

# RCA TECHNICAL PAPERS

(1956)

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#### Volume IV(a)

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This index, together with Volume I (1919-1945), Volume II (1946-1950) and Volume III (1951-1955), lists substantially all published English-language technical papers on subjects in the radio, electronics and related fields, the authors of which were associated with Radio Corporation of America (including its various divisions and subsidiary companies) at the time of the paper's preparation or at the time the work described in the paper was performed.

The chronological index is followed by a section arranged alphabetically by authors and a subject classification section.

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*The Manager, RCA Review*



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## ABBREVIATIONS

*Elec. Eng.*—*Electrical Engineering*

*Jour. Acous. Soc. Amer.*—*Journal of the Acoustical Society of America*

*Jour. Appl. Phys.*—*Journal of Applied Physics*

*Jour. Electrochem. Soc.*—*Journal of the Electrochemical Society*

*Jour. Opt. Soc. Amer.*—*Journal of the Optical Society of America*

*Jour. Phys. Chem.*—*Journal of Physical Chemistry*

*Jour. S.M.P.T.E.*—*Journal of the Society of Motion Picture & Television Engineers*

*Proc. I.R.E.*—*Proceedings of the Institute of Radio Engineers*

*Proc. RETMA*—*Proceedings of the Radio Electronic Television Manufacturers Association*

*Phys. Rev.*—*Physical Review*

*Rad. and Tele. News*—*Radio and Television News*

*RCA Rad. and Tele. Serv. News*—*RCA Radio and Television Service News*

*Rev. Sci. Instr.*—*Review of Scientific Instruments*

*Trans. I.R.E.*—*Transactions of the Institute of Radio Engineers*

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4007	"Quasi-Complementary Transistor Amplifier," H. C. Lin, <i>Electronics</i> (September) .....	1956
4007a	"The Role of the Design Engineer in the Field Support of Complex Airborne Electronic Equipment," H. W. Brown, Jr., <i>Trans. I.R.E. PGANE</i> (September) .....	1956
4008	"Some Studies in the Speed of Visual Perception," G. C. Sziklai, <i>Trans. I.R.E. PGIT</i> (September) .....	1956
4009	"Television's Expanding Service to the Nation," E. W. Engstrom, <i>Signal</i> (September-October) .....	1956
4010	"11-Tube 90° 8½-Inch RCA Portable TV," W. W. Cook, <i>Service</i> (September) .....	1956
4011	"21-Inch Color-TV Chassis Featuring Printed-Wiring Boards," J. A. May and W. H. Fulroth, <i>Service</i> (September) .....	1956
4012	"Effect of Temperature on the Spectral Distribution of Blue Emission Bands of ZnS:I and ZnS:Cu:I Phosphors," R. E. Shrader and S. Larach, <i>Phys. Rev.</i> (September 15) (Letter to the Editor) .....	1956
4013	"Simplified Theory of Space-Charge-Limited Currents in an Insulator with Traps," M. A. Lampert, <i>Phys. Rev.</i> (September 15) .....	1956
4014	"Circuitry Report on RCA 21-Inch Color-TV Chassis," J. A. May and W. H. Fulroth, <i>Service</i> (October) .....	1956
4015	"Discharge Mechanism of Mercury Pool Arcs," K. G. Hernqvist, <i>Jour. Appl. Phys.</i> (October) .....	1956
4016	"An Electronic Thermostat," F. Cohen, <i>Rad. and Tele. News</i> (October) .....	1956
4017	"Latest Developments in VHF Television Transmitters," F. E. Talmage, <i>Broadcast News</i> (October) .....	1956
4017a	"Nonuniform, Inhomogeneous & Anisotropic Waveguides," R. W. Klopfenstein, <i>Trans. I.R.E. PGMTT</i> (October) .....	1956
4018	"A New Ferrite Isolator," B. N. Enander, <i>Proc. I.R.E.</i> (October) .....	1956
4019	"Photoconductivity Speed of Response for High Intensity Excitation in Cadmium Sulfide and Selenide," R. H. Bube, <i>Jour. Appl. Phys.</i> (October) .....	1956
4020	"Quality Factor for Filters Whose Spectral Transmittances Are Different from Color Mixture Curves, and Its Application to Color Photography," H. E. J. Neugebauer, <i>Jour. Opt. Soc. Amer.</i> (October) .....	1956
4021	"Servicing RCA TV Portables," W. W. Cook, <i>Service</i> (October) .....	1956
4022	"1500 Milliampere Power Supply for Broadcast TV Use," R. T. Ross and J. W. Wentworth, <i>Broadcast News</i> (October) .....	1956
4023	"Energy Levels of a Disordered Alloy," R. H. Parmenter, <i>Phys. Rev.</i> (October 1) .....	1956
4024	"Multiband Luminescence in Boron Nitride," S. Larach and R. E. Shrader, <i>Phys. Rev.</i> (October 1) .....	1956
4025	"Automatic Machinery—Fertile Field for Designers," M. M. Bell, <i>NEC Alumnus</i> , Newark College of Engineering Alumni Association, Vol. 10, No. 1 (Fall) .....	1956
4025a	"The AF Anechoic Chambers at Cherry Hill," M. S. Corrington, R. L. Libbey, and S. V. Perry, <i>Trans. I.R.E. PGA</i> (November-December) .....	1956
4026	"Dielectric Constant of Barium Orthosilicate," C. P. Hadley, H. W. Kraner, and M. R. Royce, <i>Jour. Appl. Phys.</i> (November) (Letter to the Editor) .....	1956

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4027	"Lighting for Color Opaques on Television," H. N. Kozanowski, <i>Jour. S.M.P.T.E.</i> (November) .....	1956
4028	"Magnetic Properties of Zinc Sulfide Phosphors With Manganese Activator," S. Larach and J. Turkevich, <i>Jour. Phys. Chem.</i> (November) (Letter to the Editor) .....	1956
4029	"A New High-Gain Multiplier Phototube for Scintillation Counting," W. Widmaier, R. W. Engstrom and R. G. Stoudheimer, <i>Trans. I.R.E. PGNS</i> (November) .....	1956
4030	"Phonetic Typewriter," H. F. Olson and H. Belar, <i>Jour. Acous. Soc. Amer.</i> (November) .....	1956
4031	"Propagation Test on Microwave Communications Systems," H. R. Mathwich and Co-Authors, <i>Elec. Eng.</i> (November) .....	1956
4032	"RCA Developments in Worldwide Telecommunications," S. Sparks, <i>Wire and Radio Communications</i> (November) .....	1956
4033	"Some Problems Associated with Television AGC Circuits," L. P. Thomas, <i>RCA Rad. and Tele. Serv. News</i> (November) .....	1956
4034	"Speech Communications in Noise: Some Equipment Problems," M. E. Hawley, <i>Jour. Acous. Soc. Amer.</i> (November) .....	1956
4035	"Stereophonic Microphone Placement," J. Cunningham and R. O. Jordan, <i>Audio</i> (November) .....	1956
4036	"Tube Types for Audio Use," M. B. Knight, <i>Rad. and Tele. News</i> (November) .....	1956
4037	"The 'Universal' Voice-Control Circuit," L. O. Leigh, <i>QST</i> (November) .....	1956
4038	"Use of Junction Transistors in Computer Amplifiers," W. A. Curtin, <i>Elec. Eng.</i> (November) .....	1956
4039	"Thiourea, a New Ferroelectric," A. L. Solomon, <i>Phys. Rev.</i> (November 15) (Letter to the Editor) .....	1956
4040	"Analytical Approaches to Local Oscillator Stabilization," W. Y. Pan and D. J. Carlson, <i>RCA Review</i> (December) .....	1956
4041	"The Apparent Contact Potential of a Pseudo-Abrupt P-N Junction," H. Kroemer, <i>RCA Review</i> (December) .....	1956
4042	"Bigradient Uniaxial Microphone," H. F. Olson, J. Preston, and J. C. Bleazey, <i>RCA Review</i> (December) .....	1956
4043	"Camera Tubes for Color Television Broadcast Service," R. G. Neuhauser, <i>Jour. S.M.P.T.E.</i> (December) .....	1956
4044	"Contamination Gauge," E. O. Johnson, <i>Rev. Sci. Instr.</i> (December) (Notes) .....	1956
4045	"Conversion of Airborne HF Receiver-Transmitter from Double Sideband to Single Sideband," H. A. Robinson, <i>Proc. I.R.E.</i> (December) .....	1956
4046	"Electromechanical Filters for Single-Sideband Applications," D. L. Lundgren, <i>Proc. I.R.E.</i> (December) .....	1956
4047	"Key to Color TV Installation and Servicing," W. W. Cook, <i>Rad. and Tele. News</i> (December) .....	1956
4048	"Making the Microphone a More Versatile Acoustic Tool," R. M. Carrell and A. H. Lind, <i>Broadcast News</i> (December) .....	1956
4049	"A Method of Predicting the Coverage of a Television Station," D. W. Peterson and J. Epstein, <i>RCA Review</i> (December) .....	1956
4050	"A Miniature Vidicon of High Sensitivity," A. D. Cope, <i>RCA Review</i> (December) .....	1956
4051	"New Tubeless Convergence Circuit for RCA-21AXP22-A Color Kinescope," <i>RCA Application Note AN-168</i> , RCA Tube Division, Harrison, N. J. (December) .....	1956
4052	"Radio System Controls Railroad in Venezuela," B. Sheffield, <i>Electronics</i> (December) .....	1956
4053	"Reduction of Co-Channel Television Interference by Precise Frequency Control of Television Picture Carriers," W. L. Behrend, <i>RCA Review</i> (December) .....	1956
4054	"Replaceable Pole Tip Caps for CinemaScope Magnetic Reproduce Heads," M. Rettinger, <i>Jour. S.M.P.T.E.</i> (December) .....	1956

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4055	"Single-Sideband Operation for International Telegraph," E. D. Becken, <i>Proc. I.R.E.</i> (December) .....	1956
4056	"SSB Receiving and Transmitting Equipment for Point-to-Point Service on HF Radio Circuits," H. E. Goldstine, G. E. Hansell, and R. E. Schock, <i>Proc. I.R.E.</i> (December) .....	1956
4057	"Stability of Periodic-Field Beam Focusing," K. K. N. Chang, <i>Jour. Appl. Phys.</i> (December) .....	1956
4058	"Test Signal for Measuring 'On-The-Air' Color-Television System Performance," R. C. Kennedy, <i>RCA Review</i> (December) .....	1956
4059	"Transistorized Television Cameras Using the Miniature Vidicon," L. E. Flory, G. W. Gray, J. M. Morgan, and W. S. Pike, <i>RCA Review</i> (December) .....	1956
4060	"A Video Automatic-Gain-Control Amplifier," J. O. Schroeder, <i>RCA Review</i> (December) .....	1956
4061	"Video Switching for TV Broadcast Centers," E. B. Pores, <i>Electronics</i> (December) .....	1956
4062	"Viewing Storage Tubes for Large Displays," H. O. Hook, M. Knoll, and R. P. Stone, <i>RCA Review</i> (December) .....	1956
4063	"The World We Face," D. Sarnoff, <i>International Photographer</i> (December) .....	1956
4064	"200-Mw-Output Battery-Operated Phonograph Amplifier Using RCA-2N109 Junction Transistors," <i>RCA Application Note AN-169</i> , RCA Tube Division, Harrison, N. J. (December) .....	1956
4065	"Conduction Band Structure of Germanium-Silicon Alloys," M. Glicksman and S. M. Christian, <i>Phys. Rev.</i> (December 1) .....	1956
4065a	"A Long-Life C-Band Magnetron for Weather Radar Applications," W. F. Beltz and R. W. Kissinger, <i>Proceedings of the National Electronics Conference</i> , Vol. XI .....	1956
4066	<i>Mathematics for Electronics With Applications</i> , Henry M. Nodelman and Frederick W. Smith, Jr., McGraw-Hill Book Company, Inc., New York, New York .....	1956
4067	<i>The V.T.V.M. How it works. How to use it</i> , Rhys Samuel, Gernsback Library Book No. 57 .....	1956

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