONTRIBUTIONS

Theoretical Limitations to Ferromagnetic Parametric Amplifier Performance.	R. W. Damon and J. R. Eshbach	4
An Extension of the Mode Theory to Periodically Distributed Parametric Amplifiers with Losses	K. Kurokawa and J. Hamasaki	10
Action of a Progressive Disturbance on a Guided Electromagnetic Wave.	J. C. Simon	18
Periodic and Guiding Structures at Microwave Frequencies	A. F. Harvey	30
Design of Mode Transducers	L. Solymar and C. C. Eaglesfield	61
UHF Resonator with Linear Tuning	B. H. Wadia and R. L. Sarda	66
Equivalent Circuits for Small Symmetrical Longitudinal Apertures and Obstacles	Arthur A. Oliver	72
On the TE_{no} Modes of a Ferrite Slab Loaded Rectangular Waveguide and the Associated Thermodynamic Paradox	A. D. Bresler	81
L-Band Ferromagnetic Resonance Experiments at High Peak Power Levels	E. Schlömann, J. Saunders, and M. Sirvetz	96
High Power Ferromagnetic Resonance at X-Band in Polycrystalline Garnets and Ferrites	J. J. Green and E. Schlömann	100
Microwave Diode Cartridge Impedance	R. V. Garver and J. A. Rosado	104
Theory of the Germanium Diode Microwave Switch.	R. V. Garver, J. A. Rosado, and E. F. Turner	108
Improvement in the Square Law Operation of 1N23B Crystals From 2 to 11 KMC	A. Staniforth and J. H. Craven	111
An N-Way Hybrid Power Divider.	Ernest J. Wilkinson	116

CORRESPONDENCE

Higher Order Modes in Coupled Helices.	Russell E. Hayes	119
The Tetrahedral Junction as a Waveguide Switch.	Jerold A. Weiss	120
Some Measurements of Travelling-Wave Tube Attenuators at 2000 MC	C. H. Dix	121
PGMTT News.		123
Contributors.		125