IRE CUMULATIVE INDEX 1954-1958

Proceedings of the IRE

IRE Transactions

IRE National Convention Record

IRE WESCON Convention Record

IRE Student Quarterly



EDITORIAL DEPARTMENT

Alfred N. Goldsmith, Editor Emeritus J. D. Ryder, Editor E. K. Gannett, Managing Editor Helene Frischauer, Associate Editor

EDITORIAL BOARD

J. D. Ryder, Chairman

F. Hamburger, Jr., Vice Chairman

E. K. Gannett Keith Henney E. W. Herold T. A. Hunter G. K. Teal A. H. Waynick

Price: IRE Members \$2.50, Libraries \$4.80, Nonmembers \$6.00

Published by The Institute of Radio Engineers, Inc. I East 79th Street, New York 21, N.Y.

Copyright © 1960 by the Institute of Radio Engineers, Inc.

Table of Contents

Preface	iii
IRE Publications Issued During 1954-1958	١
Author Index	1
Subject Index	55
Abbreviations Used in This Index	77/64

Preface

This Index covers all technical papers and letters that have been published by the IRE during the five-year period 1954-1958. It provides a single, combined index to the following publications: Proceedings of the IRE, IRE Transactions (of twenty-six Professional Groups), IRE NATIONAL CONVENTION RECORD, IRE WESCON CONVENTION RECORD, and IRE STUDENT QUARTERLY.

The Index consists of two sections—an Author Index (page 1) and a Subject Index (page 55).

Author Index

The Author Index gives a full listing of the senior author and his co-authors, title of the paper or letter, and a publication code (explained further below) which indicates the name of the publication, page number, month, and year. The symbol (L) immediately follows the title if the item is a Letter to the Editor or its equivalent (such as Communication, Correspondence, Experimental Note, etc.).

In addition, each co-author has a separate listing which gives a cross reference to the senior author under whose name the full listing may be found.

Where an author has published more than one paper or letter, his listings are arranged in chronological order according to month and year of publication.

Subject Index

The Subject Index gives the name of the senior author, followed by a publication code (explained further below) which indicates the name of the publication, month, and year.

Further information concerning co-authors, complete title, whether a paper or a letter, and page number can be found by looking up the senior author in the author index. If the author in question has written several papers, the desired paper can be identified quickly by the publication code and by the fact that his paper will be listed chronologically.

Publication Code

A publication code is used in the Author Index which consists of 1) abbreviation of the name of the publication, 2) page number, 3) month, and 4) year. For example,

means that the article appeared in Proceedings of the IRE on page 1062 of the August, 1956, issue. The same code is used in the Subject Index, except that the page number is omitted.

The publication abbreviations used in the code are as follows:

- P for Proceedings of the IRE
- NCR for IRE NATIONAL CONVENTION RECORD WCR for IRE WESCON CONVENTION RECORD SQ for IRE STUDENT QUARTERLY
 T for IRE TRANSACTIONS of the Professional Groups.

(See inside front and back covers for more detailed information.)

Prior Cumulative Indexes

Cumulative Indexes for years prior to 1954 are available as follows:

1913-1942	Nonmembers	\$2.25
	Libraries	\$1.65
	Members	\$1.25.
1943-1947	Same as above.	
1948-1953	Nonmembers	\$3.00
	Libraries	\$2.40
	Members	\$1.25.

IRE PUBLICATIONS ISSUED DURING 1954-1958

A list of available publications, and their prices, can be obtained from the Institute of Radio Engineers, 1 East 79 Street, New York 21, N.Y.

are mangue of	. Radio Engineers, 1 East 79 Street, New	101K 21, N.1.
PROCEEDINGS OF THE IRE 1954 vol 42 monthly 1955 vol 43 monthly 1956 vol 44 monthly 1957 vol 45 monthly 1958 vol 46 monthly	T-AU: 1957 vol AU-5 Jan-Feb Mar-Apr May-Jun Jul-Aug Sep-Oct Nov- Dec T-AU: 1958 vol AU-6 Jan-Feb Mar-Apr May-Jun Jul-Aug Sep-Oct Nov- Dec	Engineering Management T-EM: 1954 PGEM-1,2 Feb Nov T-EM: 1955 PGEM-3 Mar T-EM: 1956 vol EM-3 Jan Apr Jul T-EM: 1957 vol EM-4 Mar Jun Sep Dec T-EM: 1958 vol EM-5 Mar Jun Sep Dec
IRE NATIONAL CONVENTION RECORD*	Automatic Control T-AC: 1956 PGAC-1 May T-AC: 1957 PGAC-2,3 Feb Nov T-AC: 1958 PGAC-4,5,6 Mar Jul Dec	Engineering Writing and Speech T-EWS: 1958 vol EWS-1 Mar Aug‡
1954 vol 2 parts 1–11 1955 vol 3 parts 1–10 1956 vol 4 parts 1–9 1957 vol 5 parts 1–10 1958 vol 6 parts 1–10	Broadcast and Television Receivers T-BTR: 1954 PGBTR-5,6,7,8 Jan Apr Jul Oct T-BTR: 1955 vol BTR-1 Jan Apr Jul Oct	Industrial Electronics T-IE: 1955 PGIE-2 Mar T-IE: 1956 PGIE-3 Mar T-IE: 1957 PGIE-4 Mar T-IE: 1958 PGIE-5,6,7 Apr May Aug
IRE WESCON CONVENTION RECORD	T-BTR: 1955 vol BTR-2 Apr Jul Oct T-BTR: 1957 vol BTR-3 Jun Oct T-BTR: 1958 vol BTR-4 Feb Mar Jun Sep	Information Theory T-IT: 1954 PGIT-3,4 Mar Sep T-IT: 1955 vol IT-1 Mar Sep Dec
1957 vol 1 parts 1–10 1958 vol 2 parts 1–9	Broadcast Transmission Systems T-BTS: 1955 PGBTS-1,2 Mar Dec T-BTS: 1956 PGBTS-3,4,5,6 Jan Mar Sep	T-IT: 1956 vol IT-2 Mar Jun Sep Dec T-IT: 1957 vol IT-3 Mar Jun Sep Dec T-IT: 1958 vol IT-4 Mar Jun Sep Dec
IRE STUDENT QUARTERLY 1954–1955 vol 1 Sept Dec Feb May	Oct T-BTS: 1957 PGBTS-7,8,9 Feb Jun Dec T-BTS: 1958 PGBTS-10,11,12 Jun Sep	Instrumentation T-I: 1954 PGI-3 Apr
1955-1956 vol 2 Sept Dec Feb May 1956-1957 vol 3 Sept Dec Feb May 1957-1958 vol 4 Sept Dec Feb May 1958 vol 5 Sept Dec	Dec Circuit Theory	T-I: 1955 PGI-4 Oct T-I: 1956 PGI-5 Jun T-I: 1957 vol I-6 Mar Jun Dec T-I: 1958 vol I-7 Mar Jun Dec
IRE TRANSACTIONS	T-CT: 1954 vol CT-1 Mar Jun Sep Dec T-CT: 1955 vol CT-2 Mar Jun Sep Dec T-CT: 1956 vol CT-3 Mar Jun Sep Dec	Medical Electronics
Aeronautical and Navigational Electronics T-ANE: 1954 vol ANE-1 Mar Jun Sep	T-CT: 1957 vol CT-4 Mar Jun Sep Dec T-CT: 1958 vol CT-5 Mar Jun Sep Dec	T-ME: 1955 PGME-2,3 Oct Nov T-ME: 1956 PGME-4,5,6,7 Feb Jul Oct Dec
T-ANE: 1955 vol ANE-2 Mar Jun Sep Dec	Communications Systems T-CS: 1954 vol CS-2 Jan Jul Nov T-CS: 1955 vol CS-3 Mar	T-ME: 1957 PGME-8,9 Jul Dec T-ME: 1958 PGME-10,11,12 Mar Jul Dec
T-ANE: 1956 vol ANE-3 Mar Jun Sep Dec T-ANE: 1957 vol ANE-4 Mar Jun Sep	T-CS: 1956 vol CS-4 Mar May Oct T-CS: 1956 vol CS-5 Mar Sep Dec T-CS: 1958 vol CS-6 Jun Dec	Microwave Theory and Techniques T-MTT: 1954 vol MTT-2 Apr Jul Sep T-MTT: 1955 vol MTT-3 Jan Mar Apr
Dec T-ANE: 1958 vol ANE-5 Mar Jun Sep Dec	Component Parts	Jul Oct Dec T-MTT: 1956 vol MTT-4 Jan Apr Jul Oct
Antennas and Propagation T-AP: 1954 vol AP-2 Jan Apr Jul Oct	T-CP: 1954 PGCP-1,2 Mar Sep T-CP: 1955 PGCP-3,4 Apr Nov T-CP: 1956 vol CP-3 Mar Sep Dec	T-MTT: 1957 vol MTT-5 Jan Apr Jul Oct T-MTT: 1958 vol MTT-6 Jan Apr Jul
T-AP: 1955 vol AP-3 Jan Apr Jul Oct T-AP: 1956 vol AP-4 Jan Apr Jul Oct T-AP: 1957 vol AP-5 Jan Apr Jul Oct	T-CP: 1957 vol CP-4 Mar Jun Sep Dec T-CP: 1958 vol CP-5 Mar Jun Sep Dec	Oct Military Electronics
T-AP: 1958 vol AP-6 Jan Apr Jul Oct Audio	T-E: 1958 vol E-1 Mar Jun Sep Dec	T-M1L: 1957 vol MIL-1 Mar Dec T-MIL: 1958 vol MIL-2 Dec
T-AU: 1954 vol AU-2 Jan-Feb Mar-Apr May-Jun Jul-Aug Sep-Oct Nov- Dec	Electron Devices T-ED: 1954 vol ED-1 Feb Apr Aug Dec T-ED: 1955 vol ED-2 Jan Apr Jul Oct	Nuclear Science T-NS: 1954 vol NS-1 Sep
T-AU: 1955 vol AU-3 Jan-Feb Mar-Apr May-Jun Jul-Aug Sep-Oct Nov- Dec	T-ED: 1956 vol ED-3 Jan Apr Jul Oct T-ED: 1957 vol ED-4 Jan Apr Jul Oct T-ED: 1958 vol ED-5 Jan Apr Jul Oct	T-NS: 1955 vol NS-2 Jun T-NS: 1956 vol NS-3 Feb Mar Jun Nov T-NS: 1957 vol NS-4 Mar Dec T-NS: 1958 vol NS-5 Jun Aug Dec
T-AU: 1956 vol AU-4 Jan-Feb Mar-Apr May-Jun Jul-Aug Sep-Oct Nov- Dec	Lilectronic Computers T-EC: 1954 vol EC-3 Mar Jun Sep Dec T-EC: 1955 vol EC-4 Mar Jun Sep Dec	Production Techniques T-PT: 1956 PGPT-1 Sep
* Prior to 1957, the title was IRE CONVENTION RECORD. † Prior to mid-1955, all Transactions were titled Transactions of the IRE Professional Group on ———.	T-EC: 1956 vol EC-5 Mar Jun Sep Dec T-EC: 1957 vol EC-6 Mar Jun Sep Dec T-EC: 1958 vol EC-7 Mar Jun Sep Dec	T-PT: 1957 PGPT-2 Apr T-PT: 1958 PGPT-3 Apr ‡ August issue erroneously labeled vol. EWS-2.

Reliability and Quality Control

§T-RQC: 1954 PGQC-3,4 Feb Dec

T-RQC: 1955 PGRQC-5 Apr

T-RQC: 1956 PGRQC-6,7,8 Feb Apr Scp T-RQC: 1957 PGRQC-9,10,11,12 Jan Jun

Aug Nov

T-RQC: 1958 PGRQC-13,14,15 Jul Sep

Dec

§ Formerly T-QC; now T-RQC.

Telemetry and Remote Control

||T-TRC: 1954 PGRTRC-1,2 Aug Nov

T-TRC: 1955 vol TRC-1 Feb May Aug T-TRC: 1956 vol TRC-2 Mar T-TRC: 1957 vol TRC-3 Apr May Dec T-TRC: 1958 vol TRC-4 Jun

Ultrasonics Engineering T-UE: 1954 PGUE-1,2 Jun Nov

|| Formerly T-RTRC; now T-TRC.

T-UE: 1955 PGUE-3 May

T-UE: 1956 PGUE-4, Aug T-UE: 1957 PGUE-5,6 Aug Dec

Vehicular Communications

T-VC: 1954 PGVC-4 Jun T-VC: 1955 PGVC-5, Jun

T-VC: 1956 PGVC-6,7 Jul Dec

T-VC: 1957 PGVC-8.9 May Jun T-VC: 1958 PGVC-10,11 Apr Jul

1.3

Author Index

-A-

Aagaard JS , An Improved method for the measurement of nonlinear audio distortion. T-AU 121 Nov-Dec 58

Aamodt T and Harvey FK, Large area microphones for distant pickup use (abstract). NCR 3 Pt6 54 Aaron MR, The use of least squares in system design. T-CT 224 Dec 56

Aron MR and Segers RG , A necessary and sufficient condition for a bounded nondecreasing step response.(L) T-CT 226 Sep 58 Aarons J, Antenna and receiver measurements by solar and cosmic noise. P 810 May 54 Aarons J, Darron WR and Castelli JP , Radio astronomy measurements at VHF and microwaves . P 325 Jan 58

Abbas SA and Critchlow DL, Calculation of flux patterns

Abbas SA and Criticillow DL, Calculation of flux patterns in ferrite multipath structures. NCR 263 Pt4 58
Abbott HW and Suran JJ, Temperature characteristics of the transfluxor. T-ED 113 Apr 57
Abbott HW and Suran JJ, Multihole ferrite core configurations and applications. P 1081 Aun 57
Abboud FL, The transistor and the circuit application engineer. T-EDTR 51 Sep 58
Abbet E. Schadber C. Schadber C.

Abel F. See Adams GJ
Abel RL, Mobile radio doesn't cost, it pays.
T-VC 47 May 57
Abel WG, deBettencourt JT, Chisholm JH and Roche JF, Abel WG, deBettencourt JT, Chisholm JH and Roche JF, Investigations of scattering and multipath properties of ionospheric propagation at radio frequencies exceeding the MUF. P 1255 Oct 55

Abhyanker S, Minimal sun of products of sums expressions of Boolean functions. T-EC 268 Dec 58

Abraham RP, A wide-band transistor feedback amplifier. WCR 10 Pt2 57

Abrahams IC, Choice of chrominance subcarrier frequency in the NTSC standards. P 79 Jan 54

Abrahams IC, The frequency interleaving principle in the NTSC standards. P 81 Jan 54

NTSC standards. P 81 Jan 54
Abramson N, The application of comparison of experiments to detection problems. NCR 22 Pt4 58
Acheson MA, Electron tube life and reliability—built-in reliability. T-RQC 33 Apr 56
Acheson MA, The unreliable universal component.
T-RQC 49 Jan 57
Acheson MA and Herrold GV, The AQL myth.
WCR 92 Pt10 57

Acheson MA. The whole Is not the sum of its parts. SQ 26 Feb 58

SQ 26 Feb 58

Ackerlind E, See Dilworth RP

Ackerlind E, See Dunundil J

Ackerman E and Lombard DB, Ultrasonic destruction of crythrocytes. NCR 100 Pt9 55

Ackerman E and Proctor TF, Surface resonances of bubbles and biological cells. NCR 45 Pt9 56

Adam HR, International planning of global communications for aviation. T-CS 67 Nov 54

Adams E, See Hubbard VM

Adams GD, Problems in dosimetry of X-radiation. WCR 7 Pt9 57

Adams GJ, Alford A, Leach HH, Rubin R, and Abel F.

Adams GJ, Alford A, Leach HH, Rubin R and Abel F, Antenna system for station WOR-TV channel 9, in-stalled on the Empire State Building in New York City. NCR 65 Pt7 54 Adams PH, Some problems a

City. NCR 65 Pt7 54
Adams PH, Some problems associated with the charging of dry batteries. T-CP 76 Jun 58
Adams RT, Magnetostriction resonators as circuit elements (abstract). NCR 88 Pt3 55
Adams RT, Havstad H, Pollack L and Sichak W. A broadband over-the-hor-zon link for Florida to Cuba. T-CS Jun 58

Adams RT, New magnetostriction filters for the MF band. NCR 43 Pt9 57

NCR 43 Pt9 57
Adams RT and Mindes BM, Evaluation of IF and baseband diversity combining receivers. T-CS 8 Jun 58
Adams RT and Mindes BM, Evaluation of IF and baseband diversity combining receivers (abstract).
NCR 291 Pt8 58

Adcock WA, Jones ME, Thomhill JW and Jackson ED, Silicon transistor.(L) P 1192 Jul 54

Silicon transistor.(L) P 1192 Jul 54
Addock WA, See Cornelison B
Addock WA, See Stewart RF
Addison A, Selecting research and development personnel
for a small laboratory. T-EM 43 Jun 57
Addison A, Maintaining the research and development
personnel in a small laboratory. T-EM 46 Jun 57
Adler FP and Felker JH, Figure of merit for communication devices.(L) P 1191 Jul 54
Adler FP, Minmum energy cost of an observation.
T-IT 28 Dec 55
Adler R and Heuer C, Color decoder simplifications based
on a beam deflection tube. T-BTR 64 Jan 54
Adler R, Kromhout OM and Clavier PA, Resonant behavior of electron beams in periodically focused tubes
for transverse signal fields. P 339 Mar 55

Adler R, Kromhout OM and Clavier PA, Tranverse-field traveling-wave tubes with periodic electrostatic focusing. P 82 Jan 56

Adler R., Desmares P and Spracklen J., An ultra-sonic remote control for home receivers. T-BTR 8 Jun 57

T-BTR 8 Jun 57

Adler R, Parametric amplification of the fast electron wave. (L) P 1300 Jun 58

Adler R, Hrbek G and Wade G, A low-noise electron-beam parametric amplifier. (L) P 1756 Oct 58

Adler R, Sew Ellett A

Adler RB and Fricker SJ, Notes on the flow of scheduled wir traffic. T-ANE 22 Jun 55

Adler RB and Haus HA, Network realization of optimum mynifier noise performance. T-CT 156 Sep 58

Adler RB See Huse HA

Andur B and Tomner S, Research and new development of the Stronhotron. WCR 19 P10 57

Ala R and Grace FC. A diode matrix vertical interval

Aha R and Grace FC, A diode matrix vertical interval video switcher. T-BTS 11 Dec 58
Aharoni A, Frei EH and Shtrikman S, The switching time of the cryotron (L) P 780 Apr 58
Ahlert RH, See Rittner ES

Aid DG , Balding GH and Sussking C, Topological transformations by electronic scanning techniques.
T-I 121 Jun 58

Alken WR , A tii n cathode-ray tube , P 1599 Dec 57 Aisenstein SM, A history of some foundations of modern radio-electronic technology (L) P 780 Apr 58

Aiya SV, Atmospheric noise Interference to short-wave broadcasting. P 580 Mar 58

Alya SV., Noise power radiated by tropical thunder-storms. P 966 Aug 55 Arya SV. Atmospheric noise interference to short-wave broadcasting. P 580 Mar 58

Aiya SV, Atmospheric noise interference to medium wave broadcasting, P 1502 Aug 58
Ajioka JS, A microwave phase contour plotter,
P 1088 Sep 55

Akabane K, A polarimeter in the microwave region . P 194 Jan 58

P 194 Jan 58
Akers F and Kear FG, Instrument landing at sea.
T-ML 36 Dec 57
Albanese VJ and Peyser WP, An analysis of a broad-band coaxial hybrid ring. T-MTT 369 Gct 58
Albertson JN, The communications engineer's role in American railroading. T-VC 6 Jun 55
Albin AL and Sachs HM, The reduction of radio interference approaches.

American railroading. T-VC 6 Jun 55
Albin AL and Sachs HM, The reduction of radio interference in aeronautical communications systems.
T-CS 107 May 56
Albin AL and Pearlston CB Jr, Measurement of spurious radiation from missile-borne electronic equipment.
NCR 155 Pt8 58
Albright WG, See Ghose RN
Albrook RL, A balanced perspective. SQ 14 May 57
Albins JS. See Kraus JD
Aldrich JJ, See Williams DC
Aldrich RW and Lesk IA, The double-base diode: a semi-conductor diviation analog. T-ED 24 Feb 54
Aldrich RW and Bolonyak N, Multiterminal p-n-p-n switches. P 1236 Jun 58
Aldrich RW, Lanzi RH, Maxwell DE, Percival JO and Waldner M. An 85-watt dissipation silicon power transistor. T-ED 211 Oct 58
Aldridge CA, A new semiconductor device.
NCR 32 Pt3 57
Aldridne CA, See Stern AP
Alessio S, See Tellefsen H
Alexander NE and Glick DP, Automatic counting of bacterial cultures—a new machine. T-ME 89 Dec 58
Alexander SN, See Leiner AL
Alford A and Sprague RM, A four slot cylindrical antenna for VOR service. NCR 12 Pt1 54
Alford A and Sprague RM, A four slot cylindrical antenna for VOR service. NCR 12 Pt1 54
Alford A and Sprague RM, A four slot cylindrical antenna for VOR service. NCR 12 Pt1 54
Alford A and Sprague RM, A four slot cylindrical antenna for VOR service. NCR 12 Pt1 54
Alford A and Sprague RM, A four slot cylindrical antenna for VOR service. NCR 12 Pt1 54
Alford A and Sprague RM, A four slot cylindrical antenna evision breadcast transmission using a slotted ring antenna. NCR 87 Pt7 56

evision broadcast transmission using a slotted ring

evision broadcast transmission using a slotted ring antenna. NCR 87 Pt7 56
Alford A., See Wattr CD Jr
Alford A., See Adams GJ
Alford A. See Adams GJ
Alford H. and Romell D., A new electron tube: the strophotron. P 1239 Aug 54
Allaire RP., A vertical inconel furnace for experimental laboratories. T-ED 72 Feb 54
Alldredge LR., Microwave tanders slit diffraction.
T-AP 578 Jul 56
Alldredge LR., Diffraction of microwaves by tandem slits.
T-AP 640 Oct 56
Allon EW. The Organization and functions of the

Affen EW, The Organization and functions of the C.C.I.R. T-CS 26 Nov 54, P.Feb 55 Allen EW, FCC rules and propagation data. NCR 116 Pt1 54

Allen EW, The Seventli Plenary Assembly of the Inter-national Padio Consultative Computers P 132 Feb 55

Allen EW, M sual problems in indistrial electronics and communications. T-IE 1 Mar 55
Allen EW, The occurrence of E and F skip in the 30-50 mc mobile band. T-VC 39 Jul 56
Allen EW and Watkins WH, Current procedures in radio fremency allecation. T-VC 16 Apr 53
Allen J, Powell H, Arndt L and Lambert JS, Contract implications of military electronics reliability requirements. WCR 32 Pt 52
Allen JE, Beat between sound carrier and color signal components in a television receiver. T-BTR 71 Jan 54
Allen JS and Mould LR, High o stock multiplier tubes with accelerator orids. T-NS 112 Nov 56
Allen MS and Dunbar NR, Evaluation of etched circuit boards from the standpoint of vibration by static loading. WCR 137 Pt6 57
Allen PJ. The trinstile circulator. T-MTT 223 Oct 56

Allen PJ. The tinistile circulator. T-MTT 223 Oct 56 Allen PS. The FURIAC. SQ 2 May 57 Allen TL and Packard ME. The Varian free precession inagnetometer. WCR 38 Pt9 57 Allison WM. Short time ratings for paper capacitors (abstract). T-CP 4 Sep 54

Allinon EC. A central facility for processing engineering test data. T-I 66 Jim 56 Allred CM. See Hidson PA Allwine HS, See Ramberg EG

Alman J, Phipps P and Wilson D, Gircuit design employing a digital computer to attain longest mean time to failure. NCR 115 Pt4 57

NCR 115 Pt4 57

Alrich JC, Engineering description of the electro-data digital computer. T-EC 1 Mar 55

Alshern DA, Transistor metrology. T-EO 12 Aug 54

Alshern DA, 6-kmc sweep oscillator. T-1 32 Oct 55

Alstadter D and Houseman EO Jr, Some notes on strip transmission line and waveguide multiplexers.

WCR 54 Pt1 58

WCR 54 Pt.1 58
Altensolil D., Improvements in the field of electrolytic capacitors. NCR 35 Pt.3 54
Altes SK and Stern AP, Single-quin picture tubes in NTSC color television. NCR 46 Pt.7 54
Altes SK, Determination of the optimum demodulation andes in color receivers. NCR 165 Pt.7 55
Altes SK, The optimum relative phosphor efficiencies. NCR 90 Pt.3 56

Altes SK, A synchronous detector using a harmonic pair switching wave. T-BTR 88 Mar 58
Althaus EJ, Morrison SC and Tate WR, A method of testing and evaluation of complex mussile systems. NCR 23 Pt11 54

Altman FJ and Nail JJ, UHF diversity system for long-range ship-to-air communication. NCR 78 Pt8 54 Altman FJ, Gray RE, Kandolan AG and Sichak W, 900-mc PTM over-the-horizon radio link. T-MTT 22 Dec 55

Altman FJ and Sichak W, A simplified diversity communication system for beyond-the-horizon links.

action system for beyond-the-horizon links.

T-CS 50 Mar 56

Altman JL, A technique for stabilizing microwave oscillators. T-MTT 16 Jul 54

Altschuler HM and Oliner AA, Microwave measurements with a lossy variable short circuit (summary).

NCR 113 Pt8 54

Altschuler HM , A method of measuring dissipative four-poles based on a modified Wheeler network . T-MTT 30 Jan 55

Altschuler HM and Oliner AA, A shant technique for micro-wave measurements. T-MTT 24 Jul 55 Altschuler HM, Maximum efficiency of four-terminal networks.(L) P 1016 Aug 55

Altschuler HM. Representation and measurement of a cissipative four-pole by means of a modified Wheeler network. T-1 84 Oct 55, T-MTT Jan 55

Altschuler HM and Kahn WK, Nonreciprocal two-ports represented by modified Wheeler networks.

T-MTT 228 Oct 56

Altschuler HM, Nonreclprocal two-port measurement based on an averaging technique (L) P 1293 Sep 57 Amann J, Unionization of engineers—I. T-EM 113 Dec 57

Amatrick E., Measurement of bioelectric potentials with incroelectrodes and neutralized input capacity amplifiers. T-ME 3 Mar 58

Amber GH, Resonance-probability and entropy-evolution relationships.(L.) P 1962 Dec 58
Amber GH and Amber PS, Oberation research for computer control (L.) T-AC 122 Dec 53
Amber PS, See Amber GH
Amdursky ME, Polit RG and Szegho CS, A new high-efficiency parallax mask color tube. P 936 Aug 55, NCR 66 Pt3 55

Amemiya H., Aidio amplifiers.(L) P 1193 Jul 54

Ament WS and Katzin M., Signal fluctuations in the long-rating overwater propagation. T-CS 118 Mar 56 Ament WS., Forward and back-scattering from certain rough surfaces. T-AP 369 Jul 56 Ament WS. See Rimowalt DL Ames LA., Newman P and Rogers TF., VHF tropospheric overwater measurements far beyond the radio horizon. P 1369 Oct 55 Ames LA and Rogers TF. Available bandwidth in 200-mile VHF tropospheric propagation. (L) T-AP 217 Oct 55 Ames LA, Martin EJ and Rogers TF, Long distance VHF-UHF tropospheric field strengths and certain of their implications for radio communications (abstract). T-CS 102 Mar 56 Ames LA. See Rogers TF Amico GV, Synthetic training for space flight. NCR 49 Pt10 55 Ammerman CR, See Riddle RL
Amos B and Ourk C, Factors affecting the correlation of
TV picture quality between field and laboratory signals. T-BTR 2 Apr 54
Ancker CJ Jr, Airborne direction finding—the theory of navigation errors. T-ANE 199 Dec 58
Ancker-Johnson B and Rowley JJ, Mixed gamets for non-reciprocal devices at low microwave frequencies (L) P 1421 Jul 58 P 1421 Jul 30
Andersen H, See Snyder R
Anderson AE, See Carpenter CP
Anderson AG, see Rosenleim DE
Anderson BH, See Herrick JF
Anderson CT, See Price VG
Anderson DB, A microwave technique to reduce platform
motion and scanning noise in airborne moving-target
radar. WCR 202 Pt1 58 Anderson EC, In vivo gamma measurements at very low levels with 4 liquid scintillation detectors. T-NS 96 Nov 56 Anderson EC and Van Dilla MA, Low-level gamma ray detection in humans. T-NS 194 Dec 58

Anderson EI, NTSC ad hoc committee on amateur-color TV interference. T-BTR 36 Apr 54

Anderson GF, The AN/AKT-14 telemetry system: Part VI—PWM and FM/FM automatic data reduction with AKT-14 telemetering components. T-TRC 17 Mar 56 Anderson GW, Aseltine JA, Mancini AR and Sarture CW, A self-adjusting system for optimum dynamic perform-ance. NCR 182 Ptc 58 Anderson JR, A new type of ferroelectric shift register. T-EC 184 Dec 56 Anderson JR , See Purl OT
Anderson JR , See Purl OT
Anderson JS , The role of telecommunication in air
transport . T-CS 20 May 56
Anderson LE , A3-vdleon color television camera for
live pickup . NCR 39 Pt7 56 Ilve pickup. NCR 39 Pt7 56
Anderson LJ and Gossard EE, Prediction of oceanic duct propagation from climatological data.
T-AP 163 Oct 55
Anderson LJ, Symposium on present and future uses of refractive index data for radio propagation purposes.
(L) T-AP 147 Jan 57
Auderson LJ and Trolese LG, Simplified method for compiting knife edge diffraction in the shadow region
T-AP 281 Jul 58
Anderson LJ, See Gossard FF Anderson LJ, See Gossard EE Anderson LJ, See Trolese LG Anderson LK and Hendry A, An Investigation of the properties of germanium mixer crystals at low temperatures. T-MTT 393 Oct 58 T-MTT 393 Oct 58

Anderson OA and Pyle RV, Neutron production in a linear pinch. NCR 19 Pt9 50

Anderson RE, Dorrenbacher J, Krausz R and Margerum DL, A multiple telemetering antenna system for supersonic aircraft. T-AP 173 Oct 55

Anderson RJ. See Parker CF

Anderson RJ. Practical dielectric-filled waveguide.
T-MTT 82 Mar 55 Anderson TN, Double-ridge waveguide for commercial air-lines weather radar installation. T-MTT 2 Jul 55 Anderson TN , Double-ridge waveguide .(L) T-MTT 54 Jan 56 Anderson TN, Rectangle and ridge waveguide. T-MTT 217 Jul 57

Angel AM, A very high speed punched paper tape reader. WCR 218 Pt4 57 Angel KW, Vacuum-tube requirements in vertical-deflec-tion circuits. T-BTR 3 Sep 58 Angelakos DJ, A coaxial line filled with two non-con-centric dielectrics. T-MTT 39 Jul 54

Anderson TN, Miniature waveguide flanges unpressurized contact type (L) T-MTT 162 Apr 57
Anderson WG, The accuracy of the VHF omni-range system of aircraft navigation a statistical study.
T-ANE 25 Mar 55 T-ANE 25 Mar 55
Andreasen MG, Back-scattering cross section of a thIn dielectric spherical shell. T-AP 267 Jul 57
Andreasen MG, Radiation from a radial dipole through a thin dielectric spherical shell. T-AP 337 Oct 57
Andreatch P, See Thurston RN
Andres RJ and Steele EL, A medium power silicon rectifier. WCR 73 Pt3 57
Andrews AW, A study of present shipboard antenna systems and suggestions for their improvement and simplification. T-CS 47 Mar 55
Angel AM, A very high speed punched paper tape

AUTHOR INDEX Angelakos DJ, Maasurements and components for rectangelar multimode waveguides. T-I 1 Oct 55 Angelakos DJ and Korman MM, Radiation from ferrite-filled apertures. P 1463 Oct 56 Angell JB, Wide-band amplification with surface-barrier transistors. NCR 15 Pt7 54 Angell JB, Wide-band amplification with si transistors. NCR 15 Pt7 54 Annell JB. See Thornton CG Angello SJ, Scanning the transistor issue. P 949 Jun 58 Angello SJ, Review of other semiconductor devices . P 968 Jum 50 Angelo EJ Jr, Learning and teaching processes in electri-cal engineering education. T-E 84 Sep 58 Anner HO, See Mortimer RK Angulo CM, Diffraction of surface waves by a semi-Angulo CM, Diffraction of surface waves by a semi-infunite dielectric slab. T-AP 585 J-II 56 Angulo CM, Discontinuities In a rectangular waveguide partially filled with dielectric. T-MTT 68 Jan 57 Angulo CM, Diffraction of surface waves by a semi-infinite dielectric slab. T-AP 100 Jan 57 Angulo CM, Application of Raleigh-Ritz method of dielectric steps in waveguides.(L) T-MTT 268 Oct 57 Angulo CM and Chang WSC , The excitation of a dielectric rod by a cylindrical waveguide . T-MTT 389 Oct 58 Angus AC , An audio console designed for the future T-BTS 11 Sep 58 Anouchi AY and Palmer WF, Randomly-selected transis-tor output pairs. WCR 27 Pt2 57 Anouchi AY, Measuring noise figures of transistor amplifiers (L) P 619 Mar 58
Ansell HG P 640 Mar 58
T-CT 143 Jun 58 Ansley AC, A small three-dimensional printed-wiring module. T-PT 26 Apr 58

Antes LL, Progress in cadmium sulfide.
T-CP 129 Dec 57 Anthony DJ, New apparatus and techniques of air traffic control data handling and display.

NCR 55 Pt10 55 Antinori A , See Clara JM
Antinori A , See Clara JM
Anton N and Youdin M , Some new aspects of nuclear instrumentation in industrial electronics .
T-IE 51 Apr 58 Antonucci P, Israel JO, Mechline EB and Merrill FG, A portable frequency standard for navigation. T-I 116 Oct 55 Apelbaum JH., The application of a demountable diode to the study and control of thoria cathodes.

T-ED 71 Feb 54 I -EU /I Feb 54
Appelbarm JH, See Cronin LJ
Applegarth AR, A new airborne DME interrogator designed
for stable operation and ease of maintenance
T-ANE 10 Dec 54 I-ANE 10 Dec 54

Arams FR, Traveling-wave tube system having multiplied gain (L) P 102 Jan 55

Arams FR and Jenny HK, Wide-range electronic tuning
of microwave cavities. P 1102 Sep 55

Arams FR and Krayer G, Design considerations for circular
maser systems (L) P 912 May 58 maser systems.(L) P 912 May 58

Arams FR, See McWhorter AL

Arant GW, A time-sequential tabular analysis of flip-flop logical operation. T-EC 72 Jun 57

Aravanis C, See Luisada AA

Arcand T, Cohen SG and Lebid J, Digital alrhome tane recording. WCR 168 Pt5 58

Archbald RW, McNelli JP and Schutzman E, A multidecade lonarithmic sweep. T-I 118 Jun 58

Archter DH, See Peeler GDM

Arditi M, Characteristics and application of microstrip for microwave wiring. T-MTT 31 Mar 55

Arditl M and Carver TR, A gas cell atomic clock using optical pumping and optical detection. NCR 3 Pt1 58

Archer DL. Ultrasonic delay lines. NCR 63 Pt6 54 Arenberg DL , Ultrasonic delay lines . NCR 63 Pt6 54 Arenberg DL , Dispersion of high-frequency elastic waves in thin plates .(L) P 1965 Dec 58 thun plates.(L) P 1965 Dec 58

Arenberg DL, Measurements in delay in ultrasonic systems. NCR 121 P12 58

Arens R, Complex processes for envelopes of normal noise. T-IT 204 Sep 57

Armata EJ. See Kintner PM

Armata EJ. See Kintner PM

Armistead MA, Spencer EG and Hatcher RD, Microwave semiconductor switch.(L) P 1875 Dec 56

Armstrong DB and Reza FM, Synthesis of transfer functions by active RC networks with feedback loops. T-CT 8 Jun 54

Armstrong HL, Note on the use of Tchebycheff functions Armstrong HL, Note on the use of Tchebycheff functions in dealing with iterated networks. T-CT 169 Jun 55 Armstrong HL, Metz ED and Weiman I, Design theory and experiments for abrupt hemispherical p-n junction diodes. T-ED 86 Apr 56

Armstrong HL , A matric representation of the geometrically tapered chain of four-terminal networks .

T-CT 136 Jim 56

T-CT 136 Jim 56

Amstrong HL, A treatment of cascaded active four-terminal networks with application to transistor circuits. T-CT 138 Jim 56

Amstrong HL, Comment on a matrix treatment of an electron beam problem (L) T-ED 206 Oct 56

Amstrong HL, A theory of voltage breakdown of cylindrical p-n junctions, with applications.

T-ED 15 Jan 57

Armstrong HL, On the switching transient in the forward conduction of semiconductor diodes. T-ED 111 Apr 57

Armstrong HL , On the tail in the transient behavior of point-contast diodes (L) P 696 May 57 Armstrong HL , Alternatives to cathode blas for vacuum tubes (L) P 1011 Jul 57 Armstrong HL, On finding an orthonormal basis for re-presenting transients. (L) T-CT 286 Sep 57 Amstrong HL , On the forward characteristic of semi-conductor diodes (L) P 361 Jan 58 conductor diodes (L) P 361 Jan 58

Armstrong HL, On the measurement of small changes in the resonant frequency of circuits (L) T-1 99 Mar 58

Armstrong HL, Some reasons for nonsaturation of reverse current in junction diodes. T-ED 66 Apr 58

Armstrong HL, Comment on the matrix representation of two-port networks (L) T-CT 147 Jun 58

Armstrong HL, On junctions between semiconductors having different energy gars (L) P 1207 Jun 58

Armstrong HL, Networks of fixed and variable resistors (L) P 1541 Aun 58 P 1541 Aug 58 P 1541 Aug 58
Amstrong HL, On the need for revision in transistor terminolony and notation.(L) P 1949 Dec 58
Amstrong LD and Jenny DA, Behavlor of germanlum-junction transistors at elevated temperatures and power -transistor design. P 527 Mar 54
Amstrong OE, How to write your resume.
SQ 36 May 57
Arndt L, See Allen J
Amerit HD and Keyser BH. A demountable our tester Arndt L, See Allen J
Amett HD and Keyser RH, A demountable gun tester
which can be baked out. T-ED 71 Feb 54
Arnold JB, The effect of maintenance on reliability of
complex mulitary electronic equipment.
NCR 3 Pt3 54 Arnold WO and Hoefle RR, A system plan for air traffic control embodylng the cursor-coordinated display. T-ANE 14 Jun 55 T-ANE 14 Jun 55

Arnstein PB, A note on frequency distribution of an FM/FM signal. T-TRC 13 May 57

Aronow S and Brownell GL, An apparatus for brain tumor localization using positron emitting radioactive Isotopes. NCR 8 Pt9 56 Artman JO, Microwave resonance relations in anisotropic Artman JO, Microwave resonance relations in anisotropi single crystal ferrites. P 1284 Oct 56 Artz CA, See Calcut RC Artzt M, See Morgan AR Artzt M, See Olson HF Aseltine JA and Favreau RR, Welghting functions for time-varying feedback systems. P 15559 Oct 54, NCR 52 Pt2 54 NCR 52 Pt2 54

Aseltine JA, Feedback system synthesis by the inverse root-locus method. NCR 13 Pt2 56

Aseltine JA, Mancini AR and Sarture CW, A survey of adative control systems. T-AC 102 Dcc 58

Aseltine JA, See Anderson GW

Ashbrook JM, See Spanos WM

Ashcroft DL. See Thaler S

Ashlenhurst RL. See Metropolis N

Ashkin A, Bridges TJ, Louisell WH and Quate CF, Parametric electron beam amplifiers. WCR 13 Pt3 58

Ashley AH, A five microsecond memory for UDOFT computer. WCR 263 Pt4 57 puter. WCR 263 Pt4 57
Ashton NL, See Emberson RM
Ashwell J, Cole EB, Pratt A and Sartorio D, High altitude breakdown phenomena. NCR 72 Pt1 57
Asimov I, The by-product of science fiction.
SQ 26 Dec 56 Astin AV, Standards and measurements for electonics. T-I 134 Dec 58 T-I 134 Dec 58
Astrahan MM and Walters LR, Marginal checking and maintenance programmino. T-EC 233 Dec 56
Ataka H, A series laminated conductor for high frequencies. P 1527 Oct 54
Atkin J, Bickel HJ and Weiss MR, A realistic radar clutter simulator. NCR 71 Pt8 57
Atkin J, See Walter CM
Atkinson Jr. See Dodrill GE
Atran L, Analysis of a nonlinear control system for stabilizing a missile. T-AC 8 Nov 57
Atti E. High transconductance wideband television our Atti E., High transconductance wideband television gun. NCR 3 Pt3 58 Attride W., See Gruenwald GD Awood WL, Industrial punch card automatic control development. NCR 63 Pt10 54 development. NCR 63 Pt10 54
Auerbach IL. Systems engineering. WCR 62 Pt10 57
Auerbach IL. Numbering systems. SQ 7 Sep 58
Aufenkamp DD and Holin FE, Analysis of sequential
machines. T-EC 246 Dec 57
Aufenkamp DD, Analysis of sequential machines II.
T-EC 299 Dec 58
Aufenkamp DD, See Gillespie RG
Aufenkamp DD, See Gillespie RG
Aufenkamp DD, See Holin FE
Augustine CF and Slocum A, 6-kmc phase measurement
system for traveling wave tubes. T-1 145 Oct 55
Augustine J, See Berliner J
Audd JS and Gallonio A. A pulse distribution system for a Augustine J, See Berliner J
Auld JS and Gallonio A, A pulse distribution system for a
network originating center. NCR 72 Pt7 54
Ault LA, Spencer EG and LeCraw RC, Circularly polarized
traveling wave cavity for ferrite tensor permeability
measurements. NCR 282 Pt1 57 Ault L A. See Spencer EG Autler SH, Proposal for a maser-amplifier system without nonreciprocal elements.(L) P 1880 Nov 58 Autler SH, Kingston RH, McWhorter AL and Meyer JW, Solld-state maser systems (abstract) WCR 28 Pt3 58

Avakian A, See Unger DM

Avins J., Harris B and Horvath JS., Improving the transient response of television receivers.
P. 274 Jan. 54, (abstract). T-BTR. 44 Jan. 54

Avins J, IF amplifier design for color TV receivers.

Avins J., Frammer design for color to receivers.

T-BTR 14 Jul 54

Avins J., Brady T and Smith F., Synchronous and exaltedcarrier detection in television receivers.

T-BTR 15 Feb 58

Axelbark M., Ultrasonic-delay-line terminating circuits and passband measurements. NCR 147 Pt2 58 Axelby GS., Synthesis of feedback control systems with

a minimum lead for specified performance.

T-AC 56 May 56

Axelby GS, Control system optimization to achieve maximum hit or accuracy probability density.

WCR 176 Pt4 57

Axelby GS, Standard terminology for feedback control. T-AC 1 Mar 58

Axelby GS and Osborne EF, Optimization of compensa-tion for cascaded actuators in a common feedback loop. WCR 182 Pt4 58

Ayer G. See Robbins MA
Ayres HF and Woods RE, A magnetron test set for MT1
purposes. T-ED 123 Dec 54
Ayers WP and Jaynes ET, Mode conversions in multimode
waveguides. T-AP 583 Jul 56

Ayres WP, Broad-band quarter-wave plates. T-MTT 258 Oct 57

T-MTT 258 Oct 57
Ayres WP, See Melclor JL
Ayres WP, See Vartanian PH
Azoff I, Procurement problems and forecast of production of quartz crystal filter units. WCR 120 Pt6 57
Azud R and Niklas WF, The utilization of positive ions for investigations of stray field effects in electrostatic lenses. T-ED 25 Jil 55

— R

Ba HII F , A general method for time domain network synthesis. T-CT 21 Sep 54
Babcock A and Zack A, The wafer coll pulse transformer. NCR 137 Pt6 56
Babcock DF , See Hathaway JC
Babits VA, Science and engineering education: Europe—U.S.A. T-E 110 Dec 58
Babtics VA See Hightenan WM

Babite VA, See Highleyman WH Baccus IB, Electrical engineering education.

SQ 16 Dec 58

Bach R Jr, See Chang SH

Bachman HL, A waveguide impedance meter for the automatic display of complex reflection coefficient.

T-MTT 22 Jan 55

Bachman WS , RIAA engineering committee activities with respect to stereophonic disk records (abstract).

NCR 61 Pt7 53 Bachman WS and Bauer 8B, Phonograph pickups for stereophonic record production (abstract).

sactiman WS and Bauer BB, Phonograph pickles for stereophonic record production (abstract). NCR 83 Pt7 58
Bachman WS, See Goldmark P
Bachman AE, Noise figure of the Darlington compound connection for transistors. (LL) T-CT 145 Jun 58
Bachynski MP and Bekefi G, Aberrations in circularly symmetric microwave lenses. T-AP 412 Jul 56
Bachynski MP and Bekefi G, Further investigations of aberrations in microwave lenses.
T-AP 585 Jul 56
Bachynski MP, See Neugebauer HEJ
Bachynski MP, See Neugebauer HEJ
Bachynski MP, See Silkanofsky IP
Backman KEH, Radio equipment which meets the challenge of 6 and 12 volt vehicles. T-VC 36 Jun 55
Bacon J, The stabilization of nonlinear servomechanisms encountered in antenna instrumentation.
T-AC 29 Feb 57
Bacon J, An improved design for audio-type exponential

Bacon J., An improved design for audio-type exponential attenuators. T-1 23 Mar 57

Bacon JR and Barnes GH, Quantized flux counter. WCR 246 Pt4 57

WCR 246 Pt4 57
Badger GMW, A new method for modulating electron beams for pulse applications and linear amplitude modulation systems. NCR 82 Pt3 57
Badoyannis GM, The power handling capacity of slab lines. WCR 35 Pt1 58
Bady I, Measurement of parameters that determine front edge response of step-up transformers. NCR 26 Pt10 55

Bady I, Measurement of the complex dielectric constant of materials from 100 to 1200 mc over a wide range of temperature. NCR 172 Pt5 56

temperature. NCR 172 Pt5 56
Bady I, Measurement of the temperature coefficient of capacitance and inductance over the range of 5 to 50 mc. T-I 199 Sep 57
Bady I and Franklin RJ, Mealurement of the permeability and Q of magnetic material. Ever the frequency range of 50 to 50 megnacycles. NCR 177 Pt5 57
Baghdady EJ, On reciprocal inductance (L)
P 1807 Dec 54
Baghdady EJ, Frequency-modulation interference rejection with narmweband limiters. P 51 Jan 55

jection with narrow-band limiters P 51 Jan 55
Baghdady EJ and Stockman H, On reciprocal inductance (L)
P 1136 Sep 55

P 1136 Sep 55
Baghdady EJ, Theory of feedback around the limiter.
NCR 176 Pt8 57
Baghdady EJ, FM demodulator time-constant requirements for interferency rejection. P 432 Feb 58
Baghdady EJ, Theory of stronger-signal capture in FM reception. P 728 Apr 58

Baghdady EJ, Theory of low-distortion reproduction of FM signals in linear systems. T-CT 202 Sep 58 Booley A and Hanke 0, Measurement of the carrier frequency of RF pulses. T-I 132 Oct 55

Bagno S, Cooper JB and Levy EA, The ultrasonic burglar alam system. NCR 49 Pt6 54 Bagno S, The communication theory model and econom-

NCR 162 Pt4 55

Banno S. See Holerman M
Bahrs GS. Stable amplifiers employing potentially unstable transistors. WCR 185 Pt2 57
Bailey A. Plummer CB. Magnuski H. Neumann KL, Smith JS and Keller J. Panel discussion: single side band AM for mobile communications? T-VC 19 Jun 57

Bailey AD, A note on the analog computation of small motients.(L) P 1874 Dec 56
Bailey DK, Bateman R and Kirby RC, Radio transmission at VHF by scattering and other processes in the lower ionosphere. P 1181 Oct 55

Bailey DK, lonospheric scatter communication (abstract). NCR 63 Pt1 55

Bailey DK, Scattering at oblique incidence from iono-spheric irregularities (abstract). T-AP 368 Jul 56

Sineric irregularities (abstract). 1-AP 368 Jul 36
Bailey DK, The effect of echo on the operation of highfrequency communication circuits. T-AP 325 Oct 58
Balley FM, Performance of drive members in feedback
control systems. T-AC 74 May 56
Bailey HA, See Lazzarini RF
Bailey R, See Kalra SN
Bailey SL, Measurement and standards for control of
spurious radiation. T-BTR 59 Apr 54

Bailey SL, See Reed 0
Balley VA, Wave propagation research at the University of Sydney (abstract). WCR 3 Pt10 57

Bailey WF, The constant luminance principle in NTSC color television. P 60 Jan 54

Bailey WF and Hirsch CJ, Quadrature cross talk in NTSC color relevision. P 84 Jan 54
Bailey WF and Burr RP, A color projection receiver. NCR 171 Pt7 55

Ballin LL, Wehner RS and Kaminow IP, Emptrical approximations to the current values for large Dolph-Tcheby-cheff arrays. NCR 3 Pt1 54

Bailin LL, The radiation field produced by a slot in a large circular cylinder. T-AP 128 Jul 55 Bailin LL and Silver S, Exterlor electromagnetic bound-ary value problems for spheres and cones. T-AP 5 Jan 56. Correction: T-AP 313 Jul 57

Ballin LL and Spellmire RJ, Convergent representations for the radiation fields from slots in large circular cylinders. T-AP 578 Jul 56, T-AP 374 Oct 57

Bain MB, A multipressure measuring system. T-I 18 Mar 57

Bain MB and Seamons M, Economical on-line data-reduc-tion system for wind-tunnel force and pressure tests. T-1 107 Jun 58

Bain MB, See Wedel JJ Bakanowski AE, Diode recovery time measurements in the millimicrosecond region (abstract) WCR 131 Pt3 58 Baker DW, High frequency germanium npn tetrode. NCR 143 Pt3 56

NCR 143 Pt3 56
Baker RH, Lebow IL and McMalton RE, Transistor shift registers. P 1152 Jul 54
Baker RH, See Lebow IL
Baker WE, Luncheon Address. T-VC Jul 58
Baker WE, A new approach to the approximation problem. NCR 35 Pt2 55
Baker WR, See Smith BH
Baker WRG, The future of color television. P 5 Jan 54
Baker WRG, Automation. SQ 30 Sep 54
Baker WRG, Medical electronics symposium: engineering based on biological design. NCR 17 Pt9 54
Baker WRG, Personnel training and selection for engineering management. NCR 52 Pt11 54, T-EM 79 Jun 57
Baker WRG, Automation. NCR 54 Pt4 55

Baker WRG, Automation. NCR 54 Pt4 55 Baker WRG , Autom SQ 24 May 56 Automation and labor.

Saker WRG , Automation as the engineer sees it .
T-AC 84 May 56
Baker WRG , The IRE "Affiliate" plan - A new venture in engineering society structure and service .
P 278 Mar 57

Baker WRG, Electronics: what's coming after the missile age? P 534 Mar 58

Balabanian N , Impedance matching .(L) T-MTT 53 Jul 55

Balabanian N and Cahn CR, A note on tee-pi trans-

Balabarian N and Carin CK, A note on tee-pi trans-formations (L) P 1530 Oct 55 Balabarian N, See Seshu S Balakrishnan AV and Drenick RF, On optimum non-linear extraction and coding filters. T-IT 166 Sep 56 Balakrishnan AV, Multipath distortion of TV signals and the design of a corrective filter. NCR 167 Pt4 56

Balakrishnan AV, A note on the sampling principle for con-tinuous signals T-IT 143 Jun 57

Balamuth L., Mechanical impedance transformers in rela-tion to ultrasonics machining. T-UE 23 Nov 54 Balamuth L., Technical aspects of the cavitron ultrasonic process in dentistry. NCR 89 Pt9 55 Balding GH., See Aid DG

Baldridge BH and Hogan EV, Integrated defense, early warning, air traffic control system. NCR 63 Pt5 58 Baldwin AV, See Pleak HC

Baldwin DE, Burrowes C, Caldwell DO, Hamilton SG, Hill D, Osborne LS and Ritson DM, A differential Cerenkov counter. T-NS 177 Dec 58 Baldwin M, See Davis MM Jr Baldwin MW Jr and Nielsin G Jr., The subjective sharpness

of simulated color television pictures.

of simulated color television pictures.

T-BTS 17 Mar 56

Baldwin MW Jr, Demonstration of some visual effects of using frame storage in television transmission (abstract). NCR 107 Pt4 58

Baldwin T, Effects of nuclear radiation on electronic components (title only). NCR 181 Pt8 56

Balser M and Silvennan RA, Coding for constant-datarate systems—Part II. P 728 Jun 55

Balser M. Some observations on excitation by tithulant

rate Systems—Part II. P 728 Jun 55
Balser M, Some observations on scattering by turbulent inhomogeneities. T-AP 383 Oct 57
Balser M, See Glolay MJE
Balser M, See Silverman RA
Balzer ME, Airborne storm avoidance radar training.

T-ANE 16 Mar 57

Bangert JT, The transistor as a network element (abstract). T-ED 7 Feb 54

Bangert JT, Influence of computing machines on network

Bangert JT, Influence of computing machines on network design methods (abstract). NCR 1 Pt2 55
Barab JD, Marangoni JG and Scott WG, The parabolic dome antenna: a large aperture, 360 degree, rapid scan antenna. WCR 272 Pt1 58
Baraff AA, See Barron CI
Barblere D and Salzer HE, Discussion on: A method for calculating the current distribution of Tschebyscheff arrays. P 1021 Jun 54
Barbiere D, A graphical sinusoidal analysis of a nonlinear RC phase-shift feedback circuit. P 679 June 55

Barbiere U., A graphical sinusoidal analysis or a noniner RC phase-shift feedback circuit. P 679 June 55 Barber NF, Covington AE and Broten NW, Compound in-terferometers.(L) P 1951 Dec 5B Bardeen J, Comments on implications of transistor re-search. P 952 Jun 58

Bareiss M, Optimizing the design characteristics of triodes for maximum gain into a fixed load impedance.(L)

P 1667 Nov 55
Bargeilini PM and Herscher MB, Investigations of noise in audio frequency amplifiers using function transistors. P 217 Feb 55

Barger RL. See Kessler KG Bardh PF. See Shepard DH Barghausen AF, Decker MT and Maloney LJ, Measure-ments of correlation, height gain, and path antenna

gain at 1,046 megacycles on spaced antennas far be-yond the radio horizon. NCR 78 Pt1 55 Barkley WP, See Maxwell DE Barkson JA, Coupling of rectangular waveguides having a common broad wall which contains uniform transverse slots. WCR 30 Pt1 57

Siots, Web 30 Pt 13
Barling HB, See Bennewitz PE
Barlow HM, The Hall effect and its application to microwave power measurement. P 1411 Jul 58
Barlow HM, Surface waves. P 1413 Jul 58
Barmack JE, A method for studying Air Force air-

Barmack JE, A method for studying Air Force airground data transmission requirements.

T-CS 8 Mar 57

Barnard GA III, Statistical calculation of work entropies for four Western Languages. T-IT 49 Mar 55

Barnard JW, See Fry JW

Barnart S, The effects of ultrasonic waves on electrolytes and electrode processes. NCR 86 Pt6 54

Barnes FS, The forward switching transient in semi-conductor diodes at large currents (L) P 1427 Jul 5B Barnes GH and Tillman RM , A new translstor-magnetic FM/FM subcarrier discriminator. T-TRC 6.3 Apr 57 , WCR 9B Pt5 57

Barnes GH, See Bacon JR Barnes J, See Mockler RC Barnet EF, A new precision X-band phase-shifter. T-I 150 Oct 55

Barnett GF, Blingley FJ, Parsons SL, Pratt GW and Sadowsky M, A beam-indexing color picture tube—the Apple tube. P 1115 Sep 56, NCR 101 Pt3 56

Barnett PF, The effects of ambient temperature NCR 26 Pt6 56

Barnette LAM, Advances in petroleum mobile com-munications. NCR 9 PtB 54
Barnette LAM, Ship identification. T-CS 65 Mar 55
Baron FE, See Takacs AS
Baron RG, The Vernier time-measuring technique.
P 21 Jan 57

Barov M, Reliability—a practical program. WCR 68 Pt10 57

WCR 68 Pt10 57
Barrar RB and Redheffer RM, On nonuniform dielectrics media. T-AP 101 Jul 55
Barrar RB and Wilcox CH, The Fresnel field of a finite line current distribution. T-AP 585 Jul 56

Barrar RB and Wilcox CH, On the Fresnel approximation. T-AP 43 Jan 58

Barrett AH, Spectral lines in radio astronomy.
P 250 Jan 58

Barrett JF and Lampard DG, An expansion for some second-order probability distributions and its application to noise problems. T-IT 10 Mar 55

Barrett RM, Microwave printed circuits—a historical survey. T-MTT 1 Mar 55
Barrett RM, Research—insurance for the future. WCR 67 Pt8 57

Barron CI, Love AA and Baraff AA, Physical evaluation of personnel exposed to microwave emanations. T-ME 44 Feb 56 Barron WR, See Aarons J

Barrow WL, Editorial: Yesteryear—tomorrow T-MTT 224 Dct 57

Barsis AP, Comparative 100 mc measurements at distances far beyond the radio horizon. NCR 98 Pt1 54

Barsis AP and McGavin RE, Report on comparative 100-Barsis AP and McCavin RE, Report on comparative 100-mc measurements for three transmitting antenna heights. T-AP 168 Apr 56 Barsis AP, Some aspects of tropospheric radio wave propagation. T-BTS 1 Oct 56 Barsis AP and Capps FM, Effect of super-refractive lay-ers on tropospheric signal characteristics in the Pacific Coast region. WCR 116 Pt1 57

Barsis AP, See Norton KA
Barstow JM, Intercity B-W and color television transmission. T-BTS 55 Mar 55
Barstow JM, Color TV—how it works. SQ 11 Sep 55
Barstow JM, The ABC's of color television.
P 1574 Nov 55

Barszczewski A, Organization of the electronic computer for the Canadian automated mail handling system. NCR 245 Pt6 58

NCR 245 Pt6 58
Barszczewski A, See Levy M
Barth EP, See Pitt CF
Barthel DR, See Wentworth FL
Bartik WJ and Bonn TH, A small coincident-current magnetic memory. T-EC 73 Jun 56
Barton BF, Interstage design with practical constraints.
NCR 154 Pt2 57

Barton BF, The synthesis of multichannel amplifiers. WCR 69 Pt2 58

Barton BF. See Roger: PH
Barton LE. An experimental transistor personal broadcast
receiver. T-BTR 6 Jan 54, P 1062 Jul 54
Bartow JE and Morrow WE Jr, Single-sideband techniques

in UHF long-range communications.(L) P 539 Apr 57
Barus C, A low-level high-speed switching system for brain mapping. T-ME 1 Dec 56

Barzilai G, On the input conductance of thin antennas. T-AP 29 Jan 55

T-AP 29 Jan 55
Baziliai G, Admittance of thin antennas.(L)
T-AP 181 Apr 56
Bashkow TR, Effect of nonlinear collector capacitance on collector current rise time. T-ED 167 Oct 56 Bashkow TR. The A matrix, new network description T-CT 117 Sep 57

Basikow TR and Desoer CA, Digital computers and net-work theory. WCR 133 Pt2 57 Basile LJ, See Swank RK Baskin Y, See Zucker H

Baskin Y. See Zucker H
Basmajian JV, A new six-channel electromyograph for studies on muscle. T-ME 45 Jul 58
Basore BL. Threshold detection. NCR 65 Pt4 54
Bassler SG and Hinebaugh M, Principles of circuit packading for auto-assembly. NCR 31 Pt6 55
Batcher RR, Professional Group on Production Techniques. SO 31 Dec 54
Batcher RR, A coordinated system of automatic control accessories. NCR 294 Pt6 58
Bate HC. See Bowtell JN

Bate HC , See Bowtell JN Bateman R , See Bailey DK Bates DJ and Ginzton EL , A traveling-wave frequency multiplier . P 938 Jul 57

Bates MR, Bock DH and Powell FD, Analog computer

multiplier. P 938 and 97
Bates MR, Bock DH and Powell FD, Analog computer applications in predictor design.
T-EC 143 Sep 57
Bates RHT, The characteristic impedance of the shielded slab line. T-MTT 28 Jan 56
Bath HM, See Cutter M
Batsel CN Jr, Montijo RE Jr and Smuckler EJ, The RCA flight data system. NCR 3 P15 58
Batsel MC, The Professional Group on Engineering Management. SQ 50 Sep 56
Batsel MC, Situations that affect the productivity of engineers. T-EM 17 Mar 57
Batten HW, Jorgensen RA, MacNee AB and Peterson WW, The response of a panoramic receiver to CW and pulse signals. P 948 Jun 54
Battery JF, See Wallis G
Battin RH, See Laning JH Jr
Battle FH Jr, Some final approach system requirement for high landing rates. NCR 99 Pt6 57
Bauer BB, Equivalent circuit analysis of mechano-acoustic structures. T-AU pp2 Jul-Aug 54. Corrections: T-AU 164 Nov-Dec 54, T-AU 4 Jan-Feb 55
Bauer BB and Medill JW, A minitature unidirectional

T-AU 164 Nov-Dec 54, T-AU 4 Jan-Feb 55
Bauer BB and Medill JW, A miniature unidirectional microphone. NCR 12 Pt6 54
Bauer BB, Connecting piezoelectric pickups to magnetic-pickup amplifiers. T-AU 5B May-Jun 55
Bauer BB, An improved optical method for calibrating test records. T-AU 137 Sep-Oct 55
Bauer BB, Calibration of test records by B-line patterns (abstracts). NCR 62 Pt7 55

Bauer BB, Student papers competition.

Sn 57 Sep 56

Bauer BB, On the phasing of microphones. T-AU 155 Nov-Dec 56

Bauer BB, Compensation networks for ceramic phonograph reproducers. T-AU 8 Jan-Feb 57. Correction: T-AU May-Jun 57

Bauer BB , Have you heard? SQ 28 Feb 57
Bauer BB and Gunter L Jr., A high fidelity phongraph reproducer. NCR 76 Pt7 57

Bauer BB and Snepvangers R, Compatibility problems in stereophonic disk reproduction (abstract). NCR 82 Pt7 58

Bauer BB, See Bachman WS
Bauer BB, See Bachman WS
Bauer BC, See Goldmark PC
Bauer JÁ, A versatile approach to the measurement of amplitude distortion in color television.
P 240 Jan 54

Bauer LH and Flood WA, UHF forward scatter from lightning strokes (L) P 1743 Dec 57

Bauer RE, Modualr construction—its implications to the design engineer. NCR 104 Pt6 56

Bauer WF., Aspects of real-time simulation. NCR 142 Pt4 57, T-EC 134 Jun 58 Baugh CW Jr and Sweeney HE, Transient response versus chrominance bandwidth of simultaneous color television receivers. NCR 77 Pt3 56

Baugh CW Jr, Automatic fine tuning for television receivers. WCR 92 Pt7 57

Baugh SH and France RW, A study of dielectric absom-tion test methods for capacitors to be used in differ-entiating, integrating and time constant applications. WCR 72 Pt6 57

Baum RF , Design of unsymmetrical band-pass filters . T-CT 33 Jun 57 Baum RF , The correlation function of smoothly limited

Gaussian noise. T-IT 193 Sep 57

Baum RF, A modification of Brune's method for narrow-band filters. T-CT 264 Dec 58

band filters. I-CT 264 Dec 58
Baum RF, Synthesis of driving point impedances with
geometric synmetry. T-CT 359 Dec 58
Bauschinger O, Chen YM and London FH, The principles
and application of radiosotopes to noncontact measurements for continuous processes. T-I 122 Jun 57
Bauer P and Kofals C. A modified equal-segment bands

ments for continuous processes. T-I 122 Jun 57
Bawer R and Kefalas G, A modified equal-element bandpass filter. T-MTT 175 Jul 57
Bay Z and Grisamore NT, High-speed flip-flops for the
mill:microsecond region. T-EC 121 Sep 56
Bay Z, Techniques and theory of fast coincidence experiments. T-NS 12 Nov 56
Bay Z and Grisamore NT, Pulse generator and high-speed
memory circuit. T-EC 213 Dec 56
Baykiek S, and Medills EE, And Pochiely and formance.

Baybick S and Montijo RE, An RCA high-performance tape transport equipment . NCR 96 Pt4 57

Bayles AL. Applications of ultrasonic energy to industrial use (abstract). NCR 85 Pt6 54

Beach RK See Hyndman RW Jr Beall PR, Words needn't fail (abstract). NCR 83 Pt6 56

Beam RE, Report of advances in microwave theory and techniques—1957. T-MTT 251 Jul 58

Beam WR, On the possibility of amplification in space-charge-potential-depressed electron streams. P 454 Apr 55

Beam WR and Hughes RD, Microwave noise source mod-ulator and power supply.(L) T-ED 185 Apr 57 Beam WR, Noise wave excitation at the cathode of a microwave beam amplifier. T-ED 226 Jul 57 Beam WR. See Knechtli RC Bean BR, Prolonged space-wave fadeouts at 1,046 mc

observed in Cheyenne mountain propagation progra P 848 May 54

Bean BR and Maney FM, Some applications of the monthly median refractivity gradient in tropospheric propagation. P 1419 Oct 55

propagation. P 1419 Oct 55
Bean BR, Some meteorological effects on scattered VHF
radio waves. T-CS 32 Mar 56
Bean BR and Calloum BA, The use of surface weather
observations to predict the total atmospheric bending of
radio rays at small elevation angles (L) P 1545 Nov 57

Bean BR, First meeting on radio climatology.(L) P 1425 Jul 5B Bean CP, See Holloman JH

Beard AD, Bensky LS, Nettleton DL and Poorte GE, Logic design of the RCA BIZMAC computer. NCR 81 Pt4 56

Beard CI, Katz I and Spetner LM, Phenomenological vector model of microwave reflection from the ocean.

T-AP 162 Apr 56

Beard CI and Katz I, The dependence of microwave radio signal spectra on ocean rougliness and wave spectra.

T-AP 183 Apr 57

Beard CI and Twersky V, Propagation through random distributions of spheres. WCR 87 Ptl 58 Beattle JR and Conn GKT, Surface resistance and reactance of metals at infrared frequencies. P 7B Jan 56

P /B Jan 56

Beattie LA, Minimum energy triggering signals.
P 751 Apr 58

Beattie LA, See Reners PH

Beatty HR, The role of the technical institute in the next decade.
T-E 20 Mar 58

Beatty RW, An adjustable sliding termination for rectangular waveguide. T-MTT 192 Jul 57

Beatty RW and Kerns DM, Recently developed microwave impedance standards and methods of measurement.
T-I 319 Dec 58

Beatty RW, See Schafer GE

Beauthon DJ., An earth Satellite radio tracking system employing low level detection. SQ 34 Sep 57 Beauthenin HM., See Spencer RC Beauthon F., See Spencer Spencer RC

Beaulieu DE and Propster CH Jr, Interrogation in the BIZMAC system. WCR 105 Pt4 57

Beautieu DE , Burhart DP and Propster CH Jr , The BIZMAC trancoder . WCR 294 Pt4 57

Beaver WL , Backward wave oscillators for low voltage operation . NCR 35 Pt3 56

Beaver WL, Jepsen RL and Walter RL, Wideband klystron amplifiers. WCR 111 P.3 57 Bechtold N, Evolution of selenium rectifier voltage ratings. NCR 157 P.3 55

Bechmann R , Contour modes of plates excited piezo-electrically and determination of elastic and piezo-electric coefficients . NCR 77 Pt6 54

Bechmann R, Some applications of the linear piezoelectric equations of state. T-UE 43 May 55
Bechmann R, Influence of the order of overtone on the temperature coefficient of frequency of AT-type quartz resonators.(L) P 1667 Nov 55

Bechmann R, The frequency-temperature behavior of piezoelectric resonators made of natural and synthetic

quartz NCR 56 Pt9 55

Bechmann R and Durana V, Variation with temperature of quartz resonator characteristics.(L) P 377 Mar 56

Bechmann R, Frequency-temperature-angle characteristics

of AT-type resonators made of natural and synthetic quartz. P 1600 Nov 56 Beckman R, High-frequency quartz filter crystals.(L) P 617 Mar 58

Bechtold N , Evolution of selenium rectifier voltage ratings . NCR 157 Pt3 55

Beck AC, Microwave testing with millimicrosecond pulses.
T-MTT 93 Apr 54, T-CS 93 Jul 54

Beck AC, Measurement techniques for multimode wavequides. T-MTT 35 Apr 55

Beck AC and Mandeville GD, Microwave traveling-wave

tube millimicrosecond pulse generators. T-MIT 4B Dec 55

Beck AC, Editorial: Communication superhighways. T-MTT 82 Apr 57

Beck DH, An Instrument for precision range measurements. T-I 140 Oct 55
Beck FX, Talos land based system digital checkout equipment. WCR 42 Pt8 58
Beck KH, An N-stage, series transistor circuit.
T-CT 44 Mar 56

Beck MR , Automatic missile check-out equipment . WCR 9 Pt5 57

Becken ED, Single-sideband operation for international telegraph. P 1782 Dec 56
Becker CH, Pierce RL and Martin JR, Molecular storage

and read-out with microwaves. NCR 255 Pt4 58
Becker GE, Dependence of magnetron operation on the radial centering of the cathode. T-ED 126 Apr 57

radial centering of the cathode. I-ED 126 Apr 57
Becker RC, See Pantell RH
Becker S and Franceschini J, Track recognition system
for scanning nuclear emulsions. MCR 46 Pt9 57
Beckerly JG, Secrecy and the electronic engineer
(abstract). NCR 44 Pt9 54
Becking AGT, See van der Ziel

Beckmann P. See Franz W Bedrosian E. The curved passive reflector. T-AP 168 Oct 55

I - AP 168 UCL 55
Bedrosian E, Weighted PCM. T-IT 45 Mar 58
Bedrosian SD, See Boykin RS
Beehler R, See Mockler RC
Beenken HG and Dunn FL, Short distance radio telemetering of physiological information.
T-ME 53 Dec 58

Beggs JE and Lavoo NT , A triode useful to 10,000 mc.

Beggs JE and Lavoo NT, A triode issent to 10,000 mc
P 15 Jan 55

Beggs JE, The use of titanium metal in vacuum devices.
T-ED 93 Apr 56

Beggs JE, Sealing metal and ceramic parts for forming reactive alloys. T-CP 28 Mar 57

reactive alloys. T-CP 28 Mar 57

Beggs JE, Characteristics of electron tubes having clean electrodes. T-ED 55 Apr 58

Begovich NA, Capacity and characteristic impedance of strip transmission lines with rectangular inner conductors. T-MTT 127 Mar 55

Begun SJ, Theory of magnetography.

NCR 190 Pt 58

Betrand WI. Reduction of carchannel television unter-

Behrend WL , Reduction of co-channel television inter-ference by precise frequency control of television picture carriers . T-BTS 6 Feb 57 Behrend WL , See Morrison WC

Behrens WV and Shaull JM., The effects of short duration neutron radiation on semiconductor devices . P 601 Mar 58

Behrent LF, See Selby MC

Beintema CD, Smith ST and Vant-Hull LL, Multicolor storane tube. T-ED 303 Oct 57 Beizer B, Extension of Boolean algebra for analysis of mixed-switch diode circuits. (L) P 779 Apr 58

Bekefi G , See Bachynski MP Bekefi G , See Cloutier GG Bekkering DH and Weber J , Standardization of phono-cardiography: efforts in the Netherlands .

cardiography: efforts in the Netherlands.
T-ME 55 Dec 57
Belar H, See Olson HF
Belevitch V, On the Bott-Duffin synthesis of drivingpoint impedances.(L) T-CT 68 Sen 54
Belevitch V, Effoct of rectifier capacitances on the conversion loss of ring modulators. T-CT 41 Mar 55
Belevitch V, Topics in the design of insertion loss filters. T-CT 337 Dec 55
Belevitch V, Recent Russlan publications on switching
theory. T-CT 77 Mar 56

Belevitch V, On the Flaikow-Gerst impedance Synthesis. (L) T-CT 80 Mar 56

Belevitch V, Elementary applications of the scattering formalism to network design. T-CT 97 Jun 56

Belevitch V, Four-dimensional transformations of 4-pole matrices with applications to the synthesis of reactance 4-poles. T-CT 105 Jun 56

Belevitch V , Recent developments in filter theory . T-CT 236 Dec 58

Belevitch V. See Melnquet J
Bell DA, Distributed amplifiers.(L) P 1320 Aug 54
Bell DA and Duggan TC, Finite groups in Shannon
coding.(L) P 1570 Oct 54

Bell DA, Application of equipartition theory to electric circuits.(L) P 1065 Aug 56

Bell DT, Digital computers as tools in designing transmission networks. WCR 145 Pt2 57
Bell H Jr and Rideout VC, A high speed correlator.

T-EC 30 Jun 54

Bell J, Techniques involved in meeting FCC radiation re-quirements at UHF. T-BTR 38 Mar 58 Bell NW, Small signal analysis of floating-junction tran-sistor switch circuits. T-ED 10 Oct 55 Bell PR, Nonreactor electronics at Oak Ridge (abstract). NCR 44 Pt9 54

Rell PR, See Davis RC
Bell PR, See Harris CC
Bell PR, See K-lley GG
Bell PR, See K-lley GG
Bell PR, See Marris CC
Bell PR, See Harris CC
Bell PR, See Marris CC
Bell PR, See Harris CC

P 1155 Sep 36
Bell RS, Motivating engineers in a balanced militarycommercial industry. T-EM 101 Sep 57
Bellinger J, MacNeill J and West CF, Soroban high speed
tape perforator model GP-100. NCR 37 Pt5 57

tape perrorator model GP-100. NCR 37 Pt5 57
Bellman R and Kalaba R, On the role of dynamic programming in statistical communication theory.
T-IT 197 Sep 57
Bellman R and Kalaba R, On weighted PCM and meansquare deviation.(L) T-IT 58 Mar 58
Bellman R and Kalaba R, On communication processes
involving learning and random duration.

NCR 16 Pt4 58 Bemis AC, Radar in meteorology, T-CS 41 Mar 55

Bemski G , Recombination in semiconductors . P 990 Jun 58

Bendat JS, Optimum filters for independent measurements of two related perturbed messages. T-CT 14 Mar 57

Bendat JS, Exact integral equation solutions and synthesis for a large class of optimum time variable linear filters.

tor a large class of optimum time variable linear filters T-IT 71 Mar 57 Bendell SL and Sadashige K, Reduction of image retention in image orthicon cameras. T-BTS 52 Dec 57 Bender A, Transistorized scintillation counter. NCR 95 Pt9 57

Bender M and Hercules FP, An experimental method for obtaining the transfer function of a rate gyro. T-I 35 Mar 57

Bender PL and Driscoll RL , A free precession determina-tion of the proton gyromagnetic ratio . T-I 176 Dec 58 Benedict TR and Sondhi MM , On a property of Wiener filters .(L) P 1921 Jul 57

Benedict TS, Solid state and the electrical engineer. SQ 26 Dec 5B

Benedict WL , See Daily L
Benner AH and Drenick R , An Adaptive servo system.
NCR 8 Pt4 55

Benner AH, See Teasdale RD Bennett BJ, A note on filter synthesis. T-CT 61 Sep 54

Bennett BJ, See Helman D
Bennett WP, New beam power tubes for UHF service.
T-ED 57 Jan 56, T-BTS Mar 55

Bennett WR, Suggestions for an improved terminology.(L) T-CT 42 Dec 54

Bennett WR, Steady-state transmission through networks containing periodically operated switches. T-CT 17 Mar 55

Bennett WR, Application of the Fourier integral in circuit theory and circuit problems. T-CT 237 Sep 55

Bennett WR, Methods of solving noise problems. P 609 May 56

Bennett WR , Our spotlight falls on network topology (editorial). T-CT 3 Mar 58

Bennewitz PE and Barling HB, A compatible PCM/FM system (abstract). WCR 4 Pt5 58
Benoit RC Jr and Furlow WM Jr, Wullenweber type ultra high frequency radio direction finder. NCR 109 Pt5 55

NCR 109 Pt5 55
Benoit RC Jr and Fantoni JA, USAF UHF direction finding facility. NCR 172 Pt8 56
Benoit RC Jr and Coughlin F Jr, New trends in directional communications. NCR 230 Pt8 58
Benoit RC, Jr, See Fantoni JA
Bension J and Peters RD, Some economic aspects of wire processing for low volume production of electronic gear. NCR 26 Pt6 58
Bensky LS. See Beard AD
Benson RW, Efficiency and power rating of loudspeakers.
T-AU 19 Jan-Feb 56
Benson RW, Evaluation of high-powered outdoor sound

Benson RW, Evalutation of high-powered outdoor sound T-AU 11 Jan-Feb 57
Benson RW, See MacPherson CH

Bently D, A selective signaling system (abstract). WCR 127 Pt8 57

Benzuly HJ, A precision deflection yoke. T-BTS 43 Dec 55, NCR 165 Pt 355

Beranek LL, Loudspeakers and microphones. T-AU 13 Jan-Feb 55

Bereskin AB, A high-efficiency high-quality audio-frequency power amplifier. T-AU 49 Mar-Apr 54
Bereskin AB, A 3000-watt audio power amplifier.
T-AU 37 Mar-Apr 56, NCR 80 Pt 756
Bereskin AB, Build it yourself. SQ 15 Sep 56

Bereskin AB, A transistorized decade amplifier for low-level audio-frequency applications.

T-AU 138 Sep-Oct 57
Bereskin AB, A high power high quality transistor audio power amplifier. NCR 149 Pt7 57

Bereskin AB, A high efficiency-high quality audio power amplifier. NCR 18 Pt6 54

Berg MR, Polar impedance evaluator (PIE). WCR 49 Pt7 57

Berg RH, Rapid volumetric particle size analysis vla electronics. T-IE 46 May 58 Bergen AR, A non-mean-square-error criterion for the synthesis of optimum finite memory sampled-data filters. NCR 26 Pt2 57 Bergen AR, See Ragazzini JR

Bergen S , Calculation of directional antenna patterns using digital computer techniques .
T-BTS 22 Dec 58

Berger F8, The nature of Doppler velocity measurement. T-ANE 103 Sep 57

Berger FB. See Bushnell RH
Berger FB. The design of airborne Doppler velocity
measuring systems. T-ANE 157 Dec 67

Bergmann SM, Spectral distribution of thermal noise in a gas discharge. T-MTT 237 Oct 57

gas discharge. T-MTT 237 Oct 57
Bergmann SM, One aspect of minlmum nolse figure microwave mixer design. T-MTT 324 Jul 58
Bergman WJ and Schultz FV, The circular traveling-wave antenna. NCR 40 Pt1 55
Bergsland CH, See James TR
Berk AD and Lengyel BA, Magnetic fields in small ferrite bodies with applications to microwave cavities containing such bodies. P 1587 Nov 55
Berk AD, Variational principles for electromagnetic resonators and waveguides. T-AP 104 Apr 56
Berk AD. Same variational principles for resonators and waveguides.

Berk AD, Some variational principles for resonators and waveguides. T-AP 583 Jul 56

Berk AD and Strumwasser E, Ferrite directional couplers.

Berk AD and Strummasser E, Territe Structure 1439 Oct 56
Berk AD, Kleinman L and Nelson CE, Modified semistatic ferrite amplifier. WCR 9 Pt3 58

lerrite amplifier. WCR 9 Pt3 58
Berkley C and Mansbero HP, Some applications of scaning techniques in instrumentation. NCR 138 Pt9 55
Berkner LV, Electronics in the nuclear industry.
NCR 42 Pt9 54
Berkner LV, The IGY and space technology (title only).
NCR 258 Pt5 58

Berkowitz RS, Methods of sampling band-limited func-tions. P 231 Feb 56

Berkowitz SM and Grubmeyer RS, Requirements for a new universal air traffic control simulator. T-ANE 59 Jun 57

Berlin RD, Synthesis of N-valued switching circuits. T-EC 52 Mar 58

Berlincourt D, Recent developments in ferroelectric transducer materials. T-UE 53 Aug 56
Berliner J and Augustine J, Results of UHF mutual environment test program at Rome Air Development Center.

vironnent test program at Rome Air Development Center.
T-CS 60 Mar 57
Berman M. See Schoenfeld L
Bernard WB and Clapp JK, Frequency stable LC oscillators. (L) P 875 Jul 55
Bermard WB, Distortion in audio phase inverter and driver systems. NCR 87 Pt7 58
Bermard WB, See Lea N

Bernstein IB, Hydromagnetic stability. NCR 11 Pt9 58

Bernstein M., Gougoulis GH., Layden OP., Scott WT and Tanzman HD., Satellite Doppler measurements.(L) P 782 Apr 58

Bernstein MJ and Kroll NM, Magnetron research at Columbia Radiation Laboratory. T-MTT 33 Sept 54 Bernstein R, An analysis of angular accuracy in search radar. NCR 61 Pt5 55

Bemstein RI, Bickel H and Brookner E, A generator of uniformly distributed random noise. NCR 97 Pt10 54

Bernstein RI, See Miller KS
Bemtsen DG, See Bystrom A Jr
Berring H, 125 years of Olim's law. SQ 21 Sep 54
Berry DG. See Dulfmel RH
Berryhll JL, Automation applied to television master
control and film room. T-BTS 11 Dec 57
Pershadro D. Missila permohysics phenomena of electrons

Bershader D , Missile aerophysics phenomena of electronic import. WCR 23 Pt8 57

Berstein Land Gorelik G., Frequency modulation noise in oscillators.(L) P 94 Jan 57

Berstein R. See Miller KS
Bertram S., Calculation of the resonant properties of elec-trical cavities. P 579 Mar 54

Beste HE, See Clapp RG
Bestic JB, Requirements for data transmission and graphics. NCR 111 Pt8 56

Beter RH, Bradley WE and Brown RB, Surface-barrier transistor switching circuits NCR 139 Pt4 55 Beutler FJ, A further note on differentiability of auto-correlation functions (L) P 1740 Dec 57

Beutler FJ, A comment on the optimum nonlinear filtering of Balakrishnan.(L) T-IT 88 Jun 58

Beutler FJ, Prediction and filtering for random parameter systems. T-IT 166 Dec 58

Beutler FJ, See Brennan DG Beverage HH, Laport EA and Simpson LC, System beverage HH, Laport EA and Simpson LC, System parameters using tropospheric scatter propagation. T-CS 87 Mar 56
Bevis HL, Help wanted; US brainpower. T-EM 10 Mar 58
Bianco RJ, A high-speed reader for perforated tape. T-I 48 Jun 56
Bias FJ and Stone RF, Achieving one megawatt ERP in the UHF-TV band. T-BTS 27 Mar 55

Bibbero RJ, Introductory remarks to the symposium. T-PT 6 Sep 56

T-PT 6 Sep 56
Bibliography of color television papers published by the IRE. P 344 Jan 54
Bickart T, See MacNichol EF Jr
Bickel H, See Atkln
Blckel H, See Bernstein RI
Bickel H, See Walter CM
Bickmore RW, A note on the effective aperture of electrically scanned arrays. T-AP 194 Apr 58
Bickmore RW, See Chernin MG
Bieganski WJ and Glickman LM, A new time division multiplex system (abstract). NCR 140 Pt8 57
Bien FI. See Walter VW

Bien FI , See Walter VW Biemson GA , Fundamental equations for the application of statistical techniques to feedback control systems . T-AC 56 Feb 57

Biemson GA, How the bandwidth of a servo affects its saturated response. T-AC 3 Mar 58 Biemson GA and Ward JE, A servo-pressure control system for the iron lung. NCR 126 Pt4 58

Bigelow JE, Industrial measurements with x rays. T-IE 121 May 58

T-IE 121 May 58
Bigelow GF, See Taylor LS
Biggs HC, Physical and electrical standardization program for the AEC. T-I 364 Dec 58
Bills TS, Reliability indices for missile electronic component parts. T-RQC 1 Jun 57
Bingley FJ, Colorimetry in color television Part II
P 48 Jan 54

Bingley FJ, Colorimetry in color television Part III. P 51 Jan 54

Bingley FJ, Transfer characteristics in NTSC color televi-sion. P 71 Jan 54 Bingley FJ, Color fidelity in TV receiver having non-standard primaries (abstract). NCR 38 Pt7 54

Bingley FJ, See Barnett GF
Binns JE, Instrumentation and control of the Brookhaven
nuclear reactor. T-NS 2 Sep 54
Bindi FJ, Corrosion proofing electronic apparatus parts
exposed to ozone. T-ED 65 Feb 54

exposed to ozone. T-ED 65 Feb 54

Birch JK, Design considerations for a high quality transistorized program amplifier for remote broadcast use.

NCR 109 Pt 7 56

Birdsall CK and Brewer GR, Traveling wave tube characteristics for finite values of C. T-ED 1 Aug 54

Birdsall CK, Ripoled wall and rippled stream amplifiers. P 1628 Nov 54

Birdsall CK, Equivalence of Llewellyn and space charge wave equations. T-ED 76 Apr 56

Birdsall CK and Everhart TE, Modified contra-wound helix circuits for high power traveling-wave tubes.

T-ED 190 Oct 56

Birdsall CK, Aperture lens formula corrected for space charge in the electron stream. T-ED 132 Apr 57

BIrdsall CK. See Brewer GR Birdsall CK, See Johnson CC Birdsall TG, See Peterson WW Birdsall TG, See Swets JA

Birdsall TG. See Swets JA

Birkel G Jr., Notation and characteristics of two-level codes. T-TRC 7.1 Apr 57

Birmingham HP and Taylor FV, A design philosophy for man-machine control systems. P 1748 Dec 54

Birmingham HP, The optimization of man-machine control systems. WCR 272 Pt4 58

Birnbaum G and Bussey HE, Amplitude, scale, and specified in the specified in the state of the st

spectrum of refractive Index inhomogeneities in the first 125 meters of the atmosphere. P 1412 Oct 55

first 125 meters of the atmosphere. P 1412 Oct 55
Birnbaum G, Microwave atomic amplifiers and oscillators. WCR 169 Pt3 57
Birx DL and Fuschillo N, The theory of low-temperature bolometer detectors applied to the measurement of low-level RF power. T-I 310 Dec 58
Bishop RP, The AN/AKT-14 telemetry system: Part II—AKT-14 airhorne telemeter. T-TRC 7 Mar 56
Bishop RP and Marquand RE, The development of a high-speed electronic multiplexer and coder for use with a PCM telemeter. NCR 203 Pt1 56
Bishop WB and Euchanan BL, Message reduncancy vs. feedback for reducing message uncertainty.
NCR 7 Pt2 57
Bisson DK, A medium power silicon controlled rectifier.

NCR 4 Pt2 57

Bisson DK, A medium power silicon controlled rectifier.
WCR 166 Pt3 58

Bittman CA, See Carman JN

Bittner BJ, See Oltman HG Jr

Bitzer D and Rawchiffe RD, A linear cathode-ray tube.(L) P 1012 Jul 57

Bixler OC, Mechanical components for handling magnetic recording tape. T-AU 15 Jan-Feb 54
Blachman NM, Minimum-cost encoding of information.
T-IT 139 Mar 54

Blachman NM, Report on London symposium. T-IT 17 Mar 56

Blachman NM , Automatic digital computers in western Europe . T-EC Sept 56

Blachman NM , On the wiring of two-dimensional multiple-coincidence magnetic memories .

multiple-coincidence magnetic memories.
T-EC 19 Mar 56
Blachman NM, Communication as a game.
WCR 61 Pt2 57
Blachman NM, On Manasse, Price and Lemer loss of signal detectability. In band-pass limiters.(L)
T-IT 174 Dec 58
Blachman NM, Report on the international analogy computation meetine. T-EC 36 Mar 56
Blachman NM, See Hoberman M
Black KC, Accent on air age. SQ 20 Feb 55
Black KG and Huggins TJ, Rigorous determination of the parameters of microstrip transmission.
T-MTT 93 Mar 55
Blacksmith P Jr, See Sletten CJ

Blacksmith P Jr. See Sletten CJ Blackwell WA, See Koenia HE Blahna C, Management of production engineering. T-EM 33 Apr 56

Blaidsell KL and Hannon JR., Factors affecting attenua-tion of solid dielectric coaxial cables above 3000 megacycles (L) T-CP 135 Dec 57

Blair GR, An ultraprecise microwave interferometer. NCR 48 Pt 158

Blake GA, Air Force operational problems. NCR 102 Pt8 56

Blake GA, The need for closer relations. NCR 136 Pt8 56

Blake RF. See Morgan KA
Blakely CE, See Tillman JD
Blakely JR, United States Coast Guard automatic direction funder-type RD132. T-CS 16 Mar 55
Blankenbaker JV, Logically micro-programmed computers.
T-EC 103 Jun 58

Blanton HE, Reliability prediction technique for use in design of complex systems. NCR 68 Pt10 57
Blasbalg H, The relationship of sequential filter theory to information theory and its application to the detection of signals in noise by Bernoulli trials.

T-IT 122 Jun 57

Blashalg H, The sequential detection of a sine-wave carrier of arbitrary duty ratio in Gaussian noise.
T-IT 248 Dec 57
Blashalg H, See Glaser EM

Blasbalg H, See Glaser EM
Blasberg LA and Saltzman H, Microsecond ferrite microwave switch (abstract). WCR 70 Pt1 57
Blasi EA, The theory and application of the radiation mixtual coupling factor. P 1179 Jil 54
Blass J and Rabinowitz SJ, Muxtual coupling In two dimensional arrays. WCR 134 Pt1 57
Blass J, A method for evaluating antennas.
T-AP 95 Jan 58

Blattel A, Guided missile tube reliability. T-RQC 55 Jan 57

Blattner D and Vaccaro F , The Estiatron—an electro-statically focused medium-power traveling-wave tube . NCR 101 Pt3 58

Blecher FH., Design principles for single loop transistor feedback amplifiers. T-CT 145 Sep 57 Bleeksma GJ and Schurink JJ., A loudspeaker installation

for high-fidelity reproduction in the home. T-AU 127 Sen-Oct 57 Bliss WH, Application of cathode-ray tubes on facsimile. NCR 44 Pt8 54

Bliss WH, Wagner RJ Jr and Wickizer GS, Experimental facsimile communication utilizing intermittent meteor ionization (L) P 1734 Dec 57

Block AC. A redundancy analog. T-RQC 1 Nov 57 Bloembergen N. Magnetic resonance in ferrites. P 1259 Oct 56

P 1259 Oct 56

Blois S, Paramognetic resonance methods in biological research. T-ME 35 Feb 56

Bloomerist A, See Josephson B

Bloom FJ, Chang SSL, Harris B, Hauptschein A and Morgan KC, Improvement of binary transmission by null-zone reception. P 963 Jul 57

Bloom S, See Steman AE

Bloomsbero RA, The measurement of yoke astigmatism. T-BTR 26 Jul 54

Bloos Sburgh RA, Brothroyd WP, Fedde GA and Moore RC, Current status of Apple receiver circuits and components. P 120 Sep 56, NCR 107 Pt3 56

Bloomsburgh RA, Brothgroyd WP, A, Moore RC and Wilson

Bloomsburgh RA, Hopengarten A, Moore RC and Wilson HH Jr, An advanced color television receiver using a beam indexing picture t.be. NCR 243 Pt3 57
Blotekjaer K, An experimental investigation of some properties of band-pass limited Gaussian noise.
T-IT 100 Sep 58

Blum EJ, Denisse JF and Steinberg JL, Radio astronomy at the Meudon Observatory. P 39 Jan 58
Blum M, Generalization of the class of norrandom inputs of the Zadeh-Ragazzini prediction model.
T-IT 76 Jun 56

Blum M., An extension of the minimum mean square prediction theory for sampled input signals.
T-IT 176 Sep 56

Blum M., Fixed memory least squares filters using recursion methods. T-IT 178 Sep 57
Blum M., On the mean square noise power of an ontimum

linear discrete filter operating on polynomial plus white noise input. T-IT 225 Dec 57

Blum M., Recursion formulas for growing memory digital filters . T-IT 24 Mar 58
Blume BE, Analysis of engineering cost.
T-EM 13 Mar 57

Blumhagen VA, A digital setting system for an x-ray thickness gauge. NCR 280 Pt6 58 Blunt RF, Sec Frederikse HPR Bly DA, See Engstrom RW

Bobb L, Goldman RB and Roop RW, Design and per-formance of a high frequency electrostatic speaker (abstract). NCR 62 Pt7 55

Bobber RJ , Measurement of acoustic power radiated from underwater sound transducers. NCR 185 Pt2 58

morewater sound transducers. NCR 185 Pt2 58
Bock DH, See Bates MR
Bockris JO, A sclentist's Impressions of Russlan research. So 28 May 58
Boden EH, Progress in TV-receiver reliability
T-RQC 36 Jul 58

T-ROC 36 Jul 58
Bodmer MG, Dip testing, a new method for measuring cathode activity.(L) T-ED 43 Jan 58
Boeglen D, Sce Hill D
Boese WC and Fine H, Present knowledge of propagation in the VHF and UHF-TV bands. T-BTS 39 Jan 56
Boff AF, The application of counter techniques to precision frequency measurements. T-I 2 Apr 54
Bogan LB and Young KD, Simplified transmission engineering in exchange cable plant design.
T-CS 119 Nov 54 T-CS 119 Nov 54

T-CS 119 Nov 54
Bogart L, See Van Sciver WJ
Bogert BP, Some gyrator and imnedance inverter circuits. P 793 Jul 55
Bogert BP, Demonstration of delay distortion correction by time-reversal techniques. T-CS 2 Dec 57
Boggs GE, A stable woltage-controlled logarithmic attentiator. P 696 Apr 54
Boggs GE, Gain stable mixers and amplifiers with current feed-back P 1144 Jul 54

Boggs GE, Gain stable mixers and amplifiers with current feed-back. P 1144 Jul 54
Bongs JE, See Crain CM
Bogner DF, See Dishal M
Bogner BF, See Taub JJ
Boham WA, Chasanov MG and Schroeder EN, An effect of pulse type radiation on transistors packaged in a moist atmosphere (L) P 1953 Dec 58

atmosphere (L) P 1953 Dec 58
Bohling RF, Instrumentation requirements for all-weather helicopter flight. T-ANE 10 Sep 55
Bohn EV, The current distribution and Input Impedance of cylindrical antennas. T-AP 343 Oct 57
Bohnert JI, Pinpoint: Professional Group on Antennas and Propocation. SQ 38 Sep 57
Bolleau OC Jr, An evaluation of high frequency antennas for a large jet alrolane. T-ANE 28 Mar 56

Bol K, The multipactor effect in klystrons NCR 151 Pt3 54

Bolef DI and Chester PF, Some techniques of microwave generation and amplification using electron spin states in solids. T-MTT 47 Jan 58
Bolef DI, See Chester PF

Bolglano R Jr, The role of turbulent mixing in scatter propagation. T-AP 161 Apr 58
Bolie VW, Analysis of a special purpose RC filter incorpo-

rating a periodically conducting bilinear element P 1435 Sep 54 1435 Sep 54

P 1435 Sen 54
Bolie VW, A radiometric inertial reference system.
NCR 139 Pt8 56
Bolinder EF, A theory of determining the dynamic sensitivity of cathode ray tubes at very high frequencies by mains of Fourier transforms. T-ED 44 Jan 55
Bolinder EF, On Fourier transforms in the theory of cathode-ray tubes. (L) P 487 Apr 55
Bolinder EF, Fourier transforms and tapered transmission lines. (L) P 557 Apr 56
Bolinder EF, Some applications of Fourier transforms in

Bolinder EF, Some applications of Fourier transforms in electrical engineering and their interrelationships (L) P 820 Jun 56

Bolinder EF, Impedance and polarization-ratio transform-ations by a graphical method using the isometric circles. T-MTT 176 Jul 56

Bolinder EF , Maximum efficiency of four-terminal networks .(L) P 941 Jul 56

works (L) P 941 Jul 56
Bolinder EF, Graphical method of determining the efficiency of two-port networks. P 361 Mar 57
Bolinder EF, The relationship of physical applications of Fourier transforms in various fields of wave theory and circuitry. T-MTT 153 Apr 57

Bolinder EF , Survey of some properties of linear networks . T-CT 70 Sep 57 . Correction: T-CT 139 Jun 58

Bollinder EF, Noisy and noise-free two-port networks treated by the isometric circle method.(L)
P 1412 Oct 57

Bolinder EF, A note on the matrix representation of linear two-port networks (L) T-CT 337 Dec 57

Bolinder EF, Note on impedance transformations by the isometric circle method.(L) T-MTT 111 Jan 58 Bolinder EF, Radio engineering use of the Cayley-Klein model of three-dimensional hyperbolic space (L)

model of three-dimensional hyperbolic space.(L)
P 1650 Sep 58
Bolinder EF, Geometric-analytic theory of noisy two-port
networks.(L) P 1959 Dec 58
Bolinder EF, See Klonfenstein RW
Bolle AP, Application of complex symbol sm to linear
variable networks. T-CT 32 Mar 55
Bolles EE, The Digitac airborne digital computer.
NCR 72 Pt5 54

Bolljahn JT , ADF sense antenna requirements and design. T-ANF 2° Dec 55

Bolljahn JT and Lucke WS , Some relationships between total scattered power and the scattered field in the shadow zone. T-AP 69 Jan 56

stradow zone. T-AP 69 Jan 56
Bolljahn JT, Effects of satellite spin on ground-received small. T-AP 260 J.1 58
Bolljahn JT, See Granner JVN
Bolljahn JT, See Jones EMT
Bollus JJ, See Tomi yasu K
Bolz RW, Automation. NCR 58 Pt 4 55
Bord FE and Meyer HF, The effect of fading on communication circuits subject to interference. P 636 May 57

Bond FE and Calin CR, On sampling the zeros of bandwidth limited signals. T-IT 110 Sep 58

Bonenn Z., The influence of coding on closed loop remote control systems. T-TRC 16 May 57

3

Boneau Z., Stability of forced oscillations in nonlinear feedback systems. T-AC 109 Dec 58 Bongiorno JJ., Synthesis of active RC single-tuned band-pass filters. NCR 30 Pt2 58 Bonn TH, Increasing the accuracy of CRO measure-ments, IL) P 1062 Aug 56

mems, JL. P. 1062 Aug 56
Bonn TH., Sec Lawrence JD Jr
Booker HG and deBettencourt JT., Theory of radio transmission by tropospheric scattering using very narrow
beans. P 281 Mar 55

beams. P 281 Mar 55
Booker HG, Some practical aspects of auroral propagation. T-CS 5 Mar 56
Booker HG, A theory of scattering by nonlsotropic Irregularities with application to radar reflections from the aurora (abstract) NCR 28 Pt1 56
Booker HG and Gordon WE, The role of stratospheric
scattering in radio communication. P 1123 Sep 57
Booker HG, The use of radio stars to study irregular
refraction of radio waves in the lonosphere.
P 298 Jan 58. Correction: P 1085 Jun 58

Boone EM, Uenohara M and Davis DT, A Barkhausen-Kurz oscillator at centimeter wavelengths. T-ED 196 Jul 58

Booth GW, See Bothwell TP Booth RE, See White RC Boothroyd WP, Professional Group on Broadcast and Televition Receivers. SQ 32 Feb 56

Boothroyd WP, See Bloomsburgh RA Boothroyd AR, See Molozzi AR

Boothroyd AR, See Molozir AR Boothroyd AR, See Pane DF Booton RC Jr, Nonlinear control systems with random inputs. T-CT 9 Mar 54 Booton RC Jr, The measurement and representation of nonlinear systems. T-CT 32 Dec 54

Booton RC Jr., Final-value systems with Gaussian inputs. T-IT 173 Sep 56

Booton RC Jr and Goldstein MH Jr, The design and optimization of synchronous demodulators. WCR 154 Pt2 57

Booton RCJr and Rosenbloom A, The practical realization of final-value systems with limiting constraints. T-AC 49 Jul 58

Borgnis FE , On the eigenvalue problem of slow-wave propagation in cylindrical structures . T-AP 582 Jul 56

Borkan H., See Weimer PK

Borkowski CJ, Low energy gamma scintillation spectrometry. T-NS 71 Nov 56

Boron PE and King EN, An approach to airborne digital computer equipment construction. NCR 36 Pt6 57

Borrowman JH, Talking drums and binary coding (L) P 88 Jan 57

Borsos RD and Lakin HM, A numerical control system for a drivmatic riveter. WCR 170 Pt6 58 Bose AG and Pezaris SD, A therom concerning noise figures. NCR 35 Pt8 55, T-CT 90 Sen 56

Bose AG, A theory for the experimental determination of optimum nonlinear systems. NCR 21 Pt4 56

Bosman EH, The Status of standard zation in electronic production and machine tool control. T-IE 55 Mar 57, T-PT 55 Apr 57

Bossinger A and Staudhammer J, An Improved operational amplifier (L) P 1415 Oct 57 Bostick FX. See Smith HW Bostick WH., Plasma motors. NCR 28 Pt9 58

Bostick PA. He and motors. NCR 28 Pt9 58
Bostrom RC, A projection microphotometer for quantitative microscopy. T-ME 20 Dec 56
Bostrom RC, See Sawyer HS
Bostrom RC, See Tolles WE
Bostrom RC, See Tolles WE
Bostrom RC, See Tolles WE
Bothwell TP and Booth GW, Logic circuits for a transistor digital computer. T-EC 132 Sep 56
Bourché EL. See Schell AC
Boughton EM, Definition and synthesis of optimumsmoothing processes in filter terms. T-I 82 Mar 58
Boughtwood JE, Telegraph terminal AN/FGC-29 circuit design aspects. T-CS 152 Nov 54
Boulay PF, Florey BI, Latorre VR and Wittmeyer MH, An automatic telemetering meteorlogical observation system. WCR 158 Pt5 58
Boulton BC, The case for a two-year graduate degree.
T-E 10 Mar 58
Bourret R, A proposed technique for the improvement of

Bourret R, A proposed technique for the improvement of range determination with noise radar (L) P 1744 Dec 57

Boushey HA, When you write for the Air Force. T-FWS 28 Mar 58 Bowe JJ , A new higher ambient transistor T-ED 121 Jul 56

Bower JL, Some theorems applicable to the problem of stability in linear systems. NCR 8 Pt2 56

Bower JL , Nonlinea T-AC 62 Jul 58 Nonlinearities in machine tools and missiles.

Bowers EO and Curtis CW, A resonant cavity frequency duplexer. NCR 113 Pt5 56
Bowie DM and Kelleher KS, Rapid measurements of di-

electric constant and loss tangent. T-MTT 137 Jul 56

Bowie DM, Microwave dielectric properties of solids for applications at temperatures to 3000 degrees F. NCR 270 Pt1 57

Bowie DM. See Ward HT
Bowie RM, The project overlay system of research
organization. T-EM 105 Sep 57
Bowle RM, Problems in two-dimensional television sys-

tens. NCR 140 Pt7 58
Bowle WS. A basic study of the effects of operating and environmental factors on electron tube reliability.
T-ROC 46 Feb 56, NCR 15 Pt6 56

Bowie WS, The effects of heater cycling and heater voltage. NCR 21 Pt6 56

Bowles EL, Browder Julian Thompson. P 440 Apr 57 Bowlell JN and Bate HC. Observations of electrolumines-cence excited by ac and do fields in surface-treated phosphors (L) P 697 May 56

Boxall FS , Base current feedback in transistor power amplifier design . WCR 20 Pt2 57
Boxer R , Frequency analysis of computer systems .(L)

Boxer R, Frequency analysis of computer P 228 Feb 55

Boxer R, A mathematical technique for the analysis of linear systems (L) P 489 Apr 55

Boxer R, Analysis of sampled data systems and digital computers in the frequency domain. NCR 78 Pt10 55

Boxer R and Thaler S., A simplified method of solving linear and nonlinear systems. P 89 Jan 56 Boxer R, A note on numerical transform calculus. P 1401 Oct 57

Boxer R, See Thaler S
Boyajlan A, Peaking transformer on a new principle.

T-CP 66 Sep 56

Boyd JA, Noise characteristics of a voltage-tunable magnetron. T-ED 201 Dec 54

Boyd JA, A voltage-tunable magnetron for operation in the frequency range 1500 to 3000 megacycles. NCR 139 Pt3 54

Boyd JA , The Mitron—an interdigital voltage-tunable

magnetron. P 332 Mar 55
Boyd JE, Research center at an institute of technology.
T-EM 99 Sep 57

Boyer SH IV , See Talbot SA Boyers JS , The future of magnetic recorders . NCR 126 Pt7 55 Boyet H and Seidel H , Analysis of nonreciprocal effects

in an N-wire, ferrite-loaded transmission line. P 491 Apr 57

Boyet H. See Weisbaum S Boyet H. See Weisbaum W

Boyet H., See Weisbaum W
Boykin RS, Johnston JH and Bedrosian SD, Considerations for development of new military carrier telephone systems. T-CS 124 Nov 54
Boylan AP and Pfeffer JL, Vibration and shock resistant relay designs. NCR 14B Pt6 57
Boymel RR, See Weihe VI
Brachman MK, See Macdonald JR
Bracewell RN, A new transducer diagram.
P 1519 Oct 54
Bracewell RN, Step discontinuities in disk transmission lines. P 1543 Oct 54
Bracewell RN, Antenna problems in radio astronomy. NCR 6B Pt1 57, NCR Pt1 58
Bracewell RN, Restoration in the presence of errors.
P 97 Jan 58. Correction: P 778 Apr 58
Bracewell RN, Restoration in the presence of errors.
P 106 Jan 58. Correction: P 778 Apr 58
Bracewell RN, and Stableford CV, Critical frequency, re-

Dracewell RN and Stableford CV, Critical frequency, re-fractive index, and cone of escape in the solar corona. P 198 Jan 58

Bradburn WJ, Analysis of a motor speed-control system with an analog computer (abstract). T-PT 103 Apr 57, T-IE 94 Apr 58

Bradley EH and White DR , Band-pass filters using stripline techniques . T-MTT 163 Mar 55 Bradley EH , Design and development of strip-line filters . T-MTT 86 Apr 56

Bradley W Jr, Electronic design considerations in the application of piezoelectric transducers. NCR 51 Pt9 56

Bradley WE , Silicon surface-barrier transistors (L) P 486 Feb 54

Bradley WE, See Beter RH
Bradshaw SR, Obstacle gain at microwave frequencies.
WCR 231 Pt1 58

Bradspies S , See Raffel J

a)

Brady T. See Avins J Brainerd JG., Preface to the Fourier-integral papers. T-CT 226 Sep 55

Bramick JO, A light-weight low level traveling wave tube for S-band. NCR 66 Pt3 57

Brammer FC, The semiautomatic circuit component tester T-IE 4 Aug 58

Branch GM and Milhran TG, Plasma frequency reduction factors in electron beams. T-ED 3 Apr 55

Branch GM., Reduction of plasma frequency in electron beams by helices and drift tibes (L) P 1018 Aig 55 Brandstatter JJ , Reflections from a convex surface . WCR 99 Pt1 57

Brannin JW, The use of VHF radio in railroading. WCR 124 Pt8 57

Brattain WH, Essay on the tenth anniversary of the transistor. P 953 Jim 58
Brattain WH, See Pearson GL

Brauer F and Kammer D, Transistorized frequency reference and control system for 920 channel military vehicular VHF-FM receiver-transmitter T-VC 55 Jul 58

Braun EH, Matching high frequency transmission systems. (L) P 1703 Nov 54
Braun EH, Some data for the design of electromagnetic horns. T-AP 29 Jan 56
Braun EH, Radiation characteristics of the spherical

aun EH, Radiation characteristics of the spherical Lumeberg lens. T-AP 132 Apr 56 Braun EL , Design features of current digital differential analyzers . NCR 87 Pt4 54

Braun EL, Design features of current digital differential analyzers. NCR 87 Pt4 54
Braun EL, Digital computers in continuous control systems. NCR 127 Pt4 57, T-EC 123 Jun 58
Braun EL and Post G, Systems considerations for computers in process control. NCR 168 Pt4 58
Braun EL and Gianopius AS, A digital computer system for terminal area air traffic control (abstract).
WCR 61 Pt5 58

Braunbek W, On the diffraction field near a plane-screen corner. T-AP 219 Jul 56
Braverman N, Self-contained navigation aids and the

common system of air traffic control.
T-ANE 52 Jun 57

T-ANE 52 Jun 57
Fraverman N, See Galbraith HJ
Bray E, A world-wide high frequency single sideband radio network. NCR 245 PtB 58
Breazeale WN, Chalman's introductory remarks: symposium on reactor electronics. NCR 67 Pt9 54
Breedon DB, Analog versus digital techniques for engineering design problems. T-IE 86 Mar 57, T-PT 86 Apr 57

Breese ME. Diplexing filters. NCR 125 Pt8 54
Bremmer H, Microwave optics: Part II—Diffraction problems of microwave optics.(L) T-AP 222 Oct 55

Temmer H, Asymptotic developments and scattering theory in terms of a vector combining the electric and magnetic fields. T-AP 264 Jul 56

Bremmer H, Applications of operational calculus to ground-wave propagation, particularly for long waves. T-AP 267 Jul 58

Brennan AT, Goldberg B and Eckstein A, Comparison of multichannel radioteletype systems over a 5000-mile lonospheric path. NCR 254 Pt8 58

Brennan DG , On the maximum signal-to-noise ratio realizable from several noisy signals (L)

realizable from several noisy signals (L)
P 1530 Oct 55
Brennan DG, Smooth random functions need not have smooth correlation functions (L) P 1016 Jul 57
Brennan DG, Beutler FJ and Wlener N, A further note on differentiability of autocorrelation functions (L)
P 1758 Oct 58
Brennan B, Son Briddman A

Brennan R. See Bridgman A
Brenner E., Fatehchand R and Klotter K., A simplified
procedure for finding Fourier coefficients.(L)

procedure for finding Fourier coefficients.(L)
P 1022 Jul 57
Bernstein R, An analysis of angular accuracy in search
radar. NCR 61 Pt5 55
Breskend SD, See Trucker RW
Brett H, See Kumpfer BD
Brewer GR, Some effects of magnetic field strength on
space-charge-wave propagation. P 896 Jul 56

Brewer GR, Some characteristics of a cylindrical electron stream in immersed flow. T-ED 134 Apr 57

stream in immersed flow. T-ED 134 Apr 57
Brewer GR and Birdsall CK, Traveling-wave tube propagation constants. T-ED 140 Apr 57
Brewer GR, See Birdsall CK
Brewer GR, See Purl OT
Brewer WL, Ladd JH and Prinney JE, Brightness modification proposals for televising color film.
P 174 Jan 54

Brewer WL and Ladd JH, Comment on: NTSC signal specifications for color television (L) P 100 Jan 55 Brewer WL, Ladd JH and Pinney JE, Proposed controls for electronic masking in color television. NCR 63 Pt7 55

Brewer WL, See Ladd JH
Breyfogle LD, The coffin—a different idea in loudspeaker enclosures. SQ 29 May 56
Brick DB and Weber J, Scattering of electromagnetic waves
by wires and plates.(L) P 628 May 55
Brick DB, The excitation of surface waves by a vertical
antenna. P 721 Jun 55

antenna. P 721 Jun 55

Bridges JE, Detection of television signals in thermal noise. P 1396 Sen 54

Bridges JE, The second detector—a determinant of fringe-area renformance. T-BTR 52 Jan 55

Bridges JM, Improved mananement of military development programs needed to conserve our engineering manpower. T-EM 20 Mar 57

Bridges JM, Progress in reliability of military electronic engineering trial p356. T-RQC 1 Am 57

Bridges JM, The chalman keynotes the session and precents a refense profile. T-PT 35 Apr 58

Bridges JM, Can industrial electronics help to conserve technical manon-er? NCR 314 Pt6 53

Bridges TJ, A nat-discharge noise source for eightmill meter waves. P 818 May 54

Bridges TJ, Hawkins PO and Walsh D, Keep-alive insta-

Bridges TJ, Hawkins PO and Walsh D, Keep-alive insta-bilities in a TR switch. P 535 Apr 56

Bridges TJ and Curnow HJ, Experimental 8-mm klystron power amplifiers. P 430 Feb 56

Bridges TJ, A parametric electron beam amplifier.(L) P 494 Feb 58

Bridges TJ, See Asikin A Bridgman A and Brennan R, Simulation of transfer func-tions using only one operational amplifier. WCR 274 Pt4 57

Criggs GR, See Raichman JA

Briggs JL and Sirois LJ, Radioisotope thermoelectric
generator. NGR 69 Pt9 57

Briggs TH, See Michael FR

Bright RL, See Geinel DH

Brill T. Nonreactor electronic work at Argonne. NCR 51 Pt9 54

Briller S. See Schmitt O Brinkley JR, Recent developments in mobile radio in Britain. NCR 13 Pt8 57

Brinster J and Garretson E8, Specification and design of mechanical sampling devices relative to telemetering system requirements. T-TRC 5.4 Apr 57

Brinton RL, Ferry TR and Hare EL, Providing mobile coverage in isolated desert terrain. WCR 116 Pt8 57

Britt CO. See Tolbert CW Britton RW and Hern HD, FM scatter system measure-ments. NCR 168 Pt8 57

Brock RL and McCarty RC, On the modulation levels in a frequency multiplexed communication system by statistical methods. T-IT 54 Mar 55

Brockman MH, Analysis of a broadband detector circuit. P 715 Jun 55

Broderick D, Hartke D and Willrodt M, A precision delayed pulse generator as a variable time interval standard. WCR 77 Pt5 58

Brodin J, Analysis of time-dependent linear networks. T-CT 12 Mar 55

Broding RA, Schroeder JD and Westervelt JC, The electrograph. T-I 220 Dec 57, NCR 122 Pt5 57

Brodwin ME , Propagation in ferrite-filled microstrip . T-MTT 150 Apr 58

I-MI I 150 Apr 58
Brody SI, Military aspects of the biological effects of microwave radiation. T-ME 8 Feb 56
Bronwell AB, Wang TC, Nitz C, May J and Wachowski H, Vacuum-tube detector and converter for microwaves using large electron transit angles. P 1117 Jul 54
Brookner E, See Bernstein RI
Brooks FP Jr, Management problems of the business computer installation. T-EM 60 Jul 56

Brooks FP Jr, Hopkins AL Jr, Neumann PG and Wright WV, An experiment in musical composition. T-EC 175 Sep 57. Correction: T-EC 60 Mar 5B

Brooks FE Jr. See German JP
Brooks FP, Multi-case binary codes for non-uniform character distributions. NCR (3) Pt2 57
Brooks HB, Timing circuits. T-I 11 Apr 54
Brooks HB and Wlaker KE, Average-responding Instruments. T-I 258 Dec 57. Correction: T-I 125 Jun 58

Instruments. T-1 T-1 125 Jun 58

T-1 125 Jun 58

Brooks RM and Hoy WF, Engineering evaluation of an automatic ground controlled approach system (AN/MNS-3). NCR 95 Pt5 58

Brooks RW, See Kessel B

Broten NW, See Baber NF

Broten NW, See Baber NF

Broten NW, See Covington AE

Brothers LA, Operations analysis. NCR 11 Pt6 55

Brouns A, Effect of heat on piezoelectric properties of a ceramic element. T-AU 73 May-Jun 57

Brower DF, A one turn magnetic reading and recording head for computer use. NCR 95 Pt4 55

Brown A, Single-sideband techniques applied to coordinated ambile communication systems. P 1824 Dec 56

Brown AB and Meyers ST, Evaluation of some error correction methods applicable to digital data transmission. NCR 37 Pt4 58

Brown AC, Cole RS and Honeyman WN, Some applications

Brown AC , Cole RS and Honeyman WN , Some applications of ferrites to microwave switches , phasers , and isolators . P 722 Apr 58

lators. P 722 Apr 58
Brown DR, Review of electronic computer progress during 1954. T-EC 33 Mar 55
Brown ER, Conper maze. SO 30 May 55
Brown EH, See Kallmann HP
Brown GH, The choice of axes and bandwidths for the chrominance signals in NTSC color television.
P 58 Jan 54
Brown GH, Mathematical formulations of the NTSC color television signal. P 66 Jan 54
Brown GH, Mathematical formulations of strong radio-frequency fields on micro-organisms in aqueous solu-

frequency fields on micro-organisms in aqueous solutions. T-ME 16 Feb 56

Brown GL and El-Said MAH, Geophysical prospection of inderground water in the desert by means of electromagnetic interference fringes (L) P 940 Jul 56

Brown GS , Trends in automatization of procedures and processes in business and industry .

NCR 52 Pt4 55

Brown HW Jr. The role of the design engineer in the field support of complex alrhorne electronic egulpment. T-ANE 117 Sep 56

Brown J., Irregular lines by standard teletype.

T-I 38 Mar 58 Brown JL Jr., A criterion for the diagnonal expansion of a second-order probability distribution in orthogonal polynomials.(L) T-IT 172 Dec 58

Brown JL Jr., On a cross-correlation property for stationary random processes. T-IT 28 Mar 57

Brown JR Jr., See Lewis DH Brown JR Jr., See Wallace JD Brown KL and Susskind C, The effect of the anode aper-ture on potential distribution in a "Pierce" electron gun.(L) P 598 Mar 54

Brown LR, The principal mechanical and electrical features of a hysteresis clutch. T-IE 98 Mar 56 Brown P., Techniques of measurement at high rates. NCR 197 Pt8 56

NCR 197 Pt8 56
Brown R, Chairman's remarks on symposium on spurious radiation. NCR 126 Pt7 55
Brown RB. See Beter RH
Brown RG, Aviation communications facilities for the next ter years T-CS 26 May 56
Brown RM, Some notes on logical binary counters.
T-EC 67 Jun 55
Brown RM, Dielectric bifocal lenses.
NCR 180 Pt1 56

NCR 180 Pt.1 56
Brown RN, Rotating components and their application to advanced electronic systems. T-CP 4 Sep 54
Brown RR, Green PE Jr, Howland B, Lemer RM, Manasse R and Pattengill G, Radio observations of the Russian earth satellite (L.) P 1552 Nov 57
Brown RS, UHF Tuner design for 6BA4 amplifier.
T-BTR 4 Jul 54

Brown RV, The contribution of the component engineer to electronic equipment reliability. WCR 86 Pt10 57
Brown SP, See Ribe ML
Brown WC, Description and operating characteristics of the

platinotron-a new microwave tube device. P 1209 Sep 57

P 1209 Sep 57
Brown WM, Time statistics of noise.
T-IT 137 Dec 58
Browne GCW, Control of radio interference in Canada.
NCR 130 Pt7 55
Brownell GL, See Aronew S
Brownell HR, See Teasdale RD
Browning EH, Automatic card programmed control of reversing mills. T-IE 64 Apr 58

Brownless SF, Standardized transmitting aerials for medium-frequency broadcasting. T-BTS 38 Sep 56

medium-frequency broadcarding. T-B15 38 Sep 56 Broxon EC, See Martin DW Brueckmann H, Steerable directional high-frequency antenna. T-CS 174 Nov 54 Brueckmann H, Suppression of undesired radiation of directional HF antennas and associated feed lines. P 1510 Aug 58

Brueckmann H, A new approach to broadband vehicular antennas. NCR 19 Pt8 58
Bruene WB, Linear power amplifier design.
P 1754 Dec 56

Bruene WB, Distortion reducing means for single-sideband transmitters. P 1760 Dec 56
Brumbaugh JM, Goodale ED and Kell RD, Color TV record-

ing on black and white lenticular film. T-BTR 65 Oct 57

Brunette GE and Le Brun DE , An Air Force single side-band system . T-CS 85 May 56

Brunetti C , A new venture into microminiaturization .
NCR 3 Pt6 57
Brunetti C , See James TR
Bruns RA , An integral-error-squared method for evaluating analog computer components .(L) T-EC 35 Mar 57

Brunton DC, Principles of radioactive gauging as applied to measurement and control in the process industries. T-1E 46 Mar 56

Brustman JA, Chien KL and Fleclitner D, Input and output devices of the RCA BIZMAC system.

NCR 88 Pt4 56

Bruton RH, See Yaplee BS Bruun G, Common-emitter transistor video amplifiers.

Brition Riv., Common-emitter transistor vioce ComP 1561 Nov 56
Bryan JS, Clapp RG, Creamer EM, Moulton SW and
Parlin ME, A new color television display—the Apple
system. NCR 94 Pt3 56

system. NCR 94 Pt3 56
Bryant JS, See Clapp RG
Bryant NH, See Waterman AT Jr
Bube RH, Photoconductivity of the sulfide, selenide, and
telluride of zinc or cadmium. P 1836 Dec 55
Buchan JF and Raven RS, Gain modulation of servomechanisms. WCR 201 Pt4 57
Buchanan AB, Operation and planning of a utility radio
system. NCR 18 Pt8 54
Ruchana BL See Riston WR

Buchanan BL, See Bishon WB
Buchheim RW, Herrick S, Vestine EH and Wilson AG,
edited by Swerling P, Some aspects of astronautics.
T-ML 8 Dec 58

Buchholz W, The system design of the IBM 701 com-puter (L) P 1024 Jun 54 Buchmiller LD, DeGrasse RW and Wade G, Design and

calculation procedures for low-noise traveling-wave tubes. T-ED 234 Jul 57
Buchmiller LD and Wade G, Punping to extend traveling-wave-tube frequency range. (L) P 1420 Jul 58

Buck DA, The cryotron—a superconductive computer component. P 482 Apr 56

Buck DC, Stability of a cylindrical electron beam in nonsinusoidal periodic magnetic-focusing fields. T-ED 44 Jan 57

Buck RE, See Roka EG
Buck WL, See Swank RK
Buckingliam WS Jr, Automation: a challenge and a
responsibility. T-I 15 Jun 56
Budden KG, The: waveguide mode theory of the propagation
of very-low-frequency radio waves. P 772 Jun 57

Budenbom HT, Transmission properties of hybrid rings and related annuli . NCR 186 Pt1 57
Buesing RT, Botherance rejection with double-barreled channel quark T-VC 7 Apr 58
Buff C, Application of single-sideband technique to

frequency shift telegraph P 1692 Dec 56 Buff C, See Moore JB

Buff C, See Moore JB
Buff RW, See Van Scovoc JN
Buff RW, Military problems imposed by automation.
T-PT 36 Apr 50
Builington K, Reflection coefficients of irregular terrain. P 1258 Aug 54
Builington K, Characteristics of beyond-the-horizon radio transmission. P 1175 Oct 55
Builington K, Inkster WJ and Durkee AL, Results of

Bullington K, Inkster WJ and Durkee AL, Results of propagation test at 505 mc and 4,090 mc on beyond-horizon paths. P 1306 Oct 55
Bullington K, CharacterIstics of beyond-the-horizon radio transmission (abstract). NCR 58 P11 55
Bullington K, Durkee AL and Inkster WJ, Results of propagation test at 505 mc and 4090 mc on beyond horizon paths. T-CS 104 Mar 56

Buntenbach RW, See Maninger RC

Buntenbach RW, See Maninger RC
Bura P, Regeneration effects in double-tuned band-pass
amplifiers. NCR 107 Pt2 57
Burbeck DW, See Grabbe EM
Burch NR, See Saltzberg B
Burfeind R, See Nirenberg A
Burgener RC, See Schultz FV
Burgess JH, Ferrite-tunable filter for use In S band.
P 1460 Oct 56

Burgett M. See Tossberg J
Burhart DP. See Beaulien DE
Burkhard FJ, High school grads in industry.
SQ 33 May 57

Burkig J and Justice LE, Magnacard—magnetic recording studies. WCR 214 Pt4 57

Burnett JH., A magnetic thyratron grld control circult. NCR 16 Pt9 55, P 529 Apr 56

Burnett JR, A synthesis procedure for linear transistor circuits. NCR 125 Pt2 54

Burnham J. Breakdown and leakage resistance investiga-tion of metallized paper capacitors. T-CP 3 Mar 54

Burnham J, Dielectric films in aluminum and tantalum electrolytic and solid tantalum capacitors. T-CP 73 Sep 57

Burns JD. See Seelev EW Burns LF and McGregor WK, The analog computer as an operational test instrument for jet engine testing. T-1 84 Jun 56

Burr RP, The use of electronic masking in color televi-

sion. P 192 Jan 54
Burr RP, Transistor feedback preamplifiers.
T-BTR 35 Jun 57

Burrows CR, See Baldwin DE Burrows CR, See Manning CS

Burrows CR, See Manning CS
Burtness RW, An electronic approach to sortation control. T-IE 80 May 58
Burton NH, See Nozick S
Burton AC, Medical electronics and fundamental bioollysic. NCR 1C4 Pt9 56
Bush D, Magnetron tuning using a ferrite reciprocal phase shifter (L) P 1882 Nov 58
Bushby TRW, A maintenance plan for airborne radio equipment. T-ANE 2 Sep 54

Bushnell RH and Berger FB, Relation between Doppler noise and navigation accuracy.(L)
T-ANE 225 Dec 58

T-ANE 225 Dec 58
Bushore KR, See Tecter WL
Busignies H. See Kruesi GG
Buss G. See Gunkel W
Buss RE, See Fitch JL
Buss RR, On the use of a special word for the quantity angular velocity. (L) P 1054 Aug 56
Buss RR, See Hetland G Jr
Bussey HE and Steinert LA, Exact solution for a gyromagnetic sample and measurements on a ferrite.
T-MTT 72 Jan 58

Bussey HE and Steinert LA, An exact solution for a cylindrical cavity containing a gyromagnetic material .(L) P 693 May 57

Bussey HF . See Birnhaum G

Bussey HE, See Birnhaum G
Bussgang JJ and Middleton D, Optimum sequential detection of signals in noise. T-IT 5 Dec 55
Butler TW Jr, Lindsay WJ and Orr LW, The application of delectric tuning to panoramic receiver design. P 1091 Sep 55
Butterfield FE, Dielectric sheet radiators.
T-AP 152 Oct 54

Butterfield FE, Aircraft telemetry antenna .(L) T-AP 143 Jan 57

Button KJ and Lax B, Theory of ferrites in rectangular waveguides. T-AP 531 Jul 56 Button KJ, TheoretIcal analysIs of the operation of the field-displacement ferrite Isolator. T-MTT 303 Jul 58

Buuck WP, See Carly CA

Byck DM and Norris A, On the solution of some microwave problems by an analog computer. WCR 70 PL1 58

Byington PW and Johnstone CW, A 100-channel pulseheight analyzer using magnetic core storage.

NCR 204 Pt10 55

Bykerk RO, Antennas for VHF mobile communications . WCR 103 Pt8 57

Byloff RW, Automatic operation of video tape equipment at NBC, Burbank. WCR 40 Pt7 58

Byram RE, High-voltage regulator tubes for color tele-

vision receivers. T-ED 242 Jul 57
Bystrom A Jr and Berntsen DG, An experimental investigation of cavity-mounted helical antennas. T-AP 53 Jan 56

Cacheris J., Microwave single-sideband modulator using ferrites. P 1242 Aug 54
Cacheris JC, Jones G and Diehl L., Magnetic tuning of klystron cavities.(L) P 1017 Aug 55
Cacheris JC and Dropkin HA, Compact microwave single-sideband modulator using ferrites. T-MTT 152 Jil 56
Cacheris JC and Dropkin HA, Microwave single-sideband modulator using ferrites. T-AP 584 Jul 56
Cacheris JC, See Jaffe D
Cacheris JC. See Kalmus HP
Cacheris JC. See Kalmus HP
Cacheris JC. See Karavianis N
Cadra VJ, See Griswold DM
Cadwallader JA, A comptroller's view of the problems encountered in adapting to automation. T-PT 5 Apr 58
Cady CA, A new monitor for television transmitters.
NCR 117 Pt7 56
Cady CA and Buuck WP, Frequency measurements in the

NCR 117 Pt7 56
Cady CA and Bauck WP, Frequency measurements in the broadcast field. WCR 38 Pt7 58
Cady WG, Ultrasonics. SO 3 Feb 55
Cady WG, Composite piezoelectric resonator.
T-UE 1 May 55

Cady WG , Piezoelectric and electrostrictive transducers . WCR 12 Pt9 57

Cagle WB and Chen WH, A new method of designing low-level, high-speed semiconductor logic circuits. WCR 3 Pt2 57

Cahn CR, See Balabanian N Cahn CR, See Bond FE

Cann LK, See Bond FE
Cahn JM, Automation in highway design.
T-IE 1 Aug 58
Caicoya JI, Tuning a probe in a slotted line.(L)
P 787 Apr 50
Caln CW, See Fyler N

Cain CW, See Fyier N
Calcut RC and Arz CA, Engineering of printed circuits
to facilitate production. NCR 90 Pt6 56
Caldwell DO, See Baldwin DE
Caldwell JJ Jr and Hoch OL, Large signal behavior of high
power traveling-wave amplifiers. T-ED 1 Jan 56

Callouin BA. See Bean BR
Calicchia R, Encapsulation of electronic circuits.
NCR 48 Pt6 57 Callahan JL. Discussion of solar research papers.

T-CS 1 Jan 54

1-CS 1 Jan 54
Cameron CF, Relay characteristics and application.
T-CP 34 Sep 54
Campanella SJ, A survey of speech bandwidth compression techniques. T-AU 104 Sep-Oct 58, (abstract) WCR 11 Pt7 58

Campbell CA, The AN/AKT-14 telemetry system: Part V
—UKR-7 ground translator and programmer.
T-TRC 15 Mar 56

Commbell CA, A high speed binary-to-binary decimal translator. NCR 44 Pt5 57
Campbell CD and Keller JE, The operational fixed microwave council. T-VC 27 Jun 55

Campbell LL , Error rates in pulse position coding T-IT 18 Mar 57

Campbell LL , Rectification of two signals in random noise. T-IT 119 Dec 56

Campbell LL , Some properties of a frequency stabilizing circuit. T-CS 10 Sep 57 Campbell LL , Storage capacity in burst-type communication systems . P 1661 Dec 57

tion systems. P 1661 Dec 57

Cambbell LL and Hines CO, Bandwidth considerations in a JANET system. P 1658 Dec 57

Cambbell LE, See Webb JC

Cambbell WO, Design criteria for missile automatic test equipment. NCR 54 Pt8 58

Campeau JO, The Synthesis and analysis of digital systems by Boolean matrices. T-EC 231 Dec 57 Correction: T-EC 122 Jun 58

Campopiano CN, Estimates of entropy of a message source (LL) P 1652 Sep 58
Camras M, Tape recording applications.
T-AU 174 Nov-Dec 55, (abstract) NCR 117 Pt7 55

T-AU 174 Nov-Dec 55, (abstract) NCR 117 Pt7 5: Camras M, A magnetic recording pickup liead with crossed cores for hum balance. T-AU 153 Nov-Dec 57
Camras M, Electromagnetic efficiency of heads in magnetic recording. T-AU 131 Nov-Dec 58
Cantella MJ, See Highleyman WH
Canelli M, Radio altimeter. T-ANE 3 Jun 54
Caplan PJ, See Theissing HH
Canos FM. See Barsis AP
Canns FM. See Barsis AP
Canns FM, See Kirby RS

Cannis F M, See Kirdy KS
Cappuccini F and Gasparini F, Passive repeater using
double flat reflectors (L) P 784 Apr 58
Caprarola LJ, Fabricating copper magnetron parts with
high precision and uniformity by a coining-type technique. T-ED 66 Feb 54

Caguelli MW, UHF communication system Interference reduction through the use of selected filters .
T-VC 16 Dec 56, T-CS 35 Mar 57

Carey WM Jr, See Guterman SS
Carbart NA, Problems arising in high-speed a-rcraft due to cooling requirements of electronic equipment.
T-ANE 10 Mar 58

Carlin HJ, The champions (L) T-CT 33 Jun 54 Carlin HJ, Gain limitations on equalizers and matching networks. P 1676 Nov 54 Carlin HJ, Limitations on amplitude equalizers. NCR 3 Pt2 54

Carlin HJ, On the physical realizability of linear non-reciprocal networks. P 608 May 55 Carlin HJ, A UHF multiplexing system using frequency

selective coaxial directional couplers. NCR 135 Pt8 55

Carlin HJ, Editorial: Pandora's black boxes.

Carlin HJ, Engolite Trofessional Group on Circuit
Theory. SQ 38 Sep 57

Carlin HJ, Editorial: Pandora's black boxes.

T-CT 60 Sep 57
Carlin HJ, See Sucher M
Carlisle RW, Pearson HA and Greenbaum WH, A simple transistor noise test set. NCR 88 Pt10 54

transistor noise test set. NCR 88 P110 54
Carlson CO, Some simplifying additions to basic sampled-data theory. WCR 197 Pt4 58
Carlson DJ, See Pan WY
Carlson E, A broad-band microstrip crystal mixer with integral dc return. T-MTT 175 Mar 55

integral ac return. 1-M11 175 Mar 55
Carlson G., See Josenson B
Carlstedt O., Some methods of error signal detection in
PAM-systems for multiplex transmission of synchro
data. T-TRC 2 Mar 56

Cannan JN, Stello PE and Bittman CA, Preliminary report on the regrowth of silicon through a low melting zone of silicon-gold entectic. T-ED 70 Feb 54

zone of silicon-gold entectic. T-ED 70 Feb 54
Carman JN and Sittner WR, Thermal properties of semiconductor diodes. NCR 105 Pt3 55
Carmes WT Jr, Airline requirements for airborne automatic
direction finders and the program of equipment development. T-ANE 12 Dec 55
Carp G, Radiological instrumentation. NCR 199 Pt8 56
Carpenter CP, Halstrom CW and Anderson AE, An analysis of focusing and reflection in the post-deflectionfocus color kinescope. T-ED 1 Oct 55
Carpenter RJ and Ochs GR, Experimental equipment for
communication utilizing meteor bursts.

communication utilizing meteor bursts. WCR 283 Pt1 57

Carr AJ Jr, A two motion duplicator for machine tools. T-IE 87 Mar 56

Carr JW, Transverse electric resonances in a coaxial line containing two cylinders of different dielectric constant. T-MTT 41 Jul 55

Carrel RL, The characteristic impedance of two infinite cones of arbitrary cross section. T-AP 197 Apr 58

cones of arbitrary cross section. T-AP 197 Apr 58
Carroll TJ, Overcoming the line-of-sight Shibboleth with
the air and high power. NCR 121 Pt1 54
Carroll TJ and Ring RM, Propagation of short radio waves
in a normally stratified troposphere. P 1384 Oct 55
Carroll TJ and Ring RM, Optical and radio twillight and
modes. T-AP 580 Jul 56
Carroll TJ, Marconi's last paper, on the propagation of
microwaves over considerable distances. (L)
P 1056 Aug 56
Carson VS. Rapid automatic digitization and sortion of

Carson VS, Rapid automatic digitization and sorting of random graphical data. T-I 113 Jun 56

Carswell I, Current distribution on wing-cap and tail-cap antennas. T-AP 207 Oct 55

Carswell I and Flammer C , Ground antenna phase behavior in a differential phase measuring system .

NCR 49 Pt1 57

Carter CJ and Cornetet WH Jr. A low voltage one centi-meter retarding field oscillator T-ED 124 Jul 56 Carter CJ and Cornetet WH Jr. Low-voltage operation of the retarding-field oscillator at X band and in the mili-meter wavelength region. T-ED 139 Jul 58

Carter D. Diffuse radiation in pencil beam antennas NCR 60 Pt1 54

Carter D., Phase centers of microwave antennas. T-AP 585 Jul 56, T-AP 597 Oct 56

Carter EF, Cost considerations in automatic production. NCR 92 Pt6 55

Carter EF, Idea acceleration. SO 24 May 57 Carter EF, The challenge of the environment. NCR 11 Pt6 57

NCR 11 Pt6 57
Carter JL, See Reingold I
Carter PS Jr, Study of the feasibility of airborne HF
direction-finding antenna systems. T-ANE 19 Mar 57
Caruso F, See Gartner WW
Caryor RT. See Ardli M
Caryotakis GA, Demith HB and Moore AD, Iterative network synthesis. NCR 9 Pt2 55
Casabona A, General characteristics of a 1000 minstrument I w-approach system. NCR 105 Pt8 57
Casabona A. See Parker EG
Casey JP and Holladay JA, Some airborne measurements
of VHF reflections from meteor trails.(L)
P 1735 Dec 57
Casserly G and Truxal JG. Measurement and stabilization

P 1735 Dec 57

Casserly G and Truxal JG, Measurement and stabilization of nonlinear feedback systems. NCR 52 Pt4 56

Castanias RP and Sheman JE, Review of computer promess in 1957. T-EC 65 Mar 58

Castelli JP. See Aarons J

Castel CX, Proof of performance of color television facilities. T-BTS 48 Jan 56

Castruccio PA, Communications and navigation techniques of interolanetary travel. T-ANE 216 Oec 57

Cathey L, Fatigue in photomultipliers.
T-NS 109 Dec 58

Cattol RL, A UHF ground based automatic direction finder. NCR 102 Pt5 55
Catina GW, See Heller GS
Caulton M and St. John GE, S-band traveling-wave tube with noise figure below 4 db.(L) P 911 May 58

Caywood WP Jr, Lyman RC and Kaufman WM, Generalized servomechanism evaluation (abstract).

T-IT 150 Mar 54
Caywood WP Jr. See Lynan RC
Cedar (Cederbaum) I, A generalization of the no-amphifica-tion propesty of resistive networks.(L)

T-CT 224 Sep 58
Cedarbaum I, On network determinants .(L)
P 258 Feb 56

Cederbaum I, On the physical realizability of linear non-reciprocal networks (L) T-CT 155 Jun 56

Cederhaum I, On networks without ideal transformers. T-CT 179 Sep 56

Pederbaum 1, On matrices of residues of the impedance or admittance matrices of n ports. T-CT 20 Mar 57 Cederbaum 1, The limits of galn attainable in three-terminal RC networks with two capacitors. T-CT 298 Dec 57

Cervenka FJ, Overseas all traffic control and meteorological communication circuits of the Civil Aeronautics Administration. T-CS 63 Nov 54

Cervenka FJ, Air/ground communications in air traffic control. T-CS 23 May 56
Chadwick GG, See Mickey LW
Chaikin SW, Surface contamination of dielectric materials.
T-RQC 57 Feb 56

Chaikin SW and Church FM, Character of insulator surface leakage at high humidity. T-CP 153 Dec 58 Chait HN, Nonreciprocal microwave components. NCR 82 ≥18 54

Chait HN and Sakiotis NG, The design of non-recipro-cal phase shift sections. NCR 58 Pt5 56 Chait HN, See Sakiotis NG

Chamberlain AB, A cordless microphone system.

Chamberlain AB, A cordless microphone system.

T-BTS 23 Sep 56
Chamberlain RH, Design and semiautomatic production of stacked ceramic receiving tubes. WCR 157 Pt6-58
Chambers TH and Page IH, The high-accuracy logarithmic receiver. P 1307 Ang 54
Chambers TH, See Sunstein DE
Champion KSW, The application of higher cavity resonance modes to the measurement of free electron densities and diffusion coefficients. T-AP 583 Jul 56
Champlin KS, Bridge method of measuring noise in lownoise devices at radio frequencies.(L) P 779 Apr 58
Chance B, See Schmitt 0

Chance B. See Schmitt 0 Chandler CH. Engineers and music T-AU 115 Sep-Oct 56

Chaney JG, Mutual impedance of stacked rhombic antennas. T-AP 39 Jan 54

T-AP 39 Jan 54
Chaney JG, A simple solution to the problem of the cylindrical antenna. T-AP 217 Apr 57
Chang HC, See Phillips J
Chang KKN, Beam focusing by periodic and complementary fields. P 62 Jan 55
Chang KKN, Confined electron flow in periodic electrostatic fields of very short periodic. P 66 Jan 57
Chang KKN, Bloeriodic electrostatic focusing for high-density electron beams. P 1522 Nov 57
Chang KKN and Bloom S, A parametric amplifler using lower-frequency pumpling. P 1383 Jul 58, WCR 23 Pt3 58

Chang SH and Bach R Jr, A demonstration of the re-presentation of speech by poles and zeros. NCR 135 Pt7 57

Chang SH, Capacity of a certain asymmetrical binary chan-nel with finite memory. T-IT 152 Dec 58 Chang SSL, On the filter problem of the power-spectrum analyzer. P 1278 Aug 54

analyzer. P 1278 Aug 54
Chang SSL, Two network theorems for analytical determination of optimum-response physically realizable network characteristics. P 1178 Sep 55
Chang SSL, Relation between ratio of diffusion lengths of minority carriers and ratio of conductivities.(L)
P 1019 Jul 57

Chang SSL, Theory of information feedback systems. T-IT 29 Sep 56

Chang SSL, The root square locus plot—a geometrical

method for synthesizing optimum servo systems.

NCR 79 Pt4 58

Chang SSL, On the separability of La place transform variable and its applications in carrier systems. NCR 27 Pt2 55

Chang SSL, See Bloom FJ

Chang SSL. See Hung JC Chang WSC, See Augulo CM

Chapin EW, UHF field intensity measurement experience. T-BTS 32 Jan 56 Chapin EW, Standards for test-line signals. NCR 48 Pt7 57

Chapin EW, Middlekamp LC and Roberts WK, Co-channel television interference and its reduction.

T-BTS 3 J m 58

Chapin EW, See Robens WK
Chapine JD, Tricks of the trade. T-EWS 6 Mar 58
Chapman J and Pierce ET, Relations between the character of atmospherics and their place of orgin. P 304 Jun 57

Chapman RD, Microwave repeater site planning and typing rent. T-MTT 1C Apr 52
Chapman RD, Microwave repeater site planning and development. T-CS 16 J # 54

Chapman S and Preston-Thomas H, Propulsion and inter-planetary travel (title only). NCR 258 Pt5 58

Chappuls CK, Air Force communication problem and the future Air Force operational communication system.

T-CS 32 Mar 57
Chappuis CK, A proposal for a future Air Force communication support system. NCR 209 Pt8 57

Chatterton JB, The uncertainty of measurement systems. T-I 90 Mar 58

T-I 90 Mar 58
Charbonnet WH. See Hale DR
Chasanov MG, See Boham WA
Chase RL, Some remarks on data handling systems.
T-NS 9 Jun 55
Chatten JB, Wide-range chromaticity measurements with photoelectric colorimeter. P 156 Jan 54
Chatten JB, Transition effects in compatible color television. P 221 Jan 54
Chatten JB, Clapp RG and Fink DG, The composite video signal—waveforms and spectra. T-BTR 31 Jul 55
Chatten JB and Gardner RA, Accuracy of color reproduction in the Apple system. NCR 230 Pt3 57
Chatteries B. A new treatment for parabolic reflector omb-

Chatteriee B, A new treatment for parabolic reflector prob-lems .(L) P 110 Jan 56 Chavasse P and Lehmann R (translated by Michel Copel), Procedures for loudspeaker measurements T-AU 56 May-Jun 58

Cheatham TP Jr and Kohlenberg A, Optical filters: their equivalence to and difference from electrical networks. NCR 6 Pt4 54 Cheetham RP and Mulle WA, Enhanced real-time data

accuracy for instrumentation radars by use of digital-hydraulic servos. WCR 259 Pt4 58 Chen K and Decker RO, Analogue multiplying circuits using switching transistors. NCR 74 Pt4 56

Chen MC , A magnetic core parallel adder. T-EC 262 Dec 58 Chen S , See Kirschbaum HS

Chen WH See Carde WB
Chen YM See Bauschinner 0
Chenette ER, Measurement of the correlation between flicker noise sources in transistors (L)
P 1304 Jun 58

Cheng CC, Neutralization and unilateralization. T-CT 138 Jun 55

Cheng CC , Frequency stability of point-contact transistor oscillators . P 219 Feb 56

Cheng DK, The compensation theorem.(L) P 342 Mar 55 Cheng DK, Effect of arbitrary phase errors on the gain and beamwidth characteristics of radiation pattern.(L) T-AP 145 Jul 55

T-AP 145 Jul 55
Cheng DK and Moseley ST, On-axis defocus characteristics of the paraboloidal reflector.(L)
T-AP 214 Oct 55
Cheng DK, On the simulation of Fraunhofer radiation patterns in the Fresnel region.(L) T-AP 399 Oct 57

In the Frestel region (L) T-AP 399 Oct 57

Theno DK See Hu M-K

Cheno DK See Sander S

Chemin MG, Slot admittance data at K_o band.

T-AP 632 Oct 56

Chemin MG and Bickmore RW, A design method for very long linear arrays

NCR 225 Pt1 56

Chemof J, Principles of low/speaker design and operation T-AU 117 Sep-Oct 57

Chessin PL, A bibliography on noise.

T-IT 15 Sep 55

Chester MS, A compact high-voltage power supply using

T-IT 15 Sep 55
Chester MS, A compact high-voltage power supply using a transistor inverter circuit. NCR 146 Pt6 56
Chester PF and Bolef DI, Superregenerative masers (L) P 1287 Sep 57
Chester PF, See Bolef DI
Chestnut H, Introduction to obstacles to progress in non-linear control. T-AC 59 Jul 58
Chestnut H, See Johnson RP

Chestnut H, See Johnson RP

Chi AR, Hammond DL and Gerber EA, Effects of impurities on resonator properties of quartz.(L)
P 1137 Sep 55

Chi AR, Some resonator properties of synthetic and loned synthetic quartz. NCR 7C Pt9 56

Chion KL. See Brustman JA

Chin JHS, Optimum design for reliability, the group redundancy phroach. WCR 27 Pt6 50

Chinn HA, O'Brien RS, Monroe RB and Fish PE, CBS

Telephone Cox technical facilities P. 1067, bit 54

television city technical facilities. P 1067 Jul 54 Clipp RD, A dio in TV broadcasting. T-BTS 1 Mar 55

Chisholm H., A transistorized events-per-unit-time meter. NCR 19 Pt5 56 Chisholm JH, Portmann PA, deBettencourt JT and

Roche JF, Formann PA, debettencourt JF and Roche JF, Investigations of angular scattering and multimath properties of tropospheric propagation of short radio waves beyond the herizon. P 1317 Oct 55 Chisholm JH. Progress of tropospheric propagation research

related to communications beyond the horizon. T-CS 6 Mar 56

Chisholm JH, Morrow WE, Roche JF and Teachman AE, Summary of tropospheric path loss measurements at 400 mens over distances 25-80 mHes.

WCR 115 Pt1 57 Christoffer JH, Rainville LP, Roche JF and Root HG, M. aspreheits of the bandwidth of radio waves proposated by the troposphilire Felloud the horizon (L) T-AP 377 Oct 18

Chisholm JH , See Abel WG

Chisholm RM , The characteristic impedance of trough and slab lines . T-MTT 166 Jul 56
Chisolm DA . See Quate CF
Chittick KA , Spurious radiation from TV receivers .
T-BTR 71 Apr 54

Chlavin A, A new antenna feed having equal E-and H-plane patterns. T-AP 113 Jul 54

Chodorow M, Chu EL and Nevins JR Jr, The propagation properties of cross-wound twin helices suitable for traveling-wave tubes (abstract). NCR 156 Pt3 54

Cliodorow M and Nalos EJ, The design of high-power traveling-wave tubes. P 649 May 56, Aug 57

Chodorow Band Stisskind C , Space-charge-balanced hollow beam with uniform charge distribution (L) P 497 Feb 58

P 497 Feb 58
Chodorow M. See Craig RA
Chodorow M. See Nevins JE
Choi HY, See Kaye J
Chomsky AN, Three models for the description of language. T-IT 113 Sep 56
Chomey P. See Smullin LD
Chow CK, Optimum character recognition system using decision function. WCR 121 Pt4 57,
T-EC Dec 57

Chow WE and Storn AD. Automatic rain control of

Chow WF and Stem AP, Automatic gain control of transistor amplifiers. T-BTR 1 Apr 55, P 1119 Sep 55

P 1119 Sep 55
Chow WF, Transistor superregenerative detection.
T-CT 58 Mar 56
Chow WF and Paynter DA, Series tuned methods in transistor radro circuitry. T-CT 174 Sep 57
Chow WF, See Stern AP
Chown JB, Morita T and Scharfman WE, Voltage breakdown characteristics of microwave antennas (abstract).
NCR 199 Pt1 58

Christensen H, Surface conduction channel phenomena in germanium. P 1371 Sep 54
Christensen DF, Evaluating the thermal stability and radiation resistance of silicone dielectrics.

radiation resistance or sincone defectives.
T-CP 107 Jun 58
Christiansen WN and Mathewson DS, Scanning the sun with a highly directional array. P 127 Jan 58
Christensen WV and Watkins DA, Helix millimeter-wave

tube. P 93 Jan 55 Christman RJ, The perception of direction as a function of binaural temporal and amplitude disparity.

of binaural temporal and amplitude dispaticy.
NCR 3 Pt9 56
Chu CM and Churchill SW, Multiple scattering by randomly distributed obstacles—methods of solution.
T-AP 142 Apr 56, T-AP 581 Jul 56

T-AP 142 Apr 56, T-AP 581 Jul 56

Chu EL, See Chodorow M.
Chu GY, A new equivalent circuit for junction transistors. NCR 135 Pt2 54

Chu GY, Unitateralization of junction-transistor amplifiers at high frequencies. P 1001 Aug 55

Chu LJ, Education for electrical engineering.
T-MTT 250 Jul 158

Church FM, See Chaikin SW

Churchill SW, See Chu CM

Chynoweth WR, Ferrite heads for recording In the megacycle range. NCR 18 Pt7 55

Cicchetti JB and Munushian J, Noise characteristics of

cycle range. NCR 18 Pt 7 55
Cicchetti JB and Munushian J, Noise characteristics of a backward-wave oscillator. NCR 84 Pt3 58
Cifuentes MG and Villard OG, Radio-frequency phase-difference networks: a new approach to polyphase selectivity. P 588 Mar 54
Clapp JK, Frequency stable LC oscillators.
P 1295 Aug 54
Clapp JK Locked oscillators in features standards and

P 1295 Aug 54

Clapp JK, Locked oscillators in frequency standards and frequency measurements. T-! 128 Oct 55

Clapp JK and Lewis FD, A unique standard-frequency multiplier. NCR 321 Pt5 57

Clapp JK, See Bernard WB

Clapp JK, See Lea N

Clapp RG, Clark EG, Howitt G, Beste HE, Sanford EE, Pyle MO and Farber RJ, Color television receiver design—a review of current practice. P 297 Mm 56

Clapp RG, Creamer EM, Moulton SW, Partin ME and Bryan JS, A new beam-indexing color television display system. P 1108 Sep 56

Clapp RG, Csee Bryan JS

Clapp RG , See Bryan JS
Clapp RG , See Chatten JB
Clara JM and Antinori A , Investigation of VHF nonoptical propagation between Sardma and M norca .
T-MTT 7 Dec 55

Clark AB, The scientific enterpriser NCR 15 Pt6
Clark CT, Colln RI, Dishal M, Gordy I and Rogoff M,
Navaglobe-Navarho long-range radio navigational
system NCR 88 Pt5 54.
Correction: T-ANE Jun 54.

Clark EG. A self-balancing phase detector for color receiver reference oscillators. NCR 31 Pt7 54

Clark EG , See Clapp RG

Clark GL , An electronic framing camera for millimicro-second photography . WCR 189 Pt5 58 Clark HAM , Digton GF and Vanderlyn PB , The

stereosonic recording and reproducing system T-AU 96 Jul-Aug 57

T-AU 96 Jul-Aug 57

Clark JR, Fourier analysis by machine methods.(L)
T-EC 141 Sen 56

Clark JW, Wiser HL and Petroff MD, Radiation effects on sificon diodes. WCR 43 Pt9 57

Clark JW, Development of electronic components for the nuclear radiation environment. NCR 178 Pt6 58

Clark MA, An acoustic lens as a directional microphone. T-AU 5 Jan-Feb 54

ark MA, Optimum design of power output transistors. NCR 151 Pt3 56

Clark MA, Power transistors. P 1185 Jun 58

Clark N Jr., An ultrasonic machine tool. T-UE 1 Nov 54 Clark WA., See Farley BG

Clarke GM and Lees GB , Leakage in foil solenoids (L) P 914 May 58

Clarke GM, Minimum weight solenoid systems.(L) P 1652 Sep 58

Clarke KK and Cohn J, Carrier-to-noise statistics for various carrier and interference characteristics. P 889 May 58

Clavier AG, Editorial: Wire vs wireless communication. T-MTT 3 Jan 56 Clavier PA, Johnson RA and Lackey RB, The Dirac delta function.(L) P 1876 Dec 56 Clavler PA, Distribution theory and the strip beam.(L) P 1418 Oct 57, P Dec 56

Clavier PA, Diode space and space charge (L) P 918 May 50 Clavier PA , See Adler R

Clavin A, High-power ferrite load isolators T-MTT 38 Oct 55

Clavin A., Nonlinearity of propagation in ferrite media .(L) P 259 Feb 56

Clavin A and Ohm EA, A broad-band microwave circulator.(L) T-MTT 164 Apr 57

Clavin A, Reciprocal ferrite phase shifters in rectangular waveguide.(L) T-MTT 334 Jul 58

waveguide.(L) T-MTT 334 Jul 58
Clavin A, Sec Stegen RT
Claypool WS, Mobile radio system performance in the
United States Forest Service. T-VC 31 Jun 54
Clement LM, The program on reliability of electronic
equipment. T-QC 1 Feb 54
Clement LM, Television receiver interference industry record to date. T-BTR 50 Apr 54
Clement PR and Johnson WC, A distributed electrical
analog for waveguides of arbitrary cross section.
P 89 Jan 55

Clemmow PC, Edge currents in diffraction theory. T-AP 282 Jul 56

Cline JE , See Jasionis JP

Clothier WK, Resistance-capacitance filter networks with single-component frequency control. T-CT 97 Mar 55 Cloutier GG and Bekefi G, Scanning characteristics of microwave aplanatic lenses. T-AP 391 Oct 57 Coale FS, A switch-detector circuit. T-MTT 59 Dec 55 Correction: T-MTT 183 Jul 56

Coale FS, A traveling-wave directional filter. T-MTT 256 Oct 56

Coale FS , Applications of directional filters for multi-plexing systems . T-MTT 450 Oct 58

Coale FS , See Cohn SB

Coates CL, General topological formulas for linear net-work functions. T-CT 42 Mar 58 Coates RJ, Measurements of solar radiation and atmos-pheric attenuation at 4.3-millimeters wavelength. P 122 Jan 58

Coe GJ and Trabold FW. Man-instrument relationships in the design of nuclear instrumentation. T-I 74 Jun 57 Coffey WN. Behavior of noise figure in junction tran-

Corley WW, Benavior or noise rigine in junction transistors, (L.) P. 495 Feb 50
Coffey WN, See Pritchard RL
Coggeshall IS, Will electronics support your wife in style? SQ 22 Dec 54
Coggeshall IS, System aspects and trends of modern communication. NCR 51 Pt8 54

Cohen AA, The role of general purpose digital computers in automatic control and information systems. NCR 82 Pt4 54

Cohen J., See Okim AM
Cohen MH, Reciprocity theorem for anisotropic media (L)
P 103 Jan 55

P 103 Jan 55
Colien MH and Fisher RC, A dual-standard for radar echo
measurements. T-AP 108 Jul 55
Colien MH, Application of the reaction concept to scattering problems. T-AP 193 Oct 55
Cohen MH, Radic astronomy polarization measurements.
P 172 Jan 58
Colien MH, The Cornell radio polarimeter.
P 183 Jan 50

P 183 Jan 5C

Collen MJ and Gibson HC Jr, Some considerations concerning nuclear radiations for application to aeronautical navigational aids. T-CS 122 Mar 57

Cohen RM, Application considerations for RCA commercial transistors. T-ED 32 Feb 54

Cohen SA, Traveling-wave tube gain fluctuations with frequency. T-ED 70 Jan 57

Collen SG. See Arcand T

Cohn GI, Waveguide immulse response.
T-AP 582 Jit 56

Cohn GI, Peach LC, Epstein M, Sorensen HO and Kanellakos DP, Magnetostrictive delay line for video signals. T-CP 53 Mar 58

Cohn GI and Musal HM, Transient response of phosphors.
T-CP 90 Jim 58

Cohn J, See Clarke KK

Colm J. See Clarke KK
Cohn M. See Clarke KK
Cohn M. and King WC. A sideband-mixing superheterodyne receiver. P. 1595. Nov. 56
Colm M. Parallel plane waveguide partially filled with a dielectric.(L.) P. 1953. Dec. 58

Cohn SD, Characteristic Impedance of the shielded-strip transmission line. T-MTT 52 Jul 54

Cohn SB, Impedance measurement by means of a broadband circular-polarization coupler. P 1554 Oct 54

Cohn SB, Problems in strip transmission lines T-MTT 119 Mar 55

Cohn SB, Optimum design of stepped transmission-line transformers . T-MTT 16 Apr 55
Cohn SB, Shielded coupled-strip transmission line . T-MTT 29 Oct 55

Cohn SB and Coale FS, Directional channel-separation filters. P 1018 Aug 56, NCR 106 Pt5 56

Cohn SB, Direct-coupled-resonator filters. P 187 Feb 57. Correction: P 956 Jul 57

Colin SB. Parallel-coupled transmission-line-resonator filters. T-MTT 223 Apr 58
Cohn SB, See Jones EMT
Colin SB, See Marita T

Cohn SB, See Reed J
Cohn SI, See Rucker H
Coile R, Ages of creativeness of electronic engineers.(L)
P 1322 Aug 54

Colander RC and Kortman CM, A transistorized FM/FM telemetering system. T-TRC 20 May 55

Cole EB , See Ashwell J

Cole KS, Electro-ionics of nerve action. T-ME 28 Oct 56

Cole RI, Electronic plotting applied to marine usage. T-CS 67 Mar 55

Cole RI, Training of systems engineers. T-EM 71 Sep 58

Cole RS, See Brown AC Cole RS, See Honeyman WN

Cole TE, Safety aspects of control circultry. NCR 75 Pt9 54

Coleman AF , The responsibility of engineering management . T-EM $\,48\,$ Nov $\,54\,$

Coleman HP. See Peeler GDM
Coleman PD. See Pantell RH
Colgate H, Comeau C, Kelley D, Payne D and Moulton S,
Recent improvements in the Apple beam-indexing
color tube. NCR 238 Pt3 57

Colin RI, See Clark CT
Colln L, See Rush S
Collin RE, Theory and design of wide-band multisection quarter-wave transformers. P 179 Feb 55

Collin RE, The characteristic impedance of a slotted coaxial line. T-MTT 4 Jan 56
Collin RE, The othrum tapered transmission line matching section. P 539 Apr 56. Correction: P 1753 Dec 56

Collin RE and Vaillancourt RM, Application of Raleigh-Ritz method to dielectric steps in waveguides . T-MTT 177 Jul 57

Collin RE, Determination of equivalent circuit parameters.(L) T-MTT 266 Oct 57
Collin RE, A simple artificial anisotropic dielectric medium. T-MTT 206 Apr 58. Correction: T-MTT 414 Oct 58

Collin RE , See Klonfenstein RW Collins AL , See Lehr CG

Collins RL , see Left Cd
Collins RW and Douglas VA , An experimental mobile
dispatching system . NCR 3 Pt8 55
Collins WC , The contributions of aeronautical communications to public safety systems . T-CS 23 Mar 57
Collins WC , Electronics application in the County of Los
Angeles . T-VC 45 May 57

Angeles. T-VC 45 May 57
Collins WH, See Hollis JL
Colodny SH, Single timed transformers for transistor amplifiers. NCR 118 Pt 7 58
Combs TC, Case history. NCR 34 Pt6 58
Comeau C, See Colgate H
Comerci FA, Wilpon S, and Schwartz R, Navy standardization of 1/4-inch magnetic tape and recorder-

ardization of 1/4-inch magnetic tape and recorder-reproducers. T-AU 146 Sep-Oct 54

Comerci FA, Perceptibility of flutter in speech and music. T-AU 62 May-Jun 55

Comerci FA and Oliveros E, An audio flutter-weighting network. T-AU 124 Sep-Oct 56, NCR 62 Pt7 56

Comley W, Function generation by integration of steps. WCR 280 Pt4 57

Comlev W. See Kovach LD Comstock CC, A 200 cps to 5 mc recording equipment. NCR 144 Pt10 55

NCK 144 Pt10 55

Comstock M, The literature of instrumentation for radiological studies. T-NS 15 Jun 56

Comunitzis MG, Packaging of component parts for high intensity vibration environments. T-CP 72 Sep 54

tensity vibration environments. 1-CP 72 Sep 54
Condia AM, See Wait JR
Condie MA, Basic design considerations—automatic
navigator AN/APN-67. T-ANE 197 Dec 57
Condit R, Warnick A and Patraiko J, Electronic detection
and photography of incipient rupture of high speed rotors.
NCR 97 Pt5 57

Condit RE , Some applications of capacity micrometers to high speed, high temperature measurements . T-IE 40 Mar 56

Conn GKT, See Beattle JR
Connally RE, A dual function gamma monitor.
T-NS 28 Mar 56
Conners T, The double standard in engineering writing.
T-EWS 6 Aug 58
Connolly TE, Some major pitfalls of technical writing.
T-EWS 22 Aug 58

Connor JA, Calculations of the risk of component applica-tions in electronic systems T-RQC 30 Jan 57 Conrad GT Jr., Noise measurements of composition resistors. T-CP 61 Nov 55

Conrad GT Jr, A proposed current-noise Index for composition resistors. T-CP 14 Mar 56
Convent G, See Dochler 0
Conwell EM, Properties of silicon and germanium: II.
P 1281 Jun 58

Cook ED, The economic and technical aspects of industrial electronics. T-IE 13 Apr 58
Cook EG, Translent and steady-state response of ultrasonic piezoelectric transducers.
NCR 61 Pt9 56

Cook EJ, Electrolytic tank design of electron guns with curved electron trajectories .(L.) P 497 Feb 58 Cook JS, Kompfner R and Suhi H, Nonreciprocal loss in traveling-wave tubes using ferrite attenuators .(L.)

P 1188 Jul 54
Cook JS, Tapered velocity couplers—part I (abstract).
NCR 74 Pt3 55

Cook JS, Kompfner R and Yocom WH, Stalom focusing. P 1517 Nov 57

Cook TB Jr, See Sander HH
Cook WS, See Crysdale JH
Coon RM, See Watt AD
Coon RM, See Watt AD
Cooper BFC, A bridge for measuring audio-frequency
transistor parameters. P 796 Jul 55

Cooper HW, Hoffman M and Isaacson S, In face wave antenna. NCR 230 Pt1 58

face wave antenna. NCR 230 Pt1 58
Cooper HW, See Ringenbach ME
Cooper JB, See Banno S
Cooper VJ, The correction of differential phase distortion in color television transmitters. T-BTS 1 Jun 57
Cooter IL, See Harris WP
Copel M, See Chavasse P
Copel and J, See Whitehurst RN
Copp WC, The radio engineering show.
SQ 22 Feb 57
Connola PP and Hupber RC. A new constant dispages.

Coppola PP and Hughes RC , A new pressed dispenser cathode. P 351 Mar 56

Copson DA, Microwave energy in food procedures . T-ME 27 Feb 56

T-ME 27 Feb 56
Cormier M. See Cumming WA
Cornelison B and Adcock WA, Transistors by growndiffused technique. WCR 22 Pt3 57
Cornelison B, See Stewart RF
Cornete WH Jr, See Carter CJ
Corput VD Jr, Global communications systems of the
Armed Services. T-CS 3 Nov 54
Correll EG, See Saltzberg B
Corrington MS, Adventures in calculus (L)
P 1703 Nov 54
Cortented MS, Murakam I T and Somenfeldt RW. En

Corrington MS, Adventures in carcinis. LL)
P 1703 Nov 54
Corrington MS, Murakaml T and Sonnenfeldt RW, Equalization in the time domain. NCR 30 Pt2 54
Corrington MS, Why engineers should write technical papers. T-AU 1 Jan-Feb 56
Corrington MS, Libbey RL and Perry SV, The AF anechoic chambers at Cherry Hill. T-AU 161 Nov-Dec 56
Corrington MS, Napierian logarithms. (L) P 1294 Sep 57
Corrington MS and Murakaml T, Tracing distortion in stereophonic disk recording. NCR 72 Pt7 58
Corrington MS, See Murakami T
Corwin G, See Faulkner WH Jr
Cosgriff RL, See Kennauph EM
Cosgriff RL, Solution of statistical problems by automatic control techniques. NCR 57 Pt4 57
Costas JP, Phase-shift radio teletyne. P 15 Jan 57
Costas JP, Synchronous communications.
P 1713 Dec 56, T-CS Mar 57
Costas JP, Synchronous communications.
(L) P 537 Apr 57
Costas JP, A mathematical analysis of the Kahn com-

£5

Costas JP, A mathematical analysis of the Kahn com-natible single-sideband system. P 1396 Jul 58 Costas JP, AM transmitters as SSB jammers (L) P 1960 Dec 58

Costrell L, Radiation monitoring over long-distance tele-phone lines and direct field lines. T-NS 21 Aug 58

T-NS 21 Aug 58

Cote AJ Jr, Evaluation of transistor neutralization networks. T-CT 95 Jun 58

Cote AJ Jr, Matrix analysis of oscillators and transistor amplications. T-CT 181 Sen 58

Cote AJ Jr, Cascaded two-port networks.(L)
T-CT 224 Sen 58

Cotter MA, A flutter meter incorporating subjective weightings (abstract). NCR 74 P17 56

Cotterfill MJ and Hallna JW, Practical and theoretical desire considerations for bridge negative feedback amplifiers in carrier telephone. T-CS 26 Sep 57

Cottingham JG, Plotkin M and Raka EC, Electronic equipment for an electron analogue accelerator.

T-NS 12 Sep 54
Cottony HV, High-gain antennas for VHF scatter propagation. T-CS 56 Mar 56
Cottony HV and Wilson AC, Gains of finite-size corner-reflector antennas. T-AP 366 Oct 58
Coughtin F and Smith EK Jr, Observance of unusual Loran signals.(L) T-ANE 84 Jun 57
Coughlin F Jr, See Bennit RC Jr
Coulling LdW, Factors influencing single-sideband receiver design. P 1750 Dec 56
Coulleur JF, BIDEC—a binary-to-decimal or decimal-to-binary converter. T-EC 313 Dec 58
Court AWG, The width of coverage of a radar antenna.(L) P 1016 Aug 55
Courtney J, Of communications engineers, mobile radio, Cottingham JG, Plotkin M and Raka EC, Electronic

Courtney J., Of communications engineers, mobile radio, management and sealing wax. T-VC 71 Jun 55

Coutrez R, Hunaerts J and Koeckelenbergh A, Radio emission from comet 1956 h on 600 mc. P 274 Jan 53

Covington AE and Broten NW , An interferometer for radio astronomy with single-lobed radiation pattern. T-AP 247 Jul 57

Covington AE , See Barber NF
Covington AE , See Medd WJ
Cowles LG , Correction to: The parallel-T resistant-canacitance network . P 1547 Oct 54

Cox B and Goldberg J, A magnetic-drum sorting system.
NCR 101 Pt4 56

Cox JA, Telemetering system for X-17 missile. T-TRC 2.5 Apr 57

Cox JA, Missile temperature telemetering, WCR 118 Pt5 57

Cox RJ, Automatic start-up of nuclear reactors . T-NS 15 Feb 56

Cox RT and Pappenfus EW, A suggestion for spectrum conservation. P 1685 Dec 56

conservation. P 1685 Dec 56
Craddock HC, A new six-channel X-Y recorder and point plotter. T-I 53 Mar 58
Craig KJ, See Yaplee BS
Craig RA and Chodorow M, Some new circuits for high-power traveling-wave tubes. P 1106 Aug 57
Craiglow RL and Martin EL, Frequency control techniques for single sideband. P 1697 Dec 56
Crain CM, Gerhardt JR and Williams CE, A preliminary survey of tropospheric refractive index measurements for U. S. interior and coastal regions. T-AP 15 Jan 54
Crain CM, Survey of sightpore microwave refractometer.

Crain CM, Survey of airborne microwave refractometer measurements, P 1405 Oct 55
Crain CM, Boggs JE and Thorn DC, Refractive Index

measurements of smokes and aerosols. T-I 246 Dec 57

Crain CM, See Fain WW Crain CW, See Fyler NF

Crandell PA, A tunistile polarizer for rain cancellation. T-MTT 10 Jan 55

I-MTT 10 Jan 55
Crahdell PA, An accurate frequency measuring technique using paramagnetic resonance phenomena in the X-band region. WCR 26 Pt1 58
Crane HD, See Rajchman JA
Craven TAM, The radio spectrum. T-BTS 1 Dec 58
Creamer EM Jr, DeZube LH and McCallister JP,
Transistor circuit problems in TV receiver design.
NCR 205 Pt3 57

Creamer EM Jr, See Bryan JS
Creamer EM Jr, See Clapp RG
Creedon JE, See Udelson BJ
Cremošnik G, Frei A and Strutt MJO, New applications of impedance networks as analog computers for electronic space charge and for semiconductor diffusion problems.

P 868 May 58

Creutz PM, Treatment and methods of reducing pulse and random interference. NCR 106 Pt8 58

Creveling CJ, Increasing the reliability of electronic equipment by the use of redundant circuits. P 509 Apr 56

P 509 Apr 56
Crichlow WQ, Noise Investigation at VLF by the National Bureau of Standards. P 778 Jun 57
Crippen DS, The air traffic control radar beacon system.
T-ANE 6 Mar 57
Crippen DS, See Vickers TK
Cripps LG, Transistor cutoff frequency measurement.(L)
P 781 Apr 58
Crissy WJE, The art of delegation of authority
(abstract). NCR 20 Pt10 57
Crist PW, The unit for frequency.(L) P 880 Jul 55
Critchlow OL, See Abbas SA
Crone WR, A visitation from Maxwell.
SO 17 Sep 55
Crone WT, He heard the stars. SO 8 May 55

Crone WT , He heard the stars . SO 8 May 55
Cronin D , Modulation noise in two-channel disk recordings . T-AU 130 Nov-Dec 58

ings. T-AU 130 Nov-Dec 58
Cronin LJ, Ceramic-to-metal seals for magnetrons.
NCR 171 Pt3 55

Cronin LJ and Apelbaum JH , Rare-earth oxide cathodes . NCR 12D Pt3 57

Crosshagen A. Analysis of a cumulative results sampling plan for use with sampling tables using zero acceptance numbers. T-QC 14 Dec 54
Crosby DR, Theoretical gain of flat microwave reflectors. NCR 71 Pt1 54

Crosby DR, The ideal transformer.(L)
T-CT 145 Jun 58
Crosby RE, Jr, See Lin HC
Crosby RL. See Prom GJ
Cross JS, The International Radio Consultative Committee.
P 1622 Dec 57

Crossley A, Sales engineering. SQ ? Sep 54
Crow RP, A versatile transistor tester for measuring open circuit T parameters. NCR 130 Pt10 55

Crow RP and Mobiler RD, Design of a high fidelity 1C watt transistor audio amplifier. NCR 1-12 Pt7 56

Crowley JJ. The impact of reliability requirements on organization in the manufacture of airbonic electronic equipment. T-RQC 1 Sep 58

Crownover JW, Electrostrictive relay.
T-CP 77 Sep 54
Crownly CB, A UHF traveling-wave amplifier tube employ-

ing an electrostatically focused hollow beam. T-ED 62 Jan 56

Cruser VI. Enuipment and mechanical features of the AN. TRC-24 ratio set. T-CS 165 Nov 54 Cryden J. Industry's new role in education. WCR 7 Pt9 53

Crysdale JH, Dickson FH, Egli JJ, Herbstreit JW and Wickizer GS , Large reduction of VHF transmission loss and fading by the presence of a mountain obstacle in beyond-line-of-sight paths .(L) P 627 May 55 . Correction: P 874 Jul 55

Crysdale JH, Day JWB, Cook WS, Psutka ME and Robillard PE, An experimental investigation of the diffraction of electromagnetic waves by a dominating T-AP 203 Apr 57

Crysdale JH, Comparison of some experimental terrain diffraction losses with predictions based on Rice's theory for diffraction by a parabolic cy inder (L) T-AP 293 Jul 58 Crytzer S, Mockus E and Gillis T8, An experimental tube

for measuring the sublimation properties of nickel alloy cathodes. T-ED 56 Feb 54

Csepely JA, Appraisal of wirewound potentiometers. T-CP 5 Sep 54

Cullen AL, Rogal B and Okamura S, A wide-band double-vane torque-operated wattmeter for 3-cm microwaves. T-MTT 133 Apr 58 Cullum AE Jr., Modern techniques for the determination

Cullum AE Jr., Modern techniques for the determination of service areas of television broadcast stations.

T-BTS 1 Sen 56

Culp JW and Koskos P., A ceramic-metal voltage reference tube. T-ED 144 Apr 57

Cumming LG and Mumford WW., Reports of international organizations.(L) T-MTT 42 Apr 55

Cumming RC., The Serrodyne frequency translator.
P 175 Feb 57

Cumming MA. A correspondent ending array for VHE and

Cumming WA, A nonresonant endfire array for VHF and UHF, T-AP 52 Apr 55
Cumming WA and Cormier M, Design data for small annular slot antennas. T-AP 210 Apr 58

Cunco JV, See Talkin Al

Cunningham DH, Designing relays for high reliability. WCR 3 Pt6 57

Cunningham JR, Electronic counting as an industrial tool. WCR 178 Pt6 57
Cunningham S, Spectroscopy aspects of high-temperature fusion research (title only).
WCR 139 Pt5 58

Curningham WJ, Time-delay networks for an analog com-iter. T-EC 16 Dec 54 Curlee NJ, See Johnson SO Curnow HJ, See Bridees TJ Currie MR and Whinnery JR, The cascade backward-wave

amplifier: a high-gain voltage-tuned filter for microwaves. P 1617 Nov 55

Currie MR and Forster DC, The gain and bandwidth characteristics of backward-wave amplifiers. T-ED 24 Jan 57

Currie MR and Forster DC, Experiments on noise reduction in backward-wave amplifiers (L) P 690 May 57

Currie MR and Forster DC, Low noise tunable preampli-fiers for microwave receivers. P 570 Mar 58

Currie MR and Forster DC , Conditions for minimum noise generation in backward-wave amplifiers .

T-ED 88 Apr 58
Currie MR, A new type of low-noise electron gun for microwave tubes.(L) P 911 May 58

Curtis CW. See Bowers EO
Curtis GD and Ryan LF, Component reliability through
standardization. T-CP 1 Nov 55
Curtis KV and Kelly TJ, Improvements in radar data
presentation. T-ANE 91 Jun 58

Curtis O Jr and Gossick BR, Experimental investigation of the transient behavior of gold-germanium surface bar-

riers. T-ED 163 Oct 56 Curtis WL, Dalby TG and Holman FS, The probe excited

airframe as a high frequency antenna.
T-ANE 121 Sep 56
Curtiss AN, Dilemma of engineers in management.
T-EM 62 Jun 57

Cusack FH, Telegraph terminal AN/FGC-29 equipment features. T-CS 157 Nov 54 Cusano DA, The physics of solid-state light amplifiers. T-NS 102 Nov 56 Cutkosky RD, See McGrenor MC

Cutter B, A modern approach and landing system (ALS). WCR 62 Pt5 58

WCR 62 Pt5 58
Cutler CC, The regenerative pulse generator.
P 140 Feb 55
Cutler CC and Saloom JA, Pin-hole camera investigation of electron beams. P 299 Mar 55
Cutler CC and Hines ME, Thermal velocity effects in electron guns. P 307 Mar 55
Cutler CC, Sourious modulation of electron beams. P 61 Jan 56

Cutler M and Bath HM. Surface leakage current in silicon fused junction diodes . P 39 Jan 57

Cutler M , Point contact rectifier theory T-ED 201 Jul 57 Cutteridge OPD , Criteria for stability (L) T-CT 144 Jun 58

Czoniy V , See Levy M -D-

Daams H., See Kalra SN Dacey GC, Quantum theory and solid-state physics. SQ 31 Dec 58 Dacey GC. See Thomas DE Dahlke W and Dlouhy F, A cathode test utilizing noise measurements. P 1639 Sep 58 Dahlke W., See Rothe H.

Dahlman BA, A double-gound-plane strip-line system for microwaves. T-MTT 52 Oct 55
Daily L, Wakim KG, Herrick JF, Parkhill EM and Benedict WL, The effects of microwave diathermy on the eye. T-ME 25 Feb 56
Daiby TG, See Curtis WL
Dalman CG and Rhoads AS Jr, Microwave oscillator noise spectrum measurements. T-ED 51 Dec 54
Daly RT and Holloway JH, The Atomichron: an atomic frequency standard. T-CS 25 Mar 57
Dalviel CF. Effects of electric stock on man

Dalziel CF, Effects of electric shock on man. T-ME 44 Jul 56

D'Amato R , Dressler R and Jacobs A , The chromatron as the basis for low-cost television receivers . NCR 89 Pt3 56

Damon EK, See Dawirs HN

Damon EK, See Dawirs HN
Damonte JB and Stoddard DJ, An analysis of conical scan antennas for tracking. NCR 39 Pt1 56
Dandl RA, See Stone RS
Daniel FT, See Rice PL
Daniels JW, A stacked ceramic vacuum relay.
WCR 9 Pt6 57
Daniels RB, See Ross JD
Daniels RW, A prediction of the future machinery of automation T-PT 14 Apr 58
Danielson WE. Space charge waves on an acceleration

Danielson WE, Space charge waves on an accelerating stream of uniformly charges square laminae (abstract). T-ED 215 Dec 54

Dannals GC, Magnetic tape playback and digital conversion of telemetered flight data for entry into digital computers. NCR 31 Pt5 57

Danos M and Lashinsky H, Millimeter wave generation by Cerenkov radiation. I-MTT 21 Sep 54
Danser JW See Hazen DF
DaParma EU, Views on decentralization.
T-EM 85 Sep 57

Darling DA and Siegert AJF, A systematic approach to a class of problems in the theory of noise and other random phenomena—Part I. T-IT 32 Mar 57

Darling DC , See Ramberg EG
Darlington S , A survey of network realization techniques .
T-CT 291 Dec 55

Darlington S, Introduction to papers.

Darlington S, Introduction to papers.
T-CT 290 Dec 55

Darnell PS, History, present status, and future developments of electronic components. T-CP 124 Sep 58

Darrell RD, Environmental-fitness considerations of high-fidelity audio systems. NCR 100 Pt7 55

Dasher BJ, Finn DL and Lowry TN, Theory of low-frequency oscillators employing point-contact transistors.
NCR 45 Pt2 55

Dasher RJ. Sep Finn DL

Darher BJ, See Finn DI
Dasher BJ, See Meadows HE Jr
Dasher BJ, See Su KL
Daum L, Electron multiplier neutron detectors.
T-NS 30 Aug 58

Dautremont JL Jr., Some comments on minimum triggering signals.(L) P 1654 Sep 58
Davenport WB Jr., Editorial: Sputnik, et cetera.
T-IT 213 Dec 57

Davenport WB Jr, Some communications applications of detection theory (summary). NCR 4 Pt4 58

detection theory (summary). NCR 4 Pt4 58
David EE Jr, Signal theory in speech transmission.
T-CT 232 Dec 56 \(^1\)
David EE Jr and McDonald HS, A bit-squeezing technique applied to speech signals. NCR 148 Pt4 56
David EE Jr, Mathews MV and McDonals HS, Description and results of experiments with speech using digital computer simulation. WCR 2 Pt7 58
Davidoff F, See Popkin-Cluman JR
Davidson CH, A survey of the characteristics of currently used bistable multivibrators.(L)
T-EC 121 Jun 57

T-EC 121 Jun 57

Davidson D, Unusual Loran signals (L) T-ANE 122 Jun 58

Davidson DS , See Wade EJ

Davidson JJ, Low noise transistor microphone amplifier. NCR 162 Pt7 57

NCR 162 Pt7 57

Davidson RA and Rosen BH, Effects of radiation on Vidicon nerformance. T-NS 46 Aug 58

Davies DW, Switching functions of three variables. T-EC 265 Dec 57. Correction: T-EC 250 Sep 58

Davies GL, Magnetic recorders for data recording under adverse environments. T-AU 133 Sep-0ct 54

Davis CD and Frayne JG, The Westrex stereo disk system. P 1686 Oct 58, NCR 62 Pt7 58

Davis DT , See Boone EM

Davis EF , Phase stabilization to microwave frequency standards . WCR 187 Pt1 57

Davis EM Jr , Comparisons between multiple loop and sin-

ofe loop transistor feedback amplifier:.

WCR 78 Pt2 58

Davis GWL, Gladys SJ, Lang GR, Luke LM and Taylor
MK, The Canadian JANET system. P 1666 Dec 57

Davis H and Trautman DL, The removal of the redundancy
the to intersymbol dependence. NCR 182 Pt4 55

Davis H., Communications in air navigation and traffic control. NCR 119 Pt8 56
Davis H and Setrin M., Increasing the traffic capacity of transponder systems. NCR 30 Pt5 53
Davis H. See Hoyle H
Davis JF., A sensitive system for the measurement of brain responses in the intact human.

T-ME 29 Jul 58

Davis JI, Technique of pulsing low power reflex klistrons. T-MTT 40 Jan 56

Davis JI, Automatic missile systems test considerations. WCR 22 Pt8 58

Davis L Jr, Rubin LG and Straub WD, Rapid determina-tion of some electrical properties of semiconductors. T-ED 34 Apr 54

Davis MM Jr and Baldwin M , An intercommunication system for the surgical operating room. NCR 24 Pt9 56

Davis RC , Detectability of random signals in the presence of noise. T-IT 52 Mar 54 Davis RC, Bell PR, Kelley GG and Lazar NH , Response

of total absorption spectrometers to gramma rays.

of total absorption spectrometers to gramma rays.

T-NS 82 Nov 56

Davis RC, See Kelley GG

Davis RC, See Lazar NH

Davis RE and Dearle RC, A method for the accurate measurement of the noise temperature ratio of microwave mixer crystals. T-MIT 27 Dec 55

Davis TN, See Stanley GM

Multi-adjunct Fortite devices.

Davison B, Multi-element ferrite devices . WCR 39 Pt1 57

WCR 39 Ptl 57
Dawirs HN, Graphical filter analysis.
T-MTT 15 Jan 55
Dawlrs HN, A chart for analyzing transmission-line filters from imput impedance characteristics. P 436 Apr 55

P 436 Apr 55

Dawirs HN and Damon EK, Measurement of crystal impedances at low levels. T-MTT 94 Apr 56

Dawirs HN, Application of the Smith chart to general inpedance transformations P 954 Jul 57

Day C, Novel techniques used in the assembly of phototubes and similar vacuum devices. T-ED 62 Feb 54

Day EA, See Tucker EB

Day JP, Television as an ald to remote sensory perception (abstract). WCR B9 Pt5 57

Day JWB, See Crystale JH

Day JWB, See Crysdale JH
Day RL, The use of a mobile television monitoring unit

Day JWB, See Crysdale JH
Day RL, The use of a mobile television monitoring unit
in an enforcement program. T-BTS 19 Feb 57
Deam AP and Fannin BM, Phase-difference variations in
9350-megacycle radio signals arriving at spaced antennas. P 1402 Oct 55
Dean WM, See Frantz WP
Dean WM, Testing high fidelity amplifiers in the
home, NCR 59 Pt7 57
Deards SR, See Ansell HG
Darle RC, See Davis RE
deBettencourt JT and Whitcraft WA Jr, Long range meteoric
echoes via F-layer reflections. T-AP 72 Jan 56
deBettencourt JT, Ward AE and Goldberg B, Meteor
burst propagation. NCR 121 Pt1 58
deBettencourt JT, See Abel WG
deBettencourt JT, See Booker HG
deBettencourt JT, See Booker HG
deBettencourt JT, See Chisholm JH
deBey LG and Webb RC, A shaft position digitizer system of high precision. NCR 204 Pt5 58
de Buda RG, A method of calculating the characteristic
impedance of a strip transrission line to a given degree
of accuracy. T-MTT 440 Oct 58
deBdda RG, New transpositions in power transformer

deBuda RG, New transpositions in power transformer windings. NCR 54 Pt2 58 deBuda RG and Vilcans J, Limitations of the output

pulse shape of high power pulse transformers.

deBuda RG and Vilcans J, Limitations of the output pulse shape of high power pulse transformers.

NCR 87 Pt8 58

Decker MT, TACAN coverage and channel requirements.

T-ANE 135 Sep 57

Decker RT, See Barghausen AF

Decker RP, See Gerks IH

Decker RP, See Gerks IH

Decker RW and Schneeberger RJ, Image tube utilizing hombardment indiced condictivity. NCR 156 Pt3 57

DeClarls N, A method of rational function approximation for network synthesis. NCR 51 Pt2 55

DeClarls N, Driving-point impedance functions of active networks. NCR 26 Pt2 56

DeClarls N, See Scott RE

DeCola R, Shelby RE and Mcliwain K, NTSC color television field test. P 20 Jan 54

DeCola R and Harrington G, An engineering approach to printed circuitry and automation. NCR 50 Pt6 55

DeCote R and Horvath WJ, An electronic computer for vector electrocardiography. T-ME 31 Jul 57

de Faymoreau E, Experimental determination of TACAN bearing and distance accuracy. T-ANE 33 Mar 56

bearing and distance accuracy. T-ANE 33 Mar 56
DeForest L, See Ramo S
DeGrasse RW and Wade G, Electron beam noisiness and
equivalent thermal temperature for high-field emission
from a low-temperature cathode (L) P 1048 Arg 56

DeGrasse RW and Wade G , Microwave mixing and frequency dividing (L) P 1013 Jul 57

DeGrasse RW, Dunn DA, Grow RW and Wade G, M cro-wave frequency mixing and frequency division with beam-type tubes. WCR 163 Pt3 57

type tubes. WCR 163 Pt3 57

DeGrasse RW, Slow-wave structures for unilateral solid-state maser amplifiers. WCR 29 Pt3 58

DeGrasse RW, See Buchmiller LD

DrG fire ML, Guest editorial: Army. T-PT 4 Sen 56

Derichert RW and Scherage MG, The special application of the cathode ray oscillograph in television broadcast operation. T-BTS 42 Mar 55

Defined EO, Impregnation of teroids for high temperature service. T-CP 113 Dec 56

Defined EO, Honeycomb structure rigidizes printed wiring for high vortation. WCR 166 Pt6 50

DeLange OE, The regeneration of binary microwave of the services. T-MTT 62 Dec 55

DeLano RB Jr, A large capacity storage tube for digital computer applications. NCR 125 Pt3 54
DeLano RH and Pfeffer I, The effect of AGC on radar tracking noise. NCR 200 pt4 55, P 801 Jun 56

Dellinger JH, What is RTCA its philosophy and its re-lationship to IRE and other professional societies? T-ANE 4 Sep 55

Dellinger JH, International cooperation in radio research—URSI and IRE. P 866 Jul 56
Dellinger JH, What RTCA is doing.
T-ANE 101 Sep 57

ى

O

ø

12

(3

DeLong VR, Automatic operation of a high power ampli-fier. NCR 42 Pt8 55

DeLong VR, Automatic tuning techniques for single-side-band equipment. P 1766 Dec 56

DeMars SA, See Thomas HE Dempster B, More engineering per dollar. T-EM 1 Mar 55

Dempster B, Your own business. SQ 40 Dec 57 Dempster B, Does the present cost-plus-flxed-fee contract give the Government the best deal? WCR 16 Pt9 58

WCR 16 Pt9 58

Demuth HB, See Caryotakis GA

Denlsse JF, See Blum EJ

Denman ED and Lally PM, High-gain traveling-wave amplifiers. T-ED 83 Apr 56

Depian L, See Dill F Jr

Dertinger EF, A reliability department operation for production missiles. NCR 75 Pt6 56

Dertinger EF, A reliability program for R and D projects. NCR 37 Pt10 57

Dertinger EF and Pertschuk DW, Current military relia-bility specifications. T-RQC 6 Sep 58

bility specifications. T-RQC 6 Sep 58

Detinger EF, A progress report on the arma inertial guidance system reliability program.

NCR 77 Pt6 58

Deschamps GA, A simple graphical analysis of a two-port wavequide junction.(L) P 859 May 54

Deschamps GA, A variant in the measurement of two-port junctions. T-MTT 159 Apr 57

Deschamps GA, Correction to: New chart for the solution of transmission line and polarization problems,

of transmission line and polarization problems.

T-MTT 64 Jul 54

Deschamps GA, Theoretical aspects of microstrip waveguides (abstract). T-CS 100 Jul 54,
(abstract) T-MTT 100 Apr 54

Desmares P., See Adler R Desoer CA, Network design by first-order predistortion technique. T-CT 167 Sep 57 Desoer CA, Four-port constant R network required by a

two-way single amplifier repeater. T-CT 276 Dec 58

Desoer CA, On the characteristic frequencies of lossless
nonreciprocal networks.(L) T-CT 374 Dec 58

Desoer CA, Transmission through a linear network containing a periodically operated switch.

WCR 34 Pt2 58

Desoer CA. See Bashkow TR Desoer CA. See Gelfe PR Destrlau G and Ivey HF, Electroluminescence and related topics. P 1911 Dec 55

Dettham AJC , Application of telemetry to flight testing . T-TRC 4.3 Apr 57

Dettinger D., The advantages of expressing standing-wave ratio in decibels.(L) T-MTT 218 Jul 57
Dettinger D. The optimum spacing of bead supports in coaxial line at microwave frequencies.

NCR 250 Pt1 57

NCR 250 Pt1 57

Dettinger D. See Rickert HH

Dettman MC, A semi-automatic tuning high frequency communications equipment. T-VC 29 Dec 56

Deutitch DE and Paz HJ, A phase-regulated transistor nower sumly. T-CT 279 Sep 57

Deutsch R, Detection of modulated noise-like signals. T-IT 106 May 54

Deutsch R, On a method of Wiener for noise through non-linear devices. NCR 186 Pt4 55

Deutsch R, Piecewise guadratic detector.

Deutsch R, Piecewise quadratic detector NCR 15 Pt4 56

Deutsch S , Optimum crystal mixer operation—the IN82 crystal . T-BTR 10 Jan 55

Deutsch S , The possibilities of reduced television bandwidth . T-BTR 69 Oct 56

Deutsch S , A note on some statistics concerning type-written or printed material . T-IT 147 Jun 57 Deutsch WG , Application of automatic techniques in the handling of physical data for a modern refinery . T-IE 23 Aug 58

Develet JA Jr., A simplified procedure for finding Fourier coefficients (L) P 1549 Nov 57

Develet JA Jr, Design of video amplifiers with stringent electrical and mechanical requirements (L) P 1541 Aug 58

De Vito G, Efficiency of large antennas in O/H links .(L) P 617 Mar 58

DeVore C, Technical information: communication for research. NCR 35 Pt11 54 DeWitt JH Jr, Reynolds GA and Rawls LE, An experi-mental on-channel satellite booster system.

T-BTS 83 Mar 55

T-815 83 Mar 55
DeWitz GH, Consideration of mechanical and LC type
filters. T-CS 54 May 56
de Wolf FC, The ITU and global communications.
T-CS 18 Nov 54
de Wolf FC, The 1959 International Radio Conference.
P 1618 Dec 57

AUTHOR INDEX 13

Dexter AM, A magnetic thickness gage for rubber and plastic applications. T-IE 34 Mar 55
DeZube LH, See Creamer EM Jr
D'heedene AR, Crystal filters developed in the Bell Telephone System. WCR 83 Pt6 57
Diamantides ND, A multipurpose electronic switch for analog computer simulation and autocorrelation applications. T-EC 197 Dec 56

Diamond FI, See Felner A
Diamond JM, Commeut on: Wien bridge oscillator
design (L) P 1449 Sep 54
Diamond JM, The Wien bridge as a phase shifter (L)
P 1807 Dec 54

Diamond JM, Checking codes for digital computers .(L) P 487 Apr 55

Diamond JM, Grid current in regulator tubes .(L)

Diamond JM, Grid current in regulator tubes.(L)
P 688 May 57
Diamond JM and Poluschkin A, Residual reactance
bridge. T-I 260 Dec 57
Diamond JM, See Poluschkin A
Dicke RH, Collision reduced Doppler effect. A sodium
clock? (abstract). NCR 181 Pt10 55
Dickerson LA, See Sheldon M
Dickson FH, See Crysdale JH
Dickson FH, See Crysdale JH
Dickson FH, Twelfth General Assembly of International
Scientific Radio Union. P Jul 58

Diehold J., Introductory remarks to round table discussion. T-PT 6 Sep 56

cussion. T-PT 6 Sep 56
Diehl L, See Cacheris JC
Diehl MH, Hoffman WJ and Shepard WL, Automatic galn control in TV automation. T-BTS 6 Jun 57
Dieter FA. See Theissing HH
Dieter NH, See Heeschen DS
Dietsch CG, The Tangler radio relay system of RCA communications, Inc. T-CS 65 Jan 54
Dietz GW, See Lewis DH
Dietz GW, See Wallace JD
DiGiulio EM, Burroughs G-101 high speed printer.
NCR 94 Pt4 56
DIII F Jr. and Depian L. Semiconductor capacitance

Dill F Jr, and Depian L , Semiconductor capacitance amplifier. NCR 172 Pt3 56

Dill F Jr and Depian L , Applications of semiconductor junction capacitance. NCR 1:4 Pt. 57 Dilworth RP and Ackerlind E , The analysis of post detection integration systems by Monte Carlo methods. NCR 40 Pt2 57

NCR 40 Pt.2 57

Dinger HE, Report on URSI Commission IV—Radio noise
of terrestrial origin. P 1366 Jul 58

Dinger HE, Garner WE, Hamilton DH Jr and Teachman AE,
Investigation of long-distance overwater tropospheric
propagation at 400 mc. P 1401 Jul 50

Dingley EN Jr., The printing telegraph signal normalizer. T-CS 18 Oct 56 Dinneen GP and Reed IS., An analysis of signal detection and location by digital methods. T-IT 29 Mar 56

Dinnin AJ, Direct despatch service. NCR 3 Pt8 58
Dion A. Norresonant slotted arrays. T-AP 360 Oct 58
Dion DF, Common emitter transistor amplifiers (L)
P 920 May 58

Dishal M., Comment on: Properties of some wide-band phase-splitting networks (L) P 1698 Nov 54

Dishal M., Condensed version of modern network theory design data for one class of crystal filters. NCR 6 Pt8 57

NCR 6 Pt8 57

Dishal M , Sellers B , Taub JJ and Bogner BF , Design of three-resonator dissipative band-pass filters having minimum insertion loss (L) P 498 Feb 58

Dishal M , Modern network theory design of single-side-band crystal filters (abstract) WCR 23 Pt2 58

Dishal M , See Clark CT

Disman MI and Edson WA , Simultaneous asynchronous oscillations in class-C oscillators P 295 May 58

DiToro MJ , Time-varying quasi-linear method of speech noise suppression (abstract) NCR 40 Pt4 54

DiToro MJ , Professional Group on Information Theory SQ 34 Feb 56

DiToro MJ, Reliability criterion for constrained systems . T-ROC 1 Sep 56 DiToro MJ, Low-dispersion wired delay lines . NCR 82 Pt2 58

Dlouly F, See Dahlke W
Doha S Jr, The measurement and specification of nonlinear amplitude response characteristics in television.
P 161 Feb 57

Doba S Jr, See Kramer SI Dobl schek D, Freely J and Jacobs H, Vacuum tubes utilizing self-sustained emission from MgO films. T-ED 69 Feb 54

Dodds WJ, Moreno T and McBride WJ Jr, Methods of increasing bandwidth of high power microwave amplifiers. WCR 101 Pt3 57

Amphress. Work 101 (15) 37

Dodington SH and Mahler BB, Airborne vortac distance measuring equipment for the federal airways system. NCR 55 Pt5 58

Dodrill GE and Atkinson JF, Mobile and fixed radio relay operation in the power radio service.

T-VC 62 Jun 54

Dodrill GE , Dial operated mobile radiotelephone systems . T-VC 71 Jul 58

Dodson IIW, Studies at the McMath-Hulbert Observatory of radio frequency radiation at the time of solar flares. P 149 Jan 58

Doehler O and Convert G , The signal to noise radio in the M-carcinotron . T-ED 184 Dec 54
Doehler O , See Guenard P
Doehler O , See Warnecke RR

Doelz ML and Heald ET, A predicted wave radio teletype system. NCR 63 Pt8 54

Doelz ML, Heald ET and Martin DL, B nary data trans-mission techniques for linear systems. P 656 May 57 Doerr CW and McLucas JL, A narrow band radar relay system. NCR 145 Pt8 55
Doersam CH Jr, The reasonableness check in automation. NCR 67 Pt4 56

tion. NCK 67 Pt4 30

Doersam CH Jr, Automatic remote control and telemetering by telephone. NCR 188 Pt1 56

Dolansky LO, Electronically Controlled audio filters. P 1580 Nov 55, NCR 41 Pt7 55

Dolph CL , The mathematician grapples with linear problems associated with the radiation condition .
T-AP 302 Jul 56

Domenico RJ, Simulation of transistor switching circuits on the IBM 704. T-EC 242 Dec 57 Dominoue JC, See Svien AJ Donald DD, Global public telephone service. T-CS 93 Nov 54

Donaldson MR, Worsham RE and Ziegler NF, A study of a variable frequency cyclotron resonant system. NCR 191 Pt10 55

Donaldson MR, An approximate method for obtaining the VSW on cyclotron dees. T-NS 1 Mar 56

Donkin FW, U.S. Air Force communications systems problems. NCR 113 PtB 56

Donkin FW, USAF aeronautical communications: a link in the servo control loop. T-CS 4 Mar 57

Doolittle HD , The design and life of planar microwave transmitting tubes . T-VC 31 May 57

Dordick HS , Principles of circuit design for automation . NCR 94 Pt6 56

Dordick HS , Production testing in the automatic factory . T-IE 59 Mar 57 , T-PT 59 Apr 57

Dordick HS, Automatic test systems for production . WCR 23 Pt5 57

Dorn CG , Forward transients in point contact diodes . T-ED 153 $J\mathrm{ul}$ 56

T-ED 153 Jul 56

Dorney PE, See Geiger RH

Dorr R, See Gow JD

Dorrell RF, See Stuart CH

Dorrenbacher J, See Anderson RE

Dorsett E and Searcy J, Low-level electronic switch.

NCR 57 PL5 57

Dorsett JW, A method of repetitive examination of transient phenomena. NCR 141 Pt5 56

Donce JL and West JC, The application of analogue techniques to a continuously rotating magnetic drum.

T-I 107 Jun 56

Doucette EI, Factors affecting the formation of deposited

Carbon film resistors. WCR 71 Pt6 58

Dougal AA and Goldstein L., The spike in the transmitreceive (TR) tubes. T-ED 142 Jul 56

Douglast HT , See Kirby RS
Douglast VA , See Collins RW
Douglass CF , Stacked tubes in glass envelopes .
WCR 94 Pt3 58

Dow PC Jr, An analysis of certain errors in electronic differential analyzers: 1. Bandwidth limitations. T-EC 255 Dec 57

Dow PC Jr., An analysis of certain errors in electronic differential analysers: II—Capacitor dielectric absorption. T-EC 17 Mar 58

absorption. T-EL 17 Mar 58
Doyle RT, See Hastings CE
Drake EH, See Warnick A
Drake FD and Ewen HI, A broad-band microwave source comparison radiometer for advanced research in radio astronomy. P 53 Jan 58
Draper CS, Self-contained guidance systems.
T-MIL 25 Dec 58
Draper CS, Electronics in space technology.
NCR 259 PI5 58
Dresse EE. See Kraus JD

NCR 259 Pt.5 58
Dreese EE, See Kraus JD
Dreher C, On politics. SQ Cover 3 May 58
Dreher C, On history. SQ Cover 3 Sep 58
Drenick RF, A non-linear prediction theory.
T-IT 146 Sep 54
Drenick RF, Gartenhouse S and Nesbeda P, Detection of coherent and non-coherent signals.
NCR 114 Pt4 55

Drenick RF. See Balakrishnan AV
Drenick RF, See Benner AH
Drennan JE and Todd FC, Gaseous impurities and the
performance of VR tubes. T-ED 64 Feb 54
Dressler R and Neuwirth P, Brightness enhancement techniques for the single-gun chromatron. NCR 220 Pt3 57 Dressler R , See D'Amato R

Dreste FE, An effective reliability program based upon a triad for design reliability. T-RQC 39 Feb 56

Dreste FE, A reliability handbook for guided missile electronics designers. WCR 79 Pt10 57

Drexler J, An experimental study of a microwave periscope.(L) P 1022 Jun 54

Dreyfus PL, Feissel HG and Leclerc BM, A magnetic drum extension to the gamma 3 computer. NCR 105 Pt4 56

NCR 105 Pt4 56
Driscoll RL, See Bender PL
Dronsidh R, See Richardson R
Dropkin HA, Direct reading microwave phase-meter.
NCR 57 Pt1 58
Dropkin HA, See Cacheris JC
Dronkin HA, See Kalmus HP
Droppa C, Improvements in deflection amplifier design.

NCR 147 Pt7 58

Drouthet PR Jr. Predictions based on maximum oscillator frequency. T-CT 178 Jun 55
Druz WS. See Renchke EM
Dryden HL. Problems in ultra-high-speed flight.
T-TRC 2 Au 55

Duda WL, See Roclester N Dudley B, A brief history of electrical engineering. SQ 24 Feb 55 Duerig WH, Precision subcarrier discriminator for FM

Duerig WH, Precision subcarrier discriminator for FM telemetering. NCR 70 Pt1 56
Duesterhoeft WC. See Fam WW
Duffendack OS, General survey of the Philips dispenser cathodes. T-ED 58 Feb 54
Diagon TC. See Bell DA
Dugundji J and Ackerlind E, Automatic bias control for a threshold detector. T-IT (5 Mar 57
Dugundji J, Envelopes and pre-envelopes of real waveforms. T-IT 53 Mar 58
Dull-mark IRA and Lebul DE. Bearthand logarithmically.

Duffamel RH and Isbell DE, Broadband logarithmically periodic antenna structures. NCR 119 Pt1 57 Duffamel RH and Duncan JW, Launching efficiency of wires and slots for a dielectric rod waveguide. T-MTT 277 Jul 58

DuHamel RH and Ore FR, Logarlthmically periodic antenna designs. NCR 139 Pt1 58

antenna designs. NCR 139 Pt 1-38
DuHamel RH and Berry DG, Logarithmically periodic antenna arrays. WCR 161 Pt 1-58
DuHamel RH, See Duncan JW
Dukat FM, Rellability of quantity produced transistors in lower power audio applications. T-0C 32 Dec 54
Dukes JMC, Characteristic impedance of air-spaced

strip transmission line (L.) P 876 Jul 57 DuMond JWM, Present status of precise information on the universal physical constants. Has the time arrived for their adoption to replace our present arbitrary con-

ventional standards? T-I 136 Dec 58

Ventional standards (1-1 36 Dec 58

Dunbar NR See Allen MS

Duncan BJ and Swem L, Temperature dependence of the microwave properties of ferrites in waveguide (L)

P 623 May 55

P 623 May 55
Dimcan BJ, Swern L, Tomiyasu K and Hannwacker J, Dasign considerations for broad-band ferrite coaxial line isolators. P 483 Apr 57
Duncan BJ and Swern L, Effects of zero ferrite permeability on circularly polarized waves. P 647 May 57
Duncan BJ, Swern L and Tomiyasu K, Microwave magnetic field in dielectric-loaded coaxial line.(L)
P 500 Feb 58

P DUC FED 38

Duncan BJ and Vafiades B, Design of a full waveguide bandwidth high-power isolator. T-MTT 411 Oct 58

Duncan BJ, See Fleri D

Duncan BJ, See Vafiades B

Duncan FB and Myers MC Jr, Technical advances in the Loran system and its future development.

T-CS 23 Mar 55

Duncan JW and Dullamol PH. A technique for controlling

Duncan JW and DuHamel RH, A technique for controlling the radiation from dielectric rod waveguides.
T-AP 284 Jul 57

Duncan JW, See DuHamel RH Duncan NL, High-speed, ligh-resolution spectrum analyzer. NCR 22 Pt10 54 Duncan RK, See Martin DW

Duncan RS and Stone HA Jr., A survey of application of ferrites to inductor design. P 4 Jan 56
Dunkin EF and Johnston DL., Subminiature transformers

and their application to junction-transistor circuits. T-CP 30 Apr 55

Dunn DA, Hannan WA, Field LM and Kino GS, Theory of the transverse-current traveling-wave tube. P 879 Jul 56

Dunn DA and Haman WA, An experimental tranverse-current traveling-wave tube. P 888 Jul 56 Dunn DA, Traveling-wave amplifiers and backward-wave oscillators for VHF. T-ED 264 Jul 57 Dunn DA and Lucbke WR, Beam perturbations in confined flow electron beams with planar symmetry. T-ED 265 Jul 57 Dunn DA, Kino GS and Mathers GWC, Traveling-wave-tube preparation constants for finite values of pain per

tube propagation constants for finite values of gain per wavelength. T-ED 243 Oct 58 Dunn DA. See DeGrasse RW Dunn DA. See Grow RW Dunn DA, See McL.cughlin JW

Dunn F and Fry WJ, Precision calibration of ultrasonic thermoelectric probes. T-UE 59 Aug 57

Dunn F., See Fry WJ
Dunn FA, See Weiss MT
Dunn FL, Absolute vs acoustic standardization in electrostethography and the need for studying cardiac vibrations as transients. T-ME 17 Dec 57

Dunn FL. See Beenken HG Dunn WH, Eldert C and Levonian PV, A digital computer for use in an operational flight trainer. T-EC 55 Jun 55

Durana V. See Bechmann R Durfey GK, See Miller RE

Durieux CW and Prugh TA, Microphonism due to transistor leads.(L) P 938 Jul 56
Durkee AL, See Bullington K
Dutton GF, See Clark HAM
DuWaldt BJ, Inverse probability in angular tracking radars.
T-IT 38 Mar 56 %

Dwonczyk M , See Engel LJ Dwork B , The use of modified coaxial structures for the Instrumentation of components in coaxial line (abstract). NCR 61 Pt8 55

Dwork L., Huang C and Palmer HW., Some application aspects of the tetrode transistors (abstract). T-ED 7 Feb 54

Dyce R, VHF auroral and sporadic-E propagation from Cedar Rapids, lowa to Itliaca, New York.
T-AP Apr 55

Dye JE, See Rutz EM

Dyke E, A microwave radio system for pipeline use (abstract). T-MTT 60 Apr 54

Dyke E, A microwave radio system for pipeline use (abstract). T-CS 60 Jul 54

Dyke WP, Progress in electron emission at high fields. P 162 Feb 55

Eadie D., Data reduction equipment for a forward scatter link. T-I 234 Dec 57 Early JM, Structure-determined gain band product of junction triode transistors. P 1924 Dec 58

Early JM. See Wanner RM Jr Easley JW., The effect of collector capacity on the transient response of junction transistors. T-ED 6 Jan 57

T-ED 6 Jan 57

Easley JW, Transistor characteristics for direct-coupled transistor logic circuits. T-EC 6 Mar 58

Easley JW, Comparison of neutron damage in germanium and silicon transistors. WCR 148 Pt3 58

Ebers JJ and Moll JL, Large-signal behavior of junction transistors. P 1761 Dec 54

Ebersol ET Jr, Writing for a technical journal. NCR 8 Pt10 58

Eckert JP Jr, Correction to: A survey of digital computer memory systems. P 413 Feb 54

Eckstein A, See Brennan AT

Eddins WT, A unique wide-band transistorized pulse amplifier. NCR 7C Pt5 57

Eddins WT, Sample-and-hold circuits for time correlation of analou-voltage information. NCR 21 Pt5 58

Eddins WT. See Marquand RE

Eddins WT. See Mariand RE
Eddy FN, Technical communications in defense industry.
T-EM 49 Jun 58
Eddy FN, Technical proposals in the electronics industry.
T-EM 136 Dec 58

Eddy WC, Evaluation of survey methods for use in micro-wave path analysis. NCR 122 Pt8 55

Edelberg S and Oliner AA, Impedance properties of antenna arrays. WCR 175 Pt1 58

Edelman B, Education is the core problem that Industry must face. T-E 99 Dec 58

Edgerton HE, Electronically produced and controlled illumination. T-IE 51 Mar 55

Edson WA , Frequency memory in multi-mode oscillators . T-CT 58 Mar 55

T-CT 58 Mar 55
Edson WA, The single-layer solenoid as an RF transformer. P 932 Aug 55
Edson WA, See Disman MI
Edwards CM, Precision electronic switching with feedback amplifiers. P 1613 Nov 56
Edwards EV, See Reingold I
Edwards LC, See Hedlund DA
Edwards V, See Gould L
Egan JP, Human factors in detection and in speech communication in noise. NCR 15 Pt4 58
Egan WG. Factors effection the application of Halonen

munication in noise. NCR 15 Pt4 58
Egan WG, Factors affecting the application of Halogen quenched G-M tubes. T-NS 22 Jun 56
Eggert J, The effects of an air burst atomic bomb on a tactical communication system. NCR 182 Pt8 56
Eggler C and Huddleston CM, Gaseous scintillation.
T-NS 36 Nov 56
Egli JJ, Radio propagation above 40 mc over Irregular terrain. P 1383 Oct 57
Egli JJ, See Crysdale JH

Egli JJ. See Crysdale JH
Ehrenfried AD, Market development—the neglected companion of production development. T-EM 8 Jan 56

Ehrenpreis D., Analysis and engineering study of the en-vironmental vibrations and shock characteristics of a

new military airborne gimbaled equipment. NCR 80 Pt10 57 Ehrenpreis D, Instrumentation dynamically analyzed for optimum reliability, weight and geometric space envelope subjected to severe vibrations and shock.

NCR 167 Pt5 58 Eltrenpreis D., Analysis and theoretical investigation of new military electronic missile and aircraft-borne equip-ment. NCR 66 Pt8 58

Ehrenspeck HW, Gerbes W and Zucker FJ, Trapped wave antennas. NCR 25 Pt1 54

Ehrenspeck HW and Kearns WJ, Two-dimensional end-fire array with increased gain and side lobe reduction. WCR 217 Pt1 57

WCR 217 Ptl 57
Ehrlich MJ and Shon J, Mutual coupling considerations in linear-slot array design. P 956 Jun 54
Ehrlich MJ and Williams IK, Properties of a radiating discontinuity on a corrugated surface transmission line (abstract). NCR 12 Ptl 55
Elchwald B, Television station construction.
T-BTS 1 Dec 55

T-BTS 1 Dec 55

Ellers C, See Roschke EM

Eisaman LC. See Huie JA

Eklund F, See Josephson B

Elam DL, Magnetic and eddy current type transducers for use in industrial electronics. T-IE 29 May 58

Elbourn RD, The role of electronic computers in air traffic control. NCR 114 Pt8 57

Elders D , A novel construction concept for linear delay lines . T-CP 24 Mar 57

Eldert C , See Duon WH

Eldert C., See Dunn WH
Eldredne E.E., See Jordan DB
Eldridge DF., See Thompson BW
Elfving CT., See Tranks RE
Elias P., Error-free coding. T-IT 19 Sen 54
Elias P., Predictive coding. T-IT 16 Mar 55
Elias P., Coding for noisy channels NCR 37 Pt4 55
Elias P., Feinstein A and Shannon CE., A note on maximum flow through a network. T-IT 117 Dec 56
Elias P., Session commentary. NCR 127 Pt4 56
Elias P., Channel capacity without coding (abstract).
NCR 49 Pt2, 57
Flias P. List decoding for noisy channels.

Elias P., List decoding for noisy channels. WCR 94 Pt2 57

Elias P., Two famous papers (editorial). T-IT 99 Sep 58

Elion HA, Ultrasound detection with thermostimulable phosphors .(L) T-UE 66. Aug. 57
Ellenwood RC and Ryan WE, Discussion on: A UHF and microwave matching termination. P 476 Feb 54

Ellern F, The analysis of some nonlinear circuits with harmonic excitation using Tchebycheff functions (L) T-CT 156 Jun 56

Ellett A and Adler R, The technical boundary conditions of subscription television. NCR 171 Pt7 56
Elliott HM., The transition from engineer to supervisor. WCR 58 Pt10 57, T-EM 29 Jun 58

Elliott RS , On the theory of corrugated plane surfaces . T-AP 71 Apr 54 Elliott RS and Rodda EN , Parasitic arrays excited by surface waves (L) T-AP 140 Jul 55

Elliott RS, Spherical surface wave antennas T-AP 422 Jul 56

Elliott RS, Serrated waveguide—Part I: Theory. T-AP 270 Jul 57

Elliott RS, Pulse waveform degradation due to dispersion in waveguide. T-MTT 254 Oct 57

Elliott RS , Mechanical and electrical tolerances for two-dimensional scanning antenna arrays . T-AP 114 Jan 58

Elliott RS , See Kelly KC Elliott RS , See Kurtz LA

Elliott RS, See Ninz LA

Ellis CR, Owen KH and Weatherup GR, A one kilowatt
high level modulated UHF amplifier with low distortion.

T-CS 28 Mar 57
Ellis D, A mathematic formulation of the generalized logical design problem. WCR 259 Pt4 57

Ellis CE, How design quality control can help engineering. T-EM 17 Feb 54

Ellison TA, Radio rack cooling in present commercial air-craft. T-ANE 58 Mar 58 Ellis-Robinson HNC, Packaged high power radar trans-ceivers. NCR 74 Pt8 58 Ellyett C and Leighton H, Solar cycle influence on the Jower jonosphere and on VHF forward scatter.

lower ionosphere and on VHF forward scatter.
P 1711 Oct 58
EI-Sabbagh HH, A general method for analyzing and synthesizing the closed loop response of a linear and a nonlinear servomechanism. WCR 58 Pt4 57
EI-Said MAH, Geophysical prospection of underground water in the desert by means of electromagnetic interference fringes. P 24 Jan 56
EI-Said MAH, A new method for the measurement of the average dielectric constant of the underground medium on site. T-AP 601 Oct 56
EI-Said MAH. See Provin CI.

El-Said MAH, See Brown GL

Elwell CF, Long IIfe microwatt batteries .(L) P 1543 Nov 57

Ely RL Jr, Radioactive tracer study of sewage field in Santa Monica Bay. T-NS 49 Mar 57 Ely TS and Goldman DE, Heat exchange characteristics of animals exposed to 10-cm microwaves. T-ME 38 Feb 56

Emberson RM and Ashton NL, The telescope program for the National Radio Astronomy Laboratory at Green Bank, West Virginia. P 23 Jan 58

Embree RR, Reworking the network or remote video signal.

NCR 21 Pt7 56

Emeis R, and Heriet A, The blocking capability of alloyed silicon nower transistors. P 1216 Jun 58

Emeis R, Herlet A and Spenke E, The effective emitter area of power transistors. P 1220 Jun 58

Emmer TL, Serial memory one hundred channel pulse height analyzer. NCR 211 Pt10 55

Emslie AG, See Strum PD
Emslie AG, See Swenson CA
Enander BN, A new ferrite isolator, P 1421 Oct 56
Eness O, See Richardson R

Eness U, See Kichardson K
Engelbrecht RS, A low-noise nonlinear reactance travelingwave amplifier.(L) P 1655 Sep 58
Engelmann H, French HA, Green MW and Harvey J,
Portable multichannel 11,000 mc radio link.
NCR 150 Pt8 57

Engelmann RH., Double-tuned canactively-coupled circuits (L) T-CT 227 Sen 58
Engels R, An impulse interference blanker for communications receivers. T-CS 22 Oct 56
Engen GF., Amplitude stabilization of a microwave signal source. T-MTT 202 Apr 58

Engen GF , Recent developments in the field of microwave power measurements at the National Bureau of Standards . T-I 304 Dec 58

Engleman CL , Professional Group on Military Electronics . SQ 28 May 56

Englund JW, Application of transistors to battery-powered portable receivers. NCR 68 Pt3 56
Englund JW and Kestenbaum AL, Circuit considerations for high-frequency amplifiers using drift transistors. NCR 178 Pt3 57

Engstrom EW, Basic concepts and evolution of color television. P 7 Jan 54

Engstrom RW, Stoudenheimer RG, Palmer HL and Bly DA, Recent work on photoemission and dark emission

problems T-NS 120 Dec 58 Engstrom RW, See Widmaier W

Englein K., Characteristics of silicon junction diodes as precision voltage reference devices. T-I 105 Jan 57 Enslein K and Harris OR, Regulation of the individual dynde voltages for photomultiplier tubes. (L) T-NS 73 Aug 58

Epler EP and Hanauer SH, Control and automatic startup of the Geneva Conference reactor. NCR 90 Pt9 56 Epperson JB, See Schumemann F Epstein B, See Haber F Epstein B, See Warnecke RR

Epstein G , Synthesis of electronic circults for symmetric functions . T-EC 57 Mar 58
Epsteln H and Innes F , The electrographic recording technique . NCR 135 Pt4 55

Epstein H and Stram OB, A high-performance mauneto-striction-solic delay line. T-UE 1 Aug 57 Epstein IJ, See Lippel B Epstein J, The engineering aspects of a UHF booster installation. T-BTS 75 Mar 55

installation. I-BIS /D Mar DD
Epstein J, See Klonfenstein RW
Epstein M. See Colin GI
Epstein MA, Algebraic decoding for a binary grasure channel. NCR 56 Pt4 58

channel. NCR 56 Pt4 58
Erath LW and Smith FC Jr, A slope modulator for FM recording of analog data on magnetic tane.
T-RTRC 20 Nov 54
Erdel M, Equivalent circuits for transformers.(L)
T-CT 370 Dec 58
Erdmann RG, A transistor marker beacon receiver.
T-ANE 130 Sep 57

Erichsen HW and Ettelman DJ, A subminiature self-recording accelerometer for high shock duty. T-1 178 Sep 57

Erickson GF, Kaufmann SG and Pahis LE, Recen detector studies at Argonne National Laboratory T-NS 8 Jun 56 Recent neutron

Eriksen BK , See Suran JJ Eriksen W and Handly E , The tube that tells time NCR 40 Pt3 58 Erikson WH, Home measurement of phonograph system performance. NCR 62 Pt7 57

Ernst ML, Remarks delivered at the panel discussion on operations research at the 1955 Convention of the Institute of Radio Engineers. NCR 13 Pt6 55

Stitute of Radio Engineers. NCR 13 Pt6 55
Esaki L, A new diode for switching and oscillator
(abstract). WCR 176 Pt3 58
Eshleman VR and Manning LA, Radio communication by
scattering from meteoric ionization. P 530 Mar 54
Eshleman VR, Theory of radio reflections from electronion clouds. T-AP 32 Jan 55
Eshleman VR, Gallagher PB and Peterson AM, Continuous
radar echoes from meteor ionization trails.(L)
P 489 Apr 55
Eshleman VR, Manning LA, Peterson AM and Villand OS

Eshleman VR, Manning LA, Peterson AM and Villard OG

Jr. The role of meteors in extended-range VHF propagation (abstract). NCR 61 Pt1 55

Eshleman VR, On the wavelength dependence of the information capacity of meteor-burst propagation. P 1710 Dec 57

Eshleman VR and Mlodnosky RF, Directional character-istics of meteor propagation derived from radar measurements. P 1715 Dec 57

Eshleman VR, See Villard OG, Jr
Espersen GA and Rogers JW, Studies on grid emission.
T-ED 100 Apr 56
Essler WO, A Versatile audio spectrometer.
T-AU 24 Mar-Apr 55

Estoppey RF. An interim report on the inductronic electrodynamometer for the precise measurement of voltage, current, power, and energy. T-1 241 Dec 58

Estrada H Jr., Frequency response measurements of power reactor characteristics. T-NS 15 Mar 57
Estrin G, Glichrist B and Pomerene JH, A note on high-speed digital multiplication.(L) T-EC 140 Sep 56

speed digital multiplication.(L) T-EC 140 Sep 56
Etchison W, Meunier MB and Lee R, Computer design of
small electronic transformers. T-CP 43 Mar 58
Ettelman DJ. See Ericksen HW
Ettenbera M. See Holmboe LW
Evans DH, A positioning servomechanism with a finite
time delay and a signal limiter. T-AC 17 Feb 57
Evans DM, The dependence of minority carrier lifetime on
majority carrier density (L) P 1962 Dec 58

majority carrier density.(L) P 1962 Dec 58
Evans J, See Janes RB
Evans WE, See Kabell LJ
Everhart TE, Concerning the noise figure of a backwardwave amplifier. P 444 Apr 55
Everhart TE, See Birdsall CK
Everhart TE, See Birdsall CK
Everhart TE, See Fairbanks G
Evern III, See Parkbanks G
Even III, See Drake FD
Exner WL and Scarbrough AD, A digital autopilot coupler.
NCR 174 Pt5 54

Fabreau RR, See Aseltine JA

Fabricius JH and Smith AB., Design considerations for ceramic printed circuit packaging. WCR 59 Pt6 57

-F-

Fabricius JH, Monolithic structure—a new concept for ceramic canacitors. WCR 45 Pt6 58

Fagen MD, Bibliography on ultrasonic delay lines. T-UE 3 Nov 54

Fain WW, Crain CM and Duesterhoeft WC, Electromagnetic noise and propagation observations in the vicinity of a nuclear reactor T-AP 286 Jul 58

or a macrear reactor 1-AP ZBO Jull 28
Fairbanks G, Everitt WL and Jaeger RP, Method for time
or frequency compression-expansion of speech.
T-AU 7 Jan-Feb 54
Fank FB and Wade G, Traveling-wave tube limiters.
T-ED 148 Apr 57

Fank FB and Schumacher FM, Development and operation of broad band low noise traveling-wave tubes for X- and C-bands. WCR 150 Pt3 57

Fannin BM and Jehn KH, A study of radar elevationangle errors, due to atmospheric refraction.

T-AP 71 Jan 57

Famnin BM, Line-of-sight wave propagation in a randomly inhomourneous medium. T-AP 661 Oct 56
Fannin BM, See Deam AP

Fano RM, Information theory—past, present and future. NCR 2 Pt4 54

Fano RM., Some thoughts on technical meetings. T-IT 49 Sep 55, P 260 Feb 56

Fano RM, Cost of transmission reliability (abstract). NCR 40 Pt2 57

Fano RM, The challenge of digital communication (editorial). T-IT 63 Jun 58

(editorial). 1-11 63 Jun 58
Fantoni JA and Benoit RC, Jr, Doppler type high frequency radio direction finder. NCR 165 Pt8 56
Fantoni JA, See Benoit RC, Jr
Fanwick C, Ottobre J and Lanza JS Jr, A digital data-qathering system. T-I 72 Jun 56
Farber RJ, The RETMA color television test stripe signal. T-BTR 3J Jul 56, T-BTS 26 Oct 56

Farber RJ. See Clapo RG Farber RJ. See Proudfit A Farber RJ, See Ronzhelmer SP Faris JJ, See Richardson JM

Faris JJ, See Richardson JM

Farley BG and Clark WA, Simulation of self-organizing systems by digital computer. T-IT 76 Sep 54

Farr KE and Sienkiewicz LJ, Automatic fine tuning circuitry in television receivers. T-BTR 63 Mar 58

Farrand WA, Symbol displays. T-I 84 Jun 57

Farrand WA, Symbol displays. T-I 84 Jun 57

Farrand WA, Symbol displays. T-I 84 Jun 57
Farrand WA, An air-floating disk magnetic memory unit.
WCR 227 Pt4 57
Farris HW, Alternative detection of co-channel FM signals. (L) P 1876 Nov 58
Fatchchand R, See Brenner E
Faughnan JF and Loiselle RE, Miniature ruggedized precision meters. NCR 198 Pt6 58
Faulkner W, The requirements of a record changer, the component part and associated equipment for stereo-phonic record production. NCR 84 Pt7 58
Faulkner WH Jr, Ziffer GF and Corwin G, Automatic process control with radiation gauges.
T-IE 76 Mar 57, T-PT 76 Apr 57
Faugue VG, See Horn RE

Faugue VG, See Horn RE

Favin DL , A swept, broad band, microwave, double detection system with automatic synchronization.

NCR 184 Pt5 56

Favreau RR , Low H and Pfeffer I , Evaluation of complex statistical functions by an analog computer. NCR 31 Pt4 56

Favreau RR, See Areltine JA
Fay CE, Ferrite-tuned resonant cavities.

Favreau RR, See Areltine JA
Fay CE, Ferrite-tuned resonant cavities.
P 1446 Oct 56
Fedde GA, See Bloomsburgh RA
Feder El and Gillen AM, High-frequency, high-G calibration. T-I 98 Jun 57
Fedoseev N, See Gannett EK
Feild SC Jr, See Weihe VI
Feiner A and Diamond FI, A three-dimensional aircraft visibility diagram. NCR 97 Pt8 56
Feinoold W, Improving the television horizontal oscillator. T-BTR 78 Sep 58
Feinoold WR, Matrix networks for color TV.
P 201 Jan 54

P 201 Jan 54
Feinstein A, A new basic theorem of information theory.
T-IT 2 Sep 54

Feinstein A, Error bounds in noisy channels without memory. T-IT 13 Sep 55

Feinstein A, See Elias P
Feinstein J, Some stochastic problems in wave propagation—Part I. T-AP 23 Jan 54

Feinstein J, Some stochastic problems in wave pronagation—Part II. T-AP 23 Jan 54

Feinstein J., Some stochastic problems in wave pronagation— Part II. T-AP 63 Apr 54

Feinstein J., Some information theory aspects of propagation through time varying reflia. NCR 87 Pt1 54

Feinstein J. and Kino GS., The large-signal behavior of crossed-field traveling-wave devices. P 1364 Oct 57

Feissel HG. See Dro flus Pt.

Feitelberg S., The design of finger-tip plethysmographs with photoelectric and strain-gage transducers.

T-ME 47 Nov 55

Felch EP, Israel JO and Kunmer O, Standard frequency controlled wide raine oscillator. NCR 38 Pt10 54 Felch EP and Israel JO, A simple circuit for frequency standards employing overtine crystals. P 596 May 55 Feldmar EF.

Feldman EF, An automatic sonic spectrum analyzer and curve tracer. NCR 10 Pt10 55

Feldman N, Earth rate directional reference. WCR 54 Pt5 58

Felker JH, Professional Group on Electronic Computers.
SQ 36 Feb 56

Felker JH , Complexity with reliability . SQ 7 Dec 56

Felker JH, See Adler FP Fellhauer HE See Icenbice PJ Jr Felperin KD, Dancing made easy for EE students. SQ 24 Feb 56

Felsen LB and Oliner AA, Determination of equivalent circuit parameters for dissipative microwave structures. P 477 Feb 54

Felsen LB, Oliner AA, Stein S, Sheingold LS and Storer JE, Comment on: A simple graphical analysis of a two-port waveguide junction (L) P 1447 Sep 54

Felsen LB, Gain pattern of a terminated-waveguide slot antenna by an equivalent circuit method.

NCR 10 Pt1 54 Felsen LB, Analysis of a terminated-waveguide slot antenna by an equivalent circuit method. T-AP 16 Jan 56

Felsen LB , Diffraction by a semi-infinite cone .

T-AP 580 Jul 56
Felsen LB, Alternative field representations in regions bounded by spheres, cones, and planes T-AP 109 Jan 57

Felsen LB, Plane-wave scattering by small-angle cones. T-AP 121 Jan 57

Felsen LB. Asymptotic expansion of the diffracted wave for a semi-infinite cone (L) T-AP 402 Oct 57

for a semi-infinite cone. (L) T-AP 402 Oct 57
Felseneld RA, See Gray RE
Felton WW, Some channel allocation problems in air-ground
voice communications. T-ANE 41 Mar 54
Ferber LW, Flux responsive magnetic leads for low
speed rear-out of data. NCR 279 Pt4 58
Ferrell PJ, Constant amplitude speech.
NCR 190 Pt8 58
Fortis WP, See McClair EF.

NCR 190 Ft8 58
Ferris WR See McClain EF
Ferry TR See Brinton RL
Feucht D See Woodford JB Jr
Fewer DR Design principles for junction transistor audio
power amplifiers T-AU 183 Nov-Dec 55

Fewer DR , Transistor nonlinearity—dependence on eintter bias current in p-n-p alloy junction transistors . T-AU 41 Mar-Apr 58

Fey L., See Mockler RC Feyerlerm MP, Prediction of tube failure rate variations. T-RQC 65 Jan 57

Fialkow AD and Gerst I , RLC lattice transfer functions . P 462 Apr 55

Field GB, Excitation of the hydrogen 21-cm line. P 240 Jan 58

Field LM. See Dunn DA Fielder DC, Numerical determination of cascaded LC network elements from return loss coefficients

network elements from rectura loss coefficients. T-CT 356 Dec 58 Filipowsky F and Scherer E, Time division multiplex system with addressed information packages. NCR 132 Pt8 57

Findlay JW, Noise levels at the National Radio Astronomy Observatory P 35 Jan 58

Fine H, An effective ground conductivity map for continental United States P 1405 Sep 54

Fine H, See Boese WC

Fine RS, Some practical as

ne RS , Some practical asnects of high-fidelity design. T-AU 41 Mar-Apr 57

T-AU 41 Mar-Apr 57
FinIson HJ, Control of cost of research and development projects. T-EM 1 Nov 54
Fink DG, The NTSC monographs. P 43 Jan 54
Fink DG, Electronics and the IRE—1957.
Fink DG, Industry-wide cooperation under the JTAC spurious radiation program. T-BTR 78 Apr 54
Fink DG, NTSC signal specifications for color television. P 1321 Aug 54
Fink DG, Transistors versus vacuum tubes. P 479 Apr 56, SO 34 May 56
Fink DG, Electronics and the IRE—1967.
P 1187 Sep 57, SO Sep 57

Fink DG, TTAC—ten years of service. P 823 May 58 Fink DG, President's message: B.Sc.—vaccination against obsolescence. SO 24 Sep 58 Fink DG, See Chatten JB

Finke HA, Impedance meter—50—1000 mc/s T-I 15 Apr 54

T-I 15 Apr 54

Finlay WH, Launching IGY satellites (L)
P 357 Jan 58

Finley JD, The establishment and operation of a semi-autonomous field organization. T-EM 132 Dec 57

Fund DL and Dasher BJ, Graphical analysis of transistor circuits by separation of variables.
NCR 6C Pt2 56

Fund DL, See Dasher BJ

Finn G and Parsons R, Some basic physical properties of silicon and how they relate to rectifier design and implication. T-CP 110 Dec 56

Finnegan F, Junction diodes—features and amplications.
T-ED 51 Jan 55

T-ED 51 Jan 55

T-ED 51 Jan 55
Fire P and Vartanian PH, An amplitude regulator for microwave simial sources. NCR 166 Pt5 56
Firestone WL, Analysis of transmission line directional complets. P 1529 Oct 54
Firestone WL and Knechtli RG, Further analysis of transmission-line directional counlers (LL) P 1012 A ig 55
Firestone WL, Evaluation of sideband noise and modulation splatter. NCR 22 Pt8 55

Firestone WL , SSB performance as a function of carrier stren (th. P 1839 Dec 56. Correction: P 174 Feb 57

Firestone WL and Magnuski H., Application of single-sideband for mobile communication.

Firestone WL, See Shepherd NH
Firestone WL, See Shepherd NH
Fire TE, McMahon ME and Roach JF, Recovery time
measurements on point-contact vermanium diodes.
T-ED 27 Apr 54, P 603 May 55

Firle TE, Some silicon junction diode recovery phenomena. WCR 90 Pt3 57 Fischbeck KH, Nuclear reactor simulators. NCR 69 Pt9 54

NCR 69 Pty 54
Fischer JT. See Olson HF
Fischer K, An electronic multicoupler and antenna amnifier for the VHF-range. T-CS 43 Dec 57
Fischmann AF, A Gray code counter.(L)
T-EC 120 Jun 57

Fish PE , See Chinn HA
Fisher JF , Alignment of a monochrome TV transmitter
for broadcasting NTSC color signals . P 263 Jan 54

Fisher JF, Color film scanner—circuits. NCR 94 Pt7 54

NCR 94 Pt7 54

Fisher JH and Gaylord RS, System study through frequency contour manpinn. T-I 76 Mar 58

Fisher LL and Hatchett GL, Automatic oscillograph readers. NCR 112 Pt10 55

Fisher RC, See Collen MH

Fisk B and Spencer CL, Synthesizer stabilized singlesideband systems. P 1680 Dec 56

Fisk RE, A simplified 5-megw antenna for the UHF broadcaster. T-BTS 46 Dec 57

Fisk RE, The TV helical antenna adapted to structural tower shapes. T-BTS 4 Sep 58

Fister BJ and Woodcock CA, Dynamic data system. T-I 48 Mar 58

Fitch JL and Buss RE, The measurement of time Jitter in trains of video pulses. T-I 20 Apr 54
Fivethumbs JJ, Finagle's laws. SQ 42 Sep 58
Fix OW. A balanced-striptine isolator. NCR 99 Pt5 56

Flagge Bd'E. See Harris OR Flaherty JM and Kadak E., Early warning radar antennas. NCR 158 Pt1 58

Flaherty P, Freedman G, Kaufmann P, Root D, Spittle-house D, Waring W, Whoriskey P and Williams J, A new five-watt, class A, silicon power transistor. NCR 77 Pt3 58

Flammer C , Some variational formulas for the changes in electromagnetic scattering cross section and dyadic Green's functions due to boundary perturbations . T-AP 580 Jul 56

Flammer C. See Carswell I
Flamingan JC, Psychological means for the selection of managers. NCR 113 Pt6 55
Flecktner D. See Bristman JA
Fleckenstein WO. See Michiel WS
Flehinger BJ, Reliability improvement through redundancy at various system levels. NCR 137 Pt6 58
Fleischer BS, See Zomenia AB.

Fleischer PE , See Zemanian AH
Fleming ER, Ultrasonics in the decortication of natural fibers. NCR 62 Pt9 55
Fleming RF, Design of a transistorized record-playback amplifier for dictation machine application.
NCR 95 Pt7 58

Floming L , Cathode-follower-coupled phase-shift oscillator.(L) P 754 Jun 55

oscillator.(L) P 754 Jun 55
Fleri D and Duncan BJ, Reciprocal ferrite devices in TEM mode transmission lines. T-MTT 91 Jan 58
Fletcher NH, Some aspects of the design of power transistors. P 551 May 55
Fletcher NH, Self-bias cutoff effect in power transistors.(L) P 1669 Nov 55
Fletcher NH, Note on: The variation of junction transistor current amplification factor with emitter current.(L) P 1475 Oct 56
Fletcher NH. A junction transistor for kilowatt pulses (L)

Fletcher NH , $\,$ A junction transistor for kilowatt pulses .(L) $\,$ P 544 Apr 57

Fletcher NH, The high current limit for semiconductor praction devices. P 862 Jun 57

prinction devices. P 862 Jun 57
Flickinger D, The dynamic survival potential in manned snace operations. WCR 196 Pt5 58
Fling JJ and Nothman MH, GCA by automatic voice data link. WCR 28 Pt4 58
Floogel ME, Mobile radio changes the nace of the nation. T-VC 31 Jun 55
Flood WA. See Baier LH
Flores I, An automatic self-verifying, self-correcting, data transmission system. T-TRC 5 Aun 55
Flores I, Reflected winder systems. T-FC 79 lan 56

Flores I. Reflected number systems. T-FC 79 Jin 56 Flores I. An optimum character recognition system using decision functions.(L) T-FC 180 Jin 58 Flores I and Ragonese F. A method for synthesizing the waveform generated by a character, printed in magnetic deprecation of the compact of the c

T-EC 277 Dec 58

Florev BI. See Coulay PF Florida CD. See Mondy NF Flugge-Lotz I and Taylor CF, Synthesis of a nonlinear control system. T-AC 3 May 56

Flugge-Lotz I and Lindberg HE . On the design and comparison of contactor control systems . WCR 3 Pt4 57Forel LJ, A note on the fourth dimension.(L) P 1699 Nov 54

Fogel LJ, A note on sampling theorem. T-IT 47 Mar 55 Fogel LJ, An analytic approach toward air traffic control. T-ANE 8 Jun 55 Fogel LJ, Toward a measure for meaning (L) P 1018 Aug 55 Fogel LJ, A communication theory approach toward the design of aircraft instrument displays.

NCR 15 Pt5 55 Fogel LJ, The problems of engineering management. T-EM 1 Jan 56 Fonel LJ , A good start (L) T-EM 29 Jan 56 Fogel LJ , A good start (L) T-EM 29 Jan 56 Fogel LJ , Mathematical definitions for transducer measure criteria . T-I 187 Jnn 56 Fogel LJ, An analysis for human flight control. NCR 69 Pt8 56

Fogel LJ, The human computer in flight control. T-EC 195 Sep 57 Fogel LJ and Dwonczyk M., Anticipatory display design through the use of an analog computer.

WCR 67 Pt4 58
Fogel LJ, See Janerman DL
Fogel RL, An orthogonal mode transducer.
NCR 53 Pt5 56

Follingstad HG, An analytical study of z, y and h parameter accuracies in transistor sweep measurements. NCR 104 Pt3 54

Follingstad HG, Complete linear characterization of transistors from low through very high frequencies . T-I 49 Mar 57

Folsom MB, Education—the foundation for freedom and national strength. T-E 81 Sep 58
Fontana JR and Shaw HJ, Harmonic generation at microwave frequencies using field-emission cathodes.(L)
P 1424 Jul 58

P 1424 Jul 58

Foote WB, A new 300-watt stacked ceramic tetrode of high reliability. T-RQC 113 Jan 57

Forbes GR Jr, See Sletten CJ

Forgacs RL, A fractional microsecond light source of high intensity. NCR 114 Pt5 57

Forrer MP and Tomiyasu K, Effects and measurement of harmonics in high power waveguide systems. NCR 263 Pt1 57

Forger MP. Analysis of millimicrosecond PE pulse types.

Forrer MP , Analysis of milimicrosecond RF pulse trans-mission . P 1830 Nov 58 Forster DC , See Currie MR

Forster DC, See Currie MR
Forster JH and Zuk P, Millmicrosecond diffused sll'con
computer diodes. WCR 122 Pt3 58
Forster JH, See Miller LE
Forsyth PA, Vogan EL Hansen DR and Hines CO, The
principles of JANET—a meteor-burst communication
system. P 1642 Dec 57
Foss FA, The use of a reflected code in digital control systems. T-EC 1 Dec 54
Fossier MW, See Rosen HA
Foster JH. See Williams EM
Foster WH, Airborne data acquisition system.
NCR 133 Pt1 56

Foster WH, Completely transistorized strain gage oscillator. T-TRC 6.2 Apr 57, NCR 75 Pt5 57

Fowler AB , See Rothlein BJ

Fowler BV. See Wheeler RW Fowler VJ, Analysis of helical transmission lines by means of the complete circuit equations. T-AP 132 Oct 54

Fox AG , Wave coupling by warped normal modes . T-MTT 2 Dec 55

Fox AG, Tapered velocity couplers—part II (abstract). NCR 74 Pt8 55

Fox GW, Microwave and VHF radio installation for the Union Electric System. T-MTT 63 Apr 54, T-CS 63 Jul 54

Fox S and Frank RB, A dynamic condenser electrometer system for beta particle detection. T-NS 27 Aug 58

system for beta particle detection. T-NS 27 Aug 58 Fox WC. See Peterson WW Fraenkel Z, The development of a tunable CW magnetron in the K-band region. T-ED 271 Jul 57 Fragola CF and Hecker CJ, Integrated instrument system. T-ANE 141 Dec 56 Fraioli AV, Recent advances in the solid-state electrolytic canacitor. T-CP 72 Jun 58 France PW. See Bank SW.

France RW. See Baunh SH
Franceschini J. See Becker S
Francini G. Evaluations of oscillator quality.
T-CT 261 Sep 55

T-Cl 261 Sep 55

Francis JP, A low-level, high speed sampling system.
T-TRC 1.3 Apr 57

Frangoulis SI, Design features of the ASN-7 navigational computer. T-ANE 10E Sep 56

Frank K, See Schmitt OH

Frank RL and McPherson RR, A third method of generation and detection of single-sideband signals (L)
P 539 Apr 57

Frank RL See Sep 500 Sep 500

Frank RL See Sep 500 Sep 500

Frank RL See Sep 500 Sep 500

Frank RL See 500 Sep 500

Frank

Frank RI , See Frant - WP Frank RW. A computer-type decade frequency synthesizer. NCR 46 Pt10 54

NCR 46 Pt10 54

Frank WI, White AB and Resneck IL, Precision shaftposition encoders. T-I 168 Jm 5(.)

Frankel SP, The logical design of a simple general purpose
computer. T-EC 5 Mar 57

Frankel SP, A general purpose digital computer of
minimum complexity. T-EC 283 Dec 58

Frankl DR, Resistance of a partially short-circuited conducting slab.(L) P 877 Jm 57

Franklin G, Linear filtering of sampled data. NCR 119 Pt4 55

NCR 119 Pt4 55

Franklin PJ, See Otley KO

Frankin RJ, See Bady I

Franks RE and Elfving CT, Reflector-type periodic broadband antennas. WCR 266 Pt1 58

Frantz WP, Dean WN and Frank RL, A precision multipurpose redionavio

Franz W and Beckmann P. Creeping waves for objects of finite conductivity. T-AP 203 Jul 56
Franzen G. See Rudenberg HG

Franzen G, See Rudenberg HG

Fraser DW and Holmes EG, Frequency control in the 3001200-mc region. P 1531 Nov 56

Fraser DW, Synchronization of oscillators by periodically interrupted waves. P 1256 Sep 57

Fraser WCG, See Wait JR

Frayne JG, Components and mechanical considerations for magnetic sound on 35 mm film. T-AU 86 May-Jun 54 Frayne JG, See Davis CC Frazier RM, See Lewis FD

Freas RR, Alrbome Loran receiver— the AN/APN-70 T-ANE 17 Mar 54. Correction: T-ANE 22 Jun 56 Fredendall GL and Morrison WC, Effect of transmitter characteristics on NTSC color television signals. P 95 Jan 54

Fredendall GL, Delay equalization in color television. P 258 Jan 54

Frederiks eHPR and Blunt RF, Photoeffects in Interme-tallic compounds. P 1828 Dec 55 Freedman LA, See Holmes DD Freedman LA, Stanley TO and Holmes DD, An experi-

Freedman LA, Starley TO and Holmes DD, An experimental automobile receiver employing transistors. P 671 Jun 55
Freedman LA, Design considerations in the first stage of transistor receivers. NCR 182 Pt3 57
Freedman G, See Flaherty P
Freeland AF, A low power industrial communication unit. T-VC 54 May 57

Freely J, See Dobischek D
Freeman H and Parsons E, A time-sharing analog multiplier.
T-EC 11 Mar 54
Freeman H, A simplified procedure for the long-division inversion of Z-transform expressions.(L)
T-CT 287 Sep 57

Freeman H and Lowenschuss O, Bibliography of sampled-data control systems and Z-transform applications T-AC 28 Mar 58

Frei A, See Cremosnik G Frei EH, See Aharoni A Freiberg L, Coaxial Isolator utilizing yttrium-iron garnet.(L) T-MTT 454 Oct 58

garnet (L) 1-M11 454 Oct 58
French HA, See Engelmann H
Fresh DL, Methods of preparation and crystal chemistry of ferrites. P 1303 Oct 56
Fricker SJ, See Adler RB

Fricker SJ, See Adler RB
Fried C, See Smullin LD
Fried L, Prediction of temperatures in forced convection cooled electronic equipment. T-CP 102 Jim 58
Fried WR, Principles and performance of Doppler navigation systems. T-ANE 176 Dec 57
Fried WR, Performance profiles of Doppler navigation systems. T-ANE 194 Dec 58
Friedensohn G and Sheingold DH, Fast time scale simulation of a reactor control system. T-NS 53 Aug 58
Friedland C, See Luisada AA
Friedland WS and Marchard N. A completion direction

Friedland MS and Marchand N, A correlation direction finder for guided missile range Instrumentation. NCR 35 Pt5 54

Friedland MS, Gulded missile range instrumentation—a new electronic art. NCR 48 Pt5 54

Friedle WD. See Kock WE
Friedman B, An electric dipole above an infinite anisotroniuc slab. T-AP 584 Jul 56

Friedman DS, Optimum bandwidth for waveguide-to-coaxial transducers.(L) T-MTT 75 Jan 57

coaxial transducers.(L) T-MTT 75 Jan 57
Friedman IB, The analysis and design of constant voltage regulators. T-CP 11 Mar 56
Friedman S, See Zimet MM
Friedman TB, See Katz L
Fris HT, Rhombic antenna design.(L) P 1451 Sep 54
Fritch DJ, Basic considerations in the design of electronic power supplies for electrodynamic shakers.
NCR 161 Pt6 56

Fritchle FP, Theory, measurement and reduction of pre-cision potentiometer linearity errors. NCR 121 Pt6 57

Fritze EH and Rector JD , Combining the automatic pilot and the flight director. T-ANE 15 Sep 55 Froemel JG, Polarization of barium titanate. NCR 28 Pt9 57

NCR 28 Pt9 57

Fromm WE, Characteristics and some applications of stripline components. T-MTT 13 Mar 55

Fromm WE, Klug SH and Packard KS, Precision high-speed microwave switch. NCR 219 Pt1 57

Fromm WE, Fubini EG and Keen HS, A new microwave rotary joint. NCR 78 Pt1 58

Fromm WE, See Fubini EG

Fromm WE, See Fubini EG

Fromm JC, Photoelectric registration control systems. T-IE 86 May 58

Frood DG. See Wait JR

Frost AD and Mingins CR, Microwave strip circuit re-search at Tufts College. T-MTT 10 Mar 55

Frost AD, McGeoch CR and Mingins CR, The excitation of surface waveguides and radiating slots by strip-circuit transmission lines. T-MTT 218 Oct 56

Frost HB, Cathode interface impedance desimplified. T-ROC 27 Apr 55

Frost RF, Mobility requirements for tactical operations. NCR 108 Pt8 56

NCR 108 Pt8 56
Fry WJ and Barnard JW, Selective action of ultrasound on nerve tissue. NCR 102 Pt6 54

Fry WJ, Neurosonic surgery, SQ 5 Sep 5/
Fry WJ and Dunn F, Precision calibration of ultrasonic fields by thermoelectric probes. NCR 39 Pt9 57

Fry WJ, Sec Dunn F
Fry WJ, Sec Dunn F
Fubini EG, Fromm WE and Keen HS, New techniques for
high-Q strip microwave components. NCR 91 Pt8 54.
Fubini EG, Fromm WE and Keen HS,
tions of high-Q strip components. NCR 9B Pt8 54

D

tions of high-Q strip components. NCR 9B Pt8 54
Fubnia EG, Stripline radiators.
T-MTT 149 Mar 55
Fubnia EG, McDonough JA and Malech R, Stripline radiators. NCR 51 Pt1 55
Fubnia EG, A plea for simplification.
T-MTT 341 Oct 58
Fubnia EG and Guillemin EA, Minimum Insertion loss filters. NCR 11 Pt2 58
Fubnia EG, See Fromm WE
Fubnia EG, A note on local feedback (1) P 379 Mar 56

Fuchs A, Working time in repetitive analog computers .(L) T-EC 94 Jun 56

Fuchs A, A note on the accuracy of differential analyzers.
(L) T-EC 36 Mar 57

Fujl WM, Multi-channel audio records. WCR 53 Pt7 57

Fujll T, Engineering willing without gobbledegook. SQ 13 May 58, T-EWS 31 Aug 58

Fullsawa K, General treatment of klystron resonant cavities. T-MTT 344 Oct 58
Fujisawa T, Realizability theorem for mid-series of midshunt lowpass ladders without mutual induction.

T-CT 320 Dec 55
Fuller CS, See Pearson GL
Fulton L, Weapons systems development.
NCR 28 Pt10 58

Fulton WB , A transistorized high performance FM/FM system. WCR 90 Pt5 57

system. WCR 90 Pt5 57
Furlow WM Jr, See Benoit RC Jr
Furst M. See Kallmann HP
Fuschillo N. See Birx DL
Fye DL, See Morganthaler FR
Fyler N, Rowe WE and Caln CW, The CBS colortron a
color picture tube of advanced design (abstract).
T-BTR 95 Jan 54, P 326 Jan 54, (abstract) T-ED 6 Feb 54

Fyler NF, Cain CW and Hambleton P, The unipotential mask-focusing colortron. NCR 122 Pt3 56

-G-

Gabor D , Communication theory and cybernetics . T-CT 19 Dec 54

Gabor D., Communication theory and cybernetics.
T-CT 19 Dec 54
Gabriel WF, An automatic impedance recorder for X-band.
P 1410 Sep 54
Gabriel WF, See Peeler GDM
Gaertner W, The group theoretical aspect of linear four-pole theory. NCR 36 Pt2 54
Galbraith HJ and Braverman N, The practical combination of air navigation techniques. T-ANE 3 Mar 56
Galbraith JS, Reliable precision wirewound resistor design.
T-CP 116 Dec 56
Gale AJ, See Kelliher MG
Galeis J, Comparison of subtraction-type and multiplier-type radiometers.(L) P 1420 Oct 57
Galejs J, Enhancement of pulse train signals by comb filters. T-IT 114 Sep 58
Galeis J, Frequency multiplex Doppler radar.
WCR 34 Pt8 58
Gallagher DC, Design consideration for a linear VHF

Gallagher DC. Design consideration for a linear VHF transmitter. T-CS 14 Oct 56
Gallagher JD. See McKibben JL
Gallagher PB. An antenna array for studies in meteor and radio astronomy at 13 meters. P 89 Jan 58

Gallagher PB, See Eshelman VR

Gallagher PB, See Eshelman VR
Gallagher TF and Rogoff M, Electronics in biochemical spectroscopy. NCR 50 Pt9 58
Galler S, See Schmitt OH
Gallet RM, Aerodynamical mechanisms producing electronic density fluctuations in turbelent jonized layers.
P 1240 Oct 55
Gallet RM, Interaction between plasma oscillations and

electromagnetic waves—I. Coupling conditions T-AP 584 Jul 56

1-AP 584 Jil 56
Gallonio A, See Auld JS
Gamble GW, See Warriner B
Gamow G, Will science come to an end?
T-MIL 26 Mar 57
Gamson ER and Heneslan A, Rellable electronics through protective coating techniques. T-CP 104 Sep 54,
T-RQC Dec 54

Gamson ER and Henesian A., Preparation of standards and test procedures for printed circuits. NCR 172 Pt6 56 Gamson ER, Introductory remarks to the session. T-PT 18 Apr 58
Gang MI, A simplified procedure for finding Fourier coefficients.(L) P 1018 Jul 57

Gangnes AV, Extending the versatility of a laboratory magnetic tape data storage degice. NCR 150 Pt5 56 Gannett EK, Under the big top. SQ 16 Feb 55

Gannett EK, Huggins WH, Picrce JR, Tuttle WN and Fedoseev N, Tchebycheff or Chebyshev?(L) T-CT 105 Mar 55

Gannett EK, The big show. SQ 26 Feb 56
Gannett EK, IRE editorial policies and requirements.
T-EWS 20 Mar 58
Gano JJ and Sandy GF, Themlstors for the gradual application of heater voltage to themlonic tubes.
NCR 91 Pt6 57, T-EC 61 Mar 58

Garbarino HL, Selection of reliability levels in equipment design. T-IE 76 Apr 58

Gardiner FJ, Note on a technique for analyzing the system performance of three-dimensional search scanning antennas. WCR 180 Pt1 57

tennas. WCR 180 F(1 57)
Gardner RA, See Chatten JB
Garlick GFJ, Cathodoluminescence. P 1907 Dec 55
Garner HL, Miller RE, Macmillan SH and Graham RR,
Multichannel analyzer for time-of-flight experiments.
NCR 49 Pt9 57

NCR 49 Pt9 57

Garner HL, Generalized parity checking.
T-EC 207 Sep 58

Garner WE. See DInger HE
Garretson EB. See Brinster J
Garrigan TE, The mublic relations function in an engineering organization. T-EM 103 Sep 57

Garriott OK and Villard OG, Antipodal reception of Sputnik
III.(L) P 1950 Dec 58

Gartenhouse S. See Drenick RF

Gartlein CW, The climate of research in the university.
T-EM 109 Dec 57

Gartlein CW, The International Geophysical Year.
SQ 39 Feb 58

Gârtner WW, Temperature dependence of junction transistor

Gärtner WW, Temperature dependence of junction transistor

Gärtner WW, Temperature dependence of junction transistor parameters. P 662 May 57
Gärtner WW, Design theory for depletion layer transistors. P 1392 Oct 57
Gärtner WW, Large-signal rise-times in Junction transistors. (L) T-ED 316 Oct 58
Gärtner WW, Hanel R, Stampfl R and Caruso F, The current amplification of a junction transistor as a function of emitter current and junction temperature (L) P 1875 Nov 58

P 1875 Nov 58
Gartner WW, Maximum available power gain of linear four-poles.(L) T-CT 375 Dec 58
Gartner WW. See Rosenthal JE
Garver RV, Spencer EG and Harper MA, Microwave semi-conductor switching techniques. T-MTT 378 Oct 58
Gaskins FJ, Design and use of the chroma key (abstract). WCR 64 Pt7 58
Gaskins FJ, See Kennedy RC
Gasparini F, See Cappuccini F
Gates PE, See Hall JD
Gaw N, Kline M and Silverman D, A precise, wide band, continuously variable delay line. T-CP 48 Sep 54
Gaw N and Silverman D, Criteria and test procedures for electromagnetic delay lines. NCR 152 Pt3 55
Gaylord RS, See Fisher JH

electromagnetic delay lines. NCR 152 Pt3 55
Gavlord RS, See Fisher JH
Geddes LA, Tie physiograph: a new instrument for teaching physiology. NCR 29 Pt9 56
Geffe PR and Desoer CA, Network design by first-order predistortion technique. (L.) T-CT 226 Sep 58
Geffe PR, Predistorted filter design with a digital computer. WCR 10 Pt2 58
Gelman JB, Application of magnetography to graphic recording. NCR 198 Pt5 58
Geltrels E, See Helliwell RA

Corong, NCR 198 PL5 58
Gehrels E, See Helliwell RA
Gehrig DR, A three channel common carrier radio mobile
system to serve industry. T-VC 47 Jun 55
Gehring AJ, Stowe LW and Wilson LD, The Univac magnetic computer—Part I. Logical design and specifications (abstract). NCR 109 Pt4 56

Geiger RH and Domey PE , Coaxial components employing gaseous discharges at microwave frequencies , NCR 193 Pt5 56

Gelpel DH and Bright RL, Maximizing the band-pass ratio in impedance transforming filters. NCR 71 Pt2 55

Geiser DT., An investigation of lowest resonant frequency in commercially available bypass capacitors. NCR 43 Pt3 54

Geiser DT , A note on distortion reduction and electrical multiplication (LL) P 873 Jun 57
Gemulla WJ, RF circuits for a voltage-tunable magnetron. WCR 39 Pt1 58

Genthe WK, Optimalizing control—design of a fully automatic cruise control system for turbojet aircraft. WCR 47 Pt4 57

WCR 47 Pt4 57

George RW, Electromechanical filters for 100-kc carrier and sideband selection. P 14 Jan 56

George SF and Zamanakos AS, Comb filters for pulsed radar use. P 1159 Jul 54

George WD, WWV standard frequency transmissions.(L) P 910 May 58, (L) P 1309 Jun 58, (L) P 1420. Jul 58, (L) P 1542 Aug 58, (L) P 1694 Sep 58, (L) P 1758 Oct 58, (L) P 1950 Dec 58, P Nov 58

Geoppert DV, Analysis of traveling-wave tubes with tapered velocity parameter.(L) P 1658 Sep 58

Gerard WA, Reference cavity design considerations. T-MTT 148 Apr 57

Gerber EA. Temperature coefficient of AT cut mustz.

Gerber EA, Temperature coefficient of AT cut quartz crystal vibrators.(L) P 1529 Oct 55. Correction: P 109 Jan 56

Gerber EA and Koerner LF, Methods of measurement of the parameters of plezoelectric vibrators.

P 1731 0c 58 Gerher EA, See Chi AR
Gerhes W, See Ehrenspeck H
Gere HH, See Sieuel KM
Gerhardt JR, Radio ineteorology, SQ 6 May 56
Gerhardt JR, See Crain CM

Gerharz R., Or the universal standard of time and the velocity of light (L) P 1549 Nov 57

or light. (L) P 1549 Nov 57
Gerks IH, Factors affecting spacing of radio terminals In a UHF link, P 1290 Oct 55
Gerks IH and Svien AJ, Wave propagation over a 350 mulc path at 960 mc. NOR 3 Pt.1 56
Gerks IH and Decker RP, SSB modulation for scatter propagation. NOR 158 Pt8 57
Gerlach AA, A time-variable transform and its application.

to spectral analysis. T-CT 22 Mar 55
Geman JP and Brooks FE Jr, The effects of the physical parameters on the bandwidth of a folded dipole.
T-AP 186 Apr 58

Germeshausen KJ, Goldberg S and McDonald DF, A high-sensibility cathode-ray tube for millimicrosecond trans-ients. T-ED 152 Apr 57

Gernert W., Capacitance level gauge for pressurizers of pressurized water reactor plants. T-NS 50 Aug 58 Gerosa G, Taper sections in circular waveguides (L)
P 1961 Dec 58

Gerring FH, Commutating switch development for critical applications (abstract). T-TRC 5.3 Apr 57
Gershon JJ, The engineering technician.
SQ 12 Sep 56

SQ 12 Sep 36
Gershon JJ, Koppel PV and Wendel DR, Operation student care. SQ 30 Dec 56
Gerst I, See Fialkow AD
Gertsch EP, So you want to start a business.
SQ 3 Dec 56

Gesteland RC, See Lettvin JY
Gethmann RB, A deflection and convergence system for use with the color nicture tubes. NCR 84 Pt3 56
Gethmann RB, Deflection distortions contributed by the principal field of a ring deflection yoke.
T-BTR 24 Feb 58

Gewartowski JIV, Fundamentals of traveling-wave tubes. SQ 41 Sep 57
Gewartowski JIV, A general circuit theorem on rectification.(L) P 1410 Oct 57
Gewartowski JIV, Velocity and current distributions in the spent beam of the backward-wave oscillator.
T-ED 215 Oct 58

Geyger WA, Application of magnetic amplifiers in industrial instrumentation and control. T-IE 23 Apr 58

trial instrumentation and control. T-IE 23 Apr 58
Ghandhi SK, Bias considerations in transistor circuit design. T-CT 194 Sep 57
Ghandhi SK, Darlington's compound connection for transistors.(L.) T-CT 291 Sep 57
Ghausi MS, See Pederson DO
Ghose RN and Albright WG, VHF field intensities in the diffraction zone. T-AP 35 Jan 54
Ghose RN, Excitation of higher order modes in spherical cavities. T-MTT 18 Jan 57
Ghose RN, The exact solution of the field intensities from a linear radiating source.(L.) T-AP 237 Apr 57
Ghose RN, Exponential transmission lines as resonators and transformers. T-MTT 213 Jul 57
Ghose RN, Temperature distribution in anode structure for pulse urput. NCR 124 Pt3 57

Ghose RN, Temperature distribution in anode structure for pulse urput. NCR 124 Pt3 57
Giacoletto LJ, The study and design of alloyed-junction transistors. NCR 99 Pt3 54
Giacoletto LJ, Variation of junction-transistor current-amplification factor with emitter current (L) P 1529 Cct 55

Glacoletto LJ, Comparative high-frequency operation of Junction transistors made of different semiconductor materials. NCR 133 Pt3 55

Giacoletto LJ, Thermionic current in a parallel-plan diode. T-ED 22 Jan 57

diode T-ED 22 Jan 57 Giacoletto LJ , Transistorized RC phase-shift power oscillator T-AU 59 May-Jun 57 Giacoletto LJ , Junction capacitance and related charac-

teristics using graded impurity semiconductors. T-ED 207 Jul 57

T-ED 207 Jul 57
Giacoletto LJ, Analog solution of space-charge regions in semiconductors. P 1003 Jun 58
Giacoletto LJ, See Lederhandler SR
Gianoplus AS. See Brain EL
Gibas HAS. Television in Europe. NCR 91 Pt7 55
Gibbons J, See Shockley W
Gibbons JF, A simplified procedure for finding Fourier coefficients (L) P 243 Feb 57
Gibbs NE Illegacing cutting of months unders

Gibbs NE, Ultrasonic cutting of quartz wafers.
T-UE 66 Aug 56
Gibson HC Jr., See Cohen MJ
Gibson J, See Woodward OM Jr
Gibson JE, Lunar thermal radiation at 35 kmc.
P 280 Jan 58

Gibson WG and Schroeder AC, Color television lumi-nance detail rendition. P 918 Aug 55

Glesselman AC, The meat of the backbone T-VC 64 Jul 58

Gifford RP, The knee of the nose. T-VC 40 Jun 54 Giger AJ and Park D, Planar transmission lines—II.(L) T-MTT 184 Jul 56

Glauere WJ , A translstorized 150-mc FM reclever . P 693 Apr 58

Gilbert EG , See Howe RM

Gilbert GB. See Middleton FH
Gilbert JJ. The place of the submarine cable in aeronautical communication. T-CS 114 May 56
Gilchriest CE, Application of the phase-locked loop to
tolemetry as a discriminator or tracking filter.

Gillespie RG and Aufenkamp DD, On the analysis of sequential machines. T-EC 119 Jun 58
Gillette PR, Henderson KW and Oshima K, Blocking oscillator transformer design. NCR 75 Pt3 55
Gillette PR, Oshima K and Rowe RM, Measurement of parameters controlling pulse front response of transformers. T-CP 20 Mar 56

Gillette PR and Oshima K, Pulser component design for proper magnetron operation. T-CP 26 Mar 56
Gillis RC and Tarzwell JW, Resistance of silicon transistors to neutron bombardment. WCR 48 Pt3 57
Gillis TB, See Crytzer S
Gilman GW, Development and research trends in global communications. T-CS 11 Nov 54

Gilman S., See Hadady RE GImpel DJ, A tank farm data reduction system. T-IE 94 Mar 57, T-PT 94 Apr 57

Gindsberg J, A precision calibrator for microwave de-modulators. T-I 332 Dec 58 Ginsburg CP, Achievement of practical tape speed for recording video signals. T-BTS 25 Jun 57 Ginsburg CP, See Snyder R Ginther RJ and Schulman JH, Glass scintillators. T-NS 92 Dec 58

T-NS 92 Dec 58

Ginzton EL and Wadia BH, Positive-ion trapping in electron beams. P 1548 Oct 54

Ginzton EL and Wadia BH, Control of electron-beam spread by positive ion trans. NCR 145 Pt3 54

Ginzton EL and Nalos EJ, Slimit impedance of klystron cavities. T-MTT 4 Oct 55

Ginzton EL, Microwaves—present and future. T-MTT 136 Jul 56

Ginzton EL, Microwave Q measurements in the presence of coupling losses. T-MTT 383 Oct 58 Ginzton EL, See Bates DJ Ginzton EM, See Sherwood EM Giordano PJ, See Taub J

Giordano PJ, See Taub J
Given IK, Recent advances in international radio communications. T-CS 86 Nov 54
Gladys SJ, See Davis GWL
Glaser EM, and Blasbalg H, A logarithmic voltage quantizer. T-EC 150 Dec 55
Glaser EM and Park JH Jr, On signal parameter estimation.(L) T-IT 173 Dec 58

Glaser EM. See Park JH Jr Glaser R, An application of the box technique to the evaluation of electrical components (Addendum). T-RQC 69 Sen 58

Glass MS, Straight-field permanent magnets of min-mum weight for TWT focusing—design and graphic aids in design. P 1100 Aug 57 Glass MS, Distribution of leakage flux around a TWT—

Glass MS, Distribution of leakage flux around a TWTfocusing magnet—a graphic analysis.
P 1751 Oct 58
Glass NW and Rudnick P, A high current coaxial
photomultiplier. T-NS 124 Dec 58
Glass RC and Gottfeldt P, Aluminum foil solenoids for
traveling—wave tubes. (L) T-ED 186 Apr 57
Glass RC, A wide—band microwave link for telemetering.
T-TRC 1.2 Apr 57

T-IRC 1.2 Apr 57

Glauber JJ, Handley PA and Welch P, Valve noise produced by electrode movement (L) P 488 Apr 55

Gleason CH, See Okress EC

Gleichauf PH and Hsu H, Low-voltage color tube gun

assembly with periodic focusing. T-ED 63 Jan 57

Gletchauf PH , Space-charge grid high-transconductance gums.(L) P 1542 Aug 58 Glenn AB , Study of noise reduction by feedback in ultra-high frequency amplifiers . T-BTR 82 Apr 54

Glenn AB, VHF-UHF radiation measurements.
T-BTR 15 Oct 55
Glenn AB and Joffe I, Investigation of power gain and transistor parameters as functions of temperature and frequency. NCR 157 Pt3, 56

Glenn WE , Terminated horn enclosures . T-AU 143 Nov-Dec 56

Glenn WE , A low-pressure phonograph cartridge , NCR 72 Pt7 57

Glentzer KV , 450-mc coverage tests at Chicago . T-VC 20 Jul 56

Glick DP. See Alexander NE Glickman LM, See Bieganski WJ Glicksman R. See Morehouse CK Glovazky A, Determination of redundancies in a set of patterns. T-17 151 Dec 56

Glovazky A., See Riekeman EC Gloystein EE and Turner AH. The colorplexer—a device for multiplexing cotor television signals in accordance with the NTSC signal specifications. P 204 Jan 54 Gloystein EE , Operational tests for color television . T-BTR 18 Jul 55

Gnagey L.E., Determination of neutron intensit, and gamma spectrum of neutron sources. T-NS 11 J n 56.
Goatley C and Parker CF., Symmetrical microwave lenser. NCR 10 Pt 55.
Goatley C and Green FD., Circularly-polarized biconical horus. T-AP 592 Oct 56.
Godard BE., See Ptil CF.
Goddard CT., The measurement of surface flatness of cathodes for close-spaced electron tubes.
T-ED 72 Feb 54. T-ED 72 Feb 54 Godsey WJ., Arc suppression for relay contacts in do service. T-CP 36 Jun 57 Service. T-CP 36 Jun 57
Godwin CJ., Project direction in the development of avionics system: WCR 12 Pt9 5C
Gotz JA, Contributing factors to component parts reliability and extended service. T-RCC 11 Apr 55
Gotze D., Ultrasonic machining of tingsten carbine.
T-UE 19 Nov 54
Gongio EC, Some applications of analog-computer techniques to control system design. T-IE 70 Apr 50
Golay MJE, The direct method of filter and delay line synthesis. P 585 Mar 54
Golay MJE, Binary coding. T-IT 23 Sep 54
Golay MJE, Bits and binits.(L) P 1452 Sep 54
Golay MJE, Bits and binits.(L) P 1452 Sep 54
Golay MJE, Bits and binits.(L) P 1452 Sep 54
Golay MJE, Bits and binits.(L) P 1452 Sep 54
Golay MJE, The logic of bidirectional binary counters.
T-EC 1 Mar 57
Golay MJE, The logic of bidirectional binary counters. Golay MJE, The gyrator in dual circuits.(L) P 1412 Oct 57 Golay MJE, Notes on the penny-weighing problem, loss-less symbol coding with nonprimes, etc. T-IT 103 Sep 58 Gold B and Young GO, The response of linear systems to non-Gaussian noise. T-IT 63 Mar 54
Gold B. See Young GO
Gold L. Potential well theory of velocity modulation (L)
P 1952 Dec 58
Goldbar B. See Proper AT Goldbern B, See Brennan AT
Goldbern B, See deBettencourt JT
Goldbern H, An engineering incentive problem.
T-EM 7 Feb 54
Goldbern HB, See Meyer M4 Goldberg HB, See Meyer MA
Goldberg J, See Cox B
Goldberg S, See Germeshausen KJ
Goldberg S, See Germeshausen KJ
Goldberger AK, See Palliuel P
Golden H, See Shandelman F
Goldey JM, See Moll JL
Goldman DE, See Ely TS
Goldman H, Gray LF and Pollack L, Wide band UHF 10
kw klystron ampilifier, NCR 114 Pt3 58
Goldman RB, See Bobb L
Goldman RG, Measurement and control in a large steam
turbine-generator department. T-IE B2 Mar 57
Goldman RG, Miller Integrator (L) P 366 Mar 57
Goldman RG, Measurement and control in a large steam
turbine-generator department. T-PT 82 Apr 57 Goldman S, Certain aspects of coherency, modulation and selectivity in information transmission systems. NCR 113 Pt4 56 Goldmark PC, A phonograph system for the automobile. NCR 159 Pt7 56
Goldmark PC and Hollywood JM, The Reverbetron. NCR 124 Pt7 57 Goldmark PC, Bauer BB and Bachman WS, Columbia com-patible stereophonic record. T-AU 25 Mar-Apr 58, NCR 94 Pt7 58 Goldsmith AN , IRE-past and future . P 658 Apr 54 Goldsmith AN, See Ramo S
Goldsmith BP, Acceptance sampling of reliable tubes.
T-RQC 17 Apr 55
Goldsmith AN, Creative engineering methods.
T-EM 22 Mar 58 I - EM 22 Mar 58
Goldsmith AN, Good writing and speech—their importance to the engineer. T-EWS 9 Aug 58
Goldsmith WD, See Selsted WT
Goldstine HE, Hansell GE and Schock RE. SSB receiving and transmitting equipment for point-to-point service on HF radio circuits. P 1789 Dec 56 Goldstein I, Frequency stabilization of a microwave oscillator with an external cavity.

T-MTT 57 Jan 57 Goldstein L., Nonreciprocal electromagnetic wave propagation in ionized gascous media. T-MTT 19 Jan 58 Goldstein L., See Dongal AA Goldstein SJ Jr., A comparison of two radiometer circuits.
P 1663 Nov 55 Goldstein SJ Jr., See Tucker DG
Goldstein SJ Jr., See Tucker DG
Goldstone L and Rizzi PA, A low VSWR matching technique.(L.) T-MTT 163 Apr 57
Golosman BS, Analysis of a regenerative amplifier with distributed amplification. P 533 Apr 56 Goltsos C. See Mark M Gombash W Jr., The Incorporation of picture storage with the technique of x-ray fluoroscopy (abstract). NCR 94 Pt4 57 NCR 94 Pt4 57

Gonzalez RE, See Lesk IA

Goodale ED, See Brimbaugh JM

Goode HH, PGEC student activities and education in

computers. T-EC 49 Jun 55

Goode HH, See Johnson RP

Goodman DM, Rapid, precision impedance measurements

in the 400-1600 megacycle frequency range.

NCR 27 Pt10 54

Goodman J and Lebenbaum M. A dynamic spectrum analyzer for solar studies. P 132 Jan 56 Goodman AC. Use of a sectionalized TV tower in AM broadcast service. NCR 14 Pt7 56 Googe JM., An analog data handling system T-1 39 J in 5% Gordon EM, A direct computer controlled data editing system (abstract) T-TRC 5.1 Apr 57

Gordon BM and Jorup RD, Theoretical data acquisition analysis and practical appraisal of existing airborne systems. WCR 3 Pt5 58 Gordon PM., See Meyer MA Gordon ES., Maxwell DC Jr and Alexander NE., Electronic instrumentation of a device to automatically count and size particles in a gas. T-IE 12 Mar 56. T-I Mar. 57
Gordon F Jr. See Ramsa A
Gordon JF, Peordic thinns, and the engineer.
T-EM 25 Mar. 57. Correction: T-EM 108 Sep. 57 Gordon JP, A molecular microwave spectrometer, oscillator and amplifier T-I 155 Oct 55
Gordon JP and White LD, Noise in maser amplifiers—theory and experiment. P 1588 Sep 58
Gordon RL, A non-linear noise suppression network.
NCR 46 Pt 456 Gordon WE , Radio scattering in the troposphere . P 23 Jan 55 Gordon WE , Characteristics of S and X band scatter signals (abstract). NCR 60 Pt1 55 nals (abstract). NCR 60 Pt1 55
Gordon WE, A simple picture of tropospheric radio scattering. T-CS 97 Mar 56
Gordon WE, Incoherent scattering of radio waves by free
electrons with applications to space exploration by
radar. P 1824 Nov 58
Gordon WE, See Booker HG
Gordy I, See Clark CT
Gore WC and Larson T, Linear p 1se-forming circuits.
T-CT 182 Sep 56 Gorelik G. See Berstein I
Gorter EW, Some properties of ferrites in connection with
their chemistry. P. 1945 Dec. 55
Gossen CE, The engineer personality. SQ. 6 Dec. 55
Goss TM and Lindsay PA, Spurious modulation in Qband magnetrons. (L.) P. 1474, Oct. 56 Gossard EE and Anderson LJ, The effect of super-refractive layers on 50-5000-mc nonoptical fields. T-AP 175 Apr 56 Gossard EE , See Anderson LJ Gossick BR, A note on the small amplitude transient response of p-n junctions (L) P 259 Feb 56 Gossick BR, Very narrow base diode (L) P 1545 Nov 57 Gossick BR, See Curtis O Jr Gott E and Park JH Jr., Transistorized logarithmic time and amplitude quantizer. T-I 7 Mar 57 Gottfeldt P. See Glass RC Gottfried NJ, A novel approach to transistor testing (abstract). NCR 80 Pt10 54 (abstract). NOR BO PTIO 54
Gottfried P. Sec Xavier MA
Gottschalk WM, Direct detection measurements of noise in CW magnetrons. T-ED 91 Dec 54
Gottschalk WM and Pierce JR, Power flow (L)
P 1975 Dec 55 P 1975 Dec 55
Gouhau G. Dnen wire lines. T-MTT 197 Oct 56
Gouhau G. and Sham CE., Investigations with a model surface wave transmission line. T-AP 222 Apr 57
Gougoulis GH. See Bemsteln M.
Gould GT Jr., Research and exploratory needs (electronics). NCR 116 Pt8 56 Gould L , Improved keep-alive design for TR tubes .
P 530 Apr 57
Gould L , Edwards V and Reingold I , A novel approach to microwave duplexer tube design. T-ED 200 Oct 57 Gould R. A note on contact networks for switching functions of four variables. T-EC 196 Sen 58 Gould RW. Characteristics of travelling-wave tubes with periodic circuits. T-ED 186 Jul 58 Gould RW. A coupled mode description of the backward-wave oscillation and the Kompfner dip condition. wave oscillation and the Kompiner dip condition.
T-ED 37 Oct 55
Goulding FS, Some transistor circuits used in a magnetic core tyne kicksorter. NCR 76 Pt9 56
Goulding FS, Transistorized radiation monitors.
T-NS 38 Aug 58
Gow JD and Dorr R, Operation of the chromatron on NTSC standards (abstract). T-BTR 96 Jan 54
Gow JD and Dorr R, Compatible color picture presentation with the single gun tricolor chromatron. P 308 Jan 54
Grabbe EM, Burbeck DW and Neister SB, Flight testing of an airborne digital conguter. NCR 66 Pt5 54
Grace FC. See Aha F Grace FC , See Aha R
Grace JN , Synthesis of control systems for nuclear power plants . NCR 83 Pt9 54 Grad PP, New subminiature metallized paper capacitors. NCR 80 Pt6 57 Graf AW, Happy new year—patent pending. SQ 7 Dec 54 Graf AW, Capitalizing on creative engineering. SQ 12 May 56 Graf CR , Lightning enhancement of a VHF tropospheric scatter signal (L) P 915 May 58

Graffi D, Waveguides with nonhomogeneous dielectric .(L) P 1449 Sep 54
Graham JJ, Standards for automation. NCR 45 Pt6 55

Graham JJ , Automation re-examined. T-IE 101 Mar 57 , T-PT 101 Apr 57 $\,$ Graham M. An improved method for Williams storage (L) T-EC 140 Sep 56 Graham M., Radiometer circuits.(L) P 1966 Dec 58 Graham M., See Tucker DG Graham NL , The role of flight directors in present-day aircraft. NCR 84 Pt5 54 Graham RE , Modulated control systems NCR 18 Pt2 56 Graham RE and Kelly JL Jr., A computer simulation chain for research on picture coding. WCR 41 Pt4 50 Graham RE, Subjective experiments in visual communication. NCR 100 Pt4 50
Graham RE, Predictive quantizing of television signals. WCR 147 Pt4 50 Graha RR. See Gamer HL Grahame FW and Schmidt DF , The insulation resistance of capacitors after long-time electrification. Grammer G, Industry-amateur cooperation T-BTR 36 Apr 54 Grammer G., Single sideband in the amateur service. P 1829 Dec 56 Granger JVN and Bolljahn JT., Aircraft antennas. P 533 May 55
Grant CR and Yaplee BS , Back scattering from water and land at centimeter and millimeter wavelengths . P 976 Jul 57 P 976 Jul 57
Gratian JW, Investigation of core structures for the electron-beam reproducing head. T-AU 27 Jan-Feb 54
Gratian JW, See Skellett AM
Graustein MW Jr and Houghton RW, Phase measurements in the video frequency range. NCR 3 Pt10 54
Gravel JPJ and Kavanaugh TF, Computers—the key to modern manufacturing scheduling. T-IE 90 Mar 57, T-PT 90 Apr 57 Graves CD. Radar polarization power scattering matrix. P 248 Feb 56
Graves CD. See Kennaugh EM
Graveson RT and Sadowski H, Transistorization of nuclear counting circuits. T-NS 33 Aun 58
Graveson RT and Sadowski H, Pulse amplifiers using transistor circuits. T-NS 179 Dec 58
Gray AR, Gulded missile reliability and electronic production techniques. NCR 79 Pt6 55
Gray AR. Our first two years in retrospect Gray AR, Our first two years in retrospect T-PT 5 Sep 56 T-PT 5 Sep 56
Gray AR, Automation for electronics—a 1956 status report. T-IE 29 Mar 57, T-PT 29 Apr 57
Gray AR, Reliability of missile guidance systems—the statistical cliché vs reality. NCR 49 Pt6 58
Gray AW, Reduction of inventions to practice.
T-EM 54 Jun 58
Gray HJ Jr, Rubinoff M and Tompkins J, A diode multiplexer for analog voltanes. T-EC 64 Jun 55
Gray HJ Jr, Investigations of magnetic amplifiers with feedback. T-EC 213 Sep 58
Gray LF. See Goldman H Gray LF , See Goldman H Gray RE and Felseneld RA , An over-the-horizon radio link between Puerto Rico and the Dominican Republic. NCR 217 Pt8 56 Gray RE, The refractive index of the atmosphere as a factor in tropospheric propagation far beyond the horizon. NCR 3 Pt1 57 Gray RE, See Altman FJ
Gray S, See Welmer PK
Graydon A, The application of pulse-forming networks.
T-CP 7 Mar 57
Grayzel AI, A synthesis procedure for transmission line
networks. T-CT 172 Sep 58 Grayzel AI, A band separation filter for the 225-400 mc band. NCR 91 Pt1 58 Greanias EC and Hill YM, Considerations in the design of character recomitton devices. NCR 119 Pt4 57 Greatbatch W and Hertreiter W, Germanium transistor amplifiers stable to 95 degree C.(L) P 1974 Dec 55 plifiers stable to 95 degree C.(L) P 1974 Dec 55
Greatbatch W, Instrumentation problems in a highfrequency heart sound analyzer. T-ME 44 Dec 57
Green AW and Schulz KS, Environmental effects on
precision potentiometers. T-CP 18 Mar 57
Green BA Jr, Radar detection probability with logarithmic
detectors. T-IT 50 Mar 58
Green EI, Development of engineering managers within
industry (title only). NCR 11 Pt10 57
Green EJ, The story of Q. SQ 6 Feb 56
Green EJ, Nature's pulses. SQ 3 Feb 57
Green FD, See Goatley C
Green FD, Proton beam study in a fixed-frequency cyclo-Green FL, Proton beam study in a fixed-frequency cyclo-tron. T-NS 8 Mar 56
Green JH Jr and San Soucle RL, An error-correcting en-coder and decoder of high efficiency. P 1741 Oct 58
Green M, The Gaussistor, a solid electronic valve.
T-ED 133 Jul 56 T-ED 133 Jul 56
Green ME, VHF marine mobile systems in British Columbia. T-VC 65 Jul 56
Green MW, See Engelmann H
Green PE Jr, A bibliography of Soviet literature on noise, correlation, and information theory. T-IT 91 Jun 56
Green PE Jr, The output signal-to-noise ratio of correlation detectors. T-IT 10 Mar 57.
Correction: T-IT 82 Jun 58
Green PE Jr, Information theory in the U.S.S.R.
WCR 67 Pt2 57 Green PE Jr., See Brown RR

Green PE Jr. See Price R Greenhaum WH. See Carlisle RW Greenherg H, See Jordan DB Greenberg LS, Martowska ZA and Happ WW, A method of

determining impurity diffusion coefficients and surface concentrations of drift transistors. T-ED 97 Apr 56

concentrations of drift transistors. T-ED 97 Apr 56 Greenblatt MH, On the measurement of transit time dispersion in multiplier phototubes. T-NS 13 Jun 58 Greenblatt MH, See Morton GA Greene DG, Physiological auscultatory correlations: heart sounds and pressure pulses. T-ME 4 Dec 57 Greene JC, Stability requirements and calibration of radiometers when measuring small noise powers.(L) P 359 Mar 57 Greene JC, See White MD.

Greene JG, See White WD
Greene RD, Characteristics and some applications of freene RU, Characteristics and some applications of fused junction p-n-p germanium transistors for high-frequency use. NCR 138 Pt3 55
Greenhow CR, National Bureau of Standards noise comparator (abstract). T-ED 122 Dec 54
Greenquist RE and Orlando AJ, An analysis of passive reflector antenna systems. P 1173 Jul 54
Greenslit CL, A thunderstorm avoldance radar for civil alroraft. T-ANE 7 Sep 54

Greensan P. See Reced JO
Greensan P. See Reced JO
Greenwood DT. The representation of constraints by means
of an electronic differential analyzer.
T-EC 111 Sep 56

Greenwood TL , Analysis of data recording systems. NCR 117 Pt10 55

Greenwood TL, Electronic techniques in liquid level measurement. T-I 65 Mar 58
Greenmelmaier R, Irradiation of p-n junctions with gamma rays: a method for measuring diffusion lengths. P 1045 Jun 58

Gresens HJ, Make your own engineers. T-E 88 Sep 58

Grever JL, Color TV recording on magnetic tape (abstract). NCR 4 Pt7 58

Grey L., Engineering English is different. T-EWS 2 Mar 58

Grieg DD and Moskowitz S , A new Instrument for the automatic measurement of transistor noise figure (abstract) .

NCR 124 Pt10 55

Griemsmann JWE, An approximate analysis of coaxial line with a helical dielectric support.

T-MTT 13 Jan 56

Griemsmann JWE and Kasal GS, Broad-band waveguide series T for switching. T-MTT 252 Oct 56

Griemsmann JWE, See Tornow EN

Grier GW Jr, The information content of air-ground messages. T-ANE 5 Mar 54

messages. T-ANE 5 Mar 54
Grierson JK, A technique for the rapid analysis of whistlers. P 806 Jun 57
Griffin GW Jr, Strengthening the recognition of engineering. NCR 85 Pt6 56
Grigos T, Roadblocks in technical writing.
NCR 3 Pt10 58
Grimes MJ, Grimm AC and Wilhelm JF, Improvements in

the RCA three-beam shadow-mask color kinescope. P 315 Jan 54

P 315 Jan 54
Grimm AC, See Grimes MJ
Grimm HH, See Linker JB Jr
Grimm HH, See Mayo BR
Grimmett CA, Ferrite cored antennae. NCR 3 Pt7 54
Grinich VH, An eighty-volt-output transistor video
ampitier. T-CT 61 Mar 56
Grinlch VH, Two representations for a junction transistor in
the common-collector configuration. T-CT 63 Mar 56

Grinich VH, Approxilmating band-pass attenuation and phase functions. NCR 96 Pt2 54, T-CT 5 Dec 54

Grinlch VH, A transistor video amplifier having 80 volts output. T-BTS 32 Sep 56
Grinlch VH, Stagger-tuned transistor video amplifiers. T-BTR 50 Oct 56

Grinich VH and Noyce RN, Switching time calculations for diffused base transistors. WCR 141 Pt3 58

Grisamore NT, Rotolo LS and Uyehara GU, Logical design using the stroke function.(L) T-EC 181 Jun 58

sign using the stroke function.(L) T-EC 181 Jun 58 Grisamore NT, See Bay Z Grisetti RS, Santa MM and Kirkpatrick GM, Effect of internal fluctuations and scanning on clutter attenuation in MTI radar. T-ANE 37 Mar 55 Grisetti RS and Mullen EB, Baseline guidance systems. T-MIL 36 Dec 58 Griswold DM and Cadra VJ, Use of the RCA 2N384 drift transistor as a linear amplifier. NCR 49 Pt3 58

Groce JC, General design considerations for man-machine systems. T-I 69 Mar 58 Groginsky HL, On the design of adaptive systems.

NCR 160 Pt4 58

Gronberg HC , Reference test signals . NCR 42 Pt7 57

Groom D and Sihvonen YT, High-sensitivity capacitance pickup for heart sounds and murmurs.
T-ME 35 Dec 57
Grosch HRJ, IBM 701 logical design.(L)
P 1024 Jun 54

Gross FA , Harbor radar systems . T-CS 64 Mar 55 Gross GH , A practical design theory for minimization of vibration noise in grid-controlled vacuum tubes. NCR 103 Pt3 57

Grossman AJ, Synthesis of Tchebycheff parameter sym-metrical filters. P 454 Apr 57. Correction: P 777 Jun 57

Grossner NR. Transformer design for zero phase shift. T-CP 82 Sep 57

Grosswald E and Plotkin M. Systematic tracing of discrepancies in analog computers. NCR 175 Pt4 57

Grow RW and Watkins DA, Backward-wave oscillator efficiency. P 848 Jul 55
Grow RW, Dunn DA, McLaughlin JW and Lagerstrom RP, A 20 to 40-kmc backward-wave oscillator.
T-ED 152 Jul 58

Grow RW. See DeGrasse RW Grow RW. See Lin CM Grow RW. See McLaughlin JW

Grow RW, See McLaughlin JW
Grubbs WJ, The Half effect circulator—a passive transmission device. WCR 83 Pt3 58
Grubmeyer RS, A new look at regularments for electronic systems in air traffic control. NCR 60 Pt8 56
Grubmeyer RS. See Derkowitz SM
Grien WJ, Test generator for horizontal scanning AFC system. T-BTR 36 Jan 54
Grien WJ, The practical aspects of the color subcarrier synchronization problem. T-BTR 44 Jan 55
Grienberd H. A waveguide array for solar noise studies.

Synchron Pation problem. 1-BIK 44 Jan 55
Gruenberg H, A waveguide array for solar noise studies.
T-AP 147 Oct 54
Gruenberg EL, Telecontrol. T-TRC 5 May 57
Gruenwald GD and Attride W, A production design concept
for electro-mechanical components. T-PT 19 Apr 53

Grumet H., New testing concepts for the advancement of electro-mechanical component reliability.
T-RQC 72 Jan 57

Gudmandsen P and Larsen BF, Statistical data for micro-wave propagation measurements on two oversea paths in Denmark, T-AP 255 Jul 57 Gudmundsen RA, Waters WP, Wannlund AL and Wright WV, Recent developments in silicon fusion transis-tors, T-ED 74 Jan 55

Gudmundsen RA, The emitter tetrode. T-ED 223 Oct 58

T-ED 223 Oct 58
Guenard P and Doehler O, E and C type traveling-wave devices. (L) P 261 Feb 56
Guenard P, See Wamecke RR
Guerbilsky A, Analysis of propagating modes in dielectric sheets. (L) P 752 Jun 55
Guensey ED, See Monk N
Guertler R, Impedance transformation in folded dipoles. (L) P 1321 Aug 54
Guggenbuehl W and Strutt MJO, Theory and experiments on shot noise in semiconductor junction diodes and transistors. P 839 Jun 57. Correction:
P 1509 Nov 57

P 1509 Nov 57
Guggi WB, Retrace driven deflection circuits.
T-BTR 65 Oct 56
Gulllemin EA, What is nature's error criterion?(L)
T-CT 76 Mar 54, (L) T-CT 70 Sep 54

Guillemin EA, The Fourier integral—a basic introduc-tion. T-CT 227 Sep 55

Guillemin EA, A new approach to the problem of cascade synthesis. T-CT 347 Dec 55

Guillemin EA, Summation and outlook. NCR 18 Pt2 55

Guillemin EA, Linear pulse-forming circuits.(L)
T-CT 25 Mar 57
Guillemin EA, Transformation theory applied to linear
active and/or norbilateral networks.
T-CT 106 Sep 57

Guillemin EA, See Fubini EG
Guillemin EA, See Fubini EG
Guillemin EA, See Statz H
Gumowski I, Translent response in FM. P 819 May 54
Correction: P 1267 Aug 54

Gumowski I and Nadler M., Discussion on: Transient response in FM.(L) P 750 Jun 55

Gumowski I, Some relations between frequency and time domain errors in network synthesis problems.

domain errors in network synthesis problems.

T-CT 66 Mar 58

Gunkel W, Buss G, Kling J and Ohman J, Telemetering microbarometer for determination of vertical displacements. T-I 225 Dec 57

Gunn R, The electrification of precipitation and thunderstorms. P 1331 Oct 57

Gunning WF, Computers in the process industry.
NCR 136 Pt4 57, T-EC 129 Jun 58 Gunter FB , A high power linear amplifier for single sideband application. T-CS 98 May 56

sideband application. T-CS 98 May 56
Gunter L Jr. See Bauer BB
Gursky JM, See Northron JA
Guterman S and Kodis RD, Magnetic core selection
systems NCR 116 Pt4 54
Guterman S, Kodis RD and Ruhman S, Circuits to perform
logical and control functions with magnetic cores.
NCR 124 Pt4 54

Guterman S, Kodis RD and Ruhman S, Logical and control functions performed with magnetic cores. P 291 Mar 55

Guterman S and Carey WM Jr, A transistor-magnetic core circuit; a new device applied to digital computing techniques. NCR 84 Pt4 55

Gutman AS. The magnetic field in wafer-type solenoids (L) P 88 Jan 57

Guzmann O, Digital moon-radar antenna programmer with analog rate signal integrator. NCR 217 Pt4 58 Gyorgy EM, See Weiss MT

Haben JF, See Hubbard WM

Haber F., Generation of standard fields in shielded enclosures. P 1693 Nov 54

Haber F and Epstein B., The parameters of nonlinear devices from harmonic measurements. T-ED 26 Jan 58 Hadad, RE and Gilman S, Telemetry magnetic tape recorder reproducer. T-TRC 5.5 Apr 57

Hadden FA and Sepmezer LW, Methodology for reliable fail re reporting from maintenance. T-EM 27 Jan 56 H ddock FT, Introduction to radio strongmy.

Haddock FT, Report on URSI Commission V—Radio stronomy. P 137 Jul 53 Haffier E, A new method to simplify bridge type measurements on many crystal muts. NCR 243 Pt5 58

Hafstrom JR, Space and high vacuum. WCR 147 Pt5 58

WCR 147 Pt5 58
Hagelbarger DW, SEER, a sequence extrapolating
robot. T-EC 1 Mar 56
Hagan T, Handling PCM on the ground—some problems,
some solutions (abstract). T-TRC 5.2 Apr 57
Hagen JP, McClain EF and Hepburn N, Detection of dis-

crete radio sources at 21-cm wave-length (L) P 1811 Dec 54

Hagen JP, The exploration of outer space with an earth satellite. P 744 Jun 56, NCR 99 Pt1 56
Hagens HH, Packaging and integration of transistor assemblies. NCR 12 Pt6 58

Halin J., A 0.1 microsecond, 2,000 channel, electro-static storage system for use as a time of flight analyzer. NCR 57 Pt9 57

Hahnel A, A multichannel crystal oscillator. T-VC 13 Jun 55

Haint LH. See Rochester N
Haines JH, Color characteristics of a television film scanner. NCR 100 Pt7 54

Haines JH and Tingley GR, The Vitascan II ve flying-spet color scanner. T-BTS 11 Oct 56 Haines JH, A new electronic masker for color television. NCR 19 Pt7 5'.

Hale DR and Charbonnet WH, Synthetic quartz crystals for the electronic industry. NCR 17 Pt3 54

Halina JW, A double sideband-suppressed carrier com-munication system for telephone application. WCR 61 Pt8 58

Halina JW., See Cotterill MJ
Halina JWO, Design of FM radio relay systems for outil-channel telephone service. T-CS 3 Oct 56
Hall CT, Driver system for single ended push-pull amplifiers (abstract). NCR 41 Pt6 54
Hall EN, Stoner G, Simpson OT and Shetler RL, Mod-

ern management problems: panel discussion.

WCR 22 Pt9 58
Hall GL and Parzen P, Correction to: Measurement of resonant-cavity characteristics. P 1495 Oct 54

Hall HP, RC network with single-component frequency control (L) T-CT 283 Sen 55
Hall JD and McCartly F, A high precision compensated reference cavity for C-band. NCR 134 Pt8 54
Hall JD and Gates PE, The nature and prevention of keep-alive malfunction of TR tubes. T-ED 63 Feb 54

Hall JL., Use of ceramic-metal seals. WCR 164 Pt6 57 Hall JR., See Smith CE

Hall KA, See Taylor LS Hall NI, Management of large R & D organizations. P 451 Apr 57

Hall WM. Prediction of pulse radar performance . P 224 Feb 56 Hallberg FC, Diplomatic engineering. SQ 18 May 56

Hallden FC , See Hirsch CJ
Hallen E, Exact treatment of antenna current wave reflection at the end of a tube-shaped cylindrical antenna .
T-AP 479 Jul 56

Halliday RG , See McRuer DT Hallman LB Jr , Communication management for the air-craft . T-ANE 48 Jun 57

Halpern J and Rediker RH, Outdiffusion as a technique for the production of diodes and transistors . P 1068 Jun 58

Halstenberg RV, Combined hysteresis and nonlinear garns in complex control systems. T-AC 51 Jul 58

Halstrom CW, See Carpenter CP
Halvorsen JL, Phase-plane trajectories as a tool in
analyzing nonlinear attitude stabilization for space
mssile application. WCR 13 Pt4 57

Halvorson RL , Remote control of standby engine generator sets over a microwave system . T-MTT 32 Apr 54 , T-CS 32 Jul 54

Ham JM, A system-theory perspective for signal theory. T-CT 208 Dec 56

Hambleton P, See Fyler N Hamer H, A stabilized driftless analog integrator. T-EC 19 Dec 54

Hamer H and Lupinski A, A method for evaluating amplifier phase shift at low frequencies (L) T-EC 203 Sep 57

Hamer R and Medhurst RG, RF bandwidth of frequencydivision multiplex systems using frequency modula-

ouvision multiplex systems using frequency modula-tion.(L) P 1878 Dec 56 Hamer WJ, Modern batteries. T-CP 86 Sep 57 Hamilton B, See Taylor AS Hamilton DH Jr. See Dinner HE Hamilton DJ, A transistor univibrator with stabilized pulse duration. T-CT 69 Mar 58

Hamilton DJ , A translstor pulse generator for digital systems . T-EC 244 Sep 58 Hamilton GE , Power amplifiers for television . T-BTS 5 Dec 55

Hamilton MW and Rush JW., A high performance 500 megacycle multistage amplifier. WCR 177 Pt6 58 Hamilton SG, See Baldwin DE

Hamilton WW , Microminiaturization methods NCR 28 Pt6 57

Hamlett RT, A new profession—publications engineering. SQ 3 Feb 55
Hamlett RT, Publications engineering. SQ 24 Feb 57
Hammond DL, See Chi AR
Hammond JL, See Ives WR
Hammond JH and Purington ES, A history of some founda-

tions of modern radio-electronic technology. P 1191 Sep 57

P 1191 Sen 57

Hampshire RA, A new fixed-beam approach system.

NCR 77 P15 54

Hampton HR, Disaster planning in the field of communications. T-CS 168 May 56

Hanauer SH, See Epler EP

Handlen J, See Ramsa A

Handelsman M, The susceptance of a circular iris to the dominant TE₁₁ mode in circular waveguide.

NCR 133 P15 56

NCR 133 Pt 56
Handley PA and Welch P, Valve noise produced by electrode movement. P 565 Mar 54
Handley PA, See Glauber JJ
Handly EJ, New voltage reference tubes for severe environmental conditions. NCR 74 Pt6 55
Handly EJ, See Eriksen W
Hanel RA and Stampfi RA, An earth satellite instrumen1
tation for cloud measurements. NCR 136 Pt5 58

tation for cloud measurements. NCR 136 Pt5 58
Hanel RA, See Gartner WW
Haneman O, Expression for the alpha cut-off frequency
in junction transistors.(L) P 1808 Dec 54
Haneman FG, See Hendler AJ
Haneman WJ, Lehmann J and Warren CS, Apertured plate
memory: operation and analysis (abstract).
NCR 254 Pt4 58

Ha rey DW, Pencil and paper calculation of noise level in superheterodyne radar receivers.

in superheterodyne radar receivers.

T-ANE 157 Dec 56

Hannley RM, See Segers RG

Hanley LD, See Thornton CG

Hanley TE, Synthetic mica for vacuum tube use.

T-ED 65 Feb 54

Hann GW, See Hendrix CE

Hannan PW, Reflections in microwave antennas and their harmful effects. NCR 39 Pt.1 54

Hannah WH, Development of systems of mechanized assembly. T-PT 23 Sep 56
Hannah JA, Beyond space and time. T-E 12 Mar 56
Hannah JR, Factors affecting attenuation of solid dielectric coaxial cables above 3000 megacycles.
T-CP 99 Dec 56. Correction: T-CP 135 Dec 57

Hannon JR., See Blaidsell KL Hannwacker J., See Duncan BJ Hansell GE., Transmitter space diversity as applied to shipboard reception. T-CS 44 Mtr 55

Hansell GE. See Goldstine HE
Hansen DR. See Forsyth PA
Hansen OO, Naval use of radar and radio telephone in
navigation and harbor defense. T-CS 59 Mar 55

Hansen NW. See Savant CJ
Hansen NW. See Nielsen AH
Hansen RC. Single slab arbitrary polarization surface
wave structure. T-MTT 115 Apr 57
Hansen RC. See Howardy RW
Hansen RE. Mobilization of transistors.

NCR 28 Pt8 58 Hanson GH and van der Ziel A, Shot noise in transistors . P 1538 Nov 57

Hanson RL, Room acoustics (title only). NCR 45 Pt6 54

NCR 45 Pt6 54
Happ WM, Dynamic characteristics of four-terminal
networks. NCR 60 Pt2 54
Happ WW, Signal flow graphs.(L) P 1293 Sep 57
Happ WW, See Greenberg LS
Harding HG and Price S, Narrow limit gage sampling
procedure. NCR 54 Pt10 57
Harding KC, The military reliable tube program.
T-RQC 8 Aur. 57
Hare EL. See Reigner PL

T-RQC 8 Aim 57
Hare EL, See Brinton RL
Hargens CW III, An all-electronic signal-seeking broadcast receiver. T-BTR 5 Oct 55
Haring OM, See Luisada AA
Harker KJ, Periodic focusing of beams from partially
shielded cathodes. T-ED 13 Oct 55
Harman WA, See Dunn DA
Harman WV, Instantaneous frequency.(L)
P 599 Mar 54
Harmon E. Hefferman J and Staller J. New organic coat-

P 599 Mar 54
Harmon E, Heffernan J and Staller J, New organic coatings for the protection of printed circuits under environmental conditions. WCR 169 Pt6 58
Harmon RN, A management view of TV transmitter operational practices. T-BTS 76 Dec 57
Harmon RN, Remote controlled 50-kw broadcast transmitter. NCR 2C Pt7 58
Harmon RN, Field experience with the Kahn compatible single-sideband system installed at KDKA, Pittsburgh, Pennsylvania. WCR 28 Pt7 58

Harmuth HF , Coding for suppression of noise and interference in airborne PCM telemetering systems . T-TRC 7.3 Apr 57

T-TRC 7.3 Apr 37

Harmuth HF, A new teletypewriter using the integration method of detection. NCR 52 Pt8 55

Harp MC, Kebby MH and Rudisuhle EJ, Application of compandors to FM radio systems with frequency division multiplezine. T-MTT 36 Apr 54

Harp MC, Kebby MH and Rudisuhle EJ, Application of compandors to FM radio systems with frequency division multiplexing. T-CS 36 Jul 54, T-MTT Apr 54.

Correction: T-MTT 64 Jul 54

Harper MA, See Garver RV

Harries JHO, The rubber membrane and resistance paper analogies. P 236 Feb 56

Harrigan G, The use of company-developed automation machinery. T-PT 3 Apr 52

Harriman TJ, Technical management of missile systems.

T-EM 133 Dec 58

Harrington G, See DeCola R

Harrington G , See DeCola R Harrington JV , An analysis of the detection of repeated signals in noise by binary integration T-IT 1 Mar 55

Harrington RD and Powell RC , High-frequency magnetic penneability measurements using toroidal coils (L) P 784 Apr 58

Harrington RF, On the gain and beamwidth of directional antennas . T-AP 219 Jul 58

Harrington RF and Villeneuve AT, Reciprocity relation-ships for gyrotropic media. T-MTT 308 Jul 58

Harris B, An algorithm for determining minimal representa-tions of a logic function. T-EC 103 Jim 57 Harris B, Hauptschein A and Schwartz LS, Optimum de-cision feedback systems. NCR 1 Pt2 57

crion feedback systems. NCR 1 Pt2 57

Harris B. See Avins J

Harris B. See Bloom FJ

Harris CC. The hard bottoning technique in nuclear instrumentation circuit design. T-NS 5 Mar 56

Harris CC and Bell PR. Transmission characteristics of light pipers. T-NS 87 Nov 56

Harris CM, Can a high-fidelity system be defined.
NCR 104 Pt7 55

Harris OP, Broadcast transmission systems and communications systems an expanded theory for supplied to

munications systems an expanded theory for signal-to-noise performance of FM systems carrying frequency systems, and expanded division multiples. NCR 29B Pt8 58

Harris F.K. See McGrenor MC Harris F.S. Jr and Morris G.J., Experimental measurement of diffraction of light at a half-plane. T-AP 579 Jul 56

diffraction of Infilt at a half-plane. I-AP 579 J Harris HF, See Smith TE Harris JN, A programmed variable-rate counter for generating the sine function. T-EC 21 Mar 56 Harris JR, Direct-coupled transistor logic circuitry. T-EC 2 Mar 58

Harris LA, Hollow beams in electrostatic fields. NCR 11 Pt3 56

Harris L.A., The effect of beam position on deflection in silt lenses .(L) P 615 Mar 58

sitt lenses.(L) P 615 Mar 58
Harris LA, The effect of an initial velocity spread on klystron performance. T-ED 157 Jul 58
Harris LA, The electron optical action of an annular aperture lens.(L) P 1655 Sep 58
Harris LB, Random time-modulation of the main bang for increased accuracy in digital range measurement.
T-ANE 84 Jun 56

Harris LT, Symbolic display system for air traffic control. NCR 55 Pt8 56

Harris OR and Flagge Bd'E, Regulation of the individual dynode voltages for photomultiplier tubes.
T-NS 3 Mar 57

T-NS 3 Mar 57

Harris OR, See Enslein K

Harris WA, Measurement and analysis of triode noise.

T-ED 206 Dec 54

Harris WA and Thompson JJ, A UHF-VHF tuner using pencil tuthes. T-BTR 60 Jan 55

Harris WA and Thompson JJ, The use of concentric-line transformers in UHF measurements. T-I-91 Oct 55

Harris WA, Corrections to the theory of the grounded-grid triode. NCR 10 Pt3 55

Harris WB, A pack type television system.

NCR 12C Pt7 5/

Harris WB, The business in brief. SO 21 Sep 57

Harris WB, The business in brief. SO 21 Sep 57

Harris WP and Cooter IL, A feedback amplifier with negative output resistance for magnetic measurements.

NCR 217 Pt5 58

NCR 217 Pt5 58 Harrison AE , Photogrammetry of glaciers .

Harrison AE, Photogrammetry of glaciers.
SQ 17 Sep 57
Harrison AE, See Wall RE Jr
Harrison BM, Noncestructive testing by means of ultrasonics. NCR 65 Pt9 55
Harrison GW, A report on wire strain transducer system calibration. NCR 54 Pt1 56
Harrison GW and Stern H, Design and development of the Allico electronic integration system.

the Alinco electronic integrating system
T-IE 115 May 58

T-IE 115 May 58

Harrison KW, Unit construction practice UCP applied to Inne-transmission equipment. P 822 May 54

Harrison RJ, Realizability of a prescribed frequency variation of dielectric constant. (L) P 367 Mar 57

Harrison SW, On the minimum noise figure of travelingwave tubes. (L) P 227 Feb 55

Hart GK and Tanenbaum MS, High power breakdown of microwave combionents NCR 62 Pt8 55

Hart GK, Stevenson FR and Tanenbaum MS, High power breakdown of microwave structures. NCR 199 Pt5 56

Hart JP. See Mooney JF Hartke D., See Bayley A Hartke D., See Broderick D Hartley RVL., A new system of logarithmic units.(L) P. 97 Jan. 55

Hartline K., See Schmitt OH

Hartman WH., A stable precision television demodulator. WCR 27 Pt7 57

Hartranft AC and Light FH, A survey of the application of automatic devices for electric power generation. T-IE 55 Aug 58

T-LE 55 Aug 58
Hartsheld WW., Instrumentation for the C-130 test.
T-L5 May 58
Hartsock JG, See Webb JC
Hartman A, See Shandel nan F
Harvey FK, See Aamodt T
Harvey J, See Ennelmann H
Hasse AP and Horton CE, Sealing techniques for miniature tubes. T-ED 60 Feb 54
Harro AP. See Wield LC

Hasse AP, See Hickel JC
Hassel EW, VHF radio coordinated traffic light control system. T-VC 1 Dec 56
Hasserdjilan G, See Held G

Hastings CE and Doyle RT, Use of the compensated hot thermoule principle in industrial instrumentation. T-I 131 Jun 57

Hatcher ET , A telemetry automatic reduction system TARE II . T-TRC 5.6 Apr 57 Hatcher TR , The vertex matrix and the cut-set schedule as special cases of a more general matrix.(L)

T-CT 369 Dec 58

F-CT 369 Dec 58
Hatcher RD. See Amistead MA
Hatcher RD. See Remia F
Hatchett GL, See Fisher LL
Haffield WH, See McKenzie AJ
Hathaway JC and Babcock DF, Survey of mechanical filters
and their aunifications. P 5 Jan 57
Hakin L, Analysis of propagating modes in dielectric
sheets. P 1565 Oct 54

Hatsopoulos GN and Kaye J , Analysis and experimental results of a diode configuration of a novel thermoelectron engine . P 1574 Sep 58 Hattery LH , Management can be laught .

Hattery LH, Management can be taught.

T-EM 41 Nov 54

Haum RD Jr, See Zacharias JR

Hauptschein A and Schwartz LS, munication systems. T-IT 52 Mar 57

Hauptschein A and Schwartz LS. Semantic constraints in the analysis of communication systems. (L)

P 1284 See 57

Hauptschein A See Bloom El

P 1284 Sep 57
Hauptschein A, See Bloom FJ
Hauptschein A, See Harris B
Haus HA, Limitations on the noise figure of microwave armiffiers of the bear type. T-ED 238 Dec 54
Haus HA and Robinson FNH, A minimum noise figure of microwave beam amplifiers. P 981 Aug 55.
Correction: P 1101 Sep 55

Haus HA, Optimum gain of amplifiers.(L) P 263 Feb 56 Haus HA and Adler RB. Invariants of linear neisy net works. NCR 50 Pt2 56

works NCR 52 Pt 2 57
Haus HA and Adler RB, An extension of the noise figure definition (L) P 690 May 57
Haus HA, Power-flow relations in lossless nonlinear media. T-MTT 317 Jul 58
Haus HA and Adler RB, Optimum noise performance of linear amplifiers. P 151 7 Aug 53
Haus HA and Adler RB, Canonical form of linear noisy networks. T-CT 161 Sep 58

Haus HA and Adler RB, Canonical form of linear noisy networks. T-CT 161. Sep 58
Haus HA, The kinetic power theorem for parametric, longitudinal, electron-beam amplifiers.
T-ED 225 Oct 53
Haus HA, See Adler RB
Hauser AA Jr, Geometric aspects of least squares smoothing. P 701 Apr 54
Hauser SM See Zarem AM
Hausman AH, An analysis of dual diversity receiving systems. P 944 Jun 54
Hausman AH, A report on the organization and management of a research and development technical planning group. T-EM 19 Mar 58
Hausman AR, Dependence of the maximum range of

Hausman AR, Dependence of the maximum range of tropospheric scatter communications on antenna and receiver noise temperatures. T-CS 35 Dec 58

receiver noise temperatures. T-CS 35 Dec 58
Hausz W, One more sten. T-PT 8 Sen 56
Havstad H. See Adams RT
Havstad JW, See Snyder RH
Hawkins GS, Radar echoes from meteor trails under conditions of severe diffusion. (L) P 1192 Sep 56
Hawkins GS and Winter DF, Radar echoes from overdense meteor trails under conditions of severe diffusion. (L) P 1290 Sep 57

Hayes AE Jr and Wells WW, A simplified procedure for the design of transistor audio amplifiers. NCR 45 Pt7 56

Hayes RM and Wiener J. Magnacard—a new concept in data handling WCR 205 Pt4 57
Hayes FN, Applications of liquid scintillation counters.
T-NS 166 Dec 58

Hayt WH Jr. A very cross word-puzzle. SQ 12 May 57 Hayt WH Jr. The mutual and input impedance of strips between parallel planes. T-MTT 114 Mar 55 Hayt WH Jr. Potential solution of a homogeneous strip-line of finite width. T-MTT 16 Jul 55 Hayter WR, See Okress EC Hayward RW and Hoppes DD, Scintillation counting In

experiments on parity conservation T-NS 161 Dec 58 Hazen DF, Danser JW and Zilis GS, A private micro-wave radio system for power company use. T-CS 113 Nov 54

Hazel HK. See Lawson AA
Hazony D and Schott FW, A cascade representation of the
Bott-Duffin synthesis.(L) T-CT 144 Jun 58

Headrick LB , See Janes RB Heald ET , See Doelz ML Heald MA , Microwave measurements in controlled fusion research. NCR 14 Pt9 58

Heasly CC Jr. See Shenard DH Heath HF Jr, Component development. T-EC 224 Dec 56

Heaton HT , Preventing fires from electrical causes in the design and manufacture of radio and television receivers. T-BTR 28 Apr 55
Heberling ED , An improved subcarrier discriminator.

T-I 43 Mar 57

Heberling ED, System for rapid reduction of telemetric data. T-TRC 23 May 57

Heberling ED and Sacks JM, A PAM/PDM decommutator with improved synchronization in presence of noise. WCR 5 Pt5 58

Hecht B, A discussion of the sampling versus rating di-lenima on components. WCR 81 Pt6 58 Hecht H and Jude GF, Radlo beam coupler system. T-ANE 36 Mar 56

Heckbert AI, The translent response of Bode's ideal feed-back amplifier.(L) T-CT 285 Sep 57 Hecker CJ, See Fragola CF Hedlund DA, Edwards LC and Whiteraft WA Jr, Some iono-sphere scatter techniques. T-CS 112 Mar 56

Hedfund DA and Edwards LC, Polarization fading over an oblique incidence path. T-AP 21 Jan 58 Hedrich AL, Weinschel BO, Sorger GU and Raff SJ, Calibration of signal generator output voltage in the range of 100 to 1000 megacycles. T-I 275 Dec 58

Hedrich AL, See Kalmus HP
Heeschen DS and Dieter NH, Extragalactic 21-cm line studies. P 234 Jan 58
Hefferman HJ, The transmission of pulse width modulated signals over restricted bandwidth systems.
T-TRC 2.3 Apr 57

Heffeman J., See Harmon E Heffner H., Analysis of the backward-wave traveling-wave tube. P 930 Jun 54

wave tube. P 930 Jun 54
Heffner H, A coupled mode description of beam-type
amplifiers. P 210 Feb 55
Heffner H, The practicality of E-type traveling-wave
devices.(L) P 1007 Aug 55
Heffner H and Kotzebue K, Experimental characteristics of
a microwave parametric amplifier using a semiconductor
diode.(L) P 1301 Jun 58

Heffner H, Masers and parametric amplifiers. WCR 3 Pt3 58

Heffner M. See Sterrett JE
Heffner M. Maximum efficiency of the solid-state
maser.(L) P 1289 Sep 57
Heibel JD, A preassembled component modular system
using component elements of pin configuration.
WCR 146 Pt6 57

Heil H., Correct prints of color tube screens. NCR 118 Pt3 56

Heilfron J., On the response of a certain class of systems to random inputs. T-IT 59 Mar 55
Heilfron J., See Rosenbloom A
Heilprin LB, See Taube M
Heim DS., See Sharne CB
Heimlich IR, Requirements of data processing facilities.
T-I 70 Jun 56

Heinle CE, About that book. T-EWS 20 Aug 58 Heinie CE., About that book. T-EWS 20 Aug 58
Heinis AE, The excitation of a perfectly conducting halfplane by a dipole field. T-AP 294 Jul 56
Helblig WA, Storage capacity in meteor-burst communication systems.(L) P 1649 Sep 58
Held G and Hasserdjian G, Surface fields produced by a
slot on a cone.(L) T-AP 398 Oct 57
Held G, See Tyras G

Helicesson AL. See Vartanian PH Helicesson AL. See Vartanian PH Helices and Law B, Use of perturbation theory for cavities and waveguides containing ferrites T-AP 584 Jul 56

Heller GS , Ferrites as microwave circuit elements . P 1386 Oct 56

Heller GS , L-band isolators utilizing new materials (abstract) . WCR 201 Pt3 57 Heller GS and Catuna GW , Measurement of ferrite isolation at 1300 mc . T-MTT 97 Jan 58

at 1300 mc. T-MTT 97 Jan 58

Heller W, Light scattering of colloidal spheres.
T-AP 581 Jul 56

Hellerman H, On the input impedance network error in operational amplifiers. T-EC 118 Sep 55

Hellerman L and Racite MP, Reliability techniques for electronic circuit design. T-RQC 9 Sep 58

Helliwell RA and Gebrels E, Observations of magneto-

ionic duct propagation using man-made signals of very low frequency.(L) P 785 Apr 58

Helliwell RA, Jean AG and Taylor WL, Some properties of lightning impulses which produce whistlers.(L) P 1760 Oct 58
Hellman LM, See Tolles WE
Hellmann RK, After June—What? SQ 19 Feb 57
Hellstrom MJ, Design of double tuned IF transformers for transistor amplifiers. NCR 69 Pt3 56

Helistrom MJ, Hynerholic analogs (L) P 502 Feb 58
Helistrom MJ, Transistor thermal stability.
T-BTR 42 Sep 58
Helman D and Bennett BJ, Comment on: Synthesis of

electric filters with arbitrary phase characteristics.(L) T-CT 217 Jun 55

Helman D, Synthesis of Tchebycheff RC band pass filters, NCR 77 Pt2 56

Helmer JC and Muller MW, Calculation and measurement of the noise figure of a maser amplifier. T-MTT 210 Apr 58

Helstrom CW, The resolution of signals in white, Gaussian noise. P 1111 Sep 55 Helstrom CW, The distribution of the number of crossings of a Gaussian stochastic process. T-IT 232 Dec 57 Hemke PE, Human relations responsibilities of engineers. NCR 7 Pt6 56

Hemmenway KN, A balanced, unregulated, dual power supply (L) P 1053 Aug 56

Hemphill AA, A magnetic radio compass antenna having zero drag. T-ANE 17 Dec 55

zero (rrag. 1 - ANE 17 Dec 35)
Hendershot LR, Sub-miniature telemetering transmitter.
NCR 87 Pt1 56
Henderson CW, See Ramberg EG
Henderson JT, Horizon unlimited.
SQ Cover 4 Feb 57

Henderson KW, Nomographs for designing elliptic-function filters. P 1860 Nov 58

filters. P 1860 Nov 58
Henderson KW and Kautz WH, Translent responses of conventional filters. T-CT 333 Dec 58
Henderson KW, See Gillette PR
Henderson KW, See Lungo A
Hendler AJ and Haneman FG, Automatic indication of receiver noise figure. NCR 151 Pt5 57
Hendricks CD Jr, Swenson GW Jr and Schorn RA, Radlo reflections from satellite-produced ion columns.(L)
P 1763 Oct 58
Hendrix CF. A study of the peop bulb as a populinear

Hendrix CE , A study of the neon bulb as a nonlinear circuit element. T-CP 44 Sep 56 Hendrix CE and Hann GW, D-day in engineering education. (L) P 1947 Dec 58

Hendry A, See Anderson LK
Heneslan A, We are what we say. NCR 17 Pt10 5B
Heneslan A. See Gamson ER
Henkel HJ, See Sletten CJ
Henkels HW and Strull G, Very high-power transistors
with evaporated aliminum electrodes. T-cD 291 Oct 57

Henkels HW, Germanium and silicon rectifiers. P 1086 Jun 58

Henkels HW and Nowalk TP, High power silicon transis-tors. WCR 157 Pt3 58

Henle RA, Analysis of a transistor trigger circuit. SQ 44 May 56

Henle RA and Walsh JL, The application of transistors to computers. P 1240 Jun 58

Henn W and Robinson AS , A digital sine-cosine trans-ducer. T-I 202 Jun 56
Henning RE , Microwave peak power measurement tech-niques. T-I 69 Oct 55
Henry GE , Ultrasonic outbut power measurements in liquids . T-UE 17 Dec 57

Henry GE, Jacke SE, Massa F and Strasberg M, Prob-lems in power measurement (abstract). NCR 210 Pt2 58 Henry JM and Moore RT, Number 2-B Regrettor.

Henry JM and Moore RT, Number 2-B Regrettor.
SQ 2 May 55
Henry RL, Project Tinkertoy. T-PT 11 Scp 56
Hensperger ES, Broad-band stepped transformers from rectangular to double-ridged waveguide.
T-MTT 311 Jul 58
Hepburn N, See Hagen JP
Herbstreit JW, Propagation in the UHF-TV band (abstract). NCR 120 Pt1 54
Herbstreit JW and Thompson MC, Measurements of the plase of radio waves received over transmission paths

phase of radio waves received over transmission paths with electrical lengths varying as a result of atmos-pheric turbulence. P 1391 Oct 55

Herbstreit JW and Thompson MC, Measurements of the phase of signals received over transmission paths with electrical lengths varying as a result of atmospheric turbulence. T-AP 352 Jul 56

Herbstreit JW and Thompson MC Jr, Continuous phase difference measurements of earth satellites.(L) P 1535 Aug 58

P 1535 Aug 58
Herbstreit JW, See Crysdale JH
Hercules FP, See Bender M
Herd GR, See Knight CR
Hereward HG, A method of broadbanding waveguide windows.(L) P 1450 Sep 54
Heregrapher RC, Design of Iens-mask three-gun color television tubes. P 943 Aug 55
Herlet A, See Emeis R
Hemach EL, AC-de transfer instruments for current and

Hermach FL , AC-dc transfer instruments for current and voltage measurements . T-I 235 Dec 58

Herman F., The electronic energy band structure of sili-con and germanium. P 1703 Dec 55 Hermann DB, See Williams JC

Hernmann GF, Uenohara M and Uhlir A Jr, Noise figure measurements on two types of variable reactance amplifiers using semiconductor diodes.(L)

P 1301 Jun 58

Hermann P., See Turner P Hern HD., The transition problems of a new engineer. SQ 28 Dec 54

Hern HD and Utctad MS, A method of improving re-tion in FM communications. WCR 46 Pt8 58

Hern HD, See Britton RW Herold EW, Future circult aspects of solid-state phenomena. P 1463 Nov 57

Herold EW, A plea for maximum utility in government contract reports covering research and development (L) P 360 Jan 58

Herold EW, Re-invention by young engineers (L) P 914 May 58

Herold EW, Controlled thermonuclear fusion-what it means to the radio engineer. NCR 3 Pt9 58
Herold EW, See Romo S
Herold EW, See Warren FH
Herrero MC, Resonance phenomena in time-varying
circuits. T-CT 35 Mar 55

Herrick HS, In-process controls to maximize capacitor re-liability, T-RQC 34 Aug 57 Herrick JF and Krusen FH, Ultrasound and medicine.

Herrick JF and Krusen FH, Ultrasound and medicine.

T-UE 4 Jun 54

Herrick JF, Medical electronics. SQ 20 May 55

Herrick JF and Krusen FH, Problems which are challenging investigators in medicine. T-ME 10 Feb 56

Herrick JF, Anderson BH and Neller M, An instrument for measuring intensity of ultrasound.

NCR 189 Pt2 58

North JE 500 Polity J

NCR 189 Pt2 58
Herrick JF. See Daily L
Herrick S, See Buclhteim RW
Herrold GV. See Acheson MA
Hers J, The unit for frequency (L) P 260 Feb 56
Herscher MB, See Barnellini PM
Hersh JF. See McGrenor MC
Hershberger WD, Principles of communications systems (L) P 556 Apr 56
Herschberner WD, See Mackey RC
Hershberger WB, Reliability through redundancy

Herschberner WD, See Mackey RC
Hershey RH, Reliability through redundancy.
T-ANE 16 Mar 56
Hershfield WN, Principles of the Harkins multiplex system.
T-BTS 14 Mar 56
Hershfield WN, See Greatbatch W
Hervey JP, See Yann CC
Herwald SW, Some methods of freeing engineers for increased creative effort. T-EM 35 Mar 57
Hervald SW, Broadening the educational background for electrical engineers. NCR 35 Pt10 58
Herwald SW, See Johnson RP
Herzfeld F, Computer fabrication and circuit techniques (L)
P 1965 Dec 58
Herzog GB, Through the keyhole. SQ 36 Fcb 57

Herzog GB, Through the keyhole. SQ 36 Feb 57
Hess AE, See Powell RC
Hess RC, The Dlagraph—A direct-reading instrument for graphic presentation of complex impedances and admittances. NCR 23 Pt10 55

Hetherington AW, Performance—assessing human capability in space. WCR 202 Pt5 58

hility in space. WCR 202 Pt5 58
Hetland G Jrand Buss RR, Microwave oscillator sta-bility. T-ED 1 Apr 54
Heurer C, See Adler R
Heuman GW, Report on Russian technology: industrial control. SQ 37 May 58
Hey JS and Hughes VA, A method of calibrating centimet-ric radiometers using a standard noise source. P 119 Jan 58

Heyne JB, On an analytical design technique. NCR 118 Pt6 58

NCR 118 Pto 58 Heyne JB, Integrating reliability considerations into systems analysis. WCR 20 Pt6 58 Hibbard WJ, See Holloman JH Hickel JC and Hasse AP, Vacuum tube spacer materials.

T-ED 60 Feb 54
Hickey JB, A miniature precision delay line.
NCR 144 Pt3 55

Hieber G., See Orlacchio AW

Hieber G., See Orlacchio AW
Hiebert RD, Mitchell RN and Tod DB., A simple monitor
for airborne alpha particles. T-NS 66 Dec 57
Hiedemann E., Ultrasonic strobescone. NCR 3C Pt9 56
Hiestand NP, Klystron power amplifiers for long-hop microwave relay. NCR 29 Pt3 55
Higdon RV, Operations research and communications
systems planning. T-CS 20 Dec 57
Higgins TJ, See Black KG
Higginson GM, USAF strategic communications system.
T-CS 56 Nov 54
Higgy RC, See Kraus JD
Highleyman WH, Cantella MJ and Babits VA, Chromaticity
coordinate-pletting phetometer. NCR 174 Pt7 56
Higinbotham WA, Brookhaven electronics instrumentation
program. NCR 45 Pt9 54
Higginbotham WA, Survey of pulse height analyzers.

Higinbotham WA, Survey of pulse height analyzers . T-NS 3 Nov 56

Highbotham WA and Pollock B, Ionization chamber survey instrument. T-NS 1 Mar 57
Hillbrand J, See Mueller CW
Hill AS, Facsimile system. NCR 24 Pt8 54
Hill D, Boegtlen D and Yueh J, Parts vs systems: the reliability dilemma. T-RQC 27 Feb 56

Hill D, See Baldwin DE Hill ER, See Sacks JM

Hill EL , Very low-frequency radiation from lightning strokes . P 775 Jun 57

strokes. P 775 Jun 57
Hill DW and Westneat AS Jr, Low-level signal multiplexing (ab tract). NCR 61 Pt5 57
Hill EL, The shielding of radio waves by conductive coatinns. T-AP 72 Apr 55
Hill FR, A new 5-kilowatt HF multi-channel transmitter. T-CS 108 Jul 54
Hill RM, See Tetenbaum SJ
Hill YM, See Greanias EC
Hilliard JK and Noble JJ, The lipstik condenser microphone system. T-A 168 Nov-Dec 54. Correction: T-AU 85 May-Jun 55
Hilliard JK Microphones. NCR 42 Pt6 54

Hilliard JK, Microphones. NCR 42 Pt6 54
Hilliard JK, Microphones. NCR 42 Pt6 54
Hilliard JK, Electre-acoustical engineering in medicine.
SQ 28 Feb 56
Hilliard JK, Time and space phasing of two-way loud-speakers. WCR 43 Pt7 57
Hillier M, See Bell RL
Hinebaugh M, See Bassler SG
Hines CO. See Campbell LL
Hines CO. See Campbell LL
Hines JN, Rumsey VH and Tice TE, On the design of arrays. P 1262 Aug 54
Hines JN and Upson J, A line source with variable polarization. T-AP 152 Jan 58
Hines ME, See Cutler CC
Hinman WS Jr, Portrait of Harry Diamond.
P 443 Anr 57
Hinrichs K and Weekes BB, Squared input stages for low-level transistor amplifiers. WCR 164 Pt2 58
Hirai A, See Takahashi I
Hirsch CJ and Hallden FC, Computing techniques for

Hirsch CJ and Hallden FC, Computing techniques for the sampling parametric computer.

T-EC 108 Jun 57
Hirsch CJ, Developments in color television in Europe.
NCR 213 Pt3 57

Hirsch CJ. See Bailey WF
Hirsch CJ. See Bailey WF
Hirsch FG. The use of biological simulants in estimating
the dose of microwave energy. T-ME 22 Feb 56

Hirsch I, Management techniques and controls for engineering writing organizations. T-EM 15 Jan 56
Hirsch I, Milwitt W, Oakes WJ and Pelton RA, The relation of utilization to the shortage of scientists.
T-EM 73 Sep 58

Hirsch J., Communication by vibratory tactile stimuli T-ME 29 Dec 56

Hitchcock RC, Sawtooth testing of audio amplifiers. T-BTS 31 Feb 57

Hitschfeld W and Marshall JS , Effect of attenuation on the choice of wave-length for weather detection by radar.
P 1165 Jul 54

Hittinger WC, Peterson JW and Thomas DE, Intrinsic barrier transistor (L) P 487 Apr 55 Hittinger WC, See Warner RM Jr Hlavacek A and Chu GY, A radio frequency parameter bridge for junction transistors. NCR 125 Pt10 55

Ho EC and Trautman DL, Synthesis of resistively-ter-minated RLC ladder networks NCR 14 Pt2 54

minated REC Ladder network: NCR 14 Pt 2 54
NEC. A general matrix factorization method for network
synthesis. T-CT 146 Jun 55
Ho EC. REC transfer function synthesis.
T-CT 188 Sep 56

Ho KC. Design of triode electron gum.
T-ED 10 Jul 55
Ho YC and Scott RE, Delay-line method for compensating closed-loop systems in the time domain.
NCR 24 Pt4 55

Hoagland AS, A logical reading system for nonreturn-to-zero magnetic recording. T-EC 93 Sep 55 Hoberman M, Bagno S and Dlachman NM, In which fields do we graze?(L) T-IT 96 Jun 56

do we graze (L) 1-11 y G Jin 56
Hoberman M, A design philosophy for man-machine control systems (L) P 623 May 55
Hoch OL and Watkins DA, A gun and focusing system
for crossed-field traveling-wave tubes.
WCR 122 Pt3 57

WCR 122 Pt3 57

Hoch OL, See Caldwell JJ Jr

Hochstadt H, A proposed technique for the Improvement of range determination with noise radar (L)

P 1652 Sep 58

Hodder BH, See Melville AW

Hodges WE, Electronics in medicine.

T-ME 15 J-1 57

Hodges WJ, Eyelet failure in etched wiring. T-PT 109 Apr 57

Hodgin D. Application of precise components in perme-ability tuned oscillators. NCR 22 Pt3 54 Hoefie RR. See Arnold WO Hoehn AJ and Saltz E, Mathematical models for determina-tion of efficient troubleshooting routes. T-RQC 1 Jul 58

Hoeppner CH, PG on Telemetry and Remote Control. SO 4 Feb 56

Hoemi JA, Carrier mobilities at low injection levels.(L) P 502 Feb 58

Hoemi JA and Noyce RN , PNπN switches . WCR 172 Pt3 58

Hoffman HL , Electronics looks at the future . T-EM 80 Jul 56

Hoffman HJ. Utilization of advanced production tech-mones by the electronics industry. T-PT v Apr 57 Hoffman JD, The mechanical and electrical properties of polymers: an elementary molecular approach. T-CP 42 Jun 57

Hoffman M. See Cooper HW Hoffman WC, Back-scatter from perfectly conducting doubly-trochoidal and doubly-sinusoidal surfaces. T-AP 96 Jul 55

T-AP 96 Jul 55
Hoffman WJ, See Diehl MH
Hoffmann H Jr, Tele-map. NCR 314 PtB 56
Hoffmann JP, New military carrier telephone systems
equipment features. T-CS 130 Nov 54
Hofheimer RW and Perry KE, Digital-analog function
generators T-I 111 Jun 58
Hofstadter R, See Knudsen AW
Hogan CL, The low-frequency problem in the design of
microway gyrafters and Associated elements.

microwave gyrators and associated elements T-AP 495 Jul 56

Hogan CL , Introduction to the ferrites issue P 1233 Oct 56

Hogan CL, The elements of nonreciprocal microwave devices P 1345 Oct 56
Hogan CL, Editorial: The pace of modern technology.
T-MTT 3 Jan 58

Hogan CL , See Pippin JE Hogan CL , See Rodrigue GP Hogan EV , See Baldridge BH

Hogan JVL, High fidelity in radio broadcasting systems. NCR 46 Pt6 54

Hogg AF , See Schlesinger K Holman LA Jr , Through the keyhote . SQ 22 Dec 55 Holman RE , A two-hour course in report writing . WCR 2C Pt9 58

Holin FE , A matrix method for the design o' relay cir-ciots . T-CT 154 Jun 55 Holin FE , Seshu S and Aufenkamp DD , The theory of nets . T-EC 154 Sep 57

Holm FE See Aufenkamp DD Hoisington DB, A high-energy particle nomograph. T-NS 62 Dec 57

Hok G, The noise la P 1061 Aug 56 The norse factor of traveling-wave tubes .(L)

Hok G., See Rowe JE Holbrook GW., Hyperbolic analogs using varistors.(L)

Holbrook GW, Hyperbolic analogs using varistors.(L) P 1762 Oct 58
Holec VP, The use of transistors in airborne audio equipment. T-AU 90 Jul-Aug 56
Hollanday JA, See Casey JP
Holland JH, See Rochester N
Hollander GL, Transac C-1100: transistorized computers for airborne and mobile systems. T-ANE 159 Sep 58

for airborne and mobile systems. 1-ANE 159 Set Hollander M and Podeli EJ, Making the mathematical equation an effective communication tool WCR 41 Pt9 58 Hollingsworth LM, Atmospherics and propagation. NCR 127 Pt8 56

Hollis JL, Collins WH and Schmldt AR, A 60-kw transmitter for ionospheric scatter communications. T-CS 3 Sep 57

Hollis RM. False alarm time in pulse radar (L) P 1189 Jul 54

P 1189 Jul 54
Hollis JS and Long MW, A Luneberg lens scanning system.
T-AP 21 Jan 57
Hollis RM, Optimum slicing level in a nolsy binary channel (L) P 1062 Aug 56
Hollister SC, Personnel selection and training for engineering management from the university viewpoint.
NCR 49 Pt11 54

NCR 49 Pt.1 54

Hollmann HE, Internal transistor oscillations.(L)
P 1323 Ann 54

Holloman JH, Hibbard WJ and Bean CP, Report on Russian technology: metallurgy. SQ 32 May 58

Hollowav JH, See Daly RT

Hollywood JM, See Goldmark PC

Holm W, Through the keyhole. SQ 24 May 55

Holman FS, See Curtis WL

Holmboe LW and Ettenberg M. Development of a medium power L-band traveling-wave amplifier.
T-ED 78 Jan 57

Holmes DD, Stanley TO and Freedman LA, A developmental pocket-size broadcast receiver employing transistors. P 662 Jun 95
Holmes DD, Stanley TO and Freedman LA, A developmental pocket-size broadcast receiver employing transistors (abstract). NCR 141 Pt7 55
Holmes DD and Stanley TO, Stability considerations in transistor IF amplifiers. NCR 67 Pt3 56
Holmes DD, A six-transistor portable receiver employing a complementary symmetry output state. NCR 193 Pt3 57
Holmes DD, Application of transistors in communications equipment. P 1255 Jun 58
Holmes DD, See Freedman LA
Holmes EG, See Fraser DW
Holonvak N. See Aldrich RW
Holonvak N. See Moll JL
Holt FS and Mayer A, A design procedure for dielectric microwave lenses of large aperture radio and large scanning andle. T-AP 25 Jan 57
Holt FS, See Stenter CJ
Hot FS, See Stenter CJ Holmes DD, Stanley TO and Freedman LA, A develop-

Holt FS. See Spencer RC Holt RB. See Hoynanian HP Holzmann EG , Nonlinearity in process systems T-AC 63 Jul 58

Holzschuli DL, The NRL precision big dish antenna-NCR 32 Pt1 55

Hom FM, Development and application of automatic as-sembly techniques for miniaturized electronic equip-ment. T-PT 7 Sep 56 Hon EH, The electronic evaluation of fetal distress. NCR 74 Pt9 58

Honda JS, Scattering of microwaves by figures of revolution. WCR 151 Pt1 57 Honey JF, The problems of transition to single sideband

techniques in aeronautical communications.
T-ANE 10 Mar 56

Honey JF and Weaver DK Jr, Sideband communications P 1667 Dec 56

Honey JF, The problems of transition to single-sideband techniques in aeronautical communications. P 1803 Dec 56

P 1803 Dec 56
Honey JF, See Nicolosi JP
Honey RC, A traveling-wave electron deflection system.
T-MTT 2 Jul 54
Honey RC and Jones EMT, A mechanically simple Foster scamer. T-AP 40 Jan 56
Honey RC and Jones EMT, A versatlle multiport biconica antenna. P 1374 Oct 57, NCR 129 Ptl 57
Honey RC. Sne Jones EMT
Honeyman WN and Cole RS, Hysteresis heating of microwave ferrites.(L) P 1285 Sep 57
Honeyman WN, See Brown AC
Honig W and Parzen P, A gas discharge noise source.
NCR 3 Pt. 55
Honma T, See Sawazaki N

Honma T. See Sawazaki N Hook HO., See Knoll M Hoover MV., See Parker WN Hoover RM and Urick RJ., Sea clutter in radar and sonar. NCR 17 Pt9 57

Hopengarten A., See Bloomsburgh RA Hopengarten A., See Moore RC

Hopennarten A., See Moore RC
Hopfer S., The use of flat wavegulde in the millimeter range (abstract). T-MTT 54 Sep 54
Hopfer S., The design of ridged waveguides.
T-MTT 20 Oct 55
Hopkins AL Jr., See Brooks FP Jr
Hopkins EG and Shrivastava KK, An inflection-point emission test. P 707 Jun 55
Hookins M, Human relations in engineering management.
T-EM 16 Nov 54
Hopkinson K. Effects of ambient temperature on electron

T-EM 16 Nov 54
Hopkinson K, Effects of ambient temperature on electron tubes. T-RQC 23 Jul 58
Hopper JW, Basic gages and gaging considerations for automatic machine control. T-IE 40 Aug 58
Hoppes DD, See Hayward RW
Hopps JA, Electronic applications in cardiovascular surrery. T-ME 6 Jul 57
Horbath WJ, See Tolles WE
Horgan JD, Coupled strip transmission lines with rectangular inner conductors. T-MTT 92 Apr 57
Horn II, An emitter-follower-coupled, high-speed binary counter. WCR 54 Pt4 58

counter. WCR 54 Pt4 58 Horn RE and Fauque VG, Synthesis of vector networks.

T-EC 261 Dec 57

Home CF , A practical approach toward integration of project and group theories in establishing an engineering organization. T-EM 29 Mar 55

Horning TD, High acceleration telemetry. WCR 20 Pt5 58

WCR 20 Pt5 58
Horowitz IM, Active network synthesis.
NCR 38 Pt2 56
Horowitz IM, Synthesis of active RC transfer functions by means of cascaded RC and RL structures.
WCR 190 Pt2 57

Horowitz M and Johnson AA , Theory of noise in a cor-relation detector . T-IT 3 Dec 55 Horsfall RB , Stellar inertial navigation . T-ANE 106 Jun 58

Horton CE , See Hasse AP Horton CE , See Hsii H Horvath JS , See Avins J Horvath WJ , See DeCote R

Horvath WJ, See Declare WE
Horvath WJ, See Tolles WE
Hoskin WJ, Microwave power measurements employing electron beam techniques (L) P 1285 Sep 57
Hostetler WE, The Hy-Tramp, a grid controlled high transconductance electron multiplier. NCR 55 Pt3 56

Hougardy HH and Shanks HE, Arbitrarily polarized slot array. WCR 157 Pt1 58

Hougardy HH and Yaru N, Annular slot direction-finding antenna. NCR 177 Pt1 58

Hougardy RW and Hansen RC, Scanning surface wave antennas—oblique waves over a corrugated conductor T-AP 370 Oct 58

Hougardy RW. See Hyneman RF Houghton RW, See Graustein WW Jr

Houghton WD, A magnetic tape system for recording and reproducing standard FCC color television signals—

reproducing standard FCC color television signals—
electronic system (abstract). NCR 167 Pt7 5%
Houghton WD, See Olson HF
Houlding N, Mixer crystal noise.(L)
P 917 May 50
Houseman EO Jr. See Alstadter D
Houseman EO Jr. See Windley W
Hovda RE and Roehl ER, Characteristics and control of
gas tube displexers during their recovery time.
WCR 105 Pt3 58
Houseman HP and Hell RR. Recent developments in color

Hownanian HP and Holt RB, Recent developments in colotranslating ultraviolet microscopy. T-ME 3 Jul 56
Howard DC, The AN/AKT-14 telemetry system: Pan III— Howard DC , The AN/AKT-14 telemet UkR-7 telemetric data receiver set . T-TRC 10 Mar 56

Howard DD, Instrumentation for recording and analysis of authorand subaudio noise. NCR 176 Pt5 50 Howard PL. The silver-zinc rechargeable battery. NCR 132 Pt6 56

Huie JA and Eisaman LC, Broadband stabilized micro-wave generators. WCR 98 Pt5 58

Hull JA, Millimicrosecond, wide-aperture, electro-optical shutter. NCR 228 Pt5 58
Hull JB, A simplified method for the performance measurement of magnetic tape recorders. NCR 75 Pt7 56

Hulnick RA, The role of quality engineering in producing and procuring reliable products. NCR 46 Pt10 57 Hulst GD, A communication technique for multipath channels.(L) P 1882 Nov 58

Howard PL, The silver-oxide-cadmium alkaline secondary battery. NCR 87 Pt6 57 Howard RC, See Savant CJ Howard RE, See Kintner PM Howe CM, Extension of a theorem of Vratsanos.(L)
T-CT 229 Sep 58
Howe HH, See Wait JR
Howe RM, Representation of nonlinear functions by means
of operational amplifiers. T-EC 203 Dec 56
Howe RM and Gilbert EG, Trigonometric resolution in
analog computers by means of multiplier elements.
T-EC 86 Jun 57. T-EC 86 Jun 57 Howe WH, Process monitoring by diefectric constant. T-IE 56 Apr 58 Howells PW, The concept of transmission primaries in color television. P 134 Jan 54 Howells PW, Transients in color television. P 212 Jan 54 P 212 Jan 54
Howitt G., See Clapp RG
Howland B., See Brown RR
Howland B., See Lettvin JY
Howry DH, Techniques used in the ultrasonic visualization of soft tissue structures of the body.
NCR 75 Pt9 55 Hoy WF, See Brooks RM Hoyle H and Davis H. A comprehensive quality control program designed to improve subminiature tube reliability. T-RQC 105 Jan 57 Hoyler CN, More senses make more sense. T-EWS 25 Mar 58 Hirbek G., See Adler R. Hsu CC. On the principle and design of a trigger circuit of a signal-seeking radio using difference-voltage. P 1591 Nov 55 P 1591 Nov 55
Hsu CC, Development of the 12-volt plate-voltage hybrid automobile radio receivers—AM, signal seeker, and FM. T-BTR 1 Mar 58
Hsu H and Horton CE. Electrolytic tank measurements of mesh grid characteristics. NCR 114 Pt3 57 Hsu H., See Gleichauf PH Hu MK and Cheng DK., A new class of artificial dielectrics. WCR 21 Pt1 58 Hu MK , Near-zone power transmission formulas . NCR 128 Pt8 58 Hu YY , Back-scattering cross section of a center-loaded antenna . T-AP 140 Jan 58 Huang C, Slobodzinski E and White B, Transistor shift registers. NCR 140 Pt4 54 Huang C, See Dwork L Hubbard BF, Development of a guided missile program timer. WCR 17 Pt6 57

Hibbard VMM, Adams E and Haben JF, Sendust flake— a new magnetic material for low-frequency application. T-CP 2 Mar 57 Hubbell JH and Scofield NE, Unscrambling of gamma-ray Hubberl JH and Scotter NE, Unscrambling or gammar-scintillation spectrometer pulse-height distributions. T-NS 155 Dec 58 Huber GH, Miller WF and Schramm CW, New military carrier telephone systems. T-CS 136 Nov 54 Huber RF, Newman MM and Robb JD, Aircraft antenna system lighting protection. T-ANE 19 Sep 55
Huddleston CM, See Eggler C
Huddock E, High frequency steerable beam antenna system. NCR 78 P1 57 Hudson AC, Noise factor measurement (L)
P 1974 Dec 55
Hudson AC, Matching the sides of a parallel-plate region (L) T-MTT 161 Apr 57
Hudson PA and Allred CM, A dry, static calorimeter for RF power measurement. T-I 292 Dec 58 Hueter TF, Ultrasonic analysis (title only). NCR 7 Pt9 57 Huefer TF, See Renner GW
Huffman DA, A Linear circuit viewpoint on errorcorrecting codes T-IT 20 Sep 56
Hugglas WH, Summary of irriportant points of paper.
T-ED 270 Dec 54

Hughes WL , Experimental equipment for recording and reproducing color television images on black and white film. NCR 69 Pt7 55

Hughes WL, Recent improvements in black-und-white film recording for color television use. NCR 100 Pt7 56 Hughes WL, See Rado JA

Huggins WH, A low-pass transformation for Z-transforms.(L) T-CT 69 Sep 54
Huggins WH, Signal theory. T-CT 210 Dec 56
Huggins WH, Signal-flow graphs and random signals.
P 74 Jan 57 Huggins WH, The frequency-time representation of signals using natur Leapy reet / b tract). IJCR 95 Pt2 57 Huggins WH, Summary of important points of papers. T-ED 270 Dec 54 Huggins WH, See Gannett EK
Huggins WH, See Gannett EK
Huggins WH, See Addleton FH
Huggins WH, See Zadeh LA
Hughes HE, Wiley JH and Zuk P, Diffused silicon
diodes—design, characteristics, and aging data.
WCR 80 Pt3 57 Hughes RC., See Compola PP
Hughes RD., See Beam WR
Hughes VA., See Hev JS
Hughes WL., Feasibility and technique of storing color
video information on black and white film.
NCR 114 Pt7 54

Aumfeld JB., A one-kilowatt airborne-radio-frequency power amphfier. T-ANE 30 Mar 57 Humphrey AJ, The Xatron—a variable speed electronic drive for process control. T-IE 68 Mar 57, T-PT 68 Apr 57 Humphreys TG Jr, The Important role of mobile radio in the growth of the power utilities. T-VC 27 May 57 Humphries J., Simplifying FM subcarrier measurements by digital normalizing techniques. T-TRC 4.5 Apr 57 Humaens J., See Contrez R Hung JC and Chang SSL, Switching discontinuities in phase space. NCR 22 Pt4 57 Hunt FV and Raney WP, Education for acoustical en-gineering. NCR 3 Pt9 57 Hunter HH, Ullrich OA and Walkup LE, An aerographic cathode-ray-tube recorder. NCR 183 Pt5 58 Hunter TA, Editorial: Flunkie. SQ 2 Dec 54 Hunter TA, Premium pay for technical writer. SQ Cover 2 Feb 56 Hunter TA, Editorial: Who can't read the Proceedings? Hunter TA, Editorial: Who can't read the Proceedings?
SQ Cover 2 Dec 56
Hunter TA, IRE student members. T-E 3 Mar 58
Hunter TA. IRE student members. T-E 3 Jun 58
Hunter TA. The laboratory. T-E 33 Jun 58
Huntlev WH Jr. See Willer RE
Huntoon RD, Standards and physical constants (abstract only). T-I 128 Dec 58
Huntsman HF, The conversion of a standard TV mobile for greater flexibility and operating convenience.
T-BTS 7 Mar 56
Hupert JJ, Normalized phase and gain derivatives as an ard in evaluation of FM distortion. P 438 Feb 54
Huppert PA, Ceramic coating applications in the electrical field. NCR 187 Pt6 58
Hurd CC, Electronic systems and the American economy. Hurd CC , Electronic systems and the American economy. NCR 307 Pt6 58 Hurford WL , Automatic level control for film systems. T-BTS 1 Feb 57 Hurley RB, A temperature stabilized transistor amplifier. T-CP 93 Sep 54 Hurtig CR, Constant-resistance AGC attenuator with transistor amplifiers. T-CT 191 Jun 55 Hurwitz H Jr, Electrical power problems in fusion research. WCR 126 Pt5 5B WCR 126 Pt5 5B
Huskey HD and Trumbo DE, Data preparation for numerical control of machine tools. WCR 3 Pt 4 58
Huskey HD, See Mauchiner JM
Hutchinson F, Use of charged particles to measure skin thickness and other surface properties.
NCR 13 Pt9 54 NCR 13 Pty 54
Hutchinson HP, A new look at communications in the field army. T-CS 11 Mar 57
Hutchison PT, The image method of beam shaping.
T-AP 604 Oct 56
Hutton DB, See Smith CE
Hutton WG, See Smith CE
Huxley LGH, Electronic studies of the atmosphere between heights of 80 and 100 kilometres. WCR 4 Pt10,57 heights of 80 and 100 kilometres. WCR 4 Pt10, 57 Huynen JR, Theory and design of a class of Luneberg lenses. WCR 219 Pt1 58 Hyde FJ, The internal current gain of drift transistors.(L) P 1963 Dec 58 Hykes GR, Transistorized airborne frequency standard. NCR 131 Pt5 58 NCR 131 Pt5 58
Hyman M Jr and Ryan JJ, Heavy elements in plastic scintillators. T-NS 87 Dec 58
Hyndman RW Jr and Beach RK, The transient response of the human operator. T-ME 67 Dec 58
Hynek JA, See Whilipple FL
Hynenan RF and Hougardy RW, Waveguide loaded surface wave antenna. NCR 225 Pt1 58 lams H, Some factors related to management of an applied research project. T-EM 16 Mar 55 leenbice PJ Jr and Fellhauer HE, Linearity testing techniques for sideband equipment. P 1775 Dec 56 lddings G and Martino E, Flight director design trends. T-ANE 22 Mar 55 lles FB, Mechanization of electronic equipment. NCR 47 Pt6 55 Imai I, A refinement of the WKB method and its application to the electromagnetic wave theory. T-AP 233 Jul 56 Inada K, See Uenohara M Insua H.O. Ir., Dynamic project—orientated industrial organization. T-EM 128 Dec 57
Imus HO Jr., Tomorrow's quality demands. T-ROC 29 Jul 58

lmus HD Jr, The new automatic production line. SQ 32 May 56

Inkster WJ , See Bullington K Innes F , See Epstein H

Inouye GT, The measurement of the polarization of radio waves reflected from the ionosphere at non-vertical incidence. NCR 108 Pt1 54 Insalaco JJ and Kirr FM , The AN/ASN-9: a compact minimum-weight DR navigational computer .
T-ANE 212 Dec 57 Insalaco JJ. See Masucci C
Intrator AM, Design considerations in the reduction of sweep interference from television receivers.

T-BTR 1 Apr 56
Intrator AM. See Phillips AB
IRE standards on sound recording and reproducing: methods for determining flutter content, 1953. P 537 Mar 54
IRE standards on circuits: definitions of terms in the field of lungs varying parameter and notineers circuits. of linear varying parameter and nonlinear circuits, 1953. P 554 Mar 54 IRE standards on American recommended practice for volume measurements of electrical speech and program waves, 1953. P 815 May 54 IRE standards on graphical symbols for electrical diagrams, 1954. P 965 Jun 54 IRE standards on television; methods of measurement of aspect ratio and geometric distortion. P 1098 Jul 54. Correction: P 1314 Aug 54 IRE standards on audio-techniques: definitions of terms, 1954. P 1109 Jul 54 IRE standards on electron devices: definitions of tenns related to phototubes, 1954. P 1276 Aug 54 IRE standards on receivers; methods of measurement of interference output of television receivers in the range of 300 to 10,000 kc, 1954. P 1363 Sep 54. Supplement: P1418 Jul 58 John Charles 1440 Jul 28

JRE standards on electron devices: definitions of semiconductor tenns, 1954. P 1505 Oct 54

JRE standards on radio alds to navigation; definitions of terms, 1954. P 189 Feb 55. Correction;
P 1645 Sep 58 IRE standards on television: definitions of television signal measurement terms, 1955. P 619 May 55 IRE standards on television: definitions of color terms 1955. P 742 Jin 55 IRE standards on industrial electronics: definitions of in-dustrial electronics terms, 1955. P 1069 Sep 55 IRE standards on antennas and waveguides: definitions for waveguide components, 1955. P 1073 Sep 55 IRE standards on radio receivers: method of testing receivers employing ferrite core loop antennas, 1955. P 1086 Sep 55 IRE standards on graphical and letter symbols for feedback control systems, 1955. P-1608 Nov 55
IRE standards on pulses: methods of measurement of pulse quantities, 1955. P 1610 Nov 55
IRE standards on terminology for feedback control systems. P 107 Jan 56, T-AC 91 Feb 57 IRE standards on electron devices: definitions of terms re-lated to microwave tubes (klystrons, magnetrons, and traveling-wave tubes), 1956. P 346 Mar 56 IRE standards on electron devices: definitions of terms related to storage tubes 1956. P 521 Apr 56 IRE standards on audio systems and components: methods of measurement of gain, amplification, loss, attenuation, and amplitude-frequency-response, 1956. P 668 May 56. Correction: P 1765 Dec 56 IRE standards on facsimile: definitions of terms, 1956.
P 776 Jun 56 IRE standards on letter symbols for semiconductor devices, 1956. P 934 Jul 56 IRE standards on electron devices: TR and ATR tube defini-tions, 1956. P 1037 Aug 56 IRE standards on methods of measurement of the conducted interference output of broadcast and television receivers in the range of 300 kc to 25 mc, 1956. cervers in the range of 300 kc to 25 inc, 1956.
P 1040 Aug 56., Correction: P 338 Mar 57
IRE standards on electronic computers: definitions of terms, 1956. P 1166 Sep 56
IRE standards on solid-state devices methods of testing transistors 1956. P 1542 Nov 56
IRE standards on electron tubes: physical electronics definitions 1957. P 63 Jan 57
IRE standards on symbols and terminology for feedback control systems. T-AC 91 Feb 57, P 107 Jan 56
IRE standards on plezoelectric crystals—the plezoelectric vibrator definitions and methods of measurements 1957. P 353 Mar 57, P 764 Apr 58.
Correction: P 1010 Jul 57. Correction: P 1010 Jul 57 IRE standards on electron tubes: definitions of terms 1957.
P 983 Jul 57 IRE standards on letter symbols and mathematical signs 1948 (reprinted 1957). P 1140 Aug 57 IRE standards on reference designations for electrical and electronic equipment, 1957. P 1493 Nov 57 IRE standards on graphical symbols for semiconductor devices, 1957. P 1612 Dec 57
IRE standards on definition of terms: index to, 1942-1957. P 449 Feb 58 IRE standards on television: measurement of luminance sig-nal levels, 1958. P 482 Feb 58 Correction: P 1417 Jul 58 IRE standards on piezoelectric crystals: determination of the elastic, piezoelectric, and dielectric constants—the electromechanical coupling factor, 1958.

P 764 Apr 58, P 353 Mar 57

IRE standards on solid-state devices: methods of testing point-contact transistors for large signal applications, 1950. P 878 May 58

24 IRE standards on information theory: definitions of terms, 1958. P 1646 Sep 58
IRE standards on audio techniques: definitions of terms 1958. P 1928 Dec 58 IRE standards on recording and reproducing: methods of calibration of mechanically-recorded lateral frequency records, 1958. P 1940 Dec 58
Irish LA, Dear Frank. SQ 39 May 56 Irons HR, A transistor magnetic core binary counter.(L) P 1967 Dec 58 P 1967 Dec 58
Irvin HD, Sibyl: a Laboratory for simulation studies of
man-machine systems. WCR 277 Pt4 58
Isaacson S See Cooper HW
Isbell DE, See DuHamel RH
Isberg RA, Using new tape and film techniques to increase
TV and radio broadcast operational efficiency.
T-BTS 65 Jan 56 Isberg RA, A survey of automation and the applications of tape recording in broadcasting and telecasting. T-BTS 81 Dec 57 Ishister EJ, New marine radar. T-CS 30 Mar 55 Ishii K , One-way circuit by the use of hybrid T for reflex klystron amplifier (L) P 687 May 57 1shii J. See Ozaki H Ismall MAW, A precise new system of FM radar. P 1140 Sep 56 Ismail MAW, See Johnson RW Israel DD , Automation—its impact on the electronic engineer . T-BTR 1 Oct 55 Israel DD. Assembly automation—an analogy to wide-hand reproducing systems. T-PT in Apr 57 luminescence and electroluminescence). T-CP 114 Dec 57

Israel DD , Assembly aircomation—an analogy to write-hand reproducing systems. T-PT in Apr 57

Israel DD , The use of commercially available automation equipment. T-PT in Apr 58

Israel JO , See Antonucci P

Israel JO , See Felch EP

Ito and Tanaka , Development of ring goniometer for radio direction finders. T-ANE 20 Dec 54

Itzkan I , Thermal velocity effects in electron guns.(L) P 874 Jun 57

Iversen AH , Coupled helix winding machine.(L) T-ED 317 Oct 58

Iverson AH , Precision helix winding and a mechanism of loss variation.(L) T-ED 205 Oct 56

Ives WR and Hammond DL , Present performance Ilmitations of crystal filters. WCR 113 Pt6 57

Ivey HF , Recent advances in liminescence (cathodoluminescence and electroluminescence). Ivey HF , See Destriau G Iwersen JE , See Nelson JT Jacke SE , See Henry GE Jackson AS , Synthesis of a linear quasi transfer function for the operator in man-machine systems . WCR 263 Pt4 58 WCR 263 Pt4 58

Jackson ED, See Adcock WA

Jackson JL., See Yovits MC

Jacob MI, An Integrated high frequency single sideband
system. T-CS 87 Mar 57

Jacob MI and Mattern J, Time-compressed single-sideband
system (Ticoss). T-CS 2 Jun 58

Jacobs A, See D'Amato R

Jacobs DH, Design features of the JAINCOMP-C and
JAINCOMP-D electronic digital computers.
NCR 98 Pt4 54 Jacobs DH, JAINCO: a high precision lightweight aircraft navigational system. NCR 119 Pt5 55

Jacobs G, See Martin ET

Jacobs H, See Dobischek D

Jacobs H, See Ramsa A Jacobs N., Operation, maintenance and field tests of quadrature-fed antennas. WCR 36 Pt7 57 Jacobsen AB, Use of taxescripts expands. SQ 52 Sep 56 Jacobsen AB, Factors in the reliability of germanium nower transistors. T-RQC 43 Jun 57
Jacobsen AB, You build it: transistorized pocket radio. SQ 15 Sep 58
Jacobson RH and Levine MB, Dynamic environmental Jacobson RH and Levine MB, Dynamic environmental testing of airborne electronic components.

NCR 8 P15-55

Jacoby DL, See Mack A

Jaeger RP, See Fairbanks G

Jaffe D, Cacheris JC and Karaylanis N, Ferrite Microwave detector. NCR 242 Ptl 57, P 594 Mar 58

Jaffe H, See Mason WP

Jaffe R and Rechtin P. Decision and conformation of Jaffe R and Rechtin R. Design and performance of phase-lock circuits capable of near-optim im performance over a wide range of input signal and noise levels. T-IT 66 Mar 55

Jageman DL and Fogel LJ, Some general aspects of the sampling theorem. T-IT 139 Dec 56

Jakubowski GC, Subminature toggle switches.

T-CP 31 Mar 56 James AV and Sweet LO, Broad-band calorimeters for the measurement of low and medium level microwave power. II. Construction and performance. T-MTT 195 Apr 58

James JC, See Meeks ML

James K, A practical adaptation of the Barnes color meter for kinescope-screen color determination.

T-BTR 45 Jan 54

James TR, Bergland CH, Melton DF and Brunetti C, A new machine for automatic production of electronic assemblies NCR 29 Pt9 55 James W., The hyperbo T-AP 579 Jul 56 The hyperbolicity of Maxwell's equations. James WG, Characteristics of modular electronics components. T-CP 69 Sep 56
Jamgochian J and Speer TK, In-flight recording for system malfunction detection. T-I 12 Mar 58
Janes HB and Wells PI, Some tropospheric scatter propagation meas irements near the radio hor zon. 1336 Oct 55 Janes HB, See Norton KA
Janes HP Jr, Aumuspheric refraction of radio waves.
SQ 34 Dec 56 Janes RB, Headrick LB and Evans J, Recent improvements in the 21AXP22 color kinescope. NCR 113 Pt3 56 Jansky CM Jr., Opening statement—IRE 1955 Convention panel on operations research—a tool of management. NCR 3 Pt6 55 Jansky CM Jr., The discovery and identification by Karl Guthe Jansky of electromagnetic radiation of extrater-restrial origin in the radio spectrum. P 13 Jan 58 Jansky CM Jr., Radar beacon requirements for the Great Lakes. T-CS 62 Mar 55 Janza FJ and West RE , Accurate radar attenuation measurements achieved by inflight calibration . T-I 23 Oct 55

Jamie TW, Small engineering company organization—a philosophy and method. T-EM 4 Jan 56

Jasberg JH, Improvement of power output from pulsed klystrons.(L) P 859 May 54 klystrons.(L.) P 809 may 04

Jasik H., A wide-band antenna system for solar noise
studies. P 135 Jan 58

Jasionis JP and Cline JE, Brazing molybdenum and
tingsten cathode parts with rutheium: processing data. (L) T-ED 162 Jul 56

Jaumot FE Jr, Themoelectric effects. P 538 Mar 58.
Correction: P 1587 Sep 58 Jaye WE. See Vincent WR Jaynes ET. Nonlinear dielectric materials. P 1733 Dec 55 Jaynes ET, Glost modes in imperfect waveguides . P 416 Feb 58 Jaynes ET, See Ayres WP
Jaynes ET, See Vartanian PH
Jean AG, See Helliweil RA
Jeeves A and Rowe WD, The NORDIC II computer.
WCR 85 Pt4 57 Jeffrey A and Keiser BE , The linear , input-controlled variable-pass network , by B. E. Keiser .(L) T-IT 42 Mar 56 Jehn KH, See Fannin BM Jennings AE, A review of 20th century photomultipliers. T-NS 208 Dec 58 Jenny DA, A gallium arsenide microwave diode. P 717 Apr 58 Jenny DA , The status of transistor research in compound semiconductors . P 959 Jun 58 Jenny DA , See Armstrono LD Jenny DA, See Armstrono LD

Jenny DA, See Armstrono LD

Jenny DA, See Armstrono LD

Jenny HK and Vaccaro RE, A step-type broadband X-band ceramic waveguide window. T-ED 30 Jan 56

Jenny HK, See Arams FR

Jensen AG, Standards on sound recording and reproducing. (L) P 1190 Jul 54

Jensen H, Ullyatt KH and Stedman DF, Facing machine circuits; an electrostatic printer for code-marking letters, and fluorescent ink and optical considerations in a code reader. NCR 259 Pt6 58

Jensen JL, An improved square-wave oscillator circuit. T-CT 276 Sep 57

Jensen OH, Planning your components process for maximum capability. WCR 44 Pt6 57

Jensen OH, Planning your components process for maximum capability. WCR 44 Pt6 57

Jensen RL, Linear accelerators and radioactive waste as practical sources for industrial sterilization processes. T-IE 64 Mar 56

Jepsen RL, Ion oscillations in electron beam tubes ion motion and energy transfer. P 1069 Aug 57

Jensen RL See Merce T Jensen RL See Exercise Moreno T

Jensen RL, See Moreno T

Jenstedt GW, Engineering management development.

T-EM 3 Mar 58

Jervis ER, Retrability of electron tubes in military applications.

P 902 Jun 54

Jervis ER.

See Knight CR

Extension of EM/EM canabilities. Jeske HO , Extension of FM/FM capabilities . T-TRC 2.4 Apr 57 Jicklum RM , See Powell RC Jocliems PJW, Memellink OW and Tummers LJ, Construc-tion and electrical properties of a germanium alloy-dif-fused transistor. P 1161 Jun 58 hised transistor. P 1161 Jun 58
Joffer I, See Glein AB
Johannson D, See Peckhart M
Johannson D, See Stein S
Johannessen PR, Application of a magnetic amplifier to
a high performance instrument servo.
NCR 15 Pt 4 55 NCR 15 Pt4 55
Johanson HM, See Sletter CJ
Johanson HM, See Snencer RC
Johnson AA, Son Horrowit, M
Johnson AP, Selection of technical managers as viewed
by a personnel insychologist. NCR 112 Pt6 55
Johnson CC, Periodic electrostatic focusing of a hollow
electron locam. T-ED 233 Oct 58
Johnson CC and Birdsall CK, A new crossed-field traveling-wave tube, the M-J tube. WCR 60 Pt3 58

Johnson CM., Superlieterodyne receiver for the 100 to 150-billion region. T-MTT 27 Sep 54 Johnson CM. See Wiltse JC Johnson EC. A numerically controlled cam-milling machine. T-IE 80 Mar 56 Johnson EO, Olinstead J and Webster WM, The Tacitron, a long noise thyratron capable of current interruption by grid action. P 1350 Sep 54

Johnson EO, Olimstead JA and Webster WM. A developmental thyratron capable of current interruption by grid action (abstract). NCR 79 Pt3 54 Johnson GW, Statistical analysis of sampled-data systems. WCR 187 Pt4 57 Johnson GW, Frequency-domain statistical model of lin-ear variable networks for finite operating time. NCR 76 Pt4 58

Johnson HA, A multi-channel transducer for magnetic recording. NCR 130 Pt7 57 Johnson HA, and Rosenman L., Transistorized interophones for vehicular communications. T-VC 3 Jul 58

Johnson HR, Backward-wave oscillator characteristics (abstract). NCR 156 Pt3 54

Johnson HR, Applications of facsimile in the USAF. NCR 39 Pt8 54 NCR 39 Pt8 54
Johnson HR, Backward-wave oscillators. P 684 Jun 55
Johnson HR, Kompfner dip conditions (L) P 874 Jul 55
Johnson HR, Everliart TE and Siegman AE, Wave propagation on multifilor helicos. T-ED 18 Jan 56
Johnson HR and Weglein RD. Backward-wave oscillators for the 8000-18,000-megacycle band.
T-ED 180 Apr 57 Johnson HR , See Steaman AE Johnson JB and VanSwearingen B, Evaluation of transistor life data. T-RQC 15 Aug 57

Johnson KR, Optimun, Ilnear, discrete filtering of signals containing a nonrandom component. T-IT 49 Jun 56.

Correction: T-IT 154 Dec 56 Johnson LJ and Rauch SE, Odd integer magnetic frequency multipliers. P 168 Feb 55
Johnson LJ and Rauch SE, Alreraft motor generator with secondary standard frequency output. T-CP 28 Mar 58 Johnson RA, tion.(L) P 1058 Aim 56 Johnson RA, A high-speed digital data-handling system NCR 22 Pt5 57 Johnson RA. See Clavier PA Johnson RP, Chestnit H, Goode HH, Herwald S, Kochen-burger RJ, Linvill WK and Moore J, Educational needs in systems engineering; panel discussion. NCR 108 Pt4 58 Johnson RW , Instantaneous frequency (L) P 1024 Jun 54 P 1024 Jun 54
Johnson RW, Management viewed by an engineer.
T-EM 74 Jul 56
Johnson RW and Ismail MAW, A precise new system of
FM radar.(L) P 695 May 57
Johnston SL, A survey of navigational measurements methods for missile guidance systems. T-I 60 Jun 56
Johnson SO, Curlee NJ and Reihing JV, Simulation of hot channel boiling in water-cooled reactors.

T-NS 1 Jun 58

Johnson VL, ATC transponder—the design and application of a magnetostriction delay line for coding purposes. T-ANE 113 Sep 56 Johnson VL See Young NH
Johnson WC See Clement PR
Johnson WT See Kughn RL
Johnston AE See Kughn RL
Johnston C See Schmitt O
Johnston DL See Dunkin EF
Johnston JH See Boykin RS
Johnston LH, Service DH and Swenson DA, Inelastic nuclear reactions of protons in scintillators.
T-NS 95 Dec 58 Johnston RC , Transient response of drift transistors . P 830 May 58 Johnston RE , Industrial applications of vacuum relays . WCR 165 Pt6 57 Johnston SJ , See Spactli DA Johnstone CW , See Byington PW Joint Board on Scientific Information Policy , Electronic ; warfare-a report on radar countemeasures T-MIL 31 Mar 57 Jokinen RA, Technical marketing. SQ 12 Dec 56 Jolly JA, A positive grid voltage-space current division test for power vacuum tubes. NCR 129 Pt3 57 Jolly SA and Shipley WU, An Impulse test for evaluating the vibrational characteristics of receiving tubes over a wide fremiency range. NCR 90 Pt6 58 Jona F, See Shirane C Jones AR, Noise in transistor nucleonic pulse amplifiers . NCR 78 Pt9 57 Jones CW, Broad-band balanced duplexers. T-MTT 4 Jan 57 1-MTT 4 Jan 57
Jones DS, A critique of the variational method in scattering problems. T-AP 297 Jul 56
Jones EMT, Paraboloid reflector and hyperboloid lens
antennas. T-AP 119 Jul 54
Jones EMT and Cohn SB, Surface matching of dielectric
lenses. NCR 46 Pt1 54
Jones EMT, Morila T and Cohn SB,
ance of matched dielectric lenses. T-AP 31 Jan 56

Kahn WK, Scattering equivalent circuits for common symmetrical junctions. T-CT 121 Jun 56
Kalın WK, Alternative construction for conjugate-image point.(L) P 90 Jan 57
Kalın WK. See Altschuler HM
Kaisel SF and Rorden WL, Wide-band, high-power traveling-wave tubes at S-band. NCR 39 Pt3 55
Kaisel SF, See Nevins JE
Kaiser HF, The Microtron, a nuclear and electronic research instrument. T-NS 17 Mar 56 Jones EMT and Bolljahn JT, Coupled-strip-transmission line filters and directional couplers. T-MTT 75 Apr 56 Jones EMT and Honey RC, A novel technique for making precision wavegurde twists (L) T-MTT 131 Apr 56 Jones EMT, Synthesis of wide-band microwave filters to have prescribed insertion loss. NCR 119 Pt5 56 Jones EMT and Cohn 5B, Two theorems for dissipationless symmetrical networks.(L) P 1016 Jul 57 Jones EMT, Cohn SB and Shimizu JK, A wide-band nonreciprocal TEM-transmission-line network. WCR 131 Ptl 58 Kajihara HH, Miniaturized audio transformer design for transistor applications. T-AU 10 Jan-Feb 56 Kalaba RE and Juncosa ML, Linear programming and optimal telecommunication networks. (L) P 1874 Dec 56 Jones EMT. See Honey RC
Jones EMT, See ShimIzu JK
Jones GR, Cacheris JC and Morrison CA, Magnetic tuning of
resonant cavities and wideband frequency modulation of
klystrons. P 1431 Oct 56 Jones GR, See Cacheris JC Jones HG, See Monroe GR Jones ME, See Adcock WA Kalaba RE, See Bellman R Kalbfell DC, An electronic analog multiplier. T-EC 100 Jun 57 Jones ME, See Adcock WA
Jones ME, See Thomas HE
Jones ME, See Wellner FR
Jones P, Stability of feedback systems using dual Nyquist
diagram. T-CT 35 Mar 54
Jones RE, See Mitta AP
Jones TO, See Soohoo EL
Jones TR, Industrial electronics systems. Kales ML. See Sakiotis NG ranging, as applied to a guidance device for the blind. P 1438 5ep 54
Kallmann HE, Beam-hugging plates for unlimited cathode ray deflection.(L) P 485 Apr 55
Kallmann HE, Single-sideband transmission without transient distortion.(L) P 485 Apr 55
Kallmann HE, Serendipity.(L) P 1744 May 57
Kallmann HP, Furst M and Brown FH, Scintillating solutions containing heavy elements. T-NS 51 Nov 56 NCR 310 Pt6 58 Jones WR, General problems in the use of electron tubes. T-ED 28 Feb 54 Jones WR, Those unreliable thermionic tubes. T-QC 32 Feb 54 Jones WR, Interface measurements and methods employed. T-ED 58 Feb 54 Jordan DB, Greenberg H, Eldredge EE and Serniuk W, Kalman RE, Optimal nonlinear control of saturating systems by intermittent action. WCR 130 Pt4 57 Kalmus HP, Cacheris JC and Dropkin HA, Nonquantized frequency-modulated altimeter. T-ANE 15 Jun 54 Kalmus HP, Hedrich AL and Pardue DR, An acoustic Multiple frequency shift teletype systems. P 1647 Nov 55 Jordan EC , Report on URSI Commission VI—Radio waves and circuits . P 1376 Jul 58 Jordan T., Forced-air direct-contact cooling of airborne electronic equipment. T-ANE 25 Mar 58 Jorgensen DE, 200-channel sequential SADIC system. T-I 219 Jun 56 Jorgensen RA, See Batten HW Jorup RD See Gordon BM Joseph HM, See Kovasznay LSG Josephson B, The quarter-wave dipole. WCR 77 Pt1 57 Josephson B and Blomquist A, The influence of moisture in the ground, temperature and terrain on ground way propagation in the VHF band. T-AP 169 Apr 58 T-I 129 Dec 58 T-I 129 Dec 58
Kaminow IP, See Ballin LL
Kammer D, See Brauer F
Kanal L, Miyata's of synthesis.(L) T-CT 240 Dec 57
Kandoian AG, See Altman FJ
Kancellakos DP. See Cohn GI
Kangas T, See Rein GC
Kanter I, The prediction of derivatives of polynomial signals in additive stationary noise.
WCR 131 Pt4 58 Josephson B and Carlson G., Distance dependence, fading characteristics, and pulse distortion of 3000-mc transhorizon signals. T-AP 173 Apr 58 Josephson B and Eklund F, Some microwave propagation experiences from a just-below-horizon path. T-AP 176 Apr 58 Joyce MV, What is nature's error criterion?(L) T-CT 32 Jun 54 Joyce MV, Distortion in class B transistor amplifiers. NCR 49 Pt7 55 Jude GF, See Hecht H Judge WJ, Spurious em Judge WJ., Spurious emission filters for high power TV transmitters. NCR 30 Pt7 55
Judge WJ., Some developmental techniques concerning distributed amplifiers and virtual delay lines.
WCR 62 Pt2 58 Kao JHK, A new life-quality measure for electron tubes. T-RQC 1 Apr 56 Kao JHK, Computer methods for estimating Weibull parameters in reliability studies. T-RQC 15 Jul 58 Kaplan J, The IGY program. P 741 Jun 56, NCR 96 Pt1 56 Judge WJ, See Ruston J Juncosa ML, See Kalaba See Kalaba RE

Jury E1, Additions to the modified Z-transform method.
WCR 136 Pt4 57 Justice R and Rumsey VH, Measurement of electric field distributions. T-AP 177 Oct 55

Justice R, Side-lobe suppression by pattern multiplica-tion. T-AP 119 Apr 56 Justice LE. See Burkia J

-K-

Kaar IJ, Introduction to single-sideband issue. P 1666 Dec 56 P 1666 Dec 56

Kabell LJ and Evans WE, A transistor subcarrier generator for color receivers. T-BTR 9 Jul 55

Kabell LJ, Head drum stabilization for recording the NTSC color signal. WCR 29 Pt7 58

Kadak E, See Flaherty JM

Kahn L, The component-parts bottleneck in a peacetime production profile. T-PT 60 Apr 58

Kahn LR, Ratio squarer.(L) P 1704 Nov 54

Kahn LR, Comparison of linear single-sideband transmitters with envelope elimination and restoration single-sideband transmitters. P 1706 Dec 56

Kahn LR, The use of speech clumping in single-sideband

Kaim LR, The use of speech clupping in single-sideband communications systems.(L) P 1148 Aug 57
Kalin LR, A compatible single-sideband system designed for use in the broadcast service. NCR 11 Pt7 57, WCR 21 Pt7 57

Kahn LR, Comment on: A mathematical analysis of the

Kalın compatible single-sideband system (L) P 1429 Jul 58 Kalın LR, Improved compatible single-sideband equipment for standard broadcast lervice. NCR 55 Pt7 58

Kahn LR., See Moore JB Kahn WK., E-plane forked hybrid-T junction. T-MTT 52 Dec 55

Kalaba RE and Juncosa ML, General systems approaches to telecommunication optimization problems. NCR 203 Pt8 57

Kalbfell DC, Low-level magnetic commutator. WCR 115 Pt5 57

Kales ML, Topics in guided-wave propagation in magnetized ferrites. P 1403 Oct 56

Kallmann HE, Optar, a method of optical automatic ranging, as applied to a gurdance device for the blind.

flowmeter using electronic switching. T-UE 49 Jun 54

Kalmus HP, Direction sensitive Doppler device. P 698 Jun 55

Kalmus HP, Electronic flowmeter system T-ME 22 Nov 55

Kalra SN and Woods EJ, Phase stability of frequency multipliers (L) P 94 Jan 57 Kalra SN, Bziley R and Daams H, Cesium beam frequency

standard development in Canada fabstract only).

Kantrowitz P, Fault location on telephone cables. T-CS 53 Dec 58

Kaplan H., Solid state pulse width modulator. T-TRC 3.3 Apr 57

Kaplan LM, The design of electronic correlating equipment to be used in medical research. WCR 206 Pt5 58 Kapuscienski SJ, See Ross JD

Karal FC Jr. See Kam SN Karas N. See Rotman W Karas R and Rotman W, Some new microwave antenna designs based on the trough waveguide NCR 230 Pt1 56

NCR 230 Pt1 56
Karayianis N and Cacherrs JC, Birefringence of ferrites in circular waveguide. P 1414 Oct 56
Karayianis N, See Jaffe D
Karbowiak AE, Gulded wave propagation in submillimetric region. P 1706 Oct 58
Karlin JE. See Pierce JR
Karmaugh M, Pulse-switching circuits using magnetic cores. P 570 May 55
Karp A, Traveling-wave tube experiments at millimeter wave-leroths with a new, easily built, space harmonic

wave-lengths with a new, easily built, space harmonic circuit. P 41 Jan 55

Circuit. P 41 Jan 55

Karp A, Jananese technical cantions.(L) P 93 Jan 57

Karp A, Backward-wave oscillator experiments at 100 to 200 kilomenacycles. P 496 Apr 57

Karp MA, Power grain and stability.(L) T-CT 739 Dec 57

Karp SN and Radlow JJ, Diffraction by an infinite grating of cylinders in the resonance case. T-AP 578 Jul 56

Karp SN. An analysis of odes behavior in various life.

Karp SN, An analysis of edge behavior in vector dif-fraction theory. T-AP 579 Jul 56 Karp SN and Radlow J, On resonance in infinite gratings of cylinders. T-AP 654 Oct 56

Karp SN and Karal FC Jr., Surface waves on a right-angles wedge. WCR 101 Pt1 58 Karphis WJ, Synthesis of non-PR driving point invedance functions using analog computer ants. T-CT 170 Sep 57

Karstad K., See Morrison WC

Karush W., Stability of a method of smoothing in a digital control computer. T-EC 26 Mar 55 Kasan GS., See Griemsmann JWE Katt DR., Conditional feedback systems applied to stabilizing a missile in pitch attitude. WCR 171 Pt4 57

Katz HW and Schultz RE , Miniaturized ferrite delay lines NCR 78 Pt2 55

Katz I, Hazardous environmental factors and effects re-lated to high-supersonic-speed bomber defense problems NCR 6C Pt6 57

Katz 1, See Beard Cl

Katz L, Determination of visual interpolation errors in the

plotting of curves from commutated data. T-TRC 15 Feb 55
Katz L and Friedman TB, UHF satellite transmitter-

receiver design and operation. T-BTS 67 Mar 55
Katzin M, Back scattering from the sea surface.
NCR 72 Pt1 55

Katzin M , Recent developments in the theory of sea clutter. NCR 19 Pt1 56

Katzin M. On the mechanisms of radar sea clutter. P 44 Jan 57

P 44 Jan 57

Katzin M, See Ament WS

Kaufer GE, An analog computer employing network analogy techniques. T-ME 46 Jul 57

Kaufman H and King EH, Spectral power density functions in pulse time modulation. T-IT 40 Mar 55

Kaufman H, Bibliography of nonuniform transmission lines.(L) T-AP 218 Oct 55

Kaufman WM and Woodford JB, A new series representation for correlation functions. NCR 40 Pt2 55

Kaufman WM. See Cawood WP Jr

Kaufman WM, See Caywood WP Jr Kaufmann P, See Flaherty P Kaufmann HW, Semiconductor diode amplifier consider-ations. NCR 146 Pt4 55

Kaufmann SG, See Erickson GF Kaus PW, See Schwartz JW Kautz WH, The approximation problem. T-CT 4 Sep 54

Kautz WH, Transient synthesis in the time domain. T-CT 29 Sep 54

Kautz WH, Optimized date encoding for digital computers. NCR 47 Pt4 54

Kautz WH, Unit-distance error-checking codes.(L)
T-EC 179 Jun 58
Kautz WH, See Henderson KW
Kavananoh TF. See Gravel JPJ
Kawakami M, Some fundamental considerations on active four-terminal linear networks. T-CT 115 Jun 58
Kay AF and Zucker FJ, Efficiency of surface wave excitation. NCR 1 Ptl 55

Kay AF, The impossibility of certain desirable Luneberg lens modifications (L) T-AP 87 Jan 56

Kaye J., Review of industrial applications of heat transfer to electronics. P 977 Aug 56 Kaye J and Chor HY, General aspects of cooling airborne electronic equipment. T-ANE 4 Mar 58

electronic equipment. T-ANE 4 Mar 58
Kaye J , See Hatsopoulos CN
Kazan B and Nicoll FH , An electroluminescent light-amplifying picture panel. P 1888 Dec 55
Kazan B , An improved high-gain panel light amplifier.
P 135B Oct 57
Kazan B , New developments in the panel light amplifier
(abstract). NCR 159 Pt3 57
Kazan B , See Nicoll FH
Kazda LF , See Kiba RE
Kear FG and Preston JG , Control of vertical radiation
patterns of TV transmittling antennas . P 402 Feb 54
Kear FG , See Akers F

Kear FG , See Akers F Kearney LE , Railroad radio communication . T-VC 11 May 57

T-VC 11 May 57
Kearney TJ J, Metal cleaning and its improvement by the use of ultrasonics. T-UE 43 J un 54
Kearns WJ, See Elinenspeck HW
Keary TJ, See Wirth HJ
Kebby MH, See Harp MC
Keefe JT, Design and performance of static-magnetic regulated de power supplies. WCR 87 Pt6 56
Keefer N, See Watt CW
Keen HS. See Fempu WE

Keen HS. See Fromm WE Keen HS. See Fubini EG Kefalas G. See Bawer R

Keim DY, Rapid automatic checkout equipment for weapons systems. WCR 17 Pt5 57 Keiser BE, The linear, input-controlled, variable-pass network. T-IT 34 Mar 55

Keiser BE . See Jeffrey A Keister GL and Stewart HV , The effect of nuclear radiation

Keister GL and Stewart HV, The effect of nuclear radiation on selected semiconductor devices. P. 931 Jul 57
Keitel GH, Certain mode solutions of forward scattering by meteor trails. P. 1481 Oct 55
Keith WW and Sears FE, Field test equipment for airborne radar. NCR 52 Pt0 57
Kell RD. See Brimbaugh JM
Kelleher KS and Morrow CW, Omnidirect mal circularly-notation of the product of

Keller EA, A classification system for measurement and control. T-IE 38 May 58
Keller GR, Hydraulic servos. SQ 16 Feb 57
Keller JE, Diffraction by a convex cylinder.
T-AP 312 Jul 56

Keller JB , See Levy BR

Keller JE, Radio speeds the flow of oil.
T-VC 66 May 57
Keller JE, See Bailey A
Keller JE, See Campbell CD
Kelley D, See Colgate H

Kelley GG, Bell PR, Davis RC and Lazar NH, Intrinsic scintillator resolution. T-NS 57 Nov 56

Kelley GG , A new amplifier for pulse spectrometry . NCR 63 Pt9 57

Kelley GG, See Davis RC Kelley GJ, Choosing the optimum type of modulation a comparison of several communication systems. T-CS 14 Jun 58

Kelliher MG, Nygard JC and Gale AJ, The electron linear accelerator as a pulsed radiation source.

T-NS 1 Jun 56

Kelliher MG , See Nygard JC Kelling LUC , Numerical control of machine tools . T-IE 3 Mar 55

T-IE 3 Mar 55
Kellogg EW, Comment on flutter standards.
T-AJ 99 Jul-A ig 54
Kelly HP, Differential phase and gain measurements in color television systems. T-BTR 14 Jul 55
Kelly JJ, Transistorized airborne military television techniques. NCR 48 Pt8 58
Kelly JL Jr, A new interpretation of information rate.
T-IT 185 Sep 56

Kelly JL Jr., Coding a television source (abstract). NCR 5 Pt 2 57

NCR 5 Pt2 57
Kelly KC and Elliott RS, Serrated waveguide: theory and experiment NCR 6 Pt1 55
Kelly KC and Elliott RS, Serrated waveguide—Part II: Experiment T-AP 276 Jul 57
Kelly KC, Recent annular slot array experiments.
NCR 144 Pt1 57

NCR 144 Ptl 57
Kelly MJ, The nation's need for greater scientific and technical strength—means for its attainment.
T-EM 122 Dec 57
Kelly PJ, See Lombardini PP
Kelly TJ, See Curtis KV
Kemanis G, On the cotton-mouton effect in ferrites.(L)
P 687 May 57
Kemp CA, Extending mobile radio range by VHF repeaters. T-VC 33 Jul 56
Rondall HW, Multichappel spectrometer detectors.

Kendall HW, Multichannel spectrometer detector. T-NS 190 Dec 58

Kenn V., Microphonic reduction in filamentary tubes. T-ED 61 Feb 54

Kenna VF , See McKenzie AJ
Kennaugh EM and Graves CD , Comment on radar polarization power scattering matrix (L) P 695 May 56
Kennaugh EM and Cosgriff RL , The use of Impulse response In electromagnetic scattering problems ,
NCR 72 Ptl 58

Kennedy EJ and LaForge EF, Techniques for the presentation of three-dimensional information. NCR 44 Pt8 58

Kennedy ME, The integration of municipal radio systems. T-VC 62 Jul 56
Kennedy PA, Loop antenna measurements.
T-AP 610 Oct 56
Kennedy PD, Equipment and techniques for the measurement of radar reflections from model targets.
WCR 208 Pt1 57

Kennedy RC , Pedestal processing amplifier for television.
NCR 1° Pt7-56
Kennedy RC , A dynamic standard signal for black-and-white
and color television systems . NCR 17 Pt7-57
Kennedy RC and Gaskins FJ, Electronic composites in
modern television . P 1798 Nov-58
Kent LL . Brandhand waveguide holometer mounts.

Kent LI, Broadband waveguide bolometer mounts. WCR 114 Pt5 58

WCR 114 Pto 58

Keonjian E, Temperature-compensated dc transistor amplifier. P 661 Apr 54

Keonjian E, Stable transistor oscillator.
T-CT 38 Min 56

Keonjian E, Micropower audio amplifier. T-CT 68 Mar 56

Keonjian E., See Suran JJ
Kerfoot BP, Transistors in current-analog computing.
T-EC 86 Jun 56

Kerns DM, WWV standard frequency transmissions.(L) P 1881 Nov 58

F 1881 NOV 58
Kerns DM. See Beatty RW
Kerns DM. See Macpherson AC
Kerns O. See Smith BH
Kerns OA, Eddy-current bridge for measurement of skin
losses. NCR 182 Pt10 55

Kerns QA, A new frequency-modulation system for the UCRL 184-inch cyclotron (abstract).

NCR 224 Pt10 55

Kerns QA , Improved time response in scintillation countries. T-NS 114 Nov 56

Kerr W. Problems in the control of a nuclear reactor-steam electric power plant. THE 50 Mar 56

strain electric power nlant. 1-1E 50 Mar 56 Kershner RB, The size of research and engineering teams. T-EM 35 Jun 53 Kessel B and Brooks RW, Digital solutions to instrumen-tation and automatic control problems. T-1 79 Jun 56

Kessler JA, The role of room acoustics in music listening NCR 96 Pt7 55

Kessler KC, Barger RL and Schweitzer WG, Atomic beam sources and the standard of length.
T-I 181 Dec 58

Kestenbaum AL, See England JAV
Ketchnel RD See Koda NJ
Keto JE, Opening remarks on Symposium on Air Force
Communications and Electronics Problems and Philosonlucs. NCR 101 Pt8 56

ment. NCR 131 Pt6 56
Kettler AH, IRE Professional Groups: Engineering Management. SQ 4C Dec 55
Key EL, See Sallen RP
Keyser RH, See Antett HD
Keywell F See NcIson JT
Khoury KI, On the use of ferrites for microwave singlesideband modulators. (L) P 1418 Oct 57

Kiebert MV , A bibliography of telemetry T-TRC 10 cui 58

Kiebert MV Jr., Basic design of commutating devices . T-TRC $\, 7 \, \text{Aug} \, 54 \,$

Kiebert MV Jr, System design factors for audio amplifiers NCR 25 Pt6 54

NCR 25 Pt6 54
Kiebert MV Jr. Telemetering—its place in electronics
technology. SO 20 May 56
Kiebert MV Jr. Electronic control and in trumentation of
extra-atmosphere space craft. NCR 7 Pt5 57
Kiel A and Parzen P. Nonlinear wave prepagation in
traveling-wave amplifiers. T-ED 26 Oct 55
Kiel A, Scotto M and Parzen P. Propagation in a crossed
field periodic structure. T-ED 76 Apr 58
KiesSiling RC, Two-terminal pair symmetry relations.
NCR 61 Pt2 58

Kiessling RC, Two-terminal pair symmetry relations.
NCR 61 Pt2 58
Kilham LF Jr and Ursch RR, Fluorochemical liquids and

gases as transformer design parameters. NCR 97 Pt3 55

Kilham LF Jr and Ursch RR, Transformer miniaturization using fluorochemical liquids and conduction techniques P 515 Apr 56

Kim WH, Network decomposition using topological formulas (L) T-CT 373 Dec 58
Kim WH, On non-series-parallel realization of driving-point function. NCR 76 Pt2 58

point function. NCR 76 P12 58
Kinnira M, See Oizumi J
Kinaman EW and Magid M, Very low-noise traveling-wave
amplifier. P 861 May 58
King BG, McKenna J and Raisbeck G, Experimental check
of formulas for capacitance of shielded balanced-pair
transmission line.(L) P 922 May 58

King DD, Properties of dielectric image lines T-MTT 75 Mar 55

King DD, Report of advances in microwave theory and techniques—1954. T-MTT 4 Apr 55
King DD, Circuit components in dielectric image lines.
T-MTT 35 Dec 55

King DD , Report of advances in microwave theory and teclmiques—1955. T-MTT 68 Apr 56
King DD and Schlesinger SP , Losses in dielectric image lines. T-MTT 31 Jan 57

King DD, Report of advances in microwave theory and techniques—1956. T-MTT 83 Ap. 57

tectniques—1956. T-MTT 83 Ap. 57
King DD, See Scharfman H
King DD, See Schlesinger SP
King EH, See Kaufman H
King El and Sullivan AW, Solar flares and atmospheric noise. T-AP 78 Jan 57
King EN, See Boron PE
King, G, Push-button libraries. SO 19 Dec 54

King HE, Mutual Impedance of unequal length antennas in echelon. T-AP 3C6 Jul 57

King J. See Gunkel W Kine PGR, See Mathias LES King R, The end correction for a coaxial line when driving an antenna over a ground screen. T-AP 66 Apr 55

King R., Theory of the corner driven square loop antenna. T-AP 393 Jul 56

King R, Foreign languages and the PhD degree. T-E 96 Dec 58

highly linear sawtooth waveforms. NCR 17 Pt10 5 King SC, See Schultz FV
King WC, Millimeter wave spectroscopic components.
T-MTT 13 See 54
King WC. See Cohn M
Kingshirs S. Operations research. NCR 9 Pt6 55
Kingsley HFX, A new cable design for military carrier telephone systems. T-CS 127 Nov 54
Kingston RH, Switching time in junction diodes and junction transistors. P. 829 May 54
Kingston RH, A UHF solid-state maser (L)

Junction transistors. P. 8.79 May 54
Kingston RH., A UHF solid-state maser (L)
P. 916 May 55
Kingston RH. See Autler SH
Kinnston RH. See Autler SH
Kinnston RH., See McWhorter AL
Kinn JM Jr., Writing for "Electronics."
T-EWS 21 Mar 58
Kinney GF, See Wheeler RCH
Kinn GS. See Dunn DA
Kinn GS. See Dunn DA
Kinn GS. See Feinstein J
Kintner PM, Howard RE, Peterson SB and Webb RC, The
ORDRAT—ordinance dial reader and translator.
T-I 131 Jin 56

Kinther PM and Armata EJ, The Doppler data translator T-1 142 Jon 56
Kirby MJ and Powell HR, Prediction of missile reliability NCR 54 Pt6 55
Kirby RC, VHF propagation by ionospheric scattering—a

Survey of experimental results T-CS 17 Mar 56
Kirby RC, Extreme useful range of VHF transmission by scattering from the lower ionosphere.
NCR 112 Ptl 58
Kirby RC, See Bailey DK
Kirby RS, Dougherty HT and McQuate PL, Obstacle gain

measurements over Pikes Peak at 60 to 1046 mc P 1467 Oct 55

Kirby RS and Capps FM., Correlation in VHF propaga-tion over irregular terrain. T-AP 77 Jan 56 Kirby RS, Dougherty HT and McQuate PL., VHF propaga-tion measurements in the Rocky Mountain region. T-VC 13 Jil 56

Kirby RS, Measurement of service area for television broadcastino. T-BTS 23 Feb 57 Kircher RJ, Properties of junction transistors T-AU 107 Jul-Am 55

Kirchhoff G, (translated by O'Toole JB), On the solution of the equations obtained from the investigation of the linear distribution of galvanic currents.

T-CT 4 Mar 58

T-CT 4 Mar 58
Kirk RE, Learning a major factor influencing preferences
for high-fidelity reproducing systems.
T-AU 133 Sep-Oct 56
Kirkpatrick GM, See Grisetti RS
Kirr FM, See Insalaco JJ
Kirschbaum HS and Chen S, A method of producing broadband circular polarization employing an anisotropic
dielectric. T-MTT 199 Ji-l 57
Kirshner DR, Air traffic control in the jet age.
T-CS 34 May 56

T-CS 34 May 56
Kirsteln PT, On the determination of the electrodes required to produce a given electric field distribution along a prescribed curve. P 1716 Oct 58

ia S , A harmonic generator by use of the nonlinear cap-acitance of germanium diode (L) P 1307 Jun 58

acitance of germanium diode.(L) P 1307 Jun 58 Klask v PS. See McGee HA Kleen W and Poschl K, Magnetic focusing of electron beams.(L) P 1528 Oct 55 Kleinfoth WG. A sauelch system controlled by signal-to-noise ratio. T-VC 62 Jun 55 Kleimack JJ, See Walli AJ Klein G and Winters AL. The pulsed M-type backwardwave oscillator and its modes of operation. NCR 94 Pt3 58 Kleim ML. High-speed analog-digital convertors

Klein ML , High-speed analog-digital convertors . T-I 148 Jim 56 Klein ML and Rush RB , Techniques for a high speed ,

high quantity, data processing system; Idiot II NCR 143 Pt1 56

Klein ML, Techniques for stabilizing dc transistor amplifiers. WCR 94 Pt2 50

Klein RC, Analog simulation of sampled data systems. T-TRC 2 May 55

Klein SI, A program for an airborne digital control system. T-TRC 20 Mar 56

Kleinman L. See Berk AD Klemens WP, Transistor airborne PDM system. WCR 13 Pt5 58

Klewer WH. Principles and tecliniques for direct-reading directal transducers T-IE 27 Apr 58
Klimowski F Jr., Engineering techniques in the simulator evaluation of flight information displays.

T-ANE 128 Sep 56

Kline KH, Recent advances in transistorized and minia-turized reactor controls. NCR 85 Pt9 57 Kline ML, Electromagnetic research at the institute of Mathematical Sciences of New York University. T-AP 243 Jul 56

Kline M and Webb CE, A time bridge NCR 155 Pt5 56 Kline M , See Gaw N Klipper S , Small company engineer SO 29 Dec 55

Klipsch PW, Room dimensions for optimum listening and the half-room principle. T-AU 14 Jan-Feb 58 Klopfenstein RW, Low frequency waves on transmission lines of comnosite section. T-AP 103 Jul 54

Klopfenstein RW., A transmission line taper of improved design. P 31 Jan 56

Klopfenstein RW and Epstein J, The polarguide—a constant resistance wavenuide filter P 210 Feb 56

Klopfenstein RW, Bolinder E Folke and Collin RE, The optimum tapered line matching section.(L) P 1055 Aug 56 Klopfenstein RW., Nonuniform, inhomogeneous, and anistropic wavenuides. T-MTT 193 Oct 56

Klopfenstein RW, Corner reflector antennas with arbitrary dipole orientation and approximate. T-AP 297 Int 57

dinok crientation and ampliants. T-AP 297 Int 57 Klotter K., Multi-loop nonlinear systems (L) T-CT 76 Mar 54 Klotter K., Steady-state oscillations in nonlinear multi-loop circuits. T-CT 13 Dec 54 Klotter K., See Brenner E. Kling SH., See Fromm WE. Knam CF. See Schreiber WF. Knam CF. See Schreiber WF. Knapp 27. Low distortion operation of some miniature dual triodes. T-AU 125 Jul-Aug 55 Knausenberger GE. A note on the scattering matrix of an active linear two-terminal-pair network. T-CT 112 Jun 55

Knecht W., Advanced processing of receiving-type electron tubes subjected to high temperatures T-ED 62 Feb 54

Knechtli RC, Further analysis of transmission-line direc-tional couplers. P 867 Jul 55

Knechtli RC and Beam WR, Design and performance of low noise guns for traveling-wave tubes. NCR 23 Pt3 56

Rucchill RC, Effect of electron lenses on beam noise.
T-ED 84 Apr 58
Knechtli RG, See Firestone WL
Knrazuk M, See Steele DI
Knickerbocker GG, See Webb GN
Knight CR, Jervis ER and Herd GR, The definition of

terms of interest in the study of reliability. T-RQC 34 Apr 55

Knight MB. Simple production methods for dynamic test-ing of horizontal-deflection tubes. T-RQC 12 Apr 56

mn of horzontal-deflection tubes
Knight P., PCM data collecting and recording system designed for airborne ise. T-TRC 8.1 Apr 57
Knoblaugh AF, See Martin DW
Knoll M, Design and properties of target structures for storage tubes. T-ED 70 Feb 54
Knoll M, Hook HO and Stone RP, Characteristics of a transmission control viewing storage tube with halftone display. P 1496 Oct 54, (abstract) NCR 120 Pt3 54

Knoop WA and Terman FE, Electrical engineers are going back to science (L) P 1875 Dec 56

Knox LA, Resolver function error versus RC loading T-CP 44 Nov 55

Knox LA, Synchro and resolver performance definitions . T-CP 88 Dec 56

Knox PC , The components engineer and the sales engineer, partners in reliability. NCR 196 Pt6 58
Knudsen AW and Hofstadter R , A sodium iodide (T1)
total absorption spectrometer for high energies.
T-NS 152 Dec 58

Knudsen HL, Radiation resistance and gain of homo-geneous ring quasi-array. P 686 Apr 54

Knudsen HL, Radiation from ring quasi-arrays T-AP 452 Jul 56

Ko HC , The distribution of cosmic radio background radiation . P 208 Jan 58

Ko HC, Amplitude scintillation of extraterrestrial radio waves at ultra-high frequency.(L) P 1872 Nov 58 Ko WH, The semiconductor diode amplifier. Ko WH, The semic SO 22 Dec 57

SO 22 Dec 57
Koch HW and Wyckoff JM, Response functions of totalabsorption spectrometers T-NS 127 Dec 58
Kochen M, An information-theoretical model of organizations. T-IT 67 Sep 54
Kochenburner RJ, See Johnson RP

Kock WE, High fidelity and the hearing process (abstract). NCR 8 Pt6 54

Kock WE and Stone JL, Space-frequency equivalence (abstract). WCR 216 Pt1 57, (L) P 499 Feb 58

Kock WE, Stone JL, Clark JE and Friedle WD, Forward scatter of electromagnetic waves by spheres (abstract). WCR 86 Pt1 58

Kock WE and Stone JL., Active space-frequency correla-tion systems (distract). NCR 58 PtG 58

Koda NJ, Lehrer NH and Ketchpel RD, Twenty-one inch direct-view storage tube. WCR 78 Pt7 57 Kodis RD, Variational corrections to geometric optics in

scattering by a conduction cylinder. T-AP 580 Jul 56

Kodis RD. See Guterian S
Kockelenbergh A. See Coutrez R
Koelsch AC. A high speed, low voltage light modilator.
NCR 169 Pt3 57

Koenig HE and Blackwell WA, On the codification of Lagrangian formulation.(L) P 1428 Jul 58

Koemer LF , Methods of reducing frequency variations in crystals over a wide temperature range .

NCR 43 Pt8 56

NCR 143 Pt8 56
Korrner LF, See Gerber EA
Kohl WH, Cathode structure of indirectly heated, narrow, elongated exide cathodes. T-ED 56 Feb 54
Kohl WH, A ceramic-insulated, flush-mounted terminal for all-metal high-vaccing tohes. T-ED 67 Feb 54
Kohl WH, A combination high temperature hydrogen or vac ium furnace. T-ED 67 Feb 54
Kohl WH, Electron tubes for critical environments. NCR 141 Pt3 57
Kohleeberg A 57: Clocatham TP Jr
Kohn CT, The radio frequency coaxial resistor using a tractonal jacket. P 951 Ami 55
Koller EL. Instrumentation applications of the Ampex

Koller EL , Instrumentation applications of the Ampex videotape recorder . WCR 43 Pt5 57

Kolmonorov AN , On the Shannon theory of information trans hission in the case of continuous senials .

T-IT 102 Dec 56

T-TT 102 Dec 56

Kompfeer R., See Clock JS

Kompostek TF., De light of translator regulated indicer and light. AL P. 1517 Aun 51.

Komel PV., See Gerston JJ

Korfball RF., See Koldandan A.

Korkowski VJ., See Rossini TD

Korlan MM., See Angelskos DJ

Koros LL., A novel UHF felevision high-powerminder clocker. T-PTS 18 Mar 55.

Koros LL., See Yalien JE.

Koros LL , See Yourn JE

Korner O., A magnetic head for the megacycle range. NCR 145 Pt5 56 Kortman CM., Germanium photoconductor as missile spin counter in an all-transistor FM, FM telemeter. NCR 155 Pt1J 55

Kortman CM See Colander RC Koschmann AH, Time-varying filters for nonstationary signals on a finite interval. NCR 102 Pt4 55

Koskos P. See Culp JW

Koskos P. See Culti JW
Kosmahl HG, Influence of magnetic focusing fields and transverse electron motion on starting conditions for spurious viscillations in O-type backward-wave oscillators. T-ED 252 Oct 58

Kosowsky DI, Crystal filter design techniques and applica-tions: WCR 94 Pt6 57

Kosowsky DI, High-frequency crystal filter design tech-nomes and applications. P 419 Feb 58 Kotik J, Solution of the Helmholtz equation with random boundary values. T-AP 581 Jul 56

Kotter FR. See McGrenor MC Kotzehue K. See Heffner H Koutsoudas A and Korfbage RF, translator. SQ 30 May 57 The computer as a

Kouwenhoven WB and Milnor WR, The effects of high-voltage, low-capacitance electrical discharges in the dog T-ME 41 J.J 58

Kovach LD and Comley W, An analog multiplier using thyrite. T-EC 42 Jun 54
Kovach LD and Comley W, Nonlinear transfer functions with thyrite. T-EC 91 Jun 58
Kovasznay LSG and Joseph HM, Image processing. P 560 May 55

P 560 May 55

Kowalsky J. See McDonorich JA

Kozak WS, An inalon memory. WCR 100 Pt4 50

Kraemer GT, Repetitive use of information stored in mannetic core memories. SQ 17 Sep 54

Kramer HP and Matthews MV, A linear coding for transmitting a set of correlated signals. T-IT 41 Sep 56

Kramer SI, A sensitive method for the measurement of amplitude linearity (L) P 1059 Aug 56

Kramer SI and Wheeler RF, Transistor measurements at high power levels. NCR 15 Pt5 56

Kramer SI and Doba S Jr, The measurement and specification of montinear amplitude response characteristics in televis on (L) P 1020 Jul 57

Krand GM, Input-output analysis of multirate feedback

Kranc GM , Input-output analysis of multitrate feedback systems T-AC 21 Nov 57

Kranc GM, Additional techniques for sampled-data feedback problems. WCR 157 Pt4 57 Krassi Inikov VA, Shklovskaya-Kordy VV and Zarembo LK,

The propagation of ultrasonic waves of finite amplitude in liquids. WCR 101 Pt10 57

Kraiis G and Potzl H., Limiting conditions on the correla-tion properties of random signals. T-CT 282 Dec 56

Kraus JD., Planetary and solar racio emission at 11-meters wavelenoth. P. 266 Jan. 58 Kraus JD and Albus JS., A note on some signal charac-teristics of Spittink L(L). P. 610 Mar. 53

Kraus JD, Detection of Sputniks I and II by CW reflection (L) P 611 Mar 58

Kraus JD. Radio telescope antennas of large aperture. P 92 Jan 58 Kraus JD , Resolution, pattern effects , and other problems of radio telescope antennas . T-AP 445 Jul 56

Kraus JD, The last days of Sputnik I.(L) P 612 Mar 58

Kraus JD, Higgy RC and Albus JS, Observations of the U.S. satellites Explorers I and III by CW reflection (L) P 1534 Aug 58

Kraus JD and Dreese EE, Sputnik I's last days In orbit.

P 1580 Sep 58 Kraus JD , See Matt S

Krause CA and Love RR. Design of ac computing aminfers some transistors. T-EC 191 Sen 50
Krause EH. Scientific research in development of misille Lystems. SQ 25 Dec 55
Krause LO. A comparison of antenna problems at UHF
and VHF TV. NCR 126 Pt1 54
Krause Z R. See Anderson RE
Krause G. See Arams FR
Kreer-JG. A question of terminology.(L)
T-IT 200 Sen 57
Kreer'el ES. See McRizer DT
Kretzmer ER. An amplitude stabilized transistor oscilltator. P 391 Feb 54. Correction: P 1124 Jul 54
Kretzmer ER. Reduced-alphabet representation of fole-

Kretzmer ER, Reduced-alphabet representation of tele-vision's imals NCR 140 Pt4 56

Kritzmer ER Sec Michel WS Kroemer H, Theory of a wide-gap emitter for transistors. Krither En.
Kroemer H, Theory of a wide-map of the P 1535 Nov 57
Kröger FA, The physical chemistry of crystal phosphers.
P 1941 Dec 55
Polit Julity and engineering colleges.

Kroll NM., See Bernstein 113 Krombout OM., See Adler R

Kron G., A method of solving very large physical systems in easy stages. P. 680 Apr. 54

Kriesi GG, Moseley FL and Bissgnies H, The altomatic radio direction finder (L) T-ANE 135 SAD 56

Kridee RL, Carcinetron noise measurements. T-ED 131 Dec 54

Kriflee RL and Mullen JA. Noise reduction in CW inspetrors (L) P 111 Jim 16

Krull AR, Transistors and their applications (a bibliography 1948-1953). T-ED 40 Aug 54

rainty 1940-1953). Tell 40 Alig 54
Krisen FH, See Herick JF
Krzyczkowski R, Comprehensive comparisons and business
decisions. T-EM 65 Sep 58
Krzyczkowski R, Economic analysis in long term plan-

ning of military communications systems.

WCR 3 PtC 58

Ku YH, Analysis of multi-loop nonlinear systems.

T-CT 6 Dec 54

Ku YH. See Tou J

Kibba RE and Kazda LF. The design and performance of a model, second-order, nonlinear servomechanism T-AC 43 Jul 58

Kuecken JA, Feed optimization in multi-feed antennas. WCR 164 Pt1 57

Kuehn RE, A reliability program NCR 32 Pt10 57 Kuchin Rt. and Johnson WT., PDM-PAM conversion system. T-TRC 8.5 Apr 57

Kuh ES. Special synthesis techniques for driving point impedance functions. T-CT 302 Dec 55

Kuh ES., Synthesis of lumped parameter precision delay line. P. 1632 Dec 57, NCR 160 Pt2 57

Kuh ES, Synthesis of RC grounded two-ports.

Kuh ES, Synthesis of RC grounded two-ports.
T-CT 55 Mar 58
Kuh ES, See Paige A
Kukel J, Sampling in linear and nonlinear feedback control systems. NCR 43 Pt4 57
Kulikowski R, Signal theory (L' T-CT 34C Dec 57
Kulinyi RA, Levine RH and Meyer HF, The application of SSB to high-frequency military tactical vehicular radio sets. P 1810 Dec 56

Kulke B and Miller SL, Accurate measurement of emitter and collector series resistances in transistors.(L) P 90 Jan 57

Kullmann EV, A precise optical and radar tracking range. NCR 142 Pt5 58

Kumagai N and Takeuchl K, Circular electric waves propa-gating through the circular waveguide containing a cir-cumferentially magnetized ferrite cylinder. WCR 123 Pt1 58

Kummer 0, A transistor frequency scanner. NCR 81 Pt10 54

Kummer O. See Felch EP
Kumpfer BD , Miniature magnetron assembly techmencs . T-ED 65 Feb 54
Kumpfer BD and Brett H, The hollow cathode in cylindrical
geometry NCR 66 Pt3 54

Kunze AA and Schermerhom JG , A new horizon in communication theory—the poly-phase concept (abstract). NCR 34 Pt8 55

Kuo FF , Pole-zero sensitivity in network functions (L) T-CT 372 Dec 58 Kurhara Y , Trans-horizon microwave propagation over hilly terrain . P 1362 Oct 55

Kurokawa H., Someya I and Morita M., New microwave repeater system using . single traveling-wave tube as both amplifier and local oscill tor. P. $1674\,$ Dec. $57\,$

P 10.4 Dic 57 Kurokawa K., The expansions of electromagnetic fields in ravities T-MTT 178 Apr 58 Kurokawa K., See Saito S Kurss H., Interconnection of linear transducers. NCR 53 Pt2 54

Kurtz LA and Efficit RS , Systematic errors caused by the scanning of antenna arrays phase shifters in the branch lines T-AP 619 Oct 56 Kurtz LA and Yee JS , Second-order beams of two

dimensional slot arrays. T-AP 356 Oct 57
Kyhl RL, The use of non-Euclidean geometry in measurements of periodically loaded transmission lines
T-MTT 111 Aur 56

Kyht RL and Webster HF, Breakup of hottow cylindrical electron beams. T-ED 172 Oct 56

-L-

Laasonen P. Determining the reflector surface of a radar antenna with pent so rice fixed. T-AP 180 Oct 55 Labevrle J. Present status of contillation counter development in France. T-NS 212 Oct 58 Labus J. Space charge waves along magnetically focused electron beams. P. 854 Jun 57. Correction: P. 1118 Aug 57.

Lab is J. See Rignot WW Lacker RD. See Clawier PA Lacy PD, Microwave spectrum synthesis with the travel-ing-wave tube. NCR 48 Pt5 56

Lacy RE and Saze RK , Nonlinear communications systems: some aspects of clurped speech. NCR 9 Pt6 54

Lacy RE and Sham CE, Riviar-type propagation curvey experiments for communication systems

NCR 20 Pt1 56 Lacy RE, Mo intain obstacle meas rements. NCR 32 Pt1 57

Ladd JH and Crewer WL, Photographic signation of color tolevision in these additionations NCR 110 Pt7 54

Ladd JH and Princy JE, Empirical relationships with to Minsell value scale (L) P 1137 Sen 55

See Breach AL

Lammel AE, Application of linear graphs to conhunication problems ab tract). T-IT 138 Mar 54
Laeser PB, Integration of color television equipment at WTML-TV with menechange facilities.
T-BTS 22 Jan 56

Lafferty JM , Beam deflection color television picture tuber . P 1478 Oct 54 Lafferty JM , A process for making clean gos discharge tubes T-ED 143 Jul 58 tibes T-ED 143 Jul 58
Lafferty RE, High frequency shields. NCR 151 Pt6 56
LaFontaine JF, The Importance of high-speed voltage-to-digital translation component for industrial data control. T-IE 68 May 58
LaForac EF, See Kennedy EJ
Lanerstrem RP. See Grow RW
LaGrone AH, Straiton AW and Smith HW, Synthesis of radio signals on overwater paths. T-AP 4C Apr 55
Laird JP, Logical development of the design for sequen-Laird JP, Logical development of the design for sequential control of chemical batch processes.

T-IE 44 Aug 58 Lakin HM., See Borsos RD
Lally PM., See Denman ED
Lamb JJ., RACER—a proposed rating system for electronic components and devices. T-ROC 1 Feb 56
Lamb JJ., Automation—its social, moral, and spirtual invalidations. T-EM 6 Mar 58 Lamb JJ, The problem of compatibility between military engineent design and commercial automation techentiment of the State of the St T-ROC 17 See 58
Lambert JS, See Allen J
Lamberts BJ, A compatible method of recording and reproduction of stereo son id (L) T-AU 89 Jirl-Ann 58
Lamberts BJ, A class of low gain broadband antennas.
WCR 251 Pt1 58
Lamberty BJ, See Taylor I S
Lampard DG, The response of linear networks to suddenly applied stationary random noise. T-CT 49 Mar 55
Lampard DG, The probability distribution for the filtered output of a multiplier. T-IT 4 Mar 56
Lampard DG, Definition of bandwidth and time duration of signals which are connected by an identity.
T-CT 286 Dec 56 T-CT 286 Dec 56
Lampard DG, See Barrett JF
Lamphier WC, Some guideposts to the use of metallized Capacitors. NCR 207 Pt6 58 canacitors. NCR 207 Pt6 58
Lampi EE, See Tucker EB
Landauer WE, See Sneh KC
Lander RF, Minimizing employee losses when R and D operations relocate. WCR 3 Pt9 5C
Landers RR, Improving reliability of electronic equipment by effective analysis of field performance.
NCR 2 Pt11 54 Landon VD , Just for laughs: how to win arguments . SQ 13 Feb 58 Lanc AL and Turczyn A., A high speed N-pole, N-position mannetic core matrix switch. NCR 246 Pt4 58 Lanciani DA, Hoj Mode circular waveguide components. T-MTT 45 Jul 54 Lang JF, See Wimberly FT
Lang GR, See Davis GWL
Lang HJ, See McKibben JL
Lange WJ, Ultrahigh vacuum research in support of the
themsonuclear fusion power program.
WCR 140 Pt5 58 Langevin RA, A germanium tape reader (abstract). NCR 105 Pt4 54 NCR 105 Pt4 54
Langford RC, Measuring engineering effectiveness.
T-EM 45 Jun 58
Langford RC, The thermally fused metal-to-ceramic
Vanistor, WCR 67 Pt6 50
Langford-Smith F, The equivalent characteristics of the
cascode amplifier. (L) P 556 Apr 56
Langford-Smith F, Audio amplifiers.
T-AU 25 Mar-Apr 57 T-AU 25 Mar-Apr 57
Lanville RC, See Hay DR
Laning JH Jar and Battin RH, An application of analog computers to the statistical analysis of time-variable networks. T-CT 44 Mar 55
Lankard GM, A new approach to horizontal deflection tube testing. T-BTR 94 Oct 57
Lanza C, See Statz H
Lanza JS Jr, See Fanwick C
Lanzl RH, See Aldrich RW
Lapid SP and Suran JJ, Transient response of selective networks and impulse morse in narrow-band FM receivers. NCR 3 Pt8 54
Lapin SP And Suran JJ, Transient response of selective networks and impulse morse in narrow-band FM receivers. NCR 3 Pt8 54
Lapin SF A, A barometric pressure to current transducer.

Lapinski FA, A barometric pressure to current transducer . T-I 139 Jun 57

NCR 19 Pt3 56

Lanort EA, Comment on: Ages of creativeness of electronic engineers.(L) P 1811 Dec 54

Laport FA, The soul of an organization, T-EM 40 Anr 56

Laport EA See Beverage HH

Larea D, See Leneschkin E

Larkin KI, See Pritchard WL

Larks SD, Electronic aids to the service of obstetrics: electrohysterography and fetal electrocardiography. WCR 216 Pt5 58

LaPlante RA, Development of a low-noise X-band CW klystron power oscillator. T-ED 99 Der 54
La Plante RA, Microwave transmitter tuning by rapid-interchance, fixed-frequency klystrons. NCR 19 Pt3 56

Lederhandler SR and Glacoletto LJ, Measurement of minority carrier lifetime and surface effects in junction devices. P 477 Apr 55 Larky AI, Negative impedance converters. T-CT 124 Sen 57 T-CT 124 Sep 57
Larsen BF, See Gudmandsen P
Larsen T, See Gore WC
Larsen HT, The birth of PG. SO 26 Dec 54
Larson RJ, The electrostatic loudspeaker—an objective evaluation. T-AU D2 Mar-Apr 56
Lascaro CP and Long AL, Effect of high intensity radiation on electronic parts and materials (summary).
NCP 206 D46.55 Lee CY, Some properties of nonbinary error-correcting codes. T-IT 77 Jun 58
Lee LK and Paul FA, A new profession, component part engineering. T-CP 1 Mar 54 Lee LK, Automatic production of electronic equipment. NCR 60 Pt4 55 Lee R., False echoes in line-type radar pulses. P 1288 Aug 54 NCR 206 Pt6 58 Lashinsky H, See Danos M Lass H, A note on the root locus method (L) P 693 May 56 Latham WS, Tane life NCR 118 Pt7 55 Latimer DWT Jr, Azimuth errors of the TACAN system. T-ANE 150 Dec 56 Lee R., See Etchison W. Lee R., See Millinix NE Lee RE, Size reduction of airbome transformers. T-CP 142 Sep 58 Leeds LM, Transistor circuitry utilized in a new TV Sync generator. T-BTR 60 Sep 53 Latorre VR See Boulav PF
Laverick E, The calibration of microwave attenuators by an absolute method. T-MTT 250 Oct 57
Lavo NT, See Boogs JE
Law HD, See Ramberg EG
Law JT, A mechanism for water induced excess reverse Lees AB, Interpolation and extrapolation of sampled data.
T-IT 12 Mar 56 Lees GP. See Clarke GM Lefevre HW and Russell JT, Measurement of time of flight in the millimicrosecond region . T-NS 146 Dec 58 Legg VE , Survey of square loop magnetic materials . T-CP 106 Dec 57 dark current on grown germanium n-p junctions. P 1367 Sep 54 Lawrence CN, Transmission of digital data over multihop tropospheric scatter circuits. NCR 292 Pt8 58

Lawrence JD Jr and Bonn TH, Amagnetic pulse-current regulator. NCR 102 Pt4 57

Lawrence RS, An investigation of the perturbations imposed upon radio waves penetrating the ionosphere. P 315 Jan 58 Lehan FW, Telemetering and Information theory. T-TRC 15 Nov 54 Lehan FW, Future instrumentation problems (tytle only), WCR 205 Pt5 58 Lehman M, High-speed digital multiplication .(L) T-EC 204 Sep 57, T-Z Sep 56 Lehmann J., See Haneman WJ
Lehmann R., See Chavasse P
Lehovec K., Marcus A and Schoeni K., Current-voltage
characteristics and hole injection factor of point contact rectifiers in the forward direction. Lawson AA, The economics of automation—some impor-tant considerations. T-PT 34 Sep 56 Lawson AA, Ritt PR and Hazel HK, A new automation technique for soldering components to foil-wire boards. NCR 111 Pt6 56 T-ED 1 Jan 56 Lehr CG and Collins AL, Physical mechanism of noise generation in magnetrons. T-ED 260 Dec 54 Lawson AA and Simms RJ , Packaging of transistorized assemblies . T-IE 24 Mai 57 , T-PT 24 Apr 57 Lawson JD , Electron trajectories in strip beams con-Leirer NH, See Koda NJ Leichner GH, A fast circulating memory.(L) T-EC 124 Jun 57 strained by a magnetic field. P 1147 Jul 54 Lawson JD, A method of launching surface waves.(L) P 111 Jan 56 Leifer M., Some thoughts on career guidance. SQ 37 Dec 56 Leifer M., Some thoughts on career guidance.
SQ 37 Dec 56
Leighton H., See Eliyett C
Leinbach H., See Little CG
Leiner AL and Alexander SN, System organization of the
DYSEAC. T-EC 1 Mar 54
Leiner AL, Notz WA, Smith JL and Weinberger A, System
design of the SEAC and DYSEAC. T-EC 8 Jun 54
Leinpik R., The effect of instantaneous nonlinear devices
on cross-correlation. T-IT 73 Jun 58
Leinmer L., See Madey R
Leitner A and Weils CP, Radiation by a disk and conical
structures. T-AP 585 Jul 56, T-AP 637 Oct 56
Lenehan JJ, A microwave system for trunk service.
T-MTT 50 Api 54, T-CS 50 Jul 54
Lenoux CG and Pearson A, NRU reactor neutron level control system. T-NS 64 Aug 58
Lennox CG and Pearson A, Thermal power control of the
NRU reactor. T-NS 68 Aug 58
Leon BJ, See Marwell E
Leondes CT. See Smith CL
Leonhard J, Matuck RD and Pote AJ, Folded unipole
antennas. T-AP 111 Jul 55
Leonhard J, See Morrow WE Jr
Lepeschkin E and Larean D, Quantitative auscultation
of heart sounds and internal calibration.
T-ME 16 Dec 57
Lerner I, See Zicker H Lawton CS , The impact of submerged repeaters on global telegraphy . T-CS 101 Nov 54

Lax B , Combined panel discussion on propagation in doubly-refracting media and future directions for re-search in electromagnetic wave theory in modern physics . T-AP 567 Jul 56 . Correction: T-AP 39 Jar 57 I-AP 39 Jan 57
Lax B and Roth LM , Propagation and magnetoplasma effects in semiconductors . T-AP 584 Jul 56
Lax B , Frequency and loss characteristics of microwave ferrite devices . P 1368 Oct 56 . Correction: P 186 Feb 57 Lax B, The status of microwave applications of ferrites and semiconductors. T-MTT 5 Jan 58
Lax B, See Button KJ, Lax B, See Heller GS Layden OP, See Bennstein M Lazar NH, Davis RC and Bell PR, Peak efficiency of Nal (TI) crystals for gamma rays from 0.150 to 7.5 mev. T-NS 136 Nov 56 Lazar NH, Analysis of gamma ray scintillation spectra for quantitative photon intensities. T-NS 138 Dec 58 NCR 108 Pt6 58

Lea N, Bernard Wa and Clapp JK, Frequency stable LC oscillators (L) P 1012 Aug 55

Lea N, a quartz servo oscillator. P 1835 Nov 58, NCR 234 Pt5 58 T-ME 16 Dec 57 T-ME 16 Dec 57

Lerner I, See Zricker H

Lerner RM. See Brown RR

Lemer RM. See Manasse R

Lerner RM. Signals with uniform ambiguity functions.

NCR 27 Pt 4 58

Lesk IA and Gonzalez RE, Germanium and silicon transistor structures by the diffused-meltback process employing two or three imporities. T-ED 121 Jul 58 Leach HH, See Adams GJ Leach HH, See Alford A Leadabrand RL and Peterson AM, Radio echoes from auroral iomization detected at relatively low geomagnetic latitudes. T-AP 65 Jan 58 Lesk IA See Aldrich RW Leadabrand RL and Yabroff I, The geometry of auroral communications. T-AP 80 Jan 58
Leaver EW, Chairman's introduction.
NCR 273 Pt6 58 Leslie JM Jr, High speed duplication of magnetic tape recordings. T-BTS 1 Mar 56, T-AU Jan-Feb 57 Lessner RG and Markham AS , Simplification of field strength computations for shielded enclosures (L) P 364 Mar 57 Leavitt JA, See McCue JJG Lebell D, Nonlinear compensation of an alreraft instrument r 204 Mar 27

Lettvin JY, Howland B and Gesteland RC, Footnotes on a headstage. T-ME 26 Mar 58

Lettvin JY, See Wall PD

Levedahl BH, Survival and performance of man in space. WCR 198 PE 58 servomechanism by analog simulation.

T-AC 10 May 56

Lebell D and Mandel M, Compensation of multiloop control systems. WCR 177 Pt4 58

Lebenbaum M, See Goodman J Levenbach GJ, Accelerated life testing of capacitors. T-RQC 9 Jun 57 Lebenbaum M., See Goodman J
Lebid J., See Arcand T
Lebow IL and Baker RH., The transient response of transistor switching circuits. P 938 Jun 54
Lebow IL, See Baker RH
Lebowitz RA, Determination of the parameters of cavities termination transmission lines. T-MTT 51 Jan 56
Le Brin DE, See Bruiette GE
Le Caine H. Electronic music. P 457 Apr 56
Leclitrek LW, Fresnel antenna patterns.(L)
T-AP 138 Jul 55, (L) T-AP 89 Jan 56 Levenstein A., The art of human relations. NCR 15 Pt10 57 Revenstein H., On the design of ac networks for servo compensation. T-AC 39 Feb 57 Levenstein H., Theory of networks of linearly variable recistances. P 486 Feb 56 recistances. P 400 Feb 50 Levi E, New amplifiers for automatic control of active do loads. NCR 216 Pt6 58 Levi R, The machining of timosten and its application in the fabrication of Philips dispenser cathodes. NCR 70 Pt3 54 Lectrac RC See Sufficial RF

LeCraw RC See Sufficient EG

LeCraw RC See Sufficient EG Levine D, Antenna scan considerations. T-ANE 26 Mar 54 Levine D., Correction to: Information cells on intensity-modulated CRT screens. P 853 May 54

Levine D. The radar display as a linear filter. T-ANE 124 Sen 56 Levine DJ. See Sichak W LeVine HD and Sadowski H. Punch card recording and multiple counting data (abstract). NCR 82 Pt9 56 Levine L and Melssinger HF, An automatic analog computer method for solving polynomials and finding root loci. NCR 164 Pt4 57 Levine M., Production of intense magnetic fields and their relation to fusion reactors (title only).

NCR 27 Pt9 58 Levine MB and Mintz F, Aircraft electronics—environment specifications and survival. NCR 3 Pt5 55
Levine MB, See Jacobson RH
Levine RH, See Kulinyi RA
Levine RH, See Mack A
Levinson E, Gain-phase relations of nonlinear circuits. Levision C, Gain-phase relations of nonlinear circuits. NCR 141 Pt4 58

Levis CA and Tal CT, A method of analyzing coupled antennas of unequal sizes. T-AP 128 Apr 56, T-AP 585 Jul 56 Levis CA, A reactance theorem for antennas. P 1128 Aug 57 Levonian PV, See Dunn WH Levy BR and Keller JB, Propagation of electromagnetic pulses around the earth. T-AP 56 Jan 58 Levy EA, See Bagno S
Levy IE, Thermal effects in vacuum tubes.
T-ED 61 Feb 54 Levy M and Barszczewski A, Coding problems related to the electronic mail handling system. NCR 157 Pt6 57 NCR 157 Pt6 5/
Levy M, The Capadian automation system of postal operations (abstract). NCR 243 Pt6 58
Levy M and Czorny V, Coding and error checking in the Canadian system (abstract). NCR 244 Pt6 58
Lewi JB and Ross SJ, Organizing for management controls. T-EM 32 Jun 58
Lewin L, Miniaturization of microwave assemblies.
T-MTT 261 Oct 56 Lewis DH, Wallace JD, Dietz GW and Brown JR Jr, Part II—Intracardiac phonocardiography. T-ME 31 Dec 57
Lewis DH, See Wallace JD
Lewis FD, Frequency and time standards.
P 1046 Sep 55 Lewis FD and Frazier RM, Distributed-parameter variable delay lines using skewed turns for delay equalization. P 196 Feb 57 P 196 Feb 57
Lewis FD, See Cl.pp JK
Lewis FD, See Schlesinger K
Lewis HM, A third method of generation and detection
of single-sideband signals. P 1289 Sep 57
Lewis HM, The phase-shift method of single-sideband
signal reception.(L) P 1289 Sep 57
Lewis HO, See Sharma RL
Lewis JB, Use of folded monopoles in antenna arrays.
T-AP 122 Jul 55 Lewis PM II, Voltage transfer synthesis—RLC lattice.(L)
T-CT 282 Sep 55
Lewis PM II, The concept of the one in voltage transfer
synthesis. T-CT 316 Dec 55 Lewis PM II, Synthesis of sampled-signal networks. T-CT 74 Mar 58 Ley GS, Color purity in ungated sequential displays. T-8TR 36 Jan 55 Li K, See Schwann HP Libbey RL, A minature high-gain audio amplifier. T-AU 165 Nov-Dec 54

amplifiers and antenna matching. WCR 47 Pt2 58 Lilamand ML , A time-division multiplier . T-EC 26 Mar 56

Lin HC, Thermal stability of junction transistors and its

Lincks GF, An American engineer looks at Soviet technology. SQ 8 Dec 58
Lindhern HE. See Fluore-Lotz I
Linden BR, Recent developments in multiplier phototubes.
T-NS 33 Nov 56

Linden BR and Snell PA , Shutter image converter tubes . P 513 Apr 57 Linden BR, New techniques in low level fluoroscopy. T-NS 104 Dec 58

Linden DA and Steinberg BD, Synthesis of delay line net-works. T-ANE 34 Mar 57

effect on maximum power dissipation. T-CT 202 Sep 57
Lin HC and Crosby RE, Jr, A determination of thermal resistance of silicon junction devices. NCR 22 Pt3 57

T-AU 165 Nov-Dec 54
Libbey RL, See Corrington MS
Lichtman D, See McLinden MS
Lichtman SW, Guided missile reliability versus complexity.
NCR 49 Pt10 57
Lieber HG, See Lieber LR
Lieber LR and Lieber HG, The great discovery of modern
mathematics. T-MIL 10 Mar 57
Linht FH. See Hartranft AC
Ligomenides PA, A new design method for coupling networks, with applications to broadband transistor
amplifiers and antenna matchin. Lilley AE and McClain EF, Absorption techniques as a tool for 21-cm research. P 221 Jan 58 Lillo CL, Should slides be used in a technical presentation? WCR 35 Pt9 58

Lin CM and Grow RW, A broad-band microwave coaxial connector with capacitive RF coupling and isolated dc returns .(L) T-MTT 454 Oct 58

Linden DA , Transient response in FM.(L) P 1017 Jul 57 Linden DA , A note on four-pole parameters.(L) T-CT 375 Dec 58 Linden DA, A note concerning instantaneous frequency.(L) P 1970 Dec 58 Linden EG, Electrets. NCR 135 Pt3, 56 Linder CH, The challenge to the engineering manager. NCR 10 Pt6 56 Lindsay JE, A decade ring counter using avalanche-Lindsay JE, A decade ring counter using avalanche-operated junction transistors. T-CT 262 Sep 57 Lindsay PA, See Goss TM Lindsay WJ. See Butler TV Jr Lindstom PA, Anolication of ultrasound to the brain. NCR 96 Pt6 54 Lineweaver JL, Leak detection—ultrasensitive techniques employing the helium leak detector.
T-ED 28 Jan 58 Link WF, Linear voltage controlled frequency modulation of the Hartley oscillator. NCR 160 Pt10 55

Link WF, An airborne filter for low distortion of FM subcarriers. WCR 64 Pt5 57

Linker JB Jr and Grimm HH, Wide-band microwave transmission measuring system. T-MTT 415 Oct 58 mission measuring system. T-MTT 415 Oct 58 Linvill JG, RC active filters. P 555 Mar 54 Linvill JG, Nonsaturating pulse circuits using two junction transistors. P 826 Jul 55 Linvill JG and Mattson RH, Junction transistor blocking oscillators. P 1632 Nov 55 Linvill JG, Lo AW, Logue JC and Stern AP, Preface to the transistor-circuits papers. T-CT 4 Mar 56 Linvill JG, Synthesis techniques and active networks. NCR 9C Pt2 57 Linvill JG, Lumped models of transistors and diodes. P 1141 Jun 58 Linvill WK , Scott RE and Guillemin EA , Evaluation of Linvill WK, Scott RE and Guillemin EA, Evaluation of Fourier transforms. T-CT 243 Sep 55
Linvill WK, System theory as an extension of circuit theory. T-CT 217 Dec 56
Linville TM, Some views on executive management, T-EM 52 Nov 54
Linville TM, The management of basic research.
NCR 102 Pt6 55 Linville WK, See Johnson RP
Lipinski WC, Control aspects of the experimental boiling water reactor power plant. NCR 84 Pt9 56 Lipp JP, Topology of switching elements vs reliability. T-RQC 21 Jun 57 Lippel B , A decimal code for analog-to-digital conversion . T-EC 158 Dec 55 Lippel B and Epsteln U, A method for obtaining complete dinital coding chains. (L) T-EC 121 Jun 57
Lippel B, Logical detenting in cathode-ray coding tubes. T-1 29 Mar 58 Lippke JA, Writing for "Electronic Design." T-EWS 31 Mar 58 T-EWS 31 Mar 58
Little AG, See Mills BY
Little CG, High latitude ionospheric observations using extra-terrestral radio waves.(L) P 1700 Nov 54
Little CG, Rayton WM and Roof RB, Review of ionospheric effects at VHF and UHF. P 992 Aug 56
Little CG and Leinbach H, Some measurements of high-latitude ionospheric absorption using extraterrestrial radio waves. P 334 Jan 58 radio waves. P 334 Jan 58

Little D and Schultz MA, Designing heterogeneous reactors for stability. T-NS 30 Mar 57

Little DS, The development of operational requirements for civil avionic systems. T-ANE 149 Sep 58

Littleboy HS and Wiren J, Detection of audio power spectrum dispersion. NCR 56 Pt7 55

Liv CK, See Luisada AA

Livingston DC, Colorimetric analysis of the NTSC color television system. P 138 Jan 54

Livingston DC, Reproduction of luminance detail by NTSC color television systems. P 228 Jan 54

Livingston DC, Theory of synchronous demodulator as used in NTSC color television receiver. P 284 Jan 54

Livingston DC, Color distortion in sequential television Livingston DC, Color distortion in sequential television disnlays. NCR 39 Pt7 54
Lloyd CG, Chromacoder colorcasting.
T-BTS 49 Mar 55
Lloyd DK, Multienvironmental life testing of parts and components in rockets and guided missiles by statistical design. T-RQC 34 Dec 58
Lo AW, See Linvill JG
Lo AW, See Rajetman JA Lob CG, The GE post acceleration color tube (abstract), NCR 73 Pt3 54, NCR 114 Pt3 56 Locke AS, Principles of Guided Missile Design Guidance. P Apr 56 Lockhart NF , Logic by ordered flux changes in multipath ferrite cares . NCR 268 Pt4 58 Loebner EE , Otto-electronic devices and networks . P 1897 Dec 55 Loev D , Michle W , Paivinen J and Wylen J , Magnetic core circuits for digital data-processing systems P 154 Feb 56 P 154 Feb 56
Logan NA, A simplification of electromagnetic scattering problems involving a spiere. T-AP 580 Jul 56
Logne JC, See Linvill JG
Lohman RD, A transistor analog (abstract).
NCR 118 Pt2 54

Lohman RD, Design of a high-speed transistor decimal

counter with neon-bulb read-out. WCR 49 Pt5 57

Loiselle RE, See Faudinan JF
Loman GT, See Warner RM Jr
Lombard DB, See Ackerman E
Lombardini PP, Schwartz RF and Kelly PJ, Criteria for
the design of looo-type directional couplers for the L
band. T-MTT 234 Oct 56 Lombardini PP and Schwartz RF, A new type of directional coupler for coupling coaxial line to TE_{to} waveguide. WCR 22 Pt1 57 Loner PD and O'Brien RM, A new form of high-power encrowave duplexer. T-MTT 264 Jul 58 London AL, Air-coolers for high power vacuum tubes. T-ED 9 Apr 54 London FH. See Bauschinner O Long AL. See Lascaro CP Long FV, Microwave systems-pipeline style. WCR 51 Pt8 57 Long MW , See Hollis JS Long MW, See Hollis JS

Long WG and Weeks RR, Quadruple-diversity tropospheric scatter rystems. T-CS 8 Dcc 57

Loney CH, An equalizing network for carrier-type feed-back control systems. P 20 Jan 55

Lorens CS, Properties of root loci.(L) P 1651 Sep 58

Loss MB, Broadband characteristics of ferrites.

NCR 109 Pt3 55 Loth PA, Recent advances in waveguide hybrid junctions. T-MTT 261 Oct 56 T-MTT 261 Oct 56

Loughtin BD, Processing of the NTSC color signal for onequan sequential color displays. P 299 Jan 54
Loughtin BD, Color signal distortions in envelope type of
second detectors. T-BTR 76 Oct 57

Loughren AV, Psychophysical and electrical foundations
of color television. P 9 Jan 54

Loughren AV, Color television: a problem in engineering
and statesmaship. SQ 3 Sep 54

Loughren AV, The technical considerations underlying the
regulation of spurious radio emission: a study undertaken
for the Federal Communications Commission by the Joint
Technical Advisory Committee. Technical Advisory Committee. NCR 132 Pt7 55 Loughren AV, The privilege of engineering. SQ Cover 2 May 56 Loughran AV, Notes on color TV. SQ 3 May 56 Loughren AV, W. R. G. Baker—an appreciation, P 448 Apr 57 Loughren AV, The crisis in education. T-E 6 Mar 58 discussion—should a talk be read from a prepared manuscript? T-EWS 14 Mar 58 Louisell WH and Pierce JR, Power flow in electron beam devices. P 425 Apr 55 Louisell WH and Quate CF, Parametric amplification of space charge waves. P 707 Apr 58
Louisell WH, Approximate analytic expressions for TWT propagation constants. T-ED 257 Oct 58 propagation constants. T-ED 257 Oct 58
Louisell WH. See Ashkin A
Love AA, See Barron C1
Love SF, Minimizing the effect of cutoff in TV vertical oscillators. T-BTR 52 Mar 58
Lovell JA, Distributor test stand. NCR 274 Pt6 58
Loverlidge LE, See Skellett AM
Low H. See Favreau RR
Low RC, Recent developments in modular design.
NCR 56 Pt6 57
Lowe MH, Publications and the project organization.
WCR 26 Pt9 58
Lowenschuss O, A comment on pattern redundancy.(L)
T-IT 127 Sep 58
Lowenschuss O, Nonbinary switching theory.
NCR 305 Pt4 58
Lowenschuss O, See Freeman H Lowenschiss O., See Freeman H Lower JW., Versatility of floated-type rate integrating gy-roscopes in systems applications NCR 37 Pt5 55 roscopes in systems applications NCR 37 Pt5 55
Lowy TN, See Dasher BJ
Lowy H, Geophysical prospection of underground water in
the desert by means of electromagnetic interference
fringes (L) P 1062 Aug 56
Lozier JC, A steady state approach to the theory of
saturable service systems. T-AC 19 May 56
Lozier GS, See Morehouse CK
Lubkin S, An improved reading system for magnetically recorded dinital data. T-EC 22 Sep 54
Lubkin S, Electrostatic reading of perforated media.
NCR 106 Pt4 54
Lucal HM, Synthesis of three-terminal RC networks.
T-CT 308 Dec 55
Lucey P, The great awakening—an opinion. Lucey P., The great awakening—an opinion.
SQ Cover 3 Feb 53
Lucey P., The young dignts. SQ Cover 4 Dec 58
Lucey WE and Rosenberry WJ., Application of Doppler simulation to problems of airborne navigation systems.
WCR 3 Pt8 57 Lucic A. Magnetic component encapsulation for military airborne application. NCR 140 Pt6-56 Lucke WH. A series expansion method for finding approximate Laplace transforms (L) P 1877 Nov 58 Lucke WS , Antenna evaluation methods . T-AP 251 Jul 58 Lucke WS , See Bolljahn JT Luebbert WF , A systems approach to electronic reliability . P 523 Apr 56 Luebbert WF, Achieving operational effectiveness and reliability with unreliable components and equipment. NCR 41 Pt6 56

Luebbert WF., Dynamic failure control for military electronics. T-RQC 34 J ii 57
Luebbert WF., Combat computers. NCR 292 Pi4 58
Luebke WR., See Dunn DA
Luebke WR., See Dunn DA
Luedicke G., Flight test data system. T-TRC 2 2 Apr 57
Luedicke E., The reaction of Sync separators in television receivers to impulse noise. T-BTR 15 Sep 58
Lufen CW. A triving of greately resultified.

receivers to impulse noise. T-BTR 15 Sep 58
Lufey CW, A survey of magnetic amplifiers.
P 404 Apr 55
Lufin HP, The automatic creation of literature abstracts:
Gate-abstracts). NCR 20 P110 58
Lufisada AA, Aravanis C, Haring OM, Liu CK and Friedland C, Nower studies of selective phonocardiography including a new method for the identification of the frequency range of extra sounds. T-ME 19 Dec 57
Life LM, Sep Dayle CM.

Linke LM., See Davis GWL Luna A., The use of pulse packages in line-type pulsers NCR 83 Pt6 57

NCR 83 Pt6 57
Lundgren DL, Electromechanical filters for single-sideband applications. P 1744 Dec 56
Lundry WR, Application of a minimum phase matrix to adjustable equalizer design NCR 25 Pt2 54
Lundry WR, Negative Impedance circuits—some basic relations and limitations. T-CT 132 Sep 57, WCR 198 Pt2 57

Lungo A and Henderson KW, Application of prezoelectric resonators to modern band-pass amplifiers. NCR 235 Pt6 58

NCR 235 Pt6 58
Luongo J, A multiclannel digital data logging system.
T-I 103 Jun 58
Luoinski A, See Hamer H
Lusted LB, See Miller ER
Luther AC Jr, Methods of verifying adherence to the
NTSC color signal specifications. P 235 Jan 54

Lutz SG, Miniaturized computer applications of the Hughes diode. NCR 8 Pt3 54

Lyman HT, Mason FG and Ross H, A wide range tuning system. NCR 27 Pt7 54

system. NCR 27 Pt7 54
Lyman RC and Caywood WP Jr, Optimization of servosystems. NCR 193 Pt5 54
Lyman RC, See Caywood WP Jr
Lynch WA, A formulation of the sensitivity function.(L)
T-CT 289 Sep 57
Lynch WW, Global air/ground radiotelephone communications. T-CS 72 Nov 54
Lyon JAM, See Thompson TB
Lyons LF, Wide-band ac rate networks.
NCR 173 Pt10 55

Lyons LJ, Cooling requirement charts for electronic equipment. T-ANE 16 Mar 55

Lyons LJ and Scal RK-F, Fabrication of airborne electronic equipment. (L) P 1010 Aug 55

Lyons W, Design consideration for FSK circuits. NCR 70 Pt8 54

-M-

 $MacAdam\ DL$, Reproduction of colors in outdoor scenes . P 166 Jan 54

MacAdam DL, Color balance for television P 11 Jan 55

Macdonald AA, New developments in two-way communica-tions. T-VC 34 Dec 56

Macdonald AA, Comparison of split channel FM and single sideband for land mobile services.
T-VC 46 Dec 56

T-VC 46 Dec 56

Macdonald FC. The correlation of radar sea clutter on vertical and horizontal polarization with wave height and slope. NCR 29 Pt1 56

Macdonald FC. See Ringwalt DL

Macdonald JR, The calibration of amplitude modulation meters with a heterodyne signal. P 1515 Oct 54

Macdonald JR and Brachman MK, The charging and discharging of nonlinear capacitors. P 71 Jan 55.

Correction: P 741 Jun 55

Macdonald JR. Active permy feedback and the active services.

Correction: P 741 Jun 55

Macdonald JR, Active-error feedback and its application to a specific driver circuit. P 808 Jul 55

Macdonald JR, A multi-loop, self-balancing power amplifier. T-AU 92 Jul-Amg 55

Macdonald JR, Solution of a transistor transient-response problem. T-CT 54 Mar 56

Macdonald JR, Some augmented cathode follower circuits. T-AU 63 May-Jun 57

Macdonald JR, On making accurate measurements with a harmonic distortion meter. T-AU 161 Nov-Dec 57

Macdonald JR, On making accurate measurements with a harmonic distortion meter. T-AU 161 Nov-Dec 57 Macdonald JR, See Peattie CG
MacIntyre RM, A transistorized, multi-channel, airbome voltage-to-digital converter. WCR 285 Pt4 57
MacIntyre RM, See Mackay RS
Mack A and Levine RH, A new multichannel teletype terminal for use on long-range high-frequency radio systems. T-CS 161 Nov 54
Mack A, Meyerho A, Jacoby DL and Levine RH, Reduction of bandwidth requirements for radio relay systems.

tion of bandwidth requirements for radio relay systems. NCR 114 Pt8 50

NCR 114 Pt8 50
Mack CL Jr, Diversity reception in UHF long-range communications. P 1281 Oct 55
Mack CL Jr. See Morrow WE Jr
Mack DA, Bevatron operation. NCR 199 Pt10 55
Mack E, An apparatus for recording heartbeats of a fetus. T-ME 65 Dcc 58
Mack RG. See Sletten CJ
Mackay RS and Morris HD, Transient response of glow discharged with applications. P 961 Jun 54
Mackay RS. Color Aray nictures. NCR 7 Pt9 54
Mackay RS. Color Aray nictures. NCR 7 Pt9 54
Mackay RS and MacIntyre R, Ternary counters.
T-EC 144 Dec 55

MacKenzie KR See Smith BH Mackey RC and Herschberger WD, Measurement and control of microwave frequencies by lower radio frequencies : T-MTT 64 Jan 57

Mackintosh IM , Three-terminal p-n-p-n transistor switches . T-ED 10 Jan 58

Mackintosh IM., The electrical characteristics of silicon p-n-p-n triodes . P 1229 Jun 58

Macklem FS. A name and unit for handling admittances due to coils (L) P 1015 Jul 57

Macko SJ, Miniaturized airborne flashing-light beacon. T-I 172 Sei 57

MacLean WR , Criteria for the amplitude stability of a nower oscillaror. P 1784 Dec 54

Macmillan SH. See Gamer HL
Macnee AB, Approximating the alpha of a Junction transistor.
(L) P 91 Jan 57

Macnee AB, Synthesis of lossless networks for prescribed transfer impedances between several current sources and a single resistive load. T-CT 168 Sep 58

Macnee AB, See Batten HW
Macnee AB, See Batten HW
Macnee AB, See Talpey TE
M-ckeill J, See Bellinner J
MacNichol EF Jr and Bickart T, The use of transistors
in physiological amplifiers. T-ME 15 Mar 58
MacPhee J, Correction to: The relative stability of boiling and pressurized light water moderated reactors.
T-NS 69 Dec 57

Macpherson AC, Measurement of microwave nonrecip-rocal four-poles.(L) P 1017 Ang 55 Macpherson AC and Kems DM, A new technique for the measurement of microwave standing-wave ratios. P 1024 Ang 56

Macpherson AC, An analysis of the diode mixer consisting of nonlinear capacitance and conductance and olimic spreading resistance. T-MTT 43 Jan 57

Macpherson AC, An absolute microwave wattmeter.(L) P 688 May 57

MacPherson CH and Benson RW, Efficiency and power rating of loudspeakers. T-AU 86 Jul-Aug 56 MacPherson RB, Nonteclinical help for engineer-writers. NCR 12 Pt10 58

Macqueene PH , Standard terminology (L) T-AC 122 Dec 58

T-AC 122 Dec 58

MacQuivey DR, Improving frequency management to facilitate global communications. T-CS 30 Nov 54

MacWilliams FJ, Topological network analysis as a computer program.(L) T-CT 228 Sep 58

MacWilliams FJ, An Iterative method for the direct Hurwitz-factorization of a polynomial. T-CT 347 Dec 58

Madella GB, Comment on: Radio-frequency phase-difference networks: a new approach to polyphase-selectivity.(L) P 102 Jan 55

ence networks: a new approach to polyphase-selectivity.(L) P 102 Jan 55
Madey R and Leipuner L, Relative scintillation intensity of some Cerenkov counter media. T-NS 61 Nov 56
Maeda H, Observed bunched electron current In a velocity-modulated beam.(L) P 1536 Aug 58
Maeder DG, Instrumentation at the ETH.
T-NS 214 Dec 58

T-NS 214 Dec 58
Majasiny IP, A versatile automatic data separation system for pulse multiplex telemetering systems.
T-TRC 5 Feb 55
Maggos B. See Schlesinger K
Maggos C, See Vance RL
Magid M, Broadband frequency stabilization of a reflex klystron by means of an external high Q cavity.
NCR 208 Pt1 57

Magid M., Precision microwave phase-shift measurements. T-I 321 Dec 58

T-I 321 Dec 58
Magid M., See Kinaman EW
Maginnis WP and Place H., The microwave system of the
Michigan-Wisconsin Pipeline Company.
T-MTT 1 Apr 54, T-CS 1 Jul 54

Magnuski H and Firestone WL, Comparison of SSB and FM for VHF mobile service. P 1834 Dec 56, T-VC 12 Jun 57

Magnuski H., See Bailey A
Mannuski H., See Briestone Wt.
Mahler V., See Nathan A
Mahler V., See Nathan A
Mahuron HH., Quality and the television production engineer. T-RQC 44 Apr 56

Mainberger W and Orenberg A, The Atomichron—an atomic frequency standard: operation and performance . NCR 14 Pt1 56

Mains GH. See McGinnis LW
Majendie AMA, The display and use of navigational
intelligence. T-ANE 142 Sep 58
Makow DM, Novel circuit for a stable variable frequency
oscillator. P 1031 Aug 56
Makow DM, Generations of oscillations with equally spaced
frequencies in a given band. T-CS 13 Sep 57

Makow DM , Frequency stabilization of variable oscillators . T-I 241 Dec 57

Malaker SF and Rathje E , Nuclear reactor control systems utilizing solid state devices . NCR 218 Pt10 55

Malech RG, Lightweight high-gain antenna.
NCR 193 Pt1 58
Malech RG, See Fubini EG
Malech RG, See Fubini EG
Malech RG. See McDonorich JA
Mallach LW, A 50-watt amplifier for microwave relays.
T-BTS 10 Jun 57
Mallina RF, Solderless wrapped connection.
T-PT 12 Sep 56

Mallinckrodt AJ and Sollenberger TE, Optimum pulse-time determination. T-IT 151 Mar 54 Maloff IG, Russian vacuum-tube terminology.(L) P 468 Apr 55 Malone W, Radio en campus. SQ 10 Sep 57 Maloney E, The correlation between true contact poten-tial and vacuum tube processing and characteristics. T-FD (J 16h 54)

Maloney I.J. See Barohausen AF Maloney I.J. See Barohausen AF Malthaner WA and Vaughan HE, Control features of a magnetic-drum telephone office. T-EC 21 Mar 55 Malthaner WA, Experimental data transmission system. WCR 56 Pt8 57

WCR 56 Pt8 57

Managan WW, Application of scintillation counters to reactors. T-NS 171 Dec 58

Manasse R, Price R and Lemer RM, Loss of signal detectability in band-pass limiters. T-IT Mar 34 58

Manasse R. See Prown RR

Mancini AR. See Anderson GW

Mancini AR, See Aseltue JA

Mandel M, See Lebell D

Mandelbrot B, Simple games of strategy occurring in commitmediation through natural languages.

T-IT 124 Mar 54 T-IT 124 Mar 54

Mandelbrot B., An outline of a purely phenomenological theory of statistical thermodynamics: I. Canonical ensembles. T-IT 190 Sep 56

Mandeville GD. See Beck AC Manfredi RE. See Slivka MU Manlard OH, Now you're cooking with electrons. SQ 9 Sep 56, NCR Pt9 55

Maninger L , A low voltage helix type backward wave oscillator with extended tuning range . WCR 42 Pt3 58

Maninger RC and Buntebach RW, MIIIImicrosecond photo-graphy with an image converter camera, WCR 36 Pt5 57, NCR 88 Pt5 57

WOR 36 MO 57, NCR 88 Pt5 57

Manke AG, Effect of front end receiver design on overall performance. T-VC 53 Jun 55

Manke AG, Crystal oscillators in communications receivers. T-VC 10 Dec 56

Manley JM and Rowe HE, Some general properties of nonlinear elements—Part I. General energy relations. P 904 Jul 56

P 904 Jul 56

Mann A and Spinard R, Errors in x-ray sorting with a double crystal goniometer. T-I 251 Dec 57

Mann AO, The place of communications in integrated data processing. NCR 24 PtB 56

Mann ER, ORNL electronic analog devices for design of reactor controls. T-NS 12 Mar 56

Mann GP, Mass production of transistors. SQ 7 May 57

Mannheimer D, Airborne radar as a navigational aid. T-ANE 2 Dec 54

T-ANE 2 Dec 54
Mannheimer E , Standardization of phonocardiography .
T-ME 54 Dec 57

Manning CS and Burrows CR, The teacher Is a grafter. T-EM 1 Mar 58

Manning LA, Meteoric radio echoes. T-AP 82 Apr 54

Manning LA, Report on URST Commission III—Ionospheric radio propagation. P 1362 Jul 58
Manning LA, See Eshleman VR
Manning LA, See Villard OG, Jr
Mansberg HP, The application of flying spot scanning techniques to automatic inspection. WCR 124 Pt6 57

Mansbern HP, See Berkley C
Mansfield WV, See Norton KA
Maranonni JG. See Barab JD
Marcatili EA, Heat loss in grooved metallic surface.
P 1134 Aun 57

P 1134 Auro 57

Marcatili EA, Mode conversion filters.

WCR 3 Pt1 58

Marchand N, See Friedland MS

Marconi G, Radio communications by means of very short
electric waves. T-AP 90 Jan 57

Marcovitz MW and Self E, Analytical design of resistorcoupled transistor logical circuits. T-EC 109 Jun 58.

Correction: T-EC 324 Dec 58

Marcus A and Oberly JJ , Four-probe resistivity measurements on rectangular semiconductor filaments (L) T-ED 161 Jul 56

urements on rectangular semiconductor filaments.(L)
T-ED 161 Jul 56

Marcus A, See Lehovec K
Marcus MB, The utility of a communication channel and applications to sub-optimal information handling procedures. T-IT 147 Dec 58

Marcus MP, The detection and identification of symmetric switching functions with the use of tables of combinations.(L) T-EC 237 Dec 56

Marcus MP, Minmization of the partially-developed transfer tree. T-EC 92 Jun 57

Marcuvitz N, On field representations in terms of leaky modes or eigenmodes. T-AP 192 Jul 56

Marcuvitz N, Academic research institutes in the microwave field. T-MTT 131 Apr 58

Marquerim DL, See Anderson RE

Margoris SG, On the design of active filters with Butterworth characteristics.(L) T-CT 202 Sep 56

Maryolis SG, The response of phase-locked loop to a sinusoid plus noise. T-IT 136 Jun 57

Marnicht LD, See Mitter CE

Mark M and Stephenson M, Design and performance of air-cooled chassis for electronic equipment.
T-CP 38 Sep 56

Mark M, Cold plate design for airborne electronic equipment.

Mark M., Cold plate design for airborne electronic equip-ment. T-ANE 30 Mar 58

Mark M., Stephenson M and Goltsos C., An evaporativegravity technique for airborne equipment cooling. T-ANE 47 Mar 58

Markarian H., Network partitioning techniques applied to the synthesis of transistor ampliflers NCR 130 Pt2 54

Markham AS, See Lessner RG Marner GR, Atmospheric attenuation of microwave radia-tion. NCR 68 Pt1 55

Marner GR, Atmospheric autermation or intercharter and tion. NGR 68 Pt1 55

Marner GR, High precision computer for automatic solution of the celestial triangle. NCR 115 Pt5 55

Marner GR and Ringoen RM, Atmospheric refraction of 8.7 rum radiation. NCR 14 Pt1 56

Maron ME, Logic discovery and the foundations of computing machinery. T-EC 2 Jun 54

Marquand RE, High-speed, high-accuracy multiplexing of analog signals for use in digital systems.

T-TRC 3.4 Apr 57

Marquand RE and Eddins WT, A transistorized PCM tele-meter for extended environments. WCR 76 Pt5 57 Marquand RE, See Bishop RP

Marsaglia G., A note on the construction of a multivariate normal sample. T-IT 149 Jun 57

Marshall FR. See Zarem AM Marshall JS, See Hitschfeld W

Marshall L, A galactic model for production of cosmic rays and radio noise. P 215 Jan 58

Marshall NK, A novel magnetostrictive ultrasonic Jack-Hammer type rotating drill for boring small holes in hard materials . WCR 18 Pt9 57

Marsocci VA, An error analysis of electronic analog com-puters. T-EC 207 Dec 56. Correction: T-EC 202 Sep 57

Martel RA and Martin LJ, The selection of coatings for printed wirms, T-PT 125 Apr 57 Martin DL, See Doelz ML Martin DW and Knoblaugh AF, A loudspeaker accessory

for the production of reverberant sound. T-AU 95 May-Jun 54

Martin DW, High fidelity in musical tone production? T-AU 102 Jul-Aug 54

Martin DW, The enhancement of music by reverberation. NCR 4 Pt6 54 Martin DW, Electronic organ tone radiation. T-AU 77 May-Jun 55

Martin DW, Electronic organ tone radiation (abstract). NCR 95 Pt7 55

Nuk 95 Pt7 55
Martin DW, Musical audio engineering and research
today. T-AU 107 Sep-Oct 56
Martin DW, Meyer A, Duncan RK and Broxon EC, An experimental 9000-watt airborne sound system.
T-AU 146 Nov-Dcc 56

Martin EJ . See Ames LA Martin EJ , See Rogers TF

Martin EL , See Craidlow RL Martin ET and Jacobs G , lonospheric cross modulation from a 1000 kw long wave broadcast transmitter.

from a 1000 kw long wave broadcast transmitter.
NCR 9 Pt1 56
Martin IE, See Young JE
Martin JR, See Becker CH
Martin LJ, See Martel RA
Martin RA and Pachares J, Evaluating engineers and
scientists for a research and development activity.
WCR 50 Pt10 57, T-EM 50 Jun 57

Martin RE , Naval material laboratory transistor re-liability study. T-RQC 49 Jun 57 Martin TL 17 and Russell GM , New directions in electrical engineering education. T-E 107 Dec 58

Martin WA, Development of the transistor inverter at 20 kc using power transistors. T-I 118 Jun 57
Martino E, See Iddinas G
Martowska ZA, See G eenberg LS
Marx F and Morris RM, WABC field test of compatible

single-sideband transmission. NCR 42 Pt7 58

single-sideband transmission. NCR 42 Pt7 58
Mason FG, Sec Lyman HT
Mason RM, The logical combination of punched paper
tapes.(L) T-EC 285 Dec 57
Mason SJ, Power gain in feedback amplifiers.
T-CT 20 Jun 54
Mason SJ, Oral Examination procedure. (L)
P 696 May 56, SQ 32 Dec 57
Mason SJ, Docile behavior of feedback amplifiers.
P 781 Jun 56
Mason SJ, Ecothack there is further according to the second secon

Mason SJ, Feedback theory—further properties of signal flow graphs. P 920 Jul 56

Mason SJ, Topological analysis of linear nonreciprocal networks. P 829 Jun 57
Mason SJ, About such things as unistors, flow graphs, probability, partial factoring, and matrices.
T-CT 90 Sep 57

Mason SJ, Some properties of three-terminal devices.

T-CT 330 Dec 57

Mason SJ, Signal flow graphs and how to avoid them (abstract). NCR 96 Pt2 57

Mason WP , Use of internal friction measurements in determining the causes of frequency instabilities in mechanically vibrating frequency standards . T-1 189 Dec 58

Mason WP and Jaffe H, Methods for measuring plezo-electric, elastic, and dielectric coefficients of crys-tals and ceramics. P 921 Jun 54.

Correction: P 160 Feb 57

Mason WP and Wick RF, Ferroelectrics and the dielectric amplifier. P 1606 Nov 54

Masonson M, Radio direction finding from the standpoint of sampling and interpolation. NCR 79 Pt5 55

Masonson M, Note on the analog computation of small quotients (L) P 689 May 57

Masonson M., Binary transmissions through noise and fading. NCR 69 Pt2 57
Mass J., Coding for remote control. T-TRC 1 Feb 55

Massa F., Some fundamentals of transducer design for the sonic and ultrasonic range. NCR 8 Pt9 57
Massa F., See Henry GE

Masters RW and Rauch CJ, A new television transmitting antenna. NCR 2B Pt7 55
Masucci C, Insalaco JJ and Zitta R, A laboratory receiver for study of the NTSC color television system. P 334 Jan 54

Masutani T , See Uenohara M Matare HF , Grain boundaries and transistor action. NCR 113 Pt3 55

Matare HF , Theory of diode and transistor noise .(L) P 1964 Dec 58

Mathers GWC, Homodyne generator and detection system. WCR 194 Pt1 57
Mathers GWC, See Dunn DA
Matheson RM, See Monton GA
Mathews MV and Steep CW, Final value controller synthesis. T-AC 6 Feb 57
Mathews MV, See Agrid EE Jr

Mathews MV , See Kramer HP
Mathews WE , Analytical prediction of missile guidance
accuracy , NCR 150 Pt8 56
Mathewson CE , Advantages of electronic process control ,
T-IE 40 Mar 55

T-IE 40 Mar 55
Mathewson DS, See Christiansen WN
Mathias LES and King PGR, On the performance of high
perveance electron runs. T-ED 28C Jul 57
Mathias RA and Williams EM, Improvements in pulseswitching reactor design. NCR 82 Pt3 55
Mathis HF, A system for reordering modes.(L)
P 486 Feb 54

Mathis HF, On isotropic antennas (L) P 1810 Dec 54
Mathis HF, Maximum efficiency of four-terminal networks (L) P 229 Feb 55

Mathis HF, Transmission characteristics of sandwiches (D.(L) T-MTT 57 Oct 55

Mathis HF, Measurement of reflection coefficients through a lossless network (II).(L) T-MTT 58 Oct 55 Mathis HF, Some properties of image circles. T-MTT 48 Jan 56

Mathis HF, Plase shift and attenuation in a transmission line.(L) T-MTT 130 Apr 56
Mathis HF, On symmetrical matching.(L) T-MTT 132 Apr 56

Mathis HF, Bilinear transformations (L) T-CT 156 Jun 56

T-CT 156 Jun 56

Mathis HF, See Reed J

Mathir PN and Mieller E, Radar back-scattering cross sections for nonspherical targets. T-AP 51 Jan 56

Mathwich HR, See Wineler BF

Matsumari K, Reflection coefficient of E-plane tapered wavenides. T-MTT 143 Apr 58

Matsuo Y, Multi-beam velocity-type frequency multiplier. P 101 Jan 56

Matt S and Kraus JD, The effect of source distribution on antenna patterns. P 821 Jul 55

Mattern J, See Jacob MI

Matthaid GL. Some techniques for network synthesis.

Matthaci GL , Some techniques for network synthesis .
P 1126 Jul 54

Matthaei GL, Correction to: Conformal mapping for filter transfer function synthesis. P 1319 Aug 54 Matthaei GL, Some techniques for network synthesis. NCR 77 Pt2 54, P Jul 54

Matthaei GL , Snythesis of Tchebycheff impendance-matching networks filters and interstages . T-CT 163 Sep 56

Matthael GL , Some simplification for analysis of linear circuits . T-CT 120 Sep 57

Matthael GL , Direct-coupled , band-pass filters with quarter-wave resonators . NCR 98 Pt1 58 Matthael GL , See Pantell RH

Matthei WG, On the pressure dependence of microwave crystal rectifiers (L) T-MTT 112 Jan 58

Matthews AR, Sah CT and Spangenberg KR, Investiga-tion of a traveling wave tube with interchangeable external slow-wave structures. NCR 3 Pt3 56

Matthews AR, Reliability and longevity for space technology. NCR 123 Pt6 58
Matthews EW Jr, A shielded two-wire hybrid junction and its use as an ultra-high-frequency impedance bridge. NCR 14 Pt10 54

Matthews EW Jr. Characteristics of microwave comparators. T-I 109 Oct 55

Matthews EW Jr, The use of scattering matrices in microwave circuits. T-MTT 21 Apr 55

Mattiat OE , Power measurements in ultrasonics . T-UE 23 May 55

Mattiat OE, Piezoelectric ceramic I-F band pass filters. NCR 192 Pt6 56

Mattingly RL, McCabe B and Traube MJ, The split re-flector technique for broad-band impedance matching of center-fed antennas without pattern deterioration. WCR 231 Pt1 57

Mattson RH, See Linvill JG Mattrick RD, See Leonhard J

Matz AW, Variation of Junction transistor current amplifi-cation factor with emitter current. (L.) P. 616 Mar 58 Maughmer JM and Huskey HD, A study of refill phenomena in Williams' tube memories. T-EC 23 Mar 58

Maupin JT, The tetrode power transistor. T-ED 1 Jan 57

Mayroides WG , See Sletten CJ

Max AJ, Problem in measuring the space environment of the Earth (abstract). NCR 19 Pt5 57

me Carro (abstract). NCR 19 Pt5 57

Maxwell A, Swarup G and Thompson AR, The radio spectrum of solar activity. P 142 Jan 58

Maxwell DC Jr. See Gordon ES

Maxwell DE and Barkley WP, Synchronization of multiplex systems for recording video signals on magnetic tape. NCR 3 Pt7 55

Maxwell DE, See Aldrich RW

Maxwell E and Leon BJ, Noise measurements in the UHF
range. T-MTT 62 Dec 55

Maxwell E and Leon BJ, Avisolute measurement of receiver
noise fig res at UHF. T-MTT 81 Avr 56

Maxwell EL. See Watt AD
Maxwell GD, Development of a portable magnetic tape recorder for precision data recording. NCR 97 Pt10 55

May J., See Bronwell AB May JE, Jr., Characteristics of ultrasonic delay lines using quartz and barlum titanate ceramic transducers. T-UE 26 Jun 54

May JE Jr, Low-loss 1000 microsecond ultrasonic delay lines. T-UE 3 Aug 56
May JE Jr, Precise measurement of time delay.
NCR 134 Pt2 58

Mayeda W and Van Valkenburg ME, Network analysis and synthesis by digital computer. WCR 137 Pt2 57 Mayeda W and Van Valkenburg ME, Analysis of nonreciprocal networks by digital computer. NCR 70 Pt2 58

Mayer A, Analysis of gyro orientation T-AC 93 Dec 58 Mayer A, See Holt FS

Mayer CB and Pan PM, Self-diplexing T-V antenna. NCR 95 Pt7 56

Mayer CH., Improved microwave noise measurements using ferrites. T-MTT 24 Jan 56
Mayer CH, McCullough TP and Sloanaker RM, Measurements of planetary radiation at centimeter wavelengths. P 260 Jan 58

Mayes PE, The equivalence of electric and magnetic sources (L) T-AP 295 Jul 58

Mayo BR, Grimm HH and Records JK, Frequency and phase stability considerations. T-ED 107 Dec 54 Mazur DG, A 227 mc pulse position modulation telerecterum unit. NCR 105 Pt5 54

Mazur DG, Telemetering and propagation problems of plac-ing the earth satellte in its orbit. P 752 Jun 56, NCR 108 Pt1 56

McAdams B., See Schreiner S McAdeer HT., On reciprocal inductance (L) P 880 Jul 55 McBride WJ Jr., Power capabilities of mica output seals at 10,000 menacycles. T-ED 65 Feb 54

McCallister JF, See Creamer EM Jr McCann GD, Sclentific manpower—Adequate resources! Inadequate development? Inadequate refinement? T-EM 31 Mar 57

McCann JG and Stegen RJ, A high-performance conically-scanning X band antenna of novel design. T-AP 628 Oct 56

McCarthy F, See Hall J
McCarty RC, See Brock RL
McClain EF and Ferris WR, A technique for measuring
FM noise in microwave oscillators (abstract).
T-ED 121 Dec 54

McClain EF , See Hagen JP McClain EF , See Lilley AE

McClure R, A high-gain traveling-wave tube for X-band. WCR 143 Pt3 57

WCR 143 Pt3 57

McClure RM. See Smith HW

McCluskey EJ Jr., Iterative combinational switching networks—general design considerations.

T-EC 285 Dec 58

McCluskey EJ Jr., See Rickeman EC

McConnaughey GC., Single-sideband techniques as related to spectrum administration. P 1665 Dec 56

McCool CD. Design and development of a high-reliability twin triode. T-ED 60 Feb 54

McCord HL. An estimate of the degradation in signal detection resulting from the addition of the video voltages from two radar receivers. NCR 83 Pt2 57

McCormick GC. The porturum anequate function in a long

McCormick GC , The optimum aperture function in a long array (L) T-AP 144 Jan 57

McCormick GC , A two-dimensional slotted array. T-AP 26 Jan 58

McCormick GC, The effect of the size of a two-dimensional array on second-order beams.(L)
T-AP 297 Jul 58

McCoubrey AO, Results of the comparison: Atomichron-British cesium beam standard. T-1 202 Dec 58 McCoubrey AO, The Atomichron—an atomic frequency standard: physical foundations. NCR 10 Pt1 58

standard: physical foundations. NCR 10 Pt1 58 McCoy AM, Walsh JE and Winter CF, A broadband, low sidelobe, radar antenna. WCR 243 Pt1 58 McCoy CT, Present and future capabilities of microwave cristal receivers. P 61 Jan 58 McCoy CT, See Messenner GC McCoy CT, See Messenner GC McCoy DO, An all-weather radio textant. NCR 92 Pt5 55

McCoy RE , FM transient response of band-pass circuits. P 574 Mar 54 McCracken LG , Ray theory vs normal mode theory in wave preparation problems . T-AP 137 Jan 57

McCraven MR. See Shipman JD
McCue JJG and Leavitt JA. The measurement of delayline transducer resistance. NCR 143 Pt2 58
McCulloch WS., Oettinger AG, Schmitt OH and
Rochester N. Symposium: The design of machines to
simulate the behavior of the human brain.(L) T-EC 240 Dec 50 McCulloch WS , Biological computers . T-EC 190 Sep 57 McCulloch WS See Walt PD
McCulloch WS See Walt PD
McCulloch TP See Mayer CH
McDonald DF , See Germeshausen KJ
McDonald HS See David EE Jr
McDonald R , Dial direct automatic radiotelephone system. T-VC 80 Jul 58

tem: 1-VC BO JII 58
McDonals HS, See David EE Jr
McDonough JA, Malech RG and Kowalsky J, Recent developments in the study of printed antennas.
NCR 173 Pt1 57

McDonough JA, See Fubini EG
McDonough SL, Electronic simulators for study of aircraft
flight paths. T-ANE 24 Dec 54
McDuffie GE Jr. See Pulvari CF

McDiffic GE Jr. See Pedvari CF
McElwee E, What did they say—report on questionnaire.
T-EWS 10 Aug 58
McFadden JA, The correlation function of a sine wave
plus noise after extreme chipping. T-IT 82 Jm 56
McFadden JA, The axis-crossing intervals of random
functions. T-IT 146 Dec 56, T-IT 14 Mar 58

McFadden JA, The fourth product moment of infinitely clipped uoise. T-IT 159 Dec 58
McFarlan RL, Balance in management selection. NCR 127 Pt6 55

McFarland GC, Particles and accelerators.
WCR 52 Pt9 57
M:Gavin RE, See Barsis AP
M:Gee AA, Application of automatic gain control
devices to broadcast audio control. T-BTS 59 Dec 57 McGee HA and Klasky PS, An automatic test set for FM/FM telemetry systems. T-TRC 30 May 57

McGee JD, Photoelectric cells—a review of progress.
T-CP 2 Mar 58
McG och CR, See Frost AD
McGill WJ, Multivariate information transmission,
T-IT 93 Sep 54

McGinnis LW, Mains GH and Tatnall JS, Cupric oxidized foil for printed circuit laminates. NCR 121 Pt6 56 McGonegal JR, Savage JW and Zielinski CA, Altitude variation of field strength for vertically polarized low and broadcast frequency radiation. T-AP 278 Jul 58

McGregor JE , Reliable design and development tech-mones . T-RQC 22 Sep 53

McGregor MC, Hersh JF, Cutkosky RD, Harris FK and Kotter FR. New apparatus at the National Bureau of Standards for absolute capacitance measurement. T-I 253 Dec 58

McGregor WK , See Burns LF
McIlwain K , Discussion of paper: National Television
System Committee field tests . T-BTR 87 Jan 54

System Committee Held tests. 1-BTR 87 Jan 54 McHllwain K. See DeCola R McKay MW, The AN/APN-96 Oppler radar set. NCR 71 Pt5 58 McKelvey JP, Volume and surface recombination of Injected carriers in cylindrical semiconductor ingots. T-ED 260 Oct 58

T-ED 260 Oct 58
McKenna J., See Kinn BG
McKenna QC, Ultrasonic cleaning of miniature devices.
T-UE 16 May 55
McKenzie AJ, Technical requirements of the Australian television system. T-BTR 16 Apr 55
McKenzie AJ, Hatfield WH and Kenna VF, Dualfrequency operation of a loaded vertical mediumfrequency radiator. T-BTS 35 Dec 55
McKerrow CA, Some recent measurements of atmospheric noise in Canada. P 782 Jun 57
McKibben JL, Gallanter JD and Lain KH. Modifications

McKibben JL, Gallagher JD and Lang HJ, Modifications to the Hutchinson-Scarrott pulse height analyzer to obtain a coded decimal presentation and a decimal

to the Hutchinson-Scarrott pulse height analyzer to obtain a coded decimal presentation and a decimal print-out. NCR 186 Pt10 55
McKinley JC, Management of communications in industry. T-VC 1 Jun 55
McKinley JC, Management of communications in industry. T-VC 1 Jun 55
McKinley JC, Management of communications in industry. T-VC 1 Jun 55
McKinley JC, Management of communications in industry. T-VC 1 Jun 55
McKinley LC, Management of communications in industry. T-VC 1 Jun 55
McKinley LC, Management of Communications in industry. T-ME 11 Dec 57
McKinley VA, See Weith GN
McLaughlin JW and Dunn DA, Wide-band coaxial line de return. (L) T-ED 310 Oct 57
McLaughlin JW, Dunn DA and Grow RW, A wide-band Balun. T-MTT 314 Jul 58
McLaughlin JW See Grow RW
McLay AB and Subbarao MK, Diffraction of 3.2-cm electromagnetic waves by dielectric cylinders and semi-cylinders. T-AP 579 Jul 56
McLean A, Loudspeaker design and application. T-AU 30 Mar-Anr 57
McLean DA and Wehe HC, Miniature lacouer film canacitors. P 1799 Dec 54
Malean DA and Power FS, Tantalum solid electrolytic capacitors. P 872 Jul 56, NCR 200 Pt6 56
McLean JB, See Moskowitz F
McLeish CW and Rumble DH, Stroboscopic frequency meter. P 594 Mar 54
McLeanan MA, See Saltzberg B
McLeanan Ma, See McLeanan Ma, See Saltzberg B

McLinden JE and Lichtman D., Novel design approach for microwave tubes. NCR 17 Pt3 55 McLucas JL, Infrared navigation systems (L) T-ANE 224 Dec 57

McLucas JL , See Doerr CW

MCLIGGE JL., See Doerr CW

McMahon FA, The AN/APN-81 Doppler navigation system. T-ANE 202 Dec 57

McMahon ME and Straube GF, Voltage-sensitive semi-conductor capacitors. WCR 72 Pt3 58

McMahon ME, See Firle TE

McMahon RE, Transistorized core memory.
T-1 157 Jun 57

McMahon PE, See Pater RM

McMallon RE , See Baker RH McMillan B , The mathematics of information theory . NCR 48 Pt4 55

NCR 48 Pt4 55

McMillan D, Two inequalities implied by unique decipherability. T-IT 115 Dec 56

McMillan B, Editorial: Where do we stand?
T-IT 173 Sep 57

McMillan SH and Sutton WA, A transistorized six-chancl airborne digitizer. NCR 26 Pt5 58

McMillan BL, Development of a high-speed transistorized 10-bit coder. WCR 73 Pt5 57

McMillen RC, Electronics in a chemical company.
T-IE 45 Apr 58

McMullen CG, An improved medium-range navigation system for aircraft. T-ANE 103 Sep 56

McMullin J, The end of the line. T-VC 20 Jul 58

McMullin J, The and of the line. T-VC 20 Jul 58

McNamara DJ, I've been thinking about PGEWS.
T-EWS 26 Aug 58

McNamara F, The noise problem in a coincident-current

McNamara F, The noise problem in a coincident-current core memory. T-I 153 Jun 57
McNaney JT, The type C19K charactron tube and its application to air surveillance systems.
NCR 31 Pt5 55

McNeil J PJ, See Archbald RW
McNish AG, Classification and nomenclature for standards
of measurement. T-I 371 Dec 58
McNitt JR, Practical consideration for forward scatter
annications. T-CS 28 Mar 56
McPherson RG, Film data-recording and reading equipment. T-I 192 Sep 57
McPherson RR, Systemic learning, (L) P 1054 Aug 56
McPherson RR, Systemic learning, (L) P 1054 Aug 56
McPherson RR, Systemic learning, (L) P 1054 Aug 56

McPherson RR , Synchronous communications (L) P 538 Apr 57

P 538 Apr 57
McPherson RR, See Frank RL
McOuate PL, See Kirby RS
McRae DD, A ruggedized r. f. power amplifier for use in
the 200 m. c. telemetry band. T-TRC 6.1 Anr 57
McRae JW, Your profession. SQ 8 Dec 55
McRuer DT and Halliday RG, A method of analysis and
synthesis of closed-loop servo systems containing
small discontinuous ponlinearities. T-CT 19 Mar 5

synthesis of closed-loop servo systems containing small discontinuous nonlinearities. T-CT 19 Mar 54 McRuer DT and Krendel ES, A review and summary of tracking research applied to the description of human dynamic response. WCR 254 Pt^A 58 McSkimin HJ, Use of high frequency ultrasound for determining the elastic moduli of small specimens. T-UE 25 Aum 57

McWhorter AL and Kingston RH, Channels and excess reverse current in grown germanium p-n junction diodes. P 1376 Sep 54
McWhorter AL and Arams FR, System-noise measurement of a solid state maser.(L) P 913 May 58

McWhorter AL. See Autler SH McWhorter MM and Pettil JM, The design of stagger-tuned double-tuned amplifiers for arbitrarily large band-width. P 923 Aug 55. Correction: P 1579 Nov 55

Mad FM , Telephone service to the fishing fleet, T-CS 3 Mar 55
Mead LC , Human engineering , NCR 19 Pt9 54
Meadows HE Jr and Dasher BJ , Separation transformations for square matrices , T-CT 111 Sep 57
Model MP Detection

tions for square matrices. T-CT 111 Sen 57
Meahl HR, Protective measures for microwave radiation
hazards: 750 to 30,000 mc. T-ME 16 Feb 56
Meaker LSF, Frequency propagation forecasting for military world air route operations. T-CS 82 Nov 54
Meaney FM, See Bean BR
Mebs RW, See Voznak E
Methler EA, Information rates in remoted radar systems.
T-CS 120 May 56
Methler ES, See Assessed B.

T-CS 120 May 56

Meddivide EB, See Antoniucci P

Medd WJ and Covington AE, Discussion of 10.7-cm solar radio flux measurements and an estimation of the accuracy of observations. P 112 Jan 58

Mediurst RG and Schwartz RF, Addenda to: Bibliography on directional couplers (L.) T-MTT 42 Apr 55

Mediurst RG and Stewart JL, The power spectrum of a carrier frequency modulated by Gaussian noise (L.) P 752 Jun 55

Mediurst RG, RF bandwidth of frequency-division multiplex systems using frequency modulation. P 189 Fcb 56

Mediurst RG, Albersheim WJ and Schafer JP. Comment

Mediurst RG, Albersheim WJ and Schafer JP, Comment on: Echo distortion in the FM transmission of frequency-division multiplex.(L) P 258 Feb 56

Mediurst RC. On the response of linear systems to signals modulated in amplitude and frequency.(L)
T-CT 202 Sep 56

Medhurst RG and Small GF , Distortion in frequency-modulation systems due to small sinusoidal variations of transmission characteristics . P 1608 Nov 56

Medihurst RG , See Hamer R Medil J.W , See Bauer BB Medved DB , An electronic scan using a ferrite aperture Linebero lens system , T-MTT 101 Jan 58

Meecham WC , A method for the calculation of the distribution of energy reflected from a periodic surface.

tion of energy reflected from a periodic surface.
T-AP 581 Jul 56
Meehan EJ Jr, Report on multiplex experimental work at
WCAU-FM. NCR 27 Pt7 58
Meek TJ, A short survey of radio and electronics in
Colombia. P 692 Apr 58
Meeks ML and James JC, On the influence of meteor
radiant distributions in meteor-scatter communication.
P 1724 Dec 57

Meeks ML and James JC , On the choice of frequencies for meteor-burst communication (L) P 1871 Nov 58

Megibow R, Clinical applications of plethysmography. T-ME 52 Nov 55

Megia G, Special applications of metallic reflectors for purposes of navigation. WCR 29 Pt10 57
Meier RL, The economic and social consequences of the

growth in the application of automatic controls NCR 62 Pt4 55

Meinguet J and Belevitch V , On the approximation problem for 2-terminal interstage impedances (L) T-CT 336 Dec 57

Meinguet J and Belevitch V, On the realizability of ladder filters. T-CT 253 Dec 58
Melssinger HF, An electronic circuit for the generation

of functions of several variables. NCR 150 Pt4 55

of functions of several variables. NCR 150 Pt4 55
MeissInner HF. See Levine L
Meissner P, Tube envelope temperatures with heatsensitive paints. T-ED 60 Feb 54
Meltzler AH, Propagation of elastic pulses near the stressed
end of a cylindrical bar. NCR 55 Pt9 56
Meltzler AH, Methods of measuring electrical characteristics of ultrasonic delay lines. T-UE 1 Dec 57
Meitzler AH, Temperature and frequency dependence of
Insertion loss in delay lines. NCR 153 Pt2 58
Meixner J, The radiation pattern and induced current in a
circular antenna with a amular slit.
T-AP 408 Jul 56
Melchor JL Avros WP and Variana PH. Microwave

Citionar antenna with a animar strict.

T-AP 408 Jul 56

Melchor JL, Ayres WP and Vartanian PH, Microwave frequency doubling from 9 to 18 kmc in ferrites.
P 643 May 57

Melchor JL, See Vartanian PH

Melehy MA, Push-pull audio amplifier theory.
T-AU 86 Jul-Atig 57

Melehy MA, Accurate measurement of re and eo for transistors. (L) P 1739 Dec 57

Melehy MA and Smith AE, Class-C transistor amplifiers. (L) T-CT 227 Sep 58

Melehy MA, A wide-range junction transistor audio oscillator. WCR 74 Pt2 58

Mellen GL, Morrow WE, Pote AJ, Radford WH and Wiesner JB, UHF long-range communication systems. P 1269 Oct 55

Meloy T, Management of a dispersed research and development facility. T-EM 96 Sep 57

Melsheimer RS, The application of miniature saturable reactors to electronic instruments. T-I 148 Jun 57

Melton DF, See James TR

reactors to electronic instruments. T-1 48 Jun 57
Melton DF, See James TR
Meltzer SA, Designing for reliability.
T-ROC 36 Sen 56
Melville AW and Hodder BH, A servo operated respirator
for premature infants. T-ME 75 Dec 58
Melville RW, Mechanical design consideration in the
ERMA system. T-PT 115 Apr 57
Memelink OW, See Jochems PJW
Mencken HL, Pseudo engineers. SQ 39 May 57
Mendel JT, Quate CF and Yocom WH, Electron beam
focusing with periodic permanent magnet fields.
P 800 May 54
Mendel JT, Magnetic focusing of electron beams.
P 327 Mar 55
Mendel JT, Microwave detector. P 503 Apr 56

Mendel JT, Microwave detector. P 503 Apr 56
Mengel JT, Tracking the earth satellite, and data transmission, by radio. P 755 Jun 56, NCR 112 Pt1 56
Menke WW, Backward wave oscillator tubes.
NCR 30 Pt3 56

Menon TK , Hydrogen line study of stellar associations and clusters . P 230 Jan 58

Mensch JR, The generation of single-sideband carrier telephone channels by polyphase modulation.

telephone channels by polypliase modulation.
NCR 305 PNB 58
Merrill FG. See Antonicci P
Merrill HJ. Amny requirements in basic and applied electronic research. WCR 75 PtB 57
Merwin RE, The 705 EDPM memory system.
T-EC 219 Dec 56
Messenger GC and McCoy CT. A low noise-figure microwave crystal diode. NCR 68 PtB 55
Messenger GC. Cooling of microwave crystal mixers and antennas. T-MTT 62 Jan 57
Messenger GC and McCoy CT. Theory and operation of crystal diodes as mixers. P 1269 Sep 57
Messenger GC and Spratt JP. The effects of neutron irradiation on germanium and silicon.
P 1038 Jun 58
Messenger GC. New concepts in microwave mixer diodes

Messenger GC , New concepts in microwave mixer diodes . P 1116 Jun 58

Messenger GC, Physical mechanisms leading to deteriora-tion of transistor life. T-ED 147 Jul 58

Messenger GC, See Rittmann AD
Met V, On multimode oscillators with constant time delay.
P 1119 Aug 57
Met V, Pulse modulation transmitted through a linearly

modulated transit-time device .(L) P 1656 Sep 58

Metcalf GF, Engineering management challenge in weapons development. T-EM 82 Jun 57
Metropolis N and Ashenhurst RL, Significant digit computer arithmetic. T-EC 265 Dec 58
Motz ED, See Amstrong HL
Metzger S, Microwave radio relay link for military use. T-MTT 84 Apr 54, T-C5 84 Jul 54
Metzner JJ and Schwartz LS, An extension of the Kelly betting system to binary decision feedback. (L)
P 1414 Oct 57 Memier MB, See Etchison W

Meyer A, See Martin DW
Meyer HF, See Bond FE
Meyer HF, See Kulinvi RA
Mever JW. See Autler SH
Meyer MA, Gordon BM and Nicola RN, An operationalcigatal feedback divider. T=CC 17 Mar 54 Meyer MA, Digital techniques in analog systems. T-EC 23 Jun 54

Mayer RJ of the result of the state of the trunstile function. T-MTT 40 Dec 55

Meyer RJ, The new look—electronic controls.

NCR 35 Pts 57

Nore 55 Pts 57

NCR de Pto 57

Meyer SF, A manually operated domand repeater for the de Pto 57 mc b.nd. NCR 2 Pto 57

Meyer SF, Vehicular noise problems in modern land mobile systems (abstract). NCR 23 Pto 58

Meyer WA, Scott WG and Puro WO, A compact dual-purpose antenna NCR 200 Pto 58

Meyerho A, See Mack A

Meyerhof AJ and Tillman RM, A high-speed two-winding transistor magnetic-core oscillator.

T-CT 228 Sep 57

Meyerhoff AJ, See Tillman RM

Meyerhoff HA, Scientific manpower (title only).

NCR 34 Pto 58

NCR 34 Pt10 58

Meyers GH and Saxton GA Jr, A servomechanism for automatic regulation of breathing. WCR 224 Pt5 58

Meyers RA, A general purpose electronic multiplier. T-I 98 Jun 56

Meyers ST , See Brown AB
Michael FR and Briggs TH , Interesting techniques employed in foreign tubes . T-ED 59 Feb 54
Michael FR , Three dimensional data presentation .
T-ED 59 Feb 54

T-ED 59 Feb 54
Michaelson HB, See Loughren AV
Michel WS, Fleckenstein WO and Kretzmer ER, A coded
facsimile system. WCR 84 Pt2 57
Michelson M and Moore JF, Resonator and preselector in
balanced stripline. T-MTT 170 Mar 55
Mickey LW and Chadwick GG, Closely spaced high
dielectric constant polyrod arrays.
NCR 213 Pt1 58

Middlebrook RD and Scarlett RM, An approximation to alpha of a junction transistor. T-ED 25 Jan 56

Middlebrook RD, Design of transistor regulated power supplies. P 1502 Nov 57
Middlebrook RD, A new junction-transistor high-frequency equivalent circuit. NCR 12? Pt2 57
Middlekamp LC, Reduction of cochannel television inter-

Middlekamm LC, Reduction of cochannel television in ference by very precise offset carrier frequency. T-BTS 5 Dec 58
Middlekamm LC, See Chapin EW
Middlekamm LC, See Roberts WK
Middlekamm LC, See Roberts WK
Middleton D, Statistical theory of signal detection.
T-IT 26 Mar 54
Middleton D, Theory of phenomenological models and direct measurements of the fluctuating output of CW

magnetrons. T-ED 56 Dec 54
Middleton D and Van Meter D, On optimum multiple-alternative detection of signals in noise. T-IT 1 Sep 55

n-11 1 Sep 35 Middleton D, Limiting conditions on the correlation properties of random signals (L) T-CT 299 Dec 56 Middleton D, On the detection of stochastic signals in additive normal noise--Part 1 . T-IT 86 Jun 57 Correction: T-IT 256 Dec 57

Middleton D, See Bussgang JJ
Middleton D, See Mullen JA
Middleton D, See Van Meter D
Middleton FH, Gilbert GB, Huggins WH and Webb GN, A
plase filter applied to spectral phonocardiography.
T-1 122 Jun 56

Miehle W, Paivinen J and Wylen J, Bimag circuits for digital data-processing systems. NCR 70 Pt4 55

Mielle W. See Loev D
Mielsew BF, Frequency modulation phonograph pickups.
T-AU 121 Jul-Aug 54
Miessner BF and Slaymaker FH, Bells electronic carillons and chimes. T-AU 86 Jul-Aug 56
Miessner BF and Shockley W, On the statistics of individual variations in productivity in research laboratories (L) P 1409 Oct 57
Miessner BF, A wide angle londspeaker of a new type (L)
T-AU 21 Jun-Feb 58
Miessner BF, On the myse education of scientists (L)

Miliran TG, Scalloped heam amplification.
T-ED 32 Jan 56
Miliran TG, Positive ion oscillations in long electron beams. T-ED 117 Jul 56

Mihran TG, See Branch GM
Mikhail SL, Contributions to the analysis of nonlinear feedback control systems. WCR 200 Pt4 58
Milch A, Bit storage via electro-optical feedback.
T-EC 136 Dec 55

Miles PD, International radio frequency management. T-CS 22 Nov 54

T-CS 22 Nov 54
Miles RC, Statistical design—a means to better products of lower cost. T-ROC 1 Apr 55
Miles TJ, See Rittmann AD
Millar JZ, The future for the electronic specialist in American industry. T-CS 71 Mar 55
Millar JZ, Search for accuracy in communications.
T-CS 1 Jun 58
Millar JC, Search for accuracy in communications.

Miller A, Solar study as a phase of radio systems engi-neering. T-CS 4 Jan 54

Miller C, Electromagnetic radiation patterns and sources.
T-AP 224 Jul 56
Miller CE, Marinelli LD, Rowland RE and Rose JE, An analysis of the background radiation detected by Nal crystals. T-NS 90 Nov 56

Miller CE, See Roberts FM

ler EA, Obtaining optimum performance in a mobile communications system. T-VC 36 May 57

Miller ER, Nickel E and Lusted LB, Cineradiography. NCR 119 Pt9 55

Miller GA. Human memory and the storage of information. T-IT 129 Sep 56

Miller GA, A note on the remarkable memory of man. T-EC 194 Sep 57 Miller H and Wagner RH, Flight control system for jet transports. T-ANE 118 Sep 57

Miller H and Wagner RH, Flight control system for jet transports. T-ANE 11B Sep 57
Miller HL, Precision or Ise nenerator. T-NS 18 Jon 56
Miller KS, Properties of impulsive responses and Green's functions. T-CT 26 Mar 55
Miller KS and Zadeh LA, Generalization of the Fourier integrals. T-CT 256 Sep 55

Miller KS and Zadeh LA. Solution of an integral equation occurring in the theories of prediction and detection.
T-IT 72 Jun 56

Miller KS and Berstein R, Coherent detection of sinu-soidal signals in Gaussian noise. NCR 12 Pt4 56

Miller KS and Bernstein RI, An analysis of coherent integration and its application to signal detection. T-IT 237 Dec 57
Miller LE and Forster JH , Accelerated power aging with

Irthnum-doped point contact transistors T-ED 4 Jul 55

Miller LE, Negative resistance regions in the collector characteristics of the point-contact transistor. P 65 Jan 56

Miller LE, Ti e design and characteristics of a diffused silicon logic amplifier transistor. WCR 132 Pt3 58 Miller RE, Formal analysis and synthesis of bilateral switching networks. T-EC 231 Sep 58 Miller RE, Waterman AT Jr, Durfey GK and Huntley WH Jr, A rapid-scanning phased array for propagation measurements. WCR 184 Pt1 58

Miller RE . See Garner HL Miller RE , See Waterman AT Jr Miller RS , See Vickers TK

Miller SL. See Kulke B
Miller VL. The role of electronic trajectory measurement
systems in missile tests. WCR 17 Pt8 57
Miller W. ARC prevention using p-n junction reverse
transient.(L) P 1546 Nov 57

Miller WA, Solar study as a phase of radio systems engineering. T-CS 4 Jan 54
Miller WF, See Huber GH

Millet MR, Microwave switching by crystal diodes. T-MTT 284 Jul 58

Millman GH, Atmospheric effects on VHF and UHF propa-gation. P 1492 Aug 58 Millman J and Puckett TH, Accurate linear bidirectional diode gates. P 29 Jan 55 Mills BY, Little AG, Sheridan KV and Slee OB, A high

resolution radio telescope for use at 3.5m. P 67 Jan 58

P 67 Jan 58
Milnor WR, See Konvenhoven WB
Milnor WR, See Webb GN
Milosevic LJ and Vautey R, Traveling-wave resonators.
T-MTT 136 Apr 58
Milwitt W, See Hirsch I
Minden HT, Internetallic semiconductors.
T-CP 129 Sep 58
Mindes BM, See Adams RT
Miner TD A high-school science teacher views industry-education consperation. T-E 43 Jun 58

education cooperation. T-E 43 Jun 58 Minnins CR, See Frost AD Mingins CR, See Pease RL

Minton R, Circuit considerations for audio-output stages using power transistors. NCR 169 Pt7 57

Minton R and Wheatley CF, A ten-watt high quality transistorized audio power amplifier. SQ 19 Feb 58. Correction: SQ 45 May 58

Mintz F , See Levine MB
Misawa T , Diffusion capacitances and high-injection
level operation of praction transistor (L) P 749 Jun 55

Misawa T., Theory of the p-n junction device using avalanche multiplication.(L) P 1954 Dec 58

Mishkin E and Truxal JG. Nonlinear compensating net-acrks for feedback systems. NCR 3 Pt4 57 Misme P., The correlation between the electric field at a great distance and a new radio-meteorological para-meter. T-AP 289 Jul 58

Mitchell A and Lapidus L., High current switching times for a p-n-p drift transistor; numerical analysis on the

lor a p-n-p utilit transistor, numerical analysis on the IBM 704 digital computer. NCR 57 Pt3 58 Mitchell FH, See Whitehurst RN Mitchell HW, Application of the Decca navigation system as an approach and landing aid. T-ANE 113 Sep 57 Mitchell J, See Thompson PM

Mitchell JM., Selection and training for engineering management in the Department of Defense. NCR 55 Pt11 54

Mitchell JM and Ruhman S., The TRICE—a high speed incremental computer. NCR 206 Pt4 58

Mitchell RN. See Hiebert RD
Mitra AP and Jones RE, A theoretical and experimental study
of the recombination coefficient in the lower ionosphere. T-AP 99 Jul 54

Mitsutomi T, Characteristics and stabilization of an inertial platform. T-ANE 95 Jun 58 Mittelmann E, Electronic flow measurement and control (abstract). NCR 69 Pt10 54

Mittelman E., The industrial electronics concept (abstract). T-PT 103 Apr 57 Miltra R., Impedance measurement through a discontinuity

in a transmission line. NCR 85 Pt8 55 Mittra R., An automatic phase-measuring circuit at

microwaves. T-I 238 Dec 57
Miura T, Amemiya H and Numakura T, A new diode function generator. T-EC 95 Jun 57
Miura T and Nagata M, Theoretical consideration of computing errors of a slow type electronic analog computer. T-EC 306 Dec 58

Miyata F., A new system of two-terminal synthesis. T-CT 297 Dec 55 Mlodnosky RF., See Eshleman VR

Mlodnosky RF. See Eshleman VK
Mockler RC, Barnes J, Beehler R, Salazar H and Fey L,
The ammonia maser as an atomic frequency and time
standard. T-I 201 Dec 58
Mockus E, See Crytzer S
Moers HT, Recent developments in power transistors.

Moers HT., Recent developments in power transistors.

T-ED 63 Jan 55

Muffitt JG, Radar and plotting. T-CS 60 Mar 55

Mohler RD, See Crow RP

Moldaver J, See Schmitt 0

Moll JL, Larne-signal transient response of junction transistors. P 1773 Dec 54

Moll JL, Junction transistor electronics. P 1807 Dec 55

Moll JL and Ross IM, The dependence of transistor parameters on the distribution of base layer resistivity.

P 72 Jan 56

Moll JL, Tanenbaum M, Goldey JM and Holonyak N, P-N-P-N transistor switches P 1174 Sep 56 Woll JL, The evolution of the theory for the voltage-cur

rent characteristic of p-n junctions. P 1776 Jun 38
Moll JL, Uhlir A Jr and Senitzky B, Microwave translents
from avalanching sillicon diodes.(L) P 1306 Jun 58
Moll JL, see Ebers JJ Moll JL. See Thomas DE

Molozzi AR, Page DF and Boothroyd AR, Measurement of high-frequency equivalent circuit parameters of junction and surface barrier transistors. T-ED 120 Apr 57

Momsen CB , New look at submarines . T-MIL 49 Dec 57

T-MIL 49 Dec 57

Monk N and Winbigler HS, Communication with moving trains in tunnels. T-VC 21 Dec 56
Monk N and Guernsey ED, Personal signaling, a new telephone service. WCR 76 Pt8 58
Monohan JP, See Williams DB
Monroe GR and Jones HG, Mapping vacuum tube computers in transistor circuits (abstract). WCR 47 Pt4 58
Monroe RB, See Chinn HA
Montgomery BE, Air-ground communications—and the ANDB system development plan. T-CS 48 May 56
Montgomery GF, A commarison of smallerders.

Montgomery GF, A comparison of amplitude and angle modulation for narrow-band communication of binary-coded messages in fluctuation noise. P 447 Feb 54 Mantgomery GF, Message error in diversity frequency-shift reception. P 1184 Jul 54 Montgomery GF, Intermittent communication with a fluctua-ting signal. P 1687 Dec 57

Montgomery GF and Sugar GR, The utility of meteor bursts for intermittent radio communication. P 1684 Dec 57 Montgomery GF, On the transmission error function for meteor-burst communication.(L) P 1423 Jul 58

Montgomery LH, Electronic control of artificial respira-tion. NCR 90 Pt4 57

Montgomery LH and Stephenson SE Jr., Forther progress in electronic control of artificial respiration.

T-ME 38 Jul 58

Montgomery PO, The use of U-V microspectro-photographic and phase and U-V television densitometry technics in medical research. NCR 124 Pt9 55

technics in medical research. NCR 124 Pt9 55
Montijo RE Jr, See Bathsel CN Jr
Mentijo RE Jr, See Bathsek S
Moody NF and Florida CD, Some new transistor bistable
elements for heavy-duty mention. T-CT 241 Sep 57
Moody RC, Spectral analysis (L) P 782 Apr 58
Mooers CN, Choice and coding in information retrieval
systems. T-IT 112 Sep 54

Mooney JF and Hart JP, RAKE: a high sneed binary-BDC and BCD binary biiffer. WCR 268 Pt4 57 Moor JC, See Stoudenheimer RG Moor AD, See Carystakis GA

Moore AR and Pankove JL., The effect of junction shape and surface recombination on transistor current gain . P 907 J.m 54

Moore AR and Webster WM , The effective surface recombination of a german an surface with a floating barrier. P 427 Apr 55

Moore AR. A method of accurate thickness determination of generative waters suitable for transister production.(L) T-ED 239 Oct 57

Moore AR , See Stripp KF Moore CE , Low cost big radar for smaller vessels . T-CS 14 Mm 55

Moore EJ, Performance evaluation of HF aircraft antenna systems 1 T-AP 254 Jul 50 Moore J. See Johnson RP

Moore JE , A new system of logarithmic units (L) P 622 May 55

Moore JB and Kahn LR, Diversity combining (L)

Moore JB and Kain LK, Diversity combining,(L) P 626 May 55 Moore JB and Buff C, Application of single-sideband technique to frequency shift telegraph.(L) P 539 Apr 57

Moore JB, Signal mutilation and error prevention on short-wave radio-teleprinter services. NCR 127 Pt8 57

Moore JF , See Michelson M

Moore JR, Microminiaturization in missiles. NCR 22 Pt6 57

Moore RC, Honengarten A and Wolfe PG, Techniques of color purity adjustment in receivers employing the Apple cathode-ray tube. T-BTR 23 Jun 57

Moore RC , See Bloomsburgh RA Moore RK , Pulse narrowing by filters .(L) P 1878 Dec 56

Moore RK and Williams CS Jr., Radar terrain return at near-vertical incidence. P 228 Feb 57 Moore RK., Effect of precipitation on the design of radio

altineters. T-ANE 24 Mar 57
Moore RK, The effects of reflections from randomly spaced discontinuities in transmission lines.
T-MTT 121 Apr 57

maurietic recording tane T-1-62 Mar 58
Moore U, Impedance plethysmography in experimental psychology. T-ME 55 Nov 55
Morcerf FJ and Roehm LF, Automatic transistor classifier. NCR 3 Pt6-58
Morcerd FJ Communication of St

Morehouse CK, Glicksman R and Lozier GS, Batteries. P 1462 Aug 58

Morelli M, Spurious frequency measurement in wave-guide. NCR 176 Pt8 58 Moreno T and Jepson RL, Hysteresis in klystron oscil-lators (LD) P 344 Mar 55 Moreno T, Transmitting tubes for scatter communications. TLCS 64 Mar 56

T-CS 64 Mar 56 Moreno T., Spurious modulation of electron beams (L) P 693 May 56

Moreno T., Sec Dodds WJ Morgan AR and Artzt M., A magnetic tape system for re-cording and reproducing standard FCC color relevision signals—the tape transport mechanism (abstract) NCR 169 Pt7 56

Morgan HK, See Olson HF
Morgan HK, What does industry expect of the young ensured HK, Thoughts on an improved ATC system.

T-ANE 3 Mar 57

Morgan HK , Common system standards . T-ANE 57 Jun 57 Morgan HK , Natural sound reproduction . T-AU 106 Jul-Aug 54

Morgan KA and Blake RF. Delay line controlled subcarrier discriminator. T-TRC 7 Nov 54

Morgan MC , See Bloom FJ
Morgan MC , Instantaneous frequency (L)
P 1698 Nov 54
Morgan MC , A review of VHF ionospheric propagation (L)
P 752 Jun 55

Morgan RB , Conductivity of single-crystal Al₂O₃ T-ED 70 Feb 54

Morgant SP, See King RA
Morganthaler FR, Transverse impedance transformation for ferromagnetic media.(L) P 1407 Oct 57
Morganthaler FR and Fye DL, Yttrium gamet UHF Isolator.(L) P 1551 Nov 57
Morganthaler FR, Velocity modulation of electromagnetic waves. T-MTT 167 Apr 58
Mori M. Peer Jeony extlant of contractions for the second of the s

Mori M., Root locus method of pulse transfer function for sampled-data control systems T-AC 13 Nov 57 Murila T., See Jones EMT

Morita K and Sociake K, A new waveguide attenuator element utilizing corrugated metallic surface combined with resistance card (abstract). WCR 3 Pt1 57

Morita M., See Kirrokawa H. Murita T and Cohn SB., Microwave lens matching by simulated quarter-wave transformers. T-AP 33 Jan 56

lated quarter-wave transformers. T-AP 33 Jan 56 Morita T. See Chown JB Morrell JS, Physical aspects of collision avoidance. T-ANE 75 Jun 57 Morrill CD, A sub-audlo time delay circuit. T-EC 45 Jun 54 Morris AJ and Swanson JP, The electrocardiophone—a surrocal tool. T-ME 36 Jul 56 Morris GJ See Harris FS Jr Morris HD, See MacKay RS

Morris HN , The role of the digital computer in processing guided missile data . NCR 62 Pt10 55

Morris RM and Serafin J., Progress report on vertical inter-val television test signals. T-DTS 65 Dec 57 Morris RM, Television vertical interval test signal, NCR 37 Pt7 57

Morris RM , See Marx F Morrison CA See Jones GR

Morrison CA See Jones GR
Morrison JA, Heat loss of circular electric waves in helix
wave moes T-MTT 173 Ann 58

Morrison SC, See Altha is EJ
Morrison WC, Karstad K and Behrend WL, Test instruments for color television. P 247 Jan 54

Morrison WC, Karstad K and Tuska JW, An investigation
by photographic simulation of one tipe of bandwidth
reduction of television signals. T-BTS 52 Jan 56

Morrison WC , See Fredendall GL

Morrow CW, Taylor PE and Ward HT, Phase and amplitude measurements in the near field of microwave lenses. NCR 166 Pt1 58

Morrov, CW., See Kelleher KS

Morrow CW, See Kelleher KS
Morrow R. AM systems for 1955. T-VC 57 Jul 56
Morrow RE and Richardson RA, Mobile single-sideband
equipment (L) P 1736 Dec 57
Morrow RE, Mobile single-sideband equipment (L)
P 357 Jan 50
Morrow WE Jr, See Mellen GL
Morrow WE Jr, Beyond-the-horizon point-to-point UHF
radio systems (abstract). NCR 56 Pt 1 55

Morrow WE Jr, Mack CL Jr, Nichols BE and Leonhard J, Single-sideband techniques in UHF long-range com-munications. P 1854 Dec 56

Morrow WE Jr., See Bartow JE Morrow WE Jr., See Chisholm JH

Morse HW, Studio switching problems with color signals.
T-BTS 5 Jan 56
Morse PM, Operations research.
T-MIL 4 Mar 57

Mortenson KE, Transistor junction temperature as a function of time . P 504 Apr 57

Mortimer RK, Anger HO and Tobias CA, The gamma ray pinhole camera with image amplifier. NCR 2 Pt9 54

Morton GA, Recent developments in the scintillation counter field . T-NS 122 Nov 56

Morton GA, Matheson RM and Greenblatt MH, Design of photomultipliers for the sub-millimicrosecond region.
T-NS 98 Dec 58

Morton GA , See Schultz ML

Morton GA , See Schultz ML
Morton JA and Pietenpol WJ , The technological impact of transistors . P 955 Jun 58
Morton LW , Survey of today's use of power rectifiers in industry . T-1E 69 Mai 55
Moseley FL , The automatic radio direction finder.
T-ANE 4 Dec 55
Moseley FL , See Kriesi GG
Moseley ST , See Cheng DK
Moskowitz F and McLean JB , Some reliability aspects of systems design . T-ROC 7 Sep 56 , NCR 50 Pt6 56
Moskowitz S , See Grieg DD
Mosso With A and Schlesinger K , Comments on: Transfer

Moss H and Schlesinger K, Comments on: Transfer characteristics and the mu factor of picture tubes .(L) P 1809 Dec 54

Moss TS, Lead salt photoconductors. P 1869 Dec 55
Mostafa AE and Shallout MH, A novel apparatus for the
measurement of phase angle. T-1 63 Mar 57
Motz H, Cerenkov and undulator radiation.
T-AP 374 Jul 56

Moulton SW, See Clana RG
Moulton SW, See Clana RG
Moulton SW, See Clana RG

Moyer BJ, Photomultiplier counters in high-energy physics experiments. T-NS 107 Nov 56 Moyer RC, The manufacture of high-fidelity magnetic tape records. T-AV 9 Jan-Feb 55

Muchmore RB and Wheelon AD, Line-of-sight propagation phenomena—II. Scattered components. P 1450 Oct 55 Muehlhause CO, Neutron scintillation counters. T-NS 77 Nov 56

Mueller CW and Pankove JI , A p-n-p triode alloy-junction transistor for radio-frequency amplification .

P 386 Feb 54

Mueller CW and Hillbrand J , The thyristor -- a new highspeed switching transistor . T-ED 2 Jan 58

speed switching transistor. 1-ED 2 Jan 58
Mueller CW, See Pankove JI
Mueller CW, See Stone RP
Mueller E. See Mathur PN
Mueller R, Noise measurements of microwave local oscillators. 7-ED 42 Dec 54
Mueller RÉ, A note on the limits of brainstorming.(L)
P 874 Jun 57

P 874 Jun 57

Mueller RE, Invention and insight.(L) P 783 Apr 58

Mueller RK, See Urhano RH

Mukai VS, UHF television tuner local oscillator radiation. T-BTR 44 Jul 55

Mulle WA, See Cheetham RP

Mullen EB and Pan PM, A comparison method for measuring cavity 0. T-I 113 Oct 55

Mullen EB and Carlson ER, Permeability tensor values from wavequide measurements. P 1318 Oct 56

Mullen EB, See Grisetti RS
Mullen EB, See Grisetti RS
Mullen JA and Pritchard WL, The statistical prediction
of voltage standing-wave ratio. T-MTT 127 Apr 57
Mullen JA, A power series solution of the traveling-wave
table equations. T-ED 159 Apr 57

Mullen JA and Middleton D., Limiting forms of FM noise spectra (L) P 874 Jun 57

Spectra LL F 874 Jm 57 Miller JA. See Kridee RL Muller DE. Application of Boolean algebra to switching circuit design and to error detection. T-EC 6 Sen 54 Miller DE. Complexity in electronic switching circuits. T-EC 15 Mar 56

Muller FA, High-frequency compensation of RC amplifiers: P 1271 Aug 54
Muller MW, Traveling-wave amplifiers and backward-wave oscillators: P 1651 Nov 54

M. Her MW., See Helmer JC Muller N., Introduction to molecular resonance.

Muller N, Introduction to molecular resonance.
SQ 41 Dec 58
Mullin JT, V T R: a video magnetic tape recorder.
NCR 120 Pt7 54
NCR 120 Pt7 54

Mullin LR , The Marconi AD 7092 series ADF receivers . T-ANE 42 Dec 55

Mullimix NE and Lee R., Transformer design chart. T-CP 10 Apr 55

Mumford WW and Schafersman RL , Data on temperature dependence of X-band fluorescent lamp noise sources. T-I 40 Oct 55

M imford WW and Schafersman RL , Data on the tempera-Mimford WW and Schafersman RL , Data on the temptore dependence of X-band fluorescent lamp noise sources. T-MIT 12 Dec 55

Mimford WW , See Cumming LG

Mimtory JH , A survey of electronic failure prediction technique. NCR 9 Pt11 54

Mungall AG , Noise in traveling-wave tubes .

T-ED 12 Apr 55

Minnoc CL. Guest editorial: Air Force . T-PT 2 Sep 56
Minson IK, On the measurement of component reliability .
T-RQC 27 Ain 57
Munushian J, See Gicchetti JB

Murakami T and Corrington MS, Applications of the Fourier integral in the analysis of color television sys-

tens. T-CT 250 Sep 55
Murakami T, See Corrington MS
Muroga S, On the capacity of a noisy continuous channel.
T-IT 44 Mar 57

Murphy A , See Wait JR Murphy G , New demands on engineering education . T-E 116 Dec 58

I-E 116 Dec 58
Murphy GJ and Ormsby RD, A survey of techniques for the analysis of sampled-data control systems.
T-AC 79 Feb 57
Murray DB, A variable binary scaler.
T-EC 70 Jun 55

Murray FJ, Ionic and nuclear problems of rocket propulsion. NCR 35 Pt10 55

Murray RB, Use of LI*I (Eu) as a fast-neutron detector and spectrometer. T-NS 159 Dec 58

Murray RM, Technical films—a luxury or a necessity.
T-EWS 31 Mar 58

Murray RP, Emitter bypassing in transistor circuits. T-AU 71 May-Jun 57

Murray RP, Design of transistor RC amplifiers T-AU 67 May-Jun 58

Musal HM. See Colin GI
Mushiake Y. An exact step-up impedance-ratio chart of a folded antenna (L) T-AP 163 Oct 54
Mushiake Y. A theoretical analysis of the multi-element endfire array with particular reference to the Yagi-Uda antenna. T-AP 441 Jul 56

Mushiake Y and Webster RE , Radiation characteristics with power gain for slots on a sphere .
T-AP 47 Jan 57

Myers GH, Quantization of a signal plus random noise. T-I 181 Jun 56 Myers GH, Extending the operational time of analog integrators (L) T-EC 34 Mar 57

Myers GH, A cyclic digital-to-analog decoder. NCR 156 Pt4 57

NCR 156 Pt4 57
Myers HA, Radiation patterns of unsymmetrically fed prolate spheroidal antennas. T-AP 58 Jan 56
Myers MC Jr, See Duncan FB
Myrick JC, Sixteen channel time division multiplex system employing transistors and magnetic core memory circuits. NCR 36 Pt8 56

-N-

Nadler M., See Gumowski I Nagata M., See Muura T Nahman NS. See Wigington RL Nall JJ., Attenuation calculations for UHF lines.(L) P. 486 Feb. 54

P 486 Feb 54

Nail JJ, See Altman FJ

Nail JJ, See W Sichak

Nail JJ, See Spanos W

Naiman M See Porter VJ

Nakagawa N, On evaluation of the graph trees and the driving point admittance. T-CT 122 Jun 58

Nalos EJ, Measurement of circuit impedance of periodically loaded structures by frequency perturbation. P 1508 Oct. 54

Nalos EJ, A bybrid-type traveling-wave tube for high-

Nalos EJ, A hybrid-type traveling-wave tube for high-nower pulsed amplification. T-ED 161 Jul 58

Nalos EJ. See Chodorow M Nalos EJ. See Ginzton EL Naresky JJ, Air Force ground electronic equipment relia-bility improvement program. NCR 21 Pt10 57

Naresky JJ, Reliability prediction and test results on USAF ground electronic equipment. NCR 165 Pt6 58

Newell DE, Working your way through graduate school.

Narud JA, A millimicrosecond pulse generater using secondary emission tubes. NCR 100 Pt5 57 Nash JP , Review of electronic computer progress 1955 . T-EC 43 Mar 56 Nash TE , Field intensity measurements on induction-heating equipment . NCR 159 Pt6 56 Nathan A., A note on bandwidth. P 788 Jun 56. Correction: P 65 Jan 57 Nathan A. Dynamic accuracy as a design criterion of linear electronic-analog differential analyzers. T-EC 74 Jun 57 Nathan A and Mahler V, Demonstration of conditional stability on an analog computer.(L) T-EC 287 Dec 57 Nathan A. An improved operational amplifier (L) P 1740 Dec 57 P 1740 Dec 57
Nathan A, Computing and error matrices in linear differential analyzers. T-EC 32 Mar 58
Nathan A, Algebraic approach to signal flow graphs.(L)
P 1955 Dec 58
National Bureau of Standards, Standard frequencies and time signals WWV and WWVH.(L) P 1470 Oct 56
National Television System Committee P 15 Jan 54
Nathaner 18 A new year for weighted accompanyer glass. Naubauer JR, . A new arm for vehicular communications. T-VC 34 Jul 53 $\,$ Neal HE, Communications in air defense. NCR 105 Pt8 56 Neau OT , A practical method of locating waveguide discontinuities (L) T-MTT 45 Jan 55 Needle JS , A developmental voltage-tunable microwave magnetron. T-ED 18 Aug 54 Neely GM, Organization and operation of the Naval com-munication system. T-CS 51 Nov 54 Nelter M. See Herrick JF
Neister SB. See Grabbe EM
Nelligan WB and Tituman J. A high stability gamma-ray spectrometer for use at high counting rates.
T-NS 187 Dec 58 Nelles M, Engineering management and the changing world. T-EM 34 Mar 55 world. 1-Em 34 Mar 55
Nelson AM, Stem HM and Wilson LR, Magnacard—
mechanical handling techniques. WCR 210 Pt4 57
Nelson CE, Ferrite-tunable microwave cavities and the introduction of a new reflectionless tunable microwave filter. P 1449 Oct 56 Nelson CE , Circularly polarized microwave cavity filters . T-MTT 136 Apr 57 Nelson CC and Whitry WL., Development of circularly polarized microwave cavity filters. NCR 191 Pt1 57 Polarized microwave cavity riters. PLR 191 Pt1 57
Nelson CE, See Eyrk AD
Nelson CE, See Whitry WL
Nelson EC, An algebraic theory for use in digital computer
design. T-EC 12 Sep 54
Nelson H, The preparation of semiconductor devices by
lapping and diffusion techniques. P 1062 Jun 58
Nelson L See Sulliums Nelson J., See Sullivan H Nelson JH., Radio weather forecasting techniques . T-CS 19 Jan 54 Nelson JT, Iwersen JE and Keywell F, A five-watt ten-megacycle transistor. WCR 28 Pt3 57 Nelson JT and Iwersen JE, Measurement of Internal tem-perature rise of transistors. P 1207 Jun 58 Nelson RR, Spectrum analyzer for whistlers .(L) P 1543 Nov 57 Nelson SW. See Walter VW
Nesbeda P., See Drenick RF
Nesbitt WE, Obtaining onlimum performance from a magnetic thermocomple amplifier. T-IE 101 May 58
Nestlerode CD., Practical aspects of TV tuner design.
T-BTR 59 Oct 57
Netheroot AH Jr., Harmonics at millimeter wavelengths.
T-NITT 17 Sep 54 Netherwood DB, Logical machine design: a selected bibliography. T-EC 155 Jun 58. Correction: T-EC 250 Sep 58 Nettleton DL, See Beard AD Neubauer JR , A new arm for vehicular communications . T-VC Jul 58 $\,$ Neubauer JR , Design problems of VHF repeater stations . NCR 15 Pt8 55Neubauer JR, Integrated mobile-microwave system. T-VC 1 Jun 54

Neubauer JR, Oualitative performance evaluation of land mobile systems. WCR 82 Pt8 57 Neugebauer HEJ, Diffraction of electromagnetic waves caused by apertures in absorbing plane screens. T-AP 115 Apr 56, T-AP 578 Jul 56 Neugebauer HEJ and Bachynski MP, Diffraction by smooth cylindrical mountains. P 1619 Sep 58
Neugebauer HEJ, See Shkarofsky IP
Neuhauser RG, Rotow AA and Verth FS, Image
orthocons for color cameras. P 161 Jan 54 Neumann KL, See Bailey A
Neumann PG, See Brooks FP Jr
Nerwirth P, See Dressler R
Nevins JE, Kaisel SF and Chodorow M, A 1-kw pulsed traveling-wave tube amplifier at X-band (abstract).
NCR 46 Pt3 55 NCR 46 Pt3 55

Nevins JR Jr. See Chodorow M

Nevberry SP, Information storage in microspace
(abstract). WCR 66 Pt4 53

Newhold WF. See Werne JV

Newconner EH, Effects of ultrasound on living cell structure. NCR 107 Pt6 54

Newell A and Simon HA, The logic theory machine, a complex information processing system. T-IT 61 Sep 56

۲

Newell DE. The pros and cons of graduate students working part-time in industry. T-E 78 Sep 58
Newhouse GB. Compound modulation—method of recording data on magnetic tane. NCR 86 Pt10 55 data on magnetic tane. NCR 86 Pt10 55
Newhouse RC, Feedback relations in military weapon systems. T-ANE 24 Sep 54
Newhouse VL and Prywes NS, High-speed shift registers using one-core-per-bit. T-EC 114 Sep 56
Newhouse VL, The utilization of domain wall viscosity in data-handling devices. P 1484 Nov 57
Newman MM, Stathmann JR and Robb JD, ADF interference blanker development. T-ANE 86 Jun 58
Names MM. Soa Huber RF enice Hanker development. T-ANE 86 Jiin 58
Newman MM. See Hiber RF
Newman P Jr. See Ramsa A
Newman P Jr. See Ramsa A
Newman P See Notick S
Newton K, Component engineering. SQ 79 Sep 57.
Newton KV, Component engineering. SQ 39 Sep 56.
Newton KV, Component engineering. SQ 39 Sep 56.
Newton VJ. A communications consulting engineer's notebook T-VC 23 Jiin 55.
Nichtel RE. See Meany WE 1. Nichols BE, See Morrow WE Jr Nichols MH, Comparison of required radio frequency power in different methods of multiplexing and modulation. NCR 59 Pt5 54 Nicholson WJ, See Williams DB Nicholson WJ, See Williams DB
Nickel E, See Miller ER
Nickel L, A remote control system for an airborne test
vehicle. T-TRC 1.4 Apr 57
Nickerson RJ, See Rohsenow WM
Nicola RN, See Meyer MA
Nicola RN, See Meyer MA
Nicoli FN and Kazan B, Observation of electroluminescence excited by de fields in cathode-ray
tubes. (L) P 1012 Ang 55 tubes.(L) P 1012 Aug 55

Nicoli FH, Multiturn coils for use in vacuum.(L)
T-ED 186 Apr 57

Nicoli FH, See Kazan B

Nicolosi JP, Honey JF and Weaver DK Jr, The db is the argument of SSB.(L) P 538 Apr 57

Nielsen AH and Hansen NW, The selection and application of traveling wave tubes. NCR 49 Pt3 57

Nielsen EG, Behavior of noise figure in junction transistors. P 957 Jul 57

Nielsin G, See Baldwin MW Jr

Nienburg RE. Circuit design. T-EC 227 Dec 56 Nienburg RE. Circuit design. T-EC 227 Dec 56 Niklas WF, Notes on the uses of ultrasonics for the Imsting of cathoder ary tube guns and gun components. T-UE 63 May 55 Nikias WF, Cutoff voltage characteristics of TV picture tubes (L) P 1539 Aug 58 Nikias WF, See Azuf R Nirenberg A, Perlman S and Burfelnd R, A high-speed radar-signal measurement and recording system. NCR 130 Pt5 58 Nitz C , See Bronwell AB Nitzberg R , An improved operational amplifier. (L) P 880 Jun 57 , (L) P 614 Mar 58 Niwa Y, The recent progress in the application of micro-waves in Japan. WCR 41 Pt10 57 Noble DE, Military weapon systems complex and the professor factor. T-RQC 54 Aug 57
Noble DE, The lively arts of creative engineering.
SO 14 Sep 57
Noble FW, The sonic valve pressure gauge.
T-ME 38 Jul 57 Noble JJ., See Hilliard JK
Noble RP, A modern concept of electronic packaging.
T-IE 12 Mar 57, T-PT 12 Apr 57 T-IE 12 Mar 57, T-PT 12 Apr 57

Nobles RA, See Northrop JA

Noden DA, A balanced precision reference regulator for computer application. NCR 225 Pt4 58

Nordahl JG, A new ultrahigh-frequency multichannel military radio relay system. T-CS 147 Nov 54

Norgaard DE, The phase-shift method of single-sideband signal generation. P 1718 Dec 56, P 1735 Dec 56

Norko RI, Enguyla for relations points. Norko RJ, Fonnula for platform poise. T-EWS 18 Mar 58 Norman RZ, See Tanner WP Norman SW, Vehicular radio station inspections. T-VC 67 Jun 55 Norris A. See Byck DM Norris KH, Automatic detection of green-rot in shell eggs. T-IE 57 Mar 55 Northrop JA and Nobles RA , Some aspects of gas scintil-lation counters . T-NS 59 Nov 56 Northrop JA, Gursky JM and Johnsrud AE, Further work with Noble element scintillators. T-NS 81 Dec 58 Norton KA, Rice PL, Janes HB and Barsis AP, The rate of fading in propagation through a turbulent atmosphere. P 1341 Oct 55 Norton KA, Vogler LE, Mansfield WV and Short PJ, The Norton KA, Vogler LE, Mansfield WV and Short PJ, Th probability distribution of the amplitude of a constant vector plus a Rayleigh-distributed vector. P 1354 Oct 55

Norton KA, Rice PL and Vogler LE, The use of angular distance in estimating transmission loss and fading range for propagation through a turbulent atmosphere over irregular terrain. P 1488 Oct 55

Norton KA., Point-to-point radio relaying via the scatter ande of tronospheric proparation. T-CS 39 Mar 56 Norton LE., Coherent spontaneous microwave emission by pulsed resonance excitation. T-MTT 262 Oct 57

Norton RL, Transmitting tubes for linear amplifler service NCR 41 Pt8 56

Norwood VT , Note on a method for calculating coupling coefficients of elements in antenna arrays (L) coefficients of elements in antenna arrays.(L)
T-AP 213 Oct 55
Nothman MH, See Fling JJ
Notz WA, See Leiner AL
Novick D, Weapon system cost analysis.
T-EM 67 Jil 56
Nowalk TP, See Henkels HW
Nowogrodski M, Magnetron operation at very-long pulses. NCR 22 Pt3 55 Nowogrodski M., Design of traveling-wave tubes for air-borne applications. WCR 66 Pt3 58 Noyce RN, See Grinich VH
Novce RN, See Grinich VH
Novce RN, See Hoemi JA
Noyce RN, See Sah CT
Nozick S, Burton NH and Newman S, A high writing speed draft trace tible. NCR 121 Pt3 54
Nozick S, Writing speed and tonal range of dark trace tibles. T-ED 18 Apr 55
Nozick S, Record driverse the developments. Nozick S., Recent dark-trace tibe developments. T-ED 66 Jan 56 Nozick S., See Winkler S. NTSC signal specifications. P 17 Jan 54 NTSC color television standards. P 46 Jan 54 Nucci EJ, The Navy specification program for reliability. T-RQC 27 Sep 58 Numakura T , See Miura T Nunan C , Survey of electron accelerators and radioactive sources for high energy radiation therapy (abstract) . WCR 4 Pt9 57 Nussbaum A , Electrical characteristics of power transistors , P 315 Mar 55 Nyboer J., Electronic plethysmography. T-ME 5 Nov 55 Nygard JC, Kelliher MG and Skaggs LS, New linear electron accelerators for radio therapy. NCR 109 Pt9 55 Nygard JC, See Kelliher MG -0-Oakes JB , Analysis of junction transistor audio oscillator circuits . P 1235 Aug 54 oscillator circuits. P 1235 Aug 54
Oakes WJ, See Hirsch I
Oates WJ, Automatic soldering machine for printed circuit board assemblies. NCR 20 Pt6 58
Oherly JJ, See Marcus A
O'Brien BJ, RC oscillators.(L) P 486 Feb 54
O'Brien JA, Unit-distance binary-decimal code
translators.(L) T-EC 122 Jun 57
O'Brien RM. See Lomer PD
O'Brien RM. See Lomer PD
O'Brien RM. Your self-development into supervision and O'Bryan HM , Your self-development into supervision and management (abstract). WCR 57 Pt10 57 Ochs GR, See Carpenter RJ Ochs SA, See Weimer PK Ocko R., A high power UHF station transmitter. WCR 97 Pt8 57 Oettinger AG., See McCulloch WS Octinger AG, See McCullock WS Ogawa T, Frequency variations in short-wave propagation. P 1934 Dec 58 Onawa T, See Takahashi I Ogilvie AR, Television in radiography. WCR 177 Pt6 57 Ogland JW, Factors influencing target detectability on CRT screens. T-ANE 215 Dec 58 O'Goman V, An automatic dip soldering machine. NCR 43 Pt6 57 O'Grady M., See Wait JR Olim EA., A broad-band microwave circulator. T-MTT 210 Oct 56 Olim EA, See Clavin A
Ohman GP, Universal curves for the vertical polarization reflection coefficient. T-AP 140 Jan 57
Ohman J, See Ginkel W
Oizumi J and Kimura M, Design of conditionally stable feethack systems. T-CT 157 Okada RH. Potentials produced by an eccentric current dipole in a finite-length circular conducting cylinder. T-ME 14 Dec 56 Okada S, On node and mesh determinants.(L) P 1527 Oct 55 Okada S. On the information invariant T-IT 95 Jun 56 Okam ra S. See Crillen AL Okress EC, Utilization of stainless in large tube fabrication. T-ED 66 Feb 54 Okress EC, Gleason CH, White RA and Hayter WR, Design and performance of a high power pulsed magnetron. T-ED 161 Apr 57 Okun AM, The user looks at the component parts problem. T-CP 58 Sep 54 Okon AM and Cohen J, Ornanizing for reliability. T-RQC 1 Jan 57 Olin RW, Unusual applications of radio mobile peculiar to the forest undistries. T-VC 6 Jul 56 Oliner AA, The radiation conductance of a series slot in strip transmission line (summary). NCR 89 Pt8 54 Other AA, Equivalent circuits for discontinuities in balanced strip transmission line. T-MTT 134 Mar 55 Oliner AA. The impedance properties of narrow radiating slots in the broad face of rectangular waveguide. T-AP 4 Jan 57 Oliner AA . See Altschuler HM Oliner AA . See Edelhera S Oliner AA . See Felsen LB

Oliver BM , Directional electromagnetic couplers : P 1686 Nov 54

Oliver FJ, If you write for "Electrical Manufacturing." T-EWS 23 Mar 58

Ollver J.W., American history I would like to teach to en-alneering students. SQ 27 Dec 57 Oliveros E., See Comerci FA Olmstead JA and Roth M., Pulse-firing and recovery time characteristics and the 2021 Thyratron (abstract). NCR 184 Pt6 57

NCR 184 Pt6 57

Olmstead JA, See Johnson EO

Olson HF, Houghton WD, Morgan AR, Zenel J, Artzt M, Woodward JG and Fischer JT, A system for recording and reproducing television signals.

T-AU 159 Nov-Dec 54

Olson HF and Preston J, Some new developments in high fidelity loudspeakers (abstract). NCR 8 Pt6 54

Olson HF, Houghton WD, Morgan AR, Zenel J, Artzt M, Woodward JG and Fischer JT, A system for recording and reproducing television signals (abstract).

NCR 119 Pt7 54

NCR 119 Pt 54

Olson HF and Belar H, Electronic music synthesizer
(abstract). NCR 62 Pt7 55

Olson HF, A magnetic tape system for recording and reproducing standard FCC color television signals—general confiderations (.bstr.et). NCR 16' Pt7 5'

Olson HF and Belar H, Phonetic typewriter.

T-Att 90 Jul-Aug 57

Olson HF, Pinpoint: Professional Group on Audio. SQ 37 Sep 57

Sq. 37 Sep 57

Olson RM, Reproducible gas discharge noise sources as possible microwave noise standards. T-I 315 Dec 58

Olson RH, Who wants a good jeb? So 18 Dec 55

Olson CO, Automatic damping recorder for wind tunnel applications. T-I 182 Sep 57

Olthius RW, Considerations in klystron design for microwave relay systems. T-MTT 103 Apr 54, T-CS 103 Jul 54.

Oltman HG Jr and Bittner BJ , Automatic tracking antenna array for the 217 mc telemetering band (APOTA). NCR 83 Pt1 56

O'Meara TR, The exact design of two types of single-crystal, wide-band crystal filters. T-CP 46 Mar 58

O'Meara TR, The symmetrical transfer characteristics of the narrow-band-width four-crystal lattice filter. T-CP 84 Jun 58

O'Meara TR , On the synthesis of the crystal-capacitor lattice-filter with symmetrical insertion loss characteristics . T-CT 110 Jun 58

O'Meara TR and Sydnor RL , A very-wide-band Balun transformer for VHF and UHF . P 1843 Nov 58

O'Meara TR , See Sydnor RL Omori S and Sakurai K , A new estimating method of equivalence error in the microwave microcalorimeter . T-I 307 Dec 58

On terminology for feedback control systems .(L)

T-AC 94 Feb 57
Oncley PB, See Petermann LA
O'NellI GD, The Influence of the Internal correction voltage on the proper ratings of receiving-type tubes.
T-ED 69 Apr 58

O'Neil SJ, Operational analysis of track-while-scan radars . NCR 123 Pt5 54

O'Nell SJ, A servomechanism approach to the problem of communication for aircraft control. T-CS 129 May 56 T-ANE 55 Jun 56

O'Neil EL, Spatial filtering in optics. T-IT 56 Jun 56 O'Nelli RJ, Electronic design for a digital computer. NCR 18 Pt6 55

Once M., Network transformations concerning Jaumann networks.(L) P 1015 Aug 55
Once M and Ushirokawa A. Inductive ac admittance of junction transistor.(L) P 1475 Oct 56

Once M., Effects of evaporated electrodes on quartz resonator vibrating in a contour mode (L) P 694 May 57 Oono Y, Design of parallel-t resistance-capacitance net-works. P 617 May 55

works, P 617 May 55
Onno Y, Application of scattering matrices to the
synthesis of n ports. T-CT 111 Jun 56
Open discussion notes. T-ED 274 Dec 54
Orchard HJ, Computation of elliptic functions of rational
fractions of a quarteneriod T-CT 352 Dec 58
Orchard HJ, See Thomson WE
Ordung PF. See Shea JE
Ore FR, See Dultamel RH
Orestorn A. See Maisheyer W.

Ore FR, See DuHamel RH
Orenhero A See Mainheruer W
Orlacchio AW and Hieber G, Trends in acceleration
measurement. T-1 93 Jun 57
Orlando AJ, See Greenquist RE
Ormsby RD, See Murphy GJ
Ornstein W, See Murphy GJ
Ornstein W, 450 MC mobile equipment equipment.
T-VC 22 Jun 54
Ornstein W, 450 MC mobile equipment employing direct
frequency modulation. NCR 8 Pt8 55
Ornstein W, A selective calling system to 106A standards
employing cold cathode thyrations. T-VC 17 May 57
Orr LW. Wide-band amplitude distribution analysis of

Orr LW, Wide-hand amplitude distribution analysis of voltage sources. NCR 92 Pt10 54
Orr LW, See Butler TW Jr
Ortusi JA, The various theories on the propagation of ultrashort waves beyond the horizon. (L) T-AP 86 Ap. 55

Ortusi JA, Conditions of analogy between the propagation of electromagnetic waves and the trajectories of particles of same spin with application to rectfying magne-

trons . T-AP 359 Jul 56

trons. 1-AP 359 Jul 56
Ortusi JA, The amplitude concept of an electromagnetic wave and its application to junction problems in waveguides. T-AP 156 Apr 56
Osborne EF, See Axelby GS
Osborne LS, See Bildwin DE
Osche RA, New Tevels of performance for general purpose resistors in anny amplications. NCR 97 Pt6 57
Osluma K, See Gillette PR

Ostuma K., See Gillette PR
Ost R., Short cuts In printed-circuit wirlng.
T-IE 1 Mar 57, T-PT 1 Apr 57

Ostaff WA, An accelerated aging and coafing procedure for lowering current noise in carbon composition resistors.(L) P 691 May 57

Oswald AA, Early history of single-sideband transmission . P 1676 Dec 56

Oswald J. The theory of analytic band-limited signals annlied to carrier systems. T-CT 244 Dec 56 Otis EJ, Industrial digital systems. T-IE 73 May 58 Otley KO, Shoemaker RF and Franklin PJ, A voltagesensitive switch. P 1723 Oct 58

O'Toole JB, Logic design symbolism for direct-coupled transistor circuits in digital computers. WCR 251 Pt4 57

O'Toole JB. See Kirchhoff G Otterman J. On the order of the differential equation describing an electrical network (L) P 1024 Jul 57

Otterman J, Aperture correction for instrumentation systems.(L) P 781 Apr 58

Otterman J, On the loop- and node-analysis approaches to the simulation of electrical networks T-EC 199 Sep 58

to the simulation of electrical networks.
T-EC 199 Sep 58

Ottobre J. See Famwick C.
Overdeer RH., AGC design considerations for television receivers. NCR 154 Pt 758

Overley JP, Energy distribution in music.
T-AU 12C Sep-Oct 56

Overn WM. See Rossins TD

Oven KH. See Ellis CR

Owen RB, The decay times of organic scintillators and their application to the discrimination between particles of differing specific ionization. T-NS 198 Dec 58

Owens CD, Modern magnetic ferrites and their engineering applications. T-CP 54 Sep 56

Owens CD, A survey of the properties and applications of ferrites below microwave frequencies. P 1234 Oct 56

Owens CD, A survey of the properties and applications of ferrites below microwave frequencies. P 1234 Oct 56

Owren L and Stark RA, Long-range auroral backscatter echoes observed at 12 mc from College, Alasku.
WCR 262 Pt1 57

Owyang GH and Wu TT, The approximate parameters of slot lines and their complement. T-AF 49 Jan 58

Ozaki H and Ishii J, Synthesis of transmission-line networks and the design of UHF filters.
T-CT 325 Dec 55

Ozaki H, On the Flalkow-Gerst synthesis of RC transfer functions. T-CT 372 Dec 55. Correction:

Ozaki H and Ishii J, Synthesis of a class of strip-line filters. T-CT 104 Jun 58 Ozaki H, On Riblet's theorem.(L) T-MTT 331 Jul 58 Ozaki H, Synthesis of three-terminal networks with two kinds of elements. T-CT 267 Dec 58, T-CT Dec 58

-- P ---

Paananen RA, Thermal properties of tungsten vs copper for electron tube delay lines.(L) P 500 Feh 58
Pachares J, A table of blas levels useful in radar detection problems. T-IT 38 Mar 58
Pachares J See Martin RA
Packard GN, Performance of the Bell System frequency standard (abstract). NCR 45 Pt10 54
Packard KS Jr, Optimum Impedance and dimensions for strip transmission line. T-MTT 244 Oct 57
Packard KS Jr, Effect of correlation on cembiner diversity. (L) P 362 Jan 58
Packard KS Jr, Effect of correlation on cembiner diversity. (L) P 362 Jan 58

Packard KS Jr, The cutoff wavelength of trough wave-quide.(L) T-MTT 455 Oct 58

Packard KS Jr and Park D. Planar transmission lines --Parts III and IV. (L) T-MTT 163 Apr 57, Correction: T-MTT 265 Oct 57

Packard KS Jr., See Fromm WE
Packard ME. See Allen TL
Packard RH and Schorr MG., A transistor regulated power sumply for video circuits. T-BTS 32 Dec 57

Paddock RR, A reliability analysis of the effects of nu-clear radiation on the electrical properties of capaci-tors. T-ROC 27 Dec 58 Paganelli CV. See Solomon AK

Paganelli CV. See Solomon AK
Page CE, Equipment operating characteristics for color
television. T-BTS 35 Mar 55
Page CH, Error-criterion vs harmonic content.(L)
T-CT 70 Sep 54
Page CH, Annilications of the Fourier integral in physical
science. T-CT 231 Sep 55
Page CH, Harmonic generation with Ideal rectifiers.
P 1738 Oct 58

Page DF and Boothroyd AR, Instability In two-port active networks. T-CT 133 Jun 58

Page DF, A design basis for junction transistor oscillator circuits. P 1271 Jun 58 Page DF, See Molozzi AR Page IH, See Chambers TH

Page RM, Monopulse radar, NCR 132 Pt8 55

Page T, Training for operations research groups. NCR 45 PLI1 54 Palhis LE. See Erickson GF Paige A and Kuh ES, Optimum synthesis of RC ladder net-works (abstract). WCR 46 Pt2 58

Paiviner J. See Loev D Paiviner J. See Mreide W

Pakala WE. See Showers RM
Palevsky M., A solid-state analog-to-digital conversion device. NCR 222 Pt.4 58
Palluel P and Goldberger AK., The O-type carcinotron tube. P 333 Mar 56

Palmer HL , See Enastron RW Palmer HW , See Dwork L

Palmer JL and Susskind C, Injection of convergent beams focused by periodic magnetic fields. WCR 130 Pt3 57

WCR 130 Pt3 57
Palmer RC, System delay characteristics in NTSC color television. P 92 Jan 54
Palmer WF and Rice DH, Characteristics and applications of low impedance diodes used as voltage variable capacitors. T-BTR 10 Jan 58, (title only)

Palmer WE , See Schiess G NCR 132 Pt7 58

Palmer WF. See Arouchi AY
Palmer WE and Schless G., Transistorized television vertical deflection system. T-BTR 98 Oct 57

Pan PM, See Mayer CB
Pan PM, See Mayer CB
Pan PM, See Millen EB
Pan WY, Investigation of UHF television amplifier tubes.
T-BTR 14 Jan 54, T-ED B Feb 54

Pan WY and Carlson DJ, Analytical approaches to local oscillator stabilization. T-BTR 57 Oct 56

Panasiewicz JJ, Enliancement of aircraft radar return by use of airborie reflectors and circular polarization. NCR 89 Pt8 56

Pankove JI and Mueller CW, A pnp triode alloy junction transistor for RF amplification (abstract), T-ED 6 Feb 54

Pankove JI, Transistor fabrication by the melt-quench process P 185 Feb 56
Pankove JI, Notes on scientific education in France.

Pankove JI, Notes on scientific education in France. SO 16 May 58 Pankove JI, see Mueller CW:
Pankove JI, See Moore AR
Pankraz O, Various definitions of the delta entities.(L) P 1653 Sep 58
Pantell RH, A new method of driving-point impedance sythesis.(L) P 861 May 54
Pantell RH and Matthaei GL, Synthesis techniques.(L) P 625 May 55
Pantell RH, Minmum-phase transfer-function synthesis. T-CT 133 Jun 55
Pantell RH, Coleman PD and Becker RC, Dielectric slow

Pantell RH, Coleman PD and Becker RC, Dielectric slow-wave structures for the generation of power at millimeter and submillimeter wavelengths. T-ED 167 Jul 58

Pantell RH, General power relationships for positive and negative nonlinear resistive elements. P 1910 Dec 58

P 1910 Dec 58
Papoulis A, The nondestructive read-out of magnetic cores. P 1283 Aug 54
Papoulis A, Displacement of the zeros of the Impedance Z(p) due to incremental variations in the network elements. P 79 Jan 55

Papoulis A, On the expansion of a network response into a series of orthogonal functions.(L)
T-CT 104 Mar 55

Papoulis A, Comment on Weiss' letter.(L)
T-CT 283 Sep 55
Papoulis A, On the compensation theorem.(L)
T-CT 79 Mar 56
Papoulis A, Frequency transformations in filter design.
T-CT 140 Jun 56
Papoulis A, On the approximation problem in filter design.
NCR 175 Pt2 57

Papoulis A. Poles and zeros squared.(L) P 361 Jan 58

Papoults A. Optimum filters with monotonic response . P 606 Mar 58

P 606 Mar 58
Panoulis A, A new class of filters. NCR 42 Pt2 58
Panoulis A, The approximation problem in lumped delay lines. NCR 102 Pt2 58
Panoulis A, See Chen TC
Pannas NL, A ratiometer. T-I 28 Anr 54
Pappenfus EW, Single-sideband techniques for marine communications. T-CS 50 Mar 55

Papperfus EW, Improving air-ground communications.

T-ANE C Sep 55

Papperfus EW, The ni network for use with RF amplifiers. SQ 31 Dec 55

Papperfus EW, An airborne single sideband transceiver.

Pappenfus EW, An airborne single sideband transceiver. T-CS 94 May 56
Pappenfus EW, Power and economics of single sideband. P 1689 Dec 56
Pappenfus EW, See Cox RT
Pardue DR, See Kalmus HP
Parlsh CL, Phase angle analogs in out-of-sight control instrumentation. T-TRC 1.1 Apr 57,
T-I June 57

Park CW. See Smith BH Park D. Planar transmission lines. T-MTT 8 Apr 55 Park D. Planar transmission lines—II. T-MTT 7 Oct 55

Park D, Planar transmission lines (L) T-MTT 130 Apr 56

Park D. Addendum to planar transmission lines—1.(L) T-MTT 75 Jan 57
Park D, See Giger AJ
Park D, See Packard KS Jr Park JH Jr and Glaser EM, The extraction of waveform information by a delay line filter technique. WCR 171 Pt2 57 WCR 171 Pt2 57
Park JH Jr., See Glaser EM
Park JH Jr., See Gott E
Parker CF and Anderson RJ, Constant beamwidth broadband antennas. NCR 87 Pt1 57
Parker CF, See Goatley C
Parker EG and Casabona A, General design considerations for TACAN transponder antennas.
WCR 91 Pt1 57 Parker RJ, Permanent magnets in audio devices. T-AU 15 Jan-Feb 58, T-CP 32 Mar 58 Parker TJ, A modulator technique for producing short pulses in high powered magnetrons. NCR 142 Pt5 54 pulses in high powered magnetroms.

NCR 142 Pt5 54

Parker WN and Hoover MV, High-speed electronic fault protection for power tubes and their circuitry.

NCR 10 Pt9 55

Parkhill EM, See Daily L

Parks RJ, See Stewart RM

Parry CA, The equalization of base-band noise in multichannel FM radio systems. P 1527 Nov 57

Parsegian V, Instrument opportunities in nuclear systems.

NCR 83 Pt9 56

Parsen P, See Hall GL

Parsons E, See Freeman H

Parsons JH, Wong KL and Yeiser AS, Statistics of electronic system failures. NCR 69 Pt6 55

Parsons R, See Finn G

Parsons R, See Finn G

Parsons SL, See Barnett GF

Partin ME, See Clapo RG

Partind E, See Bryan JS

Partin ME. See Clapo RG

Partridge GR, A transistorized pulse code modulator.

T-EC 7 Dec 54. Correction: T-EC 20-Mar 55

Parzen P, Integral equation solution for traveling-wave tube parameters. T-ED 6 Jul 55

Parzen P, See Honig W

Parzen P, See Scotto MJ

Pascalar HG, Strip line hybrid junction.

T-MTT 23 Jan 57

Paschkis V, Automatic techniques, large computers, and engineering calculations. T-IE 27 Aug 58

Pask DM and Shanahan WJ, Flare-out unit AN/APN-1 XA-3 and aid to aircraft instrument landing.

T-ANT 7 Jun 54 XA-3 and aid to aircraft instrument landing, T-ANE 7 Jun 54 T-ANE 7 Jun 54
Pashler PE, Light amplification. T-BTR 27 Jul 55
Passman HM, Thermal design of commercial airborne
electronic equipment. NCR 37 Pt0 57
Patraiko J, A miniature strobe light for a 60,000 rpm
bearing tester. T-1E 3 Mar 56
Patraiko J, See Condit R
Pattengill G. See Brown RR
Patterson GW, Symbolic methods in the design of delayand cycle-free logical nets. NCR 58 Pt4 54
Patterson GW, Unlt-distance number-representation
systems a generalization of the Gray code. (L)
P 1024 Jul 57
Patterson M. Design techniques for more design of the control of t Patterson M , Design techniques for upgrading the relia-bility of weapon systems during flight-readiness checkout. WCR 3 Pt6 58
Patton HW, A new concept In audio frequency detectors.
NCR 24 Pt9 55 Patton HW, Magnetic amplifier industrial control techniques for improved accuracy and reliability.

NCR 167 Pt6 56 Patton HW, Stabilized magnetic amplifier circuits. NCR 170 Pt6 57 NCR 170 Pt6 57
Patton WT, See Tillman JD
Paul DI, Scattering of electromagnetic waves in beyondthe-lorizon radio transmission. T-AP 61 Jan 58
Paul FA, A comparison of 6AK5 and 5654 tubes.
T-CP 18 Mar 54
Paul FA, See Lee LK
Paul W. Oximetry. T-ME 24 Jul 58
Pawsey DC, Estimation of dissipative effects in Tchebycheff symmetrical filters.(L) P 1763 Oct 58
Payne D. See Colopia H
Payne DV, Discussion: Distributed amplifier theory.
P 596 Mar 54
Payne VE, Design of oscillographic recorders for efficier Payne VE, Design of oscillographic recorders for efficient use. T-I 58 Mar 58
Paynter DA, An unsymmetrical square wave power oscillator. T-CT 64 Mar 56
Paynter DA, See Chow WF Payitter DA, See Chow WF
Paz HJ, See Deuitch DE
Peach LC. See Cohin GI
Pearlman AR, Some properties and circuit applications
of siper-alpha composite transistors.
T-ED 25 Jan 55
Pearlston CB Jr, See Albin AL
Pearson A. See Lennox CG
Pearson GL and Fuller CS, Silicon p-n junction power
rectifiers and lighting protectors. (L) P 760 Apr 54
Pearson GL and Brattain WH. History of semiconductors Pearson GL and Brattain WH, History of semiconductor re-search. P 1794 Dec 55 Pearson HA, See Carlisle RW Pease RL and Mingins CR, A universal approximate for-mula for characteristic inhedance of strip transmission lines with rectangular inner conductors. T-MTT 144 Mar 55

Pease RL, Radiation from modulated surface wave structures.—II. NCR 161 Pt1 57

Pease RL, On the pronogation of surface waves over an infinite grounded ferrite slab. T-AP 13 Jan 58

Peattie CG and Macdonald JR, Prediction of semiconductors surface response to ambients by use of Lewis acid-base theory. (L) P 1292 Sep 57.

Correction: P 1492 Nov 57

Peckham DH and Phillips WE, A 1-kw amplifier for the military UHF band. T-CS 3 May 56

Peckhat M and Johiannson D, The Bonneville power administration land-mobile communications system.

T-VC 1 Jul 56

Peccia W. Small. Lightweight RF interference suppression Pecota W, Small, lightweight RF interference suppressors using transistors. NCR 164 Pt8 58
Pederson DO, Regeneration analysis of junction transistor multivibrators. T-CT 171 Jun 55
Pederson DO and Ghausi MS, The root locus design of transistor feedback amplifiers. WCR 87 Pt2 58 Peek SC, A disc-scal triode as a UHF amplifier. T-8TR 31 Jan 54 Peek SC, The engineer and return on investment. NCR 29 Ptll 54 Peeler GDM , Kelleher KS and Coleman HP , Virtual source Luneberg lenses . T-AP 94 Jul 54 Peeler GDM and Gabriel WF , Volumetric scanning GCA antenna . NCR 20 Ptl 55 Peeler GDM and Archer DH, A toroidal microwave re-flector. NCR 242 Pt1 56 Peeler GDM and Coleman HP, Microwave stepped-index Luneberg lenses. T-AP 202 Apr 58 Pekeris CL, The seismic pulse an example of wave propagation in a doubly refracting medium.

T-AP 508 Jul 56
Pell AR, Wanted, sales engineers.

SQ 43 Dec 56 Pelton RA, See Hirsch I Petton RA, See Hirsch I

Penfield H, A phase tracking interferometer.
P 321 Jan 58

Penfield P, Part-time technical writing can be profitable for you. SQ 32 Feb 58

Penndorf R, Forward scattering for nonabsorbing MIE particles. T-AP 581 Jul 56

Penndorf R, Total MIE scattering coefficients for real refractive indices. T-AP 581 Jul 56

Pennell ES, A temperature controlled ultrasonic solid acoustic delay line flabstract). T-UE 48 Jun 54

Pensak L, The Metrechon—a new half-tone picture storage tube. NCR 117 Pt3 54

Pentecost JL and Ritt PE, Light-weight ceramic materials Pentecost JL and Ritt PE, Light-weight ceramic materials as high-frequency dielectrics. T-CP 133 Dec 57 Pepinsky R, See Shirane G
Percival JO, See Aldrich RW
Percus JX, Matrix analysis of oriented graphs with
irreducible feedback loops. T-CT 117 Jun 55 Perini H and Sferrazza P., Rectangular waveguide to strip-transmission-line directional couplers. WCR 16 Pt1 57 Periman S, The power supply in military equipment. NCR 126 Pt6 56 $\,$ Perlman S, See Nirenberg A

Perper LJ, The role of large-scale experimentation with
flight systems. NCR 122 Pt8 57

Perry AD, Pulse-forming networks approximating equalripple flat-top step response. NCR 148 Pt2 57 Perry KE, See Hofheimer RW Perry SV, See Corrington MS Perry VG, Pertinent information for electronists. SQ 53 Sep 56 JO 30 50 50 PertSchuk DW, The reliability qualification of electronic equipment. T-RQC 8 Nov 57
PertSchuk DW, See Dertinger EF
Peshel RL, The application of WOW and flutter compensation techniques to FM magnetic recording systems. NCR 95 Pt7 57 Peter M and Strandberg MWP, Phase stabilization of microwave oscillators. P 869 Jul 55

Petennann LA and Oncley PB, Detection of ultrasound with phosphorescent maternals. T-UE 42 And 56

Peters CJ and Woodford JB, Application of the time series to the calculation of the transient response of band-pass systems. NCR 65 Pt2 55

Peters LV, End-fire peter area follows this helder. Peters L Jr., End-fire echo area of long, thin bodies.
T-AP 133 Jan 58
Peters RD, See Bension J
Petersen JA, The AN/AKT-14 telemetry system: Part IV
—Quick-look recording system. T-TRC 13 Mar 56 Peterson A, Sound measurements at very high levels. T-AU 71 May-Jun 55 Peterson A, Intermodulation distortion: its measurement and evaluation. NCR 51 Pt7 57

Peterson AM and Staff, Radio and radar tracking of the Russa nearth satellite.(I) P 1553 Nov 57

Peterson AM, See Eshelman VR

Peterson AM, See Leadabrand RL

Peterson AM, See Villard OG, Jr

Peterson AM, See Villard OG, Jr Peterson AM. See Vincent WR
Peterson FW, A new design approach for a compact kilowatt UHF beam power tribe. WCR 36 Pt3 58 walt UHF bean power tube. WUR 36 Pt.5 28
Peterson JW, See Hittinger WC
Peterson NM, The fitting of a failure-response curve to
engermental data. T-RQC 11 Dec 58
Peterson NM, Application of a relbod of inspection testtube to ass rance reliability. T-RQC 19 Dec 58 Peterson RE, A novel TV slide sequencing arrangement. T-BTS 78 Jan 56

Peterson RM and Ritchart RC , Recent developments in shaped beam display and recording techniques.
NCR 21 Pt3 58
Peterson SB, See Kintner PM
Peterson WG, Local oscillator radiation from TV and FM sets. T-BTR 32 Mar 58
Peterson WW, Birdsall TG and Fox WC, The theory of signal detectability. T-IT 171 Sep 54
Peterson WW, See Batten HW
Peterson WW, See Batten HW
Peterson WW, See Slattery TG
Petric AF, Performance of the distributed port loudspeaker enclosure. NCR 151 Pt7 56
Petric WC, A proportional data transmission system.
NCR 169 Pt5 54 shaped beam display and recording techniques. Petrik JS , Automatic preset switcher.
T-BTS 18 Dec 58
Petroff MD , See Clark JW
Petrou NV , Technicians as an aid to engineers.
T-E 26 Mar 58 Petry CA, Frequency propagation forecasting for civil air-line operations on world air routes. T-CS 77 Nov 54 Pettit JM, Editorial—The International Scientific Radio Umon. T-CT 2 Sep 54 Pettit JM, See McWhorter MM Petzing ER, Military applications of microminiaturization (title only). NCR 21 Pt6 57 Peyser WP, Swept wide-range SWR indicators for 100 to 1350 megacycles. T-1 35 Apr 54 1350 megacycles. T-1 35 Apr 54
Peyser WP, See Albanese VJ
Pezaris SD. See Bose AG
Pfeffer JL. See Boylan AP
Pfeffer I, See DeL ano RH
Pfeffer I. See Favreau RR
Pfund ET Jr and Suverkrop B, The development of 5CO
degree C low-loss high-frequency cables.
WCR 121 Pt6 58 degree C low-loss high-frequency cables.
WCR 121 Pt6 58
Phelps JM, Management of a Navy laboratory.
T-EM 90 Sep 57
Phillips J and Chang HC, Germanium power switching devices. T-ED 13 Jan 58
Phillips AB and Intrator AM, A new high frequency npn solicon transistor." NCR 3 Pt3 57 Phillips CE, Pulsed operation of traveling-wave monopulse arrays utilizing phase comparison techniques. WCR 158 Pt1 57 Phillips EC, Introduction to panel on radar plus what? T-CS 56 Mar 55 Phillips HB, See Swank RK
Phillipson LL, An analytical study of scattering by thin dielectric rings. T-AP 3 Jan 58 Phillips ML , Estimating the ratio of steady sinusoidal signal to random noise from experimental data (L) P 692 May 56 P 692 May 56
Phillips WE, See Peckham DH
Phinney TW, The vagabond wireless microphone system.
T-AU 44 Mar-Apr 54
Phipps P, See Alman J
Pickard TB, The effect of noise upon a method of frequency measurement. T-IT 83 Jun 58
Piddington JH, Cosmical electrodynamics.
P 349 Jan 58
Pierre FT See Chapman I Pierce ET. See Chapman J
Pierce ET. See Chapman J
Pierce JA, The diurnal carrier-phase variation of a 16kilocycle transatlantic signal. P 584 May 55
Pierce JA, Intercontinental frequency comparison by very
low-frequency radio transmission. P 794 Jun 57 Pierce JA , Recent long-distance frequency comparisons T-I 207 Dec 58 Pierce JN, Theoretical diversity improvement in frequency-shift keying. P 903 May 58 Pierce JN, A Markoff envelope process. T-IT 163 Dec 58 Pierce JR and Tien PK, Coupling of modes in helixes. P 1389 Sep 54 Pierce JR, Power on a one way street. SO 10 Dec 54 Pierce JR, General sources of noise in vacuum tubes. T-ED 135 Dec 54
Pierce JR, Some recent advances in microwave tubes.
P 1735 Dec 54 Pierce JR , Propagation in linear arrays of parallel wires. T-ED 13 Jan 55 Pierce JR, Studying to do research. SQ 22 Feb 55 Pierce JR, Orbital radio relays (summary). NCR 44 Pt10 55 Pierce JR, Physical sources of noise. P 601 56, P May 56 Pierce JR, Instability of hollow beams. T-ED 183 Oct 56 Pierce JR and Karlin JE, Information rate of a human channel (L) P 363 Mar 57
Pierce JR, How to prepare a talk (L) P 1414 Oct 57 Pierce JR. Life in a laboratory. SQ 2 Dec 57 Pierce JR. What good is information theory to engineers? NCR 51 Pt2 57 Pierce JR and Karlin JE, Reading rates and the informa-tion rate of a human channel. WCR 60 Pt2 57 tion rate of a human channel. WCR 60 Pt2 57
Pierce JR, The challenging field of engineering writing and morech T-EWS 12 May 58
Pierce JR. See Gannett EK
Pierce JR, See Gottschalk WM
Pierce JR, See Louisell WH
Pierce JR, See Ramo S
Pierce JR, See Wann CC
Pierce RL, See Becker CH
Piertennol WJ See Monton JA
Pibl GE. Delectric patentiameters. P 1758 Dec 54 PublicE. Dielectric potentiometers. P 1758 Dec 54

Plinick C. Automatic job control data system . T-IE 17 Ang 58 T-IE 17 Aim, 58

Pince VC, Off-path propagation at VHF (L)
P 922 Ma, 50

Pinney JE, See Brower WL

Pinney JE, See Ladd JH

Pipes LA, Four methods for the analysis of time-variable circuits. T-CT 4 Mai: 55

Pipes LA, A mathematical analysis of a series circ in containing periodically varying resistance.
T-CT 67 Mar 55

Pipes LA, Matrix method of circuit analysis Pipes LA, Matrix method of circuit analysis. T-CT 110 Jun 55 Pippin JE, Scattering matrix measurements on nonrecipro-cal microwave devices (L) P 110 Jan 56 Pippin JE, Frequency doubling and mixing in ferrites .(L) P 1054 Aug 56 Pippin JE and Hogan CL. Resonance measurements on nickel-cobalt ferrites as a function of temperature and on nickel ferrite-aluminates. T-MTT 77 Jai. 58 on nickel ferrite-aluminates. T-MTT 77 Jan. 58

Pipnin JE, See Rodrique GP

Pitcher TS, See Root WL

Pitt CF, Barth BP and Godard BE, Electrical properties of enoxy resins. T-CP 110 Dec 57

Pittman RR, See Smith FC Jr

Pitts WH. See Wall PD

Place H, See Wall PD

Place H, See Maglinis

Plante RA, See Renner GW

Platzer HL, Simulation of a human tracking problem on the UDEC III computer. WCR 286 Pt4 50

Pleak HC and Baldwin AV, Environmental effects on vacuum-tube life. T-RCC 93 Jan 57 Pleuthner WA, How teamwork brainstoming solves pro-blems (abstract). NCR 84 Pt6 56 Plonsey R, Corrections to current distributions on curved reflectors. NCR 48 Pt1 56 Plotkin M See Cottingham JG
Plotkin M See Grosswald E
Plotlife RL Digital communication systems.
NCR 186 Pt8 58
Plummer CB Television satellite systems.
T-BTS 65 Mar 55 Plummer C8, More words per minute per kilocycle. NCR 14 Pt8 56 Plummer CB, Reasons for establishing a service. T-VC 74 May 57 Plummer CB. How far can we go in narrowing channels in the land mobile services? NCR 3 Pt8 57 In the land mobile services? NCR 3 Pt8 57

Plummer CB, See Bailey A

Plummer RE, Surface-wave beacon antennas.

T-AP 105 Jan 58

Plush RW, See Watt AD

Pockman L and Spragins J, A wide angle loudsneaker of a new tyne. WCR 45 Pt7 57

Podeli EJ, See Hollander M

Podolsky L and Spragite JK, Some characteristics and limitations of capacitor and resistor components.

T-CP 33 Mar 54

Podolsky L, Electronic components as a field of engineering activity. SQ 28 Sep 54

Pohl RG, The Nesistor—a semiconductor negative resistance device. WCR 100 Pt3 57

Pohl RG, See Andursky ME

Pollmerou LG, A new method of generating functions. Pohl RG, See Andursky ME
Pollmerou LC, A new method of generating functions.
T-EC 29 Sep 54
Pollmerou LG, A new method for generating a function of
two independent variables. T-EC 167 Sen 57
Politi EY, Progress report on a solid state FM/FM telemetering system. T-TRC 3.6 Avr 57
Polk C, Optical Fresnel-zone gain of a rectangular
aperture. T-AP 65 Jan 56
Pollack L, See Adams RT
Pollack L, See Goldman H
Pollak HO, Future mathematical curriculum for electrical
engineers. NCR Pt10 58 Pollak HO, On the future mathematical curriculum for electrical envineers. NCR 37 Pt10 58 electrical ennincers. NCR 37 Pt10 58

Pollard E, The use of ionizing radiation to study virus structure. T-ME 56 Oct 56

Pollock B, See Hininhotham WA

Pomerantz M, See Spergel J

Pomerene JH. See Estrin G

Pomerene JH, See Gilchrist B

Pomerone JH, See Gilchrist B

Pomerone JH, Tack Juffer EM, Determining attenuation of waveguide from electrical measurements on short samples. T-MTT 122 Apr 56

Pools KM and Tien PK. Measurements on strive micro-

samples. I-MTT 122 Apr 56

Poole KM and Tien PK, wave ferrite devices. WCR 170 Pt3 57

Poole KM and Tien PK, frequency converter. P 1387 Jul 58

Poorte GE, See Beard AD

Pone WA, See Wait JR

Popkin-Clurman JR, Automatic balance control of colorplexers in color TV. NCR 84 Pt7 55

Popkin-Clurman JR, Video transmission testing techniques for monochrome and color.

T-BTS 14 Jun 57

T-BTS 14 Jun 57

Popkin-Clurman JR and Davidoff F, New TV signals for testing and control during programming.

NCR 23 Pt7 57

Popkin-Cluman JR and Davidoff F, An automatic level control using vertical interval test signals. NCR 5 Pt7 58

Poritsky H., Propagation of transient fields from dipoles near the ground. T-AP 582 Jul 56

Porter DD and Robinson AS, A multiple input analog multiplier (abstract). NCR 73 Pt4 56
Porter VJ, Smith SE and Naiman M, The Univac magnetic computer—Part III. Drum memory (abstract). NCR 111 Pt4 56 NCR 111 Pt4 56
Ponter WA, Administrative aspects of telecommunications. T-CS 14 Nov 54
Portmann PA, See Chisholm JH
Portz KE and Smith HR, Method for the determination of rehability. T-RQC 65 Asri 57
Poschl K, See Kleen W
Post EA, The operational applications of airborne radar. T-ANE 15 Sen 54
Post EA, The Professional Group on Aeronautical and Navigational Electronics. SQ 2 Dec 56
Post EA. Cooling airborne electronics. Post EA, Cooling airborne electronics. T-ANE 3 Mar 58 Post G. The design of automatic factories . NCR 58 Pt10 54 Post G, See Braun EL Post RF, Controlled fusion research—an application of the physics of high temperature plasmas.
P 134 Feb 57 P 134 Feb 57

Post ZA and Ritt PE, Conductive ceramics.

T-CP 81 Jm 58

Postle AH, Problems in manufacturing component parts for automation T-PT 9 Apr 58

Pote AJ, See Leonhard J

Poter AJ, See Mellen GL

NCR 36 Pt5 56

Betal M. See Vision C. Potzi H. See Kraus G
Powell FD, Analysis of systems with dead time by the root-locus method. (L) P 877 Jun 57 Powell FD. See Bates MR
Powell FH, Report on UK project to improve valves for military applications. T-QC 10 Feb 54 Powell H, See Allen J Powell HR, See Kirby MJ Powell RC, Jickling RM and Hess AE, High frequency impedance standards at the National Bureau of Standards. T-I 270 Dec 58 ands. 1-1 270 Dec 58
Powell RC. See Harrinaton RD
Powell T and Salpeter JL., Comment on: Developments in sintered magnetic materials.(L) P1448 Sep 54
Powell T, Audio pentode vs triode harmonics.(L)
P1008 Aug 55
Powell T, Enter to the editor. T-AU 111 Jul-Aug 57
Powell T, Binaural speaker listener tests.(L)
T-AU 76 May-Jun 58
Powell T. Indexes and underground atmospherics.(L) Powell T. Undersea and underground atmospherics.(L) P 1870 Nov 58 Power FS. See McLean DA
Powers KH, A prediction theory approach to information
rates. NCR 132 Pt4 56 Praylin J., A new high-stability micromicroammeter T-I 144 Jun 57 Prast JW, Simplicity for reliable low-cost operation in a digital data processing system. NCR 48 Pt5 57 a digital data processing system. NGR 48 Pt5 57
Pratt A. See Ashwell J
Pratt GW. See Barnett GF
Pratt H. Global communications. T-CS 7 Nov 54
Pratt H. A glimpse into the beginnings of radio communication. SO 11 Dec 55
Pratt H. Nikola Tesla 1856-1954. P 1106 Sep 56
Preist DH. The generation of shaped pulses using microwave klystrons. NCR 106 Pt3 58
Preston FS, An analog computer for the solution of tangents. T-EC 101 Sep 55
Preston JG. See Kear FG
Preston Tionnas H. The absolute determination of a Preston-Thomas H, The absolute determination of g (abstract only). T-F 129 Dec 58 Preston-Thomas H, See Chapman S Prew HE, Space exploration—the new challenge to the electronics industry. T-MIL 43 Dec 57 Price R, Optimum detection of random signals in Gaussian noise, with application to scatter-multipath communication. T-IT 125 Dec 56. tion. 1-11 125 Dec 56.

Correction: T-IT 256 Dec 57

Price R, The detection of signals perturbed by scatter and noise. T-IT 163 Sep 54

Price R, On entropy equivalence in the time-and frequency-domains.(L) P 484 Apr 55

Price R, A note on the envelope and phase-modulated components of narrow-band Gaussian noise.

T-IT 9 Sep 55 T-IT 9 Sep 55
Price R, The autocorrelogram of a complete carrier wave received over the ionosphere at oblique incidence.(L) P 879 Jun 57 $^{\circ}$ P 879 Jun 57
Price R and Green PE Jr, A communication technique for multipath channels. P 555 Mar 58, P Nov 58
Price R, A useful theorem for nonlinear devices having Gaussian imputs. T-IT 69 Jun 58
Price R, Analysis of the spectral shape of modulation solatter. NCR 119 PtG 58
Price R, See Manasse R
Price R, See Manasse R
Price RL, The cascode as a low noise audio amplifier. T-AU 60 Mar-Apr 54
Price RL, Modulation noise in magnetic tape recordings T-AU 29 Mar-A r 58
Price S. See Harding HG
Price CK and Anderson CT, X-band traveling wave tube Price S. See Harding HG
Price VG and Anderson CT, X-band traveling wave tube feedback oscillator. NCR 57 Pt3 57
Prihar Z, Topological properties of telecommunication networks. P 927 Jul 56

Prihar Z., Operations research as a managerial instrument of advice and decision. T-EM 4 Mai 57 Prihar Z., Operations research: the inventory problem. T-EM 9 Mai 57. Prihar Z., Reliability and economics of telecommunica-tion systems. T-CS 22 Jun 58 Primich RI., A semi-infinite array of parallel metallic plates of finite flucturess for microwave systems. T-MTT 156 Jul 56 Primich RI, Some electromagnetic transmission and re-Primich RI, Some electromagnetic transmission and reflection properties of a strip grating.

T-AP 176 Apr 57

Prince M3, High-frequency silicon-aluminum alloy junction dode. T-ED 8 Oct 55

Pritchard RL, Frequency variations of junction-transistor parameters. P 786 May 54

Pritchard RL and Coffey WN, Small-signal parameters of grown-junction transistors at high frequencies.

NCR 89 Pt3 54 Pritchard RL, Effect of base-contact overlap and para-sitic capacities on small-signal parameters of junction transistors. P 38 Jun 55 Pritchard RL, Discussion on optimum patterns for endfire arrays. T-AP 40 Jan 55, (L) P 880 Jul 55 arrays. T-AP 40 Jan 55, (L) P 880 Jul 55
Pritchard RL, Frequency response of theoretical models of junction transistors. T-CT 183 Jun 55
Pritchard RL, High-frequency power gain of junction transistors. P 1075 Sep 55
Pritchard RL, Electric network representation of transistors—a survey. T-CT 5 Mar 56
Pritchard RL, Measurement considerations in high-frequency power gain of junction transistors.(L) P 1050 Aug 56
Pritchard RL, Measurement considerations in Migh-frequency power gain of junction transistors.(L) Pritchard RL , Advances in the understanding of the p-n pinction trode. P 1130 Jun 58

Pritchard RL, Two-dimensional current flow in junction transistors at high frequencies. P 1152 Jun 58

Pritchard WL and Larkin KI, The Influence of noisy components on the sensitivity of microwave receivers.

T-ED 22 Dec 54 Pritchard WL , Notes on crystal mixer performance T-MTT 37 Jan 55 Pritchard WL , Long-line effect and pulsed magnetrons . T-MTT 97 Apr 56 Pritchard WL , See Mullen JA Prochorov AM, Theory of molecular amplifiers and oscillators using auxiliary radiation to produce active molecules. WCR 110 Pt10 57 Proctor DR, Will timing systems become heterogeneous or homogeneous? WCR 14 Pt8 58 Proctor EK and Rees M., Scanning lens design for minimum mean-square phase errors. T-AP 348 Oct 57

Proctor EK, Methods of reducing chromatic aberration in metal-plate microwave lenses. T-AP 231 Jul 58 Proctor TF , See Ackerman E

Prom GJ and Crosby RL , Junction transistor switching circuits for high-speed digital computer applications .

T-EC 192 Dec 56 Proposed IRE standard terminology for feedback control systems. T-AC 31 Mar 58
Proposter CH Jr., See Deaulieu DE
Proudfit A, St John KM, Wilhelmsen CR and Farber RJ,
Tetrajunction transistor receiver circuits.
NCR 199 Pt3 57 Prugh TA, Minimizing gain variations with temperature in RC coupled transistor amplifiers (L) P 1880 Dec 56 Prugh TA, Amplification-bandwidth exchange in transistor video amplifiers (L) P 694 May 57 video amplifiers (LL) P 694 May 57
Prugh TA, See Durieux CW
Pryslak NE, A sandwich-type metal-to-ceramic vacuum
tight seal. T-ED 66 Feb 54
Prywes NS, Diodeless magnetic shift registers utilizing
transfluxors. T-EC 316 Dec 58
Prywes NS, See Newhouse VL
Psutka ME, See Crysdale JH Published standards that may be applied to high fidelity equipment. T-AU 88 Jul-Aug 56
Pucel RA, Design considerations of junction transistors at higher frequencies. (L) P 878 Jul 55
Pucel RA, See Statz H Pucel RA , See Statz H
Puclifo GL , Determination of HF skywave absorption .(L)
T-AP 314 Jul 57
Puckett TH , A note on the admittance and impedance
matrices of an N-terminal network . T-CT 70 Mar 56
Puckett TH , See Millman J
Pugsley DW , The ignorance of the IF in TV receivers .
T-BTR 65 Apr 54 Pulles J, See Roschke EM
Pulvari CF, Ferroelectrics and their memory applications.
T-CP 3 Mar 56 T-CP 3 Mar 56
Pulvan CF and McDuffie GE Jr, Scanners for ferroelectric memory canacitors. T-EC 34 Mar 58
Purington ES, Dynamic amplifiers for phonograph reproduction. T-AU 80 May-Jun 54
Purington ES, See Hammond JH
Purinton HG, Staff engineer's part in control of design and development costs T-EM 10 Feb 54
Purl OT, Anderson JR and Brewer GR, A high-power periodically focused traveling-wave tube.
P 441 Feb 58 Puro WO and Kellelier KS, Isotropic variable index media NCR 76 Pt1 54 Puro WO, See Meyer WA Puro WO, See Wird HT Purton RF, Common emitter transistor amplifiers (L) P 1961 Dec 58

AUTHOR INDEX

Putz JL and Van Hoven GC, Use of multiple helix circuits in 100-watt CW traveling-wave amplifiers. WCR \$38 Pt3 57

Putzrath FL, See Wall HJ

Prite MO. See Clapp RG
Pyle MV. See Clapp RG
Pyle RV, See Anderson OA
Pynn RD, Microwave site selection in undeveloped country.
T-MTT 9 Apr 54, T-CS 9 Jul 54

-Q-

 Q_0 astler H , The complexity of biological computers . T-EC 192 Sep 57

Quate CF, Kompfner R and Chisolm DA, The reflex klystron as a negative resistance type amplifier. T-ED 173 Jul 58

Onate CF . See Ashkin A
Quate CF . See Louisell WH
Quate CF . See Mondel JT
Ouintan EJ . The measurement of CRT beam apertures .
T-RTR 14 Jun 57

Quirk CJ, Type testing to insure TV performance reliability. T-ROC 20 Apr 56

Quirk CJ. Training for quality control. NCR 60 Pt6 56 Quirk CJ. See Amos B

Quirk JB, Design considerations of a developmental UHF timer using an RF amplifier. T-BTR 5 Feb 58 Quitter JP, Research and development on the plano. T-AU 96 Sep-Oct 58, (abstract) WCR 27 Pt7 58

-- R --

Raabe HP , A rotary Joint for two microwave transmission channels of the same frequency band .
T-MTT 30 Jul 55

Raabe HP, Measurement of Instantaneous frequency with a microwave interferometer. P 30 Jan 57. Correction: P 490 Apr 57

Raabe HP, Antenna pattern synthesis of the most truthful approximation. WCR 178 Pt1 58

Rabinow J, Reasons for avoiding an automation program at this time (abstract). T-PT 17 Apr 58

Rabinowitz SJ, Stabilization of reflex klystrons by high-Q external cavitles, T-MTT 23 Sep 54
Rabinowitz SJ, See Blass J

Rabum LE, Attenuation measurements on short line samples. NCR 24 Pt7 55
Rach RA, An investigation of storage capacity required for a interest-burst communications system.
P 1707 Dec 57

P 1707 Dec 57
Racike MP, See Hellerman L
Radford WH, See Heller GL
Radio pronress during 1953. P 705 Apr 54
Radiow JJ, See Karn SN
Rado GT, On the electromagnetic characterization of ferromagnetic media permeability tensors and spin wave equations. T-AP 512 Jul 56
Rado JA and Hughes WL, Quantitative spectral measurements in color television. P 151 Jan 54
Rado LG, See Tungle JP
Radocy F, Magnetic tape as a recording medium. NCR 109 PT 55
Rae JR. Transmission of color over inter-city television.

NCR 109 Pt7 55
Rae JR, Transmission of color over inter-city television networks. P 270 Jan 54
Raff SJ, See Hedrich AL
Raffel J and Bradspies S, Experiments on a three-core cell for high-speed memories. NCR 64 Pt4 55
Ragazzini JR and Bergen AR, A mathematical technique for the analysis of linear systems. P 1645 Nov 54, NCR 44 Pt2 54

Ragazzini JR, Digital computers in feedback systems . NCR 33 Pt4 57 $\,$

NCR 33 Pt4 57
Ranonese F. See Flores I
Ranonese F. See Chisholm JH
Rains H, Unionization of engineers—II.
T-EM 116 Dec 57
Raisbeck G, The optimal distribution of signal power
in a transmission link whose attenuation is a function
of frequency.(L) T-IT 129 Sep 58
Raisbeck G, Minimum-loss two-conductor transmission
lines. T-CT 214 Sep 58
Raisbeck G, See King BG
Raichman JA and Lo AW, The transfluxor.
P 321 Mar 56
Raichman JA and Crane HD, Current steering in magneti

Rajchman JA and Crane HD, Current steering in magnetic circuits. T-EC 21 Mar 57

Rajchman JA, Ferrite apertured plate for random access remory. P 325 Mar 57
Rajchman JA, A survey of magnetic and other solid-state devices for the manipulation of information.

T-CT 210 Sep 57

Raichman JA, Briggs GR and Lo AW, Transfluxor con-trolled electroluminescent display panels.

P 1808 Nov 58 Raka EC, See Cottingham JG

Ramakrishna BS and Subramanian R, Relative efficiency of English and German languages for communication of semantic content.(L) T-IT 127 Sep 58 Relative efficiency

Ramberg EG, Law HB, Allwine HS, Darling DC, Henderson CW and Rosenthal H, Focusing grill color kinescopes, NCR 128 Pt3 56

Ramberg EG , A theoretical analysis of the operation of flying spot and camera tube microscopes in the ultraviolet . T-ME 58 Dec 58

Ramo S, DeForest L, Pierce JR, Goldsmith AN and Her-old EW, Creativity: a symposium. SQ 8 Sep 57

Ramo S. A new technique of education. T-E 37 Jun 58 Ramsa A, Gordon F Jr, Newman P Jr, Handen J and Jacoos H, Cadmium sulfide photocapacitor. NCR 40 Pt3 57

Ramsay JF, Microwave antenna and waveguide techniques before 1900. P 405 Feb 58

Rand A, A new concept in temperature-rise measurement of transformers. T-CP 37 Mar 58 Randle CW, The art of selection of engineering manage-ment talont. NCR 12 Pt10 57

ment talent. NCR 12 Pt10 57
Ranev WP. See Hunt FV
Ranger RH, Some aspects of stereophonic sound in motion nicture theaters (abstracts). NCR 8 Pt6 54
Ransome RL, Vehicular communications in the petroleum industry. T-VC 71 Jul 56
Rao PV, A novel type of isograph (algebraic equation solver). T-EC 97 Jun 58

Rapaport H, A microwave ferrite frequency separator. T-MTT 53 Jan 58

Raper JAA, A transistorized IF amplifier-limiter. T-CT 67 Mar 56

Raper JAA, See Stern AP
Raphael MS and Robinson AS, Permanent digital function storage using neon tubes. T-I 53 Jim 56
Rappaport M, Human engineering -- an ald to improving electronic equipment. T-IE 6 Mar 57, T-PT 6 Apr 57

Rapuano RA and Smith RV, Design considerations of microwave ovens. NCR 3 Pt9 55

Rasmussen SB, Measurement and effects of error rate in precision potentiometers. NCR 108 Pt6 57
Rathje E, See Malaker SF

Ratynski MV, Future trends in radomes for ground elec-tronic equipment NCR 236 Pt1 56

Rau DS , Radio communications—a renascent art.
T-CS 33 Dec 58

Rauch CJ. See Masters RW
Rauch CJ. See Masters RW
Rauch LL, Interpretation of sequential samples from commutated data (abstract). NCR 58 Pt5 54
Rauch LL, Ballistic missile telemetry. T-TRC 2 May 57.
Correction: T-TRC 9 Dec 57

Rauch SE. See Johnson LJ
Raudenbush DH, A high precision digital shaft position
indicator. NCR 211 Pt5 58
Rausch RH and True TT, A one tube crystal filter reference generator for color TV receivers,
T-BTR 2 Jun 57

Raven RS See Buchan JF
Rawcliffe RD, See Bitzer D
Rawlings JH, See Turmer LR
Rawlins RE, Evaluation for magnetic tape equipment for telemetering instrumentation (title only).
NCR 71 Pt5 54

Rawlins RE, Crystal control low distortion FM tele-metering transmitter (title only). NCR 112 Pt5 54 Rawls LE, See DeWitt JH Jr

Rayner GH, The derivation of resistance, inductance, and capacitance from the NPL primary standard of mutual inductance. T-I 212 Dec 58

Rayton WM, See Little CG
Read AH, British global communications.
T-CS 35 Nov 54
Rearlck DF, Function generation on the differential analyzer extended to the analog computer.
T-TRC 8 Aug 55

Reber G , Tropospheric refraction near Hawaii ,(L) T-AP 143 Jul 55

Reber G, Early radio astronomy at Wheaton, Illinois.
P 15 Jan 58
Rechtin R, See Jaffe R
Records JK, See Mayo BR
Rector JD. See Fritze EH
Rector RH, A brightness enhanced color receiver employing automatic decoding in the chromatron.
WCR 72 Pt7 57

Reddeck JG, Narrow-band transmission of the NTSC color signal P 90 Jan 54
Redhead PA, Microwave detection in a thermionic diode. P 995 Aug 55
Redheffer RM, See Barrar RB
Rediker RH and Sawyer DE, Very narrow base diode.

P 944 Jul 57

Rediker RH, See Halnem J
Redington RW, The transient response of photoconductive camera tubes employing low velocity scanning.
T-ED 220 Jul 57

Reece JO and Greenspan P, Setting up a standardization laboratory for electrical measuring instruments . T-I 78 Jun 57

Reed IS, A class of multiple-error-correcting codes and the decoding scheme. T-IT 38 Sep 54
Reed IS, See Dinneen GP

Reed J and Wheeler GJ, A method of analysis of symmetri-cal four-nort networks. T-MTT 246 Oct 56 Reed J, A method of analysis of symmetrical four-port networks.(L) T-MTT 162 Apr 57

Reed J and Mathis HF, On symmetrical matching.(L) T-MTT 165 Apr 57 Reed J and Cohn 5B, Direct-coupled resonator filters.(L)

P 880 Jun 57

Reed J and Wheeler GJ, A broadband fixed coaxial power divider. NCR 177 Pt1 57 Reed J, The multiple branch waveguide coupler. T-MTT 398 Oct 58

Reed MB, Generalized mesh and node systems of equa-

Reed MB, Generalized mesh and node systems of equa-tions. T-CT 162 Jun 55 Reed O and Bailey SL, Consulting engineering. SQ 9 Feb 37 Reed O Jr, IRE Professional Groups: Broadcast Trans-mission Systems. SQ 37 Dec 55 Reed O Jr, See Roher RE Reed RH, See Stegen RJ Rees M, See Proctor EK

Reeves ED, Industrial research of the future. NCR 3 Pt6 56 Reegala F, Spencer EG, Hatcher RD and Tompkins JE, Ferrod radiator systems. NCR 213 Pt1 56, P 344 Mar 57

Reggia F and Spencer EG, A new technique In ferrite phase shifting for beam scanning of microwave antennas. P 1510 Nov 57

Reggia F. See Spencer EG Rehm MP, Operation of inte

Redula F. See Spencer EG.
Rehm MP, Operation of international commercial radiophoto circuits. NCR 32 Pt8 54
Reibert FA, See Suran JJ
Reich B, Measurement of transistor thermal resistance.
P 1204 Jun 58

P 1204 Jun 58

Reich B, Temperature sencitivity of current gain in power transistors. T-ED 180 Jul 58

Reich B, See Schneider S

Reich HJ, Discussion on: The use of admittance diagrams in oscillator analysis. P 484 Feb 54

Reich HJ, Circuits for producing high negative conductance.(L) P 228 Feb 55

Reich HJ, Cathode-follower-coupled phase-shift oscil-lator.(L) P 229 Feb 55

Reich HJ, Thyratron grid-control recovery.(L) T-ED 287 Jul 57

Reich RJ, Microwave equipment for college laborator-ies (L) T-MTT 187 Jul 56

Reichert WG Jr., A transistorized oscillograph. NCR 139 Pt10 55

Reid JM and Wild JJ, Ultrasonic echo-ranging for tissue diagnostic studies. NCR 68 Pt9 55 Reid JM and Wild JJ, Current developments in ultrasonic equipment for medical diagnosis. T-UE 44 Aug 57 Reidel J, See Smith BH

Reiger S, Error rates in data transmission.(L) P 919 May 58

Reihing JV , See Johnson SO Reiland GW , See Roka EG

Reiland GW, See Roka EG
Rein GC, Stergis CG and Kangas T, An airbome electric
field meter. T-I 195 Sep 57
Reingold I and Edwards EV, Resonant window fabrication techniques. T-ED 65 Feb 54
Reingold I and Carter JL, The duplexer as a means of
eliminating interference from nearby high-power radar
systems. NCR 71 Pt3 57
Reingold I, See Gould L
Reinlandt NJ, Acoustic noise in vehicles.
T-VC 1 Apr 58
Rekoff MG Jr, Considerations In phase shifting.

Rekoff MG Jr, Considerations In phase shifting. T-AC 89 Dec 58 Renner GW, Plante RA and Hueter TF, The power handling capability of ferroelectric ceramics. NCR 167 Pt 2 58

Rennie JC, Design considerations in a wideband mlcro-wave mixer and IF preamplifier. T-CS 21 Sep 57 Report of advances in microwave theory and techniques – 1955. T-MTT Apr 56

Report on information theory and modulation systems com-mittee, T-IT 50 Sep 55

Resnick IL, See Frank WI Revesz G, Capacitive measurements of high sensitivity and their applications to industrial testing and control. T-IE 32 Mar 56

Revesz G., Process instrumentation for the measurement and control of level. T-IE 11 Aug 58 Review of electronic computer progress during 1956.(L) T-EC 55 Mar 57

Reynolds DK and Spangenberg KR, Electronics education in Brazil. SQ 15 Feb 56
Reynolds DK, Broadband traveling wave antennas. NCR 99 Pt1 57
Reynolds FN, A crystal control FM telemetry transmitter, NCR 113 Pt5 54

Reynolds GA, See DeWitt JH Jr Reza FM, Synthesis of one terminal-pair passive net-works without ideal transformers (L) P 349 Jan 54

Reza FM, Conversion of a Brune cycle with an ideal trans-former into a cycle without an ideal transformer, T-CT 71 Mar 54

Reza FM, A bridge equivalent for a Brune cycle terminated in a resistor (LL) P 1321 Am 54
Reza FM, A note on the transfer voltage ratio of passive RLC networks (LL) P 1452 Sep 54

Reza FM, A generalization of Foster's and Cauer's theorems. NCR 22 Pt2 55

Reza FM , Simple and double alternation in network synthesis. NCR 72 Pt2 56

Reza FM, Multiplication rule for driving-point impedance functions (L) T-CT 289 Sep 57

functions: (L) T-CT 289 Sep 57
Reza FM, Some topological considerations in network theory. T-CT 30 Mar 58
Reza FM, See Armstrong DB
Reza FM, See Slepian P
Rhada KS Jr, See Dalman CG
Rhodes DR, On minimum range for radiation patterns.
P 1408 Sep 54

Rhodes HA, Transco microwave system. T-MTT 89 Apr 54, T-CS 89 Jul 54

T-MTT 89 Apr 54, T-CS 89 Jul 54
Rhodes RN, Factors in the design of keyed clamping circuits. NCR 105 Pt7 54
Ribe ML and Brown SP, Considerations for a new military radio relay system. T-CS 168 Nov 54
Riblet HJ, General synthesis of quanter-wave impedance transformers. T-MTT 36 Jan 57
Riblet HJ, A unified discussion of high-Q filter design theory T-MTT 359 Oct 58
Riblet HB, A simplified automatic data plotter.
T-1 34 Jun 56
Riblet MS, See Palmer ME

Rice DH. See Palmer WF Rice JW, Manufacture of wire spring relays for communica-tion switching systems. T-IE 45 Mar 57, T-PT 45 Apr 57

Rice PL and Daniel FT , Radio transmission loss vs distance and antenna height at 100 mc.

tance and antenna height at 100 mc.
T-AP 59 Apr 55
Rice PL, See Norton KA
Rich DJ, See Rizzi PA
Rich JJ, and Webber SE, Ferrite attenuators in helixes.(L)
P 100 Jan 55
Rick SD. The Standard St

Rich SR, The objectives, standards and ethics of the ultrasonic manufacturers association. NCR 15 Pt9 57 Richard JD Jr, Smith PF and Stephens FH, Noise

analysis with a heterodyne-type sonic analyzer T-AU 37 Mar-Apr 55 Richards PI, Translents In conducting media. T-AP 178 Apr 58

T-AP 178 Apr 58

Richards RS, Analysis of heart numbers by electronics.

T-ME 72 Dec 58

Richards WR, Electronics and the ocean station vessel program. T-CS 38 Mar 55

Richardson HL, Management and engineering—professions of progress. T-EM 68 Jun 57

Richardson JM, Noise in driven systems.

T-IT 62 Mar 55

Richardson JM and Riley RB, Performance of three-millimeter harmonic generators and crystal detectors.

T-MIT 131 Apr 57

Richardson JM and Faris JJ, Excess noise in microwave crystal diodes used as rectifiers and harmonic generators.

T-MIT 208 Jul 57

Richardson R, Eness O and Dronsuth R, Experience with

T-MTT 208 Jul 57
Richardson R, Eness O and Dronsuth R, Experience with simile-sideband mobile equipment. P 823 Jun 57
Richardson R, See Morrow RE
Richman D, Color-carrier reference phase synchronization accuracy in NTSC color television. P 106 Jan 54
Richmond D, The dc quadrlcorrelator: a two-mode synchronization system. P 288 Jan 54, (abstract) T-BRT 94 Jan 54

Richman D, Directions of improvement in NTSC color television systems. P 1125 Sep 56

television systems. P 1125 Sep 56
Richmond JH, Measurement of time-quadrature components of microwave signals. T-MTT 13 Apr 55
Richmond JH and Tice TE, Probes for microwave near-field measurements. T-MTT 32 Apr 55
Richmond JH, Simplified calculation of antenna patterns with application to radome problems. T-MTT 9 Jul 55
Richmond JH, A modulated scattering technique for measurement of field distributions.
T-MTT 13 Jul 55

Richmond JH, Antenna pattern distortion by dielectric sheets. T-AP 139 Apr 56
Richter W, T-IE 51 Mar 56
T-IE 51 Mar 56

T-IE 51 Mar 56
Rickert HH and Dettinger D , An X-band rapid-sweep oscillator . NCR 7 Pt10 54
Rickert HH , A comparison method for tuning wideband TR tubes . T-I 6 Oct 55
Ricketts PE . Co-location of Tacan VOR-DME systems . NCR 178 Pt8 56
Ricketts PE , A vortac air traffic control system . NCR 50 Pt 58
Riddle FM . A temperature-stable transistor VCO .

Riddle FM , A temperature-stable transistor VCO . T-TRC 11 Nov 54

T-TRC 11 Nov 54

Riddle RL and Ammerman CR, A preliminary study of fading of 100-megacycle FM signals. T-AP 30 Jan 54

Riddout VC, See Dell H Jr

Riedel JA, A transistorized pulse width keyer.

T-TRC 6.5 Apr 57

Riekeman EC, Glovazky A and McCluskey EJ Jr, Determination of redundancies in a set of patterns.(L)

T-IT 167 Jun 57

Ries FX , See Selby MC Riester HA Jr , Electromechanically stabilized dc am-plifier for use in transducing the telemetering of milli-voltage and micro-ampère signals .

T-1E 9 Mar 55

Rigby S. Design of all-channel ultra-stable FM discriminator. T-TRC 8.2 Anr 57
Rigrod WW and Labus J. Space-charge waves along magnetically focused electron beams.(L) P 358 Jan 58
Ritey RB, See Richardson JM
Ring RM, See Carroll TJ

Ringenbach ME and Cooper HW, Measurement of attenua-tion and phase velocity of various laminate materials at L-band. T-MTT 87 Mar 55

Rinia H and Tellegen BDH, Electronics research in the Philips Research Laboratories. WCR 16 Pt10 57 Ringoen RM, Present Status of microwave radiometric receiver development. NCR 42 Pt5 54 Ringoen RM, VHF transhorizon communication system design. T-CS 77 Mar 56, NCR 203 Pt8 56

Ringoen RM , Relative interference produced by UHF scatter and line-of-sight systems . NCR 219 Pt8 56

Ringren R.G. Soc Mainer GR Ringwalt DL , An airborne radar and wave propagation laboratory . NCR 82 Pt1 55

Ringwalt DL, Ament WS and MacDonald FC, Measure-ments of 1250-mc scatter propagation as function of meteorology. T-AP 208 Apr 58 Ritchart RC, See Peterson RM Ritson DM, See Baldwin DE

Ritt PR See Lawson AA Ritt PE See Pentecost JL

Ritt PE. See Post ZA
Ritt RK, The modeling of physical systems.
T-AP 216 Jul 56

Ritter EK, Solution of problems in electromagnetic wave theory on a high-speed digital calculating machine. T-AP 276 Jul 56

Ritterman ME, See Stateman MJ Ritman AD and Miles TJ, High-frequency silicon alloy transistor. T-ED 78 Apr 56

Rittman AD, Messenger GC, Williams RA and Zimmernian E, Microalloy transistor. T-ED 49 Apr 58

Rittner ES and Ahlert RH, Studies on the mechanism of operation of the L-cathode; Part I—Nature of the emitting surface. T-ED 57 Feb 54

ting surface. 1-ED 57 Feb 54
Rittner ES. See Rutledge WC
Rives TC, Management and the engineer.
T-EM 1 Feb 54
Rizzi PA, See Goldstone L
Rizzi PA, Microwave filters utilizing the cutoff effect.
T-MTT 36 Jan 56

Rizzi PA and Rich DJ, A note on sidebands produced by ferrite modulators (L) P 556 Apr 56

Rizzi PA, A low VSWR matching technique (L) T-MTT 184 Jul 56 Rizzi PA, High-power ferrite circulators. T-MTT 230 Oct 57

Roach FL and Scropps ML, Instrument calibration program within the Department of the Navy—Buord—Buships calibration program. T-I 357 Dec 58

Roach JF , See Firle TE Robb JD , See Huber RF Robb JD , See Newman MM Robbins H , A note on information theory.(L) P 1193 Jul 54

Robbins H, Comment on the paper. A mathematical analysis of a series circuit containing periodically varying resistance by L. A. Pipes. T-CT 72 Mar 55

sis of a series circuit containing periodically varying resistance by L. A. Pipes. T-CT 72 Mar 55
Robbins JD, White-noise vibration test for electronic tubes. T-RQC 86 Jan 57
Robbins MA and Ayer G, A high performance mobile unit for 450 megacycles. T-VC 43 Jul 56
Robbins MA, A compact, low-cost 150-nic mobile unit of unusual design. T-VC 42 Jul 58
Roberts EA, Magnetostriction frequency-control units and oscillator circuits. T-VE 23 Aur 56
Roberts F, A new approach to series heater strings for television. T-BTR 39 Jul 54
Roberts FM and MIller CE, Report on Russlan technology: perspective—as it was in the 30's. SQ 39 May 58
Roberts TE Jr, An experimental investigation of the single-wire transmission line. T-AP 46 Apr 54
Roberts WK, Middlekamp LC and Chapin EW, Interference to color and monoclirome TV receivers by oscillator radiation and other CW signals. T-BTR 47 Jul 54
Roberts WK, A new wide-band Balum. P 1628 Dec 57
Roberts WK, See Chapin EW
Roberts WO, See Rush JH
Roberts WG, Up-grading tantalytic capacitors.
WCR 52 Pt6 55 /
Robertson JE, Two's complement multiplication in binary parallel digital computers. T-EC 118 Sep 55
Robertson JE, Odd binary asynchronous counters.
T-EC 12 Mar 56

Robertson JE , Odd binary asynchronous counters T-EC 12 Mar 56

T-EC 12 Mar 56
Robertson JE, A new class of digital division methods.
T-EC 218 Sep 58
Robertson SD, An experimental broad-band helix traveling-wave amplifier for millimeter wavelengths.
T-MTT 48 Sep 54
Robertson SD, The ultra-bandwidth fineline coupler.
P 739 Jun 55, T-MTT 45 Dec 55

Robertson SD, Recent advances in finline circuits . T-MTT 263 Oct 56

Robillard PE, See Crysdale JH
Robillard TR. See Westbern RW
Robinsion BR, Television microscopy (L)
P 103 Jan 55
Robinson AS, An electronic analog computing technique
for the solution of trigonometric problems.

for the solution of trigonometric problems.

T-EC 95 Sep 55
Robinson AS. See Henn W
Robinson AS. See Porter DD
Robinson AS. See Ranhael MS
Robinson DW, A new determination of the equal-loudness
T-AU 6 Jan-Feb 58
Robinson FNH, M crowave shot noise and amplifiers.

T-ED 128 Jul 56
Robinson FNH, See Haus HA
Robinson FNH, See Haus HA
Robinson HA, Conversion of alrborne HF receivertransmitter from double sideband to single sideband,
P 1794 Dec 56

Robinson K , Accuracy of filament centering . T-ED 71 Feb 54

Robinson LC, Frequency setting of klystron cavitles (L) T-ED 205 Jul 58

Robinson W. Review of industrial applications of heat transfer to electronics (L) P 96 Jan 57

Robinson W., Why and how should high-speed aircraft electronics be liquid cooled? T-ANE 36 Mar 50

Robi RF, See Schatz ER
Roche JF, See Clushol "JH
Roche JF, See Clushol "JH
Rochefort JS, Matched filters for detecting pulsed signals
in noise. NCR 30 Pt4 54

Rochefort JS, Matched Hiters for detecting purses argument in noise. NCR 30 Pt4 54
Rochester N, Holland JH, Haibt LH and Duda WL, Tests on a cell assembly theory of the action of the brain, using a large digital computer. T-IT 80 Sep 56

Rochester N. See McCelloch WS Rock FE , PDM bandwidth requirements . T-TRC 7.2 Apr 57

Rock FE . A survey of progress reported in 1956 and 1957 in telemetry and remote control . T-TRC 2 Jun 58

Rockwell RG , Are klystron amplifiers inherently noisy? WCR 55 Pt3 58

Rockwell RG , A lightweight kilowatt klystron amplifler for aerial navigation systems . WCR 100 Pt3 58 Rod RL, Ultrasonic liquid level sensor. NCR 36 Pt9 57

Rodbard S , Transients in heart sounds and murmurs . T-ME 12 Dec 57

Rodda EN , See Elliott RS

Rodrigue GP, Microwave properties and applications of garnet materials. WCR 182 Pt3 57
Rodrigue GP, Pippin JE, Wolf WP and Hogan CL, Ferrimagnetic resonance in some polycrystalline rare earth garnets. T-MTT 83 Jan 58

majnetic Tembra 3 Jan 58
Rodrigues de Miranda JR, HI-fi philosophy from a European point of view. T-AU 82 Jul-Aug 57
Roelil ER, See Hovda RE
Roehl OC, Wall Street looks at engineering management.
NCR 4 Pt10 57
Roelm LF, See Morcerf FJ
Ronal B, See Cullen AL
Rogers AW, Development of standards for automation.
T-PT 39 Apr 58
Rogers JW, See Espersen GA
Rogers PH, Banton BF and Beattie LA, Some useful techniques for overcoming the frequency limitations of conventional distributed amplifiers. NCR 97 Pt2 57
Rogers R, EE's In wooden shoes. SQ 6 Feb 57
Rogers TF, VHF field strength far beyond the radio horizon. (L.) P 623 May 55
Rogers TF, Ames LA and Martin EJ, The possibility of extending air-ground UHF voice communications to distances far beyond the radio horizon.
T-CS 106 Mar 57

T-CS 106 Mar 57
Rogers TF , See Ames LA
Rogers TF , See Spaeth DA
Rogers TF , Industrial applications of x-ray techniques .
T-IE 20 Mar 55

Rogoff M, See Clark CT
Rogoff M, See Clark CT
Rogoff M, See Gallagher TF
Rohr W, Through the Keyhole. SQ 38 Feb 56
Rohrer RE and Reed O Jr, Television field strength
measurements—a tool in transmitting antenna planning.
NCR 108 Pt7 56

Rohsenow WM and Nickerson RJ, Temperature measurement. T-ANE 52 Mar 58
Roka EG, Buck RE and Relland GW, Developmental germanium power transistors. P 1247 Aug 54
Roloff HA, TelemeterIng recelving system at the Air Force missile test center (abstract). T-TRC 8.4 Apr 57, T-TRC 6 Dec 57

Roman NG and Yaplee BS, Radio sources and the Milky Way at 440 mc. P 199 Jan 58
Roman NG, See Yaplee BS
Romano S, A miniature airborne pictorial plotter.
T-ANE 20 Sep 55
Romell D, See Alfven H

Romig HG , Engineering and testing for reliability. T-ROC 21 Feb 56

Ronchi L and Toraldo di Francia G, An application of parageometrical optics to the design of a microwave mirror. T-AP 129 Jan 58

Ronzheimer SP and Farber RJ, Tentative methods of measurement of color television receiver performance.

measurement of color television receiver performance.
T-BTR 10 Apr 56
Roof RB. See Little CC
Roop RW. See Bobb L
Root D, See Flaherty P
Root HG, See Chisholm JH
Root WL and Pitcher TS, Some remarks on statistical detection. T-IT 33 Dec 55
Rorden WL, See Kaisel SF
Rosaler RC, The N-1 compass system.
NCT 98 Pt5 54, NCR Pt5 54
Roselbe RD, Prizy NS, Filers C, and Puller L. An in-

Roschke EM, Druz WS, Eilers C and Pulles J, An in-

Roscike EM, Druz WS, Eilers C and Pulles J, An integrated system of coded picture transmission.

NCR 173 Pt7 56
Rose A, Performance of photoconductors. P 1850 Dec 55
Rose A, Fundamentals of dielectric phenomena.

SQ 36 Dec 58
Rose JE. See Miller CE
Rose NJ, Optimum switching criteria for discontinuous automatic controls. NCR 61 Pt4 56
Rosen BH, See Davidson RA

Rosen HA and Fossier MW. A desk-model electronic analog Rosen HA and Fossier MW, A desk-model electronic computer. T-EC 2C Dec 54
Rosen HH, Easy money for graduate study.
SO 3 Sep 55
Rosen L, Electronics in the New England fishing industry. T-CS 1 Mar 55
Rosen L, The research and development stockroom.
T-EM 36 Apr 56 Rosen MW, Placing the satellite in its orbit. P 748 Jun 56, NCR 103 Pt1 56 Rosenberg L and Rothbart A, Electrical design of the transducer networks of a magnetostrictive delay line. NCR 92 Pt2 58 Rosenbern L., See Rothbart A Rosenberg S., Considerations affecting the choice of a long-range navigation system. NCR 154 Pt8 56 Rosenberg S., Systems analysis approach to the choice of a long-distance Navaid (abstract). T-ANE 82 Jun 57 Rosenberry WJ. See Lucev WE
Rosenberry WJ. See Lucev WE
Rosenberry WJ. See Lucev WE
Rosenblith WA, Man, a somewhat neglected component of hi-fi-systems (abstract). NCR 108 Pt7 55
Rosenbloom A, Heilfron J and Trautman DL, Analysis of linear systems with randomly varying inputs and parameters. NCR 106 Pt4 55 Rosenbloom A. See Booton RC Jr Rosenbloom PC, Electrodynamics of continua. T-AP 579 Jul 56 Rosenblum A. See Zicker H
Rosenblum A. See Zicker H
Rosenfeld JL, Magnetic core pulse-switching circuits for standard nackages. T-EC 223 Sep 58
Rosenbelm DE and Anderson AG, VHF pulse techniques and logical circuitry. P 212 Feb 57 Rosenman L , See Johnson HA
Rosenthal H , See Ramberg EG
Rosenthal JE , Theory and experiments on a basic element
of a storage light amplifler . P 1882 Dec 55 Rosenthal JE, Cathode-ray tube with single step Intensi-fler. NCR 62 Pt3 55 Rosenthal JE and Gartner WW, Design theory for depletion layer transistors.(L) P 1427 Jul 59 Rosien RA and Shavlach R, Bandwidth conservation in pulse modul.ted radars. NCR 139 Pt8 58 Ross H. See Lynnan HT Ross IL, Remote control of a broadcast transmitter and directional antenna system. NCR 12 Pt7 58 Ross IM, See Moll JL
Ross JD, Kapuscienski SJ and Daniels KB, Variable de-Ross JD, Kapuscienski SJ and Daniels KB, Variable de-lay line using ultrasonic surface waves. NCR 118 Pt2 58 Ross SJ, See Lewi JB Rossing TD, Overn WM and Korkowski VJ, The switching characteristics of 4-79 permalloy cores with different anneals. T-EC 22B Sep 58 Roth LM, See Lax B Roth M, See Olmstead JA Rothbart A and Rosenberg L, A theory of pulse trans-myssion along a magnetostrictive delay line. T-UE 32 Dec 57 Rothbard A, See Rosenberg L Rothbart A., See Rosenberg L Rothe H., Theory of noisy four-poles. T-ED 258 Dec 54, P June 56 Rothlein BJ and Fowler AB , Germanium photovoltaic cells . T-ED 67 Apr 54 Rothstein J , An informational approach to organization and system engineering design . T-EM 25 Feb 54 Rothstein J, Information organization and systems. T-IT 64 Sep 54 Rotlistein J. Information theory and quality control NCR 3 Pt4 56 Rotman W and Karas N. The sandwich wire antennæ a new type of microwave line source radiator. NCR 166 Pt1 57 Rotman W, Wide-angle scanning with inicrowave double-layer pillboxes. T-AP 96 Jan 58 Rotman W, See Karas R Rotolo SL. See Grisamore NT Rotov AA, Image orthion for pickup at low light levels. NCR 41 Pt3 56 Rotow AA , See Neuhauser RG Rouault CL , Report on Russian technology: electronics. SQ 35 May 58 Rouche N., Some properties of Boolean equations. T-EC 291 Dec 58 T-EC 291 Dec 58

Round table discussion on design limitations of microwave ferrite devices. T-MTT 104 Jan 58

Rounds PW, Equalization of video cables.
NCR 16 Pt2 54

Rountree JG, Maintenance of directional antennas.
T-BTS 39 Dec 57

Roveto JP, Semiconductor diodes for TV receivers.
T-BTR 34 Jul 54

Rowe EG and Welch P, Developments in trustworthy-valve techniques. T-OC 1 Dec 54

Rowe HE, Some general properties of nonlinear elements.
II. Small signal theory. P 850 May 58

Rowe HE, See Manley JM

Rowe HE. See Manley JM

Rowe HE. See Warters WD

Kowe JE, Tien PK and Walker LR, A large-signal theory of traveling-wave annifiers.(LL) P 1007 Aug 55

Rowe JE, A large signal analysis of the traveling-wave Rowe JE, A large signal analysis of the traveling-wave

a philier—theory and general results. T-ED 39 Jan 56

Rowe JE , Design information on large-signal travelingwave amplifiers . P 200 Feb 56 . Correction: P 818 Jun 56

Rowe JE and Hok G, When is a backward wave not a backward wave?(L) P 1060 Aug 56 Rowe JE and Sobol H, General design procedure for high-efficiency traveling-wave amplifiers. T-ED 288 Oct 58 Rowe JE , See Tien PK Rowe RM , See Gillette PR Rowe WD , The transistor NOR circuit . WCR 231 Pt4 57 Rowe WD, A transistorized digital-to-analog converter. T-I 22 Mar 58 Rowe WD See Jeeves A Rowe WE , See Fyler NF Rowland RE. See Miller CE
Rowley JJ. See Ancker-Johnson B
Roy OZ. An electronic heartbeat simulator and a cardiac
tachemeter. T-ME 48 Jul 58
Royce HW, An improved system for collecting and processing flight test data. NCR 129 Pt 56 mg mgmc test data. NCR 129 Pt1: 56
Royden GT, Guest editorial: Growth of communications.
T-CS 1 Sep 57
Rubenfeld N, Computation with pulse analogs.
NCR 150 Pt4 57 Rubenstein AH, Liaison relations in research and develop-ment. T-EM 72 Jun 57 Rubin LG and Straub WD, High-voltage silicon diodes (L) P 490 Apr 55 Rubin LG, See Davis L Jr
Rubin R, See Adams GJ
Rubin SW, Figure of merit of probes as standing
wave detectors. T-I 102 Oct 55
Rubinoff M, See Gray HJ Jr
Rubinow SI, On the correction to the total geometric potical scattering cross sections of a circular cylinder and of a sphere. T-AP 580 Jul 56
Ruckstuhl CB, Telemetry in the development of space flight. NCR 45 P110 55
Rudd JB, A codan for AM receivers. T-CS 45 Jan 54 Rudenberg HG , Developments in sl icon Junction diodes and power rectifiers . NCR 125 Pt3 55 Rudenberg HG and Franzen G , An alloy type inedium power silicon transistor . NCR 26 Pt3 57 Rudenberg HG, On the effect of base resistance and col-lector-to-base overlap on the saturation voltages of power transistors.(L) P 1304 Jun 58 Rudich I, Amperex type E 1 T decade counter tube. NCR 74 Pt3 54 Rudisuhle EJ, See Harp MC Rudnick N, Manufacture and measurement of close tolerance temperature compensating ceramic canacitors. NCR 72 Pt6 57 Rudnick P, See Glass NW
Rulman S, See Guterman S
Rulman S, See Mitchell JM
Rumble DH, See McLeish CW
Rumble WG and Warren CS, Coincident current applications of ferrite apertured plates. WCR 62 Pt4 58 Rummer D. Teaching alds for laboratory courses in electri-cal c.rcuits and electronics. T-E 46 Jun 58 Rumsey VH, Correction to: Part I—Transmission between elintically polarized antennas. P 733 Jun 55 Rumsey VH and Weeks WL, Electrically small, ferrite-loaded loop antennas NCR 165 Pt1 56 Rumsey VH, Variational principles for electromagnetic resonators and waveguides.(L) T-AP 146 Jan 57 Rumsey VH, Frequency independent antennas. NCR 114 Pt1 57 NCR 114 Pt1 57

Rumsey VH, See Hines JN

Rumsey VH, See Hines JN

Rumsey VH, See Justice R

Runyan RA, Noise and crosstalk in multiplexed FM

«vstems NCR 154 Pt1 56

Rush JH and Roberts WO, Solar specules and their role in

solar phenomena. T-CS 24 Jan 54

Rush JW, See Hamilton MW

Rush RB, See Klein ML

Rush S and Colin L, The effects on radio astronomical

observations due to longitudinal propagation in the

presence of field-aligned ionization.(L)

P 356 Jan 58 P 356 Jan 58
Ruskin RE, Simplification of airborne navigation by use of the vortex thermometer. T-ANE 71 Jun 56
Russell GM, See Martin TL Jr
Russell JT, See Lefevre HW
Russell LA, Diodeless magnetic core logical circuits.
NCR 106 Pt4 57 Ruston J., A 50-kilowatt television transmitter.
T-BTS 12 Jan 56
Ruston J and Judge WJ, Distortion reduction in TV reception. WCR 65 Pt7 58
Ruth L., A printed circuit IF amplifier for color TV. T-BTR 50 Jul 56
Rutledge WC and Rittner ES, Studies on the mechanism of the L-cathode; Part II—Production and transport of barrum. T-ED 57 Feb 54 Rutz EM and Dye JE, Frequency translation by phase modulation. WCR 201 Pt1 57 moderation. WCR 201 PT 57
Rttz RF, A two-emitter transistor with a high adjustable alpha. P 834 Jul 55
Rtwalds V, See Schlesser H
Rtwin AE, See Wilte WD
Ryan FM, Editorial: Systems engineering.
T-CS 1 Oct 56 Ryan JJ, See Hyman M Jr Ryan LF, See Curtis GD

Ryan RD., A permanent high speed store for use with digital computers. T-EC 2 Sep 54

Ryan WE , See Ellenwood RC Ryder JD , Never is a naushty word. SQ 2 Feb 56 Ryder JD , Pinpoint: Professional Group on Education. SO 37 Sep 57 Ryder JD, Engineering education: a view ahead. P 1459 Nov 57 Ryder JD , IRE Professional Group on Education . T-E 4 Mar 58 Ryder JD , An experiment in the reduction of physics content . T-E 70 Sep 58 Ryder JD , Educational castles in the air . T-E 104 Dec 58 Ryder JD, Industrial electronics and education NCR 302 Pt6 58 Ryder RM and Sittner WR, Transistor reliability studies.
P 414 Feb 54
Ryerson CM, The confidence that can be placed on vari-Ryerson CM. The confidence that can be placed on var ous reliability tests. WCR 14 Pt6 58 Ryerson CM. Rehability measurement and prediction. T-CS 12 May 56 Ryerson CM. Rehability control based on multiple se-quential feedback. T-RQC 45 Jul 58 minitial feedback. T-RQC 45 Jul 58
Ryerson JL, Trajectory precision requirements for automatic landing. T-ANE 4 Mar 55
Ryerson JL, Linear complementary smoothing compensated for sampled data lage. NCR 106 Pt2 56
Ryerson JL, Conservation of communications bandwidth for traffic control. T-CS 53 Mar 57
Ryerson JL, Inaginary axis translation of transfer functions. NCR 236 Pt4 58
Ryerson JL, Exploitation of physical phenomena for communications. NCR 192 Pt8 58
Ryerson JL, Sec Storrs E Ryerson JL, See Storrs E Rynn N, Analysis of coupled-structure traveling-wave tubes. T-ED 172 Apr 57
Rynn N, See Wade G
Ryssy JW, Does safe navigation need something beyond radar? T-CS 57 Mar 55 -5-Saal R and Ulbrich E , $\,$ On the design of filters by synthesis . T-CT 284 Dec 58 $\,$ Saby JS, Transistors for high power application. NCR 80 Pt3 54 NCR 80 Pt3 54
Saby JS, IRE Professional Groups: Electron Devices.
SQ 38 Dec 55
Sachs HM, See Albin AL
Sack EA, ELF -- a new electroluminescent display.
P 1694 Oct 58, NCR 31 Pt3 58 Sackett WT Jr, Problems encountered and procedures for obtaining short-term life ratings on resistors.
T-CP 15 Apr 55 Sacks GE, Multiple error corrections by means of parity checks. T-IT 145 Dec 58 Sacks JM and Hill ER, Transistorized time multiplexer for telemetering. T-TRC 26 May 57 Sadashire K, See Bendell SL Sadler LS, Video modulation limiter (abstract). NCR 3 Pt7 58 NCR 3 Pt7 58
Sadowski H, See Graveson RT
Sadowski H, See LeVine HD
Sadowsky M. See Barnett GF
Sah CT, Noyce RN and Shockley W, Carrier generation and recombination in p-n junctions and p-n junction characteristics. P 1228 Sep 57 Sah CT, See Matthews AR
St. Clair MW, Determination of the parameters of cavities terminating transmission lines, by R. A. Lebowitz.(L) T-MTT 134 Jul 56 St John GE, Measurements of traveling-wave tube noise St. John GE, Measurements or traveling-wave tur figure (abstract). T-ED 200 Dec 54 St. John KM, See Proudfit A St. John KM, See Proudfit A Ste Marie A, CBC video test signals (abstract). NCR 50 Pt7 57 Saito S., Surface loss of silver plated metal plates at 9000 mc and its correlation with surface roughness (L) P 1810 Dec 54 Salto S., Measurement at 9000 mc of the dielectric constant of air containing various quantities of water vapor.(L) P 1009 Aug 55 Vapor ACT P 1009 Aug 55
Saito S and Kurokawa K , A precision resonance method for measuring dielectric properties of low-loss solid materials in the microwave region. P 35 Jan 56
Saito S , New method of measuring the noise parameters of an electron be im. T-ED 264 Oct 58 Sakiotis NG, Ferrite quarter-wave and half-wave plates at X-band (abstract). NCR 88 Pt8 54 A-band (abstract). NCR 88 Pt8 54
Sakiotis NG, Chait HN and Kales ML, Nonlinearity of pronaution in ferrite media.(L) P 1011 Aug 55
Sakiotis NG, Chait HN and Kales ML, Nonlinearity of microwave ferrite media. T-AP 111 Apr 56, T-AP 584 Jul 56 Sakietis NG. See Chait HN Sakiirai K See Omori S Salaman RG , Receiver video transistor amplifiers. T-BTR 68 Sep 58 Sulazar H., See Mockler RC Sallen RP and Key EL, A practical method of designing RC active filters - T-CT 74 Mir 55 Salme G, An analysis of pulse-synchronized oscillators P 1582 Nov 56 S Imon V, Lyten here. SQ 29 May 55 Saldom JA, See Cutler CC

Salpeter JL , Developments in sintered magnetic materials . P 514 Mar 54 Salpeter JL , On the nature of the electron . P 1588 Dec 57 Salpeter JL, See Powell T Saltz E, See Hoelm AJ Saltzberg B, Burch NR, McLennan MA and Correll EG,

A new approach to signal analysis in electroencephalog-raphy. T-ME 24 Jul 57
Saltzman H and Stavis G, A dual beam planar antenna for Janus type Doppler navigation systems.

NCR 240 Pt1 58

Salzman H. See Blasbere LA
Salzberg B, Fast switching with junction dlodes.
SQ 32 Feb 57
Salzberg B and Sard EW, Fast switching by use of
avalanche phenomena in junction diodes.(L)
P 1149 Aug 57

Salzberg B, Masers and reactance amplifiers—basic power relations (L) P 1544 Nov 57
Salzberg B and Sard EW, A low-noise wide-band reactance amplifier (L) P 1303 Jun 58
Salzberg B and Siegel K, Semiconductor p-n junction radiation counter (L) P 1536 Aug 58

Salzer B. See Scobey JE
Salzer HE, See Barbiere D
Salzer JM, Frequency analysis of digital computers operating in real time. P 457 Feb 54
Salzer JM, System compensation with a digital computer. NCR 179 Pt5 54

Salzer JM, Signal flow reductions in sampled-data systems. WCR 166 Pt4 57

Sampson JL , See Spencer RC Samuel R , Let's use our heads . T-EWS 12 Aug 58 Samuels JC , Theory of the band-centering AFC system . T-CT 324 Dec 57

Samulon HA, Video measurements employing translent techniques, P May 56

Sandel T, Sec Schmitt OH

Sander HH and Cook TB Jr, Technique and measurement of radiation background in Albuouerque, New Mexico, during and after Teapot Series. T-NS 17 Jun 58

Sander S and Chena DK , Phase center of helical beam antennas . NCR 152 Pt1 58

Sander WB. See Wilke WE Sandertto PC. The long guest. T-ANE 2 Jun 54 Sandretto PC, Elements of the air traffic control problem. T-ANE 2 Jun 55

Sandretto PC , The air traffic control paradox. T-ANE 80 Jun 58

Sands EA, Magnetically controlled counters NCR 173 Pt4 57

Sands RH, Electron paramagnetic resonance—a new form of spectrometry. WCR 176 Pt6 57
Sandsmark PI, Effect of ellipticity on dominant-mode axial ratu on nominally circular waveguides.
T-MTT 15 Oct 55

Sandy GF. See Gano JJ
Sanford EE. See Clano RG
San Soutcle RL, See Green JH Jr
Santa MM. See Grisetti RS
Santilli RA, Design considerations for transistorized automobile receivers. NCR 125 Pt 7 58
Saraga W, The design of wide-band phase splitting networks. P 543 Apr 57

networks. P 543 Apr 57
Sard EW, Junction-transistor multivibrators and flipflops. NCR 119 Pt2 54
Sard EW, See Salzberg E
Sardella JJ and Wonson RC, A new high frequency diffused base n-p-n silicon transistor.
NCR 68 Pt3 58

Sartorio D. See Ashvell J
Sartorio CW, See Anderson GW
Sarture CW, See Aseltine JA
Sasseen JH, An electronic analog cross correlator for
dip-logs. T-EC 182 Sep 57

din-logs. T-EC 182 Sep 57

Saunders WK, Measurement of electromagnetic parameters by use of spheres placed near a wall in a resonant cavity. NCR 81 Pt8 55

Saunders WK, Control of surface currents by use of channels.(L) T-AP 85 Jan 36

Savage CN, See Warnick A

Savage CN, See Warnick A

Savage M, Frequency management in the forest industries radio communications. T-VC 11 Jul 36

Savant CJ and Howard RC. A function generator for the

Savant CJ and Howard RC, A function generator for the solution of engineering design problems.

SOUTHON OF THE PRINCE THE WAY SHAPE OF THE CASE OF T

Sawazaki N and Holma T , A new microwave frequency standard by quenching oscillator control . T-MTT 116 Apr 56

Sawyer DE and Rediker RH, Narrow base gernanium photodrodes. P 1122 Jun 58
Sawyer DE, Sec Rediker RH
Sawyer HS and Bostrom RC, A new Nipkow-disk scanner for accurate cytological measurements.
NCR 37 Pt9 58

Sawer HS, See Toller WE
Saxe RK See Lack RE
Saxl EJ, Tension in coil and tape winding. NCR 39 Pt6 58

Saxon DS , Tensor scattering matrix for the electromagnetic field. T-AP 579 Jul 56

magnetic field. T-AP 579 Jul 56
Saxton GA Jr. See Mevers GH
Scal RK-F, New techniques for fabrication of airborne
electronic equipment. P 4 Jan 55
Scal RK-F, See Lyons LJ
Scarbrough AD. See Exner WL
Scarlett RM. See Middlebrook RD
Schadehter J. Phase error of a two-phase resolver.(L)
P 1018 Jul 57
Schade OH Jr., On the quality of color television images
and the perception of color detail (title only).
NCR 146 Pt 58

Schade OH Jr. Heat-flow considerations in the design of high-dissipation receiving tubes. NCR 50 Pt3 56

Schaefer HJ, Exposure hazards from cosmic radiation in flight in extra-atmospheric regions. T-ME 38 Dec 56 Schaeffer NM and Wood GW, The application of some

semiconductors as logarithmic elements. P 1113 Jul 54

Schafer GE , A modulator for microwave mixers (L) T-MTT 333 Jul 58

Schafer GE and Beatty RW, A method for measuring the directivity of directional couplers.

T-MTT 419 Oct 58
Schafer JP. See Medlurst RG
Schafer JC, Remote control and automatic logging of
AM, FM, and TV broadcasting transmitters and auto-AM, FM, and TV broadcasting transmitters and automatic programming of AM and FM broadcasting stations. WCR 42 Pt7 58
Schafersman RL, See Mimford WW
Schaffner JS, Simultaneous oscillations in oscillators.
T-CT 2 Jun 54
Schaffner JS and Shea RF, The variation of the forward characteristics of junction diodes with temperature (L)

P 101 Jan 55
Scharfman H and King DD, Antenna scattering measurements by modulation of the scatterer. P 854 May 54
Scharfman H, Measurement of small complex reflection

coefficients. NCR 92 Pt8 55
Scharfman H, Three new ferrite phase shifters. P 1456 Oct 56

Scharfman WE. See Chown JB Scharla-Neilson H. Snace ship telemetry (abstract) T-TRC 4.6 Apr 57. T-TRC 36 Jun 58 Schatz ER, Taylor ME, Robi RF and Konnerth KL,

Leakage radiation from a braided coaxial cable NCR 32 Pt5 56

Schaub BH, Military research requirements in electronics. WCR 64 Pt8 57

Schauers CJ, Administration of a military communications-electronics systems engineering function. T-EM 12 Mar 58

Scheer GH, Airborne UHF communications equipment. T-ANE 11 Mar 55

T-ANE 11 Mar 55
Scheer GH, Complexity and unreliability in electronic equipments. T-AU 55 May-Jun 55
Scheldorf MW, Noise in communications antennas—survey. T-VC 60 May 57
Scheldorf MW, Improvement of impedance for microwave reflector feed. (L) P 15:8 Nov 57
Scheldorf MW, New type high gain station antenna. T-VC 10 Jul 58
Schelkunoff SA, Microwaves and mathematics. T-MTT 173 Jul 57
Schell AC and Bouché EL, A concentric loop array. WCR 212 P1 58
Schenkel FW, Special purpose multiplier phototubes for

Schell AC and Bouché EL, A concentric loop array. WCR 212 Pt1 58
Schenkel FW, Special purpose multiplier phototubes for scintillation counting. T-NS 117 Dec 58
Schenkel H and Statz H, Junction transistors with alpha greater than unity. P 360 Mar 56
Schensted CE, Approximate method for scattering problems. T-AP 240 Jul 56
Scherage MG, See Deichert RW. Scherer E. See Filipowsky F. Schernerhorn JG. See Kinize AA
Schiess G and Palmer W, Transistorized TV horizontal deflection and high voltage system. T-BTR 19 Jun 58
Schiess G and Palmer W, Transistorized sound section for TV receivers. T-BTR 36 Jun 58
Schiess G, See Palmer W
Schiesser H (translation by Ruvalds V), A device for time expansion used in sound recording.
T-AU 12 Jan-Feb 54
Schiffman BM, A new class of broad-band chicrowave 90 deorce phase shifters. T-MTT 232 Apr 58
Schidkheelt RO, Design of shielded air-cored inductors (sumetary), NCR 136 Pt6 58
Schlaack NF, Development of the LD radio system.
T-CS 29 Jan 54
Schlaack NF, Systems engineering—key to modern development. T-EM 64 Jul 56

T-CS 29 Jan 54

Schlaner KJ, Systems engineering—key to modern development. T-EM 64 Jil 56

Schlesinger K, Pullsed envelope detection of color signals. T-BTR 53 Jan 54

Schlesinger K, The vectroscope and its applications in color TV, FM and radio navigation. T-BTR 1 Oct 54

Schlesinger K, Progress in the development of post-acceleration and electrostatic deflection. P 659 May 56

Schlesinger K, Television sweep generation with resonant networks and times. P 768 Jim 56 Schlesinger K, The synchotector a sampling detector for television sound. T-BTR 74 Jun 56 Schlesinger K and Lewis FD, Variable delay lines.(L)

P 873 Jm 57

Schlesinger K, Maggos B and Hogg AF, An electrostatic character-writing tible. NCR 160 Pt3 57 Schlesinger K, See Mass H
Schler nier K, See Wasner TCG
Schlesinger SP and King DD, Dielectric Image lines.
T-MTT 291 Jul 58
Schlesinger SP, See King DD
Schlesinger SP, See King DD
Schlesinger SP, See Wiltse JC
Schlicke HM, Discoldal vs tubular feed-through capacitors. P 174 Feb 55
Schlicke HM, Progress in ferrite components for television and radio receivers. NCR 142 Pt7 55
Schlicke HM, Cascaded feedthrough capacitors.
P 686 May 56, NCR 184 Pt6 56
Schlicke HM, Ceranic filter capacitors for VHF and Ut

Schlicke HM, Ceramic filter capacitors for VHF and UHF. NCR 60 Pt6 57

Schlicke HM., Advances in ceramic components. WCR 36 Pt6 58

WCR 36 Pt6 50
Schmid H, A transistorized four-quadrant time-division multiplier with an accuracy of 0.1 per cent.
T-EC 41 Mar 58
Schmid H, A transistorized, all-electronic cosine sine function generator. WCR 89 Pt4 58
Schmid tAR, See Hollis JL
Schmidt DF, See Grahame FW
Schmidt WG, Boolean algebra and the digital computer.
S0 21 Dec 56
Schmidt OF, Buchta DV, Chance R, Gifford SR, Moldane

Schmitt OH, Buchta JW, Chance B, Gifford SR, Moldave J, Johnston C, Friller S and Skifter H, Panel discussion on medical electronics. T-ME 3 Oct 56

Schmitt OH, Circuitry. Biological servomechanisms and control NCR 34 Pt9 54
Schmitt OH, Medical electronics I—panel discussion.

NCR 141 Pt9 55

Schmitt OH, Dynamic negative admittance components in statically stable membranes. T-ME 3 Oct 56 Schmitt OH, Where is medical electronics going? Part IV. NCR 107 Pt9 56

Schmitt OH, Galler S, Frank K, Hartline K, Stephens G

Schmidt OH, Galler S, Frank K, Hartline K, Stephens G
and Sandel T, Biological transducers: panel discussion. NCR 80 Pt9 58
Schmitt OH, See McCulloch WS
Schneeberger RJ, See Decker RW
Schneider HF, How can industry use television.
T-IE 23 Mar 56
Schneider LL, See Xavier MA
Schneider S and Reich R. X-ray emission from high-

Schneider LL, See Xavier MA
Schneider S and Reich B, X-ray emission from highvoltage hydrogen thyratrons. P 711 Jun 55
Schneider WA, Automating small-lot electronic production. T-PT 50 Apr 58
Schneiderman M, An improved concept in pulse generation.
T-1 231 Dec 57
School PE. See Collection ME

1-1 231 Dec 57
Schock RE. See Goldstine HE
Schoebel KW, The design of instrumentation magnetic tape transport mechanisms. NCR 111 Pt7 57
Schoeffel MF, Impact of guided missiles on the military future. T-ANE 101 Sep 56

Schoenberger W.J. Engineering personnel requirements for research and development laboratories.
T-EM 53 Jul 56

Schoenfeld RL and Berman M, An electrical network analogy for isotope kinetics . NCR 84 Pt4 57

Schoeni K., See Lehovec K Schooley AH., Engineering management in Brazil. WCR 43 Pt10 57

Schooley AH, Is the yardstick for estimating individual engineering and scientific potential reliable?
T-EM 42 Apr 56

Schooley AH, Radio and electronics in Brazil. P 133 Feb 57

Schooley AH, Some limiting cases of radar sea clutter noise. P 1043 Aug 56 Schorn RA, See Hendricks CD Jr Schorr MG. See Packard RH

Schort MG, See Packard RH
Schott FW, See Hazony D
Schrack FG, An introduction to Information theory.
SQ 18 May 58
Schramm CW, See Huber GH
Schreiber WF, The measurement of third order probability
distributions of television signals. T-IT 94 Sen 56
Schreiber WF and Knapp CF, TV bandwidth reduction by
digital coding. NCR 88 Pt2 58
Schreiner SM and McAdams B, A 45 channel PPM system.
NCR 225 Pt8 58
Schreiner SM and Vallazino AR, 48-channel PCM system

Schreiner SM and Vallarino AR, 48-channel PCM system. NCR 141 Pt8 57

NCR 141 Pt8 57
Schroeder AC, See Gibson WG
Schroeder EN, See Boham WA
Schroeder JD, See Broding RA
Scrons ML, See Roach FL
Schulke HA Jr, On the definition of "sensitivity."(L)
T-CT 42 Dec 54
Schulke HJ, See Ginther RJ
Schulte HJ, See Tucker EG
Schultte HJ, See Tucker EG
Schultte SPM, See Zwein F
Schultz CJ, Spectrum compression and its problems.
T-VC 76 Jul 56
Schultz CJ, Is 960 MC, suitable for mobile operation

Schultz CJ, Is 960 MC, suitable for mobile operation? NCR 20 Pt8 56

Scobey JE, White WA and Salzberg B, Fast switching with junction diodes.(L) P 1880 Dec 56 Scoffeld NE, See Hubbell JH

Schultz CJ, 900, mc -- a potential vehicular communication band. WCR 110 Pt8 57 Schultz CJ, Effective split-channel utilization-a challenge to the communication systems engineer. WUR 53 Pt8 58

Schultz FV, Burgener RC and King S, Measurement of the radar cross section of a man. P 476 Feb 5C

Schultz FV, See Bergman WJ

Schultz FV, See Sienel KM

Schultz FV, See Tillman JD

Schultz GF, Some Russian terms and abbreviations (L)

P 348 Jan 54

Schultz GF, Electrical miles B WCR 53 Pt8 58 Schultz GF , Electrical units in Russian (L) P 349 Jan 54 Schultz GF, Russian vacuum-tube terminology. (L) P 1023 Jun 54, (L) P 112 Jan 56 Schultz GF , Russian lonosphere terminology (L) P 376 Mar 56 Schultz GF, Russian antenna terminology (L) P 692 May 56 Schultz GF, Russian condenser terminology (L) P 1066 Auo 56 Schultz GF, Russian resistance and resistor terminology (L) P 1622 Nov 56 Schultz MA, IRE Professional Groups: Nuclear Science. SQ 36 Dec 55 Schulz-Dubois EO, Wheeler GJ and Sirvetz MH, Development of a high-power L-band resonance isolator. T-MTT 423 Oct 58 Schulz KS, See Green AW
Schultz MA, See Little D
Schultz MA, See Little D
Schultz ML and Morton GA, Photoconduction in germanium and silicon. P 1819 Dec 55
Schultz RE, See Katz HW
Schultz RJ, Methods for determining amplitude-modulation rejection performance of frequency-modulation detectors.
T-8TR 12 Feb 58
Schultz TJ, Trode cathode-followers for impedance matching to transformers and filters.
T-AU 28 May-Apr 55. Correction: T-AU 76 May-Jun 55 Schultz TJ, Triode cathode-followers: a graphical analysis for audio frequencies . T-AU 42 Mar-Apr 56 Schumacher FM. See Fank FB Schurink JJ, See Bleeksm GJ Schuster WD, Stone EO and Torsch CE, Securing 110-degree sweep for the public. WCR 62 Pt7 57 Schutzenberger MP, On an application of semi-groups methods to some problems in coding. T-IT 47 Sep 56 methods to some problems in coding. I-II 47 Sep 56 Schutzman E., See Archbald RW
Schwan HP, Application of UHF impedance measuring techniques in biophysics. I-I 75 Oct 55 Schwan HP, Electrical properties of body tissues and impedance plethysmography. I-ME 32 Nov 55 Schwan HP and Li K, The mechanism of absorption of ultrahigh frequency electromagnetic energy in tussues, as related to the problem of tolerance dosage. Schunemann CF and Epperson JB, Coaxial line transfer switch for television transmitters. NCR 88 Pt7 54 T-ME 45 Feb 56 Schwan HP and Li K, Hazards due to total body irradiation by radar. P 1572 Nov 56 ty radia: 1971 Schwartz H, Los Angeles student day. SQ 15 May 56 Schwartz JW, The annul ar geometry electron gun. P 1864 Nov 58, NCR 13 Pt3 58 Schwartz JW and Kaus PW, A new approach to kinescope beam convergence. T-ED 275 Oct 58 Schwartz LF, Criteria for the design of loop-type directional couplers for the L band.(L) T-MTT 162 Apr 57 Schwartz LS, The panel on electron tubes program for coordinating tube reliability activities. T-QC 28 Feb 54 Schwartz LS, Application of inductive probability to communications (L) P 1966 Dec 58 Schwartz L S. See Harris B
Schwartz L S. See Harris B
Schwartz L S. See Hauntschein A
Schwartz L S. See Metzner JJ
Schwartz M, Effects of signal fluctuation on the detection
of pulse signals in noise. T-IT 66 Jun 56 Schwartz R, A coincidence procedure for signal detection.
T-IT 135 Dec 56
Schwartz R, See Comerci FA
Schwartz RF, Eibliography on directional couplers.
T-MTT 58 Jul 54 T-MTT 58 Jul 54
Schwartz RF, Calculation of inductance of toroids with rectangular cross section and few turns.(L)
P 1416 Oct 57
Schwartz RF, See Lombardini PP
Schwartz RF, See Medhurst RG
Schwartz S, Transistorized communications receiver.
T-VC 41 Dec 56

Schwartzman A and Stahl PD, Doppler equation for earth satellite measurements (L) P 915 May 58 Schwarz RJ, A note on the transfer voltage ratio of re-sistive networks with positive elements.(L)

P 1670 Nov 55 Schweitzer WG , See Kessler KG Schwiebert H , Wideband waveguide rotary joint . NCR 57 Pt8 55

Schwiebert H., See Wheeler HA
Schwertz FA and Van Wagner EM., Printed circuits v percoranity. NCR 115 Pt6 56
Schwittek EW., An automatic antenna matching unit. NCR 163 Pt5 54

Printed circuits via

Scott NR , An experimental study of the information rate of a digital computer . NCR 35 Pt4 54 a digital computer. NCR 35 Pt4 54
Scott NR, On the use of redundant integrators in analog computers.(L) T-EC 287 Dec 57
Scott RE and DeClarls N, An iterative method for RC ladder network synthesis. NCR 86 Pt2 54
Scott RE, Potential analogs in network synthesis. NCR 2 Pt2 55
Scott RE, See Ho VC
Scott RE, See Linvill WK
Scott RM, The organization and management of engineering in a small company. NCR 109 Pt6 55 ing in a small company. NCR 109 Pt6 55 Scott WG , See Barab JD Scott WG , See Kelleher KS Scott WG, See Kelleher KS
Scott WG, See Mever WA
Scott WGT, See Bemstein M
Scott-Famile GR, Summary of 6th Annual IRE Electronic
Conference speech: Aviation the electronic engineer
and improved equipment. T-ANE 3 Mar 55
Scotto MJ and Parzer P, The electronic theory of tapehelix traveling-wave structures. T-ED 19 Oct 55.
Correction: T-ED 160 Jul 56 Scotto MJ , See Kiel A Seamons M , See Bain MB Scovill HED , The three-level solid-state maser . T-MTT 29 Jan 58 T-MT 29 Jan 58

Searcy JH, See Dorsett E

Searcy JH, See Walter JM Jr

Sear's FE, See Keith WW

Seaver MH. See Tannenwald PE

Sebastian WA, Roa'd alignment techniques for critical

bandpass circuitry. WCR 51 Pt 7 58

Sebestyen G, A design technique for pedestal-free

switching circuits. T-EC 162 Sep 57

Seed RG, Photosensitive germanium devices and some

device applications. NCR 70 Pt10 54

Seeley EW, An experimental study of the disk-loaded

folded monopole. T-AP 27 Jan 56

Seeley EW, Burns JD and Welton KL, Cap-loaded folded

antenna. NCR 133 Pt1 58

Seely S, Wilther electrical engineering education.

T-E 34 Jun 58

Segel D and Tyson G, The design features of an automatic Segel D and Tyson G, The design features of an automatic oscillograph reader. T-TRC 4.4 Apr 57 Segers RG and Hangley RM, Numerical analysis for network design.(L) T-CT 82 Mar 56 work design.(L) T-CT 82 Mar 56
Segers RC, See Melehy MA
Seidel H, Anomalous propagation in ferrite-loaded waveguide. P 1410 Oct 56
Seidel H, Synthesis of a class of mlcrowave filters.
T-MTT 107 Apr 57
Seidel H, Viewpoints on resonance in ideal ferrite slab-loaded rectangular waveguides. WCR 58 Pt1 57
Seidel H, See Boyet H
Seif E, See Marcovitz MW
Seki H, Some studies on delayed feedback circuits. P 758 Apr 58
Selby CS. Problems of semi-mechanized assembly of Selby CS , Problems of semi-mechanized assembly of electronic test equipment . T-PT 104 Apr 57 Selby MC, High frequency standards of the electronic calibration center, NBSBL. T-I 262 Dec 58
Selby MC, Behrent LF and Ries FX, RF voltmeter calibrating consoles. NCR 251 Pt5 58
Seliger HH and Ziegler CA, Temperature effects in gasfree liquid scintillators. T-NS 62 Nov 56 Seligsohn I, A multipurpose, multiaudience speech kit. WCR 50 Pt9 58 WCR 5C Pt9 58
Sellers B, See Dishal M
Selsted WT and Snyder RH, Magnetic recording—a report on the state of the art. T-AU 137 Sep-Oct 54
Selsted WT and Snyder RH, Magnetic recorder-reproducer design. NCR 110 Pt7 55
Selsted WT and Goldsmith WD, An analysis of packing density of information in high-velocity transverse video magnetic recording. NCR 3 Pt7 57 Sem-Sandbern S. See Smith RA Sengupta DL, The radiation characteristics of a zig-zag antenna. T-AP 191 Apr 58 Senior TBA, Siegel KM and Weil H, The influence of radar reflection characteristics of the moon on specifications for earth-moon-earth communication systems. WCR 197 Pt1 58 Senitzky B, See Moll JL Senn JC, Broadband radlo interference generated by air-bonic electronic devices utilizing diode rectifiers, WCR 25 Pt5 58 Sensiper S , Electromagnetic wave propagation on helical structures (a review and survey of recent progress).
P 149 Feb 55 P 149 Feb 55 Sensiper S, Resonance loss properties of ferrites in 9-kmc region. P 1323 Oct 56 Sensiper S, Cylindrical radio waves. T-AP 56 Jan 57 Sensiper S, Microwave ferrite phase shifter (L) P 359 Mar 57 Sensiper S., Fourier transforms and directional couplers (L) T-MTT 238 Apr 58 Sepahban AH, Magnetic selection systems using a single pyramid for both selective writing and reading in largescale electronic computers (abstract). NCR 101 Pt4 55 Sepmeyer LW, See Hadden FA Serafin J, See Morris RM Serniuk W, See Jordan DB

Serrell R, Correction to: Elements of Boolean algebra for the study of information-handling systems. 475 Feb 54 Service DH, See Johnston LH Seshu S, The mesh counterpart of Shekel's theorem.(L) P 342 Mar 55 Seshu S, Topological considerations in the design of driving-point functions. T-CT 356 Dec 55
Seshu S, On electrical circuits and switching circuits.
T-CT 172 Sep 56. Correction: T-CT 284 Sep 57 Seshu S and Balabanian N , Transformations of positive real functions . T-CT 306 Dec 57
Seshu S , See Hohn FE
Setrin M , See Davis H Severin H., Non-reflecting absorbers for microwave radiation. T-AP 385 Jul 56
Seybold AM, The improvement of base adherence on electron tubes. T-ED 58 Feb 54 Sferrazza P., Directional couplers. NCR 115 Pt8 54
Sferrazza P. See Perini H
Shaffner G, Minimizing incidental frequency modulation
in amplitude-modulated UHF oscillators.
P 524 Apr 57 Shain CA, The Sydney 19.7-mc radio telescope. P 85 Jan 58 P 85 Jan 58
Shallout MH, See Mostafa AE
Shanahan EF, Operational problems in aircraft telemetering.
T-TRC 4.1 Apr 57, T-TRC Dec 57
Shanahan EF, Problems in aircraft telemetering.
T-TRC 10 Dec 57
Shanahan WJ, See Pasek DM
Shandelman F, Hartung A and Golden H, Low level commutation system for telemetry application.
T-TRC 8.6 Apr 57
Shanklin JP. Pattern measurements of large fixed anten-Shanklin JP, Pattern measurements of large fixed antennas. T-I 16 Oct 55 Shanks HE, Theoretical investigation of the radiation characteristics of a quasi-flush mounted cardioid-pattern antenna. T-AP 8 Jan 58 characteristics of a quasi-flush mounted cardiolopattern antenna. T-AP 8 Jan 58

Shanks HE. See Howardv HH
Shannon CE, The rate of approach to ideal coding (abstract). NCR 47 Pt4 55

Shannon CE, The zero error capacity of a noisy channel.
T-IT 8 Sep 56

Shannon CE, Some results in coding theory (title only).
NCR 125 Pt4 56

Shannon CE, Recent developments in communication
theory (excerpt). T-MIL 9 Mar 57

Shannon CE, See Elias P

Shannon WW, The Barnes colorimeter applied to television
quality control. T-BTR 49 Jan 54

Shapiro E, Academic training for engineering management
(abstract). NCR 3 Pt10 57

Shapiro G, Subminiaturization techniques for UHF communication equipment (abstract). NCR 16 Pt3 54

Sharaf HF, A complex Impedance recorder. Sharaf HM, A complex Impedance recorder. NCR 59 Pt6 54 NCR 59 Pt6 54

Sharma RL and Lewis HO, Magnetostriction transducers for mechanical filters. NCR 223 Pt6 58

Sharp CE, See Goubau G

Sharp EM, An automatic data recording system for aeronautical research. T-I 186 Sep 57

Sharp EM, A general Tchebycheff rational function. P 454 Feb 54 P 454 Feb 54

Sharpe CB and Heim DS, A ferrite boundary-value problem in a rectangular waveguide. T-MTT 42 Jan 58

Sharpe GE, Transactors (L) P 692 May 57

Sharpe GE, The pentode gyrator. T-CT 321 Dec 57

Sharpe GE, Axioms on transactors. T-CT 189 Sep 58

Sharpe J, A review of the EMI development of photomultiplier tubes. T-NS 202 Dec 58

Sharpless WM, A calorimeter for power measurements at millimeter wavelengths. T-MTT 45 Sep 54

Shaull JM and Shoaf JH, Precision guarz resonator frequency standards. P 1300 Aug 54

Shaull JM, See Behrens WV Shaull J.M. See Behrens WV Shavlach R. See Rosien RA Shaw GS, The AN/AKT-14 telemetry system: Part I— Introduction. T-TRC 5 Mar 56 introduction. 1-1RC 5 Mar 56
Shaw GS, High capacity pulse code telemeter and data reduction tystem. NCR 159 Pt1 56
Shaw HJ and Winslow LM, A broad-band high-nower vacuum window for X hand. T-MTT 326 Jul 58
Shaw HJ, See Fontana JR Shaw HJ, See Fontana JR
Shea JE and Ordung PF, Feedback-control of a lengthmodulated pulse generator. NCR 38 Pt4 56
Shea RF, Transistors in nuclear instruments.
NCR 75 Pt9 57
Shea RF, See Schaffner JS
Sheffield HC, Microwave relay system between Saint Jshn
and Halifax. T-CS 144 May 56
Sheingold DH, Some antics in semantics.(L)
P 343 Mar 55
Sheingold DH, See Friedensohn G
Sheingold LS, See Felsen LB
Shekel J, Matrix analysis of multi-terminal transducers.
P 840 May 54 P 840 May 54 Shekel J., On the term instantaneous frequency.(L)

P 1024 Jun 54

44 Shekel J., Two network theorems concerning change of voltage reference terminal. P 1125 Jul 54
Shekel J., Reciprocity relations in active 3-terminal elements. P 1268 Auto 54
Shekel J and Zadeh LA., A note on the analysis of vacuum tube and transistor circuits. (L.) P 1569 Oct 54
Shekel J., Energy relations in multiterminal transducers.
T-CT 268 Sen 55 Shekel J., General expressions for insertion loss.(L) T-CT 83 Mar 58 Shelby RE, See DeCola R Sheldon M and Dickerson LA, Aerial methods in micro-wave survey. NCR 12 Pt5 54 Shelton EJ, Stabilization of microwave oscillators. T-ED 30 Dec 54

Shelton JP, Jr, Multiple-line directional couplers
NCR 254 Pt1 57 Shen DWC Nonlinear amplitude-sensitive control sys-tems with stochastic inputs. WCR 196 Pt4 57 Shepard DH, Bargh PF and Heasly CC Jr, A reliable character sensing system for documents prepared or conventional business devices. WCR 111 Pt4 57 conventional business devices. WCR 111 Pt4 57
Shepard ES Sr, Transmission of signal data from high speed machines. T-IE 3 May 58
Shepard WL, See Diehl MH
Shepherd NH and Firestone W, SSB performance as a function of carrier strength.(L) P 541 Apr 57
Shepherd NH, SINAD interference evaluation by VOSIM. NCR 23 PtC 57
Shepherd NH and Smith JS, The Gaussian curse—transmitter noise limits spectrum in literation. mitter noise linits 55. The Gaussian curse-mitter noise linits spectrum utilization. T-VC 27 Apr 58 Shenherd WG , The use of radioactive tracer tech-niques in the study of cathode problems . T-ED 56 Feb 54 Shepherd WG, Report on URSI Commission VII—Radio electronics P 1381 Jul 58 Sher N. A two-cavity unilateral maser amplifier. NCR 27 Ptl 58 NCR 27 Pt1 58
Sheret LM, Current RTCA studies which concern air traffic control. T-ANE 4 Jun 55
Sheridan KV, See Milts BY
Sheridan KV. See Wild JP
Sherman H, The role of the military laboratory in electronics research and development. T-EM 30 Feb 54 tronics research and development. T-EM 30 Feb 54
Sherman H, Some optimal signals for time measurements.
T-IT 24 Mar 56
Sherman H, The sample space trajectory of time-shifted
signal vectors. T-IT 257 Dec 57
Sherman JE. See Castanias RP
Sherman JH Jr, Designing crystal-controlled oscillator
circuits.(L) P 1531 Oct 55 Sherman S, Non-mean-square error criteria. T-IT 125 Sep 58 Sherr S, Generalized equations for RC phase-shift oscillators. P 1169 Jul 54. Corrections: P 1568 Oct 54, P 1165 Sep 56 Sherwood EM and Ginzton EM, Reflection coefficients of irregular terrain at 10 cm.(L) P 877 Jul 55
Shetler RL, See Hall EN
Shiffman B, Minimum time programming on a drum computer. NCR 327 Pt4 58
Shimizu JK, Strip-line 3-db directional couplers. WCR 4 Pt1 57 Shimizu JK and Jones EMT, Coupled-transmission-line directional couplers. T-MTT 403 Oct 58 Slimizu JK, See Jones EMT Shimbrot M, A generalization of a method for the solution of the integral equation arising ir optimization of time-varying linear systems with nonstationary inputs. T-IT 220 Dec 57 Shiner G, The USAF automatic language translator, Mark I. NCR 296 Pt4 58 Shiowitz M, High speed digital computers. T-RTRC 12 Aug 54 Shipley WU, A method of measuring cathode interface impedance. NCR 64 Pt3 56 Shipley WU, The effects of pulse operation. NCR 37 Pt6 56 Shipley WU, See Jolly SA

Shiphey WU, See Jolly SA
Shipman JD and McCraven MR, Naval Research Laboratory high-current photomolituilier. T-NS 10 Feb 56
Shirane G, Jona F and Pepinsky R, Some aspects of ferroelectricity. P 1738 Dec 55
Shively R, The truth about alpha, beta and gamma. SQ 12 Feb 55
Shkarofsky IP, A symmetry property of space-charge waves in accelerated electron beams.
T-ED 283 Oct 58
Sikarofsky IP. Neugebauer HF.J and Bachyuski MP. Effect.

Slikarofsky IP, Neugebauer HEJ and Bachynski MP, Effect of mountains with smooth crests on wave propagation T-AP 341 Oct 58

Shiklovskava-Kordv VV. See Krasslinikov VA Shmoys J., Long-range propagation of low-frequency radio waves between the earth and the conosphere. P. 163 Feb 56

Shockley W., On the statistics of Individual variations of productivity in research laboratories. P 279 Mar 57 Shockley W., An invited essay on transistor business. P 954 Jun 58

Shockley W, Electrons, holes, and traps.
P 973 Jun 58
Shockley W and Gibbons J, Current build-up in semiconductor devices (L) P 1947 Dec 58
Shockley W, See Miessner BF
Shockley W, See Sah CT

Shourer F, Design of aperture-coupled filters. T-MTT 238 Oct 57 Shoaf JH, See Shaull JM

Shodin LF, See Sletten CJ
Shoemaker RF, See Otley KO
Short BH, Sources of interference inherent In vehicular electrical systems. T-VC 33 Jul 58.
Short J, See Ehrlich MJ
Short PJ, See Norton KA Shostak A, Navy requirements in basic and applied electronics research. WCR 79 Pt8 57 Showers RM and Pakala WE, Principles and application of radio interference measurements. T-I 297 Dec 58 of radio interference measurements. T-I 29 T Dec 58
Shrader TM, A demountable vacuum system for tube
development. T-ED 68 Feb 54
Shrivastava KK, See Honkins EG
Shtrikman S. See Aharoni A
Shulke HA Jr, Martix factorization. T-CT 128 Jun 55
Sichak W and Nail JJ, UHF omnidirectional antenna
systems for large aircraft. T-AP 6 Jan 54
Sichak W, Coaxial line with helical inner conductor.
P 1315 Aun 54
Sichak W and Levine DJ. Microwave high-speed contine-P 1315 Aun 54
Sichak W and Levine DJ, Microwave high-speed continuous phase shifter, P 1661 Nov 55
Sichak W, See Adams RT
Sichak W, See Adams RT
Sichak W, See Spencer NN
Sidwell P, See Spencer NN
Sidwell P, See Tirrell JE
Siebert W McC, A radar detection philosophy.
T-17 204 Sep 56 Siebert WM, Some applications of detection theory to radar. NCR 5 Pt4 58
Slegel K, See Salzberg B
Siegel KM, Schultz FV, Gere HH and Sleator FB, The theoretical and numerical determination of the radar cross section of a prolate spheroid. T-AP 266 Jul 56 Siegel KM. See Senlor TBA
Siegel KM. See Senlor TBA
Sieger AJF, Passage of stationary processes through
linear and non-linear devices. T-IT 4 Mar 54
Slegert AJF, A systematic approach to a class of problems
in the theory of noise and other random phenomena—Part
II, Examples. T-IT 38 Mar 57 Slegert AJF, A systematic approach to a class of problems in the theory of noise and other random phenomena—Part III, Examples. T-IT 4 Mar 58 Siegert AJF, See Darling DA Siegert AJF ALL SIEGER AND SIEGER A wave oscillation by filter helix methods. T-ED 18 Apr 55 Siegman AE and Walk ins DA, Potential-minimum nolse in the microwave diode. T-ED 82 Jar 57 Siegman AE and Bloom S, An equivalent circuit for microwave noise at the potential minimum. T-ED 295 Oct 57 Slegman AE, Gain bandwidth and noise in maser amplifiers.(L.) P 1737 Dec 57
Slegman AE, See Johnson HR
Siekanowicz WW, A developmental medium-power traveling-wave tube for relay service in the 2000 region. ening-wave function relay service in the 2000 region. P 1091 Jul 54
Siekanowicz WW and Sterzer F, A developmental wide-band 100-watt 20 db S-band traveling-wave am-plifier utilizing periodic permanent magnets. nlifer utilizing periodic permanent magnets.
P 55 Jan 56
Sienkiewicz LJ, See Farr KE
Sifford BM, See Vincent WR
Slfford BM, See Vincent WR
Slfford BM, See Vincent WR
Slfford WR
Slforov VI, On noise stability of a system with errorcorrecting codes. T-IT 109 Dec 56 Siforov VI, On the capacity of channels with random parameter fluctuations. WCR 107 Pt10 57 Sigler HR, A multiple frequency antenna coupling system. NCR 151 Pt10 55 NCR 151 Pt10 55
Sigley DT, Some dynamic aspects of control at long range. NCR 16-Pt5-57
Sihvonen YT, See Groom D
Silbers LM, See Treuliaft MA
Silberstein R, Sweep frequency backscatter—some observations and deductions. T-AP-56 Apr-54
Silberstein R, The long-distance horizontal radiation pattern of a high-frequency antenn (L)
T-AP-397 Oct 57
Silberstein R, Tropospheric effects on 6-mc pulses (L)
P 1968 Dec 58
Sillman D, Design considerations in transformerless single rectifier television receivers.
NCR 133 Pt7-58 gle rectifier television receivers.

NCR 133 Pt7 58

Silsbee FB, Introductory remarks to the session on direct current and low frequency standards. T-I 211 Dec 58

Silva LM, Predictor servomechanisms, T-CT 56 Mar 54

Silver M, Pulsed operation of a cold callinde thyratron (395A). T-ED 53 Apr 54

Silver M, Ionization phenomena in thyratrons.

T-ED 57 Apr 54 T-ED 57 Apr 54 Silver M. Operation of a cold cathode gas triode in a high impedance self-biasing circuit. P 239 Feb 57 Silver S. Panel discussion on boundary value problems of diffraction and scattering theory (II). T-AP 540 Jul 56 Silver S., See Bailin LL Silver S., See Bailin LL Silverman D., See Gaw N
Silverman D., See Gaw N
Silverman RA and Balser M., Coding for constant-datarate systems—Part 1, A new error-correcting code.
P. 1428 Sen. 54 Silverman RA and Balser M., Coding for constant-data-rate systems. T-IT 50 Sep 54

Silverman RA, Some remarks on scattering from eddies, P 1253 Oct 55
Silverman RA, On binary channels and their cascades. T-IT 19 Dec 55 Silverman RA, Locally stationary random processes. T-IT 182 Sep 57
Silverman RA, Comment on a recent paper by Kraus and Potzl (L) T-CT 24(Dec 57
Silverman RA, Moments of analytic signals (L) T-CT 84 Mar 58 Silverman RA, The fluctuation rate of the chi process.
T-IT 30 Mar 58
Silverman RA, Remarks on the fading of scattered radio waves.(L) T-AP 378 Oct 58
Silverman RA, See Balser M
Silverman RA, See Golay MJE
Silverstein I, A mechanical analog to denonstrate electron this profit facility. Silverstein I, A medianical analog to denionstrate electron tube annification. SQ 24 Sep 57
Simcic NF., See Franz JP
Simkins QW and Vogelsong JH, Transistor amplifiers for use in a digital computer. P 43 Jan 56
Simkins QW and Vogelsong JH, Correction to: Transistor amplifiers for use in a digital computer. P 1047 Aug 56
Simmons AJ, Phase shift by periodic loading of waveguide and its amplication to broad-band circular polarization. T-MTT 18 Dec 55
Simmons AJ, Circularly polarized slot radiators. T-AP 31 Jan 57
Simmons DJ, Personal responsibilities of the professional engineer. NCR 96 Pt6 55
Simmons GJ, A theoretical study of errors in radio interferometer type measurements attributed to inhomogeneities of the medium. T-TRC 2 Dec 57
Simms RJ, See Lawson AA Simms RJ , See Lawson AA Simms RJ. See Lawson AA Simon EJ. Life of Colonel Morris N Liebmann P 438 Apr 57 Simon HA. See Newell A
Simon JC, Application of periodic functions approximation to antenna pattern synthesis and circuit theory.
T-AP 429 Jul 56 Simons DG , Man in the space enviornment (title only). NCR 258 Pt5 58 NCR 258 Pt5 58
Simpson LC, See Beverage HH
Simpson NH, Accelerated life test in alrframe manufacture. T-RQC 33 Sep 58
Simpson OT, See Half EN
Sinclair DB, What is a broad education today?
NCR 40 Pt10 58
Sinclair G, Panel discussion on boundary value problems of differentiation and contraction theory (1) of diffraction and scattering theory (I). of diffraction and scattering theory (1).
T-AP 538 Jul 56
Singer SE, Why Earth satellites? SQ 3 Sep 56
Singh A, Modes and operating voltages of interdigital magnetrons. P 470 Apr 55 magnetrons. P 470 Apr 55
Singh A, An improved method for the determination of Q of cavity resonators. T-MTT 155 Apr 58
Sinha NK, See Willis J
Sirois LJ. See Brinns JL
Sirvetz MH, See Schulz-Dubols EO
Sittler RW, Systems analysis of discrete Markov nrocesses. T-CT 257 Dec 56
Sittner WR, See Carman JN
Sittner WR, See Carman JN
Sittner WR, See Ryder RM
Slukola MS, The traveling-wave VHF television transmitting antenna. WCR 3 Pt7 57, T-BTR 49 Oct 57
Skagos LS, See Nygard JC mitting antenna. WCR 3 Pt7 57, T-BTR 49 Oct 57
Skaggs LS, See Nygard JC
Skar RC, Low-frequency oscillators for laboratory demonstrations: phase shift oscillator. SQ 24 Sep 54
Skar RC, A method for determining Q and selectivity of low-loss parallel resonant circuits. T-BTR 14 Oct 54
Skar RC, A compact L-band RF unit for an air traffic control transponder. WCR 34 Pt5 58
Skellett AM, Loverldge LE and Gratian JW, Electronbeam head for magnetic tape playback.
T-AU 23 Jan-Feb 54 T-AU 23 Jan-Feb 54

Skifter H, See Schmitt 0

Skinner LV, Spectra of waves with periodic modulation.

T-CT 26 Jun 54

Sklansky J, Pulsed RC networks for sampled-data systems. NCR 81 Pt2 56

Sklansky J, On closed-form expressions for mean squares in discrete-continuous systems. T-AC 21 Mar 58 Skolnik MI, A broadband RF noise generator. T-ED 1 Jul 55 Skolnik MI, Radar horizon and propagation loss (L) P 697 May 57 Skomal EN. See Vartanian PN
Skwirzynski JK and Zdunek J, Note on calculation of ladder coefficients for symmetrical and inverse impedance filters on a digital computer. T-CT 328 Dec 58
Slattery TG and Peterson WW, Discussion on: The detection of a sine wave in the presence of noise P 1124 Jul 54 P 1124 Jul 54
Slattery TG, A working philosophy for engineering management. NCR 38 Ptl 154
Slaughter DW, The emitter-coupled differential amplifier. T-CT 51 Mar 56
Slauson DB, Xeroradiography. T-ME 1 Jul 57
Slavin P, An electronic commutator.
T-TRC 6.4 Apr 57
Slavgaler EM, Equilipation and two availables. Slaymaker FH, Equalization and tone controls or phonograph amplifiers. T-AU 5 Jan-Feb 55

45

Slaymaker FH, Bells electronic carillons and chimes. T-AU 24 Jon-Feb 56
Slaymaker FH, See Miessner BF
Sleator FB, See Siegel KM
Slee OR, See Mills BY
Sleeian D, Estimation of signal parameters in the presence of noise. T-17 68 Mar 54 Slepian D. A note on two binary signaling alphabets T-IT 84 Jun 56 Slepian D , Noise output of balanced frequency discriminator (L) P 614 Mar 58 Slepian D , Noise output or balanceo requency disconninator.(L) P 614 Mar 58

Slepian D , Some comments on the detection of Gaussian signals in Gaussian noise. T-IT 65 Jun 58

Slepian P , On the compactness of an RC quadripole.
T-CT 61 Mar 58. Correction: T-CT 139 Jun 58

Slepian P and Weinberg L , Necessary conditions on the matrix of an RC grounded quadripole. T-CT 89 Jun 58

Slepian P and Reza FM , Comments on a recent paper on network topology. (L) T-CT 367 Dec 58

Slepian P , See Weinberg L

Sletten CJ , Blacksmith P Jr and Forbes GR Jr , New method of antenna array synthesis applied to generation of double-step natterns. T-AP 369 Oct 57

Sletten CJ , Holt FS , Blacksmith P Jr , Forbes GR Jr , Shodin LF and Henkel HJ , A new satellite tracking antenna. WCR 244 Pt1 57

Sletten CJ , Mack RB , Mavroides WG and Johanson HM , Sletten CJ, Mack RB, Mavroides WG and Johanson HM, Corrective line sources for paraboloids. T-AP 239 Jul 58 Slivka MJ and Manfredi RE , A long-life cathode for high power UHF transmitting tubes . NCR 58 Pt3 56 power UHF transmitting tubes. NCR 58 Pt3 56
Sloanaker RM, See Mayer CH
Slobodzinski E. See Huano C
Slocum A, See Augustine CF
Small GF. See Medhurst RG
Smedes RL, High efficiency microwave lens.
NCR 208 Pt1 56
Smiley G, Ultra-low-frequency, three-phase oscillator.
P 677 Apr 54
Smiley G, Low-frequency oscillators for laboratory demcustrations: an experimental three-phase oscillator. constrations; an experimental three-phase oscillator. SQ 26 Sep 54 SQ 26 Sep 54
Smith AB, See Fabricius JH
Smith AE, See Melehy MA
Smith BO Jr, An unusual electronic analog-digital conversion method. T-I 155 Jun 56
Smith BH, MacKenzle KR, Reidel J, Kems Q, Baker WR, Park CW and Thornton RL, The electrical aspects of the UCRL 740-mev synchrocyclotron. WCR 60 Pt9 57
Smith BK, The Univac magnetic computer—Part II. Megacycle magnetic modules (abstract). NCR 110 Pt4 56
Smith BK, Practical information theory aspects of high-speed data handling. T-I 95 Mar 58
Smith CE, Hall JR and Weldon JO, Very high-power long-wave broadcasting station. P 1222 Aug 54 Smith CE, Hutton DB and Hutton WG, Performance of sec-tionalized broadcasting towers. T-BTS 22 Dec 55 Smith CI , See Taub JJ Smith CL and Leonides CT , An analysis of the effects of certain nonlinearities on servomechanism performance. WCR 24 Pt4 57 WCR 24 Pt4 57

Smith DB, The NTSC an exercise in technical coordination. P 11 Jan 54

Smickler EJ, See Batsel CN Jr

Smith EK Jr. See Countilin F

Smith F. See Avins J

Smith F C Jr and Pittman RR, A twenty-four channel cathode ray oscilloscope for monitoring magnetic tape records. T-1 27 Jun 56

Smith FC Jr, See Erath LW

Smith GA, Are bibliographies wanted?(L)

T-CT 77 Man 54:
Smith GP, Capacitors for automation. WCR 156 Pt6 55 T-CT 77 Mar 54

Smith GP, Canacitors for automation. WCR 156 Pt6 57

Smith HM, The Typotron, a novel character display storage tube. NCR 129 Pt4 55

Smith HR, See Portz KE

Smith HW, McClure RM and Bostick FX, An automatic power spectrum computer. T-I 228 Dec 57

Smith HW, See LaGrone AH

Smith JH, Transistor circuits applied to telemetering. T-TRC 3.1 Apr 57

Smith JL, See Leiper AL Smith JL, See Leiner AL

Smith JL , See Weinberner A Smith JS , DC transformers . T-VC 53 Jul 56 Smith JS , Adjacent channels and the Fourier curse . T-VC 3 Jun 57

Smith JS, See Bailey A Smith JS, See Shepherd NH Smith JW, An approach to a company-owned frequency standard. NCR 34 P110 54

Smith JW, Design of a high power single-sideband VHF communications system. P 1848 Dec 56

Smith MJM. See Wendt RL
Smith OJM, Editorial trends in feedback systems.
T-CT 2 Mar 54
Smith OJM, Statistically almost optimum nonlinear network design (abstract). T-IT 123 Mar 54

Smith OJM, Direct synthesis through block diagram substitutions. NCR 8 Pt4 57
Smith OJM, Mixed, distributed and lumped parameter systems. WCR 122 Pt2 57

Smith OJM, Posicast control of damped oscillatory systems. P 1249 Sep 57

AUTHOR INDEX Sommer AH, Multi-alkali photo cathodes. T-NS 8 Nov 56 Smith OJM, Availability of necessary theory for the analysis and design of nonlinear systems T-AC 60 Jul 58 Sommer HH, An improved simultaneous phase comparison guidance radar. T-ANE 67 Jun 56 Smith OJM. See Tallman GH Smith PF, An atmospheric analyzer. T-AP 9 Jan 55 Smith PF, See Richard JD Jr Smith PF, See Yang CC Smith RA and Sem-Sandberg S, Operational feedback in data processing amplifiers. WCR 103 Pt5 58 Smith RD , Field application of transmission quality control in mobile radio systems . T-VC 3 May 57
Smith RE , See Walker JM
Smith RV , Photomultiplier transit-time measurements .
T-NS 120 Nov 56 Smith RV, Instrumentation for fast neutron time-of-flight Smith RV, Instrumentation for fast neutron time-of-High studies: T-NS 10 Jun 58
Smith RV, See Rapuano RA
Smith SE, See Porter VJ
Smith SE, A new airborne recorder of small weight and size. T-1 44 Jun 56
Smith SR, Instrumentation of human endurance.
T-1 163 Sep 57
Smith ST. See Belinters CD. Smith ST. See Beinstema CD Smith TA, The background of reliability. T-ROC 55 Sep 56 Smith TA, Performance, productivity and prosperity. T-PT iv Apr 57 Smith TE and Harris HF, Low-level transistorized chopper annihiter. T-TRC 3.5 Apr 57
Smith WC, Radio interference suppression.
T-CS 8 Mar 55 T-CS 8 Mar 55
Smith WL, Discrete writing. (L) P 541 Apr 57
Smith-Rose RL, The speed of light and radio waves.
SQ 21 Sep 58
Smith-Rose RL, Electron-density profiles in the ionosphere during the IGY,(L) P 1874 Nov 58
Smits FM, Formation of junction structures by solid-state diffusion. P 1049 Jun 58 Smolarska J, Characteristic impedances of the slotted coaxial line. T-MTT 161 Apr 58 Smoll AE, One way transmission devices.(L) P 860 May 54 Smullin LD and Fried C, Microwave noise measurements on electron beams. T-ED 168 Dec 54 Smullin LD and Chomey P., Properties of ion filled wave-guides (L) P 360 Jan 58 Smyth JB, Report on URSI Commission II—Tropospheric radio propagation. P 1358 Jul 5B Snell JK, Transducers for machine control. T-IE 6 May 58 T-IE 6 May 58
Sneil PA, See Linden BR
Sneivangers R, See Bauer BB
Snow OJ, Transmission characteristics of parallel wire
grids with variable titl angle. T-AP 580 Jul 56
Snow OJ, Transmission characteristics of inclined wire
gratings. T-AP 650 Oct 56
Snow WB, Baste principles of stereophonic sound.
T-AU 42 Mar-Apr 55 Snow WB, Application of acoustical engineering principles to home music rooms. T-AU 154 Nov-Dec 57 Snyder RH and Havstad JW, Equalization considerations in direct magnetic recording for audio purposes. NCR 134 Pt7 56 Snyder RH, A magnetic tape recording system for video signals. T-BTS 35 Feb 57
Snyder RH, Ginsburg C, Andersen H, Wick O and Von Behren R. Video tape recorder symposium (abstract). WCR 13 Pt7 57 WCR 13 Pt/ 5/
Snyder RH, See Selsted WT
Snyder RL, A precl sion digital data acquisition system
for instrumentation radars. WCR 41 Pt5 58
Soble AB, Bounds for thermistor compensation of resistance and conductance. T-CP 96 Sep 57, T-Cl Sep 57
Soble AB, Thermister compensation of transistor amnilifiers. ICL T-CT 290 Sep 57
Sobel AB, A possible simplification of stereophonic audio
systems. (L) P 1426 Jul 58
Sobal B. See Rowe IF Systems. (C) P 1426 Jul 58

Sobol H, See Rowe JE

Sollenberger TE, Multipath phase errors in CW-FW tracking systems. T-AP 185 Oct 55

Sollenberger TE, See Mallinckrodt AJ

Solomon AK and Paganelli CV, Expansion chamber for measurement of red cell permeation by water (abstract). NCR 6 Pt9 54 Solomon JL, New techniques for the control of resistance welding machines. NCR 175 Pt6 57 Solomonoff RJ, Effect of Heisenberg's principle on channel capacity.(L) P 484 Apr 55 Solomonoff RJ, An inductive inference machine. NCR 56 Pt2 57

Sommers DJ, Slot array employing photoetched tri-plate transmission lines. T-MTT 157 Mar 55 transmission lines. 1-MIT 137 Mar 33 Sondhi MM, See Bendict TR Sonnenfeldt RW, Selectivity and transient response synthesis. T-BTR 1 Jul 55 Sonnenfeldt RW, See Corrington MS Soohoo EL and Jones TO, Translation of foreign articles (LL) P 917 May 58
Soohoo RF, Ferrite microwave phaseshifters.
NCR 84 Pt5 56 Soohoo RF, Cutoff phenomena in transversely magnetized ferrites.(L) P 788 Apr 58
Soohoo RF, Power limiting using ferrites.
NCR 36 Ptl 58
Sorger GU and Weinschel BO, Precise Insertion loss measurements using imperfect square law detectors and accuracy limitations due to noise. T-I 55, Oct 55 Sorger GU , The thermal time constant of a bolometer . T-I 165 Oct 55Sorger GU, See Hedrich AL Sorensen CE, Guided missile research and development: Sorensen CE, Guideo Inissile research and development: in early carreer evaluation. SQ 5 Sep 54 Sorensen HO, See Colin GI Spaeth DA, Rogers TF and Johnson SJ, Wide-band large-dynamic-range fused quartz delay lines for increased-capacity high speed computer memories. NCR 77 Pt6 54 Spalding J. Investigation of the effects of humidity and temperature on XXX-P printed wiring board. WCR 51 Pt6 57 Spanoenbern KR, See Matthews AR Spanoenberg KR, See Reynolds DK Spanoler SB, Management of a Navy R and D activity. T-EM 39 Jun 58 I -EM 39 Jun 50
Spanke WF, Department of the Army Command Communications. T-CS 43 Nov 54
Spanos WM and Nall JJ, A study of the UHF omnidirectional aircraft antenna problem and proposed methods of solution. NCR 135 Pt5 54 Spanos WM and Ashbrook JM, Airborne dual antenna system for aerial navigation (summary). NCR 94 Pt5 58 Soarkes JJ and Beaufoy R, The junction transistor as a chroge controlled device (L) P 1740 Dec 57 Sparkes JJ, Voltage feedback and thermal resistance in junction transistors (L) P 1305 Jun 58 Speak FA, Power amplifier klystron for UHF transmission. T-CS 69 Mar 56
Speak VG, A portable scintillation alpha survey instrument. T-NS 63 Dec 57 Speer TK. See Jamqochian J Speh KC and Landauer WE, A self-checking radiation monitor. T-NS 19 Mar 57 monitor. 1-NS 19 Mar 57
Spellmire RJ, See Ballin LL
Spencer CL, See Fisk B
Spencer EG, LeCraw RC and Reggla F, Measurement of
microwave delectric constants and tensor permeabilities of ferrite. NCR 113 Pt8 55
Spencer EG, Lecraw RC and Reggla F, Measurement of
microwave delectric constants and tensor permeabilities
of ferrite spheres. NCR 113 Pt8 55, P 790 Jun 56 P 790 Jun 56 Spencer EG, Ault LA and LeCraw RC, Intrinsic tensor per-meabilities on ferrite rods spheres and disks. P 1311 Oct 56 Spencer EG, See Armistead MA Spencer EG, See Ault LA Spencer EG, See Garver RV
Spencer EG, See LeCraw RC
Spencer EG, See Reggia F
Spencer LM, The motivation of technical people (abstract).
NCR 89 Pt 6 56 Spencer NA, Crossed-mode tunable selector for microwaves. NCR 129 Pt5 56 NCR 129 Pt5 56
Spencer NW, Schulte HF and Sicinski HS, Rocket instrumentation for reliable upper-atmosphere temperature determination. P 1104 Jul 54
Spencer R, Applying the electro-hydraulic servo valve to industry. T-IE 33 Aug 58
Spencer RC, Network synthesis and the moment problem (L) T-CT 32 Jun 54 encer RC, Holt FS, Beauchemin HM and Sampson JL, Double parabolic cylinder pencil beam antenna. NCR 54 Pt1 54
Spencer RC, Holt FS, Johanson HM and Sampson J,
Double parabolic cylinder pencil-beam antenna.
T-AP 4 Jan 55 Soltes AS, A wide-band square-law computing amplifier. T-EC 37 Jun 54 Soltes AS, A wide-band square-law circuit element. T-ED 32 Apr 55 Spencer RC , Panel discussion on antenna theory and microwave optics. T-AP 555 Jul 56
Spencer RD , Microwave optics: Part I—Report on microwave optics. (L) T-AP 220 Oct 55
Spencer WH and Strum PD , Broadband UHF and VHF moise generators. T-I 47 Oct 55 Solymar L., On higher order approximations to the solution of nonuniform transmission lines.(L) P 1547 Nov 57 Solymar L., Deslay of a conical tracer in circular waveguide system supporting Hormode.(L) P 618 Mar 58 Solymar L , A reactance theorem for antennas .(L) P 779 Apr 58 Speriling L and Trackett RE, High-speed gating circuit using the EBOT beam deflection tube.

T-CP 60 Mar 58

Speriling L and Trackett RE, High-speed gating circuit using the EBOT beam deflection tube.

T-ED 59 Jan 57 Solymar L., Maximum gain of a line source antenna if the distribution function is a finite Fourier series. T-AP 215 Jul 58 Solymar L., Some notes on the optimum design of stepped transmission-line transformers. T-MTT 374 Oct 58 Someya I, See Kurokawa H Spetner LM, A statistical model for forward scattering of waves off a rough surface. T-AP 88 Jan 58

Spetner LM , See Beard CI Spilker JJ Jr, A multi-stage video amplifier design method. WCR 54 Pt2 57 Spillane LW, Crossroads for the mobile services. WCR 106 Pt8 57 Spinard R., See Mann A
Spittlehouse D., See Flaherty P
Sponsler GC, First-order Markov process representation
of binary radar data sequences. T-IT 56 Mar 57
Spracklen JG and Stroh W. A new noise-gated AGC
and Sync system for TV receivers—Part 1.
T-BTR 28 Jun 57 Spracklen JG, See Adler R
Spradley JL, A volumetric electrically scanned twodimensional microwave antenna array,
NCR 204 Pt1 58 Stradins J. See Pockman L
Sprague HB, History and present status of phonocardiography. T-ME 2 Dec 57
Sprague RK, See Podolsky L
Sprague RM, See Alford A
Spratt JP, See Messenger GC
Squires JR, Electronics, medicine, and a need.
SO 16 Dec 55 Souries WK, See Wendt KR
Stableford CV, See Bracewell RN
Staff report, Autofab. SQ 27 May 56
Staff report, Engineers in Industry—what they like and dislike. SQ 34 Dec 57
Staff report, You, the recruiter, and the company.
SQ 43 Dec 57 Staff report, You, the recruiter, and the company.
SQ 43 Dec 57
Staff report, The interview. SO 45 Dec 57
Staff report, Project Vanguard. SQ 43 Feb 58
Staff report, Education in the Soviet Union.
SQ 2 May 58
Staff report, What tomorrow's engineer thinks of today's high school. SQ 42 May 58
Staff report, The young engineer. SQ 2 Sep 57
Staff report, The young engineer: assignment Alaska, SQ 2 Sep 58
Staff report. Solid-state maser oscillator. SQ 2 Sep 30
Staff report, Solid-state maser oscillator.
SQ 22 May 57
Staff report, The technical information problem.
SQ 46 Sep 58
Staff report, The "Student Quarterly" reports on WES CON.
SQ 2 Dec 58
SQ 2 Sep 30
Sq 3 Sep 30
Sq 3 Sep 30
Sq 4 Sep Stahl PD, Fundamental techniques in Doppler radar navigation system reliability measurements. NCR 152 Pt6 58 NCR 152 Pt6 58
Stahl PD, See Schwartzman A
Stahmann JR, Correlation between induced grid noise and tube noise. T-ED 1 Jan 55
Stahmann JR, See Newman MM
Staller J, See Harmon E
Stampfi RA, See Harmon E
Stampfi RA, See Gartner WW
Stampfi RA, See Hanel RA
Stanley CB, A system for precise time-storage and expansion of electrical data. NCR 106 Pt10 55
Stanley CB, An apprach to quantitative methods for Stanley CB, An approach to quantitative methods for evaluation of magnetic recording system performance, NCR 82 Pt7 57 Stanley GM and Davis TN, Air-borne measurements of effective ground conductivity at low frequency in Alaska. NCR 64 Ptl 55
Stanley TO, See Freedman LA Stanley TO, See Freedman CA Stanley TO. See Holmes DD Stanly AL and Tampico J, An evaluation of the cost of missile unreliability and the influence of field checkout. T-RQC 17 Jan 57 Stanly AL , Logic and Illogic in engineering and management . T-EM 144 Dec 58

Stansel FR , An Improved method of measuring the current amplification factor of junction type transistors . amplification factor of junction type transistors.
T-I 41 Apr 54
Stanton JW, A transistorized dc amplifier.
T-CT 65 Mar 56. Correction: T-CT 285 Dec 56
Star J, Telemetering receiving station time pulse detector. NCR 43 Pt5 58
Staras H, Forward scattering of radio waves by anisotronic turbulence. P 1374 Oct 55
Staras H, The statistics of combiner diversity.(L)
P 1057 Aing 56
Staras H, Antenna-to-medium coupling toss Staras H., Antenna-to-medium coupling loss. T-AP 228 Apr 57 Stark L., Note on helix propagation (L) P 878 Jul 55 Stark L., A helical line scanner for beam steering a linear array. T-AP 211 Apr 57 Stark PA, Compatible method of recording and reproduction of stereo sound (L) T-AU 133 Nov-Dec 58 of stereo soimd.(L.) T-AU 133 Nov-Dec 58
Stark RA, See Owen L
Starett WR, Beyend the horizon. SQ 18 Feb 55
Strasberu M, See Henry GE
Stasior RA, Pulse applications of a new semiconductor device. NCR 137 Pt2 57
Stateman MJ and Ritterman MB, Theoretical improvement in signal-to-noise ratio of television signals by equivalent comb filter. NCR 13 Pt4 54
Statz H, Guillemin EA and Pucel RA, Design considerations of junction transistors at higher frequencies. P 1620 Nov 54
Statz H and Pucel RA. The Spacistor, a new class of high Statz H and Pucel RA, The Spacistor, a new class of high-frequency semiconductor devices P 317 Mar 57 Statz H, Pucel RA and Lanza C, High-frequency semi-conductor spacistor tetrodes P 1475 Nov 57 Statz H. See Schenkel H

Staudhammer J., See Bossinner A
Stavis G., See Saltzman H
Stearns T., Fourtain soldering—its background and development. T-PT 31 Apr 58
Stedman DF., See Jensen H
Steeg CW Jr., A time domain synthesis for optimum extrapolators. T-AC 32 Nov 57
Steeg C W Jr., The design of optimum filters and predictors.
NCR 62 Pt4 57 Staudhammer J., See Bossinger A Steeg CW Jr, See Mathews MV Steele DI and Kniazuk M, Sonic gas analyzers and their industrial uses. T-IE 64 May 58 industrial uses. I-IE 64 May 58
Steele EL. See Andres RJ
Steegen RJ and Reed RH, Arrays of closely spaced nonresonant slots. T-AP 109 Jul 54
Steegen RJ, See McCann JG
Steegen RT and Clavin A, On a variable impedance termination for testing high power components.(L)
T-MTT 54 Jan 56 Stein DR , Magnetic-core delay cables . NCR 30 Pt3 54 Stein MN., Dose rate dependence of dosimeters at dose rates up to two million Roentgen per hour.

NCR 192 Pt8 56 Stein S., Graphical analysis of measurements on multi-port waveguide junctions (L) P 599 Mar 54 Stein S and Storer JE., Generating a Gaussian sample. T-1T 87 Jun 56 Stein S and Johansen D, A statistical description of co-incidences among random pulse trains. P 827 May 58 Stein S, Some observations on scattering by turbulent inhomogenetics.(L) T-AP 299 Jul 38 Stein S., See Felsen LB Stein S., See Villard OG Jr Stein SJ, Multipurpose evaporated metal film resistors. T-CP 119 Dec 56 Stein SJ, Multipurpose evaporated metal film resistors. T-CP 119 Dec 56
Stein SJ, See Wellard C
Steinbern BD, See Linden DA
Steinberg JL, See Blum EJ
Steinert LA, See Bussey HE
Stello PE, See Carman JN
Stephanz KR, Manufacturing techniques used in the production of magnetrons. T-ED 67 Feb 54
Stephens FH, See Richard JD Jr
Stephens FN, The science of research management. T-EM 65 Jun 57
Stephens G, See Schmitt OH
Stephenson BT and Walter CH, Endfire stot antennas. T-AP C1 Apr 55
Stephenson JG, Design of stable tunable microwave oscillators. NCR 104 Pt8 54
Stephenson JG, Design of stable tunable microwave deflution technique. T-ME 82 Dec 58
Stephenson M, See Mark M
Stephenson SE Jr. See Montagmery LH
Stergis CG, See Rein GC
Sterkyand H and Strasberg M, Dr. Sterky on filters (L)
P 1190 Jul 54
Sterling GE, Billotts on the radio spectrum.
T-RER, Billotts on the radio spectrum. P 1190 Jul 54
Sterling GE, Blights on the radio spectrum.
T-BTR 42 Apr 54
Stern AP and Raper JAA, Transistor AM broadcast receivers. NCR 8 Pt7 54
Stern AP, Aldridge CA and Chow WF, Internal feedback and neutralization of transistor amplifiers.
P 838 Jul 55
Stern AP. Considerations as the stability of control of the stable stability. Stern AP , Considerations on the stability of active ele-ments and applications to transistors . NCR 46 Pt2 56 Stem AP, Power transfer in double-tuned coupling net-works. (L) P 1063 Aug 56 works. (L) P 1063 Aug 56
Stem AP, Stability and power gain of tured transistor amplifiers. P 335 Mar 57
Stem AP, See Altes SK
Stem AP, See Chow WF
Stem AP, See Linvill JG
Stem H. See Harrison GW
Stem HM, See Nelson AM Stemplass EJ and Wachtel MM, Transmission secondary electron multiplication for high-speed pulse counting. T-NS 29 Nov 56 Sternlicht L., A radar electronic countermeasures simulator. NCR 94 Pt8 58 Sterrett JE and Heffner H, The design of periodic magnetic focusing structures. T-ED 35 Jan 58 Sterzer F, Improvement of traveling-wave-tube efficiency through collector potential depression. efficiency through collector potential depression.
T-ED 300 Oct 58
Sterzer F, See Sickanowicz WW
Stevens CF, A sequential test for comparing component reliabilities. T-RQC 37 Nov 57
Stevens RT, Improvements to the high-accuracy log-arithmic receiver. (L) P 1738 Dec 57
Stevens SS, Biological transducers. NCR 27 Pt9 54
Stevenson AF, Electromagnetic scattering by soheroids as power series in the ratio diameter/wave length.
T-AP 580. (h) 56 T-AP 580 Jul 56 Stevenson AF, Approximate calculations for light scatter-ing when the refractive index is near unity. T-AP 582 Jul 56 Stevenson FR. See Hart GK Stever HG. Our Interest in space and its technology. T-MIL 3 Dec 58

Stewart C. Some applications and characteristics of ferrite at wavelengths of 0.87 cm and 1.9 cms. T-MTT 27 Apr 55, NCR 100 Pt8 55

Stewart HV , See Keister GL

Stewart JL , The power spectrum of a carrier frequency modulated by Gaussian noise . P 1539 Oct 54 Stewart JL , Parallel-network oscillators . P 589 May 55 Stewart JL and Watkins KS, Cathode-coupled phase-shift oscillators (L) P 1527 Oct 55 Shint oscillators (LL) P 1527 Oct 55
Steward JL, Shint capacitance and maximally-flat filter
design NCR 59 Pt2 55
Steward JL and Watkins KS, Wide-band electrically timable oscillators. NCR 89 Pt3 55
Steward JL, Frequency modulation noise in oscillators.
P 372 Mar 56 Stewart JL., Design of feedback amplifiers for prescribed closed-loop characteristics. T-CT 145 Jun 56 Stewart JL., Bandwidth limitations in equalizers and transistor output circuits. T-CT 5 Mar 57 Stewart JL , On ferrite loop antenna measurements . NCR 42 Pt1 57 NCR 42 Pt.1 57
Stewart JL, Crisis in engineering education.
T=E 54 Jun 58
Stewart JL, Flatness and symmetric low-pass lossless filters. T-CT 128 Jun 58
Stewart JL, On the statistics of filled vessels.(L)
P 1873 Nov 58
Stewart JL, Graphical interpretations for frequency transferentiation.
MCP 42 Pt.2 58 formations. WCR 42 Pt2 58 Stewart JL, See Mediurst RG formations. WCR 42 Pt2 58
Stewart JL, See Mediurest RC
Stewart JR and Willyard C, A method of signaling between a vehicle and an automatic telephone exchange.
T-VC 22 Apr 58
Stewart RD, Audio applications in the home.
T-AU 21 Mar-Apr 57
Stewart RF, Cornelison B and Adcock WA, High frequency tetrodes. NCR 166 Pt3 56
Stewart RF, High performance silicon tetrode transistors.
(L) P 1019 Jul 57
Stewart RM, Statistical design and evaluation of filters for the restoration of sampled data. P 253 Feb 56
Stewart RM and Parks RJ, Degenerate solutions and an algebraic approach to the multiple-input linear filter design problem. T-CT 10 Mar 57
Stewart RM, Statistical design and analysis of multiply-instrumented control systems. T-AC 29 Nov 57
Stewart RM, Statistical design and analysis of closed-loop control systems with error sampling.(L)
P 1873 Nov 58
Stickler DC, Electromagnetic diffraction by dielectric strips. T-AP 148 Jan 58. Correction:
T-AP 320 Jul 58
Stickley E, Measurement of slow neutron depth dose in Stickley E , Measurement of slow neutron depth dose in tissue . NCR 9 Pt9 54 tissue. NCR 9 Pt9 54
Stigant SA, The Tensor Club of Great Britain.(L)
T-CT 284 Sen 55
Stiles KP, Overseas radiotelephone services of A, T, & T, Co, T-CS 39 Jan 54
Stiles KP, Report on the over-the-horizon rad o transmission tests between Florida and Cuba.
NCR 212 Pt8 56 Stilley JC , Petroleum production telemetering and remote control systems . T-TRC 1.5 Apr 57 control systems. T-TRC 1.5 Apr 57
Stinson DC, Resonant frequencies of higher-order modes in radial resonators. T-MTT 18 Jul 55
Stinson DC, Coupling through an aperture containing an anisotropic ferrite. T-MTT 184 Jul 57
Stinson DC, Ferrite directional couplers with off-center apertures. (L) T-MTT 322 Jul 58
Stinson DC, Ferrite line width measurements in a crossguide coupler. T-MTT 446 Oct 58
Stinson DC, Experimental techniques in measuring ferrite line widths with a cross-guide coupler. WCR 147 Ptl 58 Stinson DC, See Whinnery JR
Stirling CW, Guest editorial: Navv T-PT 3 Sep 56
Stitch ML, Maser amplifier characteristics for one and two iris cavitles. WCR 175 Pt3 57 Stockman H., Stretched-log frequency axis.(L) P 860 May 54 Stockman H , Multi-electrode transistor-tube analogy (L) P 1023 Jun 54 Stockman H , On reciprocal inductance (L) Stockman H, On reciprocal inductance (L)
P 341 Mar 55
Stockman H, ymeh (L) P 879 Jul 55
Stockman H, On annular velocity (L) P 367 Mar 57
Stockman H, The limits of brainstorming (L) Stockman H, The limits of brainstorming (L)
P 1415 Oct 57
Stockman H, An extended general network theorem on rectlification (L) P 615 Mar 58
Stockman H, See Baghdady EJ
Stoddard DJ, See Damonte JB
Stokes HS, Applying computers to air traffic control.
T-ANE 152 Sep 58 Stone EO. See Schuster WD Stoner G., See Hall EN Stoner G, See Hall EN

Stone HA Jr, Component development for microminiaturization. NCR 13 Pt6 57

Stone HA Jr, See Duncan RS

Stone JL, See Kock WE

Stone RF, See Bias FJ

Stone RP, Some problems in the design of a direct view
storage tube. T-ED 71 Feb 54

Stone RP, Mueller CW and Webster WM, A time-sampling
and amplitude-quantizing tube. P 960 Aug 55,
NCR 56 Pt3 55 Stone RP, See Knoll M Stone RS and Dandl RA, A variable function delay for analog computers. T-EC 187 Sep 57

Storch L, Synthesis of constant-time-delay ladder net-works using Bessel polynomials. P 1666 Nov 54 Storch L, An application of modern network synthesis to the design of constant-time-delay networks with low-Q elements. NCR 105 Pt2 54 Storch L., On the chain matrix of cascaded networks .(L) T-CT 297 Dec 56 Storch L, Modern filter design techniques papers: introduction. T-CT 234 Dec 58 Storer JE, Relationship between the Bott-Duffin and Pantell immedance synthesis.(L) P 1451 Sep 54 Storer JE and Turyn R, Optimum finite code groups.(L)
P 1649 Sep 58
Storer JE, See Felsen LB
Storer JE, See Felsen LB
Storer JE See Stein S
Storrs E and Ryerson J, Traffic control electronics research goes wodern. NCR 64 PtB 56
Stoudenheimer RG and Moor JC, An image converter for high speed photography (nhstract). NCR 96 Pt5 57
Stoudenheimer RG, See Engstrom RW
Stoudenheimer RG, See Widmaier W.
Stout GE, Weather forecasting with radar.
SQ 17 May 57
Stout TM, On the comparison of linear and nonlinear servomechanism response. T-CT 49 Mar 54
Stout TM, Analog or digital computer for process control? T-AC 3 Nov 57
Stover JS, Design, installation and maintenance of 1001 Storer JE and Turyn R, OptImum finite code groups.(L) Stover JS, Design, installation and maintenance of 1000-unit base-mobile system. T-VC 39 Jin 55 Stowe LW. See Gelirina AJ Stration AW, Are teachers human beings? SQ 3 Dec 54 Straiton AW and Tolbert CW, Measurement and analysis of instantaneous radio height-gain curves at 8.6 millimeters over rough surfaces. T-AP 346 Jul 56 Straiton AW , New lines in the radio spectrum SQ 40 Dec 56 SQ 40 Dec 56
Straiton AW, The vanishing science and engineering teacher. T-E 8 Mar 50
Straiton AW, See LaGrone AH
Straiton AW, See Tolbert CW
Stram OB, See Enstein H
Strandberg MWP, Signal-seeking devices.(L)
P 378 Mar 56 P 378 Mar 56

Strandberg MWP, Phase stabilization of microwave oscillators (L) P 696 May 56

Strandberg MWP, Quantum mechanical amplifiers (L) P 92 Jan 57

Strandberg MWP, See Peter M

Strandberg MWP, See Tinkham M

Strasberg M, See Sterkyand H

Strathman J, See Sydnor RL

Straub WD, See Davis L Jr

Straub WD, See Rubin LG

Straub WD, See Rubin LG

Straub GF. See McMahon ME

Straus TM, Field displacement effects in dielectric and ferrite loaded wavenuides. WCR 135 Ptl 58

Straus A, Test procedures and instrumentation for the Strauss A, Test procedures and instrumentation for the measurement of crystal filters. WCR 108 Pt6 57
Strauss DJ, A subjective merit review system.
T-EM 141 Dec 58
Strazzulla RL, Wide-band instrumentation.
T-ANE 74 Jun 56
Strickroth GJ, Weapons system management.
T-EM 1 Mar 57 Stripp KF and Moore AR, The effects of junction shape Stripp KF and Moore AR, The effects of junction shape and surface recombination on transistor current gain—Part II. P 856 Jul 55 Strock AE, Ultrasonics in dentistry. NCR 98 Pt9 55 Stroh W, See Spracklen JG Strom LD, The theoretical sensitivity of the Dicke radiometer. (L) P 1291 Sep 57, WCR 188 Pt1 57. Correction: P 1631 Dec 57 Stromer PR, A selective bibliography on sampled data systems. T-AC 112 Dec 58

Strom LD, The theoretical sensitivity of the Dicke radiometer. WCR 188 Ptl 57 Stroud JB, The professional man and his reading. T-E 94 Dec 58 Strull G , See Henkels HW
Strum PD , Crystal checker for balanced mixers .
T-MTT 10 Jul 54 , T-MTT Jan 55
Strum PD , Noise in a nonlinear conductance .(L) P 1320 Aun 5 4
Strum PD . Klystron noise .(L) T-MTT 45 Jan 55
Strum PD , Swenson CA and Emslie AG , Comment on: Low-temperature electronics .(L) P 227 Feb 55
Strum PD and Zawels J , Comment on: The transistor as a mixer .(L) P 230 Feb 55
Strum PD , A noise figure meter having large dynamic range . T-I 51 Oct 55
Strum PD , A note on noise temperature . Strull G, See Henkels HW Strim PD. A note on noise temperature. T-MTT 145 Jil 56 Strim PD. Correction to: Some aspects of mixer crystal performance. P 1806 Dec 54, P 1468 Oct 56

Strum PD, Considerations in high-sensitivity microwave radio etry. P 43 Jan 58
Strum PD, See Snencer WH
Strum wasser E, See Berk AD
Strutt MJO, See Cremosnik G
Strutt MJO, See Gungenbuehl W

Stryker EM Jr., A miniature reflectometer for nortable and mobile transmitters. NCR 29 Pt8 55

Stryker EM Jr., Miniaturization techniques attlized in a multichannel crystal controlled VHF oscillator. NCR 3 Pt8 56

Stuart CH and Dorrell RF , Miniaturized high-altitude high-temperature connectors . T-CP 105 Dec 56
Stuart RW , A high-speed digital frequency divider of arbitrary scale . NCR 52 Pt10 54
Stubbins WF , Rapid placement of a synchrotron beam on an internal target . T-NS 3 Jun 55
Stubbs GS , Constant reactor outlet temperature control system . T-NS 8 Sep 54
Stubbs GS , A new method for designing the compensation of feedback control systems . NCR 66 Pt10 55 Stubbs GS, Design and use of the reactivity computer. T-NS 40 Mar 57 Stubbs HL, Discriminatory analysis applied to speech sound recognition. NCR 41 Pt4 54 Stuckelman RM, Communication in air-traffic control. T-CS 27 Jun 58 Stucky NP, A new dc voltage discriminator with independ-ent control of threshold voltage and voltage differential. T-I 210 Jun 56 Stuhlinger E, Possibilities of electrical space ship propulsion. NCR 37 Pt10 55 Stufflinger E, Control and power supply problems of instrumented satellites. T-1 19 Jun 56 Stumpers FLHM, Editorial: Information theory and International radio organizations. T-IT 85 Jun 57 Stumpers FLHM, A bibliography on information theory (communication theory—cybernetics). T-IT 31 Sep 55
Stumpers FLHM, A bibliography on information theory (communication theory -- cybernetics.)
T-IT 31 Sep 55. Correction: T-IT 38 Dec 55 Stumpers FLHM, A bibliography of information theory (communication theory—cybernetics) (second supplement). T-IT 150 Jun 57 Su KL and Dasher BJ. A solution to the approximation problem for RC low-pass filters. P 914 Jul 56 Sudrez EM. See Pomeroy AF Subbarao MK. See McLav AB Sublette III, A theorem on the Richards algorithm (L) T-CT 142 Jun 58 Subramanian R, See Ramakrishna BS Sucher M and Carlin HJ, The operation of bolometers under pulsed nower conditions. T-MTT 45 Jul 55 Sucher M and Carlin HJ, Broad-band calorimeters for the measurement of low and medium level microwave power.

1. Analysis and design. T-MTT 188 Apr 58 Sucher M. See Sweet LO Suchet JP, Low frequency dispersion of rho and epsilon in ferrites (L) P 360 Mar 57 Suctake K. See Morita K Sugar GR, Some fading characteristics of regular VHF ionospheric propagation. P 1432 Oct 55 Suhl H, The nonlinear behavior of ferrites at high Suhl H., The nonlinear behavior of ferrites at high microwave signal levels. P 1270 Oct 56
Suhl H., See Cook JS
Suhl H. See Tien PK
Suhl H. See Walker LR
Sullivan AW, See King EI
Sullivan H and Nelson J, A high efficiency speech amplifier. NCR 143 Pt7 57 Sullivan JW, A wide-band voltage-turntable oscillator. P 1658 Nov 54 Sullivan MV, High-light aperture equalizer, NCR 7 Pt7 57 Sullivan RF and LeCraw RC, A miniaturized high temper-ature (solator). NCR 75 Pt5 56 ature isolator NCR 75 Pt5 56
Sullivan RJ, Resolution in precision wire-wound potentiometers. NCR 48 Pt3 54
Sulzer PG, High-stability bridge-balancing oscillator. P 701 Jun 55
Sunstein DE, A new self-oscillating frequency converter. T-BTR 29 Jan 55
Sunstein DE and Clambers TH, Logarithmic amplifier simplifications and improvements.(L) P 343 Mar 55
Supplement to: IRE standards on receivers: methods of measurement of interference output of television receivers in the range of 300 to 10,000 kc, 1954
(standard 54 IRE 17.51). P 1418 Jul 58
Suran JJ, Low-frequency circuit theory of the double-(standard 54 INE 17.51). P 1418 Jul 58
Suran JJ, Low-frequency circuit theory of the doublebase drode. T-ED 40 Apr 55
Suran JJ and Keonjian E, A semiconductor diode multivibrator. P 814 Jul 55
Suran JJ and Reibert FA, Two-terminal analysis and
synthesis of junction transistor multivibrators.
T-CT 26 Mar 56 Suran JJ, Sinall-signal wave effects in the double-base diode. T-ED 34 Jan 57 Suran JJ and Eriksen BK, Transient response character-istics of mijunction transistors. T-CT 267 Sep 57 Suran JJ, Design of junction transistor file-flops by driving-noint inmedance methods. NCR 142 Pt2 57 Suran JJ, Transistor monostable multivibrators for pulse generation. P 1260 J m 58 generation. P 1260 Jun 58
Suran JJ. See Abbott HW
Suran JJ. See Lapin SP
Surber WH Jr., A nonlinear compensating configuration for saturating servomechanisms (abstract).
NCR 23 Pt4 55
Surdin MM, Electronics at the French Atomic Energy Commission. T-NS 34 Mar 57
Susskind AK, Digital information processing for machine-tool control. NCR 145 Pt4 57, T-EC 136 Jun 58 Susskind C, 'See Aid DG Susskind C , See Brown KL Susskind C , See Chodorow M Susskind C . See Palmer JL

Sutton WA, See McMillan SH Suverkrop B, See Pfund ET Jr Suzuki M, Diffraction of plane electromagnetic waves by Suzuki M., Diffraction of plane electromagnetic waves by a rectangular aperture. T-AP 149 Apr 56 Suzuki S and Tsuchiya A., A time-sharing polarimeter at 200 mc. P 190 Jan 58 Svien AJ and Domingue JC, Transportable tropospheric scatter communications systems. NCR 284 Pt8 58 Svien AJ. See Carket 1997. scatter communications systems. NCR 284 Pt8 5 Svien AJ, See Gerks IH Swank RK, Phillips HB, Buck WL and Basile LJ. Decay times of scintillators. T-NS 183 Dec 58 Swanson JP, See Morris AJ Swanson WE and Wheeler GJ, Tee circulator. WCR 151 Pt1 58 Swartz CE, High energy gamma spectroscopy. T-NS 65 Nov 56 Swartz DL and Turnbull JC, Development of a large-di-ameter Dumet lead for sealing to soft glass (abstract). WRE Tulmel tead for sealing to sort glass (abstract)
NCR 16 Pt3 55
Swartzel KD, See Vigliotta AP
Swaring G. See Maxwell A
Swaringen JD and Veronda CM, The SAL-89, a grid
controlled pulsed klystron amplifier.
WCR 115 Pt3 57 Swedlund LE and Wimpee LC, The development of 110-degree television picture tubes having an ion trap gun. NCR 150 Pt3 57 Sweeney HE , See Baugh CW Jr
Sweet LO , Massirement of small attenuations (L)
P 1015 Aug 55
Sweet LO and Sucher M , The available power of a
matched generator from the measured load power in the
presence of small dissipation and mismatch of the
connecting network (L) T-MTT 167 Apr 57
Correction: T-MTT 265 Oct 57 Sweet LO , See James AV Swengel RC , Antenna-type transducers for ultrasonic flowmetering . NCR 33 Pt9 55 Swenson CA and Emslie AG , Low-temperature electronics . P 408 Feb 54 P 408 Feb 54
Swenson CA, See Strum PD
Swenson DA, See Johnston LH
Swenson GW Jr, VHF diffraction by mountains of the
Alaska range (L) P 1049 Aug 56
Swenson GW Jr, See Hendricks CD Jr
Swerling P, Maximum angular accuracy of a pulsed search
radar. P 1146 Sep 56 radar. P 1146 Sep 50
Swerling P, Detection of fluctuating pulsed signals in the presence of noise. T-IT 175 Sep 57
Swerling P, Space communications. T-MIL 20 Dec 58
Swerling P, Optimum linear estimation for random processes as the limit of estimates based on sampled data.
WCR 158 Pt4 58 Swerling P. See Buchheim RW
Swern L. See Duncan BJ
Swets JA and Birdsall TG. The human use of information
III. Decision-making in signal detection and recognition
situations involving multiple alternatives. T-IT 138 Sep 56
Swets JA, See Tanner WP Jr
Switzer WL, Reliable operation of commutation switches of the stationary disc and rotating brush assembly variety at relatively high sampling speeds. NCR 62 Pt5 57 Sydnor RL, O'Mear TR and Strathman J, Analog multipliers and squarers using a multigrid modulator. T-EC 82 Jun 56 T-EC 82 Jun 56
Sydon RL, See O'Meara TR
Sykes RA, A new approach to the design of high frenuency crystal filters. NCR 18 Pt2 58
Sykes RP, A preventive maintenance program for large general purpose electronic analog computers.
NCR 191 Pt4 58
Sylvan TP, Logarithmic attenuators using silicon-junction diodes. T-CT 69 Mar 56
Szabo A, Thermal velocity effects in magnetically confined beams. T-CD 183 Jul 58
Szegho CS, See Amdursky ME
Szentimal G, A theorem for dissipationless networks.(L)
P 1538 Aug 58
Szerlip A, Transistorized decade counter.
WCR 181 Pt6 58
Sziklai GC, Some studies in the speed of visual percep-Sziklai GC, Some studies in the speed of visual perception. T-IT 125 Sep 56

T-ME 45 Feb 56

—T—

Tackett RE. See Sperling L
Tai CT. A new interpretation of the integral equation formulation of cylindrical antennas.

T-AP 125 Jul 55
Tai CT. See Levis CA
Takacs AS and Baron FE. Dynamic temperature coefficient measurement. WCR 111 Pt6 58
Takalashi I, Ogawa T, Yamano M, Hiral A and Takiuchi M, Doppler shift of the received frequency from the standard station reflected by the ionosphere.(L) P 1408 Oct 57
Takeuchi K. See Kumanal N
Takiuchi M, See Takahashi I
Talbot A, Transfer ratios of resistance and RLC networks. (L) P 377 Mar 56
Talbot SA and Boyer SH IV. Does caviatation contribute to cardiovascular sounds? T-ME 8 Dec 57
Talkin AI, Transient response of cascaded-tuned circuits. T-CT 65 Sep 54

Talkin AI and Cuneo JV, Optimum tube utilization in cascaded distributed amplifiers (L.) P 1668 No. 55
Tall MMI, System appects, T-RQC 50 Sep 58
Talley HE, A family of diffused-base germanium transistors. WCR 115 Pt3 58
Tallman GH and Smith OJM, Avaloo study of dead-beat posicast control. T-AC 14 Mar 58
Tallman GG, The selection and development of laboratory executives. T-EM Nov 54 Talpey TE, Optical methods for the measurement of complex dielectric and magnetic constants at centimeter and millimeter wavelengths. T-MTT 1 Sep 54

Talpey TE and Macnee AB, The nature of the uncorrelated component of induced grid noise.

NCR 69 Pt4 54 Talpey TE and Macnee AB, The nature of the uncorrelated component of induced grid noise. P 449 Apr 55
Tampico J. See Stanly AL
Tampia K. See Terao M
Tanaka, See Ito Tannaka, See Ito
Tanenbaum M. See Molf JL
Tanenbaum M. See Molf JL
Tanenbaum MS, See Hart GK
Tannenwald PE and Seavey MH, Anisotropy of cobaltsubstituted Mn ferrite single crystals. P 1343 Oct 56
Tanner RL, High-voltage problems in flush and external
aircraft HF antennas. T-ANE 16 Dec 54
Tanner RL, Precipitation particle impact noise in aircraft antennas. NCR 33 ptl 56, T-AP 232 Apr 57
Tanner RL. A prevaicraft state discharger craft antennas. NCR 33 pt1 56, T-AP 232 Apr 57
Tanner RL, A new aircraft static discharger.
NCR 31 PtC 57
Tanner RL, Shunt and notch-fed HF aircraft antennas.
T-AP 35 Jan 58
Tanner RL, See Vasssiliadis A
Tanner RL See Vasssiliadis A
Tanner WP Jr and Swets JA, The Human use of Information
---1. Signal detection for the case of the signal known exactly. T-IT 213 Sep 54
Tanner WP Jr and Narman 87 Tanner WP Jr and Norman RZ, The human use of information II. Signal detection for the case of an unknown signal parameter. T-IT 222 Sep 54 parameter : 1-11 222 Sep 54

Tanzman HD , See Bernstein M

Tarnawsky GO , See Walther A

Tate WR , See Althaus EJ

Tatnall JS . See McGinnis LW

Tatz A , Statistical techniques for analysis of ILS flighttest data . NCR 57 Pt5 55

Taub JJ and Giordano PJ , Use of crystals in balanced
mixers . T-MTT 26 Jul 54 Taub JJ and Smith Cl. Direct reading Instrument for the measurement of RMS pulse jitter. NCR 3 Pt10 55
Taub JJ and Bogner BF. Dasign of three-resonator dissipative band-pass filters having minimum insertion loss. P 681 May 57
Taub JJ. See Dishal M Taube M and Heilprin LB, Automatic dictionaries for machine translation.(L) P 1021 Jul 57 Taylor AS and Hamilton B, Community television systems. T-BTS 17 Sep 56 T-BTS 17 Sep 56
Taylor CF, See Flügge-Lotz T
Taylor CF, Problems of nonlinearity in adaptive or selfoptimizmus systems T-AC 66 Jul 58
Taylor CL, Where is medical electronics going? Part II.
(Title only). NCR 103 Pt9 56
Taylor FV, See Birmingham HP
Taylor JF Jr, The communications picture in 1965.
T-CS 103 May 56 Taylor JF Jr, The communications picture in 1965.
T-CS 103 May 56
Taylor LS, Lamberty BJ and Hall KA, A microwave telemetry relav. NCR 20 Pt5 57
Taylor LS and Bigelow GF, Channel selection for multicarrier telemetry. NCR 34 Pt5 58
Taylor ME, See Schatz ER
Taylor MK, See Davis GWL
Taylor MH, Destamina for reliability. P 811 Jun 57
Taylor PB, An extension of Maxwell's solution of the wave equation for concentric strata to include tilted and way strata. T-AP 583 Jul 56
Taylor PE. See Morrow CW
Taylor TT, Design of line-source antennas for narrow beamwirth and low side lobes. T-AP 16 Jan 55
Taylor WL, See Helliwell RA
Taylor WO, See Uchrin GC
Teachman AE. See Chistanian. IH
Teachman AE. See Chinger HE
Teal GK, The broadening horizons of the engineer.
NCR 42 Pt10 58
Teasdale RD and Brownell HR, Evaluation of core materials for magnetic amplifier applications.
NCR 56 Pt3 54
Teasdale RD and Benner AH, The influence of threshold Teasdale RD and Benner AH, The influence of threshold action on the RMS value of input Gaussian noise (L) P 697 May 57 Teeter WL, A high-speed broadband microwave wave-guide switch. T-MTT 11 Oct 55 Teeter WL and Bushore KR, A variable-ratio micro-wave power divider and multiplexer. T-MTT 227 Oct 57 Teichmann T., Closed-loop control systems containing a digital computer. T-EC 106 Sep 55
Tellefsen H and Alesslo S., Application of magnetic core logic to industrial controls. NCR 283 Pt6 58

Tellegen BDH, See Rinia H
Teltscher E, See Weisman L
Teman FE, Electrical engineers are going back to science. SQ 3 Dec 55, P 738 Jun 56
Templin EW, A versatile compressor-limiter audio amplifier for studio use. WCR 19 Pt7 58

Tiberio U, The resistivity of "composition" resistors at radio frequencies.(L) P 181? Dec 54

Tice TE, See Hines JN

Tice TE. See Richmond JH
Tidd WH, Demonstration of bandwidth capabilities of beyond-horizon tropospheric radio propogation.
P 1297 Oct 55, (abstract) NCR 59 Pt1 55 Lenzer M., See Spergel J. Teran M and Tamura K., A semidigital process simulator. T-I 18 Mar 58 Terman FE See Knoon WA
Terso Al, Automatic type size normalization in high speed character sensing equipment. NCR 318 Pt4 58
Ter Veen Lag, Progress in telemetering of data from high velocity missiles in upper atmosphere.
NCR 6 Pt5 57 Tien PK , Bifilar helix for backward-wave oscillators P 1137 Jul 54
Tien PK, Walker LR and Wolontis VM, A large signal theory of traveling-wave amplifiers. P 260 Mar 55 Terzian J., System organization of MOBIDIC WCR 78 Pt4 57 Tetenbaum SJ and Hill RM, High power, broadband, microwave gas discharge switch tube (summary). NCR 83 Pt1 58 Tien PK, A dip in the minimum noise figure of beam-type microwave amplifiers (L) P 938 Jul 56 microwave amplifiers (L) P 938 Jul 56

Tien PK and Rowe JE, The backward-traveling power in the high power traveling-wave amplifiers (L) P 87 Jan 57

Tien PK, Correction to: Traveling-wave tube helix impedance. P 982 Jul 57

Tien PK and Suhl H, A traveling-wave ferromagnetic amplifier. P 700 Apr 53

Tien PK, See Peoce JR

Tien PK, See Poole KM

Tien PK, See Rowe JE

Tien PK, See Rowe JE

Tien PK, See Wang CC

Tiffin CM, A marine radar Identification system.

NCR 51 Pt5 55

Tillman JD, Patton WT, Blakely CE and Schultz FV,

The use of a ring array as a skip range antenna. Thaler S, See Boxer R
Thaler R, See Boxer R alner R, Commercial product development (title only). NCR 33 Pt10 58 Tharp NB, A double side-band amplitude-modulated multi-plex system for use over microwave radio. T-MTT 41 Apr 54, T-CS 41 Jul 54 Theissing HH and Caplan PJ, Atmospheric attenuation of solar millimeter wave radiation. T-AP 582 Jul 56 Theissing HH, Dieter FA and Caplan PJ, Analysis of the emissive phase of a pulsed maser. NCR 19 Ptl 58 The use of a ring array as a skip range antenna. P 1655 Nov 55 P 1655 Nov 55

Tillman RM and Meyerloff AJ, A high-speed two-winding transistor-core oscillator. WCR 106 Pt5 57

Tillman RM, See Barnes GH

Tillman RM, See Meyerloff AJ

Tillman R, A method for the asymptotic solution of diffraction problems. T-AP 209 Jul 56

Tingley GR, See Haines JH

Tinkham M and Strandberg MWP, The excitation of circular polarization in microwave cavities. P 734 Jun 55

Tinkham RJ. Methods of recording companying lateron-Theriault GE and Wasson HM, Determination of transistor performance characteristics at VHF. T-BTR 40 Jun 57 T-BTR 40 Jun 57
Thomas AS and Zucker FJ, Radiation from modulated surface wave structures—I. NCR 153 Pt1 57
Thomas DE, A point-contact transistor VHF FM transmitter. T-ED 43 Apr 54
Thomas DE, Stability considerations in the parameter measurements of VHF point-contact transistors.
P 1636 Nov 54 cular polarization in microwave cavities. P 734 Jun 5
Tinkham RJ, Methods of recording commercial stereophonic masters. WCR 58 Pt7 57
Tinkham RJ, The four-track stereotape magazine for home
hi-fi. WCR 12 Pt7 50
Tirrell JE and Sidwell P, A student's view of engineering.
T-E 72 Sep 58
Tischer FJ, Rotatable inductive probe in waveguides.
P 974 Aug 55
Tischer FJ, A contribution to microwave measurements.
NCR 78 Pt8 55
Tischer FJ, Contribution to a general transmission and Thomas DE and Dacey GC, Application aspects of the germanium diffused base transistor. T-CT 22 Mar 56 Thomas DE and Moll JL, Junction transistor short circuit current gain and phase determination. P 1177 Jun 58 Thomas DE., See Hittinger WC
Thomas HA, Microwave power measurements employing electron beam techniques. P 205 Feb 57
Thomas HE, DeMars SA and Jones ME, Automatic damping for vertical output circuits in TV systems. NCR 21 Pt7 54 NCR 78 PtB 55

Tischer FJ, Contribution to a general transmission and matching theory for wavenuides. T-AP 583 Jul 56

Tischer FJ, The H-guide, a waveguide for microwaves. NCR 44 Pt5 56

Tischer FJ, Resonance properties of ring circuits. T-MTT 51 Jan 57 Thomas JB, See Williams TR
Thomas LW, Radio interference measurement techniques.
T-I 13 Oct 55 T-I 13 Oct 55

Thompson AM, The precise measurement of small capacitances. T-I 245 Dec 58

Thompson AR, See Maxwell A

Thompson BW and Eldridge DF, Achieving maximum pulse packing densities and transfer rates. WCR 48 Pt4 58

Thompson FT and Toulon PMG, A high definition monochrome television system. NCR 153 Pt7 55

Thompson FT, High stability television synchronization generator. NCR 2 Pt7 56

Thompson HC, See Weimer PK

Thompson MC, Jr and Waters DM, Comparison of phase difference and Doppler shift measurements for studying ronospheric fine structure using earth satellites.(L) T-MTT 51 Jan 57

Tischer FJ, Resonant properties of nonreciprocal ring circuits. T-MTT 66 Jan 58

Tischer FJ, Properties of the H-guide at microwaves and millimeter waves. WCR 4 Pt1 58

Tiscot TP and Wylde WN, One kilowatt UHF television transmitter. T-BTS 17 Dec 55

Tittman J, See Neligan WB

Tobias CA, Biological and medical applications of high energy protons (abstract). WCR 6 Pt9 57

Tobias CA, See Mortimer RK

Tod DB, See Hieben RD

Todd FC, See Dreinnan JE

Todd FC, See Wyler EN

Tolben CW and Straiton AW, Experimental measurement of the absorption of millimeter radio waves over extended referece and Doppler shift measurements for studying ionosofheric fine structure using earth satellites.(L) P 1960 Dec 58

Thompson MC Jr., See Herbstrelt JW

Thompson PM and Mitchell J, Some solutions to problems of operating germanium transistor servo amplifiers at high ambient temperatures. T-CT 190 Sep 57

Thompson TB and Lyon JAM, Analysis and application of magnetostriction delay lines. T-UE 8 Aug 56 Tolbert CW and Straiton AW, Experimental measurement of the absorption of millimeter radio waves over extended ranges (L) T-AP 239 Apr 57
Tolbert CW and Straiton AW, Attenuation and fluctuation of millimeter radio waves. NCR 12 Pt1 57
Tolbert CW, Straiton AW and Britt CO, Phantom radar targets at millimeter radio wavelengths (L)
T-AP 380 Oct 58 Thompson WJ, A practical application of phase measuring techniques to precision angle and distance measurements. Tolbert CW. See Straiton AW
Tollefsen AB Jr. A new concept for communication vi-brator design. NCR 8 Pt8 56 T-I 12 Mar 57 Thomsen JS and Schlesinger SP, Analysis of nonlinear Tolles WE and Horvath WJ, Energy densities of microwave radiating systems. T-ME 13 Feb 56.

Correction: T-ME 49 Dec 56 circuits using impedance concepts.
T-CT 271 Sep 55
Thomson WE , Time-delay circuits. T-EC 74 Jun 55
Thomson WE , On two-sided Z-transforms.(L)
T-CT 156 Jun 56 Tolles WE and Bostrom RC, Some theoretical and practi-cal aspects of microscanning. T-ME 13 Jul 56 Tolles WE, Bostrom RC and Sawyer HS, The application Thomson WE and Orchard HJ , Optimum coupling networks .
(L) T-CT 55 Jun 57 of automatic, high-speed measurement techniques to cytology. NCR 17 Pt9 56
Tolles WE and Hellman LM, Fetal heart rate measurements. WCR 231 Pt5 50 (L) T-CT 55 Jun 57
Thom DC, See Crain CM
Thornhill JW, See Addock WA
Thornhill JW, See Addock WA
Thornton CG and Hanley LD, A new high temperature silicon diode. NCR 84 Pt3 54, P 186 Feb 55
Thomton CG and Slmmons CD, A new hight-current mode of transistor operation. T-ED 6 Jan 58
Thomton CG and Angell JB, Technology of micro-alloy diffused transistors. P 1166 Jun 58
Thomton RD, City of Houston vehicular communications system. T-VC 17 Jun 55
Thornton RD, Active RC networks. T-CT 78 Sep 57
Thornton RD, Active RC networks. T-CT 78 Sep 57 Toman K. On the earth geometry—a theorem (L) P 495 Feb 58 Tomberg VT, Ultrasonic dosinetry for medical use NCR 80 Pt4 57 Tomiyasu K, Intrinsic insertion loss of a mismatched microwave network. T-MTT 40 Jan 55

Tomiyasu K and Bolus JJ, Characteristics of a new serrated choke. T-MTT 33 Jan 56

Tomiyasu K, A new annular waveguide rotary joint. P 548 Anr 56 Thornton RD., Active RC networks. T-CT 78 Sep 57
 Thornton RL. See Smith BH
 Thorne J., Video network testing. NCR 46 Pt7 57
 Thurston RN and Andreatch P., Characteristics of torsional transducers
 NCR 45 Pt9 55
 Thurston RN and Tornillo LM., Colled wire torsional wave delay line. NCR 109 Pt2 58
 Thurston WR. A transadmittance meter for VHF-UHF measurements. NCR 3 Pt5 56
 Tiberio U., The reduced range in a radar subjected to an external noise generator. P 1791 Dec 54 Tomiyasu K , Effect of a mismatched ring in a traveling-wave resonant circuit (L) T-MTT 267 Oct 57 Tomiyasii K., See Duncan EJ Tomiyasii K., See Forrer MP Tomner S. See Agdur B
Tomovich R, Circuits with quantized feedback.
T-CT 209 Jun 55 Tomovich R., Picard's method and analog computation.
(L) T-EC 34 Mar 57

Tucker RW and Breskend SD, The effective leakage re-sistance of several types of capacitors.

Tuggle JP and Rado LG, An evaluation of cable lacing material to select a single type for use on wire bundles.

material to select a single type for use on wire bundles T-RQC 1 Poc 58
Tukizi O, Theory of the scintillation fading of microwaves. T-AP 130 Jan 57
Tummers I J, See Jochems PJW
Turczyn A, See Lane AL
Turin GL, Communication through noisy, random-multipath channels. NCR 154 Pt4 56
Turin GL, On the estimation in the presence of noise of

the impulse response of a random linear filter T-IT 5 Mar 57

Turin GL, Steady-state and transient analysis of lossy coaxial cables (L) P 878 Jun 57
Turin GL, Error probabilities for binary symmetric ideal reception through nonselective slow fading and noise.
P 1603 Sep 58

T-CP 3 Apr 55

Tomovich R, New applications of an electronic function generator. T-EC 48 Mar 58
Tompkins HE, Note on a logarithmic approximation for use with singularity nlots. T-CT 203 Jun 55
Tompkins HE, Unit-distance binary-decimal codes for two-track commutation.(L) T-EC 139 Sep 56
Tompkins HE, Transistor and solid-state circuits conference pages. Economic tax provides the provision of the pages of the page of ference papers: Foreword to transistor papers . T-CT 173 Sep 57 Tomikins J., See Gray HJ Jr Tomikins JE., See Rendia F Tompkins RD, A broad-band dual-mode circular waveguide transducer. T-MTT 181 Jul 56 Toraldo di Francia G. Directivity, super-gain, and information. T-AP 473 Jul 56 Toraldo di Francia G. See Ronchi L. Torgow EN and Griemsmann JE, Miniature strip transmission line for microwave applications. T-MTT 57 Mar 55 T-MTT 57 Mar 55

Torn LJ, High precision sawtooth generator.
NCR 158 Pt5 57

Tornillo LM, See Thurston RN

Torrey MN, Quality control in electronics.
P 1521 Nov 56

Torsch CE, High efficiency low-copper sweep yokes with balanced transient resionse. T-BTR 17 An 54

Torsch CE, Extension of the balanced-transient response principle to color television yokes. T-BTR 33 Apr 54

Torsch CE. Yoke development for standardization of 70° Torsch CE, Voke development for standardization of 70° and 90° deflection angles. T-BTR 10 Oct 55

Torsch CE, See Schuster WD

Tossberg J and Eurgett M, What price—horizontal linearity. NCR 148 Pt7 55 Toth E, A means for analysis of communication equipment and system performance using log-log selectivity curves. NCR 28 Pt8 56 Tou J. Digital compensation for control and simulation. P 1243 Sep 57 Tou J and Ku YH, A nonlinear control system for wide range input signals. NCR 17 Pt4 57 Tou J. Analysis of sampled-data systems containing non-linear element (L) P 915 May 58 Toulon PMG , See Thompson FT
Tower WR , The role of stereo in "3-D" radar indicating systems. NCR 152 Pt5 54 The role of stereo in Systems. NCR 152 Pt5 54

Towlson HG, Spurious radiations from TV-AM-FM broadcast transmitters. T-BTS 53 Jan 56

Town GR, The television allocations study organization—ts objectives and proquess. T-BTS 70 Dec 57

Townes CH, A molecular microwave amplifier, oscillator, and frequency standard (abstract). NCR 160 Pt10 55

Townley RJ, See Worcester WG

Townsend CL, TV receiver picture area losses. T-BTS 1 Sen 58

Trabold FW, See Goe GJ

Traute MJ, See Mattingly RL

Trautman DL, See Davis H

Trautman DL, See Ho EC

Trautman DL, See Rosenbloom A

Travers DN, Spacing-error analysis of the eight-element two-phase Adcock direction finder. T-AP 63 Apr 55

Travers DN, The effect of mutual impedance on the spactwo-phase Adcock direction finder. T-AP 63 Apr 55
Travers DN, The effect of mutual impedance on the spacing error of an eight-element Adcock. T-AP 36 Jan 57
Trent RL, Design principles of junction transistor audio amplifiers. T-AU 143 Sep-Oct 55
Treuhaft MA, Network properties of circulators based on the scattering concept. T-CT 127 Jun 56, P 1394 Oct 56 P 1394 Oct 56

Treuhaft MA and Silber LM, Use of microwave ferrite toroids to eliminate external magnets and rectice switching power. (L) P 1538 Aug 58

Trexler JH, Limar radio echoes. P 286 Jan 50

Trinkhaus JW, Pulse-forming networks.

T-CP 63 Sep 56

Trinkhaus JW, To market—or not. SQ 12 Dec 58

Triolo FJ, A novel antenna for mobile radio relay operation in the UHF range. NCR 183 Ptl 58

Trolese LG. Characteristics of troopspheric scattered Trolese LG, Characteristics of tropospheric scattered fields. T-AP 117 Jul 55, P 1300 Oct 55 Trolese LG, Foreground terrain effects on overland microwave transmissions (summary). NCR 31 Pt1 57

Trolese LG and Anderson LJ, Foreground terrain effects on overland UHF transmissions. T-AP 330 Oct 58

Trolese LG. See Anderson LJ
True TT, See Rausch RH
Trumbo DE, See Huskey HD
Truxal JG. Prospectus for IRE Transactions on Active
Networks. T-CT Dec 56

Truxal JG, Numerical analysis for network design. T-CT 49 Sep 54 Truxal JG , Network theory in the practical design of control systems . NCR 3 Pt2 56
Truxal JG , Foreword to active-network papers .

Truxal JG, Electrical machinery in an electronics-oriented curriculum. T-E 66 Sep 58

Truxal JG, See Casserly G

Truxal JG. See Mishkin E

Tsuchiya A, See S-vzuki S

Tucker DG, Graham MH and Goldstein SJ Jr, A com-parison of two radiometer circuits.(L)

P 365 Mar 57
Tucker EB, Schulte HJ, Day EA and Lampi EE, The resnatron as a 200-mc power amplifier.
P 1483 Aug 58

T-CT 69 Sep 57

P 1603 Sep 58
Turin GL, A proposed technique for the improvement of range determination with noise radar (L)
P 1757 Oct 58
Turin GL, The effects of pulse shape and frequency separation on FSK transmission through fading.
NCR 217 Pt8 58 Turnbull JS, Considerations in I-F mechanical filter design. WCR 31 Pt9 57
Turnbull JC, See Swartz DL
Turner EH, Field displacement isolators at 55 kmc.
T-AP 583 Jul 56 T-AP 583 Jul 56
Turner EH, A fast ferrite switch for use at 70 kmc.
T-MTT 300 Jul 58
Turner AH, See Gloystein EE
Turner LR and Rawlings JH, Realization of randomly timed computer input and output by means of an interrupt feature. T-EC 141 Jun 58
Turner R and Hermann P, Transistor design for picture IF stages. T-BTR 71 Oct 57
Turyn R, See Storer JE
Tuska JW, See Morrison WC
Tuttle RW, A new approach to 450-470 Mc communication equipment. NCR 15 Pt8 54
Tuttle WN, Editorial: Applied circuit theory.
T-CT 29 Jun 57
Tuttle WN, The design of two-section symmetrical Zobel Tuttle WN, The design of two-section symmetrical Zobel filters for Tchebycheff insertion loss. Hiters for Ichebycheff insertion loss.

WCR 23 Pt2 58

Tuttle WN, See Gannett EK

Twersky V, On the scattering of waves by an infinite grating. T-AP 330 Jul 56

Twersky V, On scattering and reflection of electromagnetic waves by rough surfaces. T-AP B1 Jan 57 Twersky V. See Beard Cl
Twombly JC, Shot noise amplification in beams beyond critical perveance. WCR 156 Pt3 57
Tyras C and Held G, Radlation from a rectangular waveguide filled with ferrite. T-MTT 26B Jul 58 Tyson G , See Segel D -11-Uchrin GC and Taylor WO, A new self-excited square-wave transistor power oscillator.(L) P 99 Jan 55 Uchrin GC, Transistor power converter capable of 250-watts dc output.(L) P 261 Feb 56 Udelson BJ and Creedon JE, Dependence of micro-wave cavity characteristics on properties of en-closed regions of a dc discharge. T-ED Feb 54 closed regions of a dc discharge. T-ED Feb 54

Uebele GS., High-speed ferrite microwave switch.

NCR 227 Pt1 57

Uenohara M, Masutani T and Inada K, A new high-power frequency multiplier. (L) P 1419 Oct 57

Uenohara M, See Boone EM

Uenohara M, See Herrmann GF

Uglow KM, Noise and bandwidth in PDM/FM radio telemetering. T-TRC 7.5 Apr 57

Correction: T-TRC 5 Dec 57 Uglow KM, A survey of progress during 1955 in telem-etry and remote control. T-TRC 9 May 57 Uglow KM, Noise and bandwidth in FM/FM radio tele-metering. T-TRC 19 May 57. Correction: T-TRC 9 Jun 58 Uhlir A Jr. High-frequency shot noise in p-n junctions. (L) P 557 Apr 56. Correction: P 1541 Nov 56 Uhlir A Jr, Two-terminal p-n junction devices for frequency conversion and computation.
P 1183 Sop 56 Utilir A Jr. The potential of semiconductor diodes in high-frequency communications. P 1099 Jun 58
Utilir A Jr. See Hermann GF
Utilir A Jr. See Moll JL
Ulbrich E., See Saal R Ule LA, Weighted least-squares smoothing filters. T-CT 197 Jun 55 Ule LA, A theory of weighted smoothing.
T-IT 131 Jun 57
Ullman FG, Thermionic emission of positive ions from alumna-coated tungsten. T-ED 69 Feb 54 Ulfrich OA, See Hunter HH
Ulfrich OA, See Hunter HH
Ulfrich UH, See Jensen H
Ulstatt KH, See Jensen H
Ulstatt MS, See Hem HD
Unger DM and Avaklan A, Germanlum n-p-i-n junction transistor triodes.(L) P 783 Apr 58

Juger SH, A computer oriented toward spatial problems . P 1744 Oct 58 Jiterberger RR, Amicrowave spin resonance spectrometer. NCR 64 Pt1 58 Unz H., Determination of a current distribution over a cone surface which will produce a prescribed radiation pat-tern. T-AP 182 Apr 58 Unz H, Scalar-vector analog of Green's theorem (L) T-AP 300 Jul 58 Upson J. See Hines JN Urbano RH and Miceller RK, A topological method for the determination of the minimal forms of a Boolean function. T-EC 126 Sep 56 Urick RJ., See Hoover RM Urkowitz H., Analysis and synthesis of delay line periodic filters. T-CT 41 Jun 57. Correction: T-CT 332 Dec 57 Urkowitz H. An extension to the theory of the performance of airborne moving-target indicators. T-ANE 210 Dec 58 Ursch RR. See Kilham LF Jr Ushinokawa A, See Onoc M Uyehara GU, See Grisamore NT Uzel F Jr, Cathode-ray vectorgraph. NCR 81 Pt7 55 -V-Vaccaro FE, See Blattner D Vaccaro FE , See Jenny HK
Vadasz AJ , Application of automatic level control in
tropospheric SSB communication systems. tropospheric SSB communication systems. WCR 69 PtG 58
Vafiades B and Ouncan BJ, An L-band ferrite coaxial line modulator. NCR 235 Ptl 57
Vafiades B, See Duncan BJ
Vaillancourt RM, Errors in a magic-tee phase changer. T-MTT 204 Jrl 57
Vaillancourt RM, Analysis of the variable-ratio microwave power divider.(L) T-MTT 238 Apr 58
Vaillancourt RM, See Collin RE
Valdes LB. Resistivity measurements on permanium for Vaillancourt RM., See Collin RE

Valdes LB, Resistivity measurements on germanium for transistors. P 420 Feb 54

Valdes LB, The frequency response of bipolar transistors with drift fields. P 178 Feb 56

Valko IP, Push-pull audio amplifier theory.(L)
T-AU 21 Jan-Feb 58

Vallarino AR, See Schreiner SM

Vallese LM, Uniderstanding the gyrator.(L)
P 483 Apr 55

Vallese LM, Unilateritized common collector transistor. P 483 Apr 55

Vallese LM, Unllaterlized common collector transistor amplifier.(L) P 1548 Nov 57

Van Allen JA, The sclentific value of the earth satellite program. P 764 Jun 56, NCR 124 Pt1 56

Van Atta LC, Incentives leading industry into cooperation with education. T-E 16 Mar 58

Van Bladel J and Von Rohr O Jr, Semicircular ridges in rectangular waveguides. T-MTT 103 Apr 57

Vance RL and Maggs C, Magnetron heater design to avoid undesirable magnetic effects. value received and suppose of magnetic effects.
T-ED 64 Feb 54
Vander Hamm RL, Component part failure rate analysis for prediction of equipment mean life.
NCR 72 Pt6 58 NCR 72 Pt6 58
Vanderlyn PB, See Clark HAM
van der Pol B, On discontinous electromagnetic waves
and the occurence of a surface wave.
T-AP 288 Jul 56
van der Ziel A, Flicker noise resistance in vacuum
tubes. T-ED 69 Feb 54
van der Ziel A, An equivalent circuit for the noise in
VHF Triodes. T-ED 72 Anr 54
van der Ziel A, Theory of shot noise in junction diodes
and junction transistors. P 1639 Nov 55,
(L) P 1011 Jul 57 van der Ziel A and Becking AGT, Theory of junction diode and junction transistor noise P 589 Mar 58 van der Ziel A, Rolse in junction transistors . P 1019 Jun 58 van der Ziel A and Watters RL, Noise in mixer tubes .(L) P 1426 Jul 58 van der Ziel A, See Hanson GH
Van Dilla MA, See Ander-on EC
Vandivere EF Jr, Some techniques in automatic programming. T-BTS 84 Jan 56
Van Doren ML, A complete system for the flight-testing of piloted aircraft. T-TRC 13 May 55
Van Horn IH, Nonlinear techniques applied to the analysis of pilot induced oscillations. NCR 27 Pt4 57
Van Horne TB, An analog method for the solution of probability of fint and related statistical problems. T-EC 170 Sep 57
Van Hoven GC. See Putz JL
van de Hulst HC, The interpretation of numerical results obtained by rigorous diffraction theory for cylinders and spheres. T-AP 195 Jul 56
Van Meter D and Middleton D, Modern statistical approaches to reception in communication theory.
T-IT 119 Sep 54 proaches to recention in communication theory.
T-IT 119 Sep 54
Van Meter D, Detection as a statistical decision problem (sistract). NCR 3 Pt4 58
Van Meter D, See Middleton D
VanOhlsen LH, The small signal performance of the 416B planar triode between 60 and 4000 mc.
T-ED 189 Dec 54
Van Pattan RA. Decision of improved microwage legicles.

Van Patten RA, Design of improved microwave low-pass filters using strip-line techniques. NCR 197 Pt1 57

Van Sant OJ Jr., Considerations for the selection of magnetic core materials for digital computer elements NCR 109 Pt4 54

Van Sciver W, Alkalı halıde scintillators T-NS 39 Nov 56

T-NS 39 Nov 56

Van Sciver WJ and Bogart L, Fundamental studies of scintillation phenomena in Nal. T-NS 90 Dec 58

Van Scoyoc JN and Bull RW, Pulse-width control of transistors. T-IE 95 May 58

Van Swearinger E, See Johnson JD van Trier AA, Some topics in the microwave application of gyrotropic media. T-AP 502 Jul 56

Van Uitert L.G., Dielectric properties of and conductivity in ferrites. P 1294 Oct 56

Van Valkenburg ME, Special case of a bridge equivalent of Brune networks. (L) P 1621 Nov 56. Correction: P 20 Jan 57

Van Valkenburg $\underline{\mathsf{ME}}$, On topological synthesis. WCR 3 Pt2 58 Van Valkenburg ME, See Mayeda W

Van Vleck JH, Fundamental theory of ferro- and ferri-magnetism. P 1248 Oct 56

Van Vliet KM, Noise in Semiconductors and photo-conductors. P 1004 Jun 58

conductors. P 1004 Jun 58

Van Wanner EM., See Schwertz FA

Vant-Hiell LL. See Deinterna CD

Vartev R., See Milosevic LJ

Varallo FA., Strain gage oscillator. T-I 50 Apr 54

Varga RS, Numerical solution of the two group diffusion equations in x-y geometry. T-NS 52 Dec 57

Vartanian PH, Melclior JO and Ayres WP, Broadband ferrite microwave isolator. T-MTT B Jan 56

Vartanian PH and Melclior JL, Broadband microwave frequency meter. P 175 Feb 56

Vartanian PH and Jaynes ET, Propagation in ferrite-filled transversely magnetized waveguides. T-AP 583 Jul 56, T-MTT 140 Jul 56

Vartanian PH, Melchor JL, and Ayres WP, Broadbanding

Vartanian PH, Melchor JL and Ayres WP, Broadbanding ferrite microwave isolators. NCR 79 Pt5 56 Vartanian PH and Skomal EN, Mixing In ferrites at micro-wave frequencies. WCR 52 Pt1 57

Vartanian PH, Ayres WP and Helgesson AL, Propagation in dielectric slab loaded rectangular waveguide. T-MTT 215 Apr 58

T-M11 215 Apr 58

Vartanian PH, See Fire P

Vartanian PH, See Melchor JL

Vaslleyskis HS, Analysis and synthesis of magnetic yoles using rotating probes. T-BTR 74 Mar 58

Vassiliadis A and Tanner RL, Evaluating the impedance broadbanding potential of antennas.

NCR 108 Pt1 57, T-AP 226 Jul 58

Vaughan HE, See Malthaner WA
Veith FS, Recent developments in TV camera tubes.
T-BTS 21 Dec 57

Veith FS, See Neuhauser RG
Vermeulen R, Stereo reverberation.
T-AU 98 Jul-Aur, 56
Vermon FL, Behavior of a backward wave oscillator with external feedback. NCR 91 Pt3 57

Vernon LN, Selection of engineering executives. NCR 121 PtG 55

NCR 121 Pt6 55

Veronda CM, Measurement of klystron amplifier parameters. T-ED 29 Aug 54

Veronda CM. See Swearingen JD

Vestine EH, See Buchheim RW

Vickers TK and Crippen DS, Problems and applications of the ATC radar beacon system. T-ANE 32 Jun 55

Vickers TK and Miller RS, Recent developments in the simulation of terminal area and no rottle area.

Vickers TK and Miller RS, Recent developments in the simulation of terminal area and en route area air traffic control problems. T-ANE 51 Jun 56

Vickers TK, Coding requirements for the ATC radar beacon system. T-ANE 127 Sep 57

Vigliotta AP and Swarzel KD, Use of Kros-term system for quick retrieval of the technical detail from large nools of information. NCR 34 Pt8 58

Vilbrig F, Visible speech—rotary field—coordinate conversion analyzer. T-AU 76 May-Jun 54

Vilcans J, See deBuda RG

Villard OG Jr, Eshleman VR, Manning LA and Peterson AM, The role of meteors in extended-range VHF propagation. P 1473 Oct 55

Villard OG Jr, Stein S and Yeh KC, New evidence of anomalous transequatorial ionospheric propagation. NCR 19 Pt1 57

NCR 19 Pt1 57

Villard OG Jr. See Cifuentes MG

Villard OG Jr. See Estileman VR

Villard OG Jr. See See Serviction OK

Villard OG Jr. See Garriott OK

Villard OG Jr. See Yeh KC

Villars F and Weisskoof VF, Dn the scattering of radio waves by turbulent fluctuations of the atmosphere.

P 1232 Oct 55

Ville JA, The part of statistical considerations in the separation of a signal masked by a noise. T-IT 24 Mar 57

Villereuve AT. See Harrington RF

Villeneuve AT. See Harrinnton RF
Vincent CT. Nondestructive tests for structural adhesives. WCR 21 Pt9 57
Vincent EP, A transistorized intercom system.
T-BTS 1 Dec 57
Vincent GD, The construction and characteristics of standard cells. T-1 221 Dec 58
Vincent WR, Wolfram RT, Sifford BM, Jaye WE and Peterson AM, Analysis of oblique path meteor propagation data from the communications viewpoint.
P. 1701 Dec 57 P 1701 Dec 57

Vincent WR, Wolfram RT, Sifford BM, Jaye WE and Peterson AM, Meteor burst system for extended range VHF communications. WCR 263 Pt1 57 P 1693 Dec 57

Vinding JP, Microwave devices using ferrite and trans-verse magnetic field NCR 105 Pt8 55

Vinding JP, An automatic gain control system for microwaves.

T-MTT 244 Oct 56

Vinding JP, The Z-scope, an automatic impedance plotter. NCR 178 Pt5 56

Vinding JP, The elements of nonreciprocal microwave

devices (L) P 1419 Oct 57

Vinding JP. Ferrite switches in radar duplexers. WCR 71 Pt1 57 Vinti JP. Theory of the multipath propagation of

frequency-modifiated electromagnetic waves. T-AP 582 Jul 56

Virgile LG , Deflection of waveguide subjected to internal pressure . T-MTT 247 Oct 57 Voelcker HB Jr, Differentiating devices.(L) P 1151 Aug 57

P 1151 Aug 57

Voelcker HB Jr., Simple codes for fading circuits.
T-CS 47 Dec 58

Voelcker HB Jr., Single channel radioteletype communication. NCR 237 Pt8 50

Voelker F., The electrical design of a heavy-ion accelerator. WCR 72 Pt9 57

Vogan EL., See Forsyth PA

Voge J., Influence of the irregularities of land on the propagation of radio waves—especially at great distances beyond the horizon. T-AP 584 Jul 56

Vogel JP., Useful bandwidth in scatter transmission.(L)
P 1621 Nov 56

Vogelman JH, An impulse generator for receiver per-formance measurement. NCR 3 Pt5 54 Vogelman JH, High-power microwave filters. T-MTT 429 Oct 58, NCR 84 Pt1 58

I-MTT 429 Oct 58, NCR 84 Pt1 58
Vogelman JH, Optimum type of modulation.
T-CS 62 Dec 58
Vogelsong JH, See Simkins QW
Vogler LE, See Norton KA
Von Behren R, See Snyder R
Von Rohr O Jr, See Van Bladel J.
von Trentini G, Partly reflecting sheet arrays.
T-AP 666 Oct 56

Vosburgh BL , Problems which are challenging investi-gators in industry. T-ME 5 Feb 56

Vowels RE, An Integral of interest in the potential analog method of network analysis (L) T-CT 285 Sep 57 Voznak E and Mobs RW, A temperature invariant solid ultrasonic delay line. T-UE 32 May 55

-W-

Wachowski H , See Bronwell AB Wachtel MM , See Sternglass EJ Wada G , See Watkins DA Wade EJ , Instruments used with experimental reactors . NCR 79 Pt9 54

Wade EJ and Davidson DS, Transistorized time of flight analyzer with ferrite core memory. NCR 89 Pt9 57
Wade EJ and Davidson DS, Application of transistors to safety circuits. T-NS 44 Aug 58
Wade GJ and Rynn N, Coupled helices for use in traveling-wave tubes. T-ED 15 Jul 55
Wade G, Noise analysis of traveling wave tube video detector. NCR 47 Pt3 55
Wade G, See Buchmiller LD
Wade G, See Buchmiller LD
Wade G, See Decrasse RW
Wade G, See Fank FB
Wadel LB and Wortham AW, A survey of electronic analog computer installations. T-EC 52 Jun 55
Wadel LB, Analysis of combined sampled and continu-

Wadel LB, Analysis of combined sampled and continuous-data systems on an electronic analog computer. NCR 3 Pt4 55

Wadel LB, Negative base number systems.(L) T-EC 123 Jun 57

Wadel LB, Characteristic navigational period on other planets (L) T-ANE 224 Dec 57

Wadia BH, See Ginzton EL
Wagner RH, See Miller H
Wagner RJ J. See Bliss WH
Wagner TCG, Schlesinger K and White WD, TV sweep generation with resonant networks and lines (L) P 362 Mar 57

Wagner WJ, Understanding art problems in color tele-casting. WCR 14 Pt7 57 Wagoner CD, Steinmetz revisited: the myth and the man. SQ 5 Dec 57

Wahi AJ and Kleimack JJ, Factors affecting reliability of alloy junction transistors. P 494 Apr 56
Wahi AJ, A three-dimensional analytic solution for alpha of alloy junction transistors.
T-ED Jul 57

Wahl AJ, An analysis of base resistance for alloy junction transistors. T-ED 131 Jul 58
Wait JR and Fraser WCG, Radiation from a vertical dipole over a stratified ground. T-AP 144 Oct 54
Wait JR and Pone WA, Evaluation of errors in an eight-element Adcock antenna. T-AP 159 Oct 54
Wait JR and Pone WA, The characteristics of a vertical antenna with a radial conductor ground system.
NCR 79 Pt1 54

Wait JR and O'Grady M., Surface-currents excited by an infinite slot on half-planes and ribbons.

T-AP 47 Jan 56 Wait JR, On the condictance of slots. T-AP 124 Apr 56

T-AP 124 Air 5f
Wait JR, Effect of the ground screen on the field radiated from a monopole (L) T-AP 179 Air 56
Walt JR, The radiation pattern of an antenna mounted on a surface of large radius of curvature. (L)
P 694 May 56, P 926 Jul 56
Wait JR and Wong JY, Radiation conductance of slots in plane and curved conducting surfaces.
T-AP 585 Jul 56

Wait JR, Currents excited on a conducting surface of large radius of curvature. T-MTT 143 J./. 56.
Wait JR, On the waveform of a radio atmospheric at short ranges. (L) P 1052 A in 56.
Wait JR and Frood DG The radiation patterns and conducting the state of the stat

ductances of slots cut on rectangular metal plates.(L)

P 1469 Oct 56
Wait JR and Howe HH , The waveguide mode theory of VLF lonospheric propagation. (L) P 95 Jan 57, P 290 Mar 57

Wait JR, The transient behavior of the electro-magnetic ground wave on a specical earth. T-AP 198 Apr 57. Correction: T-AP 313 Jul 57

Wait JR, The impedance of a wire grid parallel to a dielectric interface. T-MTT 99 Apr 57 Wait JR, Introduction to the VLF papers. P 739 Jim 57

Wait JR, Introduction to the VLF papers. P 739 Jan 5:
Wait JR and Murphy A, The geometrical optics of VLF
sky wave propagation. P 754 Jim 57
Wait JR, The mode theory of VLF ionospheric propagation
for finite pround conductivity. P 760 Jim 57
Wait JR, The attenuation vs frequency characteristics of
VLF radio waves. P 768 Jim 57
Wait JR, The effective electrical constants of soil at
low frequencies.(L) P 1411 Oct 57
Wait JR, Propagation of a pulse across a coast line.(L)
P 1550 Nov 57
Wait JR, Propagation of a pulse across a coast line.(L)
P 1550 Nov 57

Wait JR and Conda AM, On the measurement of ground conductivity at VLF. T-AP 273 Jrl 58
Wait JR, A study of earth currents near a VLF monopole antenna with a radial wire ground system (L) P 1539 Airy 58

P 1539 Airy 58
Wait JR and Couda AM, Pattern of an antenna on a curved lossy surface. T-AP 348 Oct 58
Wait JR, Transmission loss curves for propagation at very low radio frequencies. T-CS 58 Dec 58
Wakefield EH, Nuclear radiation counter tubes.
T-ED 63 Feb 54
Wakim KG. See Daily L
Walance CG, Reliable system design by part engineering.
T-RQC 55 Sep 58
Walcok EJ. Drone tracking system with Hothweight air-

T-RQC 55 Sep 58
Walcok EJ, Drone tracking system with lightweight airborne package. WCR 151 Pt5 58
Walcutt RP, The development of a production radome tester. NCR 31 Pt5 54
Wald S, Detection of intermittent circuit faults. NCR 64 Pt6 55
Waldhauer FD, Wide-band feedback amplifiers. T-CT 178 Sep 57
Waldner M, See Aldrich RW
Walker BG, Channel response requirements of multiplex systems for recording video signals on magnetic tage. NCR 12 Pt7 55

Walker J, Some remarks on nuclear reactor instrumenta-tion. T-NS 21 Feb 56 Walker JM, Smith RE and Williams EM, Noise figures

in semiconductor dielectric amplifiers. NCR 14 Pt3 57

Walker KE, See Brooks HC Walker LR and Suhl H, Propagation in circular waveguides filled with gyromagnetic material. T-AP 492 Jul 56

Malker RL, The birth of the electric filter.

SQ 46 Sep 56
Walker LR, See Rowe JE
Walker LR, See Row JE
Walker LR, See Tien PK
Walker RG, A novel decoder for digital communication.

T-CS 73 May 56 Walkup LE, See Hunter HH Wall HJ and Putzrath FL, A note on noise in audio am-plifiers. T-AU 39 Mar-Apr 54

Wall PD, Lettvin JY, Pitts WH and McCulloch WS, Limits on nerve impulse transmission. NCR 128 Pt4 56

Wall RE Jr and Harrison AE, A method of forming a broad-band microwave frequency spectrum. T-MTT 4 Jan 55 Wallace JD, Brown JR Jr, Lewis DH and Dietz GW, Part I—Phonocatheters: their design and application. T-ME 25 Dec 57 Wallace JD, See Lewis DH

Wallace JD, See Lewis DH
Wallis G and Battey JF, High field emission in germanium
point-contact diodes. T-ED 19 Jan 58
Wallmark JT, An investigation of the ultimate performance
of snace-charge deflection tubes. P 1422 Sep 54
Wallmark JT, Snace-charge conditions in a reflected flow
of electrons. T-ED 4S Apr 55
Wallmark JT, A new semiconductor photocell using
lateral photo-effect. P 474 Apr 57
Walsh D. Improved keep-alive design for TR tubes (L)

Walsh D. Improved keep-alive design for TR tubes (L) P 1309 Jun 58

Walsh D. See Bridges TJ

Walsh JE. See McCov AM Walsh JL., See Henle RA Walter CH., See Stephenson BT

Walter CM, Atkin J and Bickel H, Comparative evaluation of several azimuth estimating procedures using digital processing and search radar simulation.

T-ANE 114 Jun 58 Walter CM , A quantitative analysis of automatic target detection-position estimation schemes observing scin-tillating targets in noise. NCR 107 Pt5 58 Walter CM and Willett HM, A library of bilo samples for use in the realistic simulation and evaluation of automatic

radar data processing systems. WCR 8 Pt4 58
Walter JM Jr and Searcy JH, A low-lever electronic subcommutator. T-TRC 3.2 Apr 57

commutator. T-TRC 3.2 Apr 57

Walter RL. See Beaver WL

Walter W and Bien Fl, Data handling for a rehability
test program. T-I 44 Mar 58

Walter W and Nelson SW, Technique for automatic testing electronic components. T-IE 53 May 58

Walters LG, Optimum lead-controller synthesis in
feedback-control systems. T-CT 45 Mar 54

Walters LR, See Astrahan MM

Walters NE, The application of radioactivity to measurement and control. T-IE 27 Mar 55

Walther A (translated by Tamawsky GO), Ways of developing Soviet computer production (L)
T-EC 37 Mar 57

Wang CC, Pierce JR and Tien PK. Power flow and equiv-

T-EC 37 Mar 57

Wang CC, Pierce JR and Tien PK, Power flow and equivalent circuits of traveling wave tubes.(L)
P 1701 Nov 54

Wang CC, Linear beam tube theory. T-ED 92 Jan 57

Wang FB, See Whirry WL

Wang TC, See Bronwell A8

Wanlass CL, Transistor circuitry for digital computers.
T-EC 11 Mar 55

Wannlund AL, See Gudmundsen RA

Wannlund WL and Waters WP, A silicon p-n-p fused-junction transistor. WCR 3 Pt3 57

Ward AE. See deBettecourt JT

Ward AE. See deBettecourt JT

iunction transistor. WCR 3 Pt3 57
Ward AE, See deBettencourt JT
Ward GM, See Young L
Ward HH 3rd, Analysis of the over-station behavior of aircraft low-frequency ADF systems.
T-ANE 31 Dec 55
Ward HT, Puro WO and Bowie DM, Artificial dielectrics utilizing cylindrical and spherical voids.
P 171 Feb 56

Ward HT, See Morrow CW
Ward JE, See Blemson GA
Ward RC, FM nolse spectra.(L) P 1742 Dec 57 Ward WH, Time signals for the determination of longitude (L) P 1064 Aug 56

Ware LA, The place of languages in scientific education. T-E 90 Sep 58

Ware LA, The place of languages in scientific education. T-E 90 Sep 58
Warfield G, Controlled thermonuclear fusion-promise of the fixture. SQ 2 Feb 58
Warfield JN, A note on the reduction of switching functions.(L) T-EC 180 Jun 58
Warfield JN, Switching circuits as topological models in discrete probability theory.(L) T-EC 251 Sen 58
Wargo P, The effect of electron bombardment on the secondary emission of MgO thin films.
T-ED 68 Feb 54
Waring W, Sec Flaherty P
Wamecke RR, Guenard P, Doebler O and Epsztein B, The M-type carcinotron tube. P 413 Apr 55
Warner AW, High frequency crystal units for primary frequency standards.(L) P 1452 Sep 54
Warner AW, Frequency aging of high-frequency plated crystal units. P 790 Jul 55
Warner AW, Parameters affecting the Q of quartz crystal units (abstract). NCR 55 Pt9 55
Warner AW, Parameters affecting the Q of quartz crystal units (abstract). NCR 55 Pt9 55
Warner AW, Parameters affecting the Q of quartz crystal units (abstract). NCR 55 Pt9 55
Warner AW, Parameters affecting the Q of quartz crystal units. T-I 185 Dec 58
Warner DF, Application of tantalum electrolytic capacitors. T-CP 7 Nov 55
Warner DF, The application of farge capacitors for use in energy storage banks. T-CP 81 Dec 56
Warner RM Jr and Hittinger WC, A development intrinsic-barrier transistor. T-ED 157 Jul 56
Warner RM Jr, Early JM and Loman GT, Characteristics structure, and performance of a diffused-base germanium oscillator transistor. T-ED 127 Jul 58
Warner RM Jr, A new passive semiconductor component. NCR 43 Pt3 58

Warner RM Jr, A new passive semiconductor component. NCR 43 Pt3 58

Warnick A and Savage CN, Low level transistorized dc amplifier with improved stability (abstract). NCR 15(Pt5 57 Warnick A and Drake EH, A new intracardiac pressure

measuring system for infants and adults. NCR 68 Pt9 58 Warnick A, See Condit R

Warnock F, The effects of mechanical excitation. NCR 17 Pt6 56

Warren CS, See Haneman WJ Warren CS, See Rumble WG

Warren FH and Herold EW, Maximum utility in government contract reports (L) P 1879 Nov 58

Warriner B, Considerations in the automatic assembly of components. NCR 67 Pt10 54
Warriner B and Gamble GW, A flexible automatic component assembly system. NCR 26 Pt6 55

Warsher A, A new approach to attainment of reliability in the production of airborne electronic systems . NCR 13 Pt11 54

Warters WD and Rowe HE, The effects of mode conver-sion in long circular wavegude. WCR 13 Pt1 58

Wassall DE, Some digital industrial electronic systems and their military heritages. WCR 188 Pt6 58 Wasson HM, See Theriardt GE Wasson HM, See Yin HB

Watanabe H, Synthesis of band-pass ladder network. T-CT 256 Dec 58

Watanabe S. A study of ergodicity and redundancy based on intersymbol correlation of finite range.

T-IT 65 Sep 54

Watanabe S , A theory of multilevel information channel with Gaussian noise . T-IT 214 Dec 57

Waterman AT Jr, Bryant NH and Miller RE, Some ob-servations of antenna-beam distortion in trans-

horizon propagation. T-AP 260 Jul 57 Waterman AT Jr., A rapid beam-swinging experiment in transportizon propagation. T-AP 338 Oct 58

waterman AT Jr., Some generalized scattering relationships in transhortzon pronagation. P 1842 Nov 58 Waterman AT Jr., See Miller RE Waters DM, See Thompson MC Jr. Waters WE Jr., Observations on ion oscillations in a cylindrical-beam tetrode under hard vacuum conditions. T-ED 216 Dec 54

Waters WE Jr, Space-charge effects in klystrons. T-ED 49 Jan 57

Naters WP, See Gudmindsen RA
Waters WP, See Wannlund WL
Watkins DA and Wada G, The helitron oscillator.
P 1700 Oct 58

Watkins DA, See Christensen WV Watkins DA, See Grow RW

Watkins DA, See Grow RW
Watkins DA, See Hoch OL
Watkins DA, See Sleeman AE
Watkins KS. See Stewart JL
Watkins WH, See Allen EW
Watson D, Englineers can be managers.
T-EM 28 Nov 54
Watson WH and Whinnery JR, Study of a plane short on a shielded helix. T-ED 34 Oct 55
Watson WH, The experimental determination of equivalent networks for a coaxial line to helix junction. T-ED 149 Jul 56

Watson-Watt R, On operational research. NCR 5 Pt6 55

Watson-Watt R, Battle scars of military electronics—the Scharnhorst break-through. T-MIL 19 Mar 57 Watt AD, Spectrum of frequency-shift radio photo-trans-

missions. T-CS 27 Oct 56
Watt AD, Coon RM and Zurick VJ, Reduction of adjacent-

channel interference from on-off keyed carriers T-CS 49 Oct 56

Watt AD and Maxwell EL, Measured statistical character-istics of VLF atmospheric radio noise. P 55 Jan 57 Watt AD and Maxwell EL, Characteristics of atmospheric noise from 1 to 100 kc. P 787 Jun 57 Watt AD, Coon RM, Maxwell EL and Plush RW, Performance

of some radio systems in the presence of thermal and at-mospheric noise. P 1914 Dec 58

Watt AD, Zurick VJ and Coon RM, Reduction of adjacent-channel interference components from frequency-shift-keyed carriers. T-CS 39 Dec 58

Watt CW and Keefer N, A fresh approach to modular packaging for ground based data processing equipment. WCR 125 Pt6 58

Watters RL, See van der Ziel A
Watts CB Jr and Alford A, An automatic impedance plotter
based on a hybrid-like netwirk with a very wide frequency

range. NCR 146 Pt5 57 Watts CB Jr., See Alford A Watts RJ, Nonreactor electronics at Los Alamos. NCR 61 Pt9 54

NCR 61 Pt9 54
Waynick AH, Propagating antennas. SQ 35 May 55
Waynick AH, The present state of knowledge concerning
the lower ionosphere. P 741 Jun 57
Weatherun GR, See Ellis CR
Weaver DK Jr, Design of RC wide-band 90-degree phasedifference network. P 671 Apr 54

Weaver DK Jr, A third method of generation and detection of single-sideband signals. P 1703 Dec 56

Weaver DK Jr. See Honey JF

Weaver DK Jr. See Honey JF

Weaver DK Jr. See Nicolosi JP

Weaver SM, Through the keyhole. SQ 22 Sep 55

Webb CE, See Kline M

Webb GN and McKusick VA, Instrumentation for spectral phonocardiography. T-ME 23 Jul 56
Webb GN and Chen TT, Evaluation of the spectral phono-

cardiographic analysis. T-ME 41 Dec 57
Webb GN and Milnor WR, A magnetic-tape recording system for teaching electrocardiography.
NCR 74 Pt4 57

Webb GN and Knickerbocker GG, Patient-data systems for hospitals. NCR 58 Pt9 58
Webb GN, See Middleton FH
Webb JC, Campbell LE and Hartsock JG, Electro-cardiograph telemetering (radio).

cardiograph telemetering (radio).
NCR 43 Pt9 58
Webb JK, A detailed description of the synchronous detection process. WCR 29 Pt8 57
Webb RC, See deBey LG
Webb RC, See Kintner PM
Webber SE, Calculations of wave propagation on a helix in the attenuation region. T-ED 35 Aug 54
Webber SE, Electron bunching and energy exchange in a traveling-wave tube. T-ED 87 Jan 57

Webber SE, Ballistic analysis of a two-cavity finite beam klystron. T-ED 98 Apr 58 Webber SE, Large signal analysis of the multicavity klystron. T-ED 306 Oct 58 Webber SE, See Rich JA Weber E, IRE and the measurement of spurious emission. NCR 134 Pt7 55

Weber E , Report on URSI Commission I—Radio measure-ent methods and standards . P 1354 Jul 58

Weber F, The UHF-VHF allocation situation.
T-BTS 62 Jan 56
Weber IJ, A versatile quadrature time base comparator

for automatic frequency measurement. NCR 158 Pt5 56

Nor 158 Pt5 56

Weber J, Scattering of electromagnetic waves by wires and plates. NCR 31 Pt1 54, P 82 Jan 55

Weber J, See Bekkering DH

Weber J, See Bekkering DH

Weber J, See Bekering DH

Webster EM, A commissioner's reflections on the mobile radio service. T-VC 13 Jun 54

Webster EM, Global marine communications. T-C5 38 Nov 54

Webster EM, FCC looks at spurious radiation. NCR 136 Pt7 55

Webster EM, Keynote address to symposium on communication by scatter techniques. T-C5 3 Mar 56

Webster EM, Reynote address to symposium on communication by scatter techniques. T-C5 3 Mar 56

Webster FD, Radio transmitters in the American cable and radio system. T-C5 122 Jul 54

Webster FD, Radio transmitters in the American cable and radio system. T-C5 122 Jul 54

Webster RE, A single-control tuning circuit for electrically small antennas. T-AP 12 Jan 55

Webster RE, 20-70 mc monopole antennas on ground-based vehicles. T-AP 363 Oct 57

Webster RE, Radiation patterns of a spherical Luneberg lens with simple feeds.(L) T-AP 301 Jul 58

Webster RE, See Mushiake Y

lens with simple feeds.(L) 1-AP 301 Jun 30 Webster RE, See Mushiake Y Webster RR, A transistorized television receiver. WCR 57 Pt7 58 Webster SK, An all-transistor hearing aid. T-AU 65 Mar-Apr 54 Webster WM, On the variation of junction-transistor current-amplification factor with emitter current. P 914 June 54

Webster WM, Saturation current in alloy junctions. P 277 Mar 55
Webster WM, See Johnson EO
Webster WM, See Moore AR
Webster WM, See Stone RP

Wedel JJ, Huntington A and Bain MB, Automatic data-accumulation system for wind tunnels. T-EC 7 Mar 56

Weeg GP, Folding of symmetric functions. (L) T-EC 325 Dec 58

Weeks RR, An alignment procedure for an electrostatic analyzer. T-NS 12 Jun 55
Weeks RR, See Lonn WG
Weeks WL, Coupled waveguide excitation of traveling wave antennas. WCR 236 Pt1 57
Weeks WL, See Rumsey VH

Weeks WL, See Rumsey VH
Weglein RD, Backward-wave oscillator starting conditions. T-ED 177 Apr 57
Wedlein RD, See Johnson HR
Wehe HG, See McLean DA
Wehner RS See Ballin LL
Weibel ES, An electronic analog multiplier using carriers.
T-EC 30 Mar 57
Weichardt HH, Fast acting microwave switch.
NCR 222 Pt1 57
Weighton D, Note on the design of wide-band low-noise amplifiers. P 1096 Sep 55
Weihe VI, Boymel RR and Felid SC Jr, A visual communication system. T-ANE 145 Dec 56
Weihe VI, Lateral separation in air traffic control.
NCR 125 Pt8 57
Weihe VI, Navination and nower. T-ANE 140 Sep 58

NCR 125 Pt8 57
Weihe VI, Navination and nower. T-ANE 140 Sen 58
Weil H. See Senior TBA
Weil TA, Applying the amplitron and stabilotron to MTI
radar systems. NCR 120 Pt5 58
Weiman I, See Armstrong HL
Weimer PK, Gray S, Borkan H, Octls SA and Thompson
HC, The tricolor vidicon -- an experimental camera
tube for color television (abstract).

NCR 74 Pt3 55 Weinberg L, Networks terminated in resistance at both input and output. NCR 90 Pt2 54,(L) P 98 Jan 55

Weimer PK, A proposed automatic teaching device. T-E 51 Jim 58

Weinberg E , Some personnel problems of automation . T-PT 11 Apr 58

Weinberg L., A general RLC synthesis procedure. P 427 Feb 54 Weinberg L, Unbalanced RLC networks containing only one resistance and one real transformer. P 467 Feb 54

Weinberg L., Comment on: Networks terminated in re-sistance at both input and output, (L) P98 Jan 55

Weinberg L, On the phase function.(L) T-CT 200 Sep 56

Weinberg L and Sleplan P, Series-parallel networks.(L) T-CT 290 Sep 57
Weinberg L, Tables of networks whose reflection coefficients possess alternating zeros.
T-CT 313 Dec 57

Weinberg L, Explicit formulas for Tchebycheff and Butter-worth ladder networks. NCR 200 Pt2 57

Weinberg L, Exact ladder network design using low-Q coils. P 739 Apr 58. Correction: P 1184 Jun 58
Weinberg L, Kirchhoff's third and fourth laws.
T-CT 8 Mar 48. Correction: T-CT 139 Jun 58
Weinberg L and Slenian P, Realizability conditions on n-nort networks. T-CT 217 Sep 56
Weinberg L, Number of trees in a graph.(L)
P 1954 Dec 58
Weinberg L, See Slepian P
Weinberger A and Smith JL, A one-microsecond adder using one-menacycle circuit. T-EC 65 Jun 57.
Weinberger A, See Leiner AL Weinberger A, See Lelner AL Weinhouse NP, Reduction of intermodulation in microwave systems by using ferrite load isolators. NCR 206 Pt8 58 NCR 206 PI8 58
Weinschel BO, Insertion loss test sets using square law detectors. T-1 160 Oct 55
Weinschel BO, See Hirdrich AL
Weinschel BO, See Sorger G
Weinsteln BO, See Sorger G
Weinstein DA, The application of magnetic techniques to a reliable 40 kc EPUT meter design. NCR 25 Pt5 56
Weisbaum S and Boyet H, A double-slab ferrite field displacement isolator at 11 kmc. P 554 Apr 56
Weisbaum S and Boyet H, Sieddid isolatorat Inserts and Boyet H, Sieddid isolatorate Inserts and Boyet B, Sieddid isolatorate Inserts and Boyet B, Sieddid Inserts and B, Sieddid Inserts placement isolator at 11 kmc. P 554 Apr 56
Weisbaum S and Boyet H, Field disolacement isolators
at 4 6, 11, and 24 kmc. T-MTT 194 Jul 57
Weise DM, An economical gride to station planning.
T-DTS 46 Feb 57
Weisman L and Teltscher E, A pulse position telemetry
system. NCR 11 Pt5 50
Welss GH, On the expansion of a function in terms of
Laguerre polymonials (L) T-CT 283 Sep 55 Weiss GH, On the compensation theorem (L) T-CT 25 Mar 57 Weiss H, Significance of some receiver errors to color reproduction. P 1380 Sep 54, NCR 53 Pt7 54 Weiss MR, See Atkin J Weiss MR, See Atkin J
Weiss MR and Gyorgy EM, Low loss dielectric waveguides.
T-MTT 38 Sep 54
Weiss MT, The behavior of ferroxcure at microwave frequencies. NCR 95 Pt8 55
Weiss MT, Improved rectangular waveguide resonance isolators. T-MTT 240 Oct 56
Weiss MT, Ouantum derivation of energy relations analogous to those for nonlinear reactances.(L)
P 1012 Jul 57
Weiss MT and Dunn FA. A 5-mm resonance isolator.(L) Weiss MT and Dunn FA, A 5-mm resonance Isolator (L) T-MTT 331 Jul 58 T-MTT 331 Jul 58

Weissbluth M, Medical application of the electron linear accelerator (abstract). WCR 5 Pt9 57

Weisskopf VF, See Villars F

Weisz WJ, Portable equipment in the communications system. T-VC 52 Jun 54

Weitzmann AL, See Worcester WG

Welch P, See Glauber JJ

Welch P, See Handley PA

Welch P, See Rowe EG

Welcome W, A new concept for a paper-tape high-information rate reader. WCR 3 Pt5 57

Weldon FL, Organization for operations research. Weldon FL, Organization for operations research NCR 42 Pt11 54 NCR 42 Pt11 54

Weldon JO, A 600-kllowatt high frequency amplifier.
T-CS 40 Mar 57

Weldon JO, See Smith CE

Welkowitz W, Ultrasonics in medicine and dentistry.
P 1059 Aug 57

Welkowitz W, Measurements of acoustic power in industrial ultrasonic equipment. NCR 199 Pt2 53

Wellard C and Stein SJ, Molded metal film resistors.
WCR 18 Pt6 57 Wellard C and Stein SJ, Molded metal film resistors. WCR 18 Pt6 57
Weller BL, Vitreous enamel dielectric capacitors—a key to rehability. WCR 25 Pt6 57
Weller BL, Stability Characteristics of vitreous enamel dielectric capacitors. T-CP 24 Mar 58
Weller R, Quality In production. T-OC 51 Dec 54
Weller R, Quality In production. T-OC 51 Dec 54
Weller R, Quality In production. T-OC 51 Dec 54
Weller R, A discussion of auto-correlated error terms in time series analysis. NCR 45 Pt4 54
Wellner FR and Jones ME, Portable TV design considerations. T-BTR 18 Jim 57
Wells CP, The prolate spheroidal antenna: current and impedance. T-AP 125 Jan 58
Wells CP, See Leitner A
Wells HW, Flux measurements of Cassiopeia A and Cygnus A between 18.5 mc and 107 mc. P 205 Jan 58
Wells HW, Unusual propagation at 40 mc from the USR satellite. (L) P 610 Mar 58
Wells HW. What is URS1? P 1351 Jul 58
Wells PI, See Janes HB
Wells WW, See Hayes AE Jr
Wells JP, Temperature limits, ratings, and natural cooling procedures for avionic equipment and parts. T-ANE 15 Mar 58
Welsh JP, Some aspects of the thermal design of electronic Welsh JP, Some aspects of the thermal design of electronic equipment operating at 300-500°C environmental temperature. T-ANE 220 Dec 58

Welsh W, Television synchronizing signal generator. P 991 Aug 55

Welton KL. See Seelev EW Wendel DR, See Gershon JJ Wendt KR and Squires WK, An improved television clamp circuit employing feedback. MCR 79 Pt7 54

NCR 258 Pt5 58

Whirry WL and Nelson CE, Ferrite-loaded, circularly polarized microwave cavity filters. T-MTT 59 Jan 58

Wendt RL and Smith MH. A bombing system reliability program. NCR 68 Pt6 56

Wengtin S. The principle of a non-gyromagnetic ferrite phase-shifter. NCR 288 Pt1 57

Wentworth FL and Barthel DR, A simplified calibration of two-port transmission line devices. T-MTT 173 Jul 56 Whilrry WL and Wang FB, Phase dependence of a ferro-magnetic microwave amplifier (L) P 1657 Sep 53 Whire WL. See Nelson CE
Whitaker JN, The organization, administration, and operation of an industrial standards laboratory.

T-I 345 D.c. 56 Wentworth JW, Technical standards for color television. T-BTR 43 Jul 56, T-BTS 25 Sep 56 Winteraft WA Jr., See deBettencourt JT Winteraft WA Jr., See Hedl and DA Wentworth JW., A proposed reference signal for broadcast television transmissions. NCR 32 Pt7 57
Weme JV and Newbold WF, Multi-purpose transducers for industrial data handling systems. T-1 192 Jun 56 White AB. See Frank WI White B. See Huann C White CE, Evolution of a standards laboratory. T-I 339 Dec 58 White DR : See Bradley EH
White EL License or license? T-VC 45 Jim 55
White EL, Industry prospers with radio's progress :
T-VC 50 Ma 57 Werner RE , Loudspeakers and negative Impedance T-AU 83 Jul-Aug TB T-AU 83 Jail-Aux FC
Wessels PS , Managers , when do we get more engineers?
T-EM 46: Apr 56
West CF , The integrated Air Force missile test center data processing facility . T-TRC 1 Aug 54
West CF , Modem concepts for digital computer inputoutput philosophy . T-TRC 2 Nov 54
West CF , See Bellinger J
West GP , The role of computers in analysis and design of control systems . T-AC 65 Jul 58 White ES, Engineering managerial control. T-EM 49 Jul 56 White FC, Is an airborne system for collision avoidance operationally and technically feasible? T-ANE 72 Jun 57 T-ANE 72 Jun 57
White JA, Electronics in aeronautical research.
WCR 10 Pt8 57
White LD, See Gordon JP
White RA. See Okress EC
White RC and Booth RE, A new frame grid that improves electron tube uniformity and is adaptable to automatic production. T-ED 63 Feb 54
White RT, Plane protection. SQ 16 Dec 56
White WJ, The four systems tests. T-CS 15 Mar 57
White WA, See Scohev JE
White WD, Nonlinear filters. T-CT 2 Dec 54
White WD, Information losses in regenerative pulse-code West JC. See Douce JL West RE, See Janza FJ West RE, See Janza FJ
Westberg RW and Robillard TR, Complementary high speed power transistors for computer and transmission applications. WCR 14 Pt3 57
Westcott JH, The introduction of constraints into feedback-system designs. T-CT 39 Sep 54
Western RE, A high level plate mixer for use at UHF. NCR 85 Pt7 54 NCR 85 Pt7 54
Westervelt JC, See Broding RA
Westervelt JC, See Broding RA
Westervelt AS Jr, Data processing, analog to digital (abstract). T-TRC 4.2 Apr 57
Westervelt AS Jr, See Hill DW
Whalley WB, Keyed reference signals. NCR 40 Pt7 57
Wheatley CF, See Minton R
Wieatley CF, See Minton R White WD, Information losses in regenerative pulse-code systems. NCR 18 Pt4 54
White WD and Greene JG, On the effective noise temperature of gas discharge noise generators.(L) P 939 Jul 56 P 939 Jul 56

White WD, Limits on the Information available from antenna systems. NCR 57 Pt1 57

White WD and Ruvin AE, Recent advances in the synthesis of comb filters. NCR 186 Pt2, 57

White WD, Electromagnetic analogs for the gravitational fields in the vicinity of a satellite.(L) P 920 May 58

White WD, See Wagner TCG

White WE, The optimal conditions of convergence in alternating-current bridge networks using phaseselective indicators. T-1 205 Sep 57

Whitehurst RN and Mitchell FH, Solar temperature and atmospheric attenuation in the 7-8 mm wavelength range. (L) P 1879 Dec 56

Whitehurst RN, Mitchell FH and Copeland J, A calibration procedure for microwave radiometers.(L) in evaluating microwave path clearance (abstract). T-I 31 Oct 55 Wheeler GJ, A broadband electronic Doppler simulator NCR 75 Pt8 55 Wheeler GJ, Broadband waveguide-to-coax transitions. NCR 182 Pt1 57 Wheeler GJ, See Reed J Wheeler GJ, See Schulz-Dubois EO Winceler GJ. See Schulz-Dubois EO
Wheeler GJ. See Swanson WE
Wiecler HA. The potential analog applied to the synthesis of stagger-tuned filters. T-CT 86 Mar 55
Wheeler HA, The spelling of the name Naoier.(L)
T-CT 219 Jun 55
Wheeler HA, Skin resistance of a transmission-line conductor of polygon cross section. P 805 Jul 55
Wheeler HA, The transmission-line properties of a round wire between parallel planes. T-AP 203 Oct 55
Wheeler HA and Schwiebert H, Step-twist waveguide components. T-MTT 44 Oct 55
Wheeler HA, Microwave engineering -- Is it special-lization or diversification. T-MTT 66 Apr 56, SQ 42 May 56
Wheeler HA, A vertical antenna made of transposed procedure for microwave radiometers .(L)
P 1410 Oct 57 P 1410 Oct 57

Whitman HR, See Wrioley W

Whitmenore LE, The Institute of Radio Engineers—fortyfive years of service. P 597 May 57

Whittler RJE, Inspection procedures for MIL-E-18 reliable electron tubes. T-QC 15 Feb 54

Whitworth JR, A report on UHF satellite operation.
T-BTS 81 Mar 55

Migrickory B, See Estatery B. T-BTS 81 Mar 55
Whorlskey P, See Flaherty P
Wick O, See Snyder R
Wick RF, See Mason WP
Wickizer GS, See Bliss WH
Wickizer GS, See Crysdale JH
Widmaier W, Status of multiplier-phototube development
for scintillation counters. T-NS 114 Dec 58
Widman R. A Artifacteroupers prodestructive malout for Wheeler HA, A vertical antenna made of transposed sections of coaxial cable NCR 16° Pt1 56 Wheeler HA, Fundamental relations in the design of a VLF transmitting antenna. T-AP 120 Jan 58 Wheeler HA, Fundamental limitations of a small VLF antenna for submarines. T-AP 123 Jan 58 Wheeler HA. The spherical coil as an Inductor, shield, or antenna. P 1595 Sep 58 Wheeler HA, Multichannel-filter synthesis in terms of dipole potential analog. NCR 3 Pt2 58 Widrow B., A radio-frequency nondestructive readout for magnetic-core memories. T-EC 12 Dec 54 Widrow B., A study of rough amplitude quantization by means of Nyquist sampling theory. T-CT 266 Dec 56 dinole notential analog. NCR 3 Pt2 58
Wheeler MS, Nonmechanical beam steering by scattering from ferrites. T-MTT 38 Jan 58
Wheeler RC Jr, Transient sequencing delays as applied to air traffic control. NCR 116 Pt8 57
Wheeler RCH and Kinney GF, Programming chemical kinetics problems for analogue computers.
T-IE 70 Mar 56 Widrow B, Propagation of statistics in systems. WCR 114 Pt2 57 WCR 114 Pt2 57

Wieder HH, Polarization reversal and switching in guanidinium aluminum sulfate hexahydrate single crystals. P 1094 Aug 57

Wiegand CE, Cerenkov counters in high energy physics.

T-NS 77 Dec 58

Wiener FM, Time and frequency scaling in magnetic recording T-AU 81 Jiil-Aug 58

Wiener J, See Haves RM Wheeler RF See Kramer SI
Wheeler RW and Fowler BV , A Inquid level switch using a radioactive source T-I 127 Jim 57
Wreelon AD , Note on scatter propagation with a modified exponential correlation . P 1381 Oct 55 Wiener N, Information theory (title only).
NCR 26 Pt9 54
Wiener N, See Brennan DG
Wier JM, A high-speed permanent storage device.
T-EC 16 Mar 55 fied exponential correlation. P 1381 Oct 55
Wheelon AD, Near-field corrections to line-of-sight propagation. P 1459 Oct 55, T-AP 322 Jul 56
Wheelon AD, See Muchmore RB
Whinnery JR, Noise phenomena in the region of the potential minimum. T-ED 221 Dec 54
Whinnery JR and Stinson DC, Radial line discontinuities. P 46 Jan 55
Whinnery JR, Editorial: The next problem in engineering education. T-MTT 3 Jan 57
Whilnnery JR, Can communication engineers really com-T-EC 16 May 55
Wiesner J, Panel discussion on forward and multiple scattering. T-AP 545 Jul 56
Wiesner JB, Source noise and its effect upon electronic systems. T-ED 3 Dec 54
Wiesner JB, Communications and telemetering (title only). NCR 258 Pt5 58
Wiesner JB, See Mellen GL
Wigington RL and Nalman NS, Transient analysis of coaxial cables considering skin effect. P 166 Feb 57
Wilcox CH, An expansion theorem for electromagnetic fields. T-AP 579 Jul 56
Wilcox CH, See Barrar RB
Wilcox RH, A simple microwave correlator.
P 1512 Oct 54 Whinnery JR, Can communication engineers really communicate? SQ 4 May 57 Whinnery JR , See Currie MR
Whinnery JR , See Watson WH
Whipple FL and Hynek JA , A research program based on
the optical tracking of artificial earth satellites ,
P 760 Jun 56 , (abstract) NCR 119 Pt1 56 Whipple FL, Terminal environment (title only).

Wild JJ, See Reid JM Wild JP and Sheridan KV, A swept-frequency interfer-ometer for the study of high-intensity solar radiation at meter wavelengths. P 160 Jan 58 Wild NR, Photoetched microwave transmission lines. T-MTT 21 Mar 55 Wilde N. Time interval telemetering system. T-TRC 8.3 Apr 57

Wildhack WA. Basic instrumentation. T-IE 4 Apr 58 Wildhack WA. Basic instrumentation. T-IE 4 Anr 58 Wilds RB, An S-band two-phase demodulator. WCR 48 Pt1 58 Wileman R, Thermal considerations in regulated power supply design. WCR 191 Pt6 58 Wilev JH. See Hughes HE Wilhelm JF, See Grimes MJ Wilhelmsen CR, Some notes on the hybrid-pi transistor equivalent circuit. T-BTR 92 Mar 58 Wilhelmsen CR, See Proudfit A Wilke WE and Sander WB. Development of a transistor-

Wilke WE and Sander WB, Development of a transistor-ized voltage controllable frequency source. WCR 86 Pt5 58

Wilkens WB, Insulated flexible printed circuits. WCR 141 Pt6 58

WCR 141 Pt6 58
Willett HM, See Walter CM
Williams CE, A survey of equipment used in radioactivity
logging of oil wells. WCR 31 Pt5 57
Williams CE, See Crain CM
Williams CS Jr, See Moore RK
Williams DA Jr, A stable transl

Williams DB, Monohan JP, Nicholson WJ and Aldrich JJ, Biologic effects studies on microwave radiation: time and power thresholds for the production of lens opac-

and power thresholds for the production of lens opacities by 12.3-cm microwaves. T-ME 17 Feb 56 Williams EM and Woodford JB Jr, Electronic considerations in the theory and design of electric spark machine tools. T-IE 78 Mar 55 Williams EM and Foster JH, Performance of continuous and discontinuous tube feedthrough capacitors at VHF and higher frequencies. NCR 188 Pt6 56 Williams EM and Foster JH, Standing-wave line for UHF measurements of high-dielectric constant materials. T-I 210 Sep 57 Williams EM, See Mathlas RA Williams EM, See Walker JM Williams FK, Requirements of a high speed, all electronic, fully automatic data handling system. NCR 140 Pt1 56

electronic, fully automatic data handling system.
NCR 140 Pt1 56
Williams GZ, Application of the television ultraviolet
microscope to the direct observation of cytological
absorption characteristics. NCR 131 Pt9 55
Williams IK, See Einlich MJ
Williams J, See Flaherty P
Widmaler W, Engstrom RW and Stoudenheimer RG, A new
high-pain multiplier phototube for scintillation counting.
T-NS 13 Nov 56

T-NS 13 NOV 36
T-NS 11 Feb 56
Williams RA, See Rittmann AD
Williams RC, Branch transfer functions.(L)
T-CT 371 Dec 58

I - CI 3/1 Dec 58

Williams TR and Thomas JB, Current noise and non-linearity in carbon resistors. T-CP 151 Dec 58

Williams WE, Step discontinuities in waveguides.

T-AP 191 Apr 57

Williamson MA, Problems of engineering management.

T-EM 61 Sep 58

T-EM 61 Sep 58
Willis J and Sinha NK, Nonuniform transmission lines as impedance-matching sections (L) P 1975 Dec 55
Willrodt M. See Broderick D
Willyard C, See Stewart JR
Wilmotte RM, History of the directional antenna in the standard broadcast band for purpose of protecting service area of distant stations. T-BTS 51 Feb 57

Wilner JT , A method to prevent image orthicon burn-in . T-BTS 15 Feb 57

Wilson AC, See Control HV
Wilson AC, See Cottonv HV
Wilson AC, See Buchheim RW
Wilson AC, Magnetic recording patents and bibliography.
T-AU 53 May-Jun 56

T-AU 53 May-Jun 56
Wilson D. See Alman J
Wilson DR, Operation care. SQ 16 Dec 54
Wilson DR, A technician—who's he? SQ 12 May 55
Wilson HF, The 14E-1 wire wran machine for automatic compoment assembly. NCR 31 Pt6 57
Wilson HH Jr, See Bloomsburgh RA
Wilson LB, A centralized facility for electrical and microwave calibrations in a large company.
T-1 348 Dec 58
Wilson LB, See Colorin Al

Wilson LD. See Geliring AI
Wilson LR, See Nelson AM
Wilson R, The thermistor. SQ 17 Dec 57
Wilson RD, Tube analysis program. T-ED 62 Feb 54
Wilson RR, Particle accelerators. SQ 31 Sen 58
Wilson TL, Power oscillators for dielectric heating.
T-IE 61 Mar 55

T-IE 61 Mar 55
Wiltes JC, Schlesinger SP and Johnson CM, Backscattering characteristics of the sea in the region from 10 to 50 kmc. P 220 Feb 57
Wimberly FT and Lane JF, The AN/APN-22 radio altimeter. T-ANE 8 Jun 54
Wimpee LC, See Swedlund LE
Winbigler HS, See Monk N
Wing 0, Ladder network analysis by signal-flow graphapplication to analog computer programming.
T-CT 289 Dec 56

Wing O , Signal flow graph and network topology—how to avoid them. NCR 48 Pt2 58
Winget JL , The Inductosyn—its uses and applications to machine control. T-IE 14 May 58
Winkler MR, Cathode bias resistor for class A , triode.
T-AU 145 Sep-Oct 54

Winkler MR Network solution of the right trlangle problem. WCR 123 Pt4 58
Winkler S, The approximation problem of network synthesis. T-CT 5 Sep 54

thesis. T-CT 5 Sep 54
Winkler S and Nozick S, Noise limitations on storage tube operation. NCR 131 Pt3 54
Winslow LM, See Shaw HJ
Winters AL, See Klein G
Winter CF. See McCov AM
Winter DF, A Gaussian noise generator for frequencies down to 0.001 cycles per second. NCR 23 Pt4 54

Winter DF, See Hawkins GS
Wirth HJ and Keary TJ, The duty cycle associated with forward-scattered echoes from meteor trails.
NCR 127 Ptl 58

Wiser HL. See Clark JW Wittke JP, Molecular amplification and generation of microwaves. P 291 Mar 57, (L) P 1011 Jul 57 Wittmeyer MH, See Boulay PF

Wittmeyer MH, See Boulay PF
Witzel AB, Pulsed Geiger counters. T-NS 2 Feb 56
Woorin CA, See Zweig F
Wolber WG, A high performance multichannel instrumentation system. NCR 158 Pt5 58
Wolcott HO, The large screen bar-graph scope—a new tool for continuous visual monitoring of multichannel data (austract). WCR 8 Pt5 57

Wolf E, Microwave optics: Part III—Recent researches on the foundations of geometric optics and related investigations in electromagnetic theory.(L)
T-AP 228 Oct 55

Wolf LJ, Multiple antenna system for television broad-casting with antennas. T-BTS 3 Jan 56 Wolf WP, See Rodrigue GP Wolfe B, Emergency standby facilities for the aural

television transmitter. T-BTS 40 Feb 57 Wolfe PG, See Moore RC

Wolfe RM, Counting circuits employing ferroelectric devices. T-CT 226 Sep 57

Wolfe RW , A new transfer-storage counter , WCR 59 Pt5 57 Wolff EA , A method of making a radar self-calibrating . P 1521 Oct 54

Wolff EA Jr., Diffused 50-watt silicon power transistors. WCR 40 Pt3 57

WCR 40 Pt3 57

Wolff HG, High-speed frequency-shift keying of LF and VLF radio circuits. T-CS 29 Dec 57

Wolff I, Vladimir K. Zworykin. P 445 Apr 57

Wolfram RT, See Vincent WR

Wolk B, Hot strength properties of filamentary nickel alloys. T-ED 58 Apr 58

Wolontis VM, See Tien PK

Wong JY, Radiation patterns of slotted-elliptic cylinder antennas. T-AP 200 Oct 55

Wong JY, Radiation pattern efficiencies of some suppressed HF aircraft antennas. (L) T-ANE 64 Mar 58

Wong JY, See Wait JR

Wong JY, See Wait JR Wong KL, See Parsons JH

Wong KL, See Parsons JH
Wong MS, Refraction anomalies in airborne propagation.
P 1628 Sep 58
Wong SY, See Glichrist B
Wong SY, High density Williams storage.
T-EC 156 Dec 55

Wonson RC, See Sardella JJ
Wood GC, A new noise-gated AGC and Sync system for
TV receivers—Part II. T-BTR 32 Jun 57
Wood GW, See Schaeffer NM
Wood IE, Note on maximally flat delay networks.
T-CT 363 Dec 58

T-CT 363 Dec 58
Wood R, New filamentary tubes of high reliability.
T-RQC 102 Jan 57
Woodcock CA, See Fister BJ
Woodford JB Jr, See Kaufman WM
Woodford JB Jr, See Peters CJ
Woodford JB Jr, See Peters CJ
Woodford JB Jr and Feucht D, The superconductive-transition radio-frequency mixer and the problem of cryotron switching time. (L) P 1871 Nov 58
Woodford JB Jr, See W.Illiams EM
Woods EJ, See Kalra SN
Woods EJ, See Kalra SN
Woods KE, See Ayres HF
Woods WC, Automatic and continuous radar performance monitor. NCR 59 P18 58
Woodward JE, Almort surface detection equipment.
NCR 46 Pt5 55
Woodward JG, A magnetic tape system for recording and

Woodward JC, Alfibor surrace detection equipment.

NCR 46 Pt5 55

Woodward JG, A magnetic tape system for recording and reproducing standard FCC color television signals—audic systems (abstract). NCR 17C Pt7 56

Woodward JG, See Olson HF

Woodward OM Jr and Glbson J, The omniguide antenna: an omnidirectional waveguide array for UHF-TV broadcasting. NCR 37 Pt1 55

Woodward OM Jr, A circularly-polarized corner reflector antenna. T-AP 290 Jul 57

Woodward PM, Entropy and negentropy.

T-IT 3 Mar 57

Woodworth FB, The day of opportunity for the ship radio perator. T-CS 54 Mar 55

Wooldridge PE, Selection of technical management personnel. NCR 129 Pt6 55

Wooldridge VW, The challenge of reliability to management. T-RQC 57 Sep 58

Wooley MC, Passive components for submarine telephone cable repeaters. T-RQC 14 Nov 57

Woollett RS, Transducer comparison methods based on the electromechanical coupling-coefficient concept. NCR 23 Pt9 57

Worcester JA, A discussion of the design problems e countered in the development of a transistorized radio

countered in the development of a transistorized radio receiver. T-BTR 6 Apr 56
Worcester K, ADC reference voltage.
WCR 1C4 Pt6 58
Worcester WG, Weitzmann AL and Townley RJ, Light weight aluminum foil solenoids for traveling-wave tubes. T-ED 70 Jan 56
Worrell D, Engineers and rockets.
SQ 32 Dec 56
Worsham RE, See Donaldson MR
Worthington JW Jr, Guest editorial: Aeronautical communications. T-CS 3 Mar 57
Work V. Eacts of life for voling engineers.

Wouk V, Facts of life for young engineers SQ 6 Sep 56

Wouk V., Adjustable pulse width high-voltage pulsed power supply. T-I 3 Mar 57

power supply. T-I 3 Mar 57

Wouk V, Circuit components for high voltage dc power supplies. WCR 20 Pt6 57

Wouk V, Increased rellability through dc overpotential testing of electronic components. NCR 59 Pt10 57

Wozencraft JM, Sequential decoding for reliable communication. NCR 11 Pt2 57

Wray WC, A unique radio system for flood forecasting. NCR 9 Pt8 58

Wright HD, A bi-directional pulse totalizer for control and telemetry. NCR 92 Pt1 56

Wright WV, See Brooks FP Jr

Wright WV, See Gudmundsen RA

Wrigley W, Houston FE and Whitman HR, Indication of the vertical from moving bases. T-ANE 182 Dec 58

Wu TT, See Gwyang GH Wu TT, See Owyang GH

Wil TT. See Owann GH
Wilfsberg AH, Binary control system for digital-to-shaft
position mechanisms. NCR 187 Pt5 54
Wilfsberg AH, The price of reliability in airborne electronic equipment. T-RQC 9 Jan 57
Wilfsberg PG, Predicting interference levels in the communication system. NCR 74 Pt8 54
Wilfsberg PG, The use of reflex techniques in a VHF-UHF
communication system. NCR 47 Pt8 55

Wyckoff JM, See Koch HW
Wyckoff RWG, Viruses and macromolecules studied with
the electron microscope and ultracentrifuge.
T-ME 49 Oct 56

T-ME 49 Oct 56
Wylde WN, See Tissot TP
Wylen J, See Loev D
Wylen J, See Mlehle W
Wyler EN and Todd FC, Study of cathodes of rareearth oxides. T-ED 57 Feb 54
Wylie FJ, Radar for avoiding collision—radar plus seasense. T-CS 68 Mar 55

Wynn JB Jr, High gain antenna system for multiple operation. NCR 116 Pt5 54
Wynn JB Jr, Long range telemetry reception. NCR 13 Pt5 57

Xavier MA, Schnelder LL and Gottfrled P, Utilization of component part reliability information in circuit design. T-RQC 60 Sep 58

Yabroff IW, Reflection at a sharply bounded ionosphere. P 750 Jun 57 Yabroff IW, See Leadabrand RL

Yadavalli SV, Two problems in geometrical optics and application of the results in electron trajectory calcu-

application of the results in electron trajectory calculations.(L) P 1670 Nov 55
Yadavalli SV, Application of the potential analog in multicavity klystron design and operation.(L) P 1286 Sep 57
Yadavalli SV, Effect of beam coupling coefficient on broadband operation of multicavity klystrons.(L) P 1957 Dec 58

Yamano M., See Takahashi I
Yang CC, Hervey JP and Smith PF, On amplifiers used
for microelectrode work. T-ME 25 Mar 58
Yang RFH, Quasi-Fraunhofer gain of parabolic
antennas.(L) P 486 Aor 55
yang RFH. Parabolic transmission line (L)

Yang RFH, Parabolic transmission line (L) P 1010 Aug 55

Yang RFH, Passive repeater using double flat reflectors. NCR 36 Ptl 57

NCR 36 Pt1 57

Yang RFH, Illuminating curved passive reflector with defocused parabolic antenna. WCR 260 Pt1 58

Yanigisawa T, RC active networks using current inversion type negative impedance converters.

T-CT 140 Sep 57

Yaplee BS, Brutan RH, Craig KJ and Roman NG, Radar echoes from the moon at a wavelength of 10 cm.

P 293 Jan 58

P 293 Jan 58
Yaplee BS, See Grant CR
Yaplee BS, See Roman NG
Yariv A, On the coupling coefficients in the: coupledmode theory.(L) P 1956 Dec 58
Yaru N, See Howardy HH
Yates JG, See Zacharias JR
Yeager E, Electrokinetic hydrophones.
NCR 38 Pt9 55

Yee JS , See Kurtz LA

Yeh KC and Villard OG Jr. A new type of fading observable on high frequency radio transmissions propagated over paths crossing the magnetic equator (L)

pauls crossing the magnetic equator (L)
P 1968 Dec 58
Yeh KC, See Villard OG Jr
Yeh LP, Basic analysis on controlled carrier operation
of tropospheric scatter communication systems.
NCR 261 Pt8 58

Yeh LP, New concepts in the statistical study of tropospheric scatter propagation data. WCR 104 Pt1 58

Yelser AS , See Parsons JH

Yen JL, On nonuniform sampling of bandwidth-limited signals. T-CT 251 Dec 56
Yen JL, On the synthesis of line-sources and infinite strip-sources. T-AP 40 Jan 57
Yin HB and Wasson HM. A constant input-impedance RF

amplifier for VHF television receivers. T-BTR 59 Oct 57

T-BTK 59 UCL 57
Yogy VH, Gan analysis and syntax. T-IT 106 Sep 56
Yocom WH, See Cook JS
Yocom WH, See Mendel JT
York DE, Problems in maintenance and operation of long-haul and distribution radio networks. T-VC 86 Jun 54

York DE, A vehicular user looks at the future. NCR 17 Pt8 56

York H. Controlled fusion power (abstract).
WCR 3 Pt9 57
Youldn M. Sec Anton N
Yould DC, The use of the method of maximum likelihood
in estimating continuous-modulated Intelligence which
has been corrupted by noise. T-IT 90 Mar 54
Yould DC, The solution of a homogeneous Wiener-Hopf
integral equation occurring in the expansion of secondorder stationary requires functions.

order stationary random functions T-IT 187 Sep 57

Young FM, Theoretical consideration of practical data transmission systems (abstract). T-TRC 7.4 Apr 57 Young GO and Gold B, Effect of limiting on the information content of noisy signals. NCR 76 Pt4 54

tion content of noisy signals. NCR 76 Pt4 54
Young GO, Random function probability distributions after
a nonlinear filter. WCR 164 Pt4 58
Young HA, The sales engineer—human catalyst of the
electronics industry. WCR 11 Pt9 58
Young JE, Koros LL and Martin IE, Developments in high
power UHF television (abstract). NCR 16 Pt7 57
Young KD, See Bogan LB
Young L, Q factors of a transmission line cavity.
T-CT 3 Mar 57
Young L, Transformation matrices.(L)

Young L, Transformation matrices.(L) T-CT 147 Jun 58

Young L and Ward GM , Telephone remote control circuit for an antenna test site (L) T-AP 385 Oct 58

for an antenna test site (L) 1-AP 385 Oct 58
Young NH, Problems of transition to single-sideband operation. P 1800 Dec 56
Young NH, Some factors affecting intelligibility in single sideband communications. T-CS 96 Mar 57
Young NH and Johnson VL, Design principles of high stability frequency synthesizers for communications. WCR 35 Pl8 57

Young W, State of art in measurement (title only). WCR 205 Pt5 58 Young WJ, Planning and operation of the Eric Rallroad main line radio communications system T-VC 91 Jun 54

Young WM, The application of the punch card to auto-

matic weighing of bulk materials. T-IE 63 Am 58
Younker EL, A transistor-driven magnetic-core
memory. T-EC 14 Mar 57 memory. T-EC 14 Mar 57
Yourke HS, Millmicrosecond transistor current switching

circuits. T-CT 229 Sep 57

Youtclieff JS , Statistical aspects of reliability in systems development . T-RQC 25 Nov 57

Yovits MC and Jackson JL, Linear filter optimization with name theory considerations. NCR 193 Pt4 55 Yuch JH, A developmental approach to reliability in missile system enipment. T-ROC 44 Sep. 56 Yueh JH, See Hill D

Zabusky NJ , A numerical method for determining a system impulse response from the transient response to arbitrary inputs . T-AC 40 May 56

Zack A. See Babcock A

Zack A. See Bancock A
Zacharias JR, Yates JG and Haun RD Jr, An atomic
frequency standard (summary). NCR 180 Pt10 55
Zadeh LA, Editorial. T-CT 3 Mar 55
Zadeh LA, On passive and active networks and generalized
Norton's and Thevenin's theorems. (L) P 378 Mar 56

Zadeh LA, On the identification problem. T-CT 277 Dec 56

Zadeh LA, Multipole analysis of active networks. T-CT 97 Sep 57

Zadeh LA and Huggins WH, Signal-flow graphs and random signals (L) P 1413 Oct 57

Zadeh LA, On the representation of nonlinear operators . WCR 105 Pt2 57

Zadeh LA, What is optimal? (editorial). T-IT 3 Mar 58

T-IT 3 Mar 58
Zadeh LA, See Miller KS
Zadeh LA, See Shekel J
Zadoff SA, Statistical Invariance of noise in sampled-data systems. WCR 173 Pt4 58
Zamanakos AS, See George SF
Zarem AM, Are engineers people? T-EM 39 Mar 55
Zarem AM, Marshall FR and Hauser SM, Millimicroscond Kerr cell camera shutter (abstract).
WCR 76 Pt5 58

Zarembo LK., See Krassilnikov VA Zarwyn B., Arc prevention using p-n junction reverse transient .(L) P 1308 Jun 58

Zawels J, The transistor as a mixer. P 542 Mar 54 Zawels J, On base-width modulation and the high-frequency equivalent circuit of junction transistors. T-ED 17 Jan 57

Zawels J., A wide-band bridge yielding directly the device parameters of junction transistors. T-ED 21 Jan 58 Zawels J., See Strum PD Zdunck J., See Skwirzynski JK

Zemanian AH, Bounds existing on the time and frequency responses of various types of networks.
P 835 May 54. Correction: P 738 Jun 55

Zemanian AH, Further bounds existing on the transient responses of various types of networks. P 322 Mar 55 P May 54

Zemanian AH, A note on the bounds on antocorrelation functions T-IT 48 Sep 55
Zemanian AH, Restrictions on the shape factors of the step response of positive real system functions. P 1160 Sep 56

Zemanian AH, A property of ladder networks.(L) P 916 May 50

P 916 May 50

Zemanian AH and Fleischer PE, On the transient responses of ladder networks. T-CT 197 Sep 58

Zemanian AH, Improvements in some bounds on transient responses.(L) P 1958 Dec 58

Zenel JA, A magnetic tape system for recording and reproducing standard FCC color television agnals—the magnetic head (abstract). NCR 166 Pt7 56

Zenel JA, Sep Olera HE.

Zenel JA, See Olson HF
Zener C, Planning of research work at Westinghouse
Electric. T-EM 94 Sep 57
Ziebolz HB, Communication problems between instruments,
controls, and man. T-IE 9 Apr 58

Ziegler CA, See Seliger HH Ziegler NF, See Donaldson MR

Zielinski CA. See McGonenal JR Zielinski CH Jr., A hermetically sealed pnp fused junction transistor for medium power applications. T-ED 47 Feb 54

Zierdt CH Jr., Success story—transistor reliability— 1956. T-RQC 57 Jun 57

Ziffer GF , See Faulkner WH Jr Zilis GS , See Hazen DF

 Zimbel N, Packaged logical circuitry for a 4-mc computer. NCR 133 Pt4 54
 Zimet MM and Freedman S, Measurement of electron tube admittance matrix parameters at ultra-high frequencies. NCR 8 Pt5 56

NUK d Ptb 56 Zimmerman E, See Rittmann AD Zimmerman MS, The measurement of the total spurious responses of an ultrasonic delay line. NCR 161 Pt2 50

Zirkind P. Application of ferrites for audio modulation of microwaves. NCR 141 Pt8 55
Ziserman M. A binary coded decimal converter.
T-I 215 Jun 56

Zito G , On the performance of reflex klystrons (L) P 751 Jun 55

Total Jun 35
Zitta R, See Masucci C
Zublin KE, Strip type components for 2000-mc receiver head end. T-MTT 65 Mar 55
Zucker FJ, See Enrenspeck H
Zucker FJ, See Kay AF

Zucker FJ, See Thomas AS Zucker H, Baskin Y, Cohn SI, Lerner I and Rosenblum A, Design and development of standard white noise genera-tor. T-I 279 Dec 58

Zuk P. See Forster JH
Zuk P. See Hunhes HE
Zuleeg R., Effective collector capacitance in transistors.(L)

Zuleeg R, Effective collector capacitance in transistors P 1878 Nov 58
Zurick VJ, See Watt AD
Zweig, F, Schultheiss PM and Wogrin CA, On the response of linear systems to signals modulated in both amplitude and frequency. T-CT 367 Dec 55
Zwelzig JR, A digital voltage encoder.
T-EC 25 Sep 54

Zweizig JR., Digitization of carrier excited transducers using a programmed attenuator. T-I 174 Jun 56 Zworykin VK, Medical electronics will provide technical

facilities with which life scientists will implement their work. NCR 99 Pt9 52 Zworykin VK, The television color translating microscope. WCR 87 Pt7 57

Subject Index

- A -A-Matrix, Network Analysis with: Bashkow TR, T-CT Sep 57 Absorption:
of Millimeter Waves: Tolbert CW, T-AP Apr 57 Skywave HF, Determination of: Pucillo GL, T-AP Jul 57
Techniques for 21-CM Astronomy Research: Lilley AE,
P Jan 58 of UHF Energy in Tissues: Schwan HP, T-ME Feb 56 Abstracts, Literature, Automatic Creation of: Luhn HP, NCR pt10 58 Academic Research Institutes in the Microwave Field: Marcuvitz N , T-MTT Apr 58 Accelerated Life Test in Airframe Manufacture: Simpson NH, T-RQC Sep 58 T-RQC Sep 5B
Accelerated Power Aging with Lithium Doped Point Contact
Transistors: Miller LE, T-ED Jul 55
Acceleration of Gravity, Absolute Determination of:
Preston-Thomas H, T-I Dec 5B
Acceleration, High, Telemetry: Horning TD, WCR pt5 58
Acceleration Measurements:
High-Frequency, High-G: Feder EI, T-I Jun 57
Trends in: Orlacchio AW, T-I Jun 57 Accelerators: Basic Operation of: McFarland GC, WCR pt9 57 Basic Operation or: Mor anna 0 G, Ywen (9 37) Electron Analog: Cottlingham JG, T-NS Sep 54 Grids in High Multiplier Tubes: Allen JS, T-NS Nov 56 Heavy Ion, Electrical Design of: Voelker F, WCR pt9 57 for Industrial Sterifization Processes: Jeppson MR, T-IE Mar 56 Linear, Medical Application of: Weissbluth M, WCR pt9 57 Linear, as Pulsed Radiation Source: Kelliher MG, T-NS Jun 56 Particle: Wilson RR, SQ Sep 58
For Radiation Therapy: Nunan C, WCR pt9 57
for Radiotherapy: Nygard JC, NCR pt9 55
Accelerometer, Subminiature Self-Recording, For High
Shock Duty: Erichsen HW, T-I Sep 57 Shock butty: Ertelised mwy, 1-1 Sep 57
Accounting Systems, BIZMAC:
Interrogation in: Beautlen DE, WCR pt4 57
Trancoder: Beautlen DE, WCR pt4 57
AC-DC Transfer Instruments for Current and Voltage Measurements: Hermach FL, T-I Dec 58 Acoustic Lens as Directional Microphone: Clark MA, T-AU Jan-Feb 54 Acoustic-Mechanical Circuit Analysis: Bauer BB, T-AU Jul-Aug 54 Acoustic Noise in Vehicles: Reinhardt NJ, T-VC Apr 58 Acoustic Power in Industrial Ultrasonic Equipment, Measurements of: Welkowitz W, NCR pt2 58 Acoustic Power Radiated from Underwater Sound Trans ducers, Measurement of: Bobber RJ, NCR pt2 58 Acoustic Systems, Measurement and Evaluation of Inter-modulation Distortion: Peterson A, NCR pt7 57 Acoustical Engineering, Education for Hunt FV, NCR pt9 57 Acoustical Principles Applied to Home Music Rooms: Snow WB , T-AU Nov-Dec 57 Acoustics , Room: Hanson RL , NCR pt6 54; Kessler JA , NCR pt7 55 Active Four-Terminal Linear Networks: Kawakami M, T-CT Jun 58 Adaptive Control Systems, Survey of: Aseltine JA, T-AC Dec 58 Adaptive Systems , Design of: Groginsky HL , NCR pt4 58 Adcock Antenna Error Evaluation: Wait JR, T-AP Adock Array, Eight-Element, Spacing Error. Travers DN, T-AP Jan 57 Adock Direction Finder: Travers DN, T-AP Apr 55 Adder, Magnetic Core Parallel: Chen MC, T-EC Dec 58 Adder, One Microsecond: Weinberger A, T-EC Jun 56 Adelaide University , Electronics Research: Huxley LGH , WCR pt10 57 Adhesives, Structural, Nondestructive Tests for Vincent CT, WCR pt9 57 Adjacent Channel Interference Components from Frequency-Shift-Keyed Carriers , Reduction of: Watt AD , T-CS Dec 58

Adjacent Channel Interference Evaluation: Sheeherd NH , NCR pt8 57

Administration of a Military Communications-Electronics Systems Engineering Function: Schauers CJ, T-EM Mar 58

Graphic Presentation of: Hess RC, NCR pt10 55

Matrices of n Ports, Residues: Bashkow TR, T-CT Sep 57

Adjacent Channels , Interference Measurements: Smith JS , T-VC Jun 57

Administrative Aspects: Porter WA, T-CS Nov 54 Admittance: Coil, Name and Unit for: Macklem FS, P Jul 57

Electron Time, Matrix Parameters at UHF: Zimer MM, NCR at5 56

Aeronautical Research: Air Communications:

Matrix of n-Terminal Network: Puckett TH, T-CT Mar 56 Negative, In Membranes: Schmitt OH, T-ME Oct 56 of Thin Antennas: Barzilal G, T-AP Apr 56 Advances in Microwave Theory and Techniques—1957: Beam RE, T-MTT Jul 58 AEC, Physical and Electrical Standards Program for the Biggs HC, T-I Dec 58 Aerial Methods in Microwave Survey: Sheldon M. Aerial Navigation Systems, Lightweight Kilowatt Klystron Amplifier for Rockwell RG, WCR pt3 58 Aerial Survey of Microwave Paths: Eddy WC , NCR pt8 55 Aerographic Cathode-Ray-Tube Recorder: Hunter HH , NCR pt5 58 Aeronautical Communications: Contributions to Public Safety Systems: Collins WC, T-CS Mar 57 PGCS Definition of Scope: Worthington JW, T-CS Mar 57 Transition to Single Sideband, Problems: Honey JF, P Dec 56USAF Operational Concepts: Donkin FW, T-CS Mar 57 Automatic Damping Recorder for Wind Tunnel Appli-cation: Olsson CO, T-I Sep 57 Automatic Data-Recording System for: Sharp EM, T-1 Sep 57 Electronics in: White JA, WCR pt8 57 Aerophysics Phenomena of Electronic Import in Missiles: Bershader D, WCR pt8 57 Aerosoloscope: Gordon ES, T-IE Mar 56, T-I Mar 57 Amplifier for Military UHF Band: Peckham DH, T-CS May 56 Capacity Required in 1965: Taylor JF, T-CS May 56 Fature Facilities: Brown RG, T-CS May 56
Interference Reduction: Albin AL, T-CS May 56
Submarine Cable in: Gilbert JJ, T-CS May 56
Transition to Single Sideband Techniques: Honey JF,
T-ANE Mar 56 Air-Cooled Chassis in Electronic Equipment: Mark M, T-CP Sep 56 Air Coolers for High Power Tubes: London AL , T-ED Apr 54 Air Coolers for High Power Libes: London AL, 1-ED A
Air Defense Computing System:
Circuit Design: Nienburg RE, T-EC Dec 56
Component Development: Heath HF, T-EC Dec 56
Marginal Checking and Maintenance Programming:
Astrahan MM, T-EC Dec 56 Air Force: Higginson GM, T-CS Nov 54 Air Force Communications: Aeronautical Communications , Operational Concepts: Donkin FW , T-CS Mar 57 Air-Ground Data Transmission Requirements: Barmack JE, T-CS Mar 57 Electronics Problems: Air Navigation and Traffic Control: Davis H, NCR pt8 56 Atmospherics and Propagation: Hollingsworth LM, NCR pt8 56 Closer Relations between Equipment Users and Engineers: Blake GA, NCR pt8 56 Communications in Air Defense: Neal HE, NCR pt8 56 Data Transmission and Graphics: Bestic JB, NCR pt8 56 Military Aircraft Environment: Keto JE, NCR pt8 56 Mobility Requirements for Tactical Operations: Frost RF, NCR #18 56 Opening Remarks by Moderaton Keto JE, NCR #18 56 Operational Problems: Blake GA, NCR pt8 56 Research and Exploratory Needs: Gould GT Jr, NCR pt8 56U.S. Air Force Communications Systems Problems: Donkin FW , NCR pt8 56 Problem and Future Systems: Chappuis CK, T-CS Mar 57 Support System: Chappuis CK, NCR pt8 57 Air Force-Industry-University Cooperation in Research: Barrett RM, WCR pt8 57 Air Force Reliability Program: Lambert JS, T-RQ C Sep 58 Air Force Single-Sideband System: Brunette GE, T-CS May 56 Air Force , Writing for Boushey HA , T-EWS Mar 58 Air-Ground Communications: Pappenfus EW , T-ANE Sep 55 Air Force Data Transmission Requirements: Barmack JE, T-CS Mar 57

Radiotelephone: Lynch WW, T-CS Nov 54 UHF, Voice, Extension Beyond the Horizon: Rogers TF, T-CS Mar 57 Air Navigation: Aids to, Applications of Nuclear Radiations: Cohen MJ, T-CS Mar 57 Decca System as Approach and Landing Aid: Mitchell HW, T-ANE Sep 57 Development Board: Montgomery BE, T-CS May 56 Instrument Low-Approach System; Casabona A, NCR pt8 57 Long-Distance Navaid, Systems Analysis Approach to Choice of: Rosenberg S , T-ANE Jun 57 Medium Range System: M:Mullen CG, T-ANE Sep 56 Practical Combination of Systems: Galbraith HJ, T-ANE Mar 56 Precision Multi-Purpose System: Frantz WP, NCR nt8 57 Radio Beam Coupler System for: Hecht H, T-ANE Mar 56 Self-Contained Aids and Common System of Air Traffic Control: Braverman N , T-ANE Jun 57 System, Precision, Multi-Purpose: Frantz WP, NCR pt8 57 System Requirements for High Landing Rates: Battle FH Jr, NCR pt8 57 TACAN Coverage and Channel Requirements: Decker MT, T-ANE Sep 57 TACAN System, Azimuth Error of: Latimer DWT, T-ANE Dec 56 Air Surveillance with Charactron tube: McNaney JT, NCR nt5 55 Air Traffic Control: and Air Force Communications: Davis H, NCR pt8 56 Air-Ground Communications: Cervenka FJ, T-CS May 56 Analytic Approach Toward: Fogel LJ, T-ANE Jun 55 Army Signal Corps Communications: White W, T-CS Mar 57Bandwidth Conservation: Ryerson JL, T-CS Mar 57 Common Systems
Self-Contained Navigation Aids: Braverman N, Self-Contained Navigation Aids: Braverman N, T-ANE Jun 57 Standards: Morgan HK, T-ANE Jun 57 Communication In: Stuckelman RM, T-CS Jun 58 Computers, Role of: Elbourn RD, NCR nut8 57; Stokes HS, T-ANE Sept 58 Cursor Coordinated: Arnold WO, T-ANE Jun 55 Data Handling and Display: Anthony DJ, NCR pt10 55 Digital Computer System for Terminal: Braun EL, WCR pt5 58 Electronics Research Goes Modern: Storrs E, NCR ptB 56 Electronics Systems Requirements: Grubmeyer RS NCR pt8 56 Elements of Problem: Sandretto PC, T-ANE Jun 55 Flight Systems , Large Scale Experimentation with: Perper LJ , NCR pt8 57 Perper LJ, NCR nt8 57
Improved System: Morgan HK, T-ANE Mar 57
in Jet Age: Kirshner DR, T-CS May 56
Lateral Separation: Welhe VI, NCR nt8 57
Paradox: Sandretto PC, T-ANE Jun 58
Radar Beacon System: Vickers TK, T-ANE Jun 55;
Crippen DS, T-ANE Mar 57
Radar Beacon System: Cor 57
Radar Beacon System: Cor 57
Radar Beacon System: Cor 57 Crippen DS, 1-ANE, Mar 57
Radar Beacon System, Coding Requirements for:
Vickers TK, T-ANE Sep 57
Remoted Radar System Information Rates:
Mechler EA, T-CS May 56
Requirements for a New Universal Simulator:
Berkowitz SM, T-ANE Jun 57 RTCA Studies: Sherer LM, T-ANE Jun 55 Scheduled Flow: Adler RB, T-ANE Jun 55 Servomechanism Approach to Communication: O'NeIII SJ, T-CS May 56 Simulation Facilities, CAA-TDEC: Vickers TK, T-ANE Jun 56 Symbolic Display System for: Harris LT, NCR pt8 56 System, Integrated Defense, Early Warning; Baldridge BH, NCR pt5 58 System Requirements for High Landing Rates: Battle FH, NCR pt8 57 System, Vortac: Ricketts PE, NCR pt5 58 Transient Sequencing Delays Applied: Wheeler RC Jr, NCR pt8 57 Transponder: Johnson VL, T-ANE Sep 56
Transponder, Compact RF Unit for: Skar RC, WCR pt 58 Visual Communication System: Welhe VI, T-ANE Dec 56 Air Transport Telecommunication: Anderson JS, T-CS May 56 Airborne Data Acquisition System: Foster WH, NCR pt1 56 Airborne Digitizer, Transistorized Six-Channel: McMillan SH, NCR pt5 58

Management: Hallman LB , T-ANE Jun 57

Air Traffic Control: Cervenka FJ, T-CS May 56 ANDB Development Plan: Montgomery BE, T-CS May 56 Channel Allocations: Felton WW,T-ANE Mar 54 Information Content of Messayes: Grier GW, T-ANE Mar 54

56 Airborne Dual Antenna System for Aerial Navigation: Spanos WM, NCR p:5-58 Airborne Electronic Component Testing: Jacobson RH, NCR nt5 55 Airborne Electronics Systems, Encapsulation of Magnetic Components: Lucic A, NCR pt6 56 Airborne Equipment: Cooling: Cold Plate Design: Mark M , T-ANE Mar 58
Commercial Arcraft: Ellison TA , T-ANE Mar 58
Evaporative-Gravity Technique: Mark M ,
T-ANE Mar 58 Forced-Air Direct-Contact Jordan T, T-ANE Mar 58 General Aspects: Post EA, T-ANE Mar 58; Kaye J, T-ANE Mar 58 High-Speed Aircraft Problems: Carhart NA, T-ANE Mar 58 Llquid Cooling: Robinson W , T-ANE Mar 58 Natural Cooling: Welsh JP , T-ANE Mar 58 Requirements: Lyons LJ , T-ANE Mar 55 Temperature Limits and Ratings: Welsh JP , T-ANE Mar 58 Temperature Measurement: Rohsenow WM, T-ANE Mar 58 Data Acquisition Analysis and Appraisal of: Gordon BM, WCR pt5 58 Digital Computer Construction: Boron PE, NCR pt6 57 NCR pt6.57

Digital Tape Reco-ding: Arcand T, WCR pt5.58

Electronic Equipment Fabrication: Scal RK-F, p.Jan.55; Lyons LJ, p. Aug.55

Gimbaled Equipment, Vibrations and Shock: Ehrenpreis D, NCR pt10.57

Impact of Reliability Requirements on Organization in Manufacture: Crowley JJ, T-RQC Sen.58

Interference Generated by Devices Using Diode Rectifiers: Senn.JC, WCR.pt5.58

Military Electronic Missile and: Ehrenpreis D, NCR pt8.58

Maying Tapes Radar, Reduced Playform Mation and Moving Target Radar, Reduced Platform Motion and Scanning Noise in: Anderson DB, WCR pt 158 Radar, Field Test Equipment: Keith WW, NCR pt8 57 Thermal Design of: Passman HM, NCR pt8 57 Transistor PDM System: Klemens WP, WCR nt5 58 Traveling-Wave Tube Applications: Nowogrodski M, WCR pt3 58 Airborne Filter for Low Distortion of FM Subcarriers: Link WF , WCR pt5 57 Airborne Frequency Standard, Transistorized: Hykes GR, NCR pt5 58 Airborne HF Transmitters, Conversion to Single Side-band: Robinson HA, P Dec 56 Airborne Measurements of VHF Reflections from Meteor Trails: Casey JP, P Dec 57 Airborne Military Television Techniques, Transistorized: Kelly JJ, NCR pt8 58 Alrborne Moving-Target Indicators, Performance of: Urkowitz H, T-ANE Dec 58 Airborne Pictorial Plotter, Miniature of: Romano S, T-ANE Sep 55 Airborne Propagation, Refraction Anomalies In: Wong MS, P Sep 58 Airborne Radar Laboratory: Ringwalt DL, NCR pt1 55

Airborne Reflectors and Circular Polarization for Air-craft Radar Return: Panasiewicz JJ , NCR pt8 56 Airborne UHF Communications Equipment: Scheer GH, T-ANE Mar 55

Airborne Voltage-to-Digital Transistorized Converter: MacIntyre RM, WCR pt4 57

Airborne Vortac Distance Measuring Equipment: Dodington SH, NCR pt5 58

Antennas: See Antennas . Aircraft Audio Equipment , Transistors in: Holec VP , T-AU Jul-Aug 56

1-AU Juli-Aug 56 Automatic Landing of, Trajectory Precision Re-quirements for: Ryerson JL, T-ANE Mar 55 Beacon, Miniaturized, Flashing-Light: Macko SJ, T-I Sep 57

Collision Avoldance:

Feasibility: White FC, T-ANE Jun 57
Physical Aspects: Morrell JS, T-ANE Jun 57
Communication Management for: Hallman LB,
T-ANE Jun 57

T-ANE Jun 57

Digital Control System: Klein SI, T-TRC Mar 56
Direction Finder: Kruesi GG, T-ANE Sep 56

Doppler Velocity Measuring Systems: Berger FB, T-ANE Sep 57, T-ANE Dec 57

Electric Field Meter: Rein GC, T-I Sep 57

Electronics Controls: Meyer RJ, NCR pt8 57

Electronics Reliability: Levine MB, NCR pt5 55

Flight Director Design Trends: Iddings G, T-ANE Mar 55

Flight Testing: Van Doran ML, T-TCR May 55 Instrument Display Design: Fogel LJ, NCR pt5 55 Instrument Servomechanism, Nonlinear Compensation by Analog Simulation: Lebell D, T-AC May 56 Jet Transports , Flight Control System: Miller H , T-ANE Sep 57

Landing:

Decca Navigation System as Aid: Mitchell HW, T-ANE Sep 57

Instrument Low-Approach System: Casabona A, NCR pt8 57 Instrument at Sea: Akers F. T-MIL Dec 57

System Requirements for High Rates of: Battle FH Jr, NCR pt8 57

Malfunction Detection, In-Filght Recording for: Jampochian J, T-I Mar 58 Motor Generator with Secondary Standard Frequency Output: Johnson LJ, T-CP Mar 58

Navigation , Accuracy of Omni-Range System: Anderson WG , T-ANE Mar 55

Navigation Computer: Marner GR, NCR pt5 55 Navigation System, JAINCO: Jacobs DH, NCR pt5 55

PCM Telemetering:

Coding for Noise and Interference Suppression: Harmuth HF, T-TRC Apr 57 Data Collecting and Recording System: Knight P, T-TRC Apr 57

Pictorial Display:

Cursor Coordinated: Amold WO, T-ANE Jun 55 Cursor Coordinates: Arnold WO, 1-ANE Jun 55 RTCA Studies: Sherer LM, T-ANE Jun 55 Pictorial Plotter: Romano S, T-ANE Sep 55 Pilot Induced Oscillations: Van Horn IH, NCR pt4 57 Power Amplifier, One Kilowatt: Humfeld JB, T-ANE Mar 57

Radar, Storm Avoldance: Balzer ME, T-ANE Mar 57 Recorder of Small Weight and Size: Smith SL, T-I Jun 56

Reliability: Wulfsberg AH, T-RQC Jan 57
Role of Design Engineer in Field Support:
Brown HW Jr, T-ANE Sep 56
Servomechanisms: O'Neil SJ, T-ANE Jun 56
Simulator, Flight Information Displays: Klimowski F,
T-ANE Sep 56

Single Sideband:

Transceiver: Pappenfus EW, T-CS May 56 Transition to Techniques: Pappenfus EW, T-CS May 56

Sound System, 9000 Watt: Martin DW, T-AU Nov-Dec 56

Static Discharger Tanner RL , NCR pt 8 57
Static Test , C-130 , Instrumentation for: Hartsfield WW ,
T-I Mar 58

Supersonic Bomber Environmental Factors: Katz I, NCR pt 8 57

Supersonic, Multiple Telemetering Antenna System: Anderson RE, T-AP Oct 55

Systems Reliability through Redundancy: Hershey RH , T-ANE Mar 56

Telemetering, Problems: Shanahan E, T-TRC Apr 57, T-TRC Dec 57

Test Vehicle, Remote Control Systems: Nickel L, T-TRC Apr 57

Testing , Large Screen Bar-Graph Scope for Wolcott HO , WCR pt 5 57

Turbojet, Fully Automatic Crulse Control System for Genthe WK, WCR pt 4 57 Ultra High Speed Filight: Dryden HL, T-TRC Aug 55

Visibility Diagram, Three Dimensional: Feiner A, NCR pt 8 56

Vortex Thermometer: Ruskin RE, T-ANE Jun 56 Airframe and Electronics Viewpoints, Project Management: Hall EN, WCR pt 9 58 Airframe Manufacture, Accelerated Life Test In: Simpson NH, T-RQC Sep 58

Airframe, Probe Excited, as High Frequency Antenna: Curtis WL, T-ANE Sep 56

Airline Propagation Forecasting: Petry CA, T-CS Nov 54; Meaker LSF, T-CS Nov 54 Airport Surface Detection Equipment: Woodward JE, NCR pt5 55

Alaska Geophysical Institute, Career Evaluation: Staff Report, SQ Sep 58 Algebraic Decoding for a Binary Erasure Channel: Epstein MA, NCR pt4 58

Algorithm, for Representation of Logic Function: Harris B, T-EC Jun 57

Algorithm, Richards, Theorem on: Sublette IH, T-CT Jun 58 Alignment Techniques for Critical Band-Pass Circuitry: Sebastian WA, WCR pt7 58

Alinco Electronic Integrating System: Harrison GW , T-IE May 58Allocation, Frequency, Current Procedures in: Allen EW, T-VC Apr 58

Allocations, Frequency, In Mobile Services: Spillane LW, WCR pt8 57

Allocations, Television, Study Organization: Town GR, T-BTS Dec 57

Alkalide Scintillators: Van Sciver W, T-NS Nov 56 Alphabets, Binary Signaling: Slepian D, T-IT Jun 56

AN/APN-22: Wimberly FT, T-ANE Jun 54 AN/APN-22: Wimberly F 1, 1-ANE Jun 54
Flare-Out Unit: Pasek DM, T-ANE Jun 54
History: Sandretto PC, T-ANE Jun 54
Low-Altitude: Kalmus HP, T-ANE Jun 54
Principles: Capelli M, T-ANE Jun 54
Radio, Effect of Precipitation on Design: Moore RK,
T-ANE Mar 57

Altimetry, RTCA Study: Sherer LM, T-ANE Jun 55
Altitude Variation of Field Strength for Vertically Polarized
Radiation: McGonegal JR, T-AP Jul 58
Aluminum Electrodes, Evanorated, in High-Power
Transistors: Henkels HW, T-ED Oct 57

Aluminum Foil Solenoids for Traveling-Wave Tube: Glass RC, T-ED Apr 57

Ambients , Semiconductor Surface Response to: Peattie CG , P Sep 57

Ambiguity Functions, Signals with Uniform: Lerner RM, NCR pt 4 58

American Economy and Electronic Systems: Hurd CC, NCR pt 6 58

American Engineering, History of: Oliver JW, SQ Dec 57 Ammonia, Coherent Emission by Pulse Excitation: Norton LE, T-MTT Oct 57 Ammonia Maser as an Atomic Frequency and Time Standard: Mockler RC, T-I Dec 58

Amplification Using Electron Spin States: Bolef DI, T-MTT Jan 58

Amplification , Parametric , of the Fast Electron Wave: Adler R , P Jun 58 Amplifiers:

AC Computing, Using Transistors: Krause CA, T-EC Sep 58

Airborne RF Power, One Kilowatt: Humfeld JB, T-ANE Mar 57

Antenna, VHF: Fischer K, T-CS Dec 57
Audio: Amemiya H, P Jul 54; Bereskin AB,
NCR pt6 54

Compressor-Limiter, for Studio: Templin EW, WCR pt7 58

Design of: Trent RL, T-AU Sep-Oct 55; Klebert MV Jr, NCR pt6 54 Design and Testing: Langford-Smith F, T-AU Mar-Apr 57

T-AU Mar-Apr 57

MIcropower: Keojian E, T-CT Mar 56
Power, Design of: Fewer DR, T-AU Nov-Dec 55
Power, 3000 Watt: Bereskin AB, NCR pt7 56,
T-AU Mar-Apr 56
Push-Pull: Melehy MA, T-AU Jul-Aug 57
Sawtooth Testing of: Hitchcock RC, T-BTS Feb 57
10-Watt Transistorized: Minton R, SQ Feb 58
Theory, Push-Pull: Valko IP, T-AU Jan-Feb 58
Transistor; Hayes AE Jr, NCR pt7 56
Transistor, High Fidelity, 10 Watt: Crow RP,
NCR pt 7 56

for Automatic Control of Active DC Loads: Levi E, NCR pt 6 58

Backward-Wave:

kward-Wave: Cascade: Currie MR, P Nov 55 Conditions for Minimum Noise Generation In: Currie MR, T-ED Apr 58 Gain and Bandwidth Characteristics: Currie MR, T-ED Jan 57

Noise Figure: Everhart TE, P Apr 55

Noise Figure: EVERIAR IE, PAPE 35 Noise Reduction in: Currle MR, PMay 57 Power: Tien PK, PJan 57 VHF: Dunn DA, T-ED Jul 57 Band-Pass, Application of Plezoelectric Resonators to: Lungo A, NCR pt6 58

Beam Parametric: Bridges TJ, P Feb 58; Adler R, P Oct 58

Beam-Type: Coupled-Mode Description: Heffner H, P Feb 55

Minimum Noise Figure: Haus HA, P Aug 55 Microwave, Dip in Minimum Noise Figure: Tien PK, P Jul 56

Tien PK, P Jul 56
for Bloelectric Potentials, Direct Coupled:
Lettvin JY, T-ME Mar 58
for Bloelectric Potentials, with Neutralized Input
Capacity: Amathick E, T-ME Mar 58
Cascade: Price RL, T-AU Mar-Apr 54
Cascaded Distributed Tube Utilization: Talkin AI,
P Nov 55

Cascode Equivalent Characteristics of: Langford-Smith F, P Apr 56

Circuits, for Analog Computers: Amemiya H, P Oct 56

Compressor-Limiter Audio, for Studio: Templin EW, WCR pt7 58

DC, In Analog-Digital Conversion: Smith BD, T-1 Jun 56

DC, Electromechanically Stabilized: Riester HA, T-IE, Mar 55

Decade for Audio-Frequency Applications: Bereskin AB, T-AU Sep-Oct 57

Deflection, Improvements in Design: Droppa C, NCR pt7 58

for Dictation Machine, Transistorized Record-Play-back: Fleming RF, NCR pt7 58 Dielectric: Mason WP, P Nov 54 Dielectric, Semiconductor, Noise Figures in: Walker JM, NCR pt3 57

Distortion Reduction In: Gelser DT, P Jun 57
Distributed: Payne DV, P Mar 54; Bell DA,
P Aug 54

Distributed, Overcoming Frequency Limitations of: Rogers PH, NCR pt2 57

Distributed, and Virtual Delay Lines: Judge WJ, WCR pt2 58

Double-Tuned Bandpass, Regeneration Effects In: Bura P, NCR pt2 57 Dynamic, for Phonograph: Purington ES, T-AU May-Jun 54

Emitter-Coupled Differential: Slaughter DW, T-CT Mar 56

In Carrier Telephony: Cotterill MJ, T-CS Sep 57 Design of: Stewart JL, T-CT Jun 56

SUBJECT INDEX

Ideal, Translent Response of: Heckbert AI, T-CT Sep 57 Unilateral Solid-State, Slow-Wave Structures for DeGrasse RW, WCR pt3 58 Semiconductor Capacitance: DIII F Jr, NCR pt3 56 Semiconductor Diode: Ko WH, SQ Dec 57; Kaufman HW, NCR pt4 55 Single-Ended Push-Pull: Hall CT, NCR pt6 54 with Negative Output Resistance for Magnetic Measurements: Harris WP, NCR pt5 58 Mathematical, Operational: Nitzberg R, P Jun 57; Bossinger A, P Oct 57 Power Gain in: Mason SJ, T-CT Jun 54 for Precision Electronic Switching: Edwards CM, P Nov 56 for Microelectrode Work: Yang CC, T-ME Mar 58 Microphone, Low Noise Transistor: Davidson JJ, NCR pt7 57 Single Sideband: Linear Power: Briene WB, P Dec 56
Linear Transmitters, and Envelope Elimination
and Restoration Transmitters: Kahn LR,
P Dec 56 Stability of: Mason SJ, P Jun 56 Microwave Atomic: Birnbaum G, WCR pt3 57 Microwave Atomic: Birnbaum G, WCR pt.3 57
Microwave Beam , Noise Wave Excitation at Cathode:
Beam WR, T-ED Jul 57
Microwave, Noise Figure: Haus HA, T-ED Dec 54
Microwave Relay, 50 Watt: Mallach LW, T-BTS Jun 57
Microwave Shot Noise: Robinson FNH, T-ED Jul 56
for Military UHF Band: Peckham DH, T-CS May 56
Miniature High-Gain: Libbey RL, T-AU Nov-Dec 54
Molecular: Single Loop Transistor: Blecher FH, T-CT Sep 57 Linearity Testing: Icenbice PJ, P Dec 56 Speech, of High Efficiency: Sullivan H, NCR pt7 57 Transistor, Multiple Loop and Single Loop: Davis EM Jr, WCR pt 2 58 Transistor, Root Locus Design of: Pederson DO, WCR pt2 58 "Squared" Input Stages for Low-Level Transistor. Hinrichs K, WCR pt2 58 TransIstorIzed: Burr RP, T-BTR Jun 57 TransIstorIzed, Wide Band: Abraham RP, WCR pt2 57 Stabilized by Feedback Boggs GE, P Jul 54 Stabilizing DC Transistor: Klein ML, WCR nt2 58 Stagger-Tuned Double-Tuned: McWhorter MM, P Aug 55 Molecular: Molecular:

Using Auxiliary Radiation to Produce Active
Molecules: Prochorov AM, WCR pt10 57
Future Circuit Aspects: Herold EW, P Nov 57
Microwave: Gordon JP, T-I Oct 55;
Townes CH, NCR pt10 55
Multiloop, Self Balancing Power: Macdonald JR,
T-AU Jul-Aug 55
Multistage 500-Megacycle: Hamilton MW, WCR pt 6 58
Negative Feedback in Carrier Telephony: Cotterili MJ,
T-CS Sep 57
Noles in: Wall H I, T-AU Mar-Apr, 54 Wide-Band: Waldhauer FD, T-CT Sep 57
Ferrite, Modified Semistatic: Berk AD, WCR pt3 58
Ferromagnetic Microwave, Phase Dependence of:
Whirry WL, P Sep 58 Square-Law: Soltes AS, T-EC Jun 54 Synthesis of Multichannel Amplifiers: Barton BF, WCR pt 2 58 50 Watt, Construction of: Bereskin AB, SQ Sep 56 Gaussistor: Green M, T-ED Jul 56 High Fidelity, Home Testing of: Dean WW, NCR pt7 57 Television: High Power UHF: Koros LL , T-BTS Mar 55
Power: Hamilton GE , T-BTS Dec 55
Theory , Push-Pull Audio: Valko IP ,
T-AU Jan-Feb 58
Three-Level Solid-State Maser: Scovil HED ,
T-MTT Jan 58 Compensation: Muller FA, P Aug 54 600 Kilowatt: Weldon JO, T-CS Mar 57 High Power, Increasing Bandwidth of: Dodds WJ, WCR pt3 57 High-Frequency: Noise in: Wall HJ, T-AU Mar-Apr 54 Nuclear Pulse, Noise in: Jones AR, NCR pt 9 57 Operational: Feedback in Data Processing: Smith RA, WCR pt 5 58 Transistor: and Antenna Matching, Design Method for Coupling Applied to: Ligomenides PA, WCR pt2 58 High-Power RF, Automatic: DeLong VR, NCR pt8 55 Improved Nitzberg R, Mar 58, P Jun 57; Nathan A, P Dec 57 High Power, for Single Sideband Applications: Gunter FB, T-CS May 56 Horizontal Deflection, Testing of: Lankard GM, T-BTR Oct 57 Automatic Gain Control: Chow WF, T-BTR Apr 55, P Sep 55 Chopper, Low Level: Smith TE, T-TRC Apr 57 Class-C: Engelmann RH, T-CT Sep 58 Common Emitter: Dion DF, P May 58; Purton RF, P Dec 58 Input Impedance Errors: Hellerman H , T-EC Sep 55 Representation of Nonlinear Functions: Howe RM , T-EC Dec 56 for Simulation of Transfer Function: Bridgman A, WCR pt4 57 IF, for Color Receivers: Avins J, T-BTR Jul 54 IF Preamplifier, Design Considerations: Rennie JC, T-CS Sep 57 Optimum Gain: Haus HA, P Feb 56 Common-Emitter, for Television: Bruun G, P Nov 56 Optimum Noise Performance, Network Realization of: Adler RB, T-CT Sep 58 Panel Light, High Gain: Kazan B, P Oct 57 Interstage Design with Practical Constraints: Barton BF, NCR pt2 57 P Nov 56
Constant Resistance AGC Attenuator: Hurtig CR, T-CT Jun 55
Diffused Silicon Logic: Miller LE, WCR pt3 58 for Digital Computers: Simkins QW, P Aug. 56
Distortion in Class B: Joyce MV, NCR pt7 55
Double-Tuned IF Transformers for: Hellstrom MJ, NCR pt3 56 Klystron: Inherent Noise In: Rockwell RG, WCR pt3 58
Kilowatt, for Aerial Navigation Systems:
Rockwell RG, WCR pt3 58
Dne-Way Circuit Using Hybrid T: Ishil K, P May 57 Panel Light, New Developments: Kazan B, NCR pt3 57 Parametric: Amplification of Fast Electron Wave: Adler R , P Jun 58 Parameter Measurements: Veronda CM, T-ED Aug 54 Amplification of Space Charge Waves: Louisell WH, P Apr 58 Feedback: Potential Analog Applied to Design and Operation: Yadavalli SV, P Sep 57 Power: Hiestand NP, NCR pt3 55 Power, 8-MM: Bridges TJ, P Feb 58 Power, for UHF Transmission: Speaks FA, T-CS Mar 56 Multiple Loop and Single Loop: Davis EM Jr, WCR pt2 58 Electron Beam: Ashkin H, WCR pt3 58; Bridges TJ, P Feb 58 Preamplifiers: Burr RP, T-BTR Jun 57 LongitudInal, Electron-Beam, Kinetic Power Theorem for: Haus HA, T-ED Oct 58 Root Locus Design. Pederson D0. WCR pt2 58 Wide-Band: Abraham RP, WCR pt2 57 Germanium, Servo, Dperating at High Temperatures: Thompson PM, T-CT Sep 57 Low-Noise Electron-Beam, Aller R, P Oct 58
Low-Noise Electron-Beam, Adler R, P Oct 58
and Masers: Heffner H, WCR pt 3 58
Microwave Semiconductor Diode: Heffner H,
P Jun 58 Pulse, Grid Controlled: Swearingen JD, WCR pt3 57 for Scatter Communications: Moreno T, T-CS Mar 56 Temperatures: Thompson PM, I-CT Sep 5/
IF, Stability Considerations: Holmes DD,
NCR pt3 56
Internal Feedback: Stern AP, P Jul 55
Measuring Noise Floures of: Anouchi AY, P Mar 58
Noise in Audio-Frequency: Bargellini PM, P Feb 55
Performance Characteristics at AHF: Theriault GE,
T-BTR Jun 57 T-CS Mar 56
Wide Band: Beaver WL, WCR pt3 57
Wide Band UFH 10 KW: Goldman H, NCR pt3 58
Reliability in Scatter Communication Systems:
Lazzarini RF, NCR pt6 58
Light: Pashler PE, T-BTR Jul 55; Rosenthal J,
P Dec 55; Loebner EE, P Dec 55
New Developments of: Kazan B, NCR pt3 57
Panel, High Gain: Kazan B, P Oct 57
Solid-State, Physics of: Cusano DA, T-NS Nov 56
Storage: Kazan B, P Dec 55 Traveling-Wave Ferromagnetic: Tien PK P Apr 58 Using Lower-Frequency Pumping: Chang KKN, P Jul 58, WCR pt3 58 Pedestal Processing for Television: Kennedy RC, NCR pt7 56 Power, Base-Current Feedback: Boxall FS, WCR pt 2 57 RC: Powell T, T-AU May-Jun 58 RC Coupled, Minimizing Gain Variations with Temperature: Bruene WB, P Dec 56 Phase Shift Evaluated at Low Frequencies: Hamer H, T-EC Sep 57 Phonograph, Equalization, and Tone Controls: Slaymaker FH, T-AU Jan-Feb 55 Physiological, Transistors in MacNichol TF, T-ME Mar 58 Storage: Kazan B, P Dec 55 for Remote Broadcast Use: Birch JK , NCR pt7 56 Single-Tuned Transformers for: Colodny SH , NCR pt7 58 Drift Transistor As: Griswold DM , NCR pt3 58
Noise Figure Definition: Haus HA , P May 57
Optimum Noise Performance: Haus HA , P Aug 58 Platinotron: Brown WC , P Sep 57 Power: Bereskin AB, T-AU Mar-Apr 54 Power , for 9D00 Watt Sound System: Martin DW , T-AU Nov-Dec 56 NCR pt7 58
Stability of: Bahrs GS, WCR pt2 57
Stability and Power Galn: Stern AP, P Mar 57
Stable to 95 Degrees C: Greatbatch W, P Dec 55
Temperature Compensated DC: Keonjian E, P Apr 54
Temperature-Stabilized: Hurley RB, T-CP Sep 54
Thermistor Compensation of: Soble AB,
T-CT Sep 57 Optimization Noise Performance: Hais 7A, P. Alig 36 Power: Bruene WB, P. Dec 56 Single-Sideband System and Envelope Elimination and Restoration System: Kahn LR, P. Dec 56 Transmitting Tubes for: Norton RL, NCR pt8 56 Printed Circuit IF for Color TV: Ruth L, T-BTR Jul 56 Logarithmic Receiver, High Accuracy: Stevens RT, P Dec 57 Pulse Spectrometry: Kelley GG, NCR pt9 57
Pulse, Using Transistor Circuits: Graveson RT,
T-NS Dec 58 Logarithmic, Simplifications: Sunstein DE, P Mar 55 Unilateralization at High Frequencies: Chu GY, P Aug 55 Magnetic:
Core Materials: Teasdale RD, NCR pt3 54
with Feedback: Gray HJ, T-EC Sep 58
with Feedback: Gray HJ, T-EC Sep 58 Quantum Mechanicai: Strandberg MWP, P Jan 57 Reactance, Low-Noise Wide-Band: Salzberg B, P Jun 58 Unilateralized Common Collector: Vallese LM, P Nov 57 Reactance and Maser, Basic Power Relations: Salzberg B, P Nov 57 Video , Amplification-Bandwidth Exchange: Prugh TA , P May 57 Industrial Control Techniques for Accuracy and Reliability: Patton HW, NCR pt6 56 Reactance, Variable, Semiconductor Diode, Noise Figure Measurements on: Heffner H, P Jun 58 Video, Multistage: Spilker JJ Jr, WCR pt 2 57 in Industrial Instrumentation and Control: Geyger WA, T-IE Apr 58 Transistorized: Receiver Video Transistor: Salaman RG, T-BTR Sep 58 in Airborne Audio Equipment: Holec VP, T-AU Jul-Aug 56 Pickup, with Piezoelectric Pickups: Bauer BB, T-AU May-Jun 55 For a Servo: Johannessen PR, NCR pt4 55 Reflex Klystron, Negative Resistance: Quate CF, T-ED Jul 58 Audio Output Stages: Minton R , NCR pt7 57 Audio Power: Bereskin AB , NCR pt7 57 DC: Stanton JW , T-CT Mar 56; Warnick A , NCR pt5 57 Regenerative, with Distributed Amplification: Golosman BS, P. Apr. 56 Repeater, Signal, Four-Port Constant R. Network for: Desoer CA, T-CT Dec 58 Stabilized Circuits: Patton HW, NCR pt6 57 Survey of: Lufcy CW, P Apr 55 Thermocouple: Nesbitt WE, T-IE May 58 High Frequency, Using Drift Transistors: Englund JW, NCR pt3 57 IF, Designed to Provide Limiting: Raper JAA, T-CT Mar 56 ser.

Gain Bandwidth and Noise: Siegman AE, P Dec 57
for Irls Cavitles: Stitch ML, WCR pt3 57
Maximum Efficiency of: Heffner H, P Sep 57
Noise In: Gordon JP, P Sep 58
Noise Figure of: Helmer JC, T-MTT Apr 58
Without Nonreciprocal Elements: Autler SH,
P Nov 58 Resnatron as a 200-MC Power: Tucker EB, P Aug 58 RF. Low Noise, for Microphone: Davidson JJ, NCR pt7 57 For Pi Network: Pappenfus EW, SQ Dec 55 used in UHF Tuner: Qulrk JB, T-BTR Feb 58 for VHF Television Receivers: Yin HB, T-BTR Oct 57 Pulse, 'Vide-Band: Eddins WT, NCR nt5 57 Video, 80 Volt Output: Grinich VH, T-BTS Scp 56, T-CT Mar 56 Reactance, and Basic Power Relations: Salzberg B, P Nov 57 Power for 200 MC Telemetry Band: McRae DD, T-TRC Apr 57 Video , Stagger-Tuned: Grinich VH , T-BTR Oct 56 Solid State, Future Circuit Aspects: Herold EW, P Nov 57 Rippled Wall and Stream Birdsall CK, P Nov 54 Scalloped Beam Mihran TG, T-ED Jan 56

Superregenerative: Chester PF, P Sep 57 Two-Cavity Unilateral: Sher N, NCR pt1 58

Traveling-Wave:

and Backward-Wave Oscillators: Muller MW, P Nov 54

Backward Waves: Rowe JE . P Aug 56 CW, with Multiple Helix Circuits: Putz JL, WCR pt3 57 WCK PLS D7

Flectorstatically Focused, Hollow Beam:
Crumly CB, T-ED Jan 56

Ferromagnetic: Tien PK, P Apr 58

High-Efficiency: Rowe JE, T-ED Oct 58

High Gain: Denman ED, T-ED Apr 56

Large-Signal:
Apalysis: Page JE, T, ED, Jan E4 gg-5ignar: Analysis: Rowe JE , T-ED Jan 56 Behavior: Caldwell JJ , T-ED Jan 56 Design Information: Rowe JE , P Feb 56 Theory: Tien PK , P Mar 55; Rowe JE , P Aug 55 Low-Noise Nonlinear Reactance: Engelbrecht RS, P Sep 58 Medium Power, L-Band: Holmboe LW, T-ED Jan 57 Nonlinear Wave Propagation: Kiel A, T-ED Oct 55 with Periodic-Permanent Magnets: Siekanowicz WW, P Jan 56 Tube , in Microwave Repeater System: Kurokawa H , P Dec 57 Tube, at X Band: Nevins JE, NCR pt3 55 Very-Low-Noise: Kinaman EW, P May 58 UHF:
Disc-Seal Triode: Peek SC, T-BTR Jan 54
One Kilowatt: Ellis CR, T-CS Mar 57
Tubes: Pan WY, T-BTR Jan 54
Tuner: Quirk JB, T-BTR Feb 58
Unilateral Solid-State Maser, Slow-Wave Structures for:
DeCrasse RW, WCR pl3 58
for VHF: Dunn DA, T-ED Jul 57
Video, with Stringent Electrical and Mechanical Requirements: Develet JA Jr, P Aug 58
Wrde-Band Low-Noise: Weighton D, P Sep 55
Amplitron and Stabilotron in MTI Radar Systems: Weil TA,
NCR pl5 58
Amplitron DHE Amniitude: Concept of an Electromagnetic Wave: Ortusi JA, T-AP Apr 56 Linearity , Sensitive Method for Measurement: Kramer SI , P Aug $56\,$ Modulation: Double-Sideband Suppressed Carrier: Costas JP, T-CS Mar 57 Meters, Calibration: Macdonald JR, P Oct 54 Power Klystrons for: Badger GMW, NCR pt3 57 Rejection in FM Detectors: Schultz RJ, T-BTR Feb 58 Response of Linear Systems: Medhurst RG , T-CT Sep 56 Single-Sideband, for Mobile Communications: Bailey A , T-VC Jun 57 Synchronous Communications: Costas JP, T-CS Mar 57 Systems for 1955: Morrow R, T-VC Jul 56 UHF Oscillators, Minimization of Incidental FM: Staffner G, P Apr 57 Quantization by Means of Nyquist Sampling Theory: Widrow B , T-CT Dec 56 Quantizing Tube: Stone RP, NCR pt3 55, P Aug 55 Regulator for Microwave Signal Sources: Fire P, NCR pt5 56 Response, TV: Doba S Jr, P Feb 57; Kramer SI, P Jul 57 Scintillation of Extraterrestrial Radio Waves at UHF: Ko HC, P Nov 58 Stabilization of a Microwave Signal Source: Engen GF , T-MTT Apr 58Analog Circuits:
Input Impedance Network Error, Operational
Amplifiers: Heilerman H., T-EC Sep 55
Time Delay: Thomson WE, T-EC Jun 55
Analog Computation of Small Quotients: Masonson M.,
P May 57, Bailey AD, P Dec 56
Analog Computiers: Sec Computers, Analog
Analog Computing with Digital Techniques: Meyer MA,
T-EC Jun 54
Analog Computing, Technique for Solution of Trigonometric Problems: Robinson AS, T-EC Sep 55
Analog Data Processing: Westneat AS, T-TRC Apr 57
Analog Devices for Design of Reactor Controls: Mann ER Analog Circuits: Analog Devices for Design of Reactor Controls: Mann ER, T-NS Mar 56 Analog-to-Digital Conversion: Decimal Code for: Lippel B, T-EC Dec 55 Logarithmic Voltage Quantizer: Glaser EM, T-EC Dec 55 Device, Solid-State: Palevsky M, NCR pt4 58 Using DC Ampliflers and Passive Elements: Smith BD, T-I Jun 56 Analog-Digital Convertors: Klein ML, T-I Jun 56 Analog Integrator: Hamer H, T-EC Dec 54 Analog Integrators, Operational Time: Myers GH, T-EC Mar 57 Analog Memory: Kozak WS, WCR pt4 58 Analog Memory: Kozak WS, WCR nt4 58
Analog Multipliers:
Electronic: Kalbfell DC, T-EC Jun 57
Multiple Input: Porter DD, NCR nt4 56
Using Carriers' Welbel ES, T-EC Mar 57
Using Switching Circuits: Chen K, NCR pt4 56
Time-Sharing: Freeman H, T-EC Mar 54
Using Thyrite: Kovach LD, T-EC Jun 54
Analog Phase Angle, In Out-of-Sight Control Instrumentation:
Parish CL, T-TRC Apr 57
Analog Signal Multiplexing in Digital Systems: Marquand RE,
T-TRC Apr 57

Analog Simulation of Sampled Data Systems: Klein RC, T-TRC May 55 Analog Solution of Space-Charge Regions in Semiconductors: Giacoletto LJ , P Jun 58 Analog Solution of Probability of Hit Problems: Van Horne TB, T-EC Sep 57 Analog Study of Dead-Beat Posicast Control: Tallman GH, T-AC Mar 58 Analog Rate Signal Integrator, Digital Moon-Radar Antenna Programmer with: Guzmann O, NCR pt4 58 Analog-Voltage Information, Sample-and-Hold Circuits for Time Correlation of: Eddins WT, NCR pt5 58 Analog Voltages, Diode Multiplexer for Gray HJ, T-EC Jun 55 Analogs: Dipole Potential, Filter Synthesis in Terms of: Wheeler HA, NCR pt2 58 Wheeler HA, Not NLZ SE Electromagnetic , for the Gravitational Fields in the Vicinity of a Satellite: White WD, P May 58 Hyperbolic: Hellstrom MJ, P Feb 58 Mechanical, Electron Tube Amplification, Demonstration of: Silverstein I, SQ Sep 57 Potential Network Analysis: Vowels RE, T-CT Sep 57 Using Varistors, Hyperbolic: Holbrook GW, P Oct 58 Analogy, International Analogy Computation Meeting: Blachman NM, T-EC Mar 56 Analytic Signals, Moments of: Silverman RA, T-CT Mar 58 Analyzers: Atmospheric: Smith PF , T-AP Jan 55 Differential: Band Width Limitations: Dow PC, T-EC Dec 57
Design Criterion: Nathan A, T-EC Jun 57 Errors to Capacitor Dielectric Absorption: Dow PC, T-EC Mar 58 Electrostatic , Alignment Procedure: Weeks RR , T-NS Jun 55 Heterodyne Type Sonic: Richard JD, T-AU Mar-Apr 55 Linear Differential, Computing and Error Matrices in: Nathan A, T-EC Mar 58 Pulse Height: Higinbotham WA, T-NS Nov 56 Time-of-Flight: Electrostatic Storage System: Hahn J, NCR pt 9 57 Multi-Channel: Gamer HL, NCR pt9 57
TransIstorized, with Ferrite Core Memory: Wade EJ, NCR pt9 57 & T-AU
Anechoic Chambers: Corrington MS, T-AC Nov-Dec 56
Angle and Distance Measurements, Phase Measuring Techniques Applied: Thompson WJ, T-I Mar 57
Angular Accuracy of Pulsed Search Radar: Swerling P, P 5ep 56 Angular Velocity: Stockman H, P Mar 57 Augunar velocity: Stockman H, P Mar 57
Angular Velocity, Special Word for: Biss RR, P Aug 56
Anistropic Media, Recliprocity Theorem: Cohen MH, P Jan 55
Anistropy of Cobalt-Substituted Mn Ferrite Single Crystals:
Tannenwald PE, P Oct 56
Anodes, Temperature Distribution for Pulse Input: Ghose RN,
NCR pt3 57 Annular Slot Antennas, Design Data for: Cumming WA, T-AP Apr 58 Antennas: Adcock, Error Evaluation: Wait JR. T-AP Oct 54 Aircraft: Granger JVN, P May 55 Dual System for Aerial Navigation: Spanos WM, NCR pt5 58 High Frequency: Tanner RL, T-AP Jan 58
High Frequency, for Direction Finding: Carter PS,
T-ANE Mar 57 High Frequency, for Jet: Bolleau OC, T-ANE Mar 56 High-Voltage Problems: Tanner RL, T-ANE Dec 54 Lightning Protection for: Huber RF, T-ANE Sep 55
Omnidfrectional: Spanos WM, NCR pt5 54;
Stchak W, T-AP Jan 54
Preformance Evaluation: Moore EJ, T-AP Jul 58
Precipitation Particle Impact Noise: Tanner RL,
T-AP Apr 57, NCR pt1 56 Probe Excited Airframe: Curtis WL, T-ANE Sep 56 Radiation Pattern Efficiencies: Wong JY, T-ANE Mar 58 Scan Considerations: Levine D, T-ANE Mar 54
Telemetry: Butterfield FE, T-AP Jan 57
Amplifier, VHF; Fischer K, T-CS Dec 57
Annular Slot Arrays: Kelly KC, NCR pt1 57
Annular Slot, Design data for: Cumming WA,
T-AP Apr 58 Annular Slot Direction-Finding: Hougardy HH, Antenna-to-Medium Coupling Loss: Staras H, T-AP Apr 57 Automatic Tracking, for Telemetering: Oltman HG, NCR pt1 56 Base Station: Mc Mullin TJ, T-VC Jul 58 Beam Distortion in Trans-Horizon Propagation: Wate man AT, T-AP Jul 57 Beyond-Horizon , Efficiency of: DeVito G , P Mar 58 Biconical Horns , Circularly Polarized: Goatley C , T-AP Oct 56 Broadcasting: Dual Frequency Operation: McKenzie AJ, T-BTS Dec 55 Sectionalized Towers: Smith CE, T-BTS Dec 55 Calibration in Shielded Enclosure: Haber F, P Nov 54

Cap-Loaded Folded: Seeley EW, NCR pt1 58 Cardiold-Pattern, Radiation Characteristics of: Shanks HE, T-AP Jan 58 Center-Fed Split Reflector for Impedance Matching: Mattingly RL, WCR pt1 57 Circular, with Annular Slit, Radiation Pattern and Induced Current: Meixner J, T-AP Jul 56 Communications, Noise Survey: Scheldorf MW, T-VC May 57Compact Dual-Purpose: Meyer WA, NCR pt1 58 Comparative 100 MC Measurements for Three Heights: Barsis AP, T-AP Apr 56 Conical Scan, for Tracking: Damonte JB, NCR ptl 56 Conically Scanning X Band: McCann JG, T-AP Oct 56 Constant Beamwidth, Broadband: Parker CF, NCR ptl 57 Corner-Driven Square Loop: King R, T-AP, Jul 56 Corner Reflector:
Circularly Polarized: Woodward OM, T-AP Jul 57
with Dipole Orientation and Apex Angle:
Klopfenstein RW, T-AP Jul 57 Gains of: Cottony HV, 1-AR JUL 27
Gains of: Cottony HV, 1-AP JUL 27
Cross Polarization Effects on Radiation Patterns:
Kelleher KS, NCR ptl 56
on a Curved Lossy Surface, Pattern of: Wait JR,
1-AP Oct 58 Cylindrical: Back-Scattering Cross Section of: Hu YY, T-AP Jan 58 Current Distribution and Input Impedance: Bohn EV, T-AP Oct 57 Double Parabolic Pencil-Beam: Spencer RC , T-AP Jan 55 Integral Equation of, Formulation of: Tai CT, T-AP Jul 55 Slotted: Bailin LL, T-AP Jul 55 Slotted Elliptic: Wong JY, T-AP Oct 55 Solution to Problem Chaney JG, T-AP Apr 57 Tube-Shaped, Current Wave Reflection at End: Hallen E, T-AP Jul 56 Defocused Parabolic, Illuminating Curved Passive Reflector With: Yang RFH, WCR pt1 58 Directional: ctional: Gain and Beamwidth of: Harrington RF, T-AP Jul 58 HF, Suppression of Undesired Radiation of: Brueckmann H, P Aug 58 Maintenance of: Rountree JG, T-BTS Dec 57 Maintenance of: Rountree JG, T-BTS Dec 57
Remote Control of Broadcast Transmitter and:
Ross IL, NCR pt 758
in Standard Broadcast Band to Protect Service
Areas: Wilmotte RM, T-BTS Feb 57
Directivity, Super-Gain, and Information: Toraldo di
Francia G, T-AP Jul 56
Distance and Height vs. Radio Transmission Loss at
100 MC: Rico PL, T-AP Apr 55
Dual Beam for Janus Doppler Navigation: Saltzman H,
NCR pt 158
Early Warning Radar, Elsbarth, NCR pt 25. Early Warning Radar: Flaherty JM , NCR pt1 58 Electrically Small , Single Control Tuning Circuit: Webster RE , T-AP Jan 55 Elliptically Polarized Waves: Rumsey VH, P Jun 55 Feed with Equal E and H Plane Patterns: Chlavin A, T-ANE Jul 54 T-ANE Jul 54
Ferrite Core: Grimmett CA, NCR pt7 54
Ferrite Core: Grimmett CA, NCR pt7 54
Ferrite-Filled Apertures: Angelakos DJ, P Oct 56
Ferrite Loop: Rumsey VH, NCR pt1 56
Ferrite Loop, Measurements of: Stewart JL, NCR pt1 57
Ferrod Radiator System: Renola F, P Mar 57, NCR pt1 56
Field Intensities of Linear: Ghose RN, T-AP Apr 57
Field Strength Computations for Shielded Enclosures:
Lessner RG, P Mar 57
5 MEGW, for UHF Broadcaster: Fisk RE,
T-BTS Dec 57
Felded Display. Impedance Transformation: Guestler R Folded Dipoles , Impedance Transformation: Guertler R , P Aug 54 Four Slot: Alford A , NCR pt1 54
Frequency Independent: Rumsey VH , NCR pt1 57
Fresnel Patterns: Lechtreck LW , T-AP Jan 56 ,
T-AP Jul 55 Helical Beam, Phase Center of: Sander S, NCR pt1 58 Helical , Cavity-Mounted: Bystrom A , T-AP Jan 56 HF Aircraft: Tanner RL , T-AP Jan 58; Moore EJ , T-AP Jol 58 High Altitude Breakdown Phenomena: Ashwell J, NCR pt1 57 High Frequency Steerable Beam System: Hudock E, NCR pt1 57 High Gain 460 MC Station: Scheldorf MW, T-VC Jul 58 High-Gain, for VHF Scatter Propagation; Cottony HV, T-CS Mar 56 Image Method of Beam Shaping: HutchIson PT, T-AP Oct 56 Impedance Broadbanding Potential: Vassiliadis A, NCR ptl 57, T-AP Jul 58 Information , Directivity, and Super-Gain: Toraldo di Francia G , T-AP Jul 56 Isotroric: Mathis HF , P Dec 54 Large Fixed , Pattern Measurements: Shanklin JP , T-I Oct 55 Lightweight High-Gain: Malech RG, NCR pt 158 Limits on Information Available: White WD, NCR pt 157 Line Source , Maximum Gain of: Solymar L , T-AP Jul 58

Line-Source, for Narrow Beamwidth: Taylor TT, T-AP Jan 55 Logarithmically Periodic: Du Hamel RH, NCR pt1 58 Logarithmically Periodic, Broadband: Du Hamel RH, NCR pt 1 57 Long-Distance, Horizontal Radiation Pattern. Silberstein R, T-AP Oct 57 Loop, Measurements Kennedy PA, T-AP Oct 56 Low Gain Broad-Band: Lamberty BJ, WCR nt1 58 Low Noise Background for: Messenger GC , T-MTT Jan 57 Magnetic Radio Compass, Elimination of Drag: Hempfull AA, T-ANE Dec 55 Matching, Design Method for Coupling Networks Applied to Transistor Amplifiers and: Ligomenides PA, WCR pt2 58 Matching Unit, Automatic: Schwittek EW, NCR nt5 54 Measurements by Solar Noise- Aarons J., P. May 54 Method for Evaluating: Blass J., T-AP Jan 58 Method for Evaluation: Blass J, 1-AP Jan 58
Microwave:
Onties: Spencer RC, T-AP Jul 56
Phase Center: Carter D, T-AP Jul 56
Reflections in: Hannan PW, NCR ptl 54
Techniques Before 1900: Ramsay JF, P Feb 58
Based on Trough Wavenude: Karas R, NCR ptl 56
Voltage Breakdown of: Chown JB, NCR ptl 58 for Mobile UHF Relay Operation: Triolo FJ, NCR pt1 58 Modulated, Surface-Wave, Radiation from: Thomas AS, NCR ptl 57; Pease RL, NCR ptl 57 Disk-Loaded, Folded: Seeley EW, T-AP Jan 56 Effect of Ground Screen on Field: Wait JR , T-AP Apr 56 20-70 MC, on Ground-Based Vehicles: Webster RE, T-AP Oct 57 Moon-Radar, Digital Programmer with Analog Rate Signal Integrator: Guzmain O, NCR pt4 58 Mounted on Curved Surface: Wait JR, P May 56 Multicoupler, VHF- Fischer K, T-CS Dec 57 Multifeed, Feed Optimization of: Kuecken JA, WCR pt1 57 Multiple Antenna System for TV Broadcasting: Wolf LJ, T-BTS Jan 56For Multiple Operation in Telemetry: Wynn JB Jr, NCR pt5 54 Multiple Telemetering for Supersonic Aircraft: Anderson RE , T-AP Oct 55 Multiport Ficonical: Honey RC , P Oct 57 , NCR ptl 57 Mutual Coupling in Two-Dimensional Arrays: Class J , WCR ptl 57 Mutual Impedance of Unequal Length Antennas in Echelon: King HE , T-AP Jul 57 New York University Research: Kline M. T-AP Jul 56 Nonlinear Servomechanisms for Stabilization of: Bacon J., T-AC Feb 57 Parabolic Dome- Barab JD, WCR ptl 58 Parabolic, Quasi-Fraunhofer Gain: Yang REH, P Apr 55 Passive Reflector: Greenwist RE, P Jul 54 Passive Repeater, Using Double Flat Reflectors: Yang REH, NCR pt.1 57 Patterns: Calculation, with Application to Radome Problems: Richmond JH. T-MTT July 55 Calculation Using Digital Computer: Bergen S, T-BTS Dec 58Distortion by Dielectric Sheets: Richmond JH, T-AP Apr 56 Effect of Source Distribution: Matt S., P Jul 55 Synthesis of the Most Truthful Approximation: Raabe HP , WCR pt 1 58 Pencil Beam: Spancer RC, NCR pt1 54; Carter D, NCR pt1 54 Periodic Functions Approximation Applied to Pattern Synthesis: Simon JC, T-AP Jul 56 Phase Behavlor In Differential Phase Measuring System: Carswell I, NCR pt1 57 Printed: McDonough JA . NCR pt1 57 Profess In 1953: Radio Progress, P Apr 54
Profess Spheroidal: Wells CP, T-AP Jan 58
Profess Spheroidal, Radiation Patterns: Myers HA, T-AP Jan 56 Quadrature-Fed, Operation, Maintenance, and Field Tests: Jacobs HN, WCR pt7 57 Quarter-Wave Dipole: Josephson B , WCR nt1 57 Broad-Band, Low Sidelohe: McCo. AM, WCR nt1 58 Currents Excited as a Conducting Surface of Large Radius of Curvature Wait JR T-MTT Jil 56 with Point Source Feed, Determining Reflector Surface Lassonen P, T-AP Oct 55 Width of Coverage Court AWG, P A in 55 Radiation by Disks and Conical Structures: Leitner A, T-AP J-1-56 Radio Astronomy, Problems in: Eracewell RN, NCR pt1 57 Radomes for Ground Electronic Equip ent: Ratynski MV, Roune for Radiation Meas rements, Rhodes DR, P. Sep 54 Reactance Theorem: Levis CA, P Aig 57; Solymar L, P Apr 58 Reflector-Type Periodic Broad-Band, Franks RE, WCR of 1,58 Rion c, Ensin Frlis HT, P Sep 54

Russian Terminology Schultz GF, P May 56 Sandwich Wire: Rotinan W, NCR pt1 57
Satellite Tracking: Sletten CJ, WCR pt1 57
Scanning, Ferrite Phase Shifter-Reggia F, P Nov 57
Scanning the Sun with: Christiansen WN, P Jan 58
Scanning, Three-Dimensional: Gardiner FJ, WCR pt1 57 Scattering Measurements: Scharfman H, P May 54
Sense, Requirements and Design: Bolljain JT,
T-ANE Dec 55 for Shinboard Use: Andrews AW, T-CS Mar 55 Slots in Metal Plates: Wait JR, P Oct 56 Admittance Data at K Band: Chernin MG, T-AP Oct 56 Conductance: Wait JR , T-AP Apr 56 Gain Pattern: Felsen LB, NCR pt1 54 Ring, in High Gain TV Arrays: Alford A, NCR pt7 56 Surface Currents on Half Planes: Wait JR, T-AP Jan 56 Terminated-Waverinide, Analysis of: Felsen LB, T-AP Jan 55 Terminated-Waveguide, Analysis of: Felsen LB, T-AP Jan 56 for Solar Studies: Jasik H., P. Jan 58 Spherical Coil as: Wheeler HA., P. Sep 58 Spherical, Radiation from Slots, Mushiake Y, T-AP Jan 57 Spherical Surface-Wave: Elliott RS, T-AP Jul 56 Steerable Directional: Brueckmann H, T-CS Nov 54 Standardized Transmitting , for Medium Frequency Broadcasting: Brownless SF , T-BTS Sep 56 Super-Gain, Directivity, and Information: Toraldo di Francia G., T-AP Jul 56 Surface-Wave-Surface-wave:

Beacon: Plummer RE , T-AP Jan 58
Excitation: Brick DB , P Jun 55
Image Line: Cooper HW NCR pt 1 58
Scanning: Hougardy RW , T-AP Oct 58 Waveguide Loaded: Hyneman RF , NCR pt 1 58 TACAN Transponder Design: Parker EG , WCR pt 1 57 Traveling-Wave-Broadband- Reynolds DK, NCR pt1 57 Coupled Waveguide Excitation of: Weeks WL, WCR pt1 57 Monopulse: Philips CE, WCR pt1 57 Television: Stukola MS WCR pt7 57 Telemetry, for Aircraft: Butterfield FE, T-AP Jan 57 Telescope, Large Aperture: Kraus JD, P Jan 50 Television: Arrays, High-Gain, Slotted Ring: Alford A, NCR pt7 56 Herical , Adapted to Structural Tower Shapes: Fisk RE , T-BTS Sep 58 Self Diplexing: Mayer CB , NCR pt7 56 Transmitting, and Field Strength Measurements: Robrer RE, NCR pt 7-56 Transmitting, Vertical Radiation: Kear FG, P Feb 54 Traveling-Wave VHF: Siukola MS, T-BTR Oct 57 Test Site, Telephone Remote Control Circuit for: Young L, T-AP Oct 58 Thin, Admittance: Barzilai G, T-AP Apr 56 Thin Input Conductance of Barzilai G., T-AP Ian 55 Fransmission Characteristics of Inclined Wire Gratings: Snow OJ, T-AP Oct 56 Trapped Wave: Ehrensneck HW NCR ptl 54 Two-Dimensional Endfire Arrays: Ehrenspeck HW, WCR pt1 57 Unequal Size, Analysis of Levis CA, T-AP Apr 56 UHF and VHF TV Problems: Krause LO, NCR pt 1 54 Vehicular Broadhand: Hansen RE, NCR pt 8 58 Vertical, with Radial Conductor Ground: Whit JR, NCR nt1 54 Vertical, Made of Transposed Sections of Cockial Cable: Wheeler HA, NCR pt 156 VHF, for Mobile Communications: Bykerk RO, WCR pt8 57 VLF Mononole, Earth Currents Near-Mail JP, PAB-58 VLF for Submarines: Wheeler HA, T-AP Jan 58 VLF Transmitting, Design of Wheeler HA, T-AP Jan 58 Wing Cap and Tail Cap, Current Distribution on: Curswell I, T-AP Oct 55 WOR-TV Installation: Adams GJ, NCP pt 7 54 Zig-Zag, Radiation Characteristics of: Sengunta DL, T-AP Apr 50 AN TRC-24 Radio Set- Cruser VI, T-CS Nov 54 Cathode-Ray Tube, Mensurement Quinlan EJ, T-BTR Jun 57 Correction for Instrumentation Systems: Otternan J, P Apr 50
Complet Filters, Design of Shourd F, T-11T 0 + 57 of Electricall, Scanned Arrays, Bick fore RV., T-AP Aar 58 En alizar, High-Light-Sillion MV, NCR pr7-57 Lens Formula Corrected for Space Charge in Electron Stream Birdsall CK., T-ED Apr 57 Opti un Function in Long Array: McCor lick GC , T-AP Jul 57 Aport and Plus Manager Hungston W. L. NOR and 50 Aport Article in Antonias Official Holder INCP at 1.56 Apole Recover Circuits, and Components: Thousis of July RA, P. Sen 36. NOR at 3.56 Access of Color Penro Sation Chatten ID., NOR et 3-57 Bene-todexin Picturi Blooms: in FRA INCR et 3-57 Benefit CE ID Con 56 INCR et 3-56

Improvements in- Colgate H, NCR pt3 57 Applied Circuit Theory: Tuttle WN, T-CT Jun 57 Applied Research Projects, Management of: Jams H, T-EM Mar 55 Approach and Landing System: Cutler B, WCR pt5 58 Approximation, Fresnel: Barrar RB, T-AP Jan 58
Approximation Problem: Kautz WH, T-CT Sep 54;
Winkler S, T-CT Sep 54 in Filter Design: Papoulis A, NCR pt2 58 in Lumped Delay Lines: Papoulis A., NCR pt2 58 New Approach: Baker WL, NCR pt2 55 Solution for RC Low-Pass Filters: Su KL, P Jul 56 for 2-Terminal Interstage Impedances: Meinguet J, T-CT Dec 57 Approximation, Rational Function: DeClaris N, NCR pt 2 55 AQL Myth Acheson MA, WCR pt 10 57 Arc Prevention Using P-N Junction Reverse Transient:
Miller W, P Nov 57; Zarwyn B, P Jun 58
Arc Suppression for Relay Contact in DC Service: Godsey WJ, T-CP Jun 57 Argonne Nonreactor Electronics: Brill T, NCR pt9 54 Arguments How to Win: Landon VD SQ Feb 58 Arithmetic, Digital Computer: Fast Carry Logic for: Gilchrist B., T-EC Dec 55 Significant Digit Computer: Metropolis N., T-EC Dec 58 Two's Complement Multiplication in Binary Parallel Digital Computers: Robertson JE, T-EC Sep 55

Army, Dent. of: Spanke WF, T-CS Nov 54

Army Requirements in Basic and Applied Electronic Research: Merrill HJ, WCR pt8 57 Army Signal Corps Communications: White W., T-CS Mar 57 Adcock, Eight-Element Spacing Error: Travers DN, T-AP Jan 57 Annular Slot: Kelly KC NCR pt1 57 Antenna , Impedance Properties of: Edelberg S , WCR pt1 58 Arhitrarily Polarized: Hougardv H H, MCR pt1 58 Automatic Tracking for Telemetering: Oltman HG Jr, NCR pt1 56 Beam Steering, Helical Line Scanner for: Stark L, T-AP Apr 57 Closely Spaced High Dielectric Constant Polyrod: Mickey LW, NCR pt1 58 Concentric Loop: Schell AC, WCR pt1 50 Coupling Coefficients of Elements in: Norwood VT, T-AP Oct 55 Design: Hines JN P Aug 54 Dolph-Tchehycheff: Bailin LL, NCR pt1 54 Electrically Scanned, Effective Aperture of: Bickmore RW, T-AP Apr 58 Electrically Scanned Two-Dimensional Microwave: Spradley JL, NCR pt1 58 Multi-Element: Mushrake Y., T-AP Jul 56 Nonresonant, for VHF and UHF: Cumming WA, T-AP Apr 55 Optimum Patterns for: Pritchard RL , T-AP Jan 55 , P Jul 55 Folded Monopoles in: Lewis JB, T-AP Anr 55 Generation of Double-Step Patterns: Sletten CJ, T-AP Oct 57 Helical Line Scanner, Beam Steering for: Stark L, T-AP Apr 57 High-Gain TV, Slotted Ring: Alford A, NCR pt 7 56 Impedance Properties of: Edelbern S, WCR pt 1 58
Logarithmically Periodic Antenna: Du Hamel RH,
WCR pt 1 58 Long Linear, Design of: Cherin MG NCR pt 1 56 Measuring Height-Gain at 8.6 MM: Stratton AW, T-AP Jul 56 for Meteor Studies and Radio Astronomy at 13 Meters: Gallagher PB , P Jan 58 Mutint-Counting Factor, Blass EA iP Jul 54
Parallel Metallic Plates of Finite Thickness for Microwave Systems: Princip Rt., T-MTT Jul 56
Purallel Wire, Propagating in Pierce JR., T-ED Jan 55 Parasitic , Excited by Sirface Waves: Elliott RS , T-AP Jul 55 Radiation from Ring Quasi-Arrays: Knudsen HL , T-AP Jul 56 Pine for Skip-Rauge Artenna: Tillman JD P No. 55 Ring Tangential or Radial Dipoles, Knudsen HL, P Apr 54 Scanning Errors: Kintz LA, T-AP Oct 56 Scanning Tolerances for Elliott RS T-AP Jan 58 Sheet Partly Reflecture from Trentin G. T-AP Oct 56 Side-Lobe Suppression by Pattern Multiplication: Justice R. T-AP Apr 56 Slot Mor al Co phone Ehrlich MJ, P Jul 54 Slotted Nonresonaut: Dion A, T-AP Oct 58 Slotted, Two-Dimensional- McCormick GC T-AP Jan 58 Slotted Two-Dimensional Second-Order Beams: Kirtz LA T-AP Oct 57 Spacing Error of Eight-Element Addock: Travers DN, T-AP Jan 57 Tschehascheff, Calculation Carent Distribution: Barbiero D. P Juli 54 bartierd U. P. Just 54
Twe-Dimensional:
Effect of Size: McG. mick CC. THAP JUL 50
Endfore: Ehronspock HW. WCP of 1.57
Mot. at Counting on Blass J. WCR st 1.57
Slot 19 McC. or 44 GC. THAP Jul 58
Vertical, Made of Trinsiosed Sections of Coaxial Califer Wheeler HA, NCR at 1.56

Waveguides, Long, Optimum Aperture Function: McCormick GC, T-AP Jan 57 Art Problems in Color Telecasting: Wagner WJ, WCR pt7 57 Artificial Anisotropic Dielectric Medium: Collin RE T-MTT Apr 58 Artificial Dielectrics New Class of Hir MK , WCR oil 58 Artificial Respiration , Electronic Control of: Montgomery LH , NCR pt4 58 , T-ME J il 58 Assembly Techniques, Day C, T-ED Feb 54 Astronautics, Some Aspects of: Buchheim RW, T-MIL Dec 58 Astronomy Radio: See Radio Astronomy Asynchronous Oscillations , Simultaneous , in Class-C Oscillators: Disman MI , P May 58 Atmosphere, Electronic Studies of: Huxley LGH, WCR pt10 57 WCR pt.10-57

Atmosphere, Refractive Index Factor in Troposheric Propagation Beyond the Horizon; Gray RE, NCR pt.1-57

Atmospheric Analyzer: Smith PF, T-AP Jan 55

Atmospheric Attenuation and Solar Temperature in 7-8 MM

Wavelength Range: Whitehurst RN, P Dec 56

Atmospheric Bending of Radio Rays, Weather Observations for Prediction; Beai BR, P Nov 57 Atmospheric Effects on VHF and UHF Propagation: Millman GH, P Aug 58 Atmospheric Electric Field Meter, Airborne, Measurement of: Rein GC, T-I Sep 57 Atmospheric Noise: Interference to Medium Wave Broadcasting: Aiya SV, P Aiig 58 Interference to Short-Wave Broadcasting: Alya SV, P Mar 58 and Solar Flares: King El, I-AP Jan 5/ VLF: Canadian Measurements: McKerrow CA, P Jun 57 Measured Statistical Characteristics: Watt AD, P Jan 57 National Bureau of Standards Investigation of: Cricklow WO , P Jun 57 One-100 KC: Watt AD , P Jun 57 Relation between Character and Place of Origin: Chapman J, P Jun 57 Whistlers, Rapid Analysis of: Grierson JK, P Jun 57 Atmospheric Stidies, Rocket Instrumentation for: Spencer NW., P Jul 54 Atmospheric and Thermal Noise, Radio Systems Performance in the Presence of: Watt AD, P Dec 58 Atmospherics, Air Force Communications Problem: Hollingsworth LM, NCR pt8 56 Atmospherics , Undersea and Underground: Powell T , P Nov 58 Atmospherics , Waveforms at Short Ranges: Wait JR , P Aug 56Atomic Ampfiliers and Oscillators: Birnbaum G , WCR pt3 57 Atomic Beam Sources and the Standard of Length: Kessler KG, T-I Dec 58 Atomic Bomb, Air Burst, Effects on Tactical Communication System: Eugert J, NCR pt8 56 Atomic Clock, Gas Cell, Using Optical Pumping and Detec-tion: Arditi M, NCR pt1 58 Admic Frequency Standard: Zacharias JR, NCR pt10 55; Townes CH, NCR pt10 55; Dicke RH, NCR pt10 55 Admic Frequency Standard, Atomichron: McCoubrey AO, NCR pt1 58; Mainberger W, NCR pt1 58 Atomic Frequency and Time Standard , Ammonia Maser as an: Mockler RC , T-I Dec 58
Atomichron: Dalv RT , T-CS Mar 57 Atomichron Atomic Frequency Standard: McCoubrey AO, NCR ptl 58, Mainberger W, ptl 58 Atomichron and British Cesium Beam Standard, Comparison of: McCoubrey AO, T-I Dec 58 Attenuation and Fluctuation of Millimeter Radio Waves: Tolbert CW, NCR pt 1 57 Measurements on Coaxial Lines: Rabum LE, NCR pt7 55 Of Microwave In Atmosphere: Mamer GR, NCR pt 1 55 Small, Measurement of: Sweet LO, P Ang 55 Solid Dielectric Coaxial Cables, above 3000 MC: Blaidsell KL, T-CP Dec 57 of Solid Dielectric Coaxial Cables: Hannon JR , T-CP Dec 56 in Weather-Detection Radar: Hitschfeld W, P Jul 54
Attenuators: Rich JA, P Jan 55
Audio-Type Exponential-Bacon J, T-I Mar 57
Constant Resistance AGC for Transistor Amplifiers:
Hurtin CR, T-CT Jun 55
Logarithmic: Boogs GE, P Apr 54
Logarithmic: Hisper Stirgen Hoston Pedder School Logarithmic, Using Silicon Junction Diodes: Sylvan TP, T-CT Mar 56 Microwave, Amplitude Regulator for Signal Sources: Fire P, NCR nt5 56 Microwave, Calibration by an Absolute Method: Laverick E, T-MTT Oct 57 Programmed, Digitization of Carrier Excited Trans-dicers: Zweizig JR, T-I Jun 56 Waveguide, with Corrugated Surface and Resistance Card: Morita K, WCR pt 1 57 And ence Demonstrations: Hoyler CN, T-EVS Mar 58 Audio Applications In the Home: Stewart RD, T-AU Mar-Apr 57 Audio Console Designed for the Future: Angus AC, T-DTS Sep 50

SUBJECT INDEX Audio Control, Automatic Gain Control In: McGee AA, T-BTS Dec 57 Audio Devices, Permanent Magnets in: Parker RJ, T-AU Jan-Feb 58, T-CP Mar 58 Audio Distortion, Nonlinear, Measurement of: Aagaard JS, T-AU Nov-Dec 58 Audio Exponential Attenuators: Bacon J, T-I Mar 57 Audio Filters, Electronically Controlled: Dolansky LO, P Nov 55, NCR pt 7 55 Audio Frequency: Detectors: Patton HW, NCR pt9 55 Pentode vs. Triode Harmonics: Powell T, P Aug 55 Transistor Amplifiers, Noise in: Bargellini PM, P Feb 55 Fransistor Measurements: Cooper BFC, P Jul 55 Audio Flutter Weighting Network: Comerci FA, NCR pt7 56, T-AU Seo-Oct 56 Audio Measurements, Standards on: IRE Standards, P May 56 Audio Modulation of Microwaves by Ferrite: Zirkand D, NCR pt8 55 Audio Oscillator, Transistor, Wide-Range Junction: Melehy MA, WCR pt2 58 Audio Phase Inverter and Driver Systems, Distortion in: Bernard WB, NCR pt 7 58 Audio Power Spectrum Dispersion: Littleboy HS, NCR pt7 55 Audio Spectrometer: Essler WO, 1-AU Mar-Apr 55 Audio and Subaudio Noise, Recording of: Howard DD, NCR pt 5 58 Audio Systems, Stereophonic, Simplification of: Sobel AB, P(Jul) = 58Audio Techniques, Progress in 1953: Radio Progress, P Apr 54 Audio in Television Broadcasting: Chipp RD , T-BTS Mar 55 Audio Terms , IRE Standards on: IRE Standards , P Dec 58 , P Jul 54 Aurora, Radar Echoes and Radio Noise from: Little CG, P Aug 56 Aurora, Radar Reflections from: Booker HG, NCR nt1 56 Auroral Communications, Geometry of: Leadabrand RL, T-AP Jan 58 Auroral Echoes, Long-Range Backscatter: Owren L, WCR pt1 57 Auroral Ionization at Low Latitudes, Echoes from: Leadabrand RL, T-AP Jan 58 Auroral Propagation, VHF and Sporadic-E Propagation: Dyce R, T-AP Apr 55 Auscultation of Heart Sounds with Internal Calibration: Lepessikin E, T-ME Dec 57 Auscultatory, Correlations, Physiological: Greene DG, T-ME Dec 57 Australia, Electronics Research in: Bailey VA, WCR p110 57; Huxley LGH, WCR p110 57
Australian Television System Technical Requirements: McKenzie AJ, T-BTR Apr 55 Auto-Abstracts Lubn HP, NCR pt10 58 Autocorrelated Error Terms , Time Series Analysis: Weller RK , NCR ptd 54 Autocorrelation , Analog Computer , Electronic Switch for: Diamantides ND , T-EC Dec 56 Diamandoes NO. 1-EC Dec 36 Autocorrelation Functions: Bounds of: Zemanian AH, T-IT Sep 55 Differentiability of: Beutier FJ, P Dec 57; Brennan DG, P Oct 58 at Origin: Brennan DG, P Jul 57 Autotab: Staff Report, SO May 56 Autopilot, Dinital: Exner WL, NCR pt5 54
Automatic Assembly, Circuit Packaging for: Warriner B, NCR pt6 55 Automatic Assembly of Components: Warriner B, NCR pt10 54; O'Nerll RJ, NCR pt6 55 Automatic Assembly of Components, Wire-Wrap Machine for: Wilson HF, NCR pt6 58 Automatic Card Programmed Control of Reversing Mills: Browning EH, T-IE Apr 58 Automatic Checkout: of Guided Missiles: Beck MR, WCR pt5 57 for Weapons Systems Maintenance: Keim DY, WCR pt5 57 Automatic and Continuous Radar Performance Monitor: Woods WC, NCR pt8 58 Automatic Controls: Accessories, Coordinated System of: Batcher RR, NCR pt6 58 of Active DC Loads , New Amplifiers for: Levi E , NCR pt6 58 Modulated: Graham RE, NCR pt 2 56 Optimum Switching Criteria: Rose NJ, NCR pt4 56 Punch Cards: Atwood WL, NCR pt10 54
Role of Dioital Computers: Cohen AA, NCR pt4 54
Techniques, Solution of Statistical Problems by:
Cosgriff RL, NCR pt4 57
Automatic Counting of Bacterial Cultures: Alexander NE,
T-ME Dec 58 Automatic Creation of Literature Abstracts: Lulin HP , NCR pt 10 58 Automatic Data Handling for a Modern Refinery: Deutsch WG, T-IE Aug 58Automatic Devices for Electric Power Generation: Hartranit AC,T-IE Aug 58 Automatic Dictionaries: Taub M, P Jul 57 Automatic Dip Soldering Machine: O'Gorman V, NCR pt6 57

Automatic Direction Finders-Airborne: Moseley FL, T-ANE Dec 55; Kruesi GG, T-ANE Sep 56 Airline Requirements for: Cames WT, T-ANE Dec 55 Low Frequency, Analysis of Over-Station Behavior-Ward HH, T-ANE Dec 55 Receivers, Marconi AD. 7029 Series: Mullin LR, T-ANE Dec 55 Sense Antenna Bolljalin JT , T-ANE Dec 55 U. S. Coast Guard Type RD132: Blakely JR, T-CS Mar 55 Interference Blanker Development: Newman MM , T-ANE Jun 58 Airborne Direction-Finding , Theory of Navigation Errors: Ancker CJ , T-ANE Dec 58 Automatic Electronic Assembly Machine: Staff Report, SQ May 56 Automatic-Factory Design: Post G, NCR pt10-54
Automatic Factory in Production of Electronic Equipment
Symposium: Air Force Program: Munroe CL, T-PT Sep 56 Bureau of Aeronautics Program: Stirling CW, T-PT Sep 56 Development of Systems of Mechanized Assembly: Hannahs WH, T-PT Sep 56 Economic Considerations: Lawson AA, 1-P1 Sep 56 Miniaturized Electronic Equipment Production: Hom FM, T-PT Sep 56 $\begin{array}{c} \text{Modular Design of Electronics: Henry RL}\,,\\ \text{T-PT Sep 56} \end{array}$ Reliability: DeGuire ML, T-PT Sep 56 Small Quantity Production: Hausz W, T-PT Sep 56 Solderless Wrapped Connection: Mallina RF, T-PT Sep 56 Automatic Factory, Production Testing: Dordick HS, T-IE Mar 57, T-PT Apr 57 Automatic Fine Liming Circuitry in Television Receivers: Fara KE, T-BTR Mar 58 Automatic Frequency Control Band-Centering Systems: Samuels JC, T-CT Dec 57 Automatic Gain Control: in Audio Control: McGee AA, T-BTS Dec 57
Design Considerations for Television Receivers:
Overdeer RH, NCR pt7 58 Effect on Radar Tracking Noise: Delano RH, P Jun 56, NCR pt4 55 Noise-Gated, with Sync System for TV Receivers: Spracklen JG, T-BTR Jun 57; Wood GC, T-BTR Jun 57 System for Microwaves: Vinding JP, T-MTT Oct 56 of Transistor Amplifiers: Chow WF, P Sep 55, T-BTR Apr 55 in TV Automation: Diehl MH, T-BTS Jun 57 Automatic Ground Controlled Approach System: Brooks RM NCR pt5 58 Automatic Inspection, Flying Spot Scanning Techniques for: Mansberg HP, WCR pt6 57 Automatic Language Translator, Mark I, USAF: Shiner G, NCR pt4 58 Automatic Landing of Aircraft , Trajectory Precision Requirements: Ryerson JL , T-ANE Mar 55 Automatic Level Control for Film Systems: Hurford WL , T-BTS Feb 57 Automatic Level Control Using Vertical Interval Test Signals: Popkin-Clurman JR, NCR pt7 58
Automatic Machine Control, Gages and Gaging Considerations for: Hopper JW, T-IE Aug 58
Automatic Microwave Phase-Measuring Circuit: Mittra R, T-I Dec 57 Automatic Operation of High-Power Amplifier: De Long VR , NCR pt8 55Automatic Operation of Video Tape Equipment: Byloff RW, WCR pt7 58 Automatic Oscillograph Readers: Fisher LL , NCR pt10 55 Automatic Pilot, Combined with Flight Director: Fritze EH, T-ANE Sep 55 Automatic Power Spectrum Computer, Smith HW , T-I Dec 57 Automatic Process Control with Radiation Gauges: Faulkner WH, T-IE Mar 57, T-PT Apr 57 Automatic Processing of Conventionally Prepared Documents: Slepard DH, WCR pt4 57 Automatic Production Cost Considerations: Carter EF, NCR pt6 55 Automatic Production of Electronic Assemblies: James TR, NCR pt9 55 Automatic Production , Frame Grid for: White RC , T-ED Feb 54 Automatic Production Line: Imus HO, SQ May 56 Automatic Programming of AM and FM Broadcasting Stations: Schafer PC, WCR pt7 58 Automatic Radar Data Processing, Library of Blip Samples for Simulation of: Walter CM, WCR pt4 58 Automatic Regulation of Breathing , Servomechanism for: Meyers GH, WCR pt5 58 Automatic Remote Control and Telemetering by Telephone: Doersam CH Jr., NCR pt1 56 Automatic Soldering Machine for Printed Circuit Board Assemblies: Oates WL , NCR pt6 58 Automatic Start-Up of Nuclear Reactors: Cox RJ, T-NS Feb 56 Automatic Target Detection-Position Estimation Schemes: Walter CM, NCR pt5 58 Automatic Teaching Device: Weimer PK, T-E Jim 58 Automatic Techniques, Large Computers, and Engineering Calculations: Paschkis V, T-IE Aug 58

SUBJECT INDEX 61

Automatic Telemetering Meteorological Observation System: Boulay PF, WCR pt5 58 Automatic Test Equipment, Missile, Design Criteria for: Campbell WO, NCR pt8 58 Automatic Testing: Electronic Components: Walter VW , T-IE May 58 in Military Electronic Equipment Business: McCabe LE, T-ANE Dec 56 Product, Reader for: Welcome W, WCR pt5 57 Production Line, Systems and Instrumentation: Dordick HS, WCR pt5 57 Automatic Tracking Antennas for Telemetering: Oltman HG Jr, NCR pt 1 56 Automatic Transistor Classifier: Morcerf FJ, NCR pt6 58 Automatic Weighing of Bulk Materials, Application of Punch Card to: Young WM, T-IE Aug 58 Automating Small-Lot Electronic Production: Schneider WA , T-PT Apr 5B Automation: Baker WGR, NCR pt4 55; Bolz RW, NCR pt4 55 Analogy to Wide-Band Reproducing Systems: Israel DD, T-PT Apr 57 T-PT Apr 57
and the Applications of Tape Recording in Broadcasting and Telecasting: Isberg RA, T-BTS Dec 57
Automatic Assembly: Warriner B, NCR pt6 55;
Bassler SG, NCR pt6 55; Jumes TR, NCR pt9 55
Canacitors for: Smith GP, WCR pt6 57
Challenge and Responsibility: Buckingham WS, T-I Jun 56 Circuit Design for: Dordick HS , NCR pt6 56 Comptroller's View of Problems in Adapting to:
Cadwallader JA, T-PT Apr 58
in Custom Electronics Field: Graham JJ, T-IE Mar 57, T-PT Apr 57 Economic and Social Consequences: Meier RL, NCR pt4 55 Electronic Equipment Production: Lee LK, NCR pt4 55 for Electronics, 1956 Status Report: Gray AR, T-IE Mar 57, T-PT Apr 57 Engineer'in Approach: De Cola R, NCR pt6 55 Engineer's Viewpoint: Baker WRG, T-AC May 56 Equipment, Commercially Available, Use of: Israel DD, T-PT Apr 58 Field of: Baker WRG , SQ Sep 54
Future Machinery of: Daniels RW, T-PT Apr 58
Inhighway Design: Cahn JM, T-IE Aug 58
Impact upon Electronic Engineer Israel DD, T-BTR
Oct 55 Labor, Effect on: Baker WRG, SQ May 56 RCA Machine Development Program: Iles FB, NCR pt6 55 Machinery, Company-Developed, Use of: Harrigan G, T-PT Apr 58 Military Problems Imposed by: Bull WI, T-PT Apr 58 Numerical Control of Machine Tools: Kelling LUC, T-IE Mar 55 Personnel Problems of: Weinberg E , T-PT Apr 58
Postal System , Canadian: Levy M , NCR pt6 58;
Barszczewski A , NCR pt6 58; Jensen H , NCR pt6 58
Problems in Manufacturing Component Parts for:
Postle AH , T-PT Apr 58 Program, Reasons for Avoiding: Rabinow J, T-PT Apr 58 T-PT Apr 58

RCA Defense Electronic Products Division Program:
Smith TA, T-PT Apr 57

Reasonableness Check: Doersam CH, NCR pt4 56
Re-examined: Graham JJ, T-PT Apr 57, T-IE Mar 57

Social, Moral, and Spiritual Implications of:
Lamb JJ, T-EM Mar 58

Standardization in Electronic Production and Machine
Tool Control: Bosman EH, T-IE Mar 57, T-PT Apr 57 Standards for: Graham JJ, NCR pt6 55; Rogers AW, T-PT Apr 58 Techniques, Commercial, Compatibility Between Military Equipment Design and: Lamb JJ, T-PT Apr 58 Technique for Soldering Components: Lawson AA, NCR pt6 56 In Lelevision Master Control: Berryhill JL, T-BTS Dec 57 lest Set for FM/FM Telemetry Systems: McGee HA, T-TRC May 57 Trends in Business and Industry: Brown GS, NCR pt4 55 TV, Automatic Gain Control: Diehl MH, T-BTS Jun 57 Utilization by Electronics Industry: Hoffman HL, T-PT Apr 57 Automobile Phonograph System: Goldmark PC, NCR pt7 56 Automobile Receivers , Transistorized: Santilli RA , NCR pt 7 58 Automobile Receivers, 12 Volt AM, Signal Seeker, and FM: Hsu CC, T-BTR Mar 58 Automobile 6 and 12 Volt Electrical Systems: Backman KEH, T-VC Jun 55 Avalanche Multiplication, P-N Junction Device Using: Misawa T, P Dec 58 Availanche-Operated Junction Transistors for Decade Ring Counter: Lindsay JE , T-CT Sep 57 Average-Responding Instruments: Brooks HB, T-I Oec 57 Aviation Global Communications: Adam HR, T-CS Nov 54 Avionic Civil Systems, Operational Requirements for: Little DS, T-ANE Sep 58

Avionics Systems, Project Direction in the Development of: Godwin CJ, WCR pt9 58 of Microwave Spectral Lines: Norton LE , T-MTT Oct 57 Axial Ratio, Dominant Mode, Effect of Ellipticity in Waveguides: Sandsmark PI, T-MTT Oct 55 Nonlinear Encoding and Decoding Filters: Balakrishnan AV, T-IT Sep 56 Balakrishman AV, T-IT Sep 56
Television Possibilities: Deutsch S, T-BTR Oct 56
Television Signals, Photographic Simulation of:
Morrison WC, T-BTS Jan 56
Requirements for Radio Relay Systems, Reduction of:
Mack A, NCR pt8 58
Restricted Systems, Pulse Width Transmission:
Helferman HJ, T-TRC Apr 57
for Scatter Transmission: Vonel JP, P Nov 56
Bar-Granh Scope: Wolcott HO, WCR pt5 57
Barium Titanate, Polarization of: Froemel JG, NCR pt9 57
Barkhausen-Kurz Oscillator at Centimeter Wavelengths:
Doone EM, T-ED Jul 58
Barometer, for Small Vertical Displacements: Gunkel W,
T-I Dec 57 Aximuth Errors of TACAN System: Latimer DWT, T-ANE Dec 56 Axioms on Transactors: Sharpe GE , 1-CT Sep 58
Axis-Crossing Intervals of Random Functions: McFadden JA ,
T-IT Dec 56 , T-IT Mar 58 Azimuth Estimating Using Digital Processing and Search Radar Simulation: Walter CM , T-ANE Jun 58 -B-Backward-Wave: Applif.ers: Cascade: Currie MR P Nov 55 Gain and Bandwidth Characteristics: Currie MR, T-ED Jan 57 Barometric Pressure to Current Transducer: Lapinski FA, T-I Jun 57 Minimum Noise Generation in: Currie MR, T-ED Apr 58 Base Adherence on Tubes: Seybold AM, T-ED Feb 54 Noise Figure: Everhart TE, P Apr 55
Noise Reduction: Currie MR, P May 57
Power: Tien PK, P Jan 57
Starting Conditions: Weglein RD, T-ED Apr 57
VHF: Dunn DA, T-ED Jul 57
Criterion for: Rowe JE, P Aug 56 Base Resistance for Alloy Junction Transistors: Wahl AJ, T-ED Jul 58 Base-Width Modulation of Junction Transistors: Zawels J, T-ED Jan 57 T-ED Jan 57

Baseband Diversity Combining Receivers and IF, Evaluation of: Adams RT, NCR pt8 58

Batteries: Morehouse CK, P Aun 58

Dry, Charging of: Adams PH, T-CP Jun 58

Microwatt Long-Life: Elwell CF, P Nov 57

Silver-Oxide Cadmium Alkaline: Howard PL, NCR pt6 57

Silver-Tire, Rechargeable, Howard PL, NCR pt. 56 Criterion for. Rowe JE, P Aug 56
Oscillation, Suppression by Filter Helix Methods:
Siegman AE, T-ED Apr 55
Oscillators: Muller MW, P Nov 54, Johnson HR,
P Jun 55, NCR pt3 54
Efficiency: Grow RW, P Jun 55
Experiments at 100-200 KMC: Karp A, P Apr 57
with External Feedback: Vermon FL, NCR pt3 57
Helix Type, With Extended Tuning Range:
Maninger L, WCR pt3 58
for Low-Voltage Operation: Beaver WL, NCR pt3 56
Menaryle Band 8000-18 0000: Johnson HR NCR pt6 57
Silver-Zinc, Rechargeable: Howard PL, NCR pt6 56
Survey of Developments: Hamer WJ, T-CP Sep 57
Battle Scars of Military Electronics, The Schamhorst
Break-Through: Watson-Watt R, T-MIL Mar 57
Beacon Antennas, Surface-Wave: Plummer RE, Megacycle Band 8000-18,000: Johnson HR, T-ED Apr 57 T-AP Jun 58 Beacon Systems: Noise Characteristics of: Cicchetti JB , NCR pt3 58 Airborne, Flashing-Light, Miniaturized: Macko SJ, T-I Sep 57 O-Type, Starting Conditions in: Kosmahl HG, T-ED Oct 58 Marker, Transistor Receiver: Erdmann RG, T-ANE Sep 57 Pulsed M-Tyne: Klein G, NCR pt3 58
20 to 40-KMC: Grow RW, T-ED Jul 58
Velocity and Current Distributions in Spent Beam of:
Gewartowski JW, T-ED Oct 58
Preamplifiers, Low Noise Tunable, for Microwave
Receivers: Currie MR, P Mar 58 Radar ATC, Coding Requirements for: Vickers TK, T-ANE Sep 57 Performance: Thaler S , T-ANE Jun 57 Beam Coupling Coefficient, Effect on Klystrom Operation: Yadavalli SV, P Dec 58 Beam-Indexing Color Picture Tube: Barnett GF, P Sep 56 Tubes: es: Anal ysis of: Hoffner H, P Jun 54 Bifilar Hellx: Tien PK, P Jul 54 Carcinotron, M Type Warnecke RR, P Apr 55 Hellx Millimeter-Wave: Christensen WV, P Jan 55 Oscillaton Menke WW, NCR pt3 56 Beam-Indexing Color Television Display System: Clapp RG, P Sep 56 Beam Position, Effect on Oeflection in Silt Lenses: Harris LA, P Mar 58 Beam Power Tube, Compact Kilowatt UHF: Peterson FW, WCR pt3 58 Bacterial Cultures , Automatic Counting of: Alexander NE , T-ME Dec 58 Beam Power Tube for UHF Service: Bennett WP, T-ED Jan 56, T-BTS Mar 55

Beam-Shaping, Image Method of: Hutchison PT, T-AP Oct 56 Alexander NC, 1-ME Dec 58
Baker, W. R. G., Biography of: Loughren AV, P Apr 57
Ballistic Analysis of a Two-Cavity Klystron:
Webber SE, T-ED Apr 58
Ballun Transformer, Very-Wide-Band, for VHF and UHF:
O'Meara TR, P Nov 58 Beam, Space-Charge-Balanced, Charge Distribution: Chodorow M, P Feb 58 Balun, Wide-Band: Roberts WK, Dec 57; McLaughlin JW, T-MTT Jul 58 Beam Steering, a Linear Array, Helical Line Scanner for: Stark L, T-AP Apr 57 Band-Centering AFC System, Theory of: Samuels JC, T-CT Dec 57 Beam Steering by Scattering from Ferrites: Wheeler MS, T-MTT Jan 58 Band-Pass Attenuation: Grinich VH, NCR pt2 54 Seam-Swinging Experiment in Transhorizon Propagation: Waterman AT, T-AP Oct 58 Beams, Second-Order, Effect of Size of a Two-Dimensional Array on: McCormick GC, T-AP Jul 58 Beams, Synchrotron, Rapid Placement on Internal Target: Stubbins WF, T-NS Jun 55 T-CT Dec 54 Band Separation Filter for 225-400 MC: Grayzel AI, NCR pt1 58 Bandwidths: Available in 200-MHe VHF Tropospheric Propagation: Ames LA, T-AP Oct 55 Beamwidth: Band-Limited Signals: and Gain of Directional Antennas: Harrington RF, T-AP Jul 58 Applied to Carrier Systems: Oswald J, T-CT Dec 56 Narrow, Design of Line-Source Antennas for: Taylor TT, T-AP Jan 55 Nonuniform Sampling of: Yen JL, T-CT Dec 56
Conservation for Air Traffic Control: Ryerson JL, Phase Error, Effect on Radiation Pattern: Cheng DK, T-AP Jul 55 T-CS Mar 57 Conservation in Pulse Modulated Radars: Roslen RA, NCR pt8 58 Bells, Electronic Carillons, and Chimes: Slaymaker FH, T-AU Jan-Feb 56; Miessner BF, T-AU Jul-Aug 56 Bernouilli Detection: Ule LA, T-1T Jun 57 Effect on Servo Saturated Response: Blemson GA, T-AC Mar 58 Beta Particle Detection, Electrometer System for: Fox S, T-NS $\mathsf{Aug}\ 58$ Equivalent, Definition of: Lampard DG, T-CT Dec 56 FM/FM Radio Telemetering, Signal/Noise Ratios: Uglow KM, T-TRC May 57 of FM Multiplex Systems: Medhurst RG, P Feb 56; Hamer R, P Dec 56 Betting System Extended to Binary Decision Feedback: Metzner JJ, P Oct 57 Bevatron Operation: Mack DA, NCR pt10 55 Beyond-Horizon Links, Efficiency of Large Antennas in: DeV-to G, P Mar 58 Increased in High Power Amplifiers: Dodds WJ, WCR pt3 57 Beyond-Horizon Microwave Propagation Experiences: Josephson 8, T-AP Apr 58 In JANET Meteor-Burst System: Campbell LL, P Dec 57 Beyond-Horizon Propagation of Ultra Short Waves: Ortusi JA, T-AP Apr 55 Limitations: of Differential Analyzers: Dow PC , T-EC Dec 57 in Equalizers and Transistor Output Circuits: Stewart JL T-CT Mar 57 Beyond-Horizon Radio Transmission, Scattering of Waves: Paul 01, T-AP Jan 58 Beyond-Horizon Tropospheric Waves, Bandwidth Measure-ments: Chisholm JH, T-AP Oct 58 Limited Signals, Sampling the Zeros of: Bond FE, TI-T Sep 58

Measurements on Tropospheric Beyond-Horizon Waves: Chisholm JH , T-AP Oct 58

of Networks with Arbitrary Transfer Characteristics: Nathan A, P Jun 56

Optimized for Waveguide-to-Coaxial Transducers; Friedman DS, T-MTT Jan 57 PDM/FM Radio Teler etering: Uylow KM, T-TRC Apr 57 PEDM Requirements: Rock FE, T-TRC Apr 57 Beyond-Horizon Transmission (See also Scatter Propagation)
Bandwidth Capabilities: Tidd WH, P Oct 55,
NCR pt1 55

Characteristics: Bullinaton K , P Oct 55 , NCR at 1 55 Diversity System for: Altman FJ , T-CS Mar 56 Field Measurements: Barghausen AF , NCR at 1 55 Meteors , Role of: Eshleman VR , NCR at 1 55 Multipath Properties: Chrisholm JH , P Oct 55 Point-to-Point UHF: Morrow WE Jr, NCR pt1 55 Propagation Tests at 505 and 4090 MC: Bullington K, P Oct 55 Sign's Dan's Signal - Gertin WE , NCR pt. 1.55 Tropospheric Propagation Research: Chisholm JH , T-CS Mar 56

T-CS Mar 56

VHF Communication System Design: Ringoen RI'.

T-CS Mar 56, NCR pt8 56

By on 1 Small Jan 1 Hannah JA, T-E Mar 50
Bias Considerations in Transistor Circuit Design:
Glandlo SK, T-CT Sep 57

Bias Level: Useful in Radar Detection Problems:
Parliace J, T-IT Mar 58

Dibliographics:

on Directional Couplers: Medhirst RG, T-MTT Apr 55; Schwart: RF, T-MTT Jul 54

on Information Theory: Stumpers FLHM, T-IT Sep 55, T-IT Jun 57

Instrumentation for Radiological Studies: Comstock M , T-NS Jun 56

1-NS Jun 56
Lone of Machine Dosine: Netherwood DD, T-EC Jun 58
Mannetic Recording: Wilson CF, T-AU May-Jun 56
on Noise: Chessin PL, T-IT Sen 55
of Sampled-Data Control Systems and Z-Transform
Applications: Freewan H, T-AC Mar 58
on Sampled Data Systems: Stromer PR, T-AC Dec 58
Sungestion on: Seith GA, T-CT Mar 54
of Telemetry: Kiebert MV, T-TRC Jun 58
of Transistors and Applications: Krull AR, T-ED Aug 54
on Ultraseine Delay Lines: Fanon MD, T-UE Nov 54
on Ultraseine Delay Lines: Fanon MD, T-UE Nov 54
onical Horns: Circularly Poliarized: Coatley C.

Biconical Horns , Circularly Polarized: Goatley C , T-AP Oct 56

BIDEC Binary-to-Decimal Converter: Couleur JF , T-EC Dec 58

Bi-directional Pulse Totalizer for Control and Telemetry: Wright HD , NCR pt1 56 Bilinear Transformations: Mathis HF , T-CT Jun 56

Binary-to-Binary Decimal Translator: Campbell CA , NCR pt5 57

Binary-BCD Buffer: Mooney JF, WCR pt4 57 Binary Channel, Capacity of Asymmetrical, with Finite Memory: Chann SH, T-IT Dec 58

Binary Channels, Cascades: Silver an RA, T-IT Dec 55 Binary Counters:

ary Comitters: Asynchronous: Robertson JE, T-EC Mar 56 Bidirectional, Logic of: Golay MJE, T-EC Mar 57 An Emitter-Follower-Coupled, High-Speed: Horn I, WCR pt4 58

Logical, Some Notes on: Brown RM, T-EC Jim 55 Transistor Magnetic Core: Irons HR, P Dec 58 Binary Data Transmission Techniques for Linear Systems: Doelz ML, P May 57

Binary-to-Decimal Converter, BIDEC: Couleur JF, T-EC Dec 58

T-EC Dec 58
Binary Decision Feedback, Extension of Kelly Betting
System: Metzner JJ, P. Oct 57
Binary Erasure Channel, Algebraic Decoding for:
Epstein MA, NCR pt4 58
Binary Reception through Fading and Noise, Error
Probabilities for: Turin GL, P. Sep 58
Binary Scaler, Variable: Murray DB, T-EC Jim 55
Binary Sonaling Alphabets: Slepian D, T-IT Jun 56
Binary Signals, Optimum Slicing Level in Noisy
Channel: Hollis RM, P. Aug 56
Binary Transmission by Null-Zone Reception: Bloom F.

Binary Transmission by Null-Zone Reception: Bloom FJ, P

Binary Transmissions through Noise and Fading: Masonson M, NCR pt2 57 Binaural Temporal and Amplitude Disparity and Human Direction Preception: Cirristman RJ, NCR pt9 56 Binuts and Bits: Golay MJE, P Sep 54

Bioelectric Potentials, Direct Coupled Amplifiers for: Lettvin JY, T-ME Mar 58 Bioelectric Potentials, Measurement with Microelectrodes and Neutralized Input Capacity Amplifiers: Amatnick E, T-ME Mar 58

Blochemical Spectroscopy, Electronics In: Gallagher TF , NCR pt9 58

Biological Applications of High Energy Protons: Tobias CA, WCR pt9 57 Biological Cells , Surface Resonance of: Ackerman E , NCR pt9 56

Biological Computers: McCulloch WS , T-EC Sep 57 Complexity of: Quastler H, T-EC Sep 57
Complexity of: Quastler H, T-EC Sep 57
in Flight Control: Fogel LJ, T-EC Sep 57
Human Memory: Miller GA, T-EC Sep 57
Biological Design Applied to Engineering: Baker WRG, NCR pt9 54; Mead LC, NCR pt9 54; Wiener N, NCR pt9 54; Schmitt OH, NCR pt9 54, Stevens SS,

NCR pt9 54

NCR nt9 54
Biological Effects of Microwaves: Brody S1, T-ME Feb 56
Biological Servomechanisms: Schmitt OH, NCR nt9 54
Biological Transducers: Stevens S5, NCR nt9 54;
Schmitt OH, NCR nt9 58
Biophysics and Medical Electronics: Burton AC NCR nt9 56
Biophysics, Use of UHF Impedance Measuring Techniques:
Schwan HP, T-1, Oct 55

Bipolar Transistor Frequency Response: Valdes LB, P Feb 56

Birefringence of Ferrites in Circular Waveguide: Wait JR , P Oct 56

Bistable Multivibrators , Survey of Characteristics: Davidson CH , T-EC Jun 57

Bistable Transistor Elements for Heavy Duty Operation: Moody NF , T-CT Sep 57

Bit-Squeezing Technique Applied to Speech Signals: David EE Jr, NCR pt4 56

Bits and Binits: Golay MJE, P Sep 54 BIZMAC, RCA-

Input and Output Devices: Brustman JA, NCR pt4 56
Interronation in: Beautien DE, WCR pt4 57
Logic Design of: Beard AD, NCR pt4 57
Trancoder: Beautien DE, WCR pt4 57
Blinds, Optical Guidance Device for: Kallmann HE, P Sep 54

Blindness , Communication by Vibratory Tactile Stimuli: Hirsch J, T-ME Dec 56

Block Diagram Substitutions , Direct Synthesis through: Smith OJM , NCR pt4 57

Blood Flow Measurement by Dye Dilution Technique: Stephenson JL, T-ME Dec 58

Blood Pressure Gage, Sonic Valve: Noble FW, T-ME Jul 57

Body Tissue, Electrical Properties: Schwan HP, T-ME Nov 55

Boiling, Simulation of, in Water-Cooled Reactors: Johnson SO, T-NS Jun 58

Bolling Water Reacter Power Plant, Control Aspects of: Lipinski WC, NCR pt9 56 Bolometers:

Detectors, Low-Temperature, for Low-Level Power Measurement: Birx DL, T-I Dec 58

Mounts, Broad-Band Waveguide: Kent L1, WCR pt5 58 Operation under Pulsed Power Conditions: Sucher M, T-MTT Jul 55

Thermal Time Constant: Sorger GU, T-I Oct 55
Bombing System Reliability Program: Wendt RL, NCR pt6 56
Bonneville Power Administration Land-Mobile Communication
System: Peckhart M, T-VC Jul 56

Book, Tips on Publishing at Heinle CE, T-EWS Aug 58 Boolean Algebra:

Algorithm for Representation of Logic Function: Harris B, T-EC Jun 57

for Analysis of Switch Diode Circuits: Belzer B, P Apr 58

Computer Design: Nelson EC, T-EC Sep 54 and Digital Computers: Schmidt WG, SQ Dcc 56 Switching Circuits and Error Detection: Muller DE, T-EC Sep 54

Boolean Equations, Properties of: Rouche N, T-EC Dec 58 Boolean Function, Minimal Forms: Urbano RH, T-EC Sep 56

Boolean Functions , Sum of Product of Sums Expressions: Abhyanker S , T-EC Dec 58

Boolean Matrix Analysis of Digital Systems: Campeau JO, T-EC Dec 57

Booster, Television, Engineering Aspects of Installation: Epstein J, T-BTS Mar 55

Bott-Duffin Synthesis , Cascade Representation of the: Cutteridge OPD, T-CT Jun 58 Bott-Duffin Synthesis of Driving-Point Impedances: Belevitch V, T-CT Sep 54 Boundary Value Problems of Diffraction and Scattering Theory: Sinclar G, T-AP Jul 56; Silver S, T-AP Jul 56 Box Technique to Evaluate Components: Glaser R, T-RQC Sep 58

Brain, Cell Assembly Theory of Action Tested by Digital Computer: Rochester N, T-IT Sep 56

Brain Mapping, Switching System for: Barus C, T-ME Dec 56

Brain Responses in the Intact Human , Measurement of: Davis JF , T-ME Jul 58

Brain Tumor Localization Using Positron-Emitting Radio-active Isotopes: Aronow S, NCR pt9 56 BraInpower, U. S., Help Wanted: Bevis HL, T-EM Mar 58 Brainstorm Panels: Pleuthner WA, NCR pt6 56 Brainstorming, Limits of: Mueller RE, P Jun 57; Stockman H, P Oct 57

Branch Transfer Functions: Williams RC, T-CT Dec 58 Brazil, Electronics Education in: Reynolds DK, SQ Feb 56 Brazil, Engineering Management in: Schooley AH, WCR nt10 57

Brazil, Radio and Electronics Industry: Schooley AH, P Feb 57

Brazing Molybdenum and Tungsten Cathode Parts with Ruthenium: Jasionis JP, T-ED Jul 56 Breakdown, High Power, of Microwave Structures: Hart GK, NCR nt5 56

Breakdown Phenomena, High Altitude: Ashwell J, NCR pt1 57

Breathing, Servomechanism for Automatic Regulation of: Meyers GH, WCR pt5 58

AF Transistor Measurements: Cooper BFC, P Jul 55 Equivalent of Brune Networks: Van Valkenburg ME, P Nov 56

Method of Calibrating Microwave Attenuators: Laverick E , T-MTT Oct 57 Method of Measuring Noise in Low-Noise Devices: Champlin KS, P Apr 58

Networks, Using Phase-Selective Indicators: White WE, T-I Sep 57

Residual Reactance: Diamond JM, T-I Dec 57 Type Measurements, Simplified, on Quartz Crystal Units: Hafner E , NCR pt5 58

Wide-Band, for Determining Transistor Parameters: Zawels J, T-ED Jan 58 Briefing Laymen on Engineering Information: Beall PR, NCR pt6 56

British Global Communications: Read AH, T-CS Nov 54

Broadcasting

Audio Problems: Chipp RD , T-BTS Mar 55 Automatic Gain Control In Audio Control: McGee AA, T-BTS Dec 57

Automation and the Applications of Tape Recording in: Isberg RA, T-BTS Dec 57 Cathode-Ray Oscillograph: Decidert RW, T-BTS Mar 55 Chromacoder Colorcastino: Lloyd CG, T-BTS Mar 55 Compatible Single-Sideband System for: Kalın LR, NCR pt7 57

Directional Antenna in Standard Band to Protect Service Areas: Wilmotte RM, T-BTS Feb 57 Dual Frequency Operation of Antennas: McKenzie AJ, T-BTS Dcc 55

Field, Frequency Measurements in: Cady CA, WCR pt7 58

Medium Frequency, Standardized Transmitting Aerials for: Brownless SF, T-BTS Sep 56

Medium Wave, Atmospheric Noise Interference to: Aiya SV, P Aug 58

On-Channel Satellite Booster System: Dewitt JH, T-BTS Mar 55

Operational Efficiency, Tape and Film Techniques: Isberg RA, T-BTS Jan 56

Remote, Transistorized Program Amplifier for: Birch JK, NCR pt7 56

Satellite Systems: Plummer CB, T-BTS Mar 55 Sectionalized Towers: Smith CE, T-BTS Dec 55 Service, AM, Sectionalized TV Tower in: Goodnow AC, NCR pt7 58

Short-Wave , Atmospheric Noise Interference to: Aiya SV , P Mar 58

Station, High-Power, Long Wave: Smith CE, P Aug 54 Stations, AM and FM, Automatic Programming of: Schafer PC, WCR pt7 58

Television, High-Gain, Slotted-Ring Arrays: Alford A, NCR pt7 56

Transistor Pocket Receiver: Holmes DD, NCR pt7 55 Transmission Systems Annual Symposium: T-BTS Jan 56

Booster Installation: Epstein J, T-BTS Mar 55 5 MEGW Antennas for: Fisk RE, T-BTS Dec 57 Satellite Transmitter-Receiver Design and Operation: Katz L, T-BTS Mar 55

Brookhaven Instrumentation Program: Higinbotham WA, NCR pt 9 54

Brookhaven Reactor Instrumentation: Binns JE, T-NS Sep 54

Brune Cycle Without Ideal Transformer: Reza FM, T-CT Mar 54

Brune's Method for Narrow-Band Filters, A Modification of: Baum RF, T-CT Dec 58

Buffer Binary-BCD: Mooney JF, WCR pt4 57 Bunched Electron Current in a Velocity Modulated Beam: Maeda H, P Aug 58 Burglar Alarm, Ultrasonic: Bagno S, NCR pt6 54

Business Decisions, Comprehensive Comparisons and Krzyczkowski R, T-EM Sep 58

Business , Experimental Data Transmission for: Malthaner WA , WCR pt8 57

Butterworth Filter, Design of: Maruolis SG, T-CT Sep 56
Butterworth Ladder Network, Explicit Formulas for:
Weinberg L, NCR pt2 57

Cabinets and Cases: Combs TC, NCR pt6 58

Cable Lacing Material for Wire Bundles: Tuggle JP, T-RQC Dec 58
Cables, 500 Degrees C Low-Loss High Frequency: Pfund ET Jr, WCR pt6 58
Cables, Telephone, Fault Location on: Kantrowitz P, T-CS Dec 58

Cadmium Compounds , Photoconduction In: Bube RH , P Dec 55 Cadmium Sulfide Photocapacitors: Ramsa A, NCR pt3 57

Cadmium Sulfide, Progress in: Antes LL, T-CP Dec 57 Calculus, Numerical Transform: Boxer R, P Oct 57 Calibration.

Draction: Facility, Electrical and Microwave, in a Large Company: Wilson LB, T-I Dec 58 High-Frequency, High-G: Feder El, T-I Jun 57 Precedure for Microwave Radiometers: Whiteh rst RN, P Oct 57

Program, Navy Instrument: Roach FL, T-I Dec 58 Precision , for Microwave Demodulators: Gindsberg J , T-I Dec 58

of Signal Generator Output Voltage at 100 to 1000 MC: Hedrich AL, T-I Dec 58 of Two-Port Transmission Line Devices: Wentworth FL, T-MTT Jul 56 Calorimeter, Dry, for RF Power Measurement: Hudson PA, T-I Dec 58

Calorimeter for Millimeter Power Measurement: Shamless WM, T-MTT Sep 54 Calorimeters for Measurement of Microwave Power: Sucher M, T-MTT Apr 58, James AV, T-MTT Apr 58 Cam-Milling Machine , Numerically Controlled: Johnson EC , T-IE Mar 56

Cameras:

Color Television, Vidicon: Anderson LE, NCR pt7 56 Electronic Framing, for Millimicrosecond Photography: Clark GL, WCR pt5 58 Image Converter. King RW, T-TRC May 55; Maninger RC, WCR pt5 57

SUBJECT INDEX

63

Wide-Range Electronic Toning: Arams FR. P Sep 55

Image Converter, for Millimlcrosecond Photography: Maninger RC, NCR pt5 57; Stoudenheimer RG, NCR pt5 57 of Vitreous Enamel: Weller BL, WCR pt6 57 Recorder, Aerographic: Hunter HH, NCR pt5 58 Voltage-Sensitive Semiconductor: McMahon ME, WCR pt3 58 Simile-Stop Intensifier: Rosenthal JE, NCR nt3-55
Tirget Detectability Factors: Ogland JW, T-ANE Dec 58
Thm: Aiken WR, P Dec 57
Cathode-Ray Vectorraph: Uzel F Jr, NCR nt7-55 Voltage Variable , Low Impedance Diodes Used as: Palmer WF , NCR pt7 58 , T-BTR Jun 58 Capacity Micrometer: Condit RE , T-IE Mar 56 Carbon Film Resistors , Deposited , Factors Affecting Formation of: Doucette E1, WCR pt6 58 Image Orthicon, Image Retention Reduction in: Bendet SL, T-BTS Dec 57 Pinhole Gamma Ray: Mortimer RK, NCR pt9 54 Cathodes: Alternatives to Bias: Armstrong HL, P Jul 57
Beam Amplifier Noise Wave Excitation: Beam WR,
T-ED Jul 57 Shutter, Millimicrosecond Kerr Cell: Zarem AM, WCR pt5 58 Tubes: Carcinotron: Photoconductive, Transient Response: Redington RW, T-ED Jul 57 M Type: Warnecke RR, P Apr 55 Bias Resistor for Class A, Triode: Price RL, T-AU Mar-Apr 54 M Type: Warnecke RR, P Apr 55
Noise Measurements: Krulee RL, T-ED Dec 54
O Type: Palluel P, P Mar 56
Signal-to-Noise Ratio: Doehler O, T-ED Dec 54
Card, Automatic, Programmed Control of Reversing Mills:
Browning EH, T-IE Apr 58
Cardiac Tachometer, Electronic Heartbeat Simulator and a:
Roy OZ, T-ME Jul 58
Cardiac Vibrations as Transferter, Pura 51 Brazing Molybdenum and Tungsten Parts with Ruthenium; Jasionis JP, T-ED Jul 56 Emitting Surface: Rittner ES, T-ED Fob 54 Television, Precision Deflection Yoke: Benzuly HJ, T-BTS Dec 55, NCR pt3 55 Television, Recent Developments in: Veith FS, T-BTS Dec 57 Field-Emission, Harmonic Generation at Microwave Frequencies Using: Fontana JR, P Jul 58 Ultraviolet Microscopes , Flying Spot and: Ramberg EG , T-ME Dec 58 Campus Radio: Malone W , SQ Sep 57 Canadian Automation Postal System: Levy M , NCR pt6 58; Barszewski A , NCR pt6 58; Jensen H , NCR pt6 58 Followers: Circuits, Augmented: MacDonald JR, T-AU May-Jun 57 Cardiac Vibrations as Transients: Dunn FL, T-ME Dec 57 Cardiography, Phono-: Frequency Range Identification: Lulsada AA, T-ME Dec 57 Phase-Shift Oscillator: Reich HJ, P Feb 55; Fleming L, P Jun 55; Stewart JL, P Oct 55 Canadian Broadcasting Company Video Test Signals: Ste Marie A, NCR pt7 57 Triode, Graphical Analysis for Audio Frequencies: S-Inultz TJ, T-AU Mar-Apr 56 Triode, for Innedance Matching: Schultz TJ, T-AU Mar-Apr 55 Intracardiac: Lewis DH, T-MF Dec 57 Canadian JANET Meteor-Burst System: Davis GWL, P Dec 57 Spectral Analysis: Webb GN, T-ME Dec 57 Standardization of; Mannheimer E, T-ME Dec 57; Bekkerinn DH, T-ME Dec 57 Status of: Spranue HB, T-ME Dec 57 Cancer Detection by Cytoanalizer: Tolles WE, NCR pt9 56 Hollow: Kumpfer BD, NCR pt3 54 Interface Impedance: Frost HB, T-ROC Apr 55 Interface Impedance, Measurement of: Shipley WU, NCR pt3 56 Capacitance: Derivation from Mutual Inductance Standard: Rayner GH, T-I Dec 58 Cardiovascular Sounds Caused by Cavitation: Talbot SA, T-ME Dec 57 Cardiovascular Surgery, Electronic Applications in: Hopps JA, T-ME Jul 57 Junction, Using Graded Impurity Semiconductors: Giacoletto LJ, T-ED Jul 57 Long-Life, for UHF Transmitting Tubes: Slivka MJ, NCR pt3 56 Level Gage for Pressurized Water Reactor Plants: Gernert W, T-NS Aug 58 Measurement, Absolute: McGregor MC, T-I Dec 58 Career , Freedom to Choose: Newton KV , T-E Dec 58 Carillons , Electronic: Slaymaker FH , T-AU Jan-Feb 56; Miessner BF , T-AU Jul-Aug 56 Low Temperature, Noise from: DeGrasse RW, P Aug 56 Nachined Tugsten: Thornton CG, NCR pt3 54
Narrow, Elongated: Kohl WH, T-ED Feb 54
Nickel Alloy, Sublimation Measurement:
Crytzer S, T-ED Feb 54 Measurements of High Sensitivity for Industrial Testing: Revesz G, T-IE Mar 56 Carriers:
Diffusion Lengths and Conductivities: Chang SSL, P Pickup for Heart Sounds and Murmurs: Groom D, T-ME Dec 57 FM, Alrbome Filter for Low Distortion of: Link WF, WCR pt5 57 Semiconductor Junction: Dill F Jr, NCR pt2 57 of Shielded Balance-Pair Transmission Line, Formulas for: King BG, P May 58 Partially Shielded, Periodically Focused Beams: Harker KJ, T-ED Oct 55 Frequency of RF Pulses: Bagley A, T-I Oct 55 Generation and Recombination in P-N Junctions: Sah CT, P Sep 57 Phillips Dispenser: Doffendack OS, T-ED Feb 54
Phillips Impregnated, Noise Figure: Open Discussion Small, Precise Measurement of: Thompson AM, T-I Dec 58 Inospheric Waves , Autocorrelogram of: Price R , P Jun 57 Notes, T-ED Dec 54

Photo Multialkalai: Sommer AH, T-NS Nov 56

Pressed Dispenser: Coppola PP, P Mar 56

Production of Barlum: Rutledge WC, T-ED Feb 54

Radial Centering in Magnetron: Becker GE,

T-ED Apr 57 Temperature Coefficient over 5-50 MC Range, Measurement of: Bady I, T-I Sep 57 Lifetime, Minority, Dependence on Majority Carrier Density: Evans DM, P Dec 58 Minority, Arc Prevention Using Reverse Translents: Miller W, P Nov 57 in Transistors, Effective Collector: Zuleeg R, P Nov 58 Accelerated Life Testing: Levenbach GJ, T-RQC Jun 57 Radioactive-Tracer Study Method: Shenherd WG, T-ED Feb 54 Aluminum and Tantalum, Dielectric Films in: Burnham J, T-CP Sep 57 Mobilities at Low Injection Levels: Hoemi JA, P F 60 38 to-Noise Statistics for Carrier and Interference Char-acteristics: Clarke KK, P May 58 Operation, Controlled, of Tropospheric Scatter Com-munication Systems: Yeh LP, NCR pt8 58 for Automation: Smith GP, WCR pt6 57 Bypass, Lowest Resonant Frequency: Geiser DT, NCR pt3 54 Rare-Earth Oxides: Wyler EN, T-ED Feb 54; Cronin LJ, NCR pt3 57 Surface Flatness: Goddard CT, T-ED Feb 54 Test Utilizing Noise Measurements: Dalilke W, P Sep 58 and Sideband Selection, Electromechanical Filters for: George RW, P Jan 56 Filter, for VHF and UHF: Schlicke HM, P May 56 NCR pt3 54 Thoria, Study of: Apelbaum JH, T-ED Feb 54 Cathodoluminescence: Garlick GFJ, P Dec 55 Sine-Wave, Sequential Detection of: Blasbalg H, T-IT Dec 57 Monolithic Structure: Fabricius JH, WCR pt6 57 Cathodoluminescence, Reagent Advances: Ivey HF, T-CP Oec 57 Dielectric: Strength, Single-Sideband Performance: Shepherd NH, P Apr 57; Firestone WL, P Dec 56 Subcarriers, Discriminator, Transistor-Magnetic: Barnes GH, WCR pt5 57, T-TRC Apr 57 Absorption, Errors in Differential Analyzers due to: Dow PC, T-EC Mar 58 Cauer's Theorem, Generalization of: Reza FM, NCR pt2 55 Cavitation, Contribution to Cardiovascular Sounds: Talbot SA, T-ME Dec 57 Absorption Test Methods for: Baugh SH, WCR pt6 57 Cavities:
Circular Polarization in: Tinkham M, P Jun 55;
Nelson CE, NCR pt1 57 Stability of Vitreous Enamel: Weller BL, T-CP Mar 58 Systems , Theory of Band-Limited Signals Applied to: Oswald J , T-CT Dec 56 Discoidal vs. Tubular Feed-Through: Schlicke HM, P Feb 55 Telephone Channels , Single-Sideband , Generation by Polyphase Modulation: Mensch JR , NCR pt8 58 Telephony , Negative Feedback Amplifiers in: Cotterill MJ , T-CS Sep 57 Cascade Representation of the Bott-Duffin Synthesis: Cutteridge OPD , T-CT Jun 58 Circularly Polarized Microwave: Nelson CE, T-MTT Apr 57 Effective Leakage Resistance: Tucker RW, T-CP Apr 55 Cylindrical, Containing Gyromagnetic Material: Bussey HE, P May 57 Effects of Nuclear Radiation on: Paddock RR, T-RQC Dec 58 Electromagnetic Fields in , Expansions of: Kurokawa K , T-MTT Apr 58 Cascaded Actuators in Feedback Loop, Compensation for: Axelby GS, WCR pt4 58 Electrolytic: Altenpohl D, NCR pt3 54 Emitter Bypassing in Transistor Circuits: Murray RP, T-AU May-Jun 57 Ferroelectric Memory, Scanners for: Pulvari CF, for Electromagnetic Measurements: Saunders WK, NCR pt8 55 Cascaded Feedthrough Capacitors: Schlicke HM, NCR pt6 56 Ferrite Tunable Microwave: Jones GR, P Oct 56; Fay CE, P Oct 56; Nelson CE, P Oct 56 Ferrite-Loaded, Filters: Willery WL, T-MTT Ian 58 Ferrites in: Berk AD, P Nov 55 Ferriteory Stabilization of Klystrons: Magid M, NCR nt1 57 T-FC Mar 58 Cascaded Networks, Chain Matrix of: Storch L, T-CT Dec 56 Filter, for VHF and UHF: Schlicke HM, NCR pt6 57 In-Process Controls to Maximize Reliability: Herrick HS , T-RQC Aug 57 Cascaded-Tuned Circuit Transient Response: Talkin AI, T-CT Sep 54 T-CT Sep 54
Cascaded Two-Port Networks: Cedar 1 , T-CT Sep 58
Cascode Ampliffer , Equivalent Characteristics of:
Langford-Smith F , P Apr 56
Cases and Cabinets: Combs TC , NCR pt6 58
Cassiopeia A Measurements between 18.5 MC and 107 MC-Wells HW , P Jan 58 Insulation Resistance after Long-Time Electrification: Grahame FW, T-CP Mar 57 Iris , Maser Amplifier for Stitch ML , WCR pt3 57 Grahame FW, T-CP Mar 57
Large, for Energy Storage: Warner DF, T-CP Dec 56
Limitations: Podolsky L, T-CP Mar 54
Metallized Paper, Breakdown and Leakage Resistance:
Burnham J, T-CP Mar 54 Klystron, Frequency Setting of: Robinson LC, T-ED Jul 58 Klystron Resonant, General Treatment of: Fujisawa K, T-MTT Oct 58 Metallized, Use of: Lamphier WC, NCR pt6 58 Miniature Lacqure Film: McLean DA, P Dec 54 Nonlinear, Charging and Discharging: Macdonald JR, P Jan 55 Cathode-Ray Oscillograph: Bonn TH, P Aug 56 Klystron Shint Impedance: Ginzton EL, T-MTT Oct 55 Cathode-Ray Oscillograph In Television Broadcast Opera-tion: Deichert RW, T-BTS Mar 55 Measurements of Ferrite Spheres: Spencer EG, NCR pt8 55, P Jun 56 Measurement of Q: Mullen EB, T-I Oct 55 Microwave- Udelson BJ, T-ED Feb 54 Reference, for C Band: Hall JD, NCR pt8 54 Reference, Design Considerations- Gerard WA, T-MTT Apr 57 Cathode-Ray Oscilloscope, Twenty-Four Channel, for Monitoring Magnetic Tape Records: Smith FC, T-I Jun 56 Photocapacitor, of Cadmium Sulfide: Ramsa A, NCR pt3 57 Cathode-Ray Tubes:
"Apple" Receivers, Color Purity Adjustment: Moore RC,
T-BTR Jun 57 Rectifier, Conversion Loss of Ring Modulators: Belevitch V, T-CT Mar 55 Resonance, Calculation of: Bertram S. P. Mar 54 Resonant, Frequency Duplexer: Bowers EO, NCR pt5-56 Russian Terminology: Schultz GF, P Aug 56 Short Time Ratings: Allison WM, T-CP Sep 54 Solid-State Electrolytic: Fraioli AV, T-CP Jen 58 Subminiature, of Metallized Paper: Grad PP, NCR pt6 57 Beam-Hugging Deflection Plates: Kallmann HE, P Apr 55 P Aor 55
Charactron: McNaney JT, NCR pt5 55
Coding, Logical Detenting in: Lippel B, T-I Mar 58
Dynamic Sensitivity Determined by Fourier Transforms:
Bolinder EF, T-ED Jan 55
Electroluminescence: Nicoll FH, P Aug 55
For Facsimile: Bliss WH, NCR pt8 54
Fourier Transforms: Bolinder EF, P Aor 55
Cun, Ultrasonic Finishing of Niklas WF,
T-UE May 55
High-Spossbillin for Millimicropropord Transports Resonators, Determination of Q: Singh A, T-MTT Apr 58 Spherical , Excitation of Higher Order Modes: Ghose RN, T-MTT Jan 57 Terminating Transmission Lines , Parameters of: Lebowitz RA, T-MTT Jan 56; St Clair MW, T-MTT Jal 56 Tantalum Electrolytic: Warner DF, T-CP Nov 55 Tantalum Electrolytic: Warner DF, T-CP Nov 55
Tantalum Solid Electrolytic: McLean DA, P Jul 56,
NCR nt6 56
Temperature Compensating, Close ToleranceRudnick N, NCR nt6 57
Tabe Feedthrough, Performance Above VHF:
Williams EM, NCR nt6 56
Up-Grading Tantalytic: Roberts WR, WCR nt6 58
Variable: Palmer WF, T-BTR Jun 58, NCR nt7 58
Variable: Semiconductor, Future Circuit Aspects:
Herold EW, P Nov 57 Transmission Line, Q Factors: Young L, T-CT Mar 57 Traveling-Wave, Use in Tensor Permeability Measurements: Ault LA, NCR ot 1.57 High-Sensibility for Millimicrosecond Transients: Germeshausen KJ, T-ED Apr 57 Linear: Bitzer D, P Jul 57

Measurement of Beam Apertures: Quintan EJ, T-BTR Jun 57

Cayley-Klein Model of Three-Dimensional Hyperbolic Space: Botunder EF, P Sep 58 CPS Colortron Picture Tube: Fyler NF, T-ED Feb 54 CPS Hallywood Television Facilities: Climm HA, P Jul 54 CCIR: Allen EW, T-CS Nov 54, P Feb 55; Cross JS, P Dec 57 Cell Assembly Theory of Brain Action Tested by Digital Committer: Rochester N., T-IT Sep 56 Barium Tianate , Polarization of: Froemel JG , NCR pt9 57 Capacitors, Monolithic Structure: Fabricius JH, WCR et6 58 Coating Applications in the Electrical Field: Humpert PA, NCR pt6 58 Congineent: Advances in: Schlicke HM, WCR pt6 58 Conductive: Post ZA, T-CP Jun 58 Ferroelectric, Power Handling Capability of: Renner GW, NCR pt2 58 Materials as High-Frequency Dielectrics: Pentecost JL, T-CP Dec 57 Measurements of Properties: Muson WP, P Jun 54 Metal Scals: Hall JL, WCR nt6 57 Metal Seals for Manuctrons: Cronin LJ, NCR nt3 55 Phono-Reproducers, Compensation Networks for: Bauer BB, T-AU Jan-Feb 57 Piezoelectric Properties , Effect of Heat on: Brouns A , T-AU May-Jun 57 1-AU May-Jun 57
Printed Circuit Packaginn: Fabricius JH, WCR ot 6 57
Receiving Tubes, Stacked, Semiautomatic Production
of: Chamberlain RH, WCR pt 6 58
Sealing with Metal Parts by Forming Reactive Alloys:
Beggs JE, T-CP Mar 57
Temperature Compensating, Close Tolerance: Rudnick N,
NCR pt 6 57 Vacuum Relays: Daniels JW, WCR pt6 57 Vitreous Enamel Dielectric Capacitors: Weller BL, WCR pt6 57 Voltage Reference Tube: Culp JW, T-ED Apr 57 Yttrium Garnet UHF Isolator: Morganthaler FR, P Nov 57 Cerenkov Counter, Differential: Baldwin DE, T-NS Dec 58 Cerenkov Counters in High Energy Physics: Wiegand CE, T-NS Dec 58 Cerenkov Counters, Relative Scintillation Intensity: Madey R, T-NS Nov 56 Cerenkov and Undulator Radiation: Motz H, T-AP Jul 56 Cerenkov Radiation, Millimeter Wave Generation: Danos M, T-MTT Sep 54 1-M 1 Sep 54
Cesium Beam Frequency Standard Development In Canada
(Abstract): Preston-Thomas H, T-I Dec 58
Cesium Beam Standard, Atomichron and British, Comparison
of: McCoubrey AO, T-I Dec 58
Champions, The: Carlin HJ, T-CT Jun 54 Channels: Capacity of: Murega S , T-IT Mar 57 of Asymmetrical Binary, with Finite Memory Chang SH, T-IT Dec 58 without Coding: Elias P, NCR pt2 57 Communication as a Game: Blachman NM, WCR pt2 57 WCR DIZ 37

Effects of Random Parameter Fluctuations:
Silorov VI, WCR pt10 57

Heisenberg's Principle: Solomonoff RJ, P Apr 55
Noise Continuous: Muroga S, T-IT Mar 57
Zero Error Capacity of Noisy Channel:
Shannon CE, T-IT Sep 56 Guard, Interference Botherance Rejection with Double-Barreled: Buesing RT, T-VC Apr 58 Merit Criteria for Information Transmission: Harusteckern A, T-IT Mar 57 Mobile Radio , Narrowing of: Plummer CB , NCR pt8 57 Multilevel Information: Watanabe S , T-IT Dec 57 Selection for Multicarrier Telemetry: Taylor LS , NCR pt5 58 Character Printed in Magnetic Ink , Waveform: Flores I , T EC Dec 58 Character-Recognition Devices , Design Considerations: Greanias EC , NCR pt4 57 Character Recognition Using Decision Functions: Flores 1, T-EC Jun 58 Character Recognition System Using Decision Functions: Chow CK , T-EC Dec 57, WCR pt4 57 Character Sensing Equipment , Automatic Type Size Normalization in: Terso AI , NCR pt4 58 Character Sensing System for Documents: Shepard DH, WCR pt4 57 Character-Writing Tube, Electrostatic: Schlesinger K, NCR pt3 57 Characteristic Impedance of Two Infinite Cones of Arbitrary Cross Section: Carrel RL, T-AP Apr 58 Characteristic Impedances of the Stotted Coaxial Line: Smolarska J, T-MTT Apr 58 Charactron Display Tube for Surveillance: McNaney JT , NCR pt5 55 Charge Control in Junction Transistor: Sparkes JJ, P Dec 57 Chassis, Air-Cooled, in Electronic Equipment: Mark M, T-CP Sep 56 Chebyshev, Spelling of: Gannett EK, T-CT Mar 55 Chromacoder Colorcasting: Lloyd CG, T-BTS Mar 55 Checkout Automatics of Guided Missiles: Beck MR, WCR nt5 57 of Weapons System Maintenance: Keim DY, WCR pt5 57 Chemical Batch Processes, Logical Techniques for Sequential Control of: Land JP, T-LE Aug 56

SUBJECT INDEX Chemical Company, Electronics in a: McMillen RC, T-IE Apr 58 Chi Process , Fluctuation Rate of: Silverman RA , T-IT Mar 58 Chimes, Bells, Electronic Carillons: Slaymaker FH, T-AU Jan-Feb 56; Miessner BF, T-AU Jul-Aug 56 Choke, Serrated: Tomlyasu K, T-MTT Jan 56 Chroma-Key Composites in Modern Television: Kennedy RC , P Nov 58 Chroma Key, Design and Use of: Gaskins FJ, WCR pt7 58 Chromatron: Onatron: Automatic Decoding in: Rector RH. WCR ot 757 Operation on NTSC Standards: Gow JD, T-BTR Jan 54 Single-Gun, Brightness Enhancement Techniques: Dressler R, NCR pt 357 Television Receiver: D'Amato R, NCR pt 356 Cineradiography: Miller ER, NCR pt9 55 Abstracts of Circuit Theory Articles: Reza FM, T-CT Sep 57; Bendat JS, T-CT Mar 57 Analysis of Mechano-Acoustic Structures: Bauer BB, T-AU Jul-Aug 54 Analysis, Signal Flow Graphs and How To Avoid Them: Mason SJ, NCR pt2 57 Application Engineer, The Transistor and the: Abboud FL, T-BTR Sep 58 Audio Oscillator, Transistor: Oakes JB, P Aun 54 Broadband Detector: Brockman MH, P Jun 55 Component Tester, Semiautomatic: Brannuer FC, T-IE Aug 58 Crystal, For Frequency Standards: Felch EP, P May 55 Definitions of Terms: IRE Standards, P Mar 54 for Air Defense Computing System: Nicoburg RE, T-EC Dec 56 for Automation: Dordick HS , NCR nt6 56 Component Reliability Information in: Xavier MA , T-RQC Sep 58 Using Digital Computer To Yield Optimum Parameters: Alman J, NCR pt4 57 Reliability Techniques for: Hellennan L , T-RQC Sep 58 Dual, Gyrator in: Golay MJE, P Oct 57 Electrical and Switching: Seshu S., T-CT Sep 56 Encapsulation of: Calicelia R., NCR pt6 57 Equipartition Theory Applied to: Bell DA., P. Ann 56 for Discontinuities in Strip Lines: Oliner AA , T-MTT Mar 55 High Frequency of Junction Transistor: Zawels J, T-ED Jan 57 for Lossless Discontinuity: Collin RE, T-MTT Oct 57 T-MTT Oct 57

for Microwave Noise at Potential Minimum:
Siegman AE, T-ED Oct 57

Fast Coincidence: Bay Z, T-NS Nov 56

Ferrite Microwave Elements, Low Frequency Problem in Design: Hogan CL, T-AP Jul 56

FM Transient Response: McCov RE. P Mar 54

Frequency Stabilizing: Campbell LL, T-CS Sep 57

Gyrator and Impedance Inverter: Bowert BP. P Jul 55

Helix, Multiple, for Traveling-Wave Amplifiers:
Puz JL, WCR nt3 57

High-Frequency Equivalent, for Junction Transistor: Middlebrook RD, NCR nt2 57

High Necative Conductance: Reich HJ. P Feb 55

High-Speed Gating, Using E80T Beam Deflection Tube: Sperling L, T-ED Jan 57

Hybrid-Pi Transistor Equivalent: Wilhelmsen CR,
T-BTR Mar 58

Linear Pulse-Forming: Guillemin EA, T-CT Mar 57; Linear Pulse-Forming: Guillemin EA, T-CT Mar 57; Gore WC, T-CT Sep 56 Logic:
for Digital Computers: O'Toole JB, WCR pt4 57;
Bottwell TP, T-EC Sep 56
Diodeless Magnetic Core; Russell LA, NCR pt4 57 Direct-Coupled Transistor: Harris JR, T-EC Mar 58; Easiey JW, T-EC Mar 58 Formulation of Design Problem: Ellis D, WCR pt4 57 High-Speed, Semiconductor: Cagle WB, WCR pt2 57 NOR- Rowe WD, WCR pt4 57 Resistor-Coupled Transistor: Marcovitz MW, T-EC Jun 58 VHF Pulse Techniques: Rosenheim DE, P Feb 57 Magnetic Core for Digital Data Processing: Loev D, P Feb 56 Magnetic Current Steering In: Rajchman JA, T-EC Mar 57 Magnetostriction Oscillators: Roberts EA, T-UE Aun 56 Microwave - Ferrites as: Heller GS, P Oct 56 Modular Construction, Implications to Design Engineer-Bauer RE, NCR pt6 56 Negative Impedance, Basic Relations and Limitations: Lundry WR, T-CT Sep 57, WCR pt2 57 Neon Bulb as Nonlinear Element: Hendrix CE, T-CP Sep 56 Nonlinear, Gain-Phase Relations of: Levinson E, NCR pt4 58 Nonlinear, with Harmonic Excitation Using Tchebycheff Functions: Ellem F, T-CT Jun 56

Nonsaturated Florida CD, T-CT Sep 57

Nonsaturating Pulse , Using Transistors: Linvill JG , P Jul 55 Nuclear Instrumentation, "Hard-Bottoming" Technique in Design: Harris CC, T-NS Mar 56 N-Valued Switching, Synthesis of: Berlin RD, T-EC Mar 58 Phase-Shift Feedback: Barbiere D, P Jun 55 Printed: Ceramic Package System: Fabricius JH, WCR pt6 57 Cupric Oxidized Foil for Laminates: McGinnis LW, NCR pt6 56 Engineering to Facilitate Production: Calcut RC, NCR pt6 56 Etched Boards, Vibration: Allen MS, WCR pt6 57 IF Amplifier for Color TV: Ruth L, T-BTR Jul 56 Wiring, Short Cuts: Ost R, T-IE Mar 57 Progress in 1953: Radio Progress, P Apr 54 Pulse-Switching Using Magnetic Cores: Kamaugh M, P May 55 Push-Pull, Transistor Matching in: Anouchi AY, WCR pt2 57 and Radio Waves , Report on URSI Commission VI: Jordan E.C., P. Jul 58 Rectification, General Theorem on: Gewartowski JW, P Oct 57 Redundant, to Increase Equipment Reliability: Creveling CJ, P Apr 56 Reliability In Design: Taylor NH, P Jun 57 RF, for Voltage-Tunable Magnetron: Gemulia WJ, WCR pt 1 58 Ring, Nonreciprocal: Tischer FJ, T-MTT Jan 58 Ring, Resonance Properties: Tischer FJ, T-MTT Jan 57 Scattering Equivalent, for Common Symmetrical Junctions: Kalin WK, T-CT Jun 56
Solid State, Fixture: Herold EW, P Nov 57
Standards and Test Procedures: Gamson ER, NCR pt6 56 Switching: See Switching, Circuits Switching: See Shindship,
Theory:
Applications of: Tuttle WN, T-CT Jun 57
Analysis of Linear Systems: Ragazzini JR,
P Nov 54; NCR pt2 54
Four-Pole Theory: Gaertner W, NCR pt2 54
Time Varying Feedback Systems: Aseltine JA,
NCR pt2 54, P Oct 54
T-moistor, See Transistors, Circuits Transistor: See Transistors, Circuits
Trigger, Employing Controlled Saturation: Moody NF,
T-CT Sep 57 Vacuum Tube, Analysis of: Shekel J, P Oct 54
Xerography: Schwertz FA, NCR pt6 56
Circular Electric Waves in Circular Waveguide Containing
Ferrite: Kumagal N, WCR pt1 58
Circular Electric Waves in Helix Waveguides, Heat Loss
of: Morrison JA, T-MTT Apr 58 Circular Polarization: for Aircraft Radar Return: Panasiewicz JJ, NCR pt8 56 Broad-Band, Method of Producing: Kirschbaum HS, T-MTT Jul 57 Microwave Cavity Filters: Nelson CE, T-MTT Apr 57
Produced by Periodic Loading of Waveguide:
Summons AJ, T-MTT Dec 55 Circulators: Circulators:
Broad-Band Microwave: Ohm EA, T-MTT Oct 56;
Clavin A, T-MTT Apr 57
Ferrite: Davison B, WCR ptl 57
Ferrite: Hiph Power: Schwartz LF, T-MTT Apr 57
Hall Effect: Grubhs WJ, WCR ptl 358
Network Properties of: Treuthaft MA, P Oct 56,
T-CT Jun 56
Tee: Swanson WE, WCR ptl 58
Tumstile: Allen PJ, T-MTT Oct 56
Civil Aeronautics Administration: Cervenka FJ,
T-CS Nov 54
Civil Aeronautics Administration, Air Traffic Simulation Civil Aeronautics Administration, Air Traffic Simulation Facilities: Vickers TK, T-ANE Jun 56 Civil Avionic Systems, Operational Requirements for: Little DS, T-ANE Sep 58 Clamp Circuit for Television: Wendt KR, NCR pt7 54; Rhodes RN, NCR pt7 54 Classification System for Measurement and Control: Keller EA , T-IE May 58 Cleaning, Ultrasonic: McKenna OC, T-UE May 55 Climatology, Radio, First Meeting on: Bean BR, P Jul 58 P Jul 58
Clinical Gastroscopy: Schmitt O, T-ME Oct 55
Closed-Form Expressions for Mean Squares in Discrete-Continuous Systems: Sklansky J, T-AC Mar 58
Closed-Loop Control Systems with Error Sampling:
Stewart RM, P Nov 58
Closed-Loop Response of Servomechanism:
E1-Sabbayh HH, WCR pt4 57 Cloud Measurements , Satellite Instrumentation for: Hanel RA , NCR pt5 58 Cluiter Attenuation in MTI Radar: Grisetti RS , T-ANE Mar 55 Coating, Protective: Gamson ER, T-CP Sep 54 Coaxial Cables: Leakage Radiation Schatz ER, NCR pt5 56 Lossy, Steady State and Transient Analysis: Turin GL, P Jun 57 Protection of Assemblies: Spergel J., T-CP Sep 56

"SUBJECT INDEX

65

Solid Dielectric , Attenuation above 3000 MC: Blardsell KL , T-CP Dec 57; Hannon JR , T-CP Dec 56 Transient Analysis , Considering Skin Effect: Wignigton RL , P Feb 57 Transmission Formulas and Charts: King RA , P Aug 54 Wide-Band DC Return: McLaughlin JW , T-ED Oct 57 Coaxial Components Employing Gaseous Discharges at Microwave Frequencies: Geiger RH, NCR nt5 56 Coaxial Connector with Capacitive RF Coupling and Isolated DC Returns: Freiberg L, T-MTT Oct 58 Coaxlal Hybrid Ring, Broad-Band: Albanese VJ, T-MTT Oct 58 Coaxial Isolator Utilizing Yttrium-Iron Garnet: Freiherg L, T-MTT Oct 58 Coaxial Lines:
Attenuation Measurements: Raburn LE, NCR pt7 55 Attenuation Measurements: Raburn LE, NCR pt7 55
Components: Dwork B, NCR pt8 55
Directional Counter: Carlin HJ, NCR pt8 55
End Correction for, when Driving Antenna over
Ground Screen: King R, T-AP Apr 55
with Helical Inner Conduction: Sichak W, P Ang 54
L-Band Ferrite Modulator: VaFiades B, NCR pt1 57
Microwave Magnetic Field in: Duncan BJ, P Feb 58 Slotted, Characteristic Impedances of: Smolarska J, T-MTT Apr 58 Spacing of Bead Supports for Microwaves: Dettinger D , NCR pt1 57 Transverse Electric Resonances: Carr JW, T-MTT Jul 55 with Two Nonconcentric Dielectrics: Angelakos DJ, T-MTT Jul 54 to - Waveguide Directional Couplers: Lombardini PP, WCR pt1 57 Coaxial Power Divider, Broadband: Reed J, NCR ptl 57 Coaxial Resistor: Kohn CT, P Aug 55 Coaxial, Transmission Line: Helical Dielectric Support: Grlemsmann JWE, T-MTT Jan 56 Slotted, Impedance of: Collin RE, T-MTT Jan 56
Coaxial-to-Waveguide Transistions, Broadband:
Wheeler GJ, NCR pt1 57 Cobalt-Substituted Mn Ferrites Single Crystals, Anistrophy of: Tannenwald PE, P Oct 56 Co-Channel FM Signals , Alternative Detection of: Farris HW , P Nov 58 Co-Channel Television Interference Reduction: Chapin EW, T-BTS Jun 58; Middlekam LC, T-BTS Dec 58 Codan for AM Receivers: Rudd JB, T-CS Jan 54 Codification of Lagrangian Formulation: Koenig HE, P Jul 58 Coding: Ing:
Airborne PCM Telemetering Systems, Nolse and Interference Suppression: Harmuth HF, T-TRC Apr 57
Binary: Golay MJE, T-IT Sep 54
Binary Chains: Lippel B, T-EC Jun 57
Binary-Decimal, for Two Track Commutation:
Tompkins HE, T-EC Sep 56 Binary, and Talking Drums: Borrowman JH, P Jan 57 Checking, for Digital Computers: Diamond JM, P Apr 55 Code-Marking Letters in Canadian Automation Postal System, Electrostatic Printer for: Jensen H, NCR pt6 58 Coders, High Speed, Electronic, for Telemetering: Bishop RP, NCR pt1 56 Coders, Transistorized, High-Speed, 10-Bit: McMillian L, WCR nt5 57 Constant-Data-Rate Systems: Silverman RA, T-IT Sep 54, P Sep 54; Balser M, P Jun 55 Decimal Print-Out: McKibben JL, NCR pt10 55 Decipherability, Unique, Inequalities Implied by: McMillan B, T-IT Dec 56 Digital, 2-Level: Birkel G, T-TRC Apr 57
Digital, TV Bandwidth Reduction by: Schreiber WF,
NCR pt4 5B for Electronic Mail Handling System: Levy M, NCR pt6 57 and Error Checking In Canadian Automation Postal System: Levy M, NCR pt6 58 Error-Correcting Code: Silverman RA, P Sep 54 Linear Circuit Viewpoint for: Huffman DA, T-IT Sep 56 I-IT Sep 56
Noise Stabilty of: Siforov VI, I-IT Dec 56
Error-Free: Elias P., T-IT Sep 54
Facsimile System: Michel WS, WCR nt 2 57
Filters, and Extraction Filters: Balakrishnan AV,
T-IT Sep 56 Gray Counter: Fischmann AF, T-EC Jun 57 Gray Code, Unit-Distance Number-Representation Systems: Patterson GW, P Jul 57 Groups, Ontinum Finite: Storer JE, P Sep 58 Hybrid: Golay MJE, P May 55 Ideal, Rate of Approach: Shannon CE, NCR pt4 55 Influence on Closed Loop Remote Control Systems: Bonenn Z, T-TRC May 57

Information Retrieval Systems: Mooers CN, T-IT Scp 54 Intersymbol Redindancy: Davis H, NCR pt4 55 Listing Decoding for Noisy Channels: Elias P, WCR pt2 57

Lossless Symbol, with Nonprimes: Golay MJE, T-IT Sep 58 Magneto striction Delay Line for ATC Transponder: Johnson VL, T-ANE Sep 56

Multi-Case Blnary, for Non-Uniform Character Distribu-tions: Brooks FP, NCR pt 2 57 Multiple-Error-Correcting: Reed IS, T-IT Sep 54 Multiple-Error-Correcting: Reed IS, T-IT Sep 54
For Noisy Channels: Elias P, NCR ol4 55
Nonbinary Error-Correcting: Lee CV, T-IT Jun 58
Optimized Data for Computers: Kautz WH, NCR pt4 54
Picture, Computer Simulation Chain for Research on:
Graham RE, WCR pt4 58
Picture Transmission: Roschke EM, NCR pt7 56
Predictive: Elias P, T-IT Mar 55
Pulse-Code Systems, Information Losses: White WD
NCR pt4 54 Pulse Position , Error Rates: Campbell LL , T-IT Mar 57 fellected Binary: Foss FA, T-EC Dec 54 for Remote Control: Mass J, T-TRC Feb 55 Requirements for ATC Radar Beacon System: Vickers TK, T-ANE Sep 57 Semi-Group Methods Applied: Schutzenberger MP , T-IT Sep 56 Sequential Decoding for Reliable Communication: Wozencraft JM , NCR pt2 57 Shannon, Finite Groups in: Bell OA, P Oct 54 Simple, for Fading Circuits: Voelcker HB, T-CS Dec 5B of Television Source: Kelly JL Jr, NCR pt2 57 Theory, Results in: Shannon CE, NCR pt4 56 Transmission of Correlated Signals: Kramer HP, T-IT Sep 56 Tubes , Cathode-Ray , Logical Detenting in: Lippel B , T-I Mar 58 Unit-Distance Binary-Decimal, Translators: O'Brien JA, T-EC Jun 57 Unit-Distance Error Checking: Kautz WH, T-EC Jun 58 Zero Error Capacity of Nolsy Channel: Shannon CE, T-IT Sep 56 Coffin Loudspeaker Enclosure: Breyfogle LD, SQ May 56 Coherent Emission from Pulse-Excited Ammonia: Norton LE , T-MTT Oct 57 Coherent Integration Applied to Detection: Miller KS, T-IT Dec 57 Coils Admittance , Name and Unit for: MacKlem FS , P Jui 57 Low-Q , Ladder Network Design Using: WeInberg L , P Apr 5B Multiturn for Vacuum: Nicoll FH , T-ED Apr 57 Spherical, as an Inductor, Shield, or Antenna: Wheeler HA, P Sep 58 and Tape Winding, Tension in: Saxl EJ, NCR pt6 5B Toroidal, High-Frequency Magnetic Permeability
Measurements Using: Harrington RD, P Apr 58
Coincidence Procedure for Signal Detection: Schwartz M,
T-IT Dec 56 Co-Information , Question of Terminology: Kreer JG , T-IT Sep 57 Cold Cathode Gas Triode in Self-Blasing Circuit: Silver M , P Feb 57 Cold Plate Design for Airborne Equipment: Mark M, T-ANE Mar 58 Collector Capacitance Effect on Transient Response of Junction Transistors: Easley JW, T-ED Jan 57 Collector Capacitance, Nonlinear Effect on Collector Current Rise Time: Bashkow TR, T-ED Oct 56 Collector Capacitance in Transistors, Effective:
Zuleeg R, P Nov 58
Collector Potential Depression, Imporvement of TravelingWave-Tube Effectioncy Through: Sterzer F, T-ED Oct 58
College Laboratory: Hunter TA, T-E Jun 58 College Laboratories , Microwave Equipment for: Rizzi PA , T-MTT Jul 56 Colleges, Engineering, Reliability and: Krohn CA, WCR pt6 58 Collision Avoidance Feasibility of Airborne System for: White FC, T-ANE Jun 57 Physical Aspects of: Morrell JS, T-ANE Jun 57 Colombia, Survey of Radio and Electronics in: Meek TJ, P Apr 58 Color Decoder: Adler R, T-BTR Jan 54 Color Television:
ABC's of: Barstow JM, P Nov 55
Amateur Interference: Anderson EI, T-BTR Apr 54;
Grammer G, T-BTR Apr 54
Amplitude Distortion Measurement: Bauer JA,
P Jan 54 Apple Beam-Indexing Tube: Colgate H, NCR pt 3 57; Bloomsburgh RA, NCR pt 3 57 Apple Receiver Circuits and Components: Bloomsburgh RA, P Sep 56 Apple Reveivers, Color Purity Adjustment: Moore RC, T-BTR Jun 57 Apple System, Color Reproduction Accuracy: Chatten JB, NCR pt 3 57 Art Problems in: Wagner WJ, WCR pt7 57 Automatic Balance of Colorplexer: Popkin-Clurman JR, NCR pt 7 55 Automatic Decoding in Chromatron: Rector RH, WCR pt 7 57

Barnes Colorimeter:

For Quality Control: Shannon WW, T-BTR Jan 54
For Screen Color Determination: James K,
T-BTR Jan 54

Pasic Concents: Engstrom EW, P Jan 54 Beam Oeffection Picture Tube: Lafferty JM, P Oct 54 Beam-Indexing Display System: Clang RG. P Sen 56 Peam-Indexing Picture Tube: Barnett GF. P Sen 56 Bibliography of IRE Papers: Dibliography P Jan 54 Bibliography of IRE Paners: Cibliography P Jan 54
Black and White Film Improvements for Use in:
Highes WL, NCR pt 7 56
Brightness Enhancement Techniques for Single-Gun
Chromatoni: Dressler R, NCR pt 3 57
Cameras Vidicon: Anderson LE, NCR ut 7 56
Cathode-Ray Oscillograph; Deschert RW, T-BTS Mar 55
CBS Colortron: Fyler NF, T-BTR Jan 54 Chromacity Coordinate-Plotting Photometer: Highleyman WH, NCR pt 7 56 Chromacoder Colorcastino: Llovil CG. T-BTS Mar 55 Chromaticity Measurements, Photoelectric Colorimeter: Chatten JB, P Jan 54 Chrominance Signals, Choice of Axes and Bandwidths: Brown GH, P Jan 54 Chrominance Subcarrier Frequency: Abrahams IC, P Jan 54 P Jan 54
Clamp Circuit: R'todes RN, NCR pt 7 54
Color Balance: MacAdam DL, P Jan 55
Color-Bar Test Signal: Luther AC Jr, P Jan 54
Color-Carrier Reference Signal: Richman D, P Jan 54
Color Film: Brewer WL, P Jan 54: Burr RP, P Jan 54
Color Inage Quality and Perception of Color Detail:
Schade OH, NCR pt 7 58 Color Pecify: Heil H., NCR pt 3 56
Color Recording on Magnetic Tape: Grever JL,
NCR pt 7 58 Color Reproduction Errors in Receivers: Weiss H, P Sep 54 Color Subcarrier Synchronization Problem: Gruen WJ, T-BTR Jan 55 Colorimetry: Bingley FJ, P Jan 54 Analyses: Livingston DC. P Jan 54
Transmission Primaries: Howells PW. P Jan 54
Colornlexer: Glosstein EE. P Jan 54
Colornlexer: Their Tibe: Fyler NF, T-BTR Jan 54,
T-ED Feb 55 Constant Luminance Principle: Bailey WF, P Jan 54 DC Quadricorrelator: Richman D, Jan 54, T-BTR Jan 54 Delay Equalizer: Fredendall GL, P Jan 54 Description, General: Barstow JM, SO Sen 55 Differential Phase and Gain Measurements: Kelly HP, T-BTR Jul 55 Distortion in Sequential Displays: Livingston DC, NCR pt 7 54 Electronic Masking: Burr RP, P Jan 54 Electronic Masking Controls: Brewer WL, NCR nt 7 55 Equipment Operating Characterisites: Page CE, T-BTS Mar 55 European Developments: Hirsch CJ. NCR nt 3 57 Evolution: Einstrom EW. P Jan 54 FCC Acceptance of Standards: Loughren AV, SQ Sep 54 Fidelity in Receivers with Nonstandard Primaries: Bingley FJ, NCR pt 7 54 Film Considerations: Ladd JH, NCR nt 7 54 Characteristics: Haines JH, NCR nt 7 54
Circuits: Fisher JF, NCR nt 7 54
Foundations: Electrical: Loughren AV , P Jan 54 Psychophysical: Loudinen AV, P Jan 54
Psychophysical: Loudinen AV, P Jan 54
Fourier Integral, Use of: Murakami T, T-CT Sep 55
Frequency Interleaving: Abrahams IC, P Jan 54
Frequency Measurement: Morrison WC, P Jan 54
Frequency Response Test Signal: Levine D, P May 54 Future of: Loughran AV, SQ May 56; Baker WRG, P Jan 54 Gainma Correction: Bauer JA . P Jan 54 History of: Loughren AV . SO Sen 54 IF Amplifler Design: Avins J, T-BTR Jul 54 Image Officions for Cameras: Neuhauser RG, P Jan 54 Image Quality and Perception of Color Detail: Schade OH, NCR pt 7 58 Integration of Equipment with Monochrome Facilities: Laeser PB, T-BTS Jan 56 Interference from Oscillator Radiation: Roberts WK , T-BTR Jul $54\,$ Kinescope, Focusing Grill: Ramberg EG, NCR pt 3 56 Kinescope Improvements: Janes RB, NCR pt 3 56; Grimes MJ, P Jan 54 Laboratory Receiver: Masucci C , P Jan 54 Lens-Mask Three-Gun Tube: Hergenrother RC, P Aug 55 Linearity Checker: Bauer JA, P Jan 54; Morrison WC, P Jan 54 Luminance Detail: Livingston DC, P Jan 54 Luminance Detail Rendition: Gibson WG, P Jan 54 Luminance Detail Rendition: Gibson WG, P Aug 55 Mannetic Tape Recording: Olson HF, NCR pt7 54, NCR pt7 56; Mullin FT, NCR pt7 55; Grever JL, NCR pt7 58 NCR nt 7 58
Audio Systems: Woodward JG, NCR nt 7 56
Electronic System: Houghton WD, NCR nt 7 56
Magnetic Head: Zenel JA, NCR nt 7 56
Transport Mechanism: Morgan AR, NCR nt 7 56
Mask-Focusing Colortron: Fyler N, NCR nt 3 56
Masker: Haines JH, NCR nt 7 56

Mathematical Formulations of Signal: Brown GH, $P \ Jan \ 54$ Matrixing Networks: Feingold WR, P Jan 54 Monoclirome Transmitter Alignment: Fisher JF, P Jan 54 Minsell Value Scale: Ladd JH , P Sep 55 Color Signal, Head Drum Stabilization for Recording: Kilbell LJ, WCR pt758 Directions of Improvement: Richman D, P Sep 56 Field Test: DeCola R, P Jan 54; McIlwain K, T-BTR Jan 54 Monographs: Fink DG, P Jan 54 wonouranns: Fink DG, P Jan 54 Panel Membership: National, P Jan 54 Signal Specifications: NTSC Signal, P Jan 54; Fink DG, P Aug 54, Gloystein EE, P Jan 54; Luther AC Jr, P Jan 54 Standards: NTSC, P Jan 54
Technical Coordination: Smith DB, P Jan 54
Operational Tests: Gloystein EE, T-BTR Jul 55
Optimum Demodulation Angles: Altes SK, NCR pt7 55
Parallex Mask Tube: Amdursky ME, P Aug 55,
NCR pt3 55 Performance of Facilities: Castle CX, T-BTS Jan 56
Phase Detector for Color Reference Oscillator:
Clark EG, NCR pt7 54 Phase Measurements: Morrison WC, P Jan 54 Post Deflection Focus Color Kinescope: Carpenter CP, T-ED Oct 55 Printed Circuit IF Amplifier: Ruth L, T-BTR Jul 56
Projection Receiver: Bailey WF, NCR pt7 55 Pulsed Envelope Detection: Schlesinger K, T-BTR Jan 54 Quadrature Cross Talk: Balley WF, P Jan 54 Apple Beam Indexing System: Bryan JS, NCR pt3 56; Barnett GF, NCR pt3 56; Bloomsburgh RA, NCR pt3 56, P Sep 56 Apple , Color Purity Adjustments: Moore RC , T-BTR Jun 57 Chomatron: D'Amato R, NCR pt3 56 Color Reproduction Errors: Weiss H, P Sep 54, NCR pt7 54 Design: Clann RG, P Mar 56 High-Voltage Regulator Tubes: Byram RE, T-ED, Jul 57 Laboratory: Masucci C, P Jan 54 Measurement of Pertormance: Ronzhelmer SP, T-BTR Apr 56 Nonstandard Primaries: Bingley FJ, NCR pt 7 54 Reference Generator: Rausch RH, T-BTR Jun 57 Test Stripe Signal: Farber RJ, T-BTR Jul 56 Transient Response: Avins J, P Jan 54 Transient Response vs. Chrominance Bandwidth: Baugh CW, NCR pt 3 56 Transistor Subcarrier Generator for: Kabell LJ, T-BTR Jul 55 Recording on Black-and-White Film: Hughes WL, NCR pt7 55 Recording on Black and White Lenticular Film: Brumbaugh JM , T-BTR Oct 57 Reference White in NTSC Specifications: Brewer WL , P Jan 55 Reproduction, Effects of Receiver Errors on: Welss H, NCR pt 7 54 Reproduction of Outdoor Scenes: MacAdam DL, P Jan 54 RETMA Test Stripe Signal: Farber RJ, T-BTS Oct 56 Signal Distortions in Envelope Type Detectors: Loughim BD, T-BTR Oct 57 Simulated Pictures, Subjective Sharpness of: Baldwin MW, T-BTS Mar 56 Single-Gun Sequential Display Circuits: Loughlin BD, P Jan 54; Gow JD, P Jan 54 Sound/Color Beat: Allen JE, T-BTR Jan 54 Spectral Measurements: Rado JA, P Jan 54 Standards on Terms: IRE Standards, P Jun 55 Storing on Black-and White Film: Hughes WL, NCR pt7 54 NUK BI 7 54
Studio Switching Problems: Morse HW, T-BTS Jan 56
Synchronous Demodulator: Livingston DC, P Jan 54
System Delay Characteristics: Palmer RC, P Jan 54
Technical Standards for: Wentworth JW, T-BTR Jul 56,
T-BTS Sep 56 Test Instruments: Morrison WC, P Jan 54 Test Stripe Signal: Farber RJ, T-BTR Jul 56
Transfer Characteristics: Bingley FJ, P Jan 54
Transfent Response of Receiver: Avins J,
T-BTR Jun 54, P Jan 54
Translents: Howells PW, P Jan 54 Transistor Subcarrier Generator for Receivers: Kabell LJ, T-BTR Jul 55 Transition Effects: Chatten JB, P Jan 54
Translating Microscope: Zworykin VK, WCR pt 7 57
Transmission over Coaxial Cable: Reddeck JG, Transmission Testing Techniques: Mallach LW, T-BTS Jun 57 Transmission over Inter-City Networks: Rae JR, P Jan 54 Transmitter Characteristics Effect: Fredendall GL, P Jan 54 Transmitters, Correction of Differntial Phase Distortion: Cooper VJ, T-BTS Jun 57

Transmission Tests between Florida and Cuba: Stiles KP, NCR pt8 56 Deflection and Convergence System: Gethmann RD, NCR pt3 36 Predicting Interference Levels: Walfsberg PG, NCR pt8 54 Low-Voltage Gun Assembly with Periodic Focusing: Gleichauf PH, T-ED Jan 5 Principles of: Hersliberner WD, P Apr 56 Phosphor Efficiencies: Altes SK, NCR pt3 56 Problems Between Instruments, Controls, and Man-Ziebotz HB, T-IE Apr 58 Processes Involving Learning and Random Duration: Bethnan R, NCR nt4 58 Post Acceleration: Lob CG, NCR pt 3 54 Post Acceleration with Periodic Focusing Gleichauf PH, T-ED Jan 57 Single Gun: Altes SK. NCR pt 7 54 Tricolor Vidicon Camera: Weimer PK, NCR pt 3 55 Radar Reflection Characteristics of the Moon and Earth-Moon-Earth: Senior TPA., WCR pt1 58 NUK pt 3 55
Ungated Scouential Displays: Leg GS, T-RTR Jan 55
Vitascan: Haines JH, T-BTS Oct 56
Yokes: Torsch CE, T-BTR Apr 54
Color X-Ray Pletures: MacKay RS, NCR pt 9 54
Colorimeter Barnes: James K, T-BTR Jan 54; Shannon WW, T-BTR Jan 54 Radar-Type Propagation Survey Experiments for: Lacy RE, NCR pt1 56 Riceivers, Impulse Interference Blanker: Engels R, T-CS Oct 56 Semantic Constraints in Analysis: Hauptschein A, P Aug 57 of Semantic Content, Relative Efficiency of English and German Languages for: Lowenschirss 0, T-IT Sep 58 Colorineter Photoelectric: Chatten JB., P Jan 54 Colorplexer, Autonatic Balance Control: Popkin-Clurman JR., NCR pt7 55 Colortron, Unipotential Mask-Focusing: Fyler N, NCR pt 3 56 Ship-to-Air UHF Diversity System: Altman FJ, NCR pt8 54 Single Channel Radioteletype: Voelcker HB , NCR pt8 58 Combat Computers: Luebbert WF, NCR pt 4 58 Combiner Diversity Statistics: Staras II, P Aug 56 Comet 1956 H Emission from on 600 MC: Courtez R, Single Sideband VHF: Smith JW, P Dec 56 Single Stockard Vir.: Smith Sw., P. Dec 58
Singerhighways: Beck AC, T-MTT Apr 57
Tactical Effects of Air Burst Bomb on: Eggert J, Commercial Product Development: Thainer R, NCR pt10 58 NCR pt8 56 Common System of Air Traffic Control: and Self-Contained Navigation Aids: Braverman N, T-ANE Jun 57 Technique, Rake, for Multipath Channels: Price R, P Mar 58 Telecommunications, General Systems Approach to Optimization Problems: Kalaba RE, NCR pt8 57 Standards: Morgan HK , T-ANE Jun 57 and Telemetering in Space: Wiesner JB, NCR pt5 58 Communications: of Air Force: Chappuis CK, T-CS Mar 57, NCR pt8 57 Theory:
Bibliography of: Stumpers FLHM, T-IT Sep 55,
T-IT Jun 57 in Air-Traffic Control: Stuckelman RM , T-CS Jim 58 Aircraft , Management for: Hallman LB , T-ANE Jun 57 Channel Utility of: Marcus MB , T-IT Dec 58 and Cybernetics: Gabor D , T-CT Dec 54 Circuits, Fading in Presence of Interference: Bond FE, P May 57 Model and Economics: Bagno S, NCR pt4 55 Recent Developments: Shannon CE, T-MIL Mar 57 Circuits , HF , Effect of Echo: Bailey DK , T-AP Oct 58 Consulting Engineer's Notebook: Nexon VJ , T-VC Jun 55 Statistical Dynamic Programming in: Bellman R, T-IT Sep 57 Tool, Effective, Making the Mathematical Equation: Hollander M, WCR pt9 58 Trends: Coggeshall IS, NCR pt8 54 UHF, Interference Reduction by Selective Filters: Caquelin MW, T-VC Dec 56 in Defense Industry, Technical: Eddy FN, T-EM Jun 58 Detection Theory, Applications of: Davenport WB, NCR pt4 58 Digital: Plouffe RL, NCR pt8 58; Fano RM, T-IT Jun 58 UHF Long-Range Bandwidth Capabilities: Tidd WH, NCR pt1, P Oct 55 Directional , New Trends in: Benolt RC , NCR pt8 58 Economic Analysis in Long Term Planning of Military: Krzyczkowski R , WCR pt8 58 P Oct 55

Diversity Reception: Mack CL. P Oct 55
General Description: Mellen GL. P Oct 55
Signal-to-Noise Ratio: Brennan DG, P Oct 55
Single Sideband: Stewart RF, P Jul 57;
Morrow WE, P Dec 56
Spacing of Radio Terminals: Gerks HJ. P Oct 55
VHF Transhorizon: Ringven RM, NCR pt8 56
by Vibratory Tactile Stimuli: Hirsch J. T-ME Dec 56
Community Television Systems: Taylor AS, T-RTS Sep 56
Community Device Designs Kiebert MV, T-TRC Aug 54
Communitation Switches for High Sampling Speeds:
Switzer WL, NCR pt5 57
Communitation System, Low-Level, for Telemetry Applications Equipment, Application of Transistors in: Holmes DD, P Jun 58 Engineer's Role in American Railroading: Albertson JN , T-VC Jun 55Exploitation of Physical Phenomena for: Ryerson JL , NCR pt8 58in the Field Army: Hutchinson HP, T-CS Mar 57 n die Freis Army Futchings n.P., 1-05 Mar 57 as a Ganie: Blachman NM. WCR pt2 57 Growth of: Royden GT, T-CS Sep 57 Interlerence Produced by UHF Scatter and Line-of-Sight Systems: Ringoen RM, NCR pt8 56 Commutation System, Low-Level, for Telemetry Applications: Shandelman F, T-TRC Apr 57 Interplanetary Travel: Castruccio PA, T-ANE Dec 57 Merit Criteria: Hauptschein A, T-IT Mar 57 Commutation: Two-Track, Binary Codes for: Tompkins HE, T-EC Sep 56 Meteor-Burst: Airborne Measurements of VHF Reflections: Casey JP , P Dec 57 Commutators: Design for Telemetering Systems: Brinster J, T-TRC Apr 57 Choice of Frenuencies for: Meeks ML, P Nov 58 Directional Characteristics: Eshleman VR, P Dec 57 Electronic: Slavin P, T-TRC Apr 57 Low-Level Magnetic: Kalbfell DC, WCR pt 5 57 Subcommutator, Low-Level Electronic: Walter JM, T-TRC Apr 57 Experimental Equipment: Carpenter RJ, WCR pt1 57 Extended Range VHF: Vincent WR. P Dec 57
Facsimile: Bliss WH. P Dec 57
Intermittent: Montoomery GF. P Dec 57
Intermittent, with Fluctuating Signal:
Montgomery GF, P Dec 57 Switch Development for Critical Applications: Gerring FH, T-TRC Apr 57 Transistorized for Telemetering: Sacks JM, T-TRC May 57 Compactness of an RC Quadripole: Slepian P, T-CT Mar 58 Compandors for FM System: Harp MC, T-CS Jul 54, T-MTT Apr 54 Comparators Microwave: Matthews EW, T-1 Oc. 55 JANET, Bandwidth Considerations: Campbell LL, P Dec 57 JANET . Canadian System: Davis GWL . P Dec 57 JANET . Principles of: Forsyth PA . P Dec 57 Meteor Radiant Distributions: Mecks ML , P Dec 57 Comparators, Quadrature Time Base, for Automatic Frequency Measurement: Weber IJ, NCR pt5 56 Comparisons, Comprehensive, and Business Decisions: Compass, Inertial, Earth's Rate Directional Reference: Feldman N, WCR pt5 58 Compass, N-1: Rosaler RC, NCR pt5 54 Oblique Path Propagation: Vincent WR , P Dec 57 Propagation Characteristics and Equipment Design: Vincent WR , WCR pt1 57 Storage Capacity: Campbell LL, P Dec 57; Helbig WA, P Sep 58 Compatible Single Sideband for Broadcasting: Kahn LR, WCR pt7 57 Storage Capacity Required: Rach RA, P Dec 57 Transmission Error Function for: Montgomery GF, P Jul 58 Compatibility Problems in Stereophonic Disk Reproduction: Bauer BB, NCR pt7 58 Compensated Hot Thermopile Principle Industrial Instrumentation: Hastings CE, T-1 Jun 57 Wavelength Dependence of Information Capacity: Eshleman VR , P Dec 57 Conpensation for Cascaded Actuators in Feedback Loop: Axelby GS, WCR pt4 58 Microwave, Private, of Industry: Long FV, WCR pt8 57 Compensation of Multiloop Control Systems: Lebell D, WCR pt4 58 with Moving Trains in Tunnels: Monk N. T-VC Dec 56 through Noisy Random-Multipath Channels: Turin GL, NCR pt4 56 Compensation Networks for Ceramic Phonograph Reproducers: Bauer BB , T-AU Jan-Feb 57 Compensation Theorem: Weiss GH, T-CT Mar 57; Papoulis A, T-CT Mar 56 Operations Research Planning: Higdon RV, T-CS Dec 57 Over-the-Horizon Radio Link: Complex-Impedance Recorder: Sharaf HM, NCR pt6 54 Complex Symbolism in Time-Varying Networks: Bolle AP, T-CT Mar 55 Broadband, between Florida and Cuba: Adams RT, NCR pt8 56

between Puerto Rico and Dominican R public: Gray RE , NCR pt8 56

Complexity and Unreliability in Electronic Equipment: Scheer GH , T-AU May-Jun 55 Components: Application of Box Technique to Evaluation of: Glaser R, T-RQC Sep 58 Assembly, Automatic Wire-Wrap Machine for: Wilson HF, NCR pt6 57 Automatic Testing: Walter VW, T-IE May 58 Automation Manufacturing Problems: Postle AH, T-PT Ap. 58 Bottleneck in a Peacetime Production Profile: Kalın L, T-PT Apr 58 Cerumic, Advances in: Schlicke HM, WCR pt6 5B Development of Air Defense Computing System: Heath HF, T-EC Dec 56 Development for Microminiaturization: Stone HA, NCR pt6 5/ Electromechanical, Production Design: Gruenwald GD, T-PT Apr 58 Electronic-Career Evaluation: Holm W, SQ May 55 Effect of Nuclear Radiation: Baldwin T, NCR pt8 56 Modular: James WG, T-CP Sep 56

New Testing Concepts for Reliability: Grumet H,
T-RQC Jan 5/

Rating System for: Lamb JJ, T-RQC Feb 56 Unreliability of Universal Component: Acheson MA, T-RQC Jan 5/ 1-RQC Jan 5 /
Engineer, Contribution to Equipment Reliability:
Brown RW, WCR pt10 5 /
Engineer and the Sales Engineer, Partners in Reliability:
Knox PC, NCR pt6 58
Engineering Profession: Lee LK, T-CP Mar 54;
Newton KV, SQ Scp 56
Engineering, Reliable System Design by: Walance CG,
T-RQC Scp 58 Failure Rate Analysis: Vander Hamm RL, NCR pt6 58 for High Voltage OC Power Supplied: Wouk V, WCR pt6 57 History, Present Status, and Future Developments: Darnell PS, T-CP Sep 58 and Materlais, Effect of High Intensity Radiation on: Lascaro CP, NCR nt6 58 Modular, Pin Shaped: Heibel JD, WCR pt6 57 for Nuclear Radiation Environment: Clark JW, NCR pt6 58 NCR pt6 58
Passive, of Submarine Cable Repeaters, Reliability of:
Wooley MC, T-RQC Nov 57
Performance, Application of Taylor's Series for
Determining: Heyne JB, NCR pt6 58
Process Planning for Maximum Capability: Jensen OH,
WCR pt6 57 Reliability: Contributing Factors: Goetz JA, T-RQC Apr 55 DC Overpotential Testing for: Wouk V, NCR pt10 57 Information in Circuit Design: Xavier MA, T-RQC Sep 58 Measurement of: Munson IK, T-RQC Aug 57 through Standardization: Curtis GD, T-CP Nov 55 In Rockets and Missiles, Life Testing of: Lloyd DK, T-RQC Dec 58 Sampling vs Rating Dilemma on: Hecht B, WCR nt6 58 Sequential Test for Comparing Reliability of: Stevens CF, T-RQC Nov 57 Tester, Semiautomatic Circuit: Brammer FC, T-IE Aug 5B User's Problems: Okim AM, T-CP Scp 54 Composite Video Signal, Waveforms and Spectra: Chatten JB, T-BTR Jul 55 Composites, Electronic, in Modern Television: Kennedy RC, P Nov 58 Comptroller's View of Problems in Adapting to Automation: Cadwallader JA, T-PT Apr 58 Compound Connection, Darlington's, for Transistors: Ghandhi SK, T-CT Sep 57 Compound Modulation for Magnetic Tape-Recording: Newhouse GB, NCR nt10 55 Computers: anuters:
In Air Traffic Control: Elbourn RD, NCR pt8 57;
Stokes HS, T-ANE Sep 58
Airborne Dinitac: Bolles EE, NCR pt5 54
Airborne, Flight Testing of: Grabbe EM, NCR pt5 54
Aircraft Navigation: Marner GR, NCR pt5 55 Amplifier Circuits: Amemiva H. P Oct 56 Anticipatory Display Through Use of: Fogel LJ, WCR pt4 58 Career Evaluation: Irish LA, SO May 56
Decimal Code for Analog-to Digital Conversion:
Liquel 8, T-EC Dec 55 Demonstration of Conditional Stability on: Nathan A, T-EC Dec 57 Desk Model: Rosen HA, T-EC Dec 54
Derivations of Roots of Polynominals: Levine L,
NCR pt4 57 Digital, Simulation at Real-Time Rate: Bauer WF, NCR pt4 57 Din-Lag Correlator: Sasseen JH, T-EC Sep 57 Driving Point Impedance Synthesis: Karplus WJ, T-CT Sep 57

Employing Network Analogy Techniques: Kaufer GE, T-ME Jul 57

Error Analysis of: Marrocci VA , T-EC Dec 56

Function Generation Technique: Rearick DF, T-TRC Aug 55 Impedance Networks as: Cremosnick G, P May 58 Installations Survey of: Wadel LB, T-EC Jun 55 Integral-Error-Squared-Method for Evaluating Com-ponents: Bruns RA, T-EC Mar 57 in Jet Engine Tosting: Burns LF, T-I Jun 56
Magnetic Drum: Douce JL, T-I Jun 56
Manfacturing Scheduling Problems: Gravel JPJ,
T-PT Apr 57, TIE Mar 57
Motor Speed-Control System Analysis:
Bradburn WJ, T-IE Apr 58, T-PT Apr 57 Multiplier Multiple Input: Porter DD, NCR pt4 56 Multiplier, Time-Division: Lilamand ML, T-EC Mar 56 Multipliers and Squarers Using Multigrid Modulator: Sydnor RL, T-EC Jun 56 Picard's Method Considered: Tomovich R, T-EC Mar 57 Predictor Design Applications: Bates MR, T-EC Sep 57 Preventive Maintenance Program for Large General Purpose: Sykes RP, NCR pt4 58 Programming, Signal-Flow Graphs Analysis: Wing 0, T-CT Dec 56 Programming Chemical Kinetics Problems: Wheeler RCH, T-IE Mar 56 Reactivity Computer: Stubbs GS, T-NS Mar 57 Redundant Integrators: Scott NR, T-EC Dec 57
Repetitive, Working Time: Fuchs A, T-EC Jun 56 Representation of Constraints by Means of Differential Analyzer: Greenwood DT, T-EC Sep 56 Slow Type, Computing Errors of: Miura T, T-EC Dec 58 Solving Microwave Problems by an: Byck DM, WCR pt1 58 Statistical Functions Evaluated by: Favreau RR, NCR pt4 56 Switch for Simulation and Autocorrelation: Diamantides ND, T-EC Dec 56 Systematic Tracing of Discrepancies: Grosswald E, NCR pt4 57 NCR pt4 57

Ingents, Solution of: Preston FS, T-EC Sep 55

Techniques Applied to Control System Design:
Goggio EC, T-IE Apr 58

Time Varying Networks, Analysis of:
Laning JH, T-CT Mar 55

Transistors in Current-Analog Computing:
Kerfoot BP, T-EC Jun 56

Trigonometric Problems, Analog Computing
Technique for Solution of: Robinson AS,
T-EC Sep 55 Trigonometric Resolution in: Howe RM, T-EC Jun 57 Variable Function Delay: Stone RS , T-EC Sep 57 vs Digital: for Process Control: Stout TM, T-AC Nov 57 Techniques for Engineering Design Problems: Breedon DB , T-IE Mar 57 , T-PT Apr 57 in Analysis and Design of Control Systems: West GP , T-AC Jul 58 Arithmetic , Significant Digit: Metropolis N , T-EC Dec 58 Automatic Control Systems , Role In: Cohen AA , NCR pt4 54 Automatic Power Spectrum: Smith HW, T-I Dec 57 Automatic Power Spectrum: Smith HW, T-I Dec Balanced PrecIsion Reference Regulator for: Noden DA, NCR pt4 58 Bimiag Circuits: Miehle W, NCR pt4 55 Biological: McCulloch WS, T-EC Sep 57 Complexity of: Quastler H, T-EC Sep 57 in Flight Control: Fogel LJ, T-EC Sep 57 Human Memory: Miller GA, T-EC Sep 57 B!ZMAC, RCA Input and Output Devices: Brustman JA, NCR pt4 56 Interrogation in: Beaulieu DE, WCR pt4 57 Logic Design of: Beard AD, NCR pt4 56 Trancoder: Beaulieu DE, WCR pt4 57 for Canadian Automation Postal System: Barszczewski A, NCR pt6 58 Central Facility for Processing Test: Allmon EC, T-I Jun 56 T-1 Jun 56 1-1Jun 36 Checking Codes for Digital: Diamond JM, P Apr 55 Combat: Luebbert WF, NCR pt 4 5B Control, Operations Research for: Macqueene PH, T-AC Dec 58 Course Line in Air Traffic Control: Sherer LM, T-ANE Jun 55 Cryotron: Buck DA, P Apr 56 Data Systems; For Analysis of: Wadel LB, NCR pt4 55 Differential Analyzer Design: Braun EL, NCR pt4 54 Air Traffic Control, Terminal, System for: Braun EL, WCR pt5 58 Airborne, Equipment Construction: Boron PE, NCR pt6 57 Binary Parallel, Two's Complement Multiplication in: Robertsen JE, T-EC Sep 55

nd Boolean Algebra: Schmidt WG, SQ Dec 56

Boolean Matrix Analysis of Campeau JO, T-EC

Closed-Loop Control Systems With: Teichmann T,

Dec 57

T-EC Sep 55

Corracter Recognition Devices Design Considerations for: Greamas EC NCR pt4 57 Compensation for Centrel and Simulation: Too J P Son 57
Continuous Control System: Braum EL, NCR pt4 57 Continuous Control System Brain EL, NCR 614 5
T-EC Jun 58
In Control Systems: Safzer JM IP Feb 54
Data Editing: Gordon BM, T-TRC Apr 57
Data Hudding System, High Speed: Johnson RA,
NCR 615 57 Decimal Code for Analog-to-Digital Conversion-Lippel B., T-EC Dec 55 Decoder, Cyclic Digital-to-Analog: Myers GH, NCR pt4 57 NCR pt.4.57
Design: O'Neill RJ, NCR pt.6.55
Design by Algebra: Nelson EC, T-EC Sep.54
Directional Antenna Patterns, Calculation of:
Bergens S, T-BTS Dec.58
Electro-Data Directal Computer, Engineering Description: Alrect JC, T-EC Mar.55
Electromainetic Problems: Ritter EK, T-AP Jul.56
First Carry Logic for: Gilchrist B, T-EC Dec.55
in Fredback Control Systems: Ranazzini JR,
NCR pt.4.57 NCR pt4 57
Frequency Analysis: Salzer M., P Feb 54 General Purpose, Logical Design: Frankel SP, T-EC Mar 57 General Purpose of Minimum Complexity: Franket SP T-EC Dec 58 F-EC Dec 58
High-Spred: Shiowitz M. T-TRC Aug 54
Information Processing for Machine Tool ControlSusskind AK, NCR pt4 57
Ladder Coefficients Filters, Calculation of:
Skwirzynski JK, T-CT Dec 58
Logic Circuits, Diodeless, Magnetic CoreRussel LA, NCR pt4 57
Logic Circuits Using Targettees, Parkey U.S. Logic Circuits Using Transistors: Bothwell TP , T-EC Sep 56 Logic Design Symbolism for Transistor Circuits O'Toole JB , WCR at4 57 Long-Life Circuits , Designed by Use of: Alman J NCR pt4 57

Multiplication In, Two's Complement in Binary
Parallel: Robertson JE, T-EC Sep 55

Musical Composition: Brooks FP T-EC Sep 57 Network Analysis and Synthesis: Mayeda W, WCR 012 57 and Network Theory- Bashkow TR, WCR 012 57 Nonreciprocal Networks, Analysis of: Mayeda W NCR 012 58 Numerical Analysis of Drift Transistor Switching Times: Mitchell A, NCR pt3 58 for Operational Flight Trainer: Dunn WH. T-EC Predistorted Fileter Desigh With a: Goffe PR, WCR pt 2 58 Processing Telemetry Data: Dannals GC, NCR Simulation Experiments With Speech Using: David Simulation Experiments With Speech Using: David FE Jr, WCR nt 7 58 Stability of Method of Spoothing in Digital Control Computer Karush W, T-EC Mar 55 Transistor Amplifiers for: Simkins OW, P Jan 56 P Aug 56 Tests on Cell Assembly Theory of Action of Brain: Rochester N , T-IT Sep 56 Transistor Amplifiers For: Simkins QW, P Jan 56, Aug 56 Transistor Circuity for: Wanlass CL , T-EC Mar 55 Transmission Network Design: Bull DT , WCR pt 2 57 UDOFT, Five Microsecond Memory for: Ashley AH, WCR pt4 57: vs Analog: for Engineering Design Problems: Breedon DB, T-IE Mar 57, T-PT Agr 57 for Process Control: Stout TM, T-AC Nov 57 in Western Europe: Blachman NM, T-EC Sep 56 Diodes, Millimicrosecond Diffused Silicon: Forster JH, WCR pt3 58 Drum, Minimum Time Programming on: Sluffman B, NCR ot4 58 Electronic, Standards on Terms: Sherr S, P Jul 54, P Sep 56 Electrostatic Reading of Perforated Media: Lubkin S, NCR pt4-54 Fabrication and Circuit Techniques: Herzfelu F, P Dec 58 Fourier Analysis by Machine Methods: Clark JR , T-EC Sep 56 Frequency Domain, Analysis of: Boxer R, NCR pt10 55, P Feb 55 Generation of Several-Variable Functions: Meissinger HF, NCR pt4 55 Germanium Tape Reader: Langevin RA, NCR pt4 54 For Guided Misside Data: Morris HN, NCR pt10-55 High-Speed, Junction Transistor Switching Circuits: Prom GJ, T-EC Dec 56 High-Speed Power Transistors for: Westberg RW, WCR pt3 57 IBM Type 701: Glosch HRJ, P Jun 54; Buchholz W, P June 54 Information Rate: Scott NR , NCR et4 54
Input-Output Philosophy: West CF , T-TRC No. 54

Input and Output, Randomly Timed: Turner LR, T-EC Jun 58 International Analogy Computation Meeting: Blackman NM, T-EC Mar 56 JAINCOMP Design: Jacobs DH, NCR pt4 54 Large, Automatic Techniques and Engineering Calculations: Paschkis V, T-IE Aug 58
for Load Capacity Analysis: Gravel JPJ, T-IE Mar 57, T-PT Apr 57 Logical Circuitry: Zembel N. NCR nt4 54 Logically Micro-Programmed: Blankenbaker JV, T-EC Jun 58 Management Problems of Installation: Brooks FP Jr, T-EM J 156 Marinetic Cores: Circuits Guterman S. NCR and 54 for Louical Functione: Guterman S. P. Mar 55 Materials: Van Sant O.J. F. NCR and 54 Read-Out- Papoulis A. P. Aug 54 Selection Systems: Guterman S. NCR atd 54 Magnetic Drum: Extension to Gamma 3 Computer: Dreyfus PL, NCR pt4 56 Sorting System: Cox B , NCR pt4 56 in Univac: Porter VJ , NCR pt4 56 Magnetic Reading and Recording Head: Brower DF , NCR pt4 55 Magnetic Selection System: Sepahban AH, NCR pt4 55 Methods for Estimating Weibull Parameters in Re-liability Studies: Kao JHK, T-RQC Jul 58 Miniaturized Diodes: Lutz SG, NCR nt3 54 MOBIDIC System Organization of: Terzian J, WCR pt4 57 Navigational , ASN-7: Frangoutis S1, T-ANE Sep 56 Navigational Doppler Radar: Insalaco JJ, T-ANE Dec 57 For Network Design: Bangert JT, NCR pt2 55 NORDIC II: Jeeves A, WCR pt4 57 Numerical Analysis of Drift Transistor Switching Times: Mitche I A, NCR pt3 58 Operational Amplifier: Nitzberg R, P Jun 57 Optimized Data Encoding: Kantz WH, NCR pt4 54 Orlented Toward Spatial Problems: Unger SH, P Oct 58 PhotomultIpfiers , Possibilities of: King G , SQ Dec 54 Predistorted Filter Design With a Digital: Geffe PR , WCR pt2 58 Printers , Burroughs G-101 High Speed: DiGiulio EM , NCR pt4 56 in Process Control , Systems Considerations for: Braun EL , NCR pt4 58 in Process Industry: Gunning WF, T-EC Jun 58, NCR pt4 57 Programming, Frequency Analysis: Salzer JM, P Feb 54 Progress in: Progress in:

1953: Radio Progress, P Apr 54
1955: Nash JP, T-EC Mar 56
1956: Review, T-EC Mar 57
1957: Castamas RP, T-EC Mar 58
Pulse Analous: Ruberfeld N, NCR pt4 57
Quartz Delay Lines: Spaeth DA, NCR pt6 54
RAKE, Binary BCD Buffer: Mooney JF, WCR pt4 57
Reflected Number Systems: Flores I, T-EC Jun 56
Reliability in Circuit Design: Taylor NH,
P Jun 57 Sequence Extrapolating Robot: Hagelbarger DW, T-EC Mar 56 Sampling Parametric, Computing Techniques: Hirsch CJ, T-EC Jun 57 Simulation Chain for Research on Picture Coding: Graham RE, WCR pt4 58 Simulation of a Human Tracking Problem: Platzer HL, WCR pt4 58 Simulation of Transistor Switching on IBM:
Domenico RJ, T-EC Dec 57
System Compensation: Salzer JM, NCR pt5 54
Tape Transport, RCA: Baybick S, NCR pt4 57
Tluce-Core High-Speed Memory Cell: Raffel J,
NCR pt4 55 Transformers, Design of: Etchison W, T-CP Mar 58 In Transistor Circuits, Mapping Vacuum Tube: Monroe GR, WCR pt4 58 Transistor-Magnetic Core Memory Cell: Guterman S , NCR pt4 55 Transistor Shift Registers: Huang C, NCR pt4 54
Transistor Switching Circuits: Beter RH, NCR pt4 55 Transistor Switching Circles: Weler RH, NCR 1945
Transistor Seed, for Airborne and Mobile Systems,
Transac C-1100: Hollander GL, T-ANE Sen 58
Transistors, Annication of: Henle RA, P Jon 58
Translators: Koutsoudas A, SQ May 57
TRICE High Speed Incremental: Mitchell JM,
NCR p44 58 Univac Magnetic: Drum Memory: Porter VJ, NCR pt4 56 Logical Design and Specifications: Gehring AJ, NCR pt4 56 Megacycle Magnetic Modules: Smith BK, NCR pt4 56 for Vector Electrocardiography: DeCote R , T-ME Jul 57 Wind Tunnel Data Accumulation: Wedel JJ, T-EC Mar 56 Computing Amplifiers Using Transistors: Krause CA, T-EC Sep 58

Circuit Design: Nienburg RE, T-EC Dec 56

Computing and Error Matrices in Linear Differential Analyzers: Nathan A, T-EC Mar 58 Computing System for Air Defense: Circuit Design: Nienburg RE, T-EC Dec 56
Component Development: Heath HF, T-EC Dec 56 Marginal Checking and Maintenance Programming: Astrahan MM , T-EC Dec 56 Conductance, High Negative, Circuits for: Reich HJ, P Feb 55 Conductance, Input, of Thin Antennas: Barzillai G, T-AP Jan 55 Conductance of Slots: Wait JR, T-AP Apr 56 Conducting Media, Transients in: Richards PI, T-AP Apr 58 Conductive Ceramics: Post 7A, T-CP Jun 58 Conductive Coatings , Shielding of Radio Waves by: Hill EL , T-AP Apr 55 Conductivity of Single Crystal Al₂ 0₃: Morgan RB, T-ED Feb 54 Conductor, Series Laminated: Ataka H., P Oct 54 of Arbitrary Cross Section , Characteristic Impedance of: Carrel RL , T-AP Apr 58
Semi-Infinite , Asymptotic Expansion of Diffracted Wave: Felsen LB , T-AP Oct 57 Slotted, Surface Fleids Produced by: Held G, T-AP Oct 57 Small-Angle, Plane Wave Scattering by: Felsen LB, T-AP Jan 57 Surface, Current Distribution to Produce a Prescribed Radiation Pattern: Unz H, T-AP Apr 58 Conical Taper in Circular Waveguide, Design of: Solymar L, P Mar 58 Conjugate-Image Point , Geometrical Construction for: Kahn WK , P Jan 57 Connectors, Miniaturized, High Altitude: Stuart CH, T-CP Dec 56 Connectors , New Rugged Multicontact: Spergel J , T-CP Mar 58 Constant Amplitude Speech: Ferrell PJ , NCR pt8 58 Constant Resistance AGC Attenuator for Transistor Amplifiers: Hurtig CR , T-CT Jun 55 Constrained Systems , Reliability Criterion for: DiToro MJ, T-RQC Sep 56 Constraints, Representation by Means of an Electronic Differential Analyzer: Greenwood DT, T-EC Sep 56 Consulting Engineering, Field of: Reed 0, SQ Feb 57 Contact Potential, Tube Processing Effects on: Maloney E, T-ED Feb 54 Maloncy E., T.-ED Feb 54
Contractor Control Systems: Flugge-Lotz I, WCR pt4 57
Continuous-Modulated Intelligence Corrupted by Noise:
Youla DC, T-IT Mar 54
Continuous Signals, Sampling Principle for:
Balakrishnan AV, T-IT Jun 57
Contour Mapping, Frequency, System Study Through:
Fisher JH, T-I Mar 58 Contract, Government, Cost-Plus-Fixed-Fee: Dempster B, WCR pt9 5B Contract Implications of Military Electronics Reliability Requirements: Allen J, WCR pt6 58 Contract Reports , Government , Maximum Utility in: Herold EW , P Jan 58; Warren FH , P Nov 58 of Artificial Respiration, Electronic: Montgomery LH, T-ME Jul 58 Automatic Card Programmed, of Reversing Mills: Browning EH, T-IE Apr 58 Computer, Operations Research for: Macqueene PH, T-AC Dec 58 Inductosyn to Machine: Winget JL, T-IE May 58 Industrial Data Translation Equipment for: LaFontaine JF, T-IE May 58 Industrial, Magnetic Amplifiers In: Geyger WA, T-IE Apr 58 Machine, Transducers for: Shell JK, T-IE Mar 5B and Measurement, Classification System for: Keller EA, T-IE May 58 Nonlinear Feedback, Systems, Analysis of: Mikhail SL, WCR pt4 58 Process, Analog vs Digital Computer: Stout TM, T-AC Nov 57 Pulse-Width of Transistors: VanScoyoc JN, T-IE May 58 Sequential, of Chemical Batch Processes: Laird JP, T-IE Aug 58 Sortation, Electronic Approach to: Burtness RW, T-IE May 58 Adaptive or Self-Optimizing , Nonlinearity In: Taylor CF , T-AC Jul 58 Adaptive , Survey of Aseltine JA , T-AC Dec 58 Amplitude Sensitive , Nonlinear , with Stochastic Inputs: Shen DWC , WCR pt4 57 Automatic Cruiser for Turbojet: Genthe WK, WCR pt4 57 Closed Loop, Containing a Digital Computer: Telchmann T, T-EC Sep 55 Closed Loop, with Error Sampling: Stewart RM, P Nov 58 Compensation of Multifoop: Lebell D, WCR pt4 58
Complex, Combined Hysteresis and Nonlinear Gains
in: Halstenberg RV, T-AC Jul 58
Computers in Design of: West GP, T-AC Jul 58
Control Features of Magnetic-Drum Telephone Office:
Malthaner WA, T-EC Mar 55 Design Analog Computer Techniques In: Goggio EC, T-IE Apr 58

Digital Airborne: Klein SI, T-TRC Mar 56 Digital Compensation for: Tou J, P Seo 57 Digital Computers in: Salzer JM, P Feb 54; Ragazzini JR, NCR pt4 57; Braum EL, NCR pt4 57 Digital Control Computer, Stability of Method of Smoothing in: Karush W, T-EC Mar 55 for Digital-to-Shaft Positioning: Wulfsberg AH, NCR pt5 54 Direct Synthesis through Block Diagram Sub-stitutions: Smith OJM, NCR pt4 57 Feedback, Terminology for: Axelby GS, T-AC Mar 58; Proposed Standards, T-AC Mar 58, Amber GH, T-AC Dec 58 with Limiting Constraints, Final-Value, Realization of: Booton RC, T-AC Jul 58 Multiply-Instrumented: Stewart RM, T-AC Nov 57 Nonlinear: Analysis of Pilot-Induced Oscillations: Van Horn IH. NCR pt4 57 Compensating Networks for: Mishkin E, NCR pt4 57 Numerical, for a Drivmatic Riveter: Lakin HM, WCR pt6 58 Design and Comparison of: Flugge-Lotz I, WCR nt4 57 for Stabilizing a Missile: Atran L, T-AC Nov 57 Synthesis of: Flugge-Lotz I, T-AC May 56 for Wide Range Input Signals: Tou J, NCR pt4 57 Optimum Lead-Controller Synthesis: Walters LG, T-CT Mar 54 Photoelectric Registration: Frommer JC, T-IE May 58 Probability Density Optimization: Axelby GS, WCR pt4 57 Random Input, Nonlinear: Booton RC, T-CT Mar 54 Sampled-Data, Pulse Transfer Function: Mori M, T-AC Nov 57 Sampling in: Kukel J, NCR pt4 57 Sampling in: Kukel J, NCR pt4 57
Switching Discontinuities in Phase Space:
Hung JC, NCR pt4 57
Controlled Fusion Power: York H, WCR pt9 57
Controlled Fusion Research: Post RF, P Feb 57
Controlled Fusion Research, Microwave Measurements in:
Heald MA, NCR pt9 58 Controlled Inhomogeneity in Solids: Herold EW, P Nov 57 Controlled Thermonuclear Fusion: Herold EW, NCR nt9 58 Controls, Man, and Insturments, Communication Problems Between: Ziebolz HB, T-IE Apr 58 Convergence Conditions in Alternating-Current Bridge Net-works Using Phase Selective Indicators: White WE , T-I Sep 57 Conversion, Analog-to-Digital: of Carrier Excited Transducers Using Programmed At-tenuator: Zweizig JR , T-1 Jun 56 DC Amplifiers and Passive Elements: Smith BD, T-1 Jun 56 Precision Shaft-Position Encoders: Frank WI, T-1 Jun 56 Sine-Cosine Angular Position Encoders: Spaulding CP , T-I Jun 56Quantization of Signal Plus Random Noise: Myers GH , T-1 Jun 56Converters-Verters: Analog-to-Digital, High Speed: Klein ML, T-I Jun 56 Analog-to-Digital, Binary Coded Decimal: Ziserman M, T-I Jun 56 Decimal-to-Binary or Binary-to-Decimal: Couleur JF, T-EC Dec 58 Microwave, Using Diode: Bronwell AB, P Jul 54 Negative-Impedance: Larky AI, T-CT Sep 57 In RC Active Networks: Yangigisawa T, T-CT Sep 57 Transistorized Digital-to-Analog: Rowe WD, T-1 Mar 58 Voltage-to-Digital, Transistorized, Airborne: MacIntyre RM, WCR pt4 57 Convex Surface Reflections: Brandstatter JJ, WCR pt1 57 Cooled Electronic Equipment, Forced Convection, Predic-tion of Temperatures in: Fried L., T-CP Jun 58 Cooling Airborne Equipment: Cold Plate Design: Mark M, T-ANE Mar 58
Commercial Aircraft: Ellison TA, T-ANE Mar 58
Evaporative-Gravity Technique: Mark M,
T-ANE Mar 58 Forced-Air Direct-Contact: Jordan T, T-ANE Mar 58 General Aspects: Post EA, T-ANE Mar 58; Kaye J, T-ANE Mar 58 High-Speed Aircraft Problems: Carhart NA, T-ANE Mar 58 Linuid Cooling: Robinson W, T-ANE Mar 58
Natural Cooling: Welch JP, T-ANE Mar 58
Requirements: Lyons LJ, T-ANE Mar 55
Temperature Limits and Ratings: Welsh JP,
T-ANE Mar 5B Temperature Measurement: Rohsenow WM , T-ANE Mar 58 Copper Magnetron Parts Fabrication: Caprarola LJ, T-E0 Feb 54 Cores, Switching Characteristics of Permalloy: Rossing TD, T-EC Sep $58\,$

Cores, Toroldal, Calculation of Inductance of: Schwartz RF, P Oct 57

Cornell Radio Polarimeter: Cohen MH, P Jan 58 Corner-Reflector Antennas, Gains of: Cottony HV, T-AP Oct 58 Corona Discharger for Aircraft: Tanner RL, NCR pt8 57 Correlating Equipment for Medical Research, Electronics Kaplan LM, WCR pt5 58 Correlation: Detector Theory of Noise: Horowitz M., T-IT Dec 55
Detectors, Output Signal-to-Noise Ratio: Green PE,
T-IT Mar 57 Effects on Combiner Diversity: Packard KS Jr., P Jan 58 Function of Smoothly Limited Gaussian Noise: Baum RF, T-IT Sep 57 Function of a Sine Wave Plus Noise: McFadden JA, T-IT Jun 56 Functions, Representation: Kaufman WM, NCR pt2 55 Properties of Random Signals, Limits on: Kraus G, T-CT Dec 56; Lampard DG, T-CT Dec 56; Silverman RA, T-CT Dec 57 Soviet Literature on: Green PE, T-IT Jun 56 Systems, Active Space-Frequency: Kock WE, NCR pt8 58 Correlator, High-Speed: Bell H, T-EC Jun 54
Correlator, Microwave: Wilcox RH, P Oct 54
Correlators, DIp-Log: Sasseen JH, T-EC Sep 57
Corrosion Proofins: Blondi FJ, T-ED Feb 54
Corrugated Conductor, Oblique Waves Over: Hougardy RW, T-AP Oct 58 Corrugated Plane Surface: Elliott RS, T-AP Apr 54 Cost Control in Engineering: Dempster B, T-EM Mar 55
Cost Control in Research and Development: Finison HJ,
T-EM Nov 54 Cosmic Background Radiation Distribution of: Ko HC, P Jan 58 Cosmic Radiation, Exposure Hazards in Extra-Atmospheric Flight: Schaefer HJ, T-ME Dec 56 Cosmic Rays and Radio Noise, Production of: Marshall L, P Jan 58 Cosmical Electrodynamics: Piddinuton JH. P Jan 58
Cotton-Mouton Effect in Ferrites: Kemanis G. P May 57
Countermeasures Simulator, Radar: Sternlicht L, NCR pt8 58 Counters: Asynchronous: Robertson JE, T-EC Mar 56
Bidirectional Logic of: Golay MJE, T-EC Mar 57
An Emitter-Follower-Coupled High-Speed: Horn 1,
WCR Pt4 58 Logical, Some Notes on: Brown RM, T-EC Jim 55
Transistor Magnetic Core: Irons HR, P Dec 58
Cerenkov, in High Energy Physics: Wiegand CE,
T-NS Dec 58 Cerenkov, Relative Scintillation Intensity: Madey R, T-NS Nov 56 Decade Ringer, Using Avalanche-Operated Transistors: Lindsay JE, T-CT Sep 57 Decimal Transistorized, with Neon-Bulb Read-Out: Lohman RD, WCR pt5 57 Differential Cerenkov: Baldwin DE, T-NS Dec 58 Electronic, As Industrial Tool: Cunningham JR, WCR pt6 57 Ferroelectric Devices for: Wolfe RM, T-CT Sep 57 Flux Quantized: Bacon JR, WCR pt4 57 Gray Code: Fischmann AF, T-EC Jun 57 Liquid Scintillation, Applications of: Hayes FN, T-NS Dec 58 Looleal Blnary Notes on: Brown RM, T-EC Jun 55 Magnetically Controlled: Sands EA, NCR pt4 57 Programmed, for Generating Sine Function: Harris JN, T-EC Mar 56

Counting:

Automatic, Bacterial Cultures: Alexander NE, T-ME Dec 58

Circuits, Nuclear, Transistorization of: Graveson RT, T-NS Aug 58

Scintillation, in Experiments on Parity Conservation: Hayward RW, T-NS Dec 58 Scintillation, Special Purpose Photomultiplier for: Schenkel FW, T-NS Dec 58

Antenna, Multiple-Frequency: Scaler HR, NCR of 10-55 Circular-Polarization: Cohn SB, P-0ct 54 Directional: Sforrazza P, NCR of 8-54 Addenda to Bibliography: Medburst RG, T-MTT Apr 55

Bibliography: Schwartz RF, T-MTT July 54

Coaxial Line to Waveguide: Lombardini PP, WCR pt1 57

Methods: Goldsmith AN, T-EM Mar 58
Stimulation, Need for: Carter EF, SQ May 57
Creativity. A Symposium: Ramo S, 50 S o 57
Creeping Waves for Objects of Finite Conductivity: Franz W, T-AP Jul 56 Crisis in Education: Lounhren AV, T-E Mar 5B
Crisis in Endineering Education: Stewart JL, T-E Jun 58
Criteria for Stability: Cutteridge OPD, T-CT Jun 5B
Cross-Correlation, Effect of Instantaneous Nonlinear Devices on: Leupnik R, T-IT Jun 58
Cross-Correlation Property for Stationary Random Processes: Brown JL, T-IT Mar 57 Cross Correlator, Dip-Log: Sasseen JH, T-EC Sep 57 Cross-Polarization Effects on Antenna Radiation Patterns: Kelleher KS , NCR pt1 56 Crossed-F.eld Traveling-Wave Devices: Feinstein J, P Oct 57 Crossed-Field Periodic Sturcture, Propagation in: Kiel A, T-ED Apr 58 Crossings of a Gaussian Stochastic Process, Distribution of: Helstrom CW, T-IT Dec 57 Crosstalk in Multiplexed FM Systems: Runyan RA, NCR pt1 56 Future Circuit Aspects: Herold EW, P Nov 57 Superconductive Computer Component: Buck DA , P Apr 56 Switching Time of: Aharoni A, P Aor 58 Switching Time, Superconductive Transition Mixer and: Woodford JB, P Nov 58 Radiation, Semiconductor P-N Junction: Salzberg B, P Aug 58 Scintillation Application to Reactors: Managan MW, T-NS Dec 58
Development In France: Labeyrie J, T-NS Dec 58
Photomultipliers for: Widmaier W, T-NS Dec 58 In Balanced Mixers: Taub J , T-MTT Jul 54 Checker for Balanced Mixers: Strum PD , T-MTT Jan 55 , T-MTT Jul 54 Photomultipliers for: Widmaler W, T-NS Dec 58
Transistorized: Bender A, NCR pt9 57
and Sizer Particles: Gordon ES, T-IE Mar 56;
T-IE Mar 56, T-I Mar 57
Techniques for Frequency Measurement: Boff AF,
T-I Apr 54
Ternary: MacKay RS, T-EC Dec 55
Transistor Magnetic Core Binary: Irons HR, P Dec 58
Transistor Agnetic Core Binary: Irons HR, P Dec 58
Transfer-Storage: Wolfe RW, WCR pt5 57
Tube, Radiation: Wakefield EH, T-ED Feb 54
Variable Binary Scaler: Murray DB, T-EC Jun 55
nting: Controlled Oscillator Design: Sherman JH, P Oct 55

Lattree, Narrow-Band, Symmetrical Transfer Characteristics of: O'Meara TR, T-CP Jun 58 Modern Network Theory Design of Single-Sideband: Dishal M, WCR pt 2 58

Network Theory Design Data: Dishal M, NCR pt8 57 Present Performance Limitations: Ives WR, WCR pt6 57

Procurement Problems and Production Forecast: Azoff I, WCR pt6-57

Single-Crystal, Wide-Band, Design of: O'Meara TR, T-CP Mar 58

Coupling:

Coupled-Transmission-Line: Shimizu JK, T-MTT Oct 58 Test Procedures and Instrumentations: Strauss A, WCR pt6 57 Efectromagnetic: Oliver BM, P Nov 54 Frequency Standards , Ultra-Precise Quartz: Warner AW, T-I Dec 58 Ferrite: Berk AD., P Oct 56 Ferrite, with Off-Center Apertures: Stinson DC, T-MTT Jul 58 Germanium Mixer, at Low Temperatures, Properties of: Anderson LK, T-MTT Oct 58 Measurement of Properties: Mason WP, P Jun 54 and Fourier Transforms: Sensiper S., T-MTT Apr 58 Frequency Selective: Carlin HJ. NCR pt8 55 for L Band: Lombardini PP., T-MTT Oct 56 Microwave Receivers, Present and Future Copabilities of: McCoy CT, P Jan 58 Measuring the Directivity of: Schafer GE, T-MTT Oct 58 Multiple-Line: Shelton JP. NCR pt1 57 ers:
Droadband Microstrip: Carlson E. T-MTT Mar 55
Cooling of: Messenger GC. T-MTT Jan 57
Diodes as: Messenger GC. P Sen 57
Germanium, at Low Temperatures, Properties of:
Anderson LK., T-MTT Oct 58 Strip Line 3 db; Shimizu JK, WCR ut1 57
Strip Transmission Line: Jones EMT, T-MTT Apr 56 Transmission Line: Firestone WL, P Oct 54, P Aug 55; Pierce JR, SQ Dec 54; Knechtti RC, P Jul 55 with Linear Components, Distortion Reduction: Geiser DT, P Jun 57 Waveguide to Strip Line: Perin, H., WCR ot1 57
Finline: Robertson SD. T-MTT Dec 55
Multiple Branch Waveguide: Reed J. T-MTT Oct 58
Tapered Velocity: Cook JS, NCR pt8 55; Fox AG,
NCR pt8 55 Measuring Noise Temperature Ratio: Davis RE , T-MTT Dec 55Noise: Houlding N. P May 58 Ontimum Operation of: Deutsch S. T-BTR Jan 55 Performance: Prichard WL, T-MTT Jan 55; McLean DA, P Dec 54 Ultra-Bandwidth Finline: Robertson SD, P Jun 55; T-MTT Dec 55 Wideband, Design Considerations: Remne JC, T-CS Sep 57 Coefficients in "Coupled-Mode" Theory: Yariv A, P Dec 58 Oscillators in Communications Receivers: Manke AG, T-VC Dec 56 Piezoelectric, IRE Standards on: IRE Standards, P Apr 58 Coefficients of Elements in Antenna Arrays: Norwood VT, T-AP Oct 55 Mutual, in Two-Dimensional Arrays: Blass J, WCR ptl 57 Rectifiers, Pressure Dependence of: Matthei WG, T-MTT Jan 58 Networks: Thomson WE . T-CT Jun 57 Reducing Frequency Variations over Wide Temperature Range: Koerner LF, NCR pt8 58 Rectangular Waveguide, through Slots: Barkson JA, WCR pt 157 St. Frequency Aging: Warner AW, P Jul 55 for Frequency Standards: Warner AW, P 5 to 54 Quartz, Simplified Bridge Type Measurements on: Hafner E, NCR pt5 58 Course Line Computers in Air Traffic Control: Sherer LM, T-ANE Jun 55 Creative Ages of Engineers: Coile R, P Aug 54; Laport EA, P Dec 54 Creative Engineering: Capitalizing on: Graf AW. SO May 56 Leadership, Roles in: Noble DE, SQ Sep 57 Cumulative Result Sampling Plan: Cronshagen A, T-QC Dec 54 Cupric Oxidized Foil for Printed Circuit Laminates: McGinnis LW, NCR pt6 56 Current Amplification Emitter Current and Junction Temperature: Gartner WW, P Nov 58 Current Distribution over a Cone Surface to Produce a Prescribed Radiation Pattern: Unz H, T-AP Apr 58 Current Distribution on Curved Reflectors: Plonsey R NCR pt1 56 Current Distribution on Wing Cap and Tail Cap Antennas: Carswell I, T-AP Oct 55 Current Steering in Magnetic Circuits: Rajchman JA, T-EC Mar 57 Current and Voltage Measurements, AC-DC Transfer Instru-ments for: Hermach FL, T-I Dec 58 Curriculum for Electrical Engineers, On the Future Mathe-matical: Pollak HO, NCR pt10 58 Curriculum, Electrical Machinery in Electronics-Oriented: Truxal JG, T-E Sep 58 Curriculum, Experiment in the Reduction of Physics Content: Ryder JD , T-E Sep 58 Cursor Coordinated Display for Air Traffic Control: Arnold WO , T-ANE Jun 55 Curved Passive Reflector: Bedrosian E , T-AP Oct 55 Cutoff Effect in Microwave Filters: Rizzi PA , T-MTT Jan 56 Cut-Set Schedule and Vertex Matrix as Special Cases of General Matrix: Hatcher TR, T-CT Dec 58 Cybernetics: Gabor D.T-CT Dec 54
Cybernetics, Bibliography on: Stumpers FLHM,
T-IT Sep 55, T-IT Jun 57 Determination of Voltage Standing Wave: Donaldson MR, T-NS Mar 56 Fixed Frequency, Proton Beam Study: Green FL, T-NS Mar 56 T-NS Mar 56
FM System for: Kerns QA, NCR pt10 55
Microtron: Kaiser HF, T-NS Mar 56
Resonant System: Donaldson MR, NCR pt10 55
Synchrocylotron, UCRL, 740 MEV, Electrical
Aspects: Sruth BH, WCR pt9 57
Cygnus A Measurements between 18.5 and 107 MC:
Wells HW, P Jan 58 Excess Noise in: Richardson JM, T-MTT Jul 57 Measurement of Impedance: Dawirs HN, T-MTT Apr 56 Microwave Switching by: Millet MR, T-MTT Jul 58 as Mixers: Messenger GC, P Sep 57 Cylinders, Convergents Representations for Radiation Fields from Slots: Barlin LL, T-AP Jul 56, T-AP Oct 57 Cylindrical Radlo Waves: Sensiner S, T-AP Jan 57 Noise Figure: Messenger GC, NCR pt8 55 Bell Telephone System: D'heedene AR, WCR pt6 57 Cytological Measurements, NIpkow-Disk Scanner for: Sawyer HS. NCR pt9 58 Cytology, Automatic High-Speed Measurement Techniques for: Tolles WE, NCR pt9 56 Capacitor Lattice, Synthesis of: O'Meara TR, T-CT Jun 58 Design Techniques and Applications:
Kosowsky DI, WCR pt6 57
High Frequency, Design of: Sykes RA,
NCR pt2 58; Kosowsky DI, P Feb 58
High-Frequency Quartz: Bechmann R, P Mar 58

-D-

Damping Recorder, Antomatic, for Wind Tunnel Applica-Dampometer for Wind Tunnel Applications: Olsson CO, Dampingter for vitra Timel Applications: Oisson U
Damping for EE Students: Felperin KD, SQ Feb 56
Dark Emission Problems, Photoemission and:
Dark Trace Tibes, Recent Developments: Nozick S,
Dark Trace Tibes, Writing Speed and Tonal Ranne:
Darlington's Compound Connection for Transistors: Data-Accumulation System for Wind Tunnels. Wedel JJ, T-EC Mar 56 Data Acquisition Analysis and Appraisal of Airborne Systems: Gordon BM, WCR pt5 58

Data , Automatic Radar , Processing , Library of Blip Samples for Simulation of: Walter CM , WCR pt4 58 Data Collecting and Recording , PCM Airborne: Knlght P, T-TRC Apr 57 Data Control, Industrial, High-speed Voltage-to-Digital Translation Equipment for: LaFontaine JF, T-IE May 58 Data Editing Systen, Direct Computer Controlled: Gordon BM, T-TRC Apr 57 Data Handling. Airborne Acquisition System: Foster WH. NCR pt 1 56 Airborne Recorder of Small Weight and Size: Smith SL, T-I Jun 56 Analon: Googe JM, T-1 Jim 56 Analog Computer for Jet Engine Testing. Burns LF, T-1 Jun 56 Analog of Dioltal: Westneat AS, T-TRC Apr 57
Analog of Dioltal: Westneat AS, T-TRC Apr 57
Analog Simulation of Sampled Data: Klein RC,
T-TRC May 55
Automatic Self Verifying, Self Correcting: Flores I,
T-TRC Aun 55 Central Facility for Processing Test Data: Allmon EC, T-1 Jun 56 Data Separation for Pulse Multiplex Telemetering Sys-tems: Magasiny IP, T-TRC Feb 55 Devices , Domain Wall Viscosity: Newhouse VL , P Nov 57 Digital-Angular Position Data: Fanwick C, T-1 J.m 56 High-Speed: Johnson RH , NCR pt5 57 Instrumentation and Automatic Control Problems: Kessel B. T-I Jun 56 for Machine-Tool Control: Susskind AK, T-EC Jun 58, NCR pt4 57 Reliable Low-Cost Operation: Prast JW, NCR pt5 57 for Telemetered Flight Data: Dannals GC, NCR pt5 57 Digitalization and Sorting of Random Graphical Data: Carson VS, T-1 Jun 56 Doppler Data Translator: Kintner PM , T-1 Jun 56 Electronic Multin'ier: Meyers RA , T-1 Jun 56 Flight Data Collecting and Processing: Royce HW, NCR pt1 56 Filters for Restoration of Sampled Data: Stewart RM, P Feb 56 High-Speed, All Electronic, Fully Automatic: Williams FK, NCR pt1 56 High-Speed, High Quantity, Data Processing Techniques: Klein ML, NCR pt 156 Klein ML, NCR Rt 1 56
High-Speed, Practical Information Theory Aspects of:
Smith BK, T-I Mar 58
Logic Theory Machine: Newell A, T-IT Sep 56
Magnacard: Hayes RM, WCR pt4 57
Magnetic Recording Studies: Burkig J, WCR pt4 57
Mechanical Handling Techniques: Nelson AM,
WCR pt4 57 Magnetic Core Circuits: Loev D. P Feb 56 Memories, Permanent Storage Using Neon Tubes: Raphael MS, T-I Jun 56 for a Modern Refinery, Automatic Techniques in: Deutsch WG, T-IE Aug 58 Navigational Measurements Methods for Missile Guidance Systems: Johnston SL, T-I Jun 56 Nuclear: Chase RL, T-NS Jun 55 Ordnance Dial Reader and Translator: Kintner PM, T-I Jun 56 Oscilloscope for Monitoring Magnetic Tape Records: Smith FC, T-I Jun 56 Smith FC, T-1 Jun 56
PCM: Hanan T, T-TRC Apr 57
Place of Communications in: Mann AO, NCR pt8 56
Plotter, Simplified Automatic: Riblet HB, T-1 Jun 56
Processing Facilities: Heimlich IR, T-1 Jun 56
Processing Techniques: Mevers RA, T-1 Jun 56
Analog, Use of Magnetic Drum: Douce JL,
T-1 Jun 56
Purch Card Recording and Multiple Counting Data Punch Card Recording and Multiple Counting Data: LeVine HD, NCR pt9 56 Punched Paper Tape Reader, High Speed: Angel AM, WCR pt4 57 Reader for Perforated Tape, High Speed: Bianco RJ, T-I Jun 56 for a Reliability Test Program: Walter VW, T-I Mar 58 SADIC Sequential Data Processing Systems: Jorgensen DE , T-I Jun 56 Tank Farm Data Reduction System: Gimpel DJ, T-IE Mar 57 Telemeter, High Capacity Pulse Code: Shaw GS, NCR pt 1 56 NUR pt 1 56
Theoretical Considerations of Practical Systems
Young FM, T-TRC Am 57
Data Intermetation, Telemetry: Rauch LL, NCR at 5 54
Data Link, GCA by Automatic Voics: Flum JJ, WCR at 4 58
Data Logging System, Multichannel Digital: Luongo J,
T-1 Jun 58
Data Patron. C. Data, Patient-, Systems for Hospitals: Webb GN, NCR pt9 58 Data Preparation for Numerical Control of Machine Tools: Huskey HD , WCR pt4 58 Data Processing-Amplifiers, Operational Feedback m: Smith RA, WCR pt5 58 Equipment, Ground Based, Modular Packaging for: Watt CW, WCR pt6 58

Facility , Air Force: West CF , T-TRC Aim 54

SUBJECT INDEX Data Recording System, Automatic, for Aeronautical Research: Share EM, T-I Sep 57 PCM Authorns: Knight P. T-TRC Agr 57 Data Reduction Equipment for Forward Scatter Link:
Eadie D, T-I Dec 57 Data Reduction Systems Flunkie: Himter TA, SQ Dec 54 Tank Farm Gimeel DJ, T-IE Mar 57, T-PT Apr 57
TARE II. for Telemetry: Hatcher ET, T-TRC Apr 57
Telemetric: Heberling ED, T-TRC May 57
Telemetric Heberling ED, T-TRC May 57
Tor Wind-Tunnel Force and Pressure Tests: Bain MB,
T-I Jun 58 Data Smoothing, Weighted: Ule LA, T-IT Jun 57 Data-System Analysis on a Computer: Wadel LB, NCR pt4 55 Data System, Automatic Job Control: Pilnick C, T-IE Aug 58 Data System, Dynamic, for Jet Engline Testing: Fister BJ, T-1 Mar 58 Data Transmission Binary Techniques for Linear Systems: Doelz ET, P May 57 Error Rates in: Relger S, P May 58 and Graphics In Air Force Communications: Bestic JB, NCR ett 85 System, Experimental: Malthaner WA, WCR pt8 57 Deafness , Communication by Vibratory Tactile Stimuli: Hirsch J , T-ME Dec 56 DC: and Low Frequency-Standards: Silsbee FB, T-I Dec 58 Reference Voltage: Worcester K, WCR pt6 58 Relays, Arc Suppression for Contacts: Godsey WJ, T-CP Jun 57 Transformers: Smith JS, T-VC Jul 56
Decca Navigation System as Approach and Landing Aid:
Mitchell HW, T-ANE Sep 57 Decoding, Automatic in Chromatron: Rector RH, WCR pt 7 57 Decoding, Sequential, for Reliable Communication: Wozencraft JM, NCR pt 2 57 Decentralization, Engineering Management Considerations: DaParma EU, T-EM Sep 57 Decimal-to-Binary Converter, BIDEC: Couleur JF, T-EC Dec 58 Decimal Code for Analog to Digital Conversion: Lippel B, T-EC Dec 55Decimal Counters , Transistor , with Neon Bulb Read-Out: Lohman RD , WCR pt5 57 Decipherability, Unique, Inequalities Implied by: McMillan B, T-IT Dec 56 Decision Feedback Systems: Harris B, NCR pt2 57
Decision Function in Character Recognition: Chow CK,
WCR pt4 57, T-EC Dec 57 Decision Functions, Ontimum Character Recognition System Using: Flores I, T-EC Jun 58
Decision-Making in Signal Detection and Recognition Situations: Swets JA, T-IT Sep 56 Decision Problem, Detection as a Statistical: Van Meter 0, NCR pt4 58 Decoder for Digital Communication: Walker RG, T-CS May 56 Decoder and Encoder of High Efficiency, Error Correcting: Green JH, P Oct 58 Decoders , Cyclic Digital-to-Analog- Myers GH, NCR pt4 57 Decoders , Cyclic Digital-to-Analon- Myers GH, NCR nt4 57
Decoding, Algebraic, for a Binary Erasure Channel:
Enstein MA, NCR nt4 58
Decoding, Automatic in Chromatron: Rector RH, WCR pt7 57
Decoding, Sequential, for Reliable Communication: Wozencraft JM. NCR pt2 57
Decommutator, PAM/PDM, With Improved Synchronization:
Heberling ED, WCR pt 5 58
Decortication of Fibres, Ultrasonics in: Fleming ER, NCR pt 9 55
Definitions in Information Theory and Maladation Synthesis Definitions in Information Theory and Modulation Systems: Report, T-IT Sep 55 Definitions of Noise: Open Discussion Notes, T-ED Dec 54 Defense Industry, Technical Communications in: Eddy FN, T-EM Jun 58 Deflection: Amplifier Design, Improvements in: Droppa C, NCR pt7 58 Amplifiers, Horizontal, Testing of: Lankard GM, T-BTR Oct 57 Angle, Yoke Development for Standardization of: Torsch CE, T-BTR Oct 55 Circuits, Retrace Driven: Guggi WB, T-BTR Oct 56

Distortions in a Ring Deflection Yoke: Gethmann RB, T-BTR Feb 58

Electrostatic Schlesinger K, P May 56 In Silt Lenses, Effect of Beam Position on: Harris LA, P Mar 58

System, Vertical Transistorized: Palmer WF, T-BTR Oct 57 Transistorized TV Horizontal: Schiess G, T-BTR Jun 58

Tube in High-Speed Gating Circuit: Sperling L, T-ED Jan 57

Vertical Circuits, Tube Requirements: Angel KW, T-BTR Sep 58

Delay Cables, Magnetic-Core: Stein DR, NCR pt 3 54

Yoke, For Camera Tube: Benzuly HJ, NCR pt 3 55 T-BTS Dec 55 Defocus Characteristics of Paraboloidal Reflector: Cheng DK, T-AP Oct 55 Degree, Two-Year Graduate: Boulton BC, T-E Mar 58

Delay Distortion Correction by Time Reversal Techniques: Bogert BP, T-CS Dec 57 Delay Lines: Acoustic, Solid: Pennell ES, T-UE Jun 54 Bibliography: Fagen MD, T-UE Nov 54 Characteristics: May JE, T-UE Jin 54 Coiled Wire Torsional Wave: Thurston RN, NCR pt 2 58 Continiously Variable: Gaw N, T-CP Sep 54 Compensating Closed-Loop Systems: Ho YC, NCR pt4 55 Electromagnetic , Test Procedures: Gaw N, NCR pt 3 55 Electrom Tube , Tungsten vs Copper: Paananen RA , P Feb 58 Filtering to Extract Waveform Information: Park JH, WCR pt 2 57 Linear, Construction Concent: Elders D., T-CP Mar 57 Low-Dispersion Wired: DiToro MJ, NCR pt 2 58 Lumped, Approximation Problem in: Papoulis A, NCR pt 2 58 Lumped Parameter Precision, Synthesis of: Kuh ES, NCR pt2 57, P Dec 57 Magnetostriction: Analysis and Application of: Thompson TB, T-UE Aug 56 ATC Transponder Coding: Johnson VL, T-ANE Sep 56 Sonic: Epstein H, T-UE Aug 57 Magnetostrictive, Pulse Transmission Along: Rothbart A, T-UE Dec 57 Magnetostrictive, Transducer Networks of: Rosenberg L, NCR pt 2 58 Magnetostrictive, for Video Signals: Colin GI, T-CP Mar 58 Miniature Lumped-Constant: Hickey JB, NCR pt 3 55 Miniature Lumped-Constant: Hickey JB, NCR nt 3 Miniaturzed Fernte: Katz HW, NCR nt 2 55 Networks, Synthesis: Linden DA, T-ANE Mar 57 Periodic Filters Using: Urkowitz H, T-CT Jim 57 Ouartz: Snaeth DA, NCR nt 6 54 Synthesis: Golay MJH, P Mar 54 Temperature and Frequency Dependence of Insertion Loss In: Meitzler AH, NCR nt 2 58 Temperature-Invariant Ultrasonic: Voznak E, T-UE May 55 Terminating Circuits, Ultrasonic: Axelbank M, NCR pt 2 58 Time Bridge: Kline M, NCR pt 5 56
Transducer Resistance, Measurement of: McCue JJG, NCR pt 2 58 Transient Analysis of Coaxial Cables Considering Skin Effect: Wigington RL, P Feb 57 Ultrasonic: Arenberg DL, NCR pt 6 54 Low-Loss, 1000 Microsecond: May JE, T-UE Aug 56 Measuring Electrical Characteristic of: Meitzler AH, T-UE Dec 57 Spurious Responses of: Zimmerman MS, NCR pt 2 58 Delays, Transient Sequencing, Applied to Air Traffic Control: Wheeler RC Jr, NCR pt8 57 Variable: Schlesinger K, P Jun 57 Skewed Turns Used for Delay Equalizations: Lewis FD, P Feb 57 Using Ultrasonic Surface Waves: Ross JD, NCR pt 2 58 Video, Phase Compensation- Gillen DA, T-BTR Jan 55 Virtual, and Distributed Amphifiers: Judge WJ, WCR p: 2.58 Delay Networks, Maximally Flat: Wood IE, T-CT Dec 58 Delay, Time, Precise Measurement of: May JE, NCR pt 2 58 Delay in Ultrasonic Systems, Measurements of: Arenberg DL, NCR pt 2 58
Delayed Pulse Generator as Variable Time Interval Standard: Broderick D, WCR pt 5 58
Delays, Transient Sequencing, Applied to Air Traffic Control: Wileeler RC Jr, NCR pt8 57
Delta Entitles, Various Definitions of: Pankraz D, P Sep 58
Delta Entitles, Various Definitions of: Pankraz D, P Sep 58 Delta Function, Dirac: Locke AS, P Apr 56; Clavier PA, Demodulators:

FM, Requirements for Interference Rejection: Baghdady
EJ, P Feb 58 Microwave, Precision Calibrator for: Gindsberg J, T-I Dec 58 S-Band Two-Phase: Wilds RB, WCR pt 1 58 Synchronous: Booton RC Jr, WCR pt2 57 Television, Stable Precision: Hartman WH, WCR pt 7 57 Demonstrations . Audience: Hoyler CN . T-EWS Mar 58 Densitometry , Microspectrophotographic: Montgomery PO , NCR pt 9 55 Dentistry, Ultrasonic: Balamith L, NCR pt 9 55; Strock AE, NCR pt 9 55; Welkowitz W, P Aug 57

Deposited Carbon Film Resistors, Factors Affecting Formation of: Doucette EI, WCR pt 6 58 Design Quality Control: Ellis CE, T-EM Feb 54
Design, Reliable, and Development Techniques: McGregor
JE, T-RQC Sep 58

JE, 1-RQC Sep 38
Design-Shipping Cycle Reduction: Imus HO. T-EM Dec 57
Design Technique, Analytical: Heyne JB, MCR pt 6 58
Designing for Rehability: Meltzer SA, T-RQC Sep 56
Desk Model Analog Computer: Rosen HA, T-EC Dec 54

Bernouilli, and Sequential Filter Theory: Blasbalg H, T-IT Jun 57

Beta Particle, Electrometer System for: Fox S, T-NS Aug 58 Binary Integration Techniques: Harrington JV, T-IT Mar 55 of Co-Channel FM Signals, Alternative: Farris HW, P Nov 58 Coherent Integration Applied to: Miller KS, T-IT Dec 57 of Coherent and Non-Coherent Signals: Drenick RF, NCR pt 4 55 Councidence Procedure for: Schwartz M , T-IT Dec 56 Error Signal, in PAM Systems: Carlstedt 0, T-TRC Mar 56 of Gaussian Signals in Gaussian Noise: Sleptan D, T-IT Jun 58 and Generation of Single Sideband Signals, Third the od of: Weaver DK Jr, P Dec 56
Homodyne System: Matthers GWC, WCR pt 1 57
Human Factors in Speech Communication in Noise: Egan JP, NCR pt 4 58 of Intermittent Faults: Wald S, NCR ot 6 55 Low-Level Gamma Ray, in Humans: Anderson EC, T-NS Dec 58 Microwaves, Report of Advances, 1954: King DD, T-MTT Apr 55 Microwaves, Report of Advances, 1955: King DD, T-MTT Apr 56 Modulated Noise-Like Signals: Deutsch R, T-IT Mar 54 Neutron, Argonne National Laboratory Studies: Erickson GF, T-NS Jun 56 Optimum Multiple-Alternative: Middleton D , T-IT Sep 55 Post Detection Integration Systems Analyzed by Monte Carlo Methods: Dilworth RP, NCR pt 2 57 Probability, Radar, with Logarithmic Detectors: Green BA, T-IT Mar 58 Problems, Application of "Comparison of Experiments" to: Abramson N, NCR pt 4 58 Problems, Radar, Bias Levels Useful in: Pachares J, T-IT Mar 58 Pulse, Effects of Signal Fluctuation: Schwartz M, T-IT Jun 56 Pulsed Signal in Presence of Noise: Swerling P, T-IT Sep 57 Radar, Degradation from Adding Two Receiver Outputs: McCord HL, NCR pt 2 57 Radio Sources at 21 cm: Hagen JP, P Dec 54 Radar, Philosophical Approach to Problems: Siebert WMCC, T-IT Sep 56 Random Signals in Gaussian Norse: Price R, T-IT Dec 56 Random Signals in Noise: Davis RC, T-IT Mar 54 Recognition of Signals by Human Observers: Swets JA, T-IT Sep 56 Sampling, for Television Sound: Schlesinger K, T-BTR Jul 56 Sensory: Tanner WP , T-IT Sep 54 Sequential: Bussgang JJ, T-IT Dec 55 Sequential, of a Sine-Wave Carrier: Blasbalg H, T-IT Dec 57 Signal Masked by Noise: Ville JA, T-IT Mar 57 Signal, Loss of in Band-Pass Limiters: Manasse R, T-IT Mar 58; Blachman NM, T-IT Dec 58 Signals Perturbed by Scatter and Noise: Price R, T-IT Sep 54 of Sine Wave in Morse: Slattery TG, P Jul 54 of Sinusoidal Signals in Gaussian Noise: Miller KS, NCR pt4 56 Solution of an Integral Equation: Miller KS, T-IT Jun 56 Space-Frequency Equivalence: Kock WE, WCR pt1 57, P Feb 58 Statistical: Root WL, T-IT Dec 55 as a Statistical Decision Problem: Van Meter D , NCR pt4 58 Statistical Theory: Middleton D, T-IT Mar 54 Stochastic Signals in Additive Normal Noise: Middleton D, T-IT Jun 57 Superregenerative, with Transistors: Chow WF, T-CT Mar 56Swept, with Automatic Synchronization: Favin DL, NCR ot 5.56Synchronous and Exalted-Carrier, in Television Receivers: Avins J., T-BTR Feb 58 Theory: Peterson WW, T-IT Sep 54
Theory: Applications to Radar: Siebert WM, NCR pt4 58 Theory, Communications Applications of: Davenport WB, NCR et 4.58 n Thermonic Diode: Redhead PA , P Aun 55 TV Signals in Thermal Noise: Bridges JE , P Sep 54 Ultrasonic, with Thermostimulable Phosphors: Elion HA, T-UE Aug 57 Ultrasound, with Phosphorescent Materials: Petermann LA, T-UE Aug 56 Visual: Tanner WP T-IT Sep 54 Detectors: Automatic Control of Threshold Bias: Dugundji J, T-IT Mar 57

Circuit, Broadband: Brockman MH, P Jun 55 Correlation, Output-Signal-to-Noise Ratio: Green PE, T-IT Mar 57

Correlation, Theory of Noise: Horowitz M. T-IT Dec 55

Crystal, and Three Millimeter Hannonic Generators: Richardson JM, T-MTT Apr 57 Impedance of Grid Parallel to, Interface: Wait JR, T-MIT Apr 57 Electron Multipiler Neutron: Darm L, T-NS Aug 58 Envelope, Color Signal Distortions In: Loughlin BD, T-BTR Oct 57 Design of: Holt FS, T-AP Jan 57 Matched, Performance of: Jones EMT, T-AP Jon 56 Ferrite Microwave: Jaffe D, P Mar 58, NCR pt 1 57 Frequency-Modulation, AM Rejection in: Avins J, T-BTR Feb 58 Microwave Aberrations in: Bachynski MP , T-AP Jul 56 Materials, Monting in Jaynes ET, P. Dec 55 Measurement at Microwaves: Saito S, P. Jan 56 Media, Annualform, Barrar RD, T-AP Jul 55 Medices, Artificial Anisotropic: Collin RE, T-MTT Apr 58 Helium Leak, Ultrasensitive: Lineweaver JL, T-ED Jan 58 Logarithmic, Radar Detection Probability with: Green BA, T-IT Mar 58 Microwave Electron Beam: Mendel JT, P Apr 56
Microwave, Usino Diode: Bronwell AB, P Jul 54
Multichannel Spectrometer: Kendall HW, T-NS Dec 58
Plecewise Quadratic: Deutsch R, NCR at 4 56 Microwave Properties of Solids at Temperatures to 3000 Ft Downe DM, NCR pt1 57 Phenomena Frindamental OS: Rose A SQ Dec 58 Potentioneters: Pihl GE. P Dec 54
Properties and Conductivity of Ferrites: Fresh DL,
P Oct 56 Square Law: Insertion Loss Measurements: Sorger GU, T-I Oct 55 Insertion Loss Test Sets: Weinschel BO, T-I Oct 55 Rinns Scattering by Phillipson LL, T-AP Jan 58 Rod Excitation by Cylindrical Waveguide: Angulo CM, T-MTT Oct 58 Standing Wave, Figure of Merlt of Probes: Rubin SW, T-1 Oct 55 Rod Waveguide, Launching Efficiency of Wires and Slots for: DuHamel RH, T-MTT Jul 58 Static Frequency: Patton HW, NCR pt 9 55 Switch-Detector Circuit: Coale FS, T-MTT Dec 55 Synchronous: Webb JK, WCR pt8 57 Rod Waveguides, Radiation from: Duncan JW, T-AP Apr 57 Synchronous, Using a Harmonic Pair Switching Wave: Altes SK, T-BTR Mar 58 Antenna Pattern Distortion by: Richmond JH, T-AP Apr 56 Radiators: Butterfield FE , T-AP Oct 54 Synchrotector: Schlesinger K, F-BTR Jul 56
Telemetering Receiving Station Time Pulse: Star J, NCR pt 5 58 Propagating Modes: Hatkin L, P Oct 54; Guerbilsky A. P Jun 55 Development Engineering , Career Evaluation: Hohmann LA, SQ Dec 55 Shells . Spherical: Diagonal Expansion of Second-Order Probability Distribution in Orthogonal Polynonomials: Brown JL, T-IT Dec 58 Radiation Through: Andreasen MG, T-AP Oct 57 Thin, Back-Scattering Cross Section: Andreasen MG, T-AP Jul 57 Diagraph for Impedance Measurement: Hess RC, NCR pt 10 55 Silicone, Thermal Stability and Radiation Resistance of: Christensen DF, T-CP Jun 58 Single Grounded, Arbitrary Polarization: Hansen RC, T-MTT Apr 57 Dial Direct Automatic Radiotelephone System: McDonald R, T-VC Jul 58 Dial Operated Mobile Radiotelephone Systems: Dodrill GE, T-VC Jul 58 Slab, Diffraction of Surface Waves: Angulo CM, T-AP Jan 57 Diamond, Parry Biography of: Hinnan WS Jr, P Apr 57
Diathermy, Microwave: Herrick JF, T-ME Feb 56
Effects on Eye: Dalley L, T-ME Feb 56
Dick Radiometer, Theoretical Sens tivity of: Strom LD,
WCR pt 157, P Sep 57 Slab, Loaded Rectangular Waveguide, Propagation in: Vartanian PN, T-MTT Apr 58 Slow-Wave Structures for Millimeter and Submillimeter Power Generation: Pantell RH, T-ED Jul 58 WCR pt 1 57, P Sep 57
Dicke Radiometric Receiver: Stewart C, NCR pt 8 55
Dictation Machine, Transistorized Record-Playback Amplifler for: Fleming RF, NCR pt 7 58
Dictionaries Automatic: Taube M. P Jul 57 Standing-Wave Line for UHF Measurements of Materials: in High Range: Williams EM, T-I Sep 57
Steps In Waveguides, Rayleigh-Ritz Method Applied to: Collin RE, T-MTT Jul 57 Strips Diffraction by: Stickler DC, T-AP Jan 58 Surface Contamination of Materials: Chaikin SW, T-RQC Feb 56 Dielectrics: Absorption, Capacitor: Dow FEC, T-EC Mar 58 Absorption Test Methods for Capacitors: Baugh SH, WCR pt6 57 Tuning In Panoramic Receivers: Butler TW Jr., P. Sep 55 Amplifier: Mason WP, P Nov 54 Waveguides, Discontinuities in: Angulo CM, T-MTT Jan 57 Amplifiers, Noise Figures In: Walker JM, NCR pt3 57 Artificial, using Cylindrical and Spherical Voids: Ward HT, P Feb 56 Differentiability of Autocorrelation Functions: Bentler FJ, P Dec 57 Artificial, New Class of Hir MK, WCR pt 1-58 at Origin: Brennan DG, P Jul 57 Beads, Spacing and Coaxial Line at Microwaves: Dettinger D, NCR pt1 57 Differential Amplifier, Emitter-Coupled: Slaughter DW, T-CT Mar 56 Behavior of Ferroelectrics: Shirane G, P Dec 55
Bifocal Lenses: Brown RM, NCR at1 56
Capacitors of Vitreous Enamel: Weller BL,
WCR pt6 57, T-CP Mar 58
Ceramic Materials as High Frequency: Pentecost JL,
T-CP Dec 57 Differential Analyzers erential Analyzers:
Accuracy of: Fluchs A, T-EC Mar 57
Bandwidth Limitations: Dow PC, T-EC Dec 57
Desian Criterion: Nathan A, T-EC Jim 57
Errors Due to Capacitor Dielectric Absorption: Dow PC,
T-EC Mar 58 Circular Polarization in Waveguides: Kirschbaum HS, T-MTT Jul 57 Function Generation: Rearick DF, T-TRC Aug 55 Linear, Computing and Error Matrices In: Nathan A, T-EC Mar 58 Coaxial Cables, Attenuation above 3000 MC: Blaid-sell KL, T-CP Dec 57; Hannon JR, T-CP Dec 56 IRE INDEX Constants. Representation of Constraints: Greenwood DT, T-EC Sep 56 of Ferrite Spheres Measured: Spencer EG, P June 56 Differentiating Devices: Voelcker HB Jr. P Aug 57 and Loss Tangent, Measurement: Bowie DM, T-MTT Jul 56 Asymptotic Solution of Problems: Timman R, T-AP Jul 56 Boundary Value Problems: Sinclair G, T-AP Jul 56; Silver S, T-AP Jul 56 by Cones, Asymptotic Expansion of Diffracted Wave: Felsen LB, T-AP Oct 57 Measurement of, from 100-1200 MC: Bady I, NCR pt5 56 Optical Measuring Method: Talpey TE, T-MTT Sep 54 Process Monitoring by: Howe WH, T-IE Apr 58 Realizability of Prescribed Frequency Variation: Harrison RJ, P Mar 57 Convex Cylinder Keller JB, T-AP Jul 56 Current Distributions on Curved Reflectors: Plonsey R, NCR pt 1 56 of Underground Propagational Medium, Measure-ent: El Said MAH, T-AP Oct 56 Water Vanor at 9,000 MC: Saito S, P Aug 55 Electrets: Linden EG, NCR pt3 56 and Ferrite Loaded Waveguides Field Displacement Effects in: Strans TM, WCR pt1 58 by Dielectric Strips: Stickler DC, T-AP Jan 58 by Do maining Ridge: Crisidale JH, T-AP Apr 57 Edge Currents: Cleminov PC, T-AP Jul 56 Electromagnetic Waves by Apertures: Neugebauer HEJ, T-AP Apr 56 Filled Waveguide: Anderson TN, T-MTT Mar 55 File's in Alucinum and Tantalum Capacitors: Bumham J, T-CP Sep 57 Field, Near a Plane-Screen Corner: Braunbek W, T-AP Jul 56 Field Representation in Regions Bounded by Spheres, Cones, and Planes: Felson LB, T-AP Jan 57 Interference from: Allen EW, T-IE Mar 55 Power Oscillators, Use of: Wilson TL, T-IE Mar 55 Foreground Terrain Effects on Overland Microwave Transmissions: Trolese LG, NCR pt 1 57 Knife Edge, in the Shadow Region: Anderson LJ, T-AP Jul 58 Helix, on Coaxial Line: Griemsmann JWE, T-MITT Jan 56 Losses , Terrain: Crysdale JH, T-AP Jul 58 Microwaves by Tandem Slit: Alldredge LR, T-AP Oct 56, T-AP Jul 56 Image Lines: Schlesinger SP, T-MTT Jul 58; King DD, T-MTT Mar 55 Image Lines, Circuit Components in: King DD, T-MITT Dec 55 Mountain Obstacle Measurements: Stewart JL, NCR pt1 57 Numerical Results Obtained by Rigorous Theory for Cy-linders and Spheros: Jan de Hulat HC, T-AP Jul 56 Frage Lines, Losses in: King DD, T-MTT Jan 57 hv a P. rahelic Cylinderi. Crysdale JH., T-AP Jul 58. Plane Waves by Rectangular Aperture: Suzuki M, T-AP Apr 56

Problems of Microwave Optics: Breinner H., T-AP Oct 55 by Smooth Cylindrical Mountains: Neigebauer HEJ, P Sep 58 of Surface Waves, by Dielectric Slab: Angolo CM, T-AP Jul 56 VHF, by Alaska Range Mountains: Swenson GW Jr, WKB Method Applied: John L. T-AP Jul 56 Diffused-Base German um Oscillator Transistor: Warner RM, T-ED Jul 58 Diffused-Base Germanium Transistors: Talley HE, WCR pt3 58; Thomas DE, T-CT Mar 56 Diffused Base Transistors, Switching Time Calculations for: Grenich VH, WCR pt3 58 Diffused-Melthack Process, Transistor Structures by the: Lesk IA, T-ED Jul 52 Diffused Silicon Computer Diorles , Millimicrosecond: Forster JH , WCR nt3 58 Diffused Silicon Logic Amplifier Transistor: Miller LE, WCR pt3 58 Diffusion: Formation of Junction Structures by Solid-State: Smits FM , P Jun 58 Lengths, Method for Measuring: Gremmelmaier R, P Jun 58 Radar Echoes from Meteor, Trails: Hawkins GS, P Sep 56 Techniques, Preparation of Semiconductor Devices by Lappung and: Nelson H. P Jun 50 Digital Airborne Tape Recording: Arcand T, WCR pt5 58 Digital-to-Analog Converter, Transistorized: Rowe WD, T-I Mar 58 Digital-Analog Function Generators: Hofheimer RW, T-I Jun 58 Digital Communication, Challenge of: Fano RM, T-IT Jun 58
Digital Communication, Decoder: Walker RG, T-CS May 56
Digital Communication Systems: Plouffe RL, NCR pt8 58 Digital Communication Systems: Plouffe RL, NCR pt8 58
Digital Communication Systems. Digital
Digital Control System, Airborne: Klein SL, T-TRC Mar 56
Digital Data Acquisition System for Instrumentation RadarsSnyder RL, WCR Pt5 58
Digital Data-Handling Systems: See Data-Handling
Digital Data Logging System, Multichannel: Luongo J,
T-f Jun 58 Digital Data Processing: Westneat AS , T-TRC Apr 57
Digital Data Transmission, Error Correction Methods In:
Brown AB , NCR pt4 58
Digital Data Transmission over Multilop Tropospheric Scatter
Circuits: Lawrence CN , NCR pt8 58 Digital Division Methods: Robertson JE , T-EC Sep 58 Digital Filters, Growing Memory, Recursion Formulas for: Blum M, T-IT Mar 58 Blum M, T-IT Mar 58

Digital Industrial Electronic Systems and Their Military Heritages: Wassall DE, WCR pt6 58

Digital Information, Manipulation by Magnetic Devices: Raichman JA, T-CT Sep 57

Digital Information Processing for Machine-Tool Control: Susskind AK, T-EC Jun 58, NCR pt4 57

Digital Range Measurements, Increasing Efficiency: Harris LB, T-ANE Jun 56 Digital Methods of Signal Detection and Location: Dinneen GP, T-IT Mar 56 Dinted Mon-Radar Antenna Programmer With Analog Rate Signal Integrator: Guzmann O, NCR pt4 58
Digital Multiplication, High Speed: Estrin G, T-EC Sep 56; Lehman M, T-EC Sep 57
Digital Normalizing Techniques to Simplify FM Sub-Carrier Measurements: Humphries J, T-TRC Apr 57
Digital Processing and Search Radar Simulation: Walter CM, T-ANE Jun 58 Digital, Serii, Process Simulator: Terao M, T-I Mar 58
Digital Setting System for an X-Ray Thickness Gauge:
Blumblagen VA, NCR pt6 58
Digital Shaft Position Indicator: Raudenbush DH, NCR pt5 58 Digital Systems Analysis by Boolean Matrices: Campeau JO, T-EC Dec 57 Digital Systems, Industrial: Otis EJ, T-IE May 58 Digital Systems, Transistor Pulse Generator for: Hamilton DJ, T-EC Sep 58 Digital Techniques in Analog Systems: Meyer MA, T-EC Jun 54 Tiglial Transducers, Direct-Reading, Principles and Techniques: Klever WII, Tile Apr 58
Digital Translation Equipment for Industrial Data Control:
La Fontaine JF, Tile May 58 of Carrier Excited Transsucers Using Programmed Attenuator: Zwe-zig JR, T-I Jun 56 and Sorting of Random Graphical Data: Carson VS, T-I Jun 56

Digitizer System of High Precision, Shaft Position: deBey LG, NCR pt5 58

Diodeless Magnetic Core Logical Circuits: Russell LA, NCR pt4 57

Excess Noise in Richardson JM, T-MTT Jul 57
Measurement of Impedance: Dawirs HN,
T-MTT Apr 56

Microwave Switching by: Millet MR, T-MTT Jul 58 as Mixers Messenger GC, P Aug 57

Digitizer, Transistorized Six-Channel Airbome: McMillan SH, NCR pt6 58

Crystal

SUBJECT INDEX Noise Figure: Messenger GC, NCR pt8 55 Demountable, for Cathode Study: Apelbaum JH, T-ED Feb 54 Double-Base: Aldrich RW, T-ED Feb 54 Double-Base, Low-Frequency Circuit Theory of: Suran JJ, T-ED Apr 55 Double-Base, Low-Frequency Circuit Theory of: Suran JJ, T-ED Jan 57 Function Generator: Minra T, T-EC Jin 57 Gallium Arsenide Microwave: Jenny DA, P Apr 58 Gates: Millman J, P Jan 55 Germanium Point-Contact, High-Field Emission in: Wallis G, T-ED Jan 58 Germanium, Recovery Time: Firle TE, T-ED Apr 54, P May 55 Harmonic Generator Using Nonlinear Capacitance of Germanium Kita S , P Jun 58 Applications and Features: Finnegan F, T-ED Jan 55 Cylindrical P-N Voltage Breakdown: Armstrong HL, T-ED Jan 57 Fast Switching: Scobey JE, P Dec 56; Salzberg B, SQ Feb 57 Fast Switching by Use of Avalanche Phenomena: Salzberg B, P Aug 57 Hemispherical P-N: Annstrong HL, T-ED Apr 56 High Current Limit: Fletcher NH, P Jon 57 High-Frequency Silicon-Aluminum Alloy: Prince MB, T-ED Oct 55 Multiplexer, for Analog Voltages: Gray HJ, T-EC Jun 55 Noise: van der Ziel A, P Mar 58 Nonsaturation of Reverse Current in: Armstrong HL , T-ED Apr 58 Saturation Current: Webster WM , P Mar 55 Semiconductor , Capacitance: DIII F Jr. NCR pt 2 57 Shot Noise: Guggenbul W , P Jun 57; van der Ziel A , P Jul 57 , P Nov 55 Silicon, Logarithmic Attenuators: Sylvan TP, T-CT Mar 56 Silicon, Recovery Phenomena: Firle TE, WCR pt3 57 Silicon, as Voltage Reference Devices: Enslein K, T-I Jun 57 Variations due to Temperature: Schaffner JS, P Jan 55 Logic Circuit, High-Speed: Cagle WB, WCR pt2 57 Low Impedance, Used as Voltage Variable Capacitors: Palmer WF, T-BTR Jun 58 Lumped Models of: Linvill JG, P Jun 58
Matrix Vertical Interval Video Switcher: Aha R,
T-BTS Dec 58 Microwave Detector-Converter: Bronwell AB, P Jul 54 Microwave Mixer, New Concepts in: Messenger GC, P Jun 58 Microwave, Potential-Minimum Noise: Siegman AE, T-ED Jan 57 Millimicrosecond Diffused Silicon Computer: Forster JH, WCR pt3 58 for Miniaturized Computer Applications: Lutz SG, NCR pt3 54 Mixer, Analysis of: MacPherson AC, T-MTT Jan 57 Narrow Base: Rediker RN, P Jul 57; Gossick BR, P Nov 57 Outdiffusion for Production of: Halpern J, P Jun 58 Parallel-Plane, Thermionic Current: Giacoletto LJ, T-ED Jan 57 Point Contact, Transient Behavior of: Armstrong HL, P May 57 Recovery Time Measurement in the MIllimicrosecond Re-gion: Bakanowski AE, WCR pt3 58 Rectifiers, Interference Generated by Airborne Devices Utilizing: Senn JC, WCR pt5 58 Semiconductor: Amplifier: Kaufmann HW, NCR pt4 55 Arc Prevention Using Reverse Transients: Miller W, P Nov 57 Forward Characteristic of: Armstrong HL, P Jan 58
Forward Switching Transient in: Bames FS,
P Jul 58 in High-Frequency Communications: Uhlir A Jr, P Jun 58 Junction Capacitance: Dill F Jr, NCR pt2 57
Microwave Parametric Amplifier Using: Heffner H,
P Jun 58 Multivibrator: Suran JJ, P Jul 55
Noise Figure Measurements on Variable Reactance
Amplifiers Using: Hermann GF, P Jun 58
Switching Transient in Forward Conduction:
Armstrong HL, T-ED Apr 57 Thermal Properties: Carman JN, NCR pt3 55 Silicon Diffused: Hughes HE, WCR pt3 57
High-Temperature: Thornton CG, NCR pt3 54,
P Feb 55 High-Voltage: Rubin LG, P Apr 55
Microwave Transients from Avalanching: Moll JL,
P Jun 58 Radiation Effects on: Clark JW, WCR pt9 57 Snace and Space Charge: Clavier PA, P May 58 Switch Circuits, Boolean Algebra for Analysis of: Beizer B, P Apr 58 for Switching and Oscillator: Esakl L, WCR pt3 58 Switching Time: Kingston RH, P May 54 Thermoelectron Engine: Hatsopoulos GN, P Sep 58

Thermionic , Microwave Detection Redhead PA , P Aim 55 Transient Behavior of Gold-Germanium Surface Barriers: Curtis 0, T-ED Oct 56 Circls 0., 1-ED OCT 58

Transistor Noise: Mataire HF, P Dec 58

Used as Voltage Variable Capacitors, Low Impedance:
Pathier WF, NCR pt 7 58, T-BTR Jun 58

Dip-Log Correlator: Sasseen JH. T-EC Sep 57

Dip Soldering Machine, Automatic: O'Gorman V NCR nt 6 57

Dip Testing Method for Measuring Cathode Activity: Bodmer MC, T-ED Log 58 MG, T-ED Jan 58 Diploxing Filters: Breese ME, NCR pt8 54 Eccentric Current, in Circular Cylinder: Okada RH. T-ME Doe 56

Excitation of a Perfectly Conducting Half-Plane:
Heins AE, T-AP Jul 56

Folded, Effects of Physical Parameters on Bandwidth:
German JP, T-AP Apr 58 German JP, T-AP Apr 58
Impedance Transformation: Guertler R P Aug 54
Potential Analog, Filter Synthesis in Terms of:
Wheeler HA, NCR pt2 58
Quarter Wave: Josephson B, WCR pt1 57
Radiation Through Dielectric Spherical Shell:
Andreasen MG, T-AP Oct 57
Radiation over Stratified Ground: Wait JR,
T-ANE Oct 54 Dirac Delta Function: Johnson RA, P Aug 56; Clavier PA, P Dec 56, P Oct 57 Direct-Coupled-Resonator Filters: Cohn SB, P Jul 57 Direct-Reading Digital Transducers, Principles and Techniques for Kliever WH, T-IE Apr 58 Direction Finders Addock: Travers DN, T-AP Apr 55
Airborne HF Antenna Systems: Carter PS,
T-ANE Mar 57 Attomatic Airborne: Kruesi GG, T-ANE Sep 56; Moseley FL, T-ANE Dec 55 Airline Requirements for: Carnes WT, T-ANE Dec 55 Low-Frequency: Ward HH, T-ANE Dec 55 Marcont AD, 7029 Series Receivers: Mullin LR, T-ANE Dec 55 Sense Antenna: Bolljahn JT, T-ANE Dec 55 U.S. Coast Guard Model RD132: Blakely JR, T-CS Mar 55 Doppler Type High Frequency: Fantoni JA, NCR pt8 56 for Guided Missiles: Friedland MS, NCR pt5 54 Multiort, Biconical Antenna: Honey RC, NCR pt1 57, P Oct 57 Radio: Sampling and Interpolation: Masonson M, NCR pt5 55 UHF Ground-Based Automatic: Cattoi RL, NCR pt5 55 Willenweber Type UHF: Benoit RC Jr, NCR pt5 55 Ring Goniometer: Ito. T-ANE Dec 54 UHF USAF: Benoit RC Jr. NCR pt8 56 Direction-Finding Antenna, Annular Slot: Hougardy HH, NCR pt1 58 Direction-Finding, Alrbome, Theory of Navigation Errors: Ancker CJ. T-ANE Dec 58 Direction Perception as Binaural Function of Hearing: Christman RJ, NCR pt9 56 Direction Sensitive Doppler Defice: Kalmus HP, P Jun 55 Directional Channel-Separation Filters: Cohn SB, P Aug 56 Directional Communications, New Trends In: Benoit RC, NCR pt8 58 Directional Counters: See Couplers, Directional
Directional Filters for Multiplexing Systmes, Applications of:
Coale FS, T-MTT Oct 58
Directional Filters, Travellng-Wave: Coale FS,
T-MTT Oct 56 Disaster Planning In Communications Field: Hampton HR, T-CS May 56 Discharges, Electrical, in the Dog: Kouwenhoven WB, T-ME Jul 58 Discontinuous Automatic Controls, Switching Criteria: Rose NJ, NCR pt4 56 Discovery by Computers: Maron ME. T-EC Jun 54 Discrete-Continuous Systems, Expressions for Mean Squares in: Sklansky J, T-AC Mar 58 Discrete: Spelling of: Smith WL, P Apr 57 Discriminators

Balanced Frequency, Noise Output of: Slepian D,
P Mar 58 DC Voltage, with Independent Control of Threshold: Stucky NP, T-I Jun 56 FM All-Channel, Ultra-Stable: Rigby S. T-TRC Apr 57 Precision Subcarrier, for FM Telemetering: Duerig WH, NCR pt1 56 Subcarrier Delay Line Controlled Morgan KA, T-TRC Nov 54 Improved: Heberling ED, T-I Mar 57 Transistor-Magnetic: Barnes GH, WCR pt5 57 Tramag FM/FM Subcarrier: Barnes GH, T-TRC Apr 57 Disk System, Westrex Stereophonic: Davis CC, P Oct 58 Dispatch Service, Direct: Dinnin AJ, NCR pt7 58 Dispatcher System, Mobile: Collins RW, NCR pt8 55 Displays: Bar-Graph Scope, Large Screen: Wolcott HO, WCR pt5 57 Design Through Use of Analog Computer, Anticipatory: Fogel LJ, WCR pt4 58

Eddy-Current Bridge for Skin-Loss Measurements: Kerns QA, NCR pt10 55

Background for Electrical Engineers, Broadening the: Herwald SW, NCR pt10 58

Edge Currents in Diffraction Theory: Clemmow PC, T-AP Jul 56

Acoustical: Hunt FV, NCR nt9 57

Education, Engineering:

Editorial Policies and Requirements, IRE: Gannett EK, T-EWS Mar 58

Display, ELF Electroluminescent: Sack EA, P Oct 58 NCR pt3 58 Dosimetry of X Radiation: Adams GD WCR pt9 57

Double Parabolic Cylinder Pencil Beam Antenna: Spencer RC,
T-AP Jan 55 of Information: Fogel LJ, P Aug 55 or information: roget LJ, PAIG 55
Panels, Transfluxor Controlled Electroluminescent:
Rajchman JA, P Nov 58
and Recording Techniques, Shaped Beam: Peterson RM,
NCR pt3 58 Double Sideband: Airborne HF Receiver-Transmitter, Conversion to Single-Sideband: Robinson HA, P Doc 56 AM Multiplex System: Tharp NB, T-CS Jul 54, T-MTT Apr 54 Symbol: Farrand WA, T-I Jun 57 of Telemeter Data, Phase Angle Analogs: Parish CL, T-TRC Apr 57 Case for: Costas JP, P Apr 57
Power Gain of Single Sideband; Nicolosi JP, P Apr 57
Synchronous Communications: McPherson RR, P Apr 57 and Use of Navigational Intelligence: Majendle AMA, T-ANE Sep 58 Synchronous Communications: McPherson RR, P Apr 57
Drills, Rotating, Ultrasonic: Marshall NK, WCR nt9 57
Driven Systems, Noise in: Richardson JM, T-IT Mar 55
Drivers, Analyses for Single Ended P ish-Pull Stage:
A. e. 1ya H, T-AU Sep-Oct 55
Drivers, Electronic, Variable Speed, for Process Control:
Himphrey AJ, T-PT Apr 57, T-IE Mar 57
Driving-Point Admittance and Graph Trees, Evaluation of:
Nakagawa N, T-CT Jun 58
Driving-Point Function, Non-Series-Parallel Realization of:
Kim WH, NCR pt2 58 Dissipative 4-Poles, Measurement by Modified Wheeler Network: Altschuler HM, T-I Oct 55, T-MTT Jan 55 Distance Dependence of 3000-MC Trans-Horizon Signals: Josenison B, T-AP Apr 58 Distance Measurements, Differential Phase: Carswell I, NCR pt 1 57 Distance Measuring Equipment: Alrbone Vortac: Dodlington SH, NCR pt5 58 Interrogator: Applegarth AR, T-ANE Dec 54 RTCA Studies: Sherer LM, T-ANE Jun 55 Kim WH, NCR pt2 58
Driving-Point Impedance:
Functions of Active Networks: DeClaris N, NCR pt2 56 With Geometric Symmetry , Synthesis of: Baum RF , T-CT Dec 58 urtion: in Class B Transistor Amolifiers: Joyce MV, NCR at7 55 Reduction in Amplifying Devices: Gelser DT, P Jun 57 Reduction for Single-Sideband Transmitters: Bruene WB, P Dec 56 Method in Design of Junction Transistor Filip-Flops: Suran JJ, NCR pt 2 57 Reduction in TV Reception: Ruston J. WCR pt 7 58 Multiplication Rule for Functions: Reza FM, T-CT Sep 57 Distributed Amplification, Regenerative Amplifiers Golosman BS, P Apr 56 Synthesis of, Using Analog Computer: Karplus WJ, T-CT Sep 57 Distributed Amplifiers: Payne DV, P Mar 54; Bell DA, P Aug 54 Drone Tracking System with Lightweight Airborne Package: Walcek EJ, WCR pt5 58 Distributed Amplifiers, Overcoming Frequency Limitations of: Rogers PH, NCR pt2 57 Dry Batteries, Charging of: Adams PH, T-CP Jun 58
Dual Frequency Operation of Broadcasting Antennas:
McKenzie AJ, T-BTS Dec 55 Distributed Ampliffers and Virtual Delay Lines: Judge WJ, WCR pt2 58 Duplex and Multichannel Equipment: Ornstein W, T-VC Jun 54 Distribution, Optimal, of Signal Power in a Transmission
Link: Raisbeck G, T-IT Sep 58
Distribution Theory and Strip Beam: Clavier PA, P Oct 57, Duplexers: Broad-Band Balanced: Jones CW. T-MTT Jan 57
Microwave, High-Power. Lomer PD, T-MTT Jul 58
Radar, Ferrite Switches In: Vindung JP, WCR nt1 57
Radar Interference Elimination: Reingold I, NCR pt3, 57
During Their Time, Gas Tube, Control of: Hovda RE,
WCR pt3 58 P Dec 56 Distributor Test Stand: Lovell JA, NCR pt6 58
Diumal Variation of 16-KC Transatlantic Signal: Pierce JA,
P May 55 Diversity Combiner, Correlation Effects on: Packard KS, P Jan 58 Diversity Combiner Statistics of: Staras H, P Aug 56 Tube Design: Gould L, T-ED Oct 57 Diversity Combiner Statistics of: Staras H, P Aid 56
Diversity Combining Receivers, Baseband and IF, Evaluation
of: Adams RT, NCR pt8 58, T-CS Jun 58
Diversity Improvement in Frequency-Shift Keying, Theoretical:
Pierce JN, P May 58 Duplicators, Two Motion, for Machine Tools: Carr AJ, T-IE Mar 56 Dye Dilution Technique, Measurement of Blood Flow by: Stephenson JŁ, T-ME Dec 58 Dynamic Data System for Jet Engine TestingL Fister BJ, Diversity Reception: T-I Mar 58 Dual Systems: Hausman AH, P Jun 54 Maximum Signal-to-Noise Ratio: Brennan DG, P Oct 55 Massage Error in FSK Transmission: Montgomery GF, P Jul 54 Dynamic Spectrum Analyzer for Solar Studies: Goodman J, P Jan 58 Dynode Voltages for Photomultiplier Tubes , Regulation of: Ensiein K , T-NS Aug 58 In UHF Beyond-Horizon System: Mack CL, P Oct 55 DYSEAC: Diversity System for UHF Ship-to-Air Communication: Altman FJ, NCR pt8 54 System Design: Leiner AL T-EC Jun 54 System Organization: Leiner AL, T-EC Mar 54 Diversity Transmission, Applied to Shipboard Reception: Hansell GE, T-CS Mar 55 Diversity Transmission, Beyond-the-Horizon: Altman FJ, T-CS Mar 56 Early Warning, Air Traffic Control System, Integrated Defense: Baldridge BH, NCR pt5 58 Diversity Troposoheric Scatter Systems, Quadriple: Long WG, T-CS Dec 57 Divider, Digital Feedback: Meyer MA, T-EC Mar 54 Division Methods, Digital: Robertson JE, T-EC Sen 5B Dog, Effects of Electrical Discharges in: Kouwenhoven WB, T-ME Jul 5B Early Warning Radar Antennas: Flaherty JM, NCR nt 158 Earth Currents Near a VLF Monopole Antenna: Walt JR, P Aug 58 Earth, Electromagnetic Pulses Around: Levy BR, T-AP Jan 58 Earth Geometry, A Theorem: Toman K. P Feb 58 Earth, Measuring Space Environment of: Max AJ, NCR pt5 57 Doppler Airborne Velocity Measuring Systems: Berger WB, T-ANE Dec 57
Bandwidth Reduction, Pulse Excitation of Ammonia: Norton LE, T-MTT Oct 57
Data Translator: Kintner PM, T-I Jun 56
Effect in Atomic Clocks: Dicke RH, NCR nt10 55
Equation for Satellite Measurements: Schwartzman A, P May 58 Earth-Moon-Earth Communication Systems and Radar Reflection Characteristics of the Moon: Senior TBA, WCR pt1 58 Earth's Rate Directional Reference Inestial Compass: Feldman N, WCR pt5 58 Earth Satellites: See Satellites Echo Distortion in FM Transmission of Frequency-Division Multiplex: Spencer EG, P Jun 56; DeLano RH, P Jun 56 High-Frequency Radio Direction Finders: Fantoni JA, NCR pt8 56 Echo, Effect on HF Communication Circuits: Balley DK, T-AP Oct 58 Measurements, Satellite: Bernstein M, P Apr 58 Navigation, Janus Type, Dual Beam Antenna for: Saltzman H, NCR of 158 Navigation Systems: Fried WR, T-ANE Dec 57; McMahon FA, T-ANE Dec 57 Echo, End-Fire, of Long Thin Bodies: Peters L, T-AP Jan 58 Echoes, Radio, from Auroral Ionization: Leadabrand RL, T-AP Jan 58 Navigation Systems, Performance Profiles of: Fried WR, T-ANE Dec 58 Communications Systems: Krzyczkowski R, WCR pt8 58
Economic Aspects of Wire Processing for Low Volume Production: Benslon J, NCR pt6 58 Noise and Navigation, Relation Between: Bushnell RH, T-ANE Dec 58 Radar Navigations System Reliability Measurements: Stahl PD, NCR pt6 58 Economic and Technical Aspects of Industrial Electronics: Cook ED, T-IE Apr 58 Radar Navigational Computer: Insalaco JJ, T-ANE Dec 57 Economical Guide to TV Broadcast Station Planning: Weise DM, T-BTS Feb 57 Radar Set AN APN-96: McKay NW, NCR pt5 58 Verse DM., 1815 Feb 57
Economics of Automation: Lawson AA, T-PT Sep 56
Economics and Reliability of Telecommunication Systems:
Prihar Z, T-Cs Jun 58
Economy, American, and Electronic Systems: Hurd CC,
NCR pt6 58 Shift Measurements for Studying Jonospheric Structure
Using Satellites Thompson MC, P Dec 58 Shift of Signals Reflected by lonosphere: Takahashi I, P Oct 57

Simulation Applied to Airborne Navigation Problems: Lucey WE, WCR pt8 57

Simulator, Electronic: Wheeler GJ, NCR at8 55 Velocity Measurement, Nature of: Berger FB, T-ANE Sep 57

Dosimeter, Sensitivity, Measurer ents: Stein MN, NCR nt8 56.

Dosi etry, Ultrasonic, for Medical Use: We b GN, NCR pt4-57

Basic Science, Liportance of: Terman FE, SQ Dec 55; Krause EH, SQ Dec 55; Fink DG, SQ Sep 58 Brazil, Electronics: Reynolds DK, SQ Feb 56 Broadening the Educational Background for: Herwald SW, NCR pt19 58 Costles in the Air: Ryder JD, T-E Dec 58
Crisis in: Loughren AV, T-E Mar 58; Stewart JL, T-E Jun 58 D-Day in: Hendrix CE, P Dec 58
for Electrical: Chir L J, T-MTT Jul 58
Electrical, Whither Seely S, T-E Jun 58
Electrorics, Evaluation and Trends in: Baccus IB,
SQ Dec 58 Foundation for Freedom and National Strength: Folson MB, T-E Sep 58 France, Scientific: Ponkove JI, SQ May 58 On the Future Mathematical Curriculum for: Pollak HO, NCR pt10 58 Future Needs - Ryder JD , P Nov 57 Future Needs: Ryder JD, P. Nov 57
Incentives Leading Industry to Cooperate with:
VinAtta LC, T-E. Mir 58
and Industrial Electronics: Ryder JD, NCR pt6 58
Industry Cooperation, High-School Science Teacher
Views: Miner TD, T-E. Jim 58
Industry's New Role in: Cryden J, WCR pt9 58
IRE Group on: Ryder JD, T-E. Mir 58
Learning and Teaching Processes in: Angelo EJ,
T-E. Sep 58
Management, Shapire E. NCR pt 10, 57 Management: Shapiro E , NCR pt10 57
Microwave Equipment for College Laboratories:
Reich RJ , T-MTT Jul 56 Military Weapon System and the Professor Factor: Noble DE , T-RQC Aug 57 Netherlands, Electronics: Rogers R, SQ Feb 57 Needs in Systems Engineering: Johnson RP, NCR pt4 58 New Demands on: Murphy G, T-E Dec 58
New Directions in: Martin TL, T-E Dec 58
New Technique of: Ramo S, T-E Jun 58
New Technique of: Ramo S, T-E Jun 58
New Technique of: Fink DG, SQ Sep 58
Place in Averica: Hannah JA, T-E Mar 58 Place of Languages in Scientific: Ware LA, T-E Sep 58 Problem That Industry Must Face: Edelman B, T-E Dec 58 Quality Considerations: Whomery JR, T-MTT Jan 57 Requirements of Electrical Engineers: Terman FE, P Jun 56; Knoop WA, P D.c 56 Research Center at Institution of Technology: Boyd JE, T-EM Sep 57 and Science, Europe-U S A: Babits VA, T-E Dec 58 of Scientists, Mass: Miessner BF, P Jul 58 Soviet Umon, American Engineer's View of: Lincks GF, SQ Dec 58 Soviet Union, Objectives of: Staff Report, SQ May 58 Today, "moad: Sinclarr DB, NCR at10 58
Eggs, Automatic Detection of "Green Rot" in: Norris KH,
T-IE. Mar 55 Eigenmodes, Field Representation in Terms of: Marcuvitz N, T-AP Jul 56 Elastic Moduli of Small Specimens Determined by Ultrasonics: McSkimin HJ, T-UE Aug 57 Elastic Pulses, Propagation in Cylindrical Bars: Meitzler AH, NCR nt9 56 Elastic Waves in Thin Plates , Dispersion of High-Frequency: Arenberg DL , P Dec 58 Electrots: Linden EG. NCR nt3 56
Electric Field Distributions, Measurement of: Justice R,
T-AP Oct 55 Electric Field at a Great Distance and a New Radio-Meteorological Parameter, Correlation Between: Misme P, T-AP Jul 58 Electric Field Meter, Airbome: Rein GC, T-1 Sep 57 Electric and Magnetic Sources, Equivalence of: Mayes PE, T-AP Jul 58 Electric Power Generation, Automatic Devices for: Hartranft, T-IE Aug 58 Electric Slock, Effects on Man: Dalziel CF, T-ME Jul 56 Electric Spark Machine Tools, Electronic Considerations in Theory and Design: Williams EM, T-IE Mar 55 Electrical Constants of Solls at Low Frequencies: Wait JR, P Oct 57 Electrical Discharges in the Dog, Effects of: Kouwenhoven WB, T-ME Jul 58 Kouwenhoven WB, T-ME Jul 58

Electrical Engineering: See also Ennineering.
History of: Dudley B, SQ Feb 55
And IRE: Fink DG, SQ See 57, P Sen 57
Opportunities, Increase in: Compeshall IS 50 Dec 54
Propress In: Henderson IT 50 Feb 57
Role of Basic Science in: Terman FE SQ Dec 55
Technical Data Charts: Perry VG, SQ Sen 56
Electrical Machinery In Electronics-Oriented Curriculum:
Trival JG T-E Sen 58
Electrical Massaving Instruments. Standards step In Sentence Electrical Measuring Instruments, Standardization Eaboratory for Revice JO, T-I Jim 57 Electrical Power Problems in Fusion Research: Hurwitz H Jr, MCR nt5-58 Efectrical Propulsion of Space Ships: Stullinger E, NCR pt10 95 Electrically Small Antennas , Single Control Turing Circuit for Webster RE , T-AP J α 55 Electrification of Precipitation and Thunderstorms: Gunn R , P Oct 57 El atronamistras

Filtish BroggPD, SO Feb 57

in Medicine: Hilliard JK , SQ Feb 56 Progress in 1953: Radio Progress , P Apr 54 Electrocardiography:

Electronic Aids to Obstetrics, Electrohysterography and Fetal: Larks SD, WCR pt5 58 Magnetic Tape Recording System for: Webb GN , NCR pt4 57

Potentials Produced in a Circular Cylinder: Okada RH, T-ME Dec 56

Telemetering: Webb JC , NCR pt9 58
Vector , Electric Computer for: DeCote R , T-ME Jul 57
Electrocardiphone in Surgery: Morris AJ , T-ME Jul 56
Electroclemical Cell for Measuring Time: Eriksen W ,
NCR pt3 58

Electrochemistry, Negative Admittance Components in Membranes: Schmitt OH, T-ME Oct 56 Electrodes-

Clean, Characteristics of Electron Tubes Having: Beggs JE, T-ED Apr 58

Evaporated Altrninum, in High-Power Transistors: Henkels HW, T-ED Oct 57 Evaporated, Effects on Quartz Resonator Vibration: Onco M, P May 57

Movement, Noise due to: Glauber JJ, P Apr 55 Required to Produce Given Field Distribution: Kirstein PT, P Oct 58

Electrodynamometer, Inductronic, for Precise Measurement: Estoppey RF, T-I Dec 58

Electroencephalography, Signal Analysis in: Saltzberg B, T-ME Jul 57

Electrograph: Broding RA, NCR pt5 57, T-1 Dec 57 Electrographic Recording: Epstein H, NCR pt4 55 Electrohydraulic Servo Valve to Industry, Applying the: Spencer R, T-IE Aug 58

Electrohysterography and Fetal Electrocardiography Larks SD, WCR pt5 58

Electroionics of Nerve Action: Cole KS, T-ME Oct 56 Electrolytic Capacitor, Solid-State, Recent Advances in: Fraioli, T-CP Jun 58

Electrokinetic Hydrophones: Yeager E , NCR pt9 55 Electroluminescence:

ctrofuminescence:
In Cathiode-Ray Tubes: Nicoll FH, P Aug 55
Display, ELF: Sack EA, NCR pt3 58, P Oct 58
Display Panels, Transfluxor Controlled: Rajchman JA,
P Nov 58

of Phosphors: Bowtell JN, P May 56
Recent Advances in: Ivey HF, T-CP Dec 57
and Related Topics: Destriau G, P Dec 55
Electrolytic Capacitors, Aluminum and Tantalum, Dielectric
Films in: Burnham J, T-CP Sep 57

Electrolytic Capacitors , Improvements: Altenpoli D , NCR pt3 54

Electrolytic Capacitors , Tantalum Solid: McLean DA , NCR pt6 56 , P Jul 56

Electrolytic Tank Design of Electron Guns: Cook EJ, P Feb 58

Electrolytic Tank Measurements of Mesh Grid Characteristics: Hsu H, NCR pt3 57

Electromagnetic Fields in Cavities, Expansions of Kurokawa K, T-MTT Apr 58

Electromagnetic Interference Fringes Used in Geophysical Prospection of Underground Water: El-Said MAH, P Jan 56; Brown GL, P Jul 56; Lowy H, P Aug 56

Electromagnetic Radiation, Hazard to Body: Schwann HP, P Nov 56

Electromagnetic Scattering Problems, Impulse Response in: Kennaugh EM, NCR nt 1 58 Electromagnetic Theory and Geometric Optics: Wolf E, T-AP Oct 55

Electromagnetic Waves:

Backward Scattering by Schwinger Variational Principle: Dolph CL , T-AP Jul 56

Boundary Problems for Spheres and Cones: Bailin LL, T-AP Jan 56 Dirichlet" Principle for Wave Equation: Dolph CL, T-AP Jul 56

T-AP Jul 56
Discontinuous: van der Pol B, T-AP Jul 56
Forward Scatter by Spheres: Kock WE, WCR ptl 58
Future Directions for Research; Lax P, T-AP Jul 56
Hom Design: Braun EH, T-AP Jan 56
New York University Research: Kline M, T-AP Jul 56
Normal Mode Theory. Dolph CL, T-AP Jul 56
Radiation Pattern and Sources: Miller C, T-AP Jul 56
Transmission and Reflection Properties of Strip Grating:
Prinich RI, T-AP Apr 57
Velocity Modulation of Morropitales FR

Velocity Modulation of: Morgenthaler FR, T-MTT Apr 58

T-AP Jul 56; Frans W., T-AP Jul 56 Wave Theory Symposium Report: Stegel KM, T-AP Jul 56; Stiver S, T-AP Jul 56; Marc-vitz N, T-AP Jul 56; Franz W, T-Ap Jul 56;

Van de Hulst HC

Electromechanical Components, Production Design Concept of: Graemald GD, T-PT An 58 Electromechanical Coupling-Coefficient in Transducer Companison Methods: Woollett RS, NCR nt9 57 Electromechanical Filters:

Carrier and Sideband Selection, 100-KC: Georg RW, P. Jun 56

Single-Sideband Applications: Lundgren DL, P Dec 56

Electrometer System for Beta Particle Detection: Fox S , T-NS $A\mathrm{H}q.58$

Electrometer Tube for Applifying Bioelectric Potentials: Lettrum JY, T-ME Mar 58 Electromyograph for Studies on Muscle, Six-Channel-Dassign on JV, T-ME Jul 58

Electron Accelerators:

Linear, Medical Application of: Weissbluth M, WCR pt9 57

for Radiation Therapy: Nunan C, WCR pt9 57 Electron Beams:

Accelerated Symmetry Property of Space-Charge Waves in: Shkarofsky IP , T-ED Oct 58 Amplifiers:

plifiers:

Coupled Mode Description: Heffner H, P Feb 55

Minimum Noise Flaure: Haus HA, P Aug 55

Parametric: Ashkin A, WCR pt3 58; Bridges TJ,
P Feb 58; Adder R, P Jum 58

Parametric, Longitudinal Kinetic Power Theorem for:
Haus HA, T-ED Oct 58

Parametric, Low-Noise: Adler R, P Oct 58

Parametric, Low-Noise: Adler R, P Oct 58

Aperture Lens Formula Corrected for Space Charge: Birdsall CK, T-EO Apr 57

Bunched Electron Current in a Velocity Modulated: Maeda H, P Aug 58

Cerenkov and Undulator Radiation: Motz H. T-AP Jul 56 Confined Flow, Perturbations in: Dunn DA, T-ED Jul 57 Constrained by Magnetic Field: Lawson JD, P Jul 54

Cylindrica:

in Immersed Flow: Brewer GR, T-ED Anr 57
Stability In Nonsinusoldal Perlodic MagneticFocusing Fields: Buck DC, T-ED Jan 57
Deflection Tube for High-Speed Gating Circuit:
Sperling L, T-ED Jan 57

Distribution Theory: Clavier PA, P Oct 57
Effect on Coupled-Structure Traveling-Wave Tubes:
Rynn N, T-ED Apr 57

Focusing:

Biperiodic Electrostatic, of High-Density Beams: Chang KKN, P Nov 57

with Electrostatic Fields: Chang KKN, P Jan 57 Electrostatic, of Hollow Beams: Crumly CB, T-ED Jan 56

Magnetic: Mendel JT, P Mar 55; Kleen W, P Oct 55

Magnetic Space Charge Waves: Labus J, P Jun 57 Periodic Electrostatic, of Hollow Beams: Johnson CC, T-ED Oct 58 By Periodic Fields: Chang KKN, P Jan 55

with Periodic Magnetic Fields: Mendel JT, P May 54

Periodic, from Partially Shielded Cathodes: Harker KJ, T-ED Oct 55

Harker KJ, 1-ED Oct 55

Slalom, of High Density Beams: Cook JJ, P Nov 57
Hollow, Breakup of: Kyhl RL, T-ED Oct 56
Hollow, in Electrostatic Fields: Harris LA, NCR pt3 56
Hollow, Instability of: Pierce JR, T-ED Oct 56
Injection of Convergent: Palmer JL, WCR pt3 57
Ion Oscillations in Tubes: Jepsen RL, P Aug 57
Linear, Tube Theory: Wang CC, T-ED Jan 57
Long, Positive Ion Oscillations: Miliran TG,
T-ED Jul 56
Magnetic Field in Wafer-type Soleppids: Gutman AS.

Magnetic Field in Wafer-type Solenoids: Gutman AS, P Jan 57

Magnetically Confined, Thermal Velocity Effects in: Szabo A, T-ED Jul 58 Matrix Treatment of Problems: Amstrong HL, T-ED Oct 56

Measuring Noise Parameters of: Saito S, T-ED Oct 58 Microwave Detector: Mendel JT P Anr 56 In Microwave Power Measurements: Thomas HA, P Feb 57; Hoskin WJ, P Sep 57

Microwave Shot Noise and Amplifiers: Robinson FNH, T-ED Jul 56

Modulation, Polse and AM: Badger GMW, NCR at 3 57

Noise:

Effect of Lenses on: Knechtli RC , T-ED Apr 58

From Low-Temporature Cathode Emission: DeGrasse RW, P Aug 56 Measurements: Smullin LD, T-ED Dec 54 Wave Excitation at Cathode: Beam WR, T-ED Jul 57

Pin-Hole Camera Investmation of Cutler CC, P Mar 55 Plasma Frequency Reduction: Branch GM, P Aug 55, T-ED Apr 55

Positive Ion Trapping: Ginzton EL, P Oct 54, NCR pt3 54

Power Flow Louisell WH, P Apr 55
Reproducing Head: Gratian JW, T-AU Jan-Feb 54
Resonant Behavior: Adder R, P Mar 55
Scollopel, Amplification of: Militan TG, T-ED Jan 56
Second Order, of Two-Dimensional Slot Arrays:
Kirt: LA, T-AP Oct 57

Shot Noise Amplification: Twombly JC, WCR at 3-57 Space-Charge Waves Alony: Rigned WW, P Jan 58 Spurrous Modulation of: Cuttler CC, P Jan 56; Moreno T, P My 56 Thermal Velocity Effects: Cuttler CC, P Mar 55

Tubes for Frequency Mixing and Division: DeGrasse RW, WCR pt3 57

Electron Bunching and Energy Exchange in Traveling-Wave Tube: Webber SE, T-ED Jan 57 Electron Density Profiles in Tonosphere During TGY, Smith-Rose RL | P Nov 58 Electron Devines: Standards on Tensis

Microwave Tallo Terris: IRE Standards, P. Mar. 56 Storae Tallo Terris: IRE Standards, P. Apr. 56 Stector Flow, Reflected, Snace-Charge Conditions; Wall-wark JT, T-ED Apr. 55

Electron Gars

Annular Geometry: Schwartz JW, NCR pt3 58, P Nev 50

for Crossed-Field Traveling-Wave Tubes: Hoch OL, WCR pt3 57

Electrolytic Tank Design of: Cook EJ, P Feb 58 High Perveance: Mathias LES, T-ED Jul 57 Low-Noise, for Microwave Tubes: Currie MR,

P May 58 Low Noise, for Traveling-Wave Tubes: Knechtli RC, NCR pt3 56

for Small Neck 110° Deflection Tubes: Swedland LE , NCR pt 3 57

Space-Charge High-Transconductance: Gleichauf PH, P Aug 58 Tester: Arnott HD, T-ED Feb 54

Thermal Velocity Effects: ItzKan I, P Jun 57 Triode: HO KC, T-ED Jul 55 Electron-Ion Clouds, Radio Reflections from: Eshleman VR, T-AP Jan 55

Electron Linear Accelerator as Pulsed Radiation Source: Kelliher MG, T-NS Jun 56

Electron Microscope, Study of Viruses and Macromolecules: Wyckoff RWG, T-ME Oct 56

Electron Motion, Transverse, Influence on Backward-Wave Oscillator Starting Conditions: Kosmahl HG, T-ED Oct 58 Electron Multiplier, Grid Controlled, High Transconductance: Hostetler WE, NCR pt3 56

Electron Multiplier, Transmission Secondary, for High-Speed Pulse Counting: Sternglass EJ, T-NS Nov 56 Electron Optical Action of an Annular Aperture Lens: Harris LA, P Sen 58

Electron Spin States, Amplification and Generation Using: Bolef DI, T-MTT Jan 58

Electron Stream, Amplification in: Beam WR, P Apr 55 Electron Trajectory Studies , Geometrical Optics In: Yadavalli SV , P Nov 55

Electron Tubes:

Acceptance Sampling: Goldsmith BP, T-RQC Apr 55 Admittance Matrix Parameters at: Ziniet MM, NCR pt5 56

Ambient Temperature, Effects of: Barnett PF, NCR pt6 56

Amplitude-Quantizing: Stone RP, NCR pt3 55, P Aug 55

Backward-Wave:

Helix Millimeter-Wave: Christensen WV. P Jan 55 M-Type Carcinotron: Warnecke RR, P Apr 55 Oscillator: Johnson HR, NCR pt3 54 Beam Deflection Color Picture: Lafferty JM, P Oct 54

Beam Power, 15 Kilowatt: Bennett WP, T-BTS Mar 55, T-ED Jan 56

Carcinotron, M Type: Warnecke RR, P Apr 55

Cathode

Bias - Alternative to: Armstrong HL, P Jul 57

Hollow: Kumpfer BD, NCR pt3 54

Machined Tungsten: Levi R, NCR pt3 54

Cathode-Ray: See Cathode-Ray Tubes
Circuit Analysis: Shekel J, P Oct 54

with Clean Electrodes, Characteristics of: Beggs JE,
T-ED Apr 58

Clean Gas Discharge: Lafferty JM. T-ED Jul 58 Color Kinescope Improvements: Grimes MJ, P Jan 54

Color Picture: Post Acceleration: Lob CG, NCR pt3 54
Single Gum: Altes SK, NCR pt7 54
Colortron Picture Tube: Fyler F, T-ED Feb 54,
T-BTR Jan 54

Compact Kilowatt UHF Beam: Peterson FW, WCR pt3 58

Comparison of 6AK5 and 5654. Paul FA , T-CP Mar 54 Dark Trace, Recent Developments: Nozick S, T-ED Jan 56

Dark Trace, Writing Speed and Tonal Range: Nozick S, T-ED Apr 55

Decade Counter: Rudich I, NCR pt3 54 Deflection for High-Speed Gating Circuit: Sperling L, T-ED Jan 57

Delay Lines, Thermal Properties for: Paananen RA, P FEB 58

Designed for Critical Environments: Kohl WH, NCR pt3 57 Diode

Double-Base, Low-Frequency Circuit Theory of: Suran JJ, T-ED Apr 55 Microwave Detector-Convertor: Bronwell AB, P Jul 54

Miniaturized, Computer Applications: Lutz SG, NCR pt3 54

Thermionic Microwave Detection: Redhead PA, P Aug 55

Effects of Ambient Temperature on: Hopkinson K , T-ROC Jul 58

Emission at High Fields: Dyke WP, P Feb 55
Failure Rate Variations, Prediction of: Feyerherm MP, T-RQC Jan 57

Fault Protection in High-Power: Parker WN, NCR pt9 55

G-M, Halosen-Quenched Enan WG, T-NS Jun 56 Grid Noise Stahmann JR, T-ED Jan 55 for Guided Missiles, R Trability: Blattel A, T-ROC Jun 57

Heater Cycling and Heater Voltage: Effects of: Bowie WS , NCR at 6 56

Helix Milli neter-Wave: Christensen WV, P Jan 55 High-Dissipation Receiving , Heat-Flow Considerations: See also OH Jr , NCR pt3 56

High-Voltage Regulator, for Color Television Receivers: Byram RE, T-ED Jul 57 Image Orthicons for Color Cameras: Neuhauser RG, P Jan 54 Inflection-Point Emission Test: Hopkins EG, P Jun 55 Kinescope, Post Deflection Focus Color: Carpenter CP, T-ED Oct 55 Klystrons: Cavities, Shunt Impedance of: Ginzton EL, T-MTT Oct 55 Hysteresis in Oscillators: Moreno T, P Mar 55 Improving Power Output: Jasberg JH, P May 54 Magnetic Tuning: Cacheris JC, P Aug 55 Miltinactor Effect: Bol K, NCR pt3 54 Noise: Strum PD, T-MTT Jan 55 Potential Distribution at Anode Aperture: Brown KL, P Mar 54 P Mar 54
Power Amplifiers: Hiestand NP, NCR pt3 55
Reflex, Performance of: Zito G, P Jun 55
Space Charge Effect on Beam Loading: Mihran TG,
P May 54 Large Lead for Sealing to Glass: Swartz DL, NCR pt3 55 Lens-Mask Three-Gun Color Tube: Amdursky ME, P Aug 55 inear Beam Tube Theory: Wang CC, T-ED Jan 57 netron: Ceramic-to-Metal Seal: Cronin LJ, NCR pt3 55 Mitron: Boyd JA, P Mar 55 Modes and Operating Yoltages: Singh A, P Apr 55 Modulator: Parker TJ, NCR pt5 54 Very Long Pulses: Nowogrodski M, NCR pt3 55 Voltage Tunable: Boyd JA, NCR pt3 54 Mechanical Excitation, Effects of: Warnock F, NCR pt6 56 Microwave Design: McLinden JE, NCR pt3 55 Microwave Detection in Thermionic Diode: Redhead PA, P Aug 55 Microwave Duplexer: Gould L, T-ED Oct 57
Military Reliability Program: Harding KC,
T-RQC Aug 57 Mitron: Boyd JA, P Mar 55 Mitron: Boyd JA, P Mar 55
Multicolor Storage: Beintema CD, T-ED Oct 57
Noise Due to Electrode Movement: Handley PA,
P Mar 54; Glauber JJ, P Apr 55
Operating and Environmental Factors: Bowle WS,
NCR nt6 56, T-RQC Feb 56
Parallax Mask Color: Amdursky ME, NCR pt3 55;
Hergenrother RC, P Aug 55 Pencil, in UHF-VHF Turers: Harris WA, T-BTR Jan 55 Pentode, Audio Harmonics: Powell T. P Aun 55 Picture, Standardization of Deflection Angle: Torsch CE, T-BTR Oct 55 Phototube Terms: IRE Standards, P Aug 54
Plate Voltage, Plate Current and Plate Dissipation,
Effects of: Lammers DE, NCR pt6 56 Platinotron: Brown WC, P Sep 57 Positive Ion Traps for Beam Control: Ginzton EL, NCR pt3 54 NCR pt3 54
Power Vacuum, Positive Grid Voltage: Space Current Test for: Jolly JA, NCR pt3 57
Pressed Dispenser Cathode: Coppola PP, P Mar 56
Progress In 1953: Radio Progress, P Apr 54
Problems In Use of: Jones WR. T-ED Feb 54
Pridse Operation Effects of: Shipley WU, NCR pt6 56
Receiving, Impulse Test for Evaluating Vibrational Characteristics: Jolly SA, NCR pt6 58 Receiving-Type, Influence of the Internal Correction Voltage on Ratings of: O'Neill GD, T-ED Apr 58 Reliability: Built-In: Acheson MA, T-RQC Apr 56 Life Quality Measure: Kao JHK, T-RQC Arr 56 in Military Applications: Jervis ER, P Jun 54 Operating and Environmental Factors, Effects on: Rowiz WS, T-RQC Feb 56 Russian Terminology: Maloff IG, P Apr 55; Schultz GF, P Jun 54, P Jan 56 Space-Charge Deflection: Wallmark JT, P Sep 54 Stacked Ceramic Receiving, Semiautomatic Production of: Chamberlain RH, WCR pt.6.58 Stacked, in Glass Envelopes: Douglass CF, WCR pt3 58 Standards on Definitions: IRE Standards P Jan 57 Standards, TR and ATR Tube Definitions: IRE Standards, P Ann 56 With Halftone Display: Knoll M, P Oct 54, NCR pt3 54 Half-Tone Picture: Pensak L, NCR pt3 54, Knoll M, NCR pt3 54 High-Speed Dark-Trace: Nozick S, NCR pt3 54 Large Canacity: DeLang RB Jr., NCR pt3 54 Noise Limitations: Winkler S, NCR pt3 54 Strophotron: Alfven H, P Aug 54

Subminiature:

Filamentary, of High Reliability: Wood R, T-RQC Jan 57

Television Picture, Horizontal-Deflection Testing: Knisht MB, T-RQC Apr 56

Quality Control Program to Improve Reliability: Hoyle H., T-RQC Jan 57

Reliability, Environmental Effects: Pleak HC, T-RQC Jan 57

Temperature Distribution in Anode Structure for Pulse Input: Ghose RN, NCR pt3 57 Thermistor for Applying Heater Voltage: Gano JJ, NCR pt6 57 Thermistors for the Gradual Application of Heater Voltage to: Gano JJ, T-EC Mar 58 Thyratron: Current Interruption by Grid: Johnson EO, NCR pt3 54 NCR pt3 54
Magnetle Grid Control: Burnett JH, NCR pt9 55
Tacltron: Johnson EO, P Sep 54
X-Ray Emission from: Schnelder S, P Jun 55
Time-Sampling: Stone RP, NCR pt3 55, P Aug 55
TR, Keep-Alive Design: Gould L, P Apr 67
Traveling-Wave: See Traveling-Wave Tubes
Tricolor Vidicon Camera: Weimer PK, NCR pt3 55 Audio Harmonics: Powell T. P Aug 55 Cathode Followers for Impedance Matching: Schultz TJ, T-AU Mar-Apr 55 Design for Maximum Gain: Bareiss M., P. Nov 55 Electron Gun: Ho KC., T-ED Jul 55 History of: Hammond JH, P Sep 57
Grounded Grid: Harris WA, NCR pt3 55
Microwave: McLinden JE, NCR pt3 55
Miniature Dual, Low Distortion Operation of:
Knapp JZ, T-AU Jul-Aug 55 Knapp JZ, T-AU Jul-Aug 55
UHF Disc-Seal: Peek SC, T-ETR Jan 54
Useful to 10,000 MC: Beggs JE, P Jan 55
UHF Television Amplifiers: Pan WY, T-BTR Jan 54
UHF Transmitting Long-Life Cathode for:
Silvka MJ, NCR pt3 56
as Universal Component, Reliability Considerations:
Acheson MA, T-RQC Jan 57 Utilization Cascaded Distributed Amplifiers: Talkin Al , P Nov 55 Voltage Reference, of Ceramic Metal: Culp JW, T-ED Apr 57 White-Noise Vibration Test: Robbins JP, T-RQC Jan 57 Electrons, Holes, and Traps: Shockley W, P Jun 58 Electrons, Nature of: Salpeter JL, P Dec 57 Electronic Aids to the Fishing Industry: Rosen L, T-CS Mar 55; Mead FM, T-CS Mar 55; Smith WC, T-CS Mar 55; Moore CE, T-CS Mar 55 Electronic Applications in Los Angeles County: Collins WC, T-VC May 57 Electronic Approach to Sortation Control: Burtness RW, T-IE May 58 Electronic Assembly, RETMA Standards: Bosman EH, T-PT Apr 57, T-IE Mar 57 Electronic Devices, Rating System for: Lamb JJ, T-RQC Feb 56 Electronic Energy Band Structure in Crystals: Herman F, P Dec 55 Electronic Equipment: Airborne, Price of Reliability: Wulfsberg AH, T-RQC Jan 57 Air-Cooled Chassis: Mark M , T-CP Sep 56 Complexity and Unreliability in: Scheer GH, T-AJ May-Jun 55 Human Engineering as Ald to Improvement of: Rappa-port M, T-IE Mar 57, T-PT Apr 57 Military, Progress in Reliability, 1956: Bridges JM, T-RQC Aug 57 Production, Symposium on Automatic Factory: T-PT Sep 56 Air Force Program: Munroe CL, T-PT Sen 56 Bureau of Aeronautics Program: Stirling CW, T-PT Sep 56 Development of Systems of Mechanized Assembly: Hannahs WH, T-PT Sep 56 Economic Considerations: Lawson AA, T-PT Sep 56 Miniaturized Electronic Equipment Production: Hom FM , T-PT Sep 56 Modular Design of Electronics: Henry RL, T-PT Sep 56 Reliability: De Guire ML, T-PT Sep 56 Small Quantity Production: Henry RL, T-PT Sep 54 Solderless Wrapped Connection: Mallina RF, T-PT Sep 56 Production Testing in Automatic Factory: Dordick HS, T-PT Apr 57, T-IE Mar 57 Reliability Outhfrontion: Pertschuk DW, T-RQC Nov 57 Test, Semi-Mechanized Assembly: Ost R, T-PT Apr 57, T-IE Mar 57 Electronic Mail Handling System, Coding Problems of: Levy M, NCR pt6 57 Electronic Production and Machine Tool Control, Standard-ization in: Bosman EH, T-IE Mar 57, T-PT Apr 57 Electronic Recording Machine, Accounting (ERMA) Mechani-cal Design Consideration: Noble RP, T-IE Mar, T-PT Apr 57 Electronic Systems and the American Economy: Hurd CC , NCR at 6.58

Electronic Teaching Aulss Ramo S., T-E. Jun 58 Electronic Variable Speed Drive for Process Control: Humphrey AJ., T-IE Mar 57, T-PT Apr 57

in Aurona, tical Richarch; White JAI, WCR ut 9.57 in Blockerwical Spectroscopy: Gallagher TF , VCR ut 9.58

Bissenss licerease in: Harris WR, SQ Sen 57 in 1 Chemical Coloning: McMillen RC, THE Air 53 Division, French Atomic Energy Commission: Surfain MM, THNS Min 57

Fiture of: Fink DG, P Sep 57, SQ Sep 57

Electronics:

Industry, Technical Proposals in: Eddy FN, T-EM Dec 58 Industry, Challenge of Space Exploration: Prew HE, T-MIL Dec 57 Looks at the Future: Hoffman HL, T-EM Jul 56 m Medicine: Hodges WE, T-ME Jul 57 Military Research Requirements in: Schaub BH, WCR pt8 57 in Nuclear Industry: Berkner LV, NCR pt9 54 Radio , Report on URSI Commission VII: Shepherd WG , P Jul 58 in Space Technology: Draper CS, NCR pt5 58 Technology, History of: Hammond JH, P Scp 57 Warfare, Radar Countermeasures: Joint Board, T-MIL Mar 57 What's Coming After the Missile Age: Baker WRG, P Mar 58 Electro-optical Feedback; Bit Storage: MIIch A, T-EC Dec 55 Electro-optical Shutter, Millimicrosecond: Hull JA, NCR pt5 58 Electrostatic Analyzer, Alignment Procedure: Weeks RR, T-NS Jun 55 Electrostatic Character-Writing Tube: Schlesinger K, NCR pt3 5 7 Electrostatic Printer for Code-Marking Letters in Canadian Automation Postal System: Jensen H, NCR pt6 58 Electrostatic Reading of Perforated Media: Lubkin S, NCR pt4 54 Electrostatic Storage System for Use as Time-of-Flight Analyze: Hahn J, NCR pt9 57 Electrostethography, Absolute vs Acoustic Standardization in: Dunn FL, T-ME Dec 57 ELF Electroluminescent Display: Sack EA, Oct 58; NCR pt3 58 Elliptic Functions of Rational Fractions of a Quarterperiod. Computation of: Orchard HJ, T-CT Dec 58 Elliptical Polarization: Rumsey VH, P Jun 55 Emergency Standby Facilities for Aural Television Transmitter: Wolfe B, T-BTS Feb 57 From Aluminum-Coated Tungsten: Ullman FG, T-ED Feb 54 At High Fields: Dyke WP P Feb 55 Inflection-Point Test: Hopkins EG , P Jin 55
Molecular Ringing of Pulse-Excited Amnionia: Norton LE,
T-MTT Oct 57 Secondary MgO Thin Films: Wargo P. T-ED Feb 54 Self-Sustained from MgO Films: Doblschek D, T-ED Feb 54 X-Ray, from Thyratrons: Schneider S P Jun 55 Bypassing in Transistor Circuits: Murray RP, T-AU May-Jun 57 -Coupled Differential Amplifler: Slaughter DW, T-CT Mar 56 Tetrode: Godmondsen RA, T-ED Oct 58 Wide-Gap, for Transistors: Knoemer H, P Nov 57 Employee Losses, Minimizing, When R and D Operations Relocate: Lander RF, WCR Pt9 58 Approach, Pro. lems in: Starrett WR, SQ Feb 55 Career Guidance: Leifer M, SQ Dec 56 Interviews, Preparation for: Wilson DR, SQ Dec 54; Staff Report, SQ Dec 57 Likes and Dislikes of Engineers: Staff Report, SQ Dec 57 Medium Size Company, Advantages In: Hellmann RK, SQ Feb 57 Performance and Personality Requirements: Morgan HK, SQ Sep 55 Practical Experience, Value of: Olson RH, SQ Dec 55 Practical Experience, Summer, For High School Students: Borkhard FJ, SQ May 57 Resumes: Amstrong OE SQ May 57 Selection, Factors Involved: Albrook RL, SQ May 57 Self-Employment, Inception Problems of: Gertsch EP. SQ Dec 56 Self-Employment, Preparation for: Dempster B, SQ Dec 57 Small Company, Advantages in: Klipper S, SQ Dec 55 Encapsulation of Electronic Circuits: Calicchia R , NCR pt6 57 Encapsulation, Magnetic Component, for Military Airborne Application: Lucic A, NCR pt6 56 and Decoder of High Efficiency, Error Correcting: Green JH P Oct 58 Digital Voltage: Zweizig JR: T-EC Sep 54 Precision Shaft-Position: Frank W1, T-1 Jun 56 Sine-Cosine Angular Position: Spaulding CP, T-I Jun 56 Encoding Minimum-Cost: Blachman NM. T-IT Mar 54 End Correction for Coaxial Line when Driving Antenna over a Ground Screen: King R. T-AP Apr 55 Endfire: Multielement for VHF and UHF: Mushiake Y, T-AP Jul 56 Nonresonant, for VHF and UHF: Cumming WA, T-AP Apr 55

Oction on Patterns for Pritchard RL, T-AP Apr 55

Echo Area of Long Thin Bodies: Peters L, T-AP Jan 58, Jan, (L) P Jul 55

Slot Antennas: Stephenson BT, T-AP Apr 55
Eneroy Cost of an Observation: Adler FP, T-IT Dec 55
Eneroy Densities of Microwave Radiating Systems:
Tolles WE, T-ME Feb 56
Eneroy Storage With Large Capacitors: Warner DF,
T-CP Dec 56

Engineering: See also Electrical Engineering American History of: Oliver JW, SQ Dec 57
Based on Biological Design: Baker WRG, NCR pt9 54;
Mead LC, NCR pt9 54; Wener N, NCR pt9 54;
Stevens SS, NCR pt9 54; Schmitt OH, NCR pt 54
Career Evaluation: Rohr W, SQ Feb 56
Colleges Reliability and: Krohn CA, WCR pt6 58

Company, Small, Organization of: Jamile TW, T-EM Jan 56

Costs Analysis: Blume BE, T-EM Mar 57

Analog vs Digital Techniques for: Breedon DB, T-IE Mar 57, T-PT Apr 57

Digital vs Analog Techniques: Breedon DB,
T-PT Apr 57

Effectiveness, Measuring: Langford RC, T-EM Jun 58
English is Different: Grey L, T-EWS Mar 58
Histories of Various Fields, Value of: Dreher C,
SQ Sep 58

Management: (See Also Management)
Academic Training for: Shapiro E, NCR pt10 57
Brainstorm Panels: Pleuthner WA, NCR pt6 56
in Brazil: Schooley AH, WCR pt10 57
Challenges to Manager: Linder CH, NCR pt6 56
and the Changing World: Nelles M, T-EM Mar 55
Decentralization: DaParma EU, T-EM Sep 57
Delegation of Authority: Crissy WJE, NCR pt10 57
Development: Jernstedt GW, T-EM Mar 58
Development of Managers within Industry: Green
EI, NCR pt10 57
Dispersed Research and Development Facility:
Meloy T, T-EM Sep 57
Human Relations: Levenstein A, NCR pt10 57
Motivation of Technical People: Spencer LM,
NCR pt6 56
Navy Laboratory: Phelps JM, T-EM Sept 57

Navy Laboratory: Phelps JM, T-EM Sept 57
Philosophy: Slattery TG, NCR ptll 54
Problems of: Williamson MA, T-EM Sep 58
Project Overlay System of Organization: Bowie
RM, T-EM Sep 57

Selection of Talent: Randle CW, NCR pt10 57 Self-Development for: O'Bryan HM, WCR pt10 57 Strengthening the Recognition of Engineering: Griffin GW, NCR pt6 56

Transition from Engineer to Supervisor: Elliott HM, WCR pt10 57

Wall Street Viewpoint: Roehl OC, NCR pt10 57 Westinghouse Electric Laboratory: Zener C, T-EM Sep 57

npower:
Basis of Shortage: McCann GD, T-EM Mar 57
Conserved through Improved Management of Military
Development Programs: Bridges JM,
T-EM Mar 57

Organization, Public Relations Function In: Garrigan TE, T-EM Sep 57

Personnel Requirements for Research and Development Laboratories: Schoenberger WJ, T-EM Jul 56 PrivIlege of: Loughten AV, SQ May 56 As Profession, History of: McRae JW, SQ Dec 55 Research Laboratories, Productivity in: Miessner BF, P Oct 57

P Uct 57 Student's View of: Tirrell JE, T-E Sep 58 Teachers Vanishing: Straiton AW, T-E Mar 58 Theorectical and Analytical Approach, Importance of: Krause EH, SQ Dec 55 Writing, See Technical Writing

Broadening Horizons of: Teal GK, NCR pt10 58
Can Be Managers: Watson D, T-EM Nov 54
Creative Ages of: Coile R, P Aug 54; Laport EA,
P Dec 54

Potential Schooley AH, T-EM Apr 56

Estimating Potenial: Schooley AH, T-EM Apr 56
Evaluating for Research and Development Activity:
Martin RA, WCR pt10 57
Factors Affecting Productivity: Batsel MC,
T-EM Mar 57

and Human S7,
and Human Relations: Gordon JF, T-EM Mar 57,
Hallberg FC, SQ May 56
Increasing Time for Creative Effort: Herwald SW,
T-EM Mar 57

Likes and Dislikes in Industry: Staff Report, SQ Dec 57 Make Your Own: Gresens HJ, T-E Sep 58 Motivation of, in Balanced Military-Commercial Indus-try: Bell RS, T-EM Sep 57

try: Bell RS, T-EM Sep 57
and Music: Chandler CH, T-AU Sep-Oct 56
Orientation: Fogel LJ, T-EM Jan 56
Personal responsibilities of the Professional: Simmons DJ, NCR pt6 55
Personality of: Goshen CE, SQ Dec 55
Psuedo: Menchken HL, SQ May 57
Re-Invention by Young: Herold EW, P May 58
Shortage: Wessels PS, T-EM Apr 56
Supervisor, Transition to: Elliott HM, T-EM Jun 58, WCR pt10 57

Training Systems: Cole RI, T-EM Sep 58
Transition From School To Industry: Hern HD, SQ Dec 54

Transition to Supervisor: Elliott HM, WCR pt10 57 Unionization of: Amann J, T-EM Dec 57; Rains H, T-EM Dec 57

View of Management: Johnson RW, T-EM Jul 56
English, Engineering, Is Different: Grey L, T-EWS Mar 58
English and German Languages for Communication of Semantic Content, Relative Efficiency of: Ramakrishna BS,
T-IT Sep 58

Entropy

Equivalence In Time, Frequency Domain: Price R,

Evolution Relationships: Amber GH, P Dec 58 of a Message Source: Campopiano CN, P Sep 58 Negentropy: Woodward PM, T-IT Mar 57

Detectors, Color Signal Distortions in: Loughlin 8D, T-BTR Oct 57

Elimination and Restoration System Compared with Linear Amplifier System: Kahn LR, P Dec 56 of Normal Noise, Complex Processes for: Arens R, T-IT Sep 57

and Phase Modulated Components of Narrow Band Gaussian Noise: Price R, T-IT Sep 55 and Pre-Envelopes of Real Wave-forms: Dugundji J, T-IT Mar 58

Process Markov: Pierce JN, T-IT Dec 58
Tibe : Temperatures: Meissner P, T-ED Feb 54
Environmental Factors In Supersonic Bombers: Katz I,
NCR pt8 57

Environmental Vibrations of Airborne Gimbaled Equipment: Elirenpreis D, NCR pt10 57

Epoxy, Resins, Electrical Properties of: Pitt CF, T-CP Dec 57

Equal-Loudness Contours, New Determination of: Robinson DW, T-AU Jan-Feb 58 Equalization Considerations in Direct Magnetic Recording for Audio Purposes: Snyder RH, NCR pt7 56 Equalizers

Equalizers:

Amplitude, Limitations on: Carlin HJ, NCR pt2 54
Bandwidth Limitations: Stewart JL, T-CT Mar 57
Gain Limitations of: Carlin HJ, P Nov 54
In the Time Domain: Corrington MS, NCR pt2 54
Minimum Phase Design: Lundry WR, NCR pt2 54
RLC Ladder Networks: Ho EC, NCR pt2 54
Video Cables: Rounds PW, NCR pt2 54
Equation, and Effective Communication Tool: Hollander M,
WCR pt9 58
Equation Solver: Isograph Alpebraic, Pag PV, T-EC, km 5

Equation Solver, Isograph Algebraic: Rao PV, T-EC Jun 5 Equator, Magnetic, New Type of Fading Observable on Patl Crossing the: Yeh KC, P Dec 58

Equipartition Theory Applied to Electric Circuits: Bell DA, P Aug 56

Equipment Reliability Program: Clement LM, T-QC Feb 56 Equipment, Theoretical vs Practical: Wouk V, SQ Sep 56 Equivalence of Electric and Magnetic Sources: Mayes PE, T-AP Jul 58

Equivalence, Space-Frequency: Kock WE, P Feb 58, WCR pt1 57

ErgodicIty, Study of: Watanabe S, T-IT Sep 54 Erie Railroad Communication System: Young WJ, T-VC Jun 54

Bounds in Noisy Channels without Memory: Feinstein A, T-IT Sep 55 Checking Codes, Unit-Distances: Kautz WH, T-EC Jun 58

Checking and Coding in Canadian Automation Postal System: Levy M, NCR pt6 58 Computing, of a Slow Type Analog Computer: Miura T, T-EC Dec 58

Correcting Codes , Nonbinary: Lee CY , T-IT Jun 58
Correcting Encoder and Decoder of High Efficiency:
Green JH , P Oct 58

Correcting System, Noise Stability: Siforov VI, T-IT Dec 56

Correction Methods in Digital Data Transmission: Brown AB, NCR pt4 58

Corrections , Multiple , by Means of Parity Checks: Sacks GE , T-IT Dec 58

Criteria, Nonmean Square: Sherman S, T-IT Sep 58
Criterion, Nature's: Guillemin EA, T-CT Mar 54;
T-CT Sep 54; Skinner LV, T-CT Jun 54; Page CH,
T-CT Sep 54

Free Coding: Elias P, T-IT Sep 54
Matrices and Computing in Linear Differential Analyzers: Nathan A, T-EC Mar 58

Probabilities for Binary Reception through Fading and Noise: Turin GL, P Sep 58 Rates in Data Transmission: Reiger S, P May 58 Rates in Pulse Position Coding: Campbell LL, T-IT Mar 57

Sampling, Closed Loop Control Systems with: Stewart RM, P Nov 58

Signal Detection in PAM-Systems: Carlstedt 0, T-TRC Mar 56

Estiatron Electrostatically Focused Traveling-Wave Tube: Blattner D , NCR pt3 58

Etched Circuit Boards, Vibration: Allen MS, WCR pt6 57 Etched Wiring, Eyelet Failure: Hodges WJ, T-PT Apr 57 Europe—U. S. A., Science and Engineering Education: Babits VA, T-E Dec 58

European View of High Fidelity: Rodrigues de Miranda JR, T-AU Jul-Aug 57

Evaporated Electrodes, Effects on Quartz Resonator Vibration: Once M , P May 57

Evaporative-Gravity Technique for Airborne Equipment Cooling: Mark M , T-ANE Mar 58

Events-Per-Unit-Time Meter: Forty KC, Magnetic Techniques: Weinstein DA, NCR pt5 56

Transistorized: Chisholm H, NCR pt5 56 Exalted-Carrier and Synchronous Detection in Television Receivers: Avins J, T-BTR Feb 58

Exchange Cable Plant Design: Bogan LB, T-CS Nov 54
Expansion Chamber for Red Cell Measurements: Solomon
AK, NCR pt9 54

Experimentation, Minimum Energy Cost of an Observation: Adler FP, T-IT Dec 55

Exploitation of Physical Phenomena for Communications: Ryerson JL, NCR pt8 58 Exponential Attenuators, Audio Type: Bacon J, T-I Mar 57

Exponential Transmission Lines: Sweet LO, T-MTT Apr 57
Extragalactic 21-CM Studies: Heeschen DS, P Jan 58
Extraterrestrial Radio Waves at UHF, Amplitude Scintillation of: Ko HC, P Nov 58
Eye, Production of Lense Opacities by Microwaves:
Williams DB, T-ME Feb 56

Eyelet Failure in Etched Wiring: Hodges WJ, T-PT Apr 57

- F -

"Facing" Machine Circuits in Canadian Automation Postal System: Jensen H, NCR pt6 58

Applications In USAF: Johnson HR, NCR pt8 54 Cathode-Ray Tube Applications: Bliss WH, NCR pt8 54

Communication Using Intermittent Meteor Ionization: Bliss WH, P Dec 57

International Radiophoto Operation: Rehm MP, NCR pt8 54

NCR pt8 54

Probability Statistics Concerning Typewritten of Printed Material: Deutsch S, T-IT Jun 57

Progress in 1953: Radio Progress, P Apr 54
Standards on Terms: IRE Standards, P Jun 56
System, Coded: Michel WS, WCR pt2 57
Systems: Hill AS, NCR pt8 54
Factorization of a Polynomial, Direct Hurwitz, Iterative Method for: MacWilliams FJ, T-CT Dec 58

Characteristics of 3000-MC Trans-Horizon Signals: Josephson B , T-AP Apr 58

Circuits , Simple Codes for: Voelcker HB , T-CS Dec 58 Effect on Communications Circuit Subject to Interference: Bond FE , P May 57

Bond FE, P May 57
and Nolse, Error Probabilities for Binary Reception
through: Turin GL, P Sep 58
Observable on Paths Crossing the Magnetic Equator, New
Type of: Silberstein R, P Dec 58
of 100 MC FM Signals: Riddle RL, T-AP Jan 54
Polarization, Over an Oblique Path: Hedlund DA,
T-AP Jan 58

of Scattered Radio Waves: Silveman RA, T-AP Oct 58 Scintillation: Tukizi O, T-AP Jan 57 Fallure Prediction Technique: Muncy JH, NCR pt11 54 Fallure Rate Analysis, Component Part: Vander Hamm RL, NCR pt6 58

Failure Response Curve, Fitting to Experimental Data:
Peterson NM, T-RQC Dec 58
Faraday Rotations, Produced by Ferrites in Waveguides:
Stewart C, T-MTT Apr 55
Fast Carry Logic for Digital Computers: Robbins H,
T-CT Mar 55

Fast Coincidence Experiments: Bay Z, T-NS Nov 56 Fault Location on Telephone Cables: Kantrowitz P, T-CS Dec 58

Fault Protection for High-Power Tubes: Parker WN, NCR pt9 55 Federal Communications Commission:

Mobile Television Monitoring Unit: Day RL,
T-BTS Feb 57
Radiation Requirements at UHF, Techniques Involved in
Meeting: Bell J, T-BTR Mar 58
Rule Making Procedures for Vehicular Communications:
Baker WE, T-VC Jul 58

Rules and Propagation Data: Alien EW, NCR pt1 54
Service Groupings: Plummer C8, T-VC May 57
Spurious Radiation: Loughren AV, NCR pt7 55;
Webster EM, NCR pt7 55
Feed, Microwave Reflector, Improvement of Impedance:
Scheldo

Feed Optimization in Multifeed Antennas: Kuecken JA, WCR pt1 57

Feedback:

unack: Active-Error: Macdonald JR, P Jul 55 Amplifiers: See Amplifiers, Feedback Base Current in Transistor Power Amplifier: Boxall FS, WCR pt2 57

Binary Decision, Extension of Kelly Betting System: Metzner JJ, P Oct 57

Channel Capacity without Coding: Elias P, NCR pt2 57

NCR PL2 57
Circuits, Delayed: Seki H., P Apr 58
Compensation Circuit Design: Stubbs GS, NCR pt10 55
Control of Length-Modulated Pulse Generator: Shea
JE, NCR pt4 56

Control Systems:

trol Systems:
Analysis of Linear Systems: Boxer R, P Apr 55
Design of: Truxal JG, NCR pt2 56
Digital Computers in: Ragazzini JR, NCR pt4 57;
Braun EL, NCR pt4, T-EC Jun 58 (Braun)
Direct Synthesis through Block Diagram Substitutions: Smith OJM, NCR pt4 57

Drive Member Performance: Bailey FM , T-AC May 56 Equations for Applications of Statistical Techni-ness: Biomson GA, T-AC Feb 57 Equalizing Network: Looney CH, P Jan 55 Final Value Controller Synthesis: Mathews MV, T-AC Feb 57 Nonlinear: Analysis of: Mikhail SL, WCR pt4 58 Analysis of Pilot-Induced Oscillations: Van Horn IH, NCR pt4 57 Compensating Networks for: Mishkin E , NCR pt4 57 for Wide Range Input Signals: Tou J, NCR pt4 57 Problem of Stability: Bower JL, NCR at 2 56 Promess in 1953: Radio Progress, P Apr 54 Sampled-Data, Survey of Analysis Techniques: Murphy GJ, T-AC Feb 57 Sampling in: Kukel J, NCR pt4 57 Standards on Terminology: IRE Standards , P Jan 56, T-AC Feb 57 Switching Discontinuities in Phase Space: Hung JC, NCR pt4 57 Symbols for: IRE Standards, P Nov 55 Synthesis of Minimum Lead Systems: Axelby GS, T-AC May 56 Terminology for: Proposed Standards, T-AC Mar 58; Macqueene PH, T-AC Dec 58 Control, Terminology for: Axelby GS, T-AC Mar 58 Current, in Mixers and Amplificers: Brogs GE, P Jul 54 Damped Oscillatory, Posicast Control of: Smith OJM, P Sep 57 Decision System: Harris B, NCR pt2 57 Delay-Line Method of Compensation: Ho YC, NCR pt4 55 Divider, Digital: Meyer MA, T-EC Mar 54 Effect of, Around the Limiter: Baghdady EJ, NCR pt8 57 Electro-Optical , Bit Storage: Milch A . T-EC Dec 55 External , Effect on Backward-Wave Oscillator: Vernon FL , NCR pt3 57 Information , Theory of: Chang SSL . T-IT Sep 56 Irreducible Loops , Matrix Analysis: Percus JK , T-CT Jun 55 Internal, In Transistor Amplifiers: Stem AP, P Jul 55 Investigations of Magnetic Ampliflers with: Gray HJ, T-EC Sep 58 Local Negative: Fuchs A, P Mar 56 Loop, Compensation for Cascaded Actuators in: Axelby GS, WCR pt4 58 Message Redundancy vs. Feedback for Reducing Message Uncertainty: Bishop WB, NCR pt2 57 Missile Pitch Stabilization: Katt DR. WCR pt4 57
Multiple Sequential, Reliability Control Based on:
Ryerson CM, T-RQC Jul 58
Nonlinear Compensating Circuit: Surber WH Jr,
NCR pt4 55 Nonlinear, Measurement and Stabilization of: Casserly G, NCR pt4 56 Operational, in Data Processing Ampliflers: Smith RA, WCR pt5 58 Oscillator, Traveling-Wave Tube, X-Band: Price VG, NCR pt3 57 Phase-Shift Circuit, Graphical Analysis: Barbiere D, Phase-Shift Circuit, Graphical Analysis: Barbiere D, P Jun 55 Quantized: Tomovich R, T-CT Jun 55 Rate Networks: Lyons LF, NCR nt10 55 Sampled Data, Techniques for Problems: Kranc GM, WCR nt4 57 Systems Conditionally Stable: Oizumi J, T-CT Sep 57 Constraints in Design: Westcott JH, T-CT Sep 54 Nonlinear, Stability of Forced Oscillations in: Bonenn Z, T-AC Dec 58 Optimum Lead-Controller Synthesis: Walters LG, T-CT Mar 54 Power Gain in Amplifiers: Mason SJ, T-CT Jun 54 Stabillty, Using Dual Nyquist Diagrams: Jones P, T-CT Mar 54 Synthesis by Inverse Root-Locus Method: Aseltine JA, NCR at 2 56 Aseltine JA, NCR 3t2 56
Testing: White CF, T-AC Dec 58
Transfer Function Synthesis: Armstrong DB, T-CT Jun 54
Trends in: Smitth OJM, T-CT Mar 54
Theory, Signal Flow Graphs: Mason SJ, P Jul 56
Time Varving Systems: Aseltine JA, NCR nt2 54
in Veagons Systems: Newhouse RC, T-ANE Sep 54
Weighting Functions: Aseltine JA, P Oct 54 Feedthrough Canacitors: Cascaded: Schilcke HM, NCR nt6 51, P May 56 Tubular, Continuous and Discontinuous, Performance at VHF Range: Williams EM, NCR pt6 56
Fellowships, Opportunities for: Rosen HH, SQ Sen 55
Ferrimagnetic Resonance in Polycrystalline Gamets:
Rodrigue GP, T-MTT Jan 58 Ferristor, Application to Electronic Instruments Melsheumer RS, T-I Jun 57 Active Microwave Devices , Measurements on: Poole KM , WCR pt3 57 Amplifier, Modified Semistatic: Berk AD, WCR pt3 58 Amplified Regulator for Microwave Signal Sources: Fire P, NCR pt5 56

Anomalous Propagation in Ferrite-Loaded Waveguide: Seidel H., P. Oct 56 Apertured Plate for Random Access Memory: Rajchman JA, P. Mar 57 Apertured Plates, Coincident Current Applications of: Rumble WG, WCR pt4 58 Application to Microwave Switches, Phasers, and Isolators: Brown AC, P Apr 58 Attenuators in Helixes: Rich JA, P Jan 55 Audio Modulation of Microwaves: Zirkind P, NCR pt8 55 Dalanced Strip Line Isolator: Fix OW, NCR pt5 56 Beam Steering by Scattering from: Wheeler MS, T-MTT Jan 58 Birefringence, in Circular Waveguide: Karayianıs N, T-MTT Jan 58 Boundary Problem in Rectangular Waveguide: Sharpe CB, T-MTT Jan 58Broadband Characteristics: Loss MB, MCR pt8 55 Broadbanding Microwave Isolators: Vartanian PH, NCR pt5 56 Cavity Filters Loaded with: Whirry WL, T-MTT Jan 58 Cavity Filters Loaded with: Whirry WL, T-MTT Jan 58
At Centimeter Wavelengths: Stewart C, NCR pt8 55
Chemistry and Properties: Gorter EW, P Dec 55
Circular Electric Waves in Circular Waveguide Containing: Kumanai N, WCR pt1 58
Circulators, High Power: Schwartz LF, T-MTT Apr 57
Cobalt-Substituted Mn Ferrite Single Crystals, Anisotropy: Tannenwald PE, P Oct 56 Core Antennas: Grimmett CH, NCR pt7 54 Core Memory for Transistorized Time-of-Flight Analyzer: Wade EJ, NCR pt9 57 Cores , Logic by Ordered Flux Changes in Multipath: Lockhart NF , NCR pt4 58 Cotton-Mouton Effect: Kemanis G, P May 57
Crystal Chemistry: Fresh DL, P Oct 56
Delay Lines: Katz HW, NCR pt2 55
Designing, Limitations of: Round Table, T-MTT Jan 58 Developments in: Hitschfeld W, P Jul 54; Powell T, P Sep 54 Devices Using Transverse Magnetic Field: Vinding JP, NCR pt8 55Dielectric Properties and Conductivity: Van Uitert LG, P Oct 56 Directional Couplers: Berk AD. P Oct 56 Directional Couplers with Off-Center Apertures: Stinson DC, T-MTT Jul 58 Forrite Plates at X-Band: Sakiotis NG, NCR pt8 54
Ferro and Ferri-Magnetism: Van Vleck JH, P Oct 56
Ferrod Radiator System: Reggia F, P Mar 57
Ferroxdure Microwave Behavior: Weiss MT, NCR pt8 55
Field Displacement Isolator: Weisbaum S, P Apr 56,
T-MTT Jul 57 Figure of Merit of Resonance-Type Isolator: Hayasi S, P Oct 57 Filled Microstrip, Propagation in: Brodwin ME, T-MTT Apr 58 Frequency Doubling and Mixing in: Pippin JE, P Aug 56 Frequency Doubling from 9 to 18 KMC: Bond FE, P May 57 Frequency and Loss Characteristics of Microwave Devices: Lax B, P Oct 56 Gyrators and Associated Elements, Low Frequency Problem: Hogan CL, T-AP Jul 56 Gyromagnetic Measurements on: Bussey HE, T-MTT Jan 58 in High Power Load Isolators: Clavin A, T-MTT Oct 55 Inductance of Toroldal Cores: Schwartz RF, P Oct 57 Inductor Design: Duncan RS, P Jan 56 Introduction to Ferrites Issue of "Proceedings": Hogan CL, P Oct 56 Isolation, Measurement of: Heller GS, -T-MTT Jan 58 Isolator: Enander BN, P Oct 56 Broad-Band, Coaxial Line: Duncan BJ, P Apr 57 Field-Displacement: Button KJ, T-MTT Jul 58 L Band: Heller GS, WCR pt3 57 Microwave, Broad-band: Vartanian PH, T-MTT Jan 56 Line-Width Measurements in a Cross-Guide Coupler: Stinson DC, T-MTT Oct 58, WCR pt 158 Load Isolators, Reduction of Intermodulation by: Weinhouse NP, NCR pt 858 Loaded Waveguides, Field Displacement Effects in: Straus TM, WCR Pt 158 Loop Antennas: Rumsey VH, NCR pt1 56 Loop Antennas, Measurements of: Stewart JL, NCR pt1 57 Low-Frequency Dispersion of the and epsilon: Suchet JP, P Mar 57 Luneberg Lens, Electronic Scan Using: Medved DB, T-MTT Jan 58 Magnetic: Engineering Applications: Owens CD, T-CP Sep 56 Fields in: Berk AD, P Nov 55 Head for Megacycle Range: Kornel O, NCR pt5 56 Resonance in: Bloembergen N, P Oct 56 Tuning of Resonant Cavities: Jones GR, P Oct 56

Methods of Preparation: Fresh DL, P Oct 56 Microsecond Switch: Blasberg LA, WCR nt 1 57 Microwave: rowave: Circult Elements: Heller GS, P Oct 56 Detector: Jaffe D, P Mar 58, NCR pt1 57 Frequencies, helow: Owens CD, P Oct 56 Frequency Separator: Rapaport H, T-MTT Jan 58 Hysteresis Heating of: Honeyman WN, P Sep 57 Isolator, Broad-Band: Vartanian PH, T-MTT Jan 56 Media, Nonlinearity of: Sakiotis NG, P Aug 55, T-AP Jul 56 Mixing: Vartanian PH, WCR pt. 57 Modulator: Cacheris J, P Aug 54 Noise Measurements: Mayer CH, T-MTT Jan 56 Phase Shifter: Sensiper S, P Mar 57; Soohoo RF, NCR pt 56 Switch, High-Speed: Uebele GS, NCR pt 157 Miniaturized High Temperature Isolator: Sullivan RF, NCR pt5 56 Modern Technology: Hogan CL, T-MTT Jan 58 Modulator, L-Band, Coaxial Line: Vafiades B, NCR pt1 57 Modulators, Sidebands of: Rizzi PA, P Apr 56 Multielement Devices: Davison B, WCR pt1 57 Multipath Structures, Flux Patterns in: Abbas SA, NCR pt4 58 NCK 004 58

Network Properties of Circulators Based on Scattering Concept: Treuhaft MA, P Oct 56, T-CT Jun 56

Nonlinear Behavior at High Microwave Signal Levels: Suhl H, P Oct 56

Nonlinearity of Propagation: Clavin A, P Feb 56; Sakiotis NG, P Aug 55

Nonreciprocal Devices: Vinding JP, P Oct 57

Nogreciprocal Microwave Devices, Moan Cl. P Oct 57 Nonreciprocal Microwave Devices: Honan CL, P Oct 56 Nonreciprocal Phase Shift Sections: Chait HN, NCR pt5 56 Permeability Tensor Values from Waveguide Measurements: Mullen EB, P Oct 56 Permeabilities of Rods, Spheres and Disks: Spencer EG, P Oct 56 Phase Shifters: Scharfman H, P Oct 56 for Antenna Beam Scanning: Reogia F, P Nov 57 Microwave: Soohoo RF, NCR pt5 56; Sensiper, P Mar 57 Nongyromagnetic: Wenglin S, NCR pt1 57 Reciprocal, Magnetron Tuning Using: Bush D, P Nov 58 Reciprocal, in Rectangular Waveguide: Clavin A, T-MTT Jul 58 Power Limiting Using: Soohoo RF, NCR pt1 58 Radiation from Apertures: Angelakos DJ, P Oct 56 Radiation from a Rectangular Waveguide Filled with: Tyras G, T-MTT Jul 58 Reciprocal in Transmission Lines: Fleri D, T-MTT Jan 58 Recording Heads in Megacycle Range: Chynoweth WR, NCR pt 7 55 Resonance Loss Properties in 9 KMC Region: Sensiper S , P Oct 56 Resonance Measurements on: Pippin JE, T-MTT Jan 58 Single Crystal , Microwave Resonance Relations: Artman JO , P Oct 56 Single-Sideband Modulator: Cacheris JC , T-MTT Jul 56; Khoury KI , P Oct 57 Slab Loaded, Waveguide, Resonance in: Seidel H, WCR pt1 57 Slab, Propagation of Surface Waves Over: Pease RL, T-AP Jan 58 Spheres, Cavity Measurements of: Spencer EG, NCR pt8 55, P Jun 56 Spheres, Dielectric Constants of: Spencer EG, P Jun 56, WCIC pt8 55 Status of Microwave Applications of: Lax B, T-MTT Jan 58 Switch, Fast, for 70 KMC: Turner EH, T-MTT Jul 58 Temperature Dependence in Waveguide: Duncan BJ, P May 55 Tensor Permeabilities below Magnetic Saturation: LeCraw RC, NCR pt5 56 Tensor Permeability Measurements , Traveling-Wave Cavity for: Ault LA , NCR pt1 57 Toroids to Eliminate External Magnets and Reduce Switching Power: Treuhaft MA, P Aug 58 Transfluxor, Configurations and Applications: Abbott HW, P Aug 57 Transfluxors, Temperature Characteristics of: Abbott HW, T-ED Apr 57 Transmission Lines, Nonreciprocal Effects: Boyet H, P Apr 57 Transversely Magnetized , Cutoff Phenomen in: Soohoo RF , P Apr 58 Tunable Cavities: Fay CE, P Oct 56; Nelson CE, P Oct 56 Tunable Filter for Use in S Band: Burgess JH, P Oct 56 TV and Radio Components: Schlicke HM, NCR pt7 55 Waveguides: Aperture Coupling: Stinson DC, T-MTT Jul 57 Rectangular: Button KJ, T-AP Jul 56

Magnetized Guide Wave Propagation in: Kales ML, P Oct 56

Transversely Magnetized, Propagation: Vartanian PH, T-MTT Jul 56, T-AP Jul 56
Qt 0.87 CM and 1.9 CM, Stewart C, T-MTT Apr 55, NCR pt8 55
Zero Permeability, Effects on Circularly Polarized Waves: Duncan BJ, P May 57
with Padiation Systems. Possis E, NCR at 3.57 Ferrod Radiation Systems: Reggia F, NCR pt1 56 Ferroelectrics: Ceramics, Power Handling Capability of: Renner GW, NCR pt2 58 Devices, in Counting Circuits: Wolfe RM, T-CT Sep 57 and Dielectric Amplifiers: Mason WP, P Nov 54 as Dielectrics: Jaynes ET, P Dec 55 GASH, Polarization Reversal and Switching In: Wreder HH, P Aug 57

Memory Applications of: Pulvari CF, T-CP Mar 56
Memory Capacitors, Scanners for: Pulvari CF,
T-EC Mar 58

Recent Developments: Shirane G, P Dec 55
Shift Register: Anderson JR. T-EC Dec 56
Transducer Materials: Berlincourt D, T-UE Aug 56
Ferromagnetic Amplifier, Traveling-Wave: Tien PK,
P Apr 58

Ferromagnetic Media: Gyrotropic, Microwave Application of: Van Trier AA, T-AP Jul 56

Permeability Tensors:

Propagation in Circular Waveguides: Walker LR, T-AP Jul 56

Spin Wave Equations: Rado GT, T-AP Jul 56 Transverse Impedance Transformation for: Morgenthaler FR, P Oct 57

Ferromagnetic Microwave Amplifer, Phase Dependence of: Whirry WL, P Sep 58

Ferromagnetic Resonance Frequency Converter: Poole KM, P Jul 58

Ferromagnetism and Ferrimagnetism: Van Vleck JH, P Ort 56

Ferroxdure Microwave Behavior: Weiss MT, NCR pt8 55 Fetal Distress, Electronic Evaluation of: Hon EH, NCR pt9 58

Fetal Electrocardiography, Electrohysterography and: Larks SD, WCR Pt5 58

Fetal Heart Rate Measurements: Tolles WE, WCR pt5 58

Fetus, Recording Heartbeats of: Mack E, T-ME Dec 58 Fialkow-Gerst Impedance Synthesis: Belevitch V, T-CT Mar 56

Synthesis of RC Transfer Functions: Ozaki H, T-CT Dec 55

Field Anny Communications, User's Needs: Hutchinson HP, T-CS Mar 57

Fleid Displacement Effects in Dielectric and Ferrite Loaded Waveguides: Straus TM, WCR pt 158

Field-Displacement Ferrite Isolator: Button KJ, T-MTT Jul 58

T-MTT Jul 57
Field Displacement Isolators: Weisbaum S, T-MTT Jul 57
Field, Distant Electric, Correlation with a New Radio-Meteorological Parameter: Misme P, T-AP Jul 58
Field Distributions, Modulated Scattering Measurement Techniques: Richmond JH, T-MTT Jul 55

Techniques: Richnond JH, 1-MTT Jul 55
Field Intensities:
In Diffraction Zone, VHF: Gliose RN, T-AP Jan 54
from Linear Radiating Source: Ghose RN, T-AP Apr 57
Measurements on Induction-Heating Equipment: Nash TE,
NCR pt6 56

Measurements, UHF: Chapin EW, T-BTS Jan 56 Convergent, from Slots in Large Circular CylInders: Ballin LL, T-AP Oct 57, T-AP Jul 56 In Regions Bounded by Spheres, Cones, and Planes: Felsen LB, T-AP Jan 57 In Terms of Leaky Modes or Eigenmodes: Marcuvltz N, T-AP Jul 56

Field Solutions in the Quasi-Optical Range, New York University Research: Kiline M, T-AP Jul 56

Field Strength:
Beyond-Horizon VHF: Rogers TF, P May 55 Computations for Shielded Enclosures: Lessner RG, P Mar 57

Data, Vehicular Transmissions: Egll JJ, T-VC Jul 58

Long-Distance VHF-UHF Tropospheric: Ames LA, T-CS Mar 56

for Vertically Polarized Radiation, Altitude Variation of: McGonegal JR, T-AP Jul 58

Fields, Magnetic Focusing, Influence on Backward-Wave Oscillator Starting Conditions: Kosmahl HG, T-ED Oct 58 Figure of Merit for Communication Devices: Adler FP, $P\ Jul\ 54$

Filaments, Rectangular Semiconductor, Four-Probe Resistivity Measurements: Marcus A, T-ED Jul 56 Filamentary Nickel Alloys, Hot Strength Properties of: Wolk B, T-ED Apr 58 Filer

Black and White Lenticular, for Color TV Recording: Brumbaugh JM, T-BTR Oct 57 Data Recorder: McPherson RG, T-I Sep 57
Magnetic Recording on: Frayne JG, T-AU May-Jun 54
Reading Equipment: McPherson RG, T-I Sep 57
Resistors, Molded Metal: Weller BL, WCR pt6 57
Technical, A Luxury or a Necessity: Murray RM,
T-EWS Mar 58

Filtering

Least Square, Use of Least Weighted Error Concept: Ule LA, T-CT Jun 55 Linear, of Sampled Data- Franklin G, NCR pt4 55

Optimum Nonlinear, of Balakrishnan; Beutler FJ, T-IT Jun 58

and Prediction for Random Parameter Systems: Boutler FJ, T-IT Dec 58 Filters.

Active, with Butterworth Characteristics: Margolis SG, T-CT Sep 56 Airborne, for Low Distortion of Fm Subcarriers: Link WF, WCR pt5 57

Aperture-Coupled, Design of: Shourer F, T-MTT Oct 57 Approximation Problem in Design of: Papoulis A, NCR pt2 57

Audio, Electronically Controlled: Dolansky LO, P Nov 55, NCR pt7 55

Band-Pass:

Mith Minimum Insertion Loss: Dishal M, P Feb 58
Modified Equal-Element: Bawer R, T-MTT Jul 57
Use of Strip Line Techniques: Bradley EH,
T-MTT Mar 55

Unsymmetrical: Baum RF, T-CT Jun 57 Band Separation, for 225-400 MC: Grayzel AI, NCR pt1 58

Binary, for Error-Correcting Coding: Huffman DA, T-IT Seo 56

Capacitors, Ceramics, for VHF and UHF: Schlicke HM, NCR pt6 57

Cathode-Follower Impedance Matching: Schultz TJ, T-AU Mar-Apr 55

Cavity, Circularly Polarized: Nelson CE, NCR ptl 57 Cavity, Ferrite-Loaded: Whirry WL, T-MTT Jan 58 Coil Admittance, Name and Unit for: Macklem FS, P Jul 57

Enhancement of Pulse Train Signals by: Galeis J, T-IT Sept 58

for Radar: George SE, P.Jul 54 for Radar: George SF, 9 Jul 54
Synthesis of: White WD, NCR pt2 57
Television Signals: Stateman MJ, NCR pt4 54
Conventional, Transient Responses of: Henderson KW,
T-CT Dec 58

to Correct Multipath Distortion of TV Signals: Balakrishnan AV, NCR pt4 56

Coupled, for Strip Transmission Lines: Jones EMT, T-MTT Apr 56

Crossed-Mode Tunable Selector for Microwaves: Spencer NA, NCR pt5 56 Crystals:

Bell Telephone System: D'heedene AR, WCR pt6 57

Capacitor Lattice , Synthesis of: O'Meara TR , T-CT Jun 58

Design Techniques and Applications: Kosowsky DI, WCR pt6 57

High-Frequency Design: Sykes RA, NCR pt2 58; Kosowsky DI, P Feb 58 High-Frequency Quartz: Bechmann R, P Mar 58 Lattice, Narrow Band, Symmetrical Transfer Char-acteristics of: O'Meara TR, T-CP Jun 58

Accensus of: U-Meara TR, T-CP Jin 58 Modern Network Theory Design of Single Side-band: Dishal M, WCR pt 2 58 Network Theory Design Data: Dishal M, NCR pt8 57

Present Performance Limitations: Ives WR, WCR pt6 57

Procurement Problems and Forecast: Azoff I, WCR pt6 57

Single-Crystal, Wide Band, Design of: O'Meara TR, T-CP Mar 58

Test Procedure and Instrumentation: Strauss A, WCR pt6 57

Delay Line, Extraction of Waveform Information: Park JH, WCR pt2 57

Delay Line Periodic , Analysis and Synthesis of: Urkowitz H , T-CT Jun 57 Design of Optimum Filters and Predictors: Steeg CW, NCR pt4 57

Design Theory, High-Q Waveguide: Riblet HJ, T-MTT Oct 58

Designing Elliptic-Function, Nomographs for: Henderson KW, P Nov 58

Detecting Pulse Signals in Noise: Rochefort JS, NCR pt4 54

Detection of Audio Power Spectrum Oispersion: Littleboy HS , NCF pt7 55 Diplexing: Breese ME , NCR pt8 54 Direct-Coupled-Resonator; Colin SB , P Feb 57; Reed J , P Jun 57

Reed J, P Jun 57

Direct Synthesis: Golay MJE, P Mar 54

Directional Channel-Separation: Cohn SB, P Aug 56, NCR pt5 56

Directional, for Multiplexing Systems, Application of: Coale FS, T-MTT Oct 58

Electric, Development of: Walker RL, SQ Sep 56

Electric, Synthesis with Arbitrary Phase Characteristics: Helman D, T-CT Jun 55

Electromechanical:

for Carrier and Sideband Selection, 100-KC: George RW, P Jan 56

Single-Sideband Applications: Lundgren DL, P Dec 56

Extraction and Coding: Balakrishnan AV, T-IT Sep 56 Ferrite-Tunable for Use in S Band: Burgess JH, P Oct 56

Finite Memory Sampled-Data, Non-Mean-Square Error Criterion for Synthesis: Bergen AR, NCR pt2 57

Fixed Memory Least Squares, Using Recursion Methods: Blum M , T-IT Sep 57

Frequency Transformations in Design: Papoulis A, T-CT Jun 56

Graphical Analysis: Dawirs HN, T-MTT Jan 55 Growing Memory Digital, Recursion Formulas for: Blum M, T-IT Mar 58

Impedance Transforming Geipel DH, NCR pt2 55

Coefficients , Calculation on Digital Com-puter: Skwirzynski JK , T-CT Dec 58 Insertion Loss: Strasberg M , P Jul 54 Realizability of: Meinquet J. T-CT Dec 58

Optimization of: Yovits MC, NCR pt4 55
Optimizm, Noise Power of: Blum M, T-IT Dec 57
Optimum Time Variable, Synthesis of: Bendat JS,
T-IT Mar 57

Radar Display as: Levine D , T-ANE Sep 56 Random , Impulse Response Presence of Noise: Turin GL , T-IT Mar 57

Lumped Constant, Derived by Least Weighted Error: Ule LA, T-CT Jun 55

Magnetostriction for MF Band: Adams RT, NCR pt9 57 Maximally Flat: Stewart JL, NCR pt2 55

Mechanical:
IF, Design: Tumbull JS, WCR pt9 57 and LC Types: DeWitz GH, T-CS May 56
Magnetostriction Transducers for: Sharma RL Survey and Applications: Hathaway JC, P Jan 57

Circularly Polarized Cavity: Nelson CE, T-MTT Apr 57 Cutoff Effect: Rizzi PA, T-MTT Jan 56

High Power: Vogelman JH, NCR ptl 58, T-MTT Oct 58

T-MTT Oct 58

Synthesis of: Seidel H, T-MTT Apr 57
Wide-Band, Synthesis for Prescribed Insertion
Minimum Insertion Loss: Fubini EG, NCR pt2 58
Mode Conversion: Marcatlli EA, WCR pt1 58
Multiple-Input, Design Problems: Stewart RM,
New Class of: Papoulis A, NCR pt2 58
Nonlinear, Experimental Determination of Optimum:
Bose AG, NCR pt4 56
Nonlinear, Random Function Probability Distributions
After: Young GO, WCT pt4 58
Nonlinear; White WD, T-CT Dec 54
Optical: Cheatham TP, NCR pt4 54
Optimum, with Monotonic Response: Papoulis A,
P Mar 58
Optimum, Nonlinear Extraction and Coding Types:

Optimum, Nonlinear Extraction and Coding Types: Balakrishnan AV, T-IT Sep 56 for Perturbed Messages: Bendat JS, T-CT Mar 57 Phase, In Spectral Phonocardiography: Middleton FH, T-1 Jun 56

Piezoelectric Ceramic IF Band-Pass: Mattiat OE, NCR pt6 56

Power Spectrum Analyzer: Chang SSL, P Aug 54 Predistorted, Design With a Digital Computer: Geffe PR, WCR pt2 58

Pulse Narrowing: Moore RK, P Dec 56 Quarter Wave Resonator, Direct-Coupled, Band-Pass: Matthaei GL, NCR pt1 58 RC.

Active , Design of: Sallen RP , T-CT Mar 55 Active , Single-Tuned Band-Pass , Synthesis of: Bongiorno JJ , NCR pt 2 58 Active , Usinp Negative Impedance Converter: Yangisawa T , T-CT Sep 57

Low-Pass, Solution to Approximation Problems Su KL, P Jul 56

Periodically Conducting Element: Bolie VW, P Sep 54

with Single-Component Frequency Control: Clothier WK, T-CT Mar 55

Tchebycheff Band-Pass: Helman D, NCR pt 2 56
Reduction of Sideband Interference from On-Dff Keyed
Carriers: Watt AD, T-CS Dct 56
Reflectionless, for Ferrite Tunable Microwave Cavities:
Nelson CE, P Oct 56

Resonant Cavity Frequency Duplexer: Bowers EO, NCR pt5 56

for Restoration of Sampled Data: Stewart RM, P Feb 56

Sequential, Signal Detection by Bernoulli Trials: Blas-balg H, T-IT Jun 57 for Signals Containing a Nonrandom Component: Johnson KR, T-IT Jun 56

Spatial Filtering in Optics: O'Neill EL, T-IT Jun 56 Spurious Emission, for TV Transmitter: Judge WJ, NCR pt7 55

Stagger Tuned , Synthesis of: Wheeler HA , T-CT Mar 56

Strip Line, Design of: Bradley EH, T-MTT Apr 56 Strip-Line, Low-Pass: Van Patten RA, NCR pt 15 Strip-Line, Synthesis of: Ozaki H, T-CT Jun 58 Symmetric Low-Pass Lossless, and Flatness: Stewart JL, T-CT Jun 58

· O

Synthesis, Design by: Saal R, T-CT Dec 58 Synthesis in Terms of Dipole Potential Analog: Wicele: HA, NCR pt2 58

Tchebycheff Symmetrical, Parameter, Synthesis of: Grossman AJ, P Apr 57

Tchebycheff Symmetrical, Dissipative Effects in: Tchebycheff Symmetrical, Dissipative Effects in: Pawsey DC, P Oct 58

Terms, Definition and Synthesis of Optimum-Smoothing Processes in: Boughton EM, T-I Mar 58

Three-Resonator, Design of; Taub JJ, P May 57

Theory, Development in: Belevitch V, T-CT Dec 58

Time-Varying, for Nonstationary Signals:

Koschmann AH, NCR pt4 55

Tracking, Application of Phase-Locked Loop to Telemetry as a Discriminator or: Gilchriest CE, T-TRC Jun 58 Transmission-Line, Impedance Chart: Dawirs HN, Transmission-Line-Resonator, Parallel-Coupled: Cohn SB, T-MTT Apr 58 Traveling-Wave Directional: Coale FS, T-MTT Oct 56 UHF Communication System Interference Reduction: Caquelin MW, T-VC Dec 56, T-CS Mar 57 Waveguide, Polarguide Type: Klopfenstein RW, P Feb 56 P Feb 56
Weighted Smoothing: Ule La, T-IT Jun 57
Weiner: Benedict TR, P Jul 57
Zobel, for Tchebycheff Insertion Loss, Design of Two-Section Symmetrical: Tuttle WN, WCR pt2 58
Finagle's Law, Fivethumbs JJ, SQ Sep 58
Final-Value Control Systems with Limiting Constraints, Realization of: Booton RC, T-AC Jul 58 Final-Value Systems with Gaussian Inputs: Booton RC, T-IT Sep $56\,$ Finline Circuits, Recent Advances in: Robertson SD, T-MTT Oct 56 Finline Coupler: Robertson SD, T-MTT Dec 55, P Jun 55 Fire Prevention in Design and Manufacture of Radio and Television Receivers: Heaton HT, T-BTR Apr 55 Fishing Industry, Electronic Aids to: Rosen L, T-CS Mead FM, T-CS Mar 55; Smith WC, T-CS Mar 55; Moore CE, T-CS Mar 55 Fixed-Beam Approach System: Hampshire RA, NCR pt5 54 Fixed-beam Approach System: nampshire RA, NCR pt5 Flanges, Miniature Waveguide, RETMA Standards: Anderson TN, T-MTT Apr 57 Flare-Out Unit: Pasek DM, T-ANE Jun 54 Flash-Arc Protection in High-Power Tubes: Parker WN, NCR pt9 55 Flatness and Symmetric Low-Pass Lossless Filters: Stewart JL , T-CT Jun 58 Flight Control, Human Computer in: Fogel LJ, T-EC Sep 57 Flight Control System for Jet Transports: Miller H, T-ANE Sep 57 Flight Data: Airborne Acquisition System: Foster WH, NCR pt1 56 NUK RT 56 Collecting and Processing of Test Flight Data: Royce HW, NCR rt1 56 High-Speed, All-Electronic, Fully Automatic Handling System: Williams FK, NCR rt1 56 High-Speed, High Quantity Processing Techniques: Klein ML, NCR pt1 56 System, RCA: Batsel CN, NCR pt5 58 Flight Directors: Flight Directors:
and Automatic Pilot: Fritze EH, T-ANE Sep 55
Design Trends: Iddings G, T-ANE Mar 55
Role of: Grainam NL, NCR pt 5 54
Flight Information, Simulation Evaluation: Klimowski F,
T-ANE Sep 56 Flight Instrumentation, Integrated: Fragola CF, T-ANE Dec 56 Flight Systems, Large-Sclae Experimentation with: Wheeler RC, NCR pt8 57 Flight TestIng:
Data System: Luccke G, T-TRC Apr 57
of Piloted Aircraft: Van Doren ML, T-TRC May 55
Telemetry Applied to: Dettbam AJC, T-TRC Apr 57
Flight Trainer, UDOFT Computer: Ashley AH, WCR pt4 57 High-Speed, for Millimicrosecond Region: Bay Z, T-EC Sep 56 Junction Transistor Design: Suran JJ, NCR pt 2 57 Time-Sequential Tabular Analysis: Arant GW, T-EC Jun 57 Flood Forecasting, Radio System for: Wray WC, NCR pt8 5B Florometer Transducer, Ultrasonic: Swengel RC, NCR pt9 55 Flow Graphs, See Signals, Flow Graphs. Flow Measurement and Control, Electronic: Mittelmann E, NCR pt 10 54 Flowmeter, Acoustic: Kalmus HP, T-UE Jm 54 Fluctuation Rate of the Chi Process: Silvennan RA, T-IT Mar 58 T-I Mar 30 Flunkle: Hunter TA, SQ Dec 54 Fluorochemicals for Transformer Miniaturization: Kilham LF Jr, P Apr 56 Flurochemicals In Transformers: Kilham LF, NCR pt3 55 Fluorescence, Automatic Detection of "Green-Rot" In Sheil Eggs: Norris KH, T-IE Mar 55 Fluorescent Ink in Canadian Automation Postal System: Jensen H, NCR ot 58 Fluorescent Lamps: Temperature Dependence of Noise Sources: Mumford WW, T-MTT Dec 55 Fluoroscopy, Low Level, New Techniques in: Linden BR, T-NS Dec 58 Fluoroscopy, X-Ray, with Picture Storage: Gombash W Jr, NCR pt4 57

Flutter ter:
Audio, Weighting Network: Comerci FA, NCR pt7 56
Compensation Applied to FM Magnetic Recording
Content in Recording: IRE Standards, P Mar 54;
Jensen AG, P Jul 54
Meter, with Subjective Weightings: Cotter MA,
NCR pt7 56 Perceptibility in Speech and Music: Comerci FA, T-AU May-Jun 55 1-AU May-Jun 55
Standards: Kellogg EW, T-AU Jul-Aug 54
Weighting Network: Comerci FA, T-AU Sep-Oct 56
Flux Counters, Quantized: Bacon JR, WCR pt4 57
Flux Patterns in Ferrite Multipath Structures: Abbas SA, NCR pt4 58 Flux Responsive Magnetlc Heads for Low Speed Read-Out: Ferber LW, NCR pt4 58 Flying Spot and Camera Tube Ultraviolet Microscopes: Ramberg EG, T-ME Dec 58 Flying Spot Scanning Techniques in Automatic Inspection: Mansberg HP, WCR pt6 57 Focusina: osing: Cathode-Ray Tube, Thin: Alken WR, P Dec 57 of Convergent Beams by Periodic Magnetic Fields: Palmer JL, WCR pt3 57 Electrostatic: Biperiodic, For High Density Electron Beams: Chang KKN, P Nov 57 Periodic Conflned Electron Flow: Chang KKN P Jan 57 Periodic , of Hollow Electron Beam: Johnson CC , T-ED Oct 58 Post Accelerator Color Tube: Gleichauf PH, T-ED Jan 57 Fields, Magnetic, Influence on Backward-Wave Oscillator Starting Conditions: Kosmahl HG, T-ED Oct 58 Magnet, TWT Leakage Flux Around: Glass MS, P Oct 58 Magnetic, Cylindrical Beam in Periodic Fields: Buck DC, T-ED Jan 57 Magnets for Traveling-Wave Tubes: Glass MS, P Aug 57 Praig 57
Periodic, High Power: Purl OT, P Feb 58
Periodic, from Partially Shielded Cathodes:
Harker KJ, T-ED Oct 55
Stalom: Cook JS, P Nov 57
Structures, Periodic Magnetic Focusing, Design of:
Sterrett JE, T-ED Jan 58 System for Crossed-Field Traveling-Wave Tubes: Hoch OL , WCR pt3 57 Folded Antenna Impedance Chart: Mushiake Y , T-AP Oct 54 Folded Dipole Bandwidth, Effects of Physical Parameters: German JP, T-AP Apr 58 Folded Monopoles, Use in Antenna Arrays: Lewis JB, T-AP Jul 55 Folded Unipole Antennas: Leonhard J, T-AP Jul 55
Folding of Symmetric Functions: Weeg GP, T-EC Dec 58
Forced-Air Coolling of Airborne Equipment: Jordan T,
T-ANE Mar 58 Forced Convection Cooled Electronic Equipment, Prediction of Temperatures in: Fried L, T-CP Jun 58
Foreign Articles, Translation of: Soohoo EL, P May 58 Foreign Languages and the PhD. Degree: King R, T-E Dec 58 Foreground Terrain Effects on Overland UHF Transmissions: Trolese LG, T-AP Oct 58, NCR pt1 57 Forest Industries Radio Communications: Savage M, T-VC July 56 Forward Transients in Point Contact Diodes: Dorn CG, T-ED July 56 Foster Scanner, Mechanically Simplified: Honey RC, T-AP Jan 56 Foster's Theorem, Generalization of: Reza FM, NCR pt2 55 Four-Poles: Dissipative, Measured by Means of Modified Wheeler Network: Altschuler HM, T-1 Oct 55, T-MTT Jan 55 Four-Dimensional Transformations of Matrices; Belevitch V, T-CT Jun 56 Linear, Maximum Available Power Gain of: Gartner WW, T-CT Dec 58 Microwave, Measurement: Macpherson AC, P Aug 55; Pippin JE, P Jan 56 Noisy: Rothe H, P Jun 56 Parameters: Gartner WW, T-CT Dec 58 Four-Port Networks, Symmetrical, Analysis of: Reed J, T-MTT Apr 57 Four-Probe Resistivity Measurements on Rectangular Semi-conductor Filaments: Marcus A, T-ED Jul 56 Four-Terminal, Active, Linear Networks: Kawakami M, T-CT Jun 58 Fourier Analysis by Machine Methods: Clark JR, T-ED Sep 56 Fourier Coefficients, Simplified Procedure for Finding: Gibbon JF, P Feb 57; Gang MI, P Jul 57; Brenner E, P Jul 57; Develet JA, P Nov 57 Fourier Integral: in Circuit Theory and Problems: Bennett WR, T-CT Sep 55 in Color Television Systems: Murakami T, T-CT Sep 55 General: Brainherd JG, T-CT Sep 55 Generalization of Integrals: Miller KS, T-CT Sep 55 Introduction to: Guillemin EA, T-CT Sep 55 on Physical Science: Page CH, T-CT Sep 55

Fourier Transforms:
Applications in Electrical Engineering: Bolinder EF,
P Jun 56 Applications in Wave Theory: Bolinder EF, T-MTT Apr 57 Determining Dynamic Sensitivity of Cathode Ray Tubes by: Bolinder EF, T-ED Jan 55 and Directional Couplers: Vaillancourt RM, T-MTT Apr 58 Evaluation of: Linvill WK, T-CT Sep 55 and Tapered Transmission Lines: Bolinder EF, P Apr 56 Fourth Dimension; Fogel LS, P Nov 54 * Fourth Product Moment of Infinitely Clipped Noise: McFadden JA, T-IT Dec 58 France, Scientific Education in: Pankove JI, SQ May 58 Fraunhofer Radiation Patterns Simulated in Fresnel Region: Cheng DK, T-AP Oct 57 Freedom to Choose a Career: Newton KV, T-E Dec 58
French Atomic Energy Commission, Electronic Division
Organization and Functioning: Surdin MM, T-NS Mar 57 Frequency: Allocation, Current Procedures in: Allen EW, T-VC Apr 58 Allocation, FCC Service Groupings: Plummer CB, T-VC May 57 Allocation Problems in Mobile Services: Spillane LW, WCR pt8 57 Atomic, and Time Standard, Ammonia Maser as an: Mockler RC, T-I Dec 58 Compression-Expansion of Speech: Fairbanks G, T-AU Jan-Feb 54 Comparisons, Intercontinental, VLF: Pierce JA, P Jun 57 Comparisons, Long-Distance: Pierce JA, T-I Dec 58 Contour Mapping, System Study Through: Fisher JH, T-I Mar 58 Control Automatic System, Band-Centering: Samuels JC, T-CT Dec 57 Microwave, by Lower Frequencies: Mackey RC, T-MTT Jan 57 in 300-1200 MC Region: Fraser DW, P Nov 56 Techniques for Single-Sideband: Craiglow RL P Dec 56 of TV Picture Carriers to Reduce Co-Channel Inter-ference: Behreud WL, T-BTS Feb 57 Units, Magnetostriction: Roberts EA, T-UE Aug 56 Corverter, Ferromagnetic Resonance: Poole KM, P Jul 58 Converter, Self Oscillating: Sunstein DE, T-BTR Jan 55 Conversion, Junction Devices for: Uhlir A Jr, P Sep 56 Discriminator, Balanced, Noise Output of: Slepian D, P Mar 58 Distribution of FM/FM Signal: Arnstein PB, T-TRC May 57 Divider, Digital: Frank RW, NCR pt10 54; Stuart RW, NCR pt10 54 Division Multiplex , Signal-to-Noise Performance of FM Systems Carrying: Harris DP , NCR nt8 58 Domain Analysis of Data Systems: Boxer R , NCR pt10 55 Domain Model of Linear Networks: Johnson GW, NCR pt4 58 Doublers, Ferrite, Conversion Efficiency: Melchor JL, P May 57 P May 57
Doubling and Mixing in Ferrites: Pippin JE, P Aur 56
Independent Antennas: Rumsey VH, NCR ptl 57
Instantaneous: Linden DA, P Dec 58
Limitations of Distributed Amplifiers, Overcoming of:
Rogers PH, NCR ptl 57 Rogers PH, NCR RIZ 57.
Limited Signals: Ellern F, T-CT Jun 56
Management in Forest Industries Radio Communications:
Savage M, T-VC Jul 56
Management, International: Miles PD, T-CS Nov 54;
MacQuivey DR, T-CS Nov 54 Measurements: asurements:
Automatic, by Quadrature Time Base Comparator:
Weber JJ, NCR pt5 56
in the Broadcast Field: Cady CA, WCR pt7 58
Effect of Noise on: Pickard TB, T-IT Jun 58
Spurious, in Waveguide: Morelli M, NCR pt8 58
Using Paramagnetic Resonance in X Band:
Craudell PA, WCR pt1 58 Meter: McLeish CW, P Mar 54 Meter, Broadband Microwave: Vartanian PH, P Feb 56 Mixing and Dividing in Microwave Tubes: DeGrasse RW, P Jul 57, WCR pt3 57 Modulation: Automatic Test Set for FM/FM Telemetry Systems: McGee HA, T-TRC May 57 Bandwidth of Multiplex Systems: Medhurst RG, P Feb 56; Hamer R, P Dec 56 P Feb 56; Hamer R, P Dec 56
Bandwidth and Noise in FM/FM Radio Telemetering:
Uglow KM, T-TRC May 57
For Cyclotron: Kerns QA, NCR pt10 55
Demodulator Requirements for Interference
Rejection: Baghdady EJ, P Feb 58
Detectors, AM Rejection in: Avins J, T-BTR
Feb 58 Discriminator, All Channel, Ultra-Stable: Rigby S, T-TRC Apr 58 Distortion: Hupert JJ, P Feb 54

Distortion Due to Small Sinusoidal Variations of Transmission: Mediurst RG, P Nov 56 Echo Distortion in Transmission of Frequency-Division Multiplex: Mediumst RG, P Feb 56 Extension of FM/FM Capabilities: Jeske HO, T-TRC Apr 57 FM/FM System Transistorized: Fulton WB, WCR pt5 57 FM/FM Telemetering System: Colander RC, T-TRC May 55 T-IRC May 55
Frequency Distribution of FM/FM Signal:
Aristein PB, T-TRC May 57
History of: Hammond JH, P Sep 57
Interference Rejection: Baghdady EJ, P Jan 55
Limiters: Banhdady EJ, P Jan 55
Magnetic Recorder: Richter W, T-IE Mar 56
Magnetic Recordings, WOW and Flutter Compensation Techniques Applied: Peshel RL, NCR pt7 57 Multiplexed Systems, Noise and Crosstalk: Runyan RA, NCR pt1 56 Minimization of , In AM UHF Oscillators: Shaffner G , P Apr 57 Mobile Equipment: Oinstein W, NCR pt8 55 Multichannel Radio Systems, Base-Band Noise Equalization: Parry CA, P Nov 57 Limiting Forms of Spectra: Mullen JA, P Jun 57 in Oscillators: Berstein I , P Jan 57; Stewart JL , P Mar 56 Spectra: Ward RC, P Dec 57 PDM/FM Radio Telemetering Noise and Bandwidth: Uglow KM, T-TRC Dec 57 Phonograph Pickups: Miessner BF , T-AU Jul-Aug 54 Radar, Precise New System: Johnson RW, P May 57 Radio Relay Systems for Multi-Channel Tele-phone Service: Halina JWO, T-CS Oct 56 Receiver, Effect of Feedback around the Limiter: Baghdady EJ, NCR pt8 57 Receiver, Transistorized 150-MC: Giguere WJ, P Apr 58 Reception, Stronger-Signal Capture M: Baghdady EJ, P Apr 58 Scatter System Measurements: Britton RW, NCR pt8 57 Signals, Co-Channel, Alternative Detection of Farris HW, P Nov 58 Signals in Linear Systems, Low-Distortion Re-production: Baghdady EJ, T-CT Sep 58 Signals , Response of Linear Systems to: Medhurst RG , T-CT Sep 56 and Single-Sideband Mobile Service: Magnuski H, P Dec 56, T-VC Jun 57 Solid-State FM/FM Telemetering System: Politi EY, T-TRC Anr 57 Split Channel, Compared with Single Sideband for Land Mobile Service: MacDonald AA, T-VC Dec 56 Subcarrier, Airborne Fifter for Low Distortion of: Link WF, WCR pt5 57 Subcarrier Discriminator, Transistor-Magnetic: Barnes GH, WCR pt5 57, T-TRC Apr 57 Subcarrier Measurements, Simplifying by Digital Normalizing Techniques: Humphries J, T-TRC Apr 57 Systems Carrying Frequency Division Multiplex, Signal-to-Noise Performance of: Harris DP, NCR pt8 58 Letemetering , Precision Subcarrier Discriminator for: Duerig WH , NCR pt1 56 and Television Sets, Local Oscillator Radiation from: Peterson WG, T-BTR Mar 58

Transient Response: Gumowski 1, P Jun 55; Linden DA, P Jul 57 for VHF Mobile Service, Comparison with SB: Magnuski H, T-VC Jun 57, P Dec 56 Multiplexed Communication System, Determining Modula-tion Levels of: Brock RL, T-TT Mar 55 Multipliers:
High Power: Ueuphara M., P. Oct. 57
Multibeam, Velocity-Type: Matsio Y., P. Jan. 56
Old Integer Magnetic: Johnson L.J., P. Feb. 55
Phase Stability: Kalra SN, P. Jan. 57
Standard-Frequency: Clapp JK, NCR pt5. 57
Traveling-Wave: Bates DJ, P. Jul. 57
Output, Secondary Standard, Aircraft Motor Generator with: Johnson L.J., T-CP Mar. 58
Propagation Forecasting: Petry CA, 1-CS Nov. 54;
Meaker LSF, T-CS Nov. 54 Reference, Transistorized, and Control System for 920 Channel Military Vehicular VHF-FM Receiver-Trans-mitter: Braver F, T-VC Jul 58 of Resonant Circuits , Measurement of Small Changes in: Arinstrong HL , T-1 Mar 58 Response of Bipolar Transistor Valdes LB, P Feb 56 Response of Power Reactor: Estrada H Jr., T-NS Mar 57 Separation and Pulse Shape, Effect on FSK Transmission Through Fading: Turin GL, NCR pt8 58

Separator, Microwave Ferrite: Rapaport H, T-MTT Jan 58

Setting of Klystron Cavities: Robinson LC, T-ED Jul 58

Shift Keying:

Carriers, Reduction of Adjacent-Channel Interference Components from: Watt AD, T-CS Dec 58 Circuit Design: Lyons W, NCR pt8 54 Life and VLF: Welff, T-CS Dec 57 Lead VLF: Welff, T-CS Dec 57 P May 58 Transmission Through Fading , Effects of Pulse Shape and Frequency Separation: Turin GL , NCR pt8 58 Shift Radio Photo Transmissions , Spectrum of: Watt AD , T-CS Oct 56 Shift of Signals Reflected by Ionosphere: Takahashi I, P Oct 57 Shift Telegraph, Single-Sideband Techniques Applied to: Moore JB, P Apr 57; Buff C, P Oct 56 Source, Transistorized Voltage Controllable: Wilke WE, WCR pt5 58 Space Equivalence: Kock WE , P Feb 58 , WCR pt 1 57 Spectrum, Broadband Microwave, Method of Forming: Wall RE, T-MTT Jan 55 Spectrum, Compression of: Schultz CJ, T-VC Jul 56 Stabilization: Equally Spaced Frequencies at Given Band: Makow DM, T-CS Sep 57 by External Cavity: Magid M, NCR pt1 57 of a Microwave Oscillator: Goldstein I, T-MTT Jan 57 Stabillzino Circint: Campbell LL, T-CS Sep 57 of Variable Oscillators: Makow DM, T-I Dec 57 Standards: Makkov DM, 1 Standards: Atomic: Zacharias JR, NCK pt10 55 Atomichron: Daly RT, T-CS Mar 57; MCCoubrey AO, NCR pt1 58; Mainberger W, NCR pt1 58; Bell System: Packard GN, NCR pt10 54 Bell System: Packard LN, NCR pt.1054
Bridge-Balancing Oscillator: Sulzer PG, P Jun 55
Circuits Employing Crystals: Felch EP, P May 55
Company-Owned: Smith JW, NCR pt.1054
Development, Ceslum Beam, in Canada (Abstract):
Kalra SN, T-I Dec 58 HF Crystals Units for: Warner AW, P Sep 54 High: Selby MC, T-I Dec 58 Locked Oscillators In: Clapp JK, T-I Oct 55 Low, Direct Current and: Sitshee FB, T-I Dec 58 Mechanically-Vibrating, Instabilities in: Mason WP, T-1 Dec 58 Microwave , Phase Stabilization to: Davis EF , WCR pt1 57 Molecular: Townes CH , NCR pt10 55 Multiplication by Quenching Oscillator: Sawazaki N, T-MTT Apr 56 T-MTT Apr 56
Portable, for Navigation: Antonicci P, T-I Oct 55
Quartz Resonator: Shaull JM, P Aug 54
Review of: Lewis FD, P Sep 55
Sodium Clock: Dicke RH, NCR pt10 55
Transistorized Airborne: Hykes GR, NCR pt5 58
Ultra-Precise Quartz Crystal: Warner AW,
T-I Dec 58 WWV and WWVH: National Bureau of Standards, P Oct 56 Synthesizer: Frank RW, NCR pt10 54 Synthesizers, High Stability, for Communications: Young NH, WCR pt8 57 and Time Domain Errors in Network Synthesis Problems: Gumowski I, T-CT Mar 58 Time Representations of Signals Using Natural Components: Huggins WH, NCR pt2 57 and Time Scaling in Magnetic Recording: Wiener FM, T-AU Jul-Aug 58 Transformations in Filter Design: Papoulis A, T-CT Jim 56 Transformations, Graphical Interpretations for: Stewart JL, WCR pt 2 58 Translation by Phase Modulation: Rutz EM, WCR pt1 57 Translator, Serrodyne: Cumming RC, P Feb 57
Transmission, WWV Standard: George WD, P May 58, P Jul 58, P Aug 58, P Sep 58, P Oct 58, P Dec 58; Kerns DM, P Nov 58 Unit: Crist PW, P Jul 55; Hers J, P Feb 56 Variations in Short-Wave Propagation: Ogawa T, P Dec 58 Fresnel Antenna Patterns: Lechtreck LW, T-AP Jan 56, T-AP Jul 55 Fresnel Approximation: Barrar RB. T-AP Jan 58
Fresnel Field of a Finite Line Current Distribution:
Barrar RB. T-AP Jul 56
Fresnel Region, Simulation of Fraunhofer Radiation Patterns:
Cheng DK, T-AP Oct 57 Function Generation by Integration of Steps: Comley W, WCR pt4 57 Function Generators for Design Problems: Savant CJ, T-EC Sep 54 Tor Design Problems: Savant CJ, 1-EC Sep 54
Digital-Analog: Hofhelmer RW, T-I Jun 58
Diode: Miurg T, T-EC Jun 57
Methods: Pollmerou LG, T-EC Sep 54
New Applications of: Tomovich R, T-EC Mar 58
Transistorized All-Electronic Cosine Sine: Schmid H,
WCR pt4 58 of Two Independent Variables: Polimerou LG, T-EC Sep 57 Functions, Symmetric, Synthesis of Circuits for: Epstein G, T-EC Mar 58 Furlac, Allen PS, SQ May 57

Power, Controlled: York H. WCR pt9 57 Reactor, Controlled Fusion Research: Post RF, P Feb 57 Reactors, Production of Intense Magnetic Fields and Their Relation to. Levine M, NCR pt9 58 Research, Electrical Power Problems in: Hurwitz HJR, WCR pt5 58 Research, Microwave Measurements In Controlled Heald MA, NCR nt9 58 Research, Spectroscopy Aspects of: Cunningham S, WCR pt5 58 Thermonuclear, Controlled: Herold EW, NCR pt9 58; Warfield G, SQ Feb 58 Thermonuclear, Power Program, Ultra-high Vacuum Research in Support of: Lange WJ, WCR pt5 58 Gages and Gaying Considerations for Automatic Machine Control: Hopper JW, T-IE Aug 58 Sampling Procedure, Narrow Limit: Harding HG, NCR pt10 57 Sonic Valve, for Blood Pressure: Noble FW, T-ME Jul 57 Thickness, Magnetic, for Rubber and Plastic Applica-tions: Dexter AM, T-IE Mar 55 and Beamwidth of Directional Antennas: Harrington RF, T-AP Jul 58 Control System, Automatic, for Microwaves: Vinding JP, T-MTT Oct 56 Limits for Three-Terminal RC Networks with Two Capacitors: Cederbaum 1, T-CT Dec 57 Maximum, of a Line Source Antenna: Solymar L, T-AP Jul 58 Modulation of Servomechanisms: |Buchan JF , WCR pt4 57 Gallium Arsenide Microwave Diode: Jenny DA, P Apr 58 Games, Communication as a Game: Blachman NM, WCR pt2 57 Gamma Measurements, In Vivo, at Very Low Levels: Anderson EC, T-NS Nov 56 Gamma Monitor, Dual Function: Connally RE, T-NS Mar 56 Gamma Rays Detection, Low-Level, in Humans: Anderson EC, T-NS Dec 58 irradiation of P-N Junctions with: Gremmelmaier R , $P\mbox{ Jun }58$ Peak Efficiency of Nal Crystals: Lazar NH, T-NS Nov 56 Response of Total Absorption Spectrometers: Davis RC, T-NS Nov 56 Scintillation Spectra: Lazar NH, T-NS Dec 58 Scintillation Spectrometer Pulse-Height Distributions, Unscrambling of Hubbell JH, T-NS Dec 58 Scintillation Spectrometry, Low Energy: Borkowski CJ, T-NS Nov 56 Spectroscopy, High-Energy: Swartz CE, T-NS Nov 56 Spectrometer for High Counting Rates: Nelligan WB, T-NS Dec 58Gap Analysis and Syntax: Yngv VH, T-IT Sep 56 Ferrimagnetic Resonance in: Rodrique GP, T-MTT Jan 58 L-Band Isolators: Heller GS, WCR pt3 57 Microwave Properties and Applications: Rodrique GP, WCR pt3 57 Mixed, for Nonreciporcal Devices at Low Microwave Frequencies: Ancker-Johnson B, P Jul 58 Yttrium-Iron, Coaxial Isolator Utilizing: Freiberg L, T-MTT Oct 58 Gas Cell Atomic Clock Using Optical Pumping and Detection: Arditi M., NCR pt1 58 Gas Discharge-Noise Generators: White WD, P Jul 56 Noise Source: Bridges TJ, P May 54; Honig W, NCR pt3 55 Noise Sources as Microwave Noise Standards: Olson KW , T-I Dec 58 Plasma in Microwave Co-axial Components: Geiger RH, NCR pt5 56 Spectral Distribution of Thermal Noise: Bergmann SM, T-MTT Oct 57 Switch Tube, High Power Microwave: Tetenbaum SJ, NCR $\,$ pt1 58 Tubes, Process for Making Clean: Lafferty JM, T-ED Jul 58 Gas-Free Liquid Scintillators, Temperature Effects: Seliger HH, T-NS Nov 56 Gas Particles, Counter and Sizer: Gordon ES, T-IE Mar 56, T-I Mar 57 Gns Scintillation Counters: Northrop JA, T-NS Nov 56 Gas, Sonic, Analyzers and Their Industrial Uses: Steele DI, T-IE May 58 Gas Tube Duplexers , Control During Their Relaxation Time Hovda RE , WCR pt3 58 Howda RE, WCR pt3 58
Gaseous Scintillation: Engler C, T-NS Nov 56
GASH, Polarization Reversal and Switching In: Wieder HH.
Gastroscopy, Clinical: Schmitt OH, T-ME Oct 55, P Aug 57
Gating Circuit, High-Speed, Using E80T Beam Deflection
Tuber Sperling L, T-ED Jan 57
Gaussian Curse—Transmitter Noise Spectrum Amplitude
Shepherd NH, T-VC Apr 58 Gaussian Noise, Smoothly Limited, Correlation Function of Baum RF, T-IT Sep 57

ů.

Gaussian Sample, Generating of: Stein S, T-IT Jun 56 Gaussian Sample, Multivariate Normal, Generating of: Marsaglia G, T-IT Jun 57 Gaussian Stochastic Process, Distribution of Crossings: Helstrom CW, T-IT Dec 57 Gaussitor: Green M, T-ED Jul 56 Geiger Counter, Pulsed: Witzel AB, T-NS Feb 56 Generation of Functions: Piode Used: Miura T, T-EC Jun 57 by Intergration of Steps: Comley W, WCR pt4 57 New Method: Polimerou LG, T-EC Sep 54 of Several Variables: Meissinger HF, NCR pt4 55 of Two Independent Variables: Polimerou LG, T-EC Sep 57

Generation, Millimeter and Submillimeter Power, Dielectric Slow-Wave Structures for: Pantell RH, T-ED Jul 58 Generation of Millimeter Waves: Danos M, T-MTT Sep 54 Generation of Shaped Pulses Using Microwave Klystrons: Pre

Aircraft, with Secondary Standard Frequency Output: Johnson LJ, T-CP Mar 58

Broad-Band Stabilized Microwave: Hule JA, WCR pt5 58

Delayed Pulse, as Variable Time Interval Standard: Broderick D, WCR pt5 58 Digital-Analog Function: Hoffleimer RW, T-1 Jun 58

Function, for Design Problems: Savant CJ, T-EC Sep 54

Function, New Applications of: Tomovich R, T-EC Mar 58

Harmonic, Using Nonlinear Capacitance of Germanium Diode: Kita S, P Jun 58 Homodyne: Mathers GWC, WCR pt1 57

Impulse, Receiver Measurements: Vogelman JH, NCR pt5 54

Matched, Available Power from Measured Load Power: Sweet LO, T-MTT Oct 57

Microwave, Report of Advances, 1955: Report, T-MTT Apr 56

Noise: Winter DF, NCR pt4 54; Bernstein R, NCR pt10 54

Reference , for Color TV Receivers: Rausch RH , T-BTR Jun 57

Sawtooth, High Precision: Tom LJ, NCR pt5 57 Sawtooth, High Precision: Tom LJ, Nck Rt5
Standard White Noise: Zucker H, T-I Doc 58
Standby, Remote Control of: Halvorson RL,
T-CS Jul 54, T-MTT Apr 54
Television SynchronIzation, High Stability:
Thompson FT, NCR pt7 56

Test, for Horizontal Scan: Green WJ, T-BTR Jan 54 Thermoelectric, Radiolsotopic: Briggs JL, NCR pt9 57 Three-Millineter Harmonic, and Crystal Detectors: Richardson JM, T-MTT Apr 57

Transistor Pulse, for Digital Systems: Hamilton DJ, T-EC Sep 58

Transistorized All-Electronic Cosine Sine Function: Schmid H, WCR pt4 58

TV Sync , Transistor Circuitry in: Leeds LM , T-BTR Sep 58

Geometrical Optics of VLF Sky Wave Propagation: Wait JR , P Jun 57

Geophysical Prospection, Measurement of Average Dielectric Constant of Underground Propagation Medium: EL-Sald MAH, T-AP Oct 56

Geophysical Prospection of Underground Water by Means of Electromagnetic Interference Fringes: EL-Said MAH, P Jan 56; Brown GL, P Jul 56; Lowy H, P Aug 56

Geophysics in Alaska, Career Evaluation of: Staff Report, SQ Sep 58

German and English Languages for Communication of Semantic Content, Relative Efficiency of: Ramakrishna BS, T-IT Sep 58

Germanium:

Diodes as Mixers: Messenger GC, P Sep 57
Diffused Base Transistor: Thomas DE, T-CT Mar 56
Electronic Energy Band Structure: Herman F, P Dec 55 Mixer Crystals at Low Temperatures, Properties of: Anderson LK, T-MTT Oct 58

N-P-I-N Junction Transistor Triodes: Unger DM , P Apr 58

Photoconduction in: Schultz ML, P Dec 55
Photovoltaic Cells: Rothlein BJ, T-ED Apr 54
Point-Contact Diodes, High Field Emission in: Wallis
G, T-ED Jan 58

Power Switching Devices: Philips J, T-ED Jan 58 and Silicon, Properties of: Conwell EM, P Jun 58 and Silicon Rectifiers: Henkels HW, P Jun 58 Surface Recombination: Moore AR, P Apr 55 Surface Recombination: Moore AR, P Apr 55
The Rhader: Langevin RA, NCR pt4 54
Transistor Structures by the Diffused-Meltback Process:
Lesk IA, T-ED Jul 58
Wafers, Thickness Determination for Transistor Production: Moore AR, T-ED Oct 57
Geneva Conference Reactor, Control and Automatic Startup:
Epler EP, NCR pt9 56

Ghost Modes in Imperfect Waveguides: Jaynes ET , P Feb 58

Grabaled Equipment, Airborne, Vibrations of: Ehrenpreis D, NCR pt10 57

Glaciers, Photogrammetry of: Harrison AE, SQ Scn 57 Glass Envelopes, Stacked Tubes in: Douglass CF WCR pt3 58

Glass Scintillators: Ginther RJ, T-NS Dec 58 Glass Shielding: Hawthorne EI, P Mar 54 Global Communications:

Air-Ground: Lynch WW, T-CS Nov 54 Armed Services: Corput VD, T-CS Nov 54 Aviction: Adam HR, T-CS Nov 54 British: Rend AH, T-CS Nov 54 Development and Research Trends: Gilman GW, T-CS Nov 54

1-CS Nov 54
Frequency Management: Miles PD, T-CS Nov 54;
MacQuivey DR, T-CS Nov 54
History: Pratt H, T-CS Nov 54
ITU: de Wolf FC, T-CS Nov 54
Marine: Webster EM, T-CS Nov 54
Public Telephone: Donald DD, T-CS Nov 54
Telegraphy: Lawton CS, T-CS Nov 54

Glow Discharges, Translent Response of: Mackay RS, P Jun 54

Gold-Germanium Surface Barriers, Transient Behavior: Curtis 0, T-ED Oct 56

Goniometer, Double Crystal, X-Ray Sorting Errors with: Mann A, T-I Dec 57

Government Contract Reports, Maximum Utility in: Warren FH, P Nov 58; Herold EW, P Jan 58

Graduate Degree, Two-Year: Boulton BC, T-E Mar 58 Graduate Students Workling Part-Time in Industry: Newell DE T-E Sep 58 Graduate Study , Fellowship Opportunites: Rosen HH, SQ Sen 55

Graduate Study, and Part Time Employment: Newell DE SQ Dec 58

Graphical Filter Analysis: Dawirs HN, T-MTT Jan 55 Graphical Interpretations for Frequency Transformations: Stewart JL , WCR pt2 58

Graphical Symbols for Diagrams: IRE Standards, P Jun 54 Graphical Symbols for Diagrams: IRE Standards, P Jun 54 Graphical Symbols for Semiconductor Devices: IRE Standards P Dec 57

Graphics and Data Transmission in Air Force Communications Bestic JB, NCR pt8 56

Graphs: for Communication Studies: Laconnel AE, T-IT Mar 54

Number of Trees In: Weinbera L, P Dec 58
Theory of Nets: Hohn FE, T-EC Sep 57
Trees and Driving Point Admittance, Evaluation of:
Nakagawa N, T-CT Jun 58

Diffraction, of Cylinders, Resonance: Karp SN, T-AP Oct 56

Inclined Wire, Transmission Characteristics: Snow OJ, T-AP Oct 56

Infinite, Scattering by: Twersky V. T-AP Jul 56 Strlp, Transmission and Reflection Properties: Primich RI, T-AP Apr 57

Gravitational Fields in the Vicinity of a Satellite, Elec-tromagnetic Analogs for: White WD, P May 58 Gravity, Acceleration of, Absolute Determination of: Preston-Thomas H, T-I Dec 58

Gray Code Counter: Fischmann AF, T-EC Jun 57 Great Discovery of Modern Mathematics: Lieber LR, T-MIL Mar 57

Green's Functions in Time Varying Network: Miller KS, T-CT Mar 55

Green's Theorem, Scalar-Vector Analog of: Unz H, T-AP Jul 5B

Control Recovery, in Thyratron: Reich HJ, T-ED Jul 57 Controlled Pulse Klystron Amplifier: Swearingen JD, WCR pt3 57

Current in Regulator Tubes: Diamond JM, P May 57 Emission: Espersen GA, T-ED Apr 56 Frame, for Automatic Production: White RC, T-ED Feb 54

High-Transconductance Guns, Space-Charge: Gleichauf PH, P Aug 58

Magnetic Thyratron: Burnett JH , P Apr 56
Mesh , Electrolytic Tank Measurements of Characteristics:
Hsu H , NCR pt3 57

Noise, Induced, Correlation with Tube Noise: Stahmann JR, T-ED Jan 55

Parellel to Dielectric Interface, Impedance of: Wait JR, T-MTT Apr 57

Voltage-Space Current Division Test: Jolly JA . NCR pt3 57

Ground Conductivity Map of U.S.: Fine H, P Sep 54 Ground Conductivity at VLF, Measurement of: Wait JR, T-AP Jul 58

Ground-Controlled Approach:

by Automatic Voice Data Link: Fling JJ, WCR pt4 58
System, Automatic: Brooks RM, NCR pt5 58
Volumetric Scanning Antenna: Peeler GDM, NCR pt1 55
Ground Screen, End Correction for Coaxial Line when Driving
Antenna over: King R, T-AP Apr 55

Ground Screen, Effect on Field Radiated from Monopole: Wait JR, T-AP Apr 56

Ground Support Equipment, Approach to Reliability: Barov M, WCR pt10 57

Ground-Wave Propagation, Applications of Operational Cal-culus to: Bremmer H., T-AP Jul 58

Ground Wave Propagation at VHF, Influence of Moisture: Josephson B, T-AP Apr 58 Ground Wave, Transient Behavior on Spherical Earth: Wait JR, T-AP Apr 57

Growth of Communications: Royden GT, T-CS Sep 57 Guided Missiles: See Missiles

Gun, High Transconductance Wideband Television: Atti E, NCR pt3 58

Gun, Kinescope, Annular Geometry: Schwartz JW, NCR pt3 58, P Nov 58 Gyrators: Vallese LM, P Apr 55

Circuits: Pagert P.P. P. Jul 55 in Dual Circuits: Golay MJE, P. Oct 57 Forrite: Davison B, WCR pt1 57 Ferrite, Low Frequency Problem in Design: Hogan CL T-AP Jul 56

Fiture Circuit Aspects: Herold EW, P Nov 57 Pentode: Sharne GE, T-CS Dec 57
Gyro Orientation, Analysis of: Mayer A, T-AC Dec 58

Gyromagnetic Material in Cylindrical Cavity: Bussey HE, P May 57

Gyromagnetic Measurements on Ferrite: Bussey HE, T-MTT Jan 58

Gyromagnetic Media, Report of Advances, 1954: King DD, T-MTT Apr 55 Gyromagnetic Media, Report of Advances, 1955: Report, T-MTT Apr 56

Gyromagnetic Ratio, Proton, Free Precession Determination of: Bender PL, T-1 Dec 58

Gyromagnetic Resonance in Ferrite-Loaded Rectangular Waveguide: Seidel H, WCR pt1 57 Gyroscope, Rate, Transfer Function of: Bender M, T-I Mar 57

Gyroscopes, Floated Rate-Integrating: Lower JW, NCR pt5 55

Gyrotropic Media, Reciprocity Relationships for: Harrington RF, T-MTT Jul 58

-H-

Half-Room Principle for Optimum Listening: Klipsch PW, T-AU Jan-Feb 58

Halides, Alkall, as Scintillation Material: Van Sciver W, T-NS Nov 56

Hall Effect Circulator: Gnibbs WJ, WCR pt3 58 Hall Effect, Future Circuit Aspects: Herold EW, P Nov 57
Hall Effect and Its Application to Microwave Power Measurement: Barlow HM, P Jul 58

Halogen-Quenched G-M Tubes: Egan WG, T-NS Jun 56 Hammond Laboratories, History of Inventions: Hammond JH, P Sep 57

Handle-Talkie Portable Radiophones: Macdonald AA, T-VC Dec 56

"Hard-Bottoming" Technique in Nuclear Instrumentation Circuit Design: Harris CC, T-NS Mar 56 Harkins Multiplex System, Principles of: Hershfield WN, T-BTS Mar 56

Harmonic Distortion Meter, Measurements with: Macdonald JR, T-AU Nov-Dec 57

Harmonic Generation with Ideal Rectifiers: Page CH, P Oct 58

Harmonic Generation at Microwave Frequencies Using Field-Emission Cathodes: Fontana JR, P Jul 58

Harmonic Generator Using Nonlinear Capacitance of Germanium Diode: Kita S, P Jun 58

Harmonic Generators, Crystal Diode, Excess Noise In: Richardson JM, T-MTT Jul 57

Harmonic Measurements, Parameters of Nonlinear Devices from: Haber F, T-ED Jan 58

Harmonics:

Nomes: Audio Pentode vs. Triode: Powell T P Aug 55 in High Power Waveguide Systems Effects and Measurement of: Forcer MP, NCR pt 1 57 and Intermodulation Distortion Ratings: Powell T, T-AU Jul-Aug 57

at Millimeter Wavelengths: Nethercot AH, T-MTT Sep 54

Headlines Rules for Choosing: Samuel R, T-EWS Aug 58 Hearing Aid, Transistor: Webster SK, T-AU Mar-Apr 54 Hearing Mechanism, Direction Perception as a Binaural Function: Christman RJ, NCR pt9 56
Heart, Fetal, Rate Measurements: Tolles WE, WCR pt5 58

Heart Muniurs, Analysis by Electronics: Richards RS, T-ME Dec 58

Heart Sound Recording: Auscultation with Internal Calibration: Lepeschkin E, T-ME Dec 57

Capacitance Pickup for Heart Sounds and Murmurs: Groom D., T-ME Dec 57

Cardiac Vibrations as Transients: Dunn FL, T-ME Dec 57

Cardiovascular Sounds Caused by Cavitation: Talbot SA, T-ME Dec 57 Correlations of Heart Sounds and Pressure Pulses: Greene DG, T-ME Dec 57

Electrostethography, Absolute vs Acoustic Standariza-tion in: Dunn FL. T-ME Dec 57

Heartbeat Simulator and a Cardiac Tachometer, Electronic: Roy OZ . T-ME Jul 58

Heartheats, Recording, of a Fetus: Mack E. T-ME Dec 58

Effect on Piezoelectric Properties of Ceramics: Brouns
A, T-AU May-Jun 57 Exchange Characteristics of Animals: Ely TS, T-ME Feb 56

Flow Considerations in the Design of High-Dissipation Receiving Tubes: Schade OH, NCR pt3 56

Loss of Circular Electric Waves in Helix Waveguides: Morrison JA , T-MTT Apr 58

Loss in Grooved Metallic Surface: Marcatili EA, P Aug 57

Transfer, Industrial Applications to Electronics: Robinson W, P Jan 57; Kaye J, P Aug 56

Heater Voltage, Thermistors for Applying: Gano JJ, NCR pt6 57; T-EC Mar 58

Heaters , Dielectric: Interference from: Allen EW , T-IE Mar 55 Power Oscillators, Use of: Wilson TL, T-IE Mar 55 Series Strings for TV: Roberts F, T-BTR Jul 54 Home Reproduction of Sound Stewart RD T-All Mor-Ani 57

Homodyne Generator and Detection System: Mathers GWC, WCR ptl 57

Horizontal Scan Test Generator: Grien WJ, T-BTR Jan 54 Horizontal, Transistorized TV, Deflection and High Voltage Syste - Schless G. T-BTR Jun 58

1-AP Oct 56
Electromannette, Desinn of: Braum EH, T-AP Jan 56
Terr inated Enclosures: Glenn WE, T-AU Nov-Sep 56
Hospitals, Patlent-Data Systems for: Webb GN, NCR nt9 58
Hot Strengtl Properties of Filamentary Nickel Alloys:
Wolk B, T-ED Apr 58

Houston Vehicular Communications System: Thornton RD, T-VC Jun 55

How to Prepare a Talk: Pierce JR, P Oct 57
Hum Balanced Magnetic Recording Pickup Head: Camras M, T-AU Nov-Dec 57

Human Beings as Computers: McCulloch WS, T-EC Sep 57; Quastler H, T-EC Sep 57; Miller GA, T-EC Sep 57; Fogel LJ, T-EC Sep 57 Human Dynamic Response, Tracking Research Applied to: McRuer DT, WCR pt4 58

Human Engineering: Mead LC, NCR pt9 54

An Ald to Improved Electronic Equipment: Rappaport M,
T-IE Mar 57

Modern Concept of Electronic Packaging: Noble RP,
T-IE Mar 57, T-PT Apr 57

Human Factors In Detection and In Speech Communication
in Noise: Egan JP, NCR pt4 58

Human Flight Control, Analysis for: Fogel LJ, NCR pt8 56

Human Memory and Storage of Information: Miller GA,
T-IT Sep 56

Human Operator, Transient Response of: Hyndman RW, T-ME Dec 58

to Improve Electronic Equipment: Rappaport M, T-PT Apr 57

Human Endurance, Instrumentation for Research on: McMahon RE , T-I Jun 57

Holes Electrons and Traps Shockley W P Jim 50 Horle M sic Room Acoustical Principles Snow WE T-AU Nov-Dec 57

Horizontal Deflection Amplifier Testing: Lankard GM T-FTR Oct 57

Circularly Polarized B-conical- Goatley C, T-AP Oct 56

Heating Equipment, Induction, Field Intensity Measure-ments: Nach TE, NCR pt6 56 Height-Gain Curves at 8.6 MM: Straiton AW, T-AP Jul 56 Helical Beam Antennas, Phase Center of: Sander S, NCR pt1 58 Helical Conductor in Coaxiel Line: Sichak W., P. Aug. 54 Helical, Line Scanner for Beam Steering a Linear Array: Stark L, T-AP Apr 57 Helical Transmission Line Analysis: Fowler VJ, T-AP Oct 54 Helicopter Navigation: Instrumentation for All-Weather Flight: Bohling RF , T-ANE Sep 55 RTCA Study: Sherer LM, T-ANE Jun 55 Helitron Oscillator: Watkins DA, P Oct 58 Helium Leak Detector, Ultrasensitive: Lineweaver JL, T-ED Jan 58 Helix: Bifdar: Tien PK, P Jul 54 Cavity-Mounted: Bystrom A, T-AP Jan 56 Circuits, Modified Contra-Wound, for High-Power Travel-ing-Wave Tubes: Birdsall CK, T-ED Oct 56 Coupled, for Traveling-Wave Tubes: Wade G, T-ED Jul 55 Coupling of Modes: Pierce JR, P Sep 54 Dielectric on Coaxial Line: Griemsmann JWE, T-MTT Jan 56 Ferrite Attenuator: Rich JA, P Jan 55
Junction, Equivalent Networks for Coaxial Line to:
Watson WH, T-ED Jul 56 Millimeter-Wave Tube: Christensen WV, P Jan 55 Multifilar, Wave Propagation on: Johnson HR, T-ED Jan 56 Multiple, for Traveling-Wave Amplifiers: Putz JL, WCR pt3 57 Procision Winding and Mechanism of Loss Variation: iverson AH, T-ED Oct 56 Progress in: Sensiper S, P Feb 55 Propagation: Stark L, P Jul 55 Propagation Calculation: Webber SE, T-ED Aug 54 Reduction of Plasma Frequency in Electron Beams: Branch GM , P Aug 55 Shielded, Study of a Plane Short: Watson WH, T-ED Oct 55 Suppression of Backward Wave Oscillation: Siegman AE, T-ED Apr 55 Tape Model for Traveling Waves: Scotto MJ, T-ED Oct 55 Waveguides, Circular Electric Waves In, Heat Loss of: Morrison JA, T-MTT Apr 58 Winding Machine, Coupled: Iverson AH, T-ED Oct 58 Help Wanted: U.S. Brainpower: Bevis HL, T-EM Mar 58 Heterodyne Type Sonic Analyzer: Richard JD, T-AU Mar-Apr 55 High Altitude Breakdown Phenomena: Ashwell J, NCR ptl 57 High-Energy Physics Experiments, Photomultiplier Counters in: Moyer BJ, T-NS Nov 56 High Fidelity: Amplifiers, Home Testing of: Dean WW, NCR pt7 57.
Definition of: Harris CM, NCR pt7 55
Environment-Fitness Considerations: Darrell RD,
NCR pt7 55 Equipment Design, Practical Aspects: Fine RS, T-AU Mar-Apr 57 T-AU Mar-Apr 57
European Point of View: Rodriques de Miranda JR, T-AU Jul-Aug 57
and Hearing: Kock WE, NCR pt6 54
Learning as Factor Influencing Preferences for: Kirk RE, T-AU Sep-Oct 56
Magnetic Tape Records: Moyer RC, T-AU Jan-Feb 55
Man as a Component of: Rosenblith WA, NCR pt7 55
in Musical Tone Production: Martin DW, T-AU Jul-Aug 54
in Padio Production: Martin DW, T-AU Jul-Aug 54 in Radio Broadcasting: Hogan JVL , NCR pt6 54 Reproducers: Bauer BB , NCR pt7 57 Reproduction in the Home , Loudspeaker Installation for: Bleeksma GJ , T-AU Sep-Oct 57 Standards on Equipment: Published Standards, T-AU Jul-Aug 56 System, Home, Four-Track Stereotape Magazine for: Tinkham RJ, WCR pt7 58 Transistor Audio Amplifier: Crow RP, NCR pt7 56 High-Frequency Analyzer: Instrumentation Problems: Greatbatch W, T-ME Dec 57 Musical Murmurs: McKusick VA, T-ME Dec 57 Phonocardiography: Frequency Range identification: Luisada AA, T-ME Dec 57 Intracardiac: Lewis DH, T-ME Dec 57
Spectral Analysis: Webb GN, T-ME Dec 57
Standardization of: Mannheimer E, T-ME Dec 57;
Bekkering DH, T-ME Dec 57
Status of: Sprague HB, T-ME Dec 57
Phonocatheters: Wallace JD, T-ME Dec 57

Transients in Heart Sounds and Murmurs: Rodbard S , T-ME Dec 57 High-Frequency Communication Circuits , Effect of Echo: Barley DK , T-AP Oct 58

High-Frequency Shields: Lafferty RE, NCR pt6 56
High-School Science Teacher Views Industry-Education
Cooperation: Miner TD, T-E Jun 58

High Temperature:
Connectors, Miniaturized: Stuart CH, T-CP Dec 56
Toroids, Impregnation of Deimel EO, T-CP Dec 56
Highway Design, Automation in: Cahn JM, T-IE Aug 58
History of Some Foundations of Modem Radio-Electronic
Technology: Alsenstein SM, P Apr 58

High Temperature:

Human Reading Rates: Pierce JR, P Mar 57, WCR pt2 57 Human Relations: Hopkins M, T-EM Nov 54 Human Relations, Art of: Levenstein H, NCR pt7 57 Human Relations Responsibilities of Engineers: Hemke PE, NCR pt6 56 Human Tracking Problem on the UDEC III Computer, Simulation of a: Platzer HL, WCR pt4 58
Human Use of Information, Decision-Making: Swets JA,
T-IT Sep 56 Humans, Low-Level Gamma Ray Detection in: Anderson EC, T-NS Dec 58Humidity, Effects on Printed Wiring Boards: Spalding J, WCR pt6 57 Hurwitz-Factorization of a Polynomial, Iterative Method for: MacWilliams FJ, T-CT Dec 58 Hy-Tramp Electron Multiplier: Hostetler WE, NCR pt3 56 Hybrid-T Junction, E-Plane Forked: Kahn WK, T-MTT Dec 55 Hybrid-Pi Transistor Equivalent Circuit: Wilhelmsen CR, T-BTR Mar 58 Hybrid Rings, Transmission Properties of: Budenbom HT, NCR pt 1 57 Hydraulic Servos: Keller GR , SO Feb 57 Hydrogen Study of Stellar Associations and Clusters: Menon TK , P Jan 58 Hydrogen 21-CM Line, Excitation of: Field GB, P Jan 58 Hydromannetic Stability: Bernstein IB, NCR pt9 58 Hydrophones, Electrokinetric: Yeager E, NCR pt9 55 Hyperbolic Analoos: Hellstrom MJ, P Feb 58 Hyperbolic Analogs Using Varistors: Holbrook GW, P Oct 58 Hynerboloid Lens: Jones EMT, T-ANE Jul 54
Hysteresis Clutch: Brown LR, T-IE Mar 56
Hysteresis Heating of Microwave Ferrites: Honeyman WN,
P Sep 57 Hysteresis and Nonlinear Combined Gains in Complex Control Systems: Halstenberg RV, T-AC Jul 58 Identification Problem in Signal Theory: Zadeh LA, T-CT Dec 56T-CT Dec 56
Idiot II Data Processing Techniques: Klein ML, NCR pt1 56
Image Cricles: Mathis HF, T-MTT Jan 56
Image Converter: King RW, T-TRC May 55
Camera Maninger RC, WCR pt5 57
Camera for Millimicrosecond Photography:
Maninger RC, NCR pt5 57; Stoudenheimer,
NCR pt5 57 Tubes , Shutter: Linden BR , P Apr 57 Image Lines, Dielectric: Schlesinger SP, T-MTT Jul 58 Image Lines, Dielectric, Circuit Components in: King DD, T-MTT Dec 55 Image Line, Dielectric, Properties of: King DD, T-MTT Mar 55 Image Method of Beam Shaping: Hutchison PT, T-AP Oct 56 Image Orthicon Burn-In , Prevention of: Wilner JT , T-BTS Feb 57 Image Orthicon for Pickup at Low Light Levels: Rotow AA, NCR pt3 56 Image Processing Kovasznay LSG, P May 55
Image Quality in Color Television: Schade OH, NCR pt7 58
Image Retention Reduction in Image Orthicon Cameras:
Bendell SL, T-BTS Dec 57

In agendary Axis Translation of Transfer Functions: Riverson JL INCR 64-58 Imp dance Airlin Similified Measurements Bern MP, WCR pt7.57 Broadbanding Potential of Antennas: Vassifiadis A, NCR pt1.57, T-AP Jul.58 Bridge, UHF: Matthows EW Jr, NCR pt10.54 Cathode Interface, Measurement of: Shipley WU, NCR pt3 56 Chart for Transmission-Line Filters: Dawirs HN, P Apr 55 Circular Helix Travelino-Wave Tube; Correction to 4749, Tion PK , P Jul 57 Crystal, Measurement at Low Levels: Dawirs HN, T-MTT Apr 56 Driving Point of Active Networks: Declaris N , NCR pt2 56 with Geometric Symmetry, Synthesis of: Baum RF, T-CT Dec 58Method in Design of Junction Transistor Flip-Flops Suran JJ , NCR pt2 57 Multiplication Rule for Functions: Reza FM , T-CT Sep 57 Synthesis of, Using Analog Computer: Karplus WJ, T-CT Sen 57 Effect on Spacing Error of Eight-Element Adcock: Travers DN , T-AP Jan 57 Geometrical Construction for Conjugate-Image Point: Kalm WK , P Jan 57 Graphic Presentation of Hess RC , NCR pt10 55 of Grid Parallel to a Dielectric Interface: Wait JR , T-MTT Api 57 Imput. of Cylindrical Antennas - Bohn EV, T-AP Oct 57 Inverter Circuits: Bogert BP, P Jul 55 Matching: Balabanian N, T-MTT Jul 55 in Carrier Telepnony Systems: Cotterill MJ, T-CS Sen 57 1-CS Sen 57
of Center-Fed Antennas by Split Reflector:
Mattingly RL, WCR ptl 57
Networks: Matthnei GL, T-CT Sen 56
by Transmission Line: Willis J, P Dec 55
Triode Cathode Followers for: Schultz TJ,
T-AU Mar-Apr 55, T-AU May-Im 55 Matrices of n Ports , Residues: Cederbaum I , T-CT Mar 57 Matrix of N-Tenninal Network: Puckett TH, T-CT Mar 56 Measurements: Non-Euclidean, for Transmission Lines: Kyhl RL, T-MTT Apr 56 Slotted Line: Mittra R, NCR pt8 55 With Waveguide Coupling Device: Cohn SB, P Oct 54 Meter: First HA, T-I Apr 54
Microwave Reflector Feed, Improvement of:
Scheldor MW, P Nov 57
Mutual, of Unequal Length Antennas in Echelon:
Cederbaum 1, T-CT Dec 57 Negative, Circuits: Lundry WR, WCR pt 2 57; T-CT Sep 57 Negative Converters: Larky AI, T-CT Sen 57 in RC Active Networks: Yanayisawa T, T-CT Sen 57 Open- and Closed-Ridge Waveguldes: Miliran TG, P Aug 55 Plotter, Antomatic RF: Watts CB Jr, NCR pt5 57 Plotter, Automatic, Z-Scope of: Vinding JP, NCR pt5 56 Polarization-Ratio Transformations: Bolinder EF, T-MTT Jul 56 T-MTT Jul 56
Properties of Narrow Slot: Oliner AA, T-AP Jan 57
Recorder Complex: Sharaf HM, NCR nt6 54
Recorder for X Band: Gabriel WF, P Sep 54
Shielded Slab Line: Bates RHT, T-MTT Jan 56
Shint, of Klystron Cavities: Park D, T-MTT Jan 56
Slotted Coaxial Line: Collin RE, T-MTT Jan 56
Standards, High-Frequency: Powell RC, T-I Dec 58
Standards, Microwave: Beatty RW, T-I Dec 58
of Strip Lines with Rectangular inner Conductors:
Begovich NA, T-MTT Mar 55; Pease RL,
T-MTT Mar 55 Strip Transmission Lines for Optimization of Dimensions: Packard KS, T-MTT Oct 57 of Strip lines with Rectangular Inner Conductors: Begovitch NA, T-MTT Mar 55 Pease RL, T-MTT Mar 55 Synthesis: Pantell RH, P May 54; Storer IE, P Sep 54 Synthesis, Fialkow-Gerst Method: Belevitch V, T-CT Mar 56 Termination for Testing High Power Components: Stegen RT, T-MTT Jan 56 Transformations:
by Isometric Circle Method: Bolinder EF,
T-MTT Jan 58 Smith Chart Applied: Dawirs HN, P Jul 57 Transverse, for Ferromagnetic Media: Morgenthaler FR, P Oct 57 Transformers, Quarter-Wave, Synthesis of: Riblet HJ, T-MTT Jan 57 Trouch and Slab Lines: Chisholm RM , T-MTT Jul 56 Two-Terminal Interstage: Approximation Problem for: Menquet J , T-CT Dec 57

WHF, Measuring Techniques Applied to Biophysics: Schwan HP, T-I Oct 55 Waveguide Meter for Automatic Display: Bachman HL, T-MTT Jan 55

٠.۵

Display Fonel LJ, P Aug 55

Impregnation of Toroids for High Temperatures: Deimel EO , T-CP Dec 56Impulse Interference Blanker for Communications Receivers: Encels HL, T-MTT Jan 55, Engels R, T-CS Oct 56 Impulse Response in Electromagnetic Scattering Problems: Keinhauch EM, NCR oct 158 Impulse Test for Evaluating the Vibrational Characteristics of Receiving Tubes: Jolly SA, NCR pt6 58 Impulse Responses in Time Varying Networks: Miller KS, T-CT Mar 55 Impulse Diffusion Coefficients of Drift Transistors: Greenberg LS , T-ED Apr 56 Incentive: Goldberg H. T-EM Feb 54
Incentives Leading Industry to Educational Cooperation:
Van Atta LC, T-E Mar 58
Individual Variations of Productivity in Research Laboratories:
Shockley W. P Mar 57 Inductance: Reciprocal: Stockman H, P Mar 55, P Jul 55; McAleer HT, P Jul 55; Baghdady EJ, P Sep 55, P Dec 54 Resistance, and Capacitance, from Mutual Inductance Standard, Derivation of: Rayner GH, T-I Dec 58 Temperature Coefficient over 5-50 MC Range, Measurement of: Bady 1, T-1 Sep 57 of Toroidal Rectangular Cores: Schwartz RF, P Oct 57
Induction Heaters, Interference from: Allen EW, T-IE Mar 55
Induction Heating Equipment, Field Intensity Measurements:
Nash TE, NCR pt6 56 Industive Inference Machine: Solomonoff RJ, NCR Pt2 57 Industive Probability, Application of: Schwartz LS, P Dec 58 Inductor, Shield, or Antenna, Spherical Corl as: Wheeler HA, P Sep 58 Inductors, Applications of Ferrites to Design: Duncan RS, P Jan 56 Inductors , Shielded Air-Cored: Schildknecht RO , NCR pt6 58 Inductosyn to Machine Control, Uses and Applications of the: Winget JL, T-IE May 58 Inductronic Electrodynamometer for Precise Measurement: Estoppey RF , T-I Dec 58 Industrial Applications of Vacuum Relays: Johnston RE, WCR Pt 6 57 Industrial Controls , Application of Magnetic Core Logic to: Tellefsen H , NCR pt6 58 Industrial Data Control , Voltage-to-Digital Translation Equipment for: LaFontaine JF , T-1E May 58 Industrial Digital Systems: Otis EJ , T-1E May 58 Industrial Electronics: Concepts: Mittelman E , T-PT Apr 57 Economic and Technical Aspects of: Cook ED, T-IE Apr 58 and Education: Ryder JD, NCR Pt6 58
General: Leaver EW, NCR pt6 58
Help to Conserve Technical Manpower: Bridges JM, NCR pt 6 58 Magnetic and Eddy Current Type Transducers for Use in: Elam DL , T-IE May 58 Nuclear Instrumentation in: Anton N , T-IE Apr 58 Progress in 1953: Radio Progress P, Apr 54 Systems: Jones TR, NCR pt6 58 Systems, Digital, and Their Military Heritages: Wassall DE, WCR pt6 58 Terms, Standards on: IRE Standards, P Sep 55 Industrial Instrumentation and Control, Application of Magnetic Amplifiers in: Geyger WA, T-IE Apr 58 Industrial Measurements with X-Rays: Bigelow JE, T-IE May 5B Industrial Research of the Future: Reeves ED, NCR pt6 56 Industrial Standards Laboratory, Organization of an: Whitaker JN, T-I Dec 58 Industrial Users of Private Microwave Systems: Long FV, WCR pt8 57 Industrial Uses , Sonic Gas Analyzers and Their: Steele DI , T-IE May 58 Industry: Air Force-University Cooperation in Research: Barrett RM, WCR ptB 57 Education Cooperation, A High-School Science Teacher Views: Miner TD, T-E Jun 58 Electronics, Technical Proposals in: Eddy FN, T-EM Dec 58 Graduate Students Working Part-Time In: Newell DE , T-E Sep 5B Incentives Leading to Educational Cooperation: Van Atta LC, T-E Mar 58 Must Face Education Problem: Edelman B, T-E Dec 58 New Role in Education: Cryden J, WCR pt9 58 Inertial Compass, Earth's Rate Directional Reference: Feldman N, WCR pt5 58

Technan N, WK RD 30 Inertial Guldance System Reliability Program, Ama: Dertinger EF, NCR pt 658 Inertial Navigation, Stellar: Horsfall RB, T-ANE Jun 58 Inertial Platform, Characteristics and Stabilization of an: Mitsutomi T, T-ANE Jun 58

Inflection-Point Emission Test: Hopkins EG, P Jun 55 In-Flight Recording for Aircraft System Malfunction Detection: Jamgochian J, T-I Mar 58

innation:
Capacity of Meteor-Burst Propagation, Wavelength
Dependence: Estileman VR, P Dec 57
Digital Processing for Machine-Tool Control:
Susskind AK, T-EC Jun 58,
NCR Pt4 57

Feedback Systems, Theory of: Chang SSL, T-IT Sep 56 Handling Procedures, Sub-Optimal: Marcus MB, T-IT Dec 58 Invariant: Okada S, T-IT Jun 56 Multilevel Channel, with Noise: Watanabe S, T-IT Dec 57 Rate: of Digital Computers: Scott NR, NCR pt4 54 of Human Channel: Pierce JR, WCR pt2 57, P Mar 57 New Interpretation of: Kelly JL Jr, T-IT Sec F Retrieval, Coding: Mooers CN, T-IT Sep 54 Retrieval, Kros-Term System for: Vigliotta AP, NCR pt8 58 Storage and Human Memory: Miller GA, T-IT Sep 56 Storage in Microspace: Newberry SP, WCR pt4 58 Technical, Problem: Staff Report, SQ Sep 58 Transfer, Question of Terminology: Kreer JG T-IT Sep 57 Transmission of Continuous Signals: Kolmogorov AN, T-IT Dec 56 Transmission Systems, Coherence, Modulation and Selectivity: Goldman S, NCR pt4 56 Applications of: Hoberman M, T-IT Jun 56 Aspects of High-Speed Data Handling: Smith BK, T-I Mar 58 Bibliography on: Stumpers FLHM, T-IT Sep 55 T-IT Jun 57 in Biology and Engineering: Wiener N, NCR pt9 54 Communication as a Game: Blachman NM, WCR and International Radio Organizations: Stumpers FLHM, T-IT Jun 57 Introduction to: Schrack FG, SQ May 58 Terms, IRE Standards on: IRE Standards P, Sep 58 Sep 58
London Symposium: Blachman NM, T-IT Mar 56
Mathematics of: McMillan B, NCR nt4 55
and Modulation Systems Committee Report: Report,
T-IT Sep 55
Notes on: Robbins H, P Jul 54
Past and Future: Fano RM, NCR pt4 54
Prediction Theory Approach to Information Rates:
Powers KH, NCR pt4 56
Progress in 1953: Radio Progress P, Apr 54
Prograsation through Time Varying Media: Feinstein Propagation through Time Varying Media: Feinstein J, NCR pt1 54 J, NCR pt1 54
and Quality Control: Rothstein J, NCR pt4 56
Session Commentary: Elias P, NCR pt4 56
Soviet Literature on: Green PE Jr, T-IT Jun 56
and Telemetering: Lehan FW, T-TRC Nov 54
Use to Engineers: Pierce JR, NCR pt2 57
in USSR: Green PE Jr, WCR pt2 57
Where Do We Stand?: McMillan B, T-IT Sep 57 Informational Approach to Organization: Rothsteln J, T-EM Feb 54 Infrared Frequency, Surface Resistance and Reactance of Metals: Beattie JR, P Jan 56 Infrared Navigation Systems: McLucas JL, T-ANE Dec 57
Input Conductance of Thin Antennas: Barzilai G,
T-AP Jan 55 Insertion Loss: in Delay Lines, Temperature and Frequency Dependence of: Meitzler AH, NCR pt2 58 General Expressions for: Shekel J, T-CT Mar 58 Measurement Using Imperfect Square Law Detectors: Sorger GU, T-I Oct 55 of Mismatched Microwave Network: Tomiyasu K, T-MTT Jan 55 Test Sets Using Square Law Detectors: Weinschel BO, T-I Oct 55 Inspection, Automatic, Using Flying Spot Scanning: Mansberg HP, WCR pt6 57 Inspection Testing to Assurance Reliability: Peterson NM , T-RQC Dec 58 Instability in Two-Port Active Networks: Page DF, T-CT Jun 58 Instantaneous Frequency: Harman WW, P Mar 54; Johnson RW, P Jun 54; Shekel J, P Jun 54; Linden DA, P Dec 58; Morgan MG, P Nov 54 Institute of Radio Engineers: Editorial Policies and Requirements: Gannett EK, T-EWS Mar 58 and Electronics: Fink DG, SQ Sep 57, P Sep 57 Forty-Five Year History: Whittemore LE, P May 57 National Convention: Cannett EK, Name S National Convention: Cannett EK, SQ Feb 55, SQ Feb 56; Copp WC, SQ Feb 57 Past and Future: Goldsmith AN, P Apr 54 Professional Group Membership, IRE Affiliate Plan: Baker WRG, P Mar 57 Professional Groups:
Aeronautical and Navigational Electronics:
Black KC, SQ Feb 55 Antennas and Propagation: Waynick AH, SQ May 55; Bolinert JI, SQ Sep 57 Audlo, Introduction to: Salmon V, SQ May 55; Olson HF, SQ Sep 57 Audio, Student Paper Competion: Bauer BB, SQ Sep 56 Broadcast and Television Receivers: Boothroyd WP, SQ Feb 56 Broadcast Transmission Systems: Reed 0, SQ Dec 55

Broadcast Transmission Systems: Reed 0, SQ Dec 55 Circuit Theory: Carlin HJ. SQ Sep 57 Education: Ryder JD, SQ Sep 5⁻, T-E Mar 58 Electronic Computers, Founding of: Larson HT, SQ Dec 54 Electronic Computers, Introduction to: Felker JH, SO Dec 54 Electronic Devices: Saby JS, SQ Dec 55 Engineering Management: Batsel MC, SQ Sep 56; Kettler AH, SQ Dec 55 Information Theory: DI Toro MJ, SQ Feb 56 Military Electronics: Engleman CL, SQ May 56 Nuclear Science: Schultz MA, SQ Dec 55 Production Techniques: Batcher RR, SQ Dec 54 Telemetry, and Remote Control: Hoeppner CH, SQ Feb 56 SQ Feb 56
Spurlous Radlation: Weber E , NCR pt7 55
Standards , Tube Noise Measurements: Open Discussion
Notes , T-ED Dec 54
Student Members: Hunter TA , T-E Mar 58
and URSI: Dellinger JH , P Jul 56
Instrument Calibration Program , Navy: Roach FL , T-I Dec 58
Instrument Landing: Instrument Carding:
Analysis of Flight-Test Data: Tatz A, NCR pt5 55
Flare-Oit Unit: Pasek DM, T-ANE Jun 54
at Sea: Akers F, T-MIL Dec 57 $Instrument_Opportunities\ in\ Nuclear\ Systems;\ Parsegian\ V\ ,$ NCR pt9 56 Instrument System, Integrated: Fragola CF, T-ANE Dec 56 Instrumentation: Applications of Videotape Recorder: Koller EL, WCR nt5 57 Basic: Wildhack WA, T-IE Apr 58 for the C-130 Aircraft Static Test: Hartsfield WW, T-I Mar 58 and Control, Industrial, Application of Magnetic Amplifiers in: Geyger WA, T-IE Apr 58 at the ETH: Maeder DG, T-NS Dec 5B of Human Endurance: Smith SR, T-I Sep 57
Industrial Measurement, Compensated Hot Thermopile
Principle In: Hastings CE, T-I Jim 57 Magnetic Tape Transport Mechanisms: Schoebel KW, NCR pt7 57 Nuclear, in Industrial Electronics: Anton N, T-IE Apr 5B Nuclear, Man-Instrument Relationships: Coe GJ, T-I Jun 57 Nuclear Reactors: Walker J, T-NS Feb 56 Out-of-Sight Control, Phase Angle Analogs in: Parish CL, T-I Jun 57 Pagress In 1953: Radio Progress, P Apr 54
Radiological: Carp G, NCR pt8 56
of Space Craft: Kiebert MV, NCR pt5 57
Subjected to Severe Vibrations and Shock: Ehrenpreis D, NCR pt5 58 System, Multichannel: Wolber WG, NCR pt5-58 Systems, Aperture Correction for: Dtterman J, P Apr 58 P Apr 58

Type Magnetic Recording Tape, Techniques in Evaluating: Moore TO, T-I Mar 58

Instruments, Average-Responding: Brooks HB, T-I Dec 57
Instruments, Controls, and Man, Communication Problems Between: Ziebolz HB, T-IE Apr 58
Insulating Materials, Surface Resistivity at High Humidity: Williams JC, T-RQC Feb 56
Insulating Resistance of Canaditors, Crahama EW Insulation Resistance of Capacitors: Grahame FW, T-CP Mar 57 Insulator Surface Leakage at High Humidity: Chaikin SW, T-CP Dec 58 IT-CP Dec 30
Integral-Error-Squared Method for Evaluating Analog Computer Components: Bruns RA, T-EC Mar 57
Integrating System, the Alinco Electronic, Design and Development of: Harrison GW, T-IE May 58 Integration, Coherent, Applied to Detection: Miller KS, T-IT Dec 57 Integrators: Analog: Hamer H, T-EC Dec 54 Analog, Operational Time, Extension of: Myers GH, T-EC Mar 57 Redundant, In Analog Computers: Scott NR, T-EC Dec 57 Intercity Television Transmission: Barstow JM, T-BTS Mar 55 Intercommunication System for Operating Room: Davis MM, NCR pt9 56 Intercommunication System, Transistorized: Vincent EP, T-BTS Dec 57Interface Measurements: Jones WR, T-ED Feb 54 Interference:
Adjacent Channel, from FM, AM, SSB AM Transmitters:
Smith JS, T-VC Jun 57
Channel Evaluation of: Shepherd NH, Adjacent Channel Evaluation of: Shepherd NH, NCR pt8 57 Adjacent Channel, from FM, AM, SSB AM Transmitters: Smith JS, T-VC Jun 57 Adjacent-Channel, Reduction from Frequency-Shift-Keyed Carriers: Watt AD, T-CS Dec 58 Amateur-TV: Anderson EI, T-BTR Apr 54; Grammer G, T-BTR Apr 54 Atmospheric Noise, to Medium Wave Broadcasting: Aiya SV, P Aug 58 Atmospheric Noise, to Short-Wave Broadcasting: Aiya SVC, P Mar 58 Blanker for Communications Receivers: Engels R, T-CS Oct 56 Blanker Development , ADF: Newman MM , T-ANE Jun 58

Botherance Rejection with Double-Barreled Channel Guard: Buesing RT, T-VC Apr 58 Carrier-to-Noise Statistics for: Clarke KK, P May 58 Co-channel Television, Reduction: Chapin EW, T-BTS Jun 58, MiddleKarp LC, T-BTS Dec 58 Communication as a Game- Blackman NM, WCR pt 2 57 to Communications by Industrial Heaters: Allen EW, T-1E Mar 55 Effect of Fading on Communication Circuit: Bond FE, P May 57 FM Receiver, Effect of Feedback around the Limiter: Baglidady EJ, NCR pt8 57 Generated by Afriborne Devices Utilizing Diode Rectifiers: Senn JC, WCR pt5 58 ITAC Program: Fink D, T-BTR Apr 54 Level Prediction: Wulfsberg PG, NCR pt8 54 Measurements, Principles and Application of: Showers RM, T-I Dec 58 Knee of the Nose: Gifford RP, T-VC Jun 54 Oscillator Radiation: Roberts WK, T-BTR Jul 54
Output of Television Receivers, IRE Standards on
Measurement of: Supplement, P Jul 58
From Over-the-Horizor: UFF and Line-of-Sight Systems:
Ringoen RM, NCR nt& 56 Over Radio Spectrum: Sterling GE , T-BTR Apr 54 Patterns, Use in Water Prospecting: EI-Said MAH, P Jan 56; Brown GL, P Jul 56; Lowy H, P Aug 56 Pulse and Random, Methods of Reducing: Creutz PM, NCR pt8 58 Radio, Measurement Techniques: Thomas LW, T-I Oct 55 Radio, Suppression of: Smith WC. T-CS Mar 55 Reduction in Air Communications Systems: Albin AL, T-CS May 56 Reduction in UHF Communication System with Selective Filters: Caquelin MW, T-CS Mar 57 Rejection FM: Daylidadv EJ, P Jan 55, P Feb 58 Sideband, Reduction from On-Off Keyed Carriers: Watt AD, T-CS Oct 56 Spurious Radiation from TV Receivers: Chittick KA, T-BTR Apr 54 Spurious Radiation Standards: Balley SL, T-BTR Apr 54 Suppressors , Lightweight RF , Using Transistors: Pecota W , NCR pt8 58 Sweep, Reduction from Television Receivers: Intrator AM, T-BTR Apr 56 Television IF: Plugsley DW, T-BTR Apr 54 Television Receiver Industry: Clement LM, T-BTR Apr 54 Television Receiver Output: IRE Standards , P Sep 54 UHF Communications System, Reduction by Selective Filters: Caquelin MW, T-VC Dec 56 In Vehicular Electrical Systems , Sources of: Short BH, T-VC Jul 58 VHF-UHF Radiation Measurements: Glenn AB, T-BTR Oct 55 Interferometer: Compound: Barber NF, P Dec 58
Errors due to Inhomogeneitles of the Medium:
Simmons GJ, T-TRC Dec 57 Microwave , Instantaneous Frequency Measurements: Raabe HP , P Jan 57 Phase Tr., r. Jan 57

Phase Tracking: Penfield H, P. Jan 58

for Radio Astronomy: Covington AE, T-AP Jul 57

for Solar Radiotion: Wild JP, P. Jan 58

Ultraprecise Microwave: Blair GR, NCR pt 1 58

Interferometry of Discrete Celestial Sources: Bracewell RN, P. Apr 58 Intermediate-Frequency and Baseband Diversity Combining Receivers, Evaluation of: Adams RT, NCR pt8 58 Intermediate-Frequency Type Systems, History of: Hammond JH, P Sep 57 Intermetallic Compounds, Photoconduction in: Frederikse HPR, P Dec 55 Intermetallic Semiconductors: Minden HT, T-CP Sep 58 Intermittent Communication: with Fluctuating Signal: Montgomery GF, P Dec 57
Meteor Burst, Utility of: Montgomery GF, P Dec 57
Intermodulation Distortion, Measurement and Evaluation of:
Peterson A, NCR pt7 57
Intermodulation Distortion Ratings and Harmonics: Powell T,
T-AU Jul-Aug 57 Intermodulation by Ferrite Load Isolators , Reduction of: Weinhouse NP , NCR pt8 58 International Analogy Computation Meeting: Blachman NM, T-EC Mar 56 T-EC Mar 56.
International Geophysical Year:
Electron Density Profiles in Ionosphere During:
Smith-Rose RL, P Nov 58
Projects of: Gartlein CW, SQ Feb 58
Program: Kanlan J, P Jun 56, NCR pt1 56
and Space Technology: Berkner LV, NCR pt5 58
International Organizations, Reports of: Cumming LG,
T-MTT Apr 55 International Radio Conference, 1959: Colt de Wolf FC, P Dec 57 International Radio Communications: Given IK, T+CS Nov 54 International Radio Consultative Committee: Cross JS, P Dec 5.; Alten EW. Feb 55, T-CS Nov 54 International Radio Organizations, and Information Theory: Stumpers FLHM, T-IT Jun 57 International Scientific Radio Union: Pettit JM, T-CT Sep 54

Circuits and Radio Waves, Report on Commission VI: Jordan EC, P Jul 58 Electronics , Radio , Report on Commission VII: Shepherd WG , P Jul 58 Ionospheric Radio Propagation. Report on Commission III: Manning LA, P Jul 58 and IRE: Dellinger JH, P Jul 56
Measurement Methods and Standards, Radio, Report on
Commission I: Weber E, P Jul 58
Noise of Terrestrial Origin, Radio, Report on
Commission IV: Dinger HE, P Jul 58 Radio Astronomy, Report on Commission V: Haddock FT, P Jul 58 P Jul 58

Tropospheric Radio Propagation, Report on Commission II: Smyth JB, P Jul 58

Twelfth General Assembly of: Dickson FH, P Jul 58 What Is URSI: Wells HW, P Jul 58 International Telecommunication Union, Radio Conference: de Wolf FC, P Dec 57 Interplanetary Travel, Communications and Navigation Tech-niques of: Castruccio PA, T-ANE Dec 57 Interplanetary Travel and Propulsion: Chapman S, NCR pt5 58 Interstage Design with Practical Constraints: Barton BF , NCR pt2 57 NCR pt2 57
Interviews, Preparation for: Wilson DR,
SQ Dec 54; Staff Report, SQ Dec 57
Intracardinac Pressure Measuring System for Infants and
Adults: Warnick A, NCR pt9 58
Invention and Insight: Mueller RE, P Apr 58
Inventions, Reduction to Practice: Gray AW, T-EM Jun 58
Inventory Problem in Operations Research: Prihar Z,
T-EM Mar 57 Inverse Probability in Angular-Tracking Radars: DuWaldt BJ, T-IT Mar 56 Inverters , Transistorized , Development at 20 KC: Martin WA , T-I Jun 57 In Vivo Gamma Measurements at Very Low Levels: Anderson EC , T-NS Nov 56 In Which Fields Do We Graze?: Hoberman M , T-IT Jun 56 Ion Columns , Reflections from Satellite-Produced: Hendricks CD , P Oct 58 Ion Filled Waveguides: Smullin LD, P Jan 58 Ion Oscillations in Electron Beam Tubes: Jepson RL, Ionic Propulsion of Rockets: Murray FJ, NCR pt10 55 Ionization Chamber Survey Instrument: Higinbotham WA, T-NS Mar 57 Ionization, Field-Aligned Astronomical Observations in Presence of: Rush S, P Jan 58 Ionized Gaseous Media, Nonreciprocal Wave Propagation in: Goldstein L, T-MTT Jan 58 Ionizing Radiation Used to Study VIrus Structure: Wyckoff RWG, T-ME Oct 56 Ionosphere: Absorption Measurements Using Extraterrestrial Radio Waves: Little CG, P Jan 58 Characteristics of Lower Regions: Waynick AH, P Jun 57 Cross Modulation from 1000 KW Transmitter: Martin ET, NCR ptl 56 Doppler Shift of Signals Reflected by: Takahashi I, P Oct 57 Effects at VHF and UHF: Little CG, P Aug 56
Electron Density Profiles During IGY: Smith-Rose RL, P Nov 58 Fine Structure Study Using Satellites: Thompson MC, P Dec 58 Observations of Cosmic Waves: Little CG, P Nov 54 Perturbations of Radio Waves Penetrating: Lawrence RS, P Jan 58 Propagation: Anomalous Transequatorial Propagation in: Villard OG, NCR pt1 57 Long-Range, Low-Frequency Propagation: Slumoys J, P Feb 56 Multipath, Analyzed by Short Pulse-Long Pulse Method: Lambert JD, WCR ptl 57 Report of URSI Commission: Manaing LA, P Jul 58 Research at New York University: Kline M, T-AP Jul 56 Research at University of Sydney: Bailey VA, WCR pt10 57 VHF, Review of: Morgan MG, P Jun 55 Radio Stars to Study Refraction in: Booker HG, P Jun 58 Russian Terminology: Schultz GF, P Mar 56 Troin Eddies: Silverman RA, P Oct 55

Extreme Range of VHF Transmission by: Kirby RC, NCR pt 158 By Meteor Trails: Villard OG, P Oct 55; Keitel GH, P Oct 55 at Oblique Incidence: Bailey DK, T-AP Jul 56 Studies for Point-to-Point Communications: Abel WG, P Oct 55 Techniques: Hedlund DA, T-CS Mar 56 Transmitter for Communication by: Hollis JL, T-CS Sep 57 Turbulent Density Fluctuations: Villars F, P Oct 55; Gallet RM, P Oct 55 VHF Fading CharacterIstics: Sugar GR, P Oct 55 VHF Transmission: Bailey DK, P Oct 55 Sharply Bounded, Reflection: Yabroff IW, P Jun 57 Solar Cycle Influence on VHF Scatter: Ellyett C, P Oct 58

VLF Propagation, Waveguide Mode Theory of: Wait JR, P Jun 57 Ions , Heavy , Accelerator for: Voelker F , WCR pt9 57 Iris , Susceptance of: Handelsman M , NCR pt5 56 Iron Lung, Servo-Pressure Control System for: Biemson GA, NCR pt4 58 Irregular Lines by Standard Teletype: Brown J, T-I Mar 58 Isograph Algebraic Equation Solver: Rao PV, T-EC Jun 58 Balanced-Stripline: FIx OW, NCR pt5 56
Broadbanding Ferrite Microwave: Vartanian PH,
NCR pt5 56 Coaxial, Utilizing Yttrium-Iron Garnet: Lin CM, T-MTT Oct 58 Ferrite: Enander BN, P Oct 56 Broad-Band Coaxial Line: Duncan BJ, P Apr 57 Field Displacement: Weisbaum S, P Apr 56; Button KJ, T-MTT Jul 58 Button KJ, T-MTT Jul 58
Load, Reduction of Intermodulation by:
Weinhouse NP, NCR pt8 58
Measurement of: Heller GS, T-MTT Jan 58
Multiclement: Davison B, WCR pt1 57
Near Zero Permeability: Duncan BJ, P May 57
Field Displacement: Weisbaum S, T-MTT Jul 57
Full Waveguide Bandwidth High-Power: Duncan BJ,
T-MTT Oct 58 High-Power L-Band Resonance: Schulz-Dubois EO, T-MTT Oct 58 5-MM Resonance: Weiss MT, T-MTT Jul 58 L Band, Using New Materials: Heller GS, WCR pt3 57 Microwave, Applications of Ferrites to: Brown AC, P Apr 58 Microwave, Broadband Ferrite: Vartanian PH, T-MTT Jan 56 $\begin{array}{c} \mbox{Minlaturized High Temperature: SullIvan RF,} \\ \mbox{NCR pt5 56} \end{array}$ Resonance, Rectangular Waveguide: Weiss MT, T-MTT Oct 56 Resonance-Type, Figure of Merit of: Hayasi S, P Oct 57 UHF Yttrium Garnet: Morganthaler FR, P Nov 57 Isometric Circle Method of Impedance Transformations: Bolinder EF , T-MTT Jan 58 Isometric Circle Method of Network Analysis: Bolinder EF, P Oct 57 Isotope Kinetics, Network Analogy for: Schoenfeld RL, NCR pt4 57 Isotopes, Positron-Emitting, for Brain Tumor Localization: Aronow S, NCR pt9 56 Isotopes, Tracer Study of Sewage Disposal by: Ely RI Jr, T-NS Mar 57 Isotropic Variable Index Media: Puro WO, NCR ptl 54 ITU: deWolf FC, T-CS Nov 54 JAINCO Aircraft Navigation Systems: Jacobs un, NCR pt5 55 lammers, SSB, AM Transmitter as: Costas JP, P Dec 58 Jammers, SSB, AM Transmitter as: Costas JP, P Dec 58
JANET Metcor-Burst System:
Bandwidth Considerations: Campbell LL, P Dec 57
Canadian: Davis GWL, P Dec 57
Principles of: Forsyth PA, P Dec 57
Storage Capacity: Campbell LL, P Dec 57
Storage Capacity: Campbell LL, P Dec 57
Janus Doppler Navigation Dual Beam Antenna: Saltzman H,
NCR ptl 58 Japan, Progress in Application of Microwaves: Niwa Y, WCR pt10 57 Japanese Technical Captions: Karp A. P Jan 57 Jet Aircraft Antennas , High Frequency: Boileau OC , T-ANE Mar 56 Jet Engine Testing, Dynamic Data System for: Fister BJ, T-I Mar 58 Jet Transports , Flight Control System for: Miller H , T-ANE Sep 57 Job Control Data System Automatic: Pilnick C, T-IE Aug 58 Joint Board on Scientific Information Policy Report on Radar Countermeasures: Joint Board, 7-MIL Mar 57 Joint Technical Advisory Committee: Loughren AV, NCR pt7 55 Joint Technical Advisory Committee—Ten Years of Service: Fink DG , P May 58 Capacitance, Using Graded Impurity Semiconductors: Giacoletto LJ, T-ED Jul 57 Devices for Frequency Conversion: Uhlir A Jr, P Sep 56 Devices, Silicon, Thermal Resistance of: Lin HC, NCR pt3 57 Diodes: See Diodes, Junction Carrier Generation and Recombination: Sah CT , P Sep 57Cylindrical Voltage Breakdown: Armstrong HL, T-ED Jan 57 Device Using Avalanche Multiplication: Misawa T , $P\ Dec\ 58$ High-Frequency Shot Noise in: Uhlir A Jr, P Apr 56 Irradiation with Gamma Rays: Gremmelmaier R, P Jun 58 Reverse Transient Arc Prevention Using: Zarwyn B, P Jun 58 Theory for the Voltage-Current Characteristic of: Moll JL, P Jun 58 Reverse Translent in Arc Prevention: Miller W, P Nov 57

Stabilization: Rabinowitz SJ, T-MTT Sep 54 Standards on Terms: IRE Standards, P Mar 56 Two-Cavity Finite Beam, Ballistic Analysis of: Webber SE, T-ED Apr 58

Wide-Band Frequency Modulation of: Jones GR, P Oct 56

Between Semiconductors Having Different Energy Gaps: Armstrong HL, P Jun 58 Structures by Solid-State Diffusion, Formation of: Smits FM, P Jun 58 Symmetrical, Equivalent Circuits for: Kahn WK, T-CT Jun 56 Transient Response of: Gossick BR, P Feb 56 Transistors: See Transistors, Junction Two-Port, Variant In Measurement: Deschamp GA, T-MTT Oct 56 Wavegulde Hybrid, Recent Advances in: Loth PA, T-MTT Oct 56 KDKA, Field Experience With Kahn Compatible Single-Sideband System Installed at: Harmon RN, WCR pt7 58 Keep-Alive Design of TR Tubes: Gould L, P Apr 57; Walsh D, P Jun 58 Keep-Alive Instabilitles In TR Switch: Bridges TJ, P Apr 56 Kerr Cell Camera Shutter, MillImlcrosecond: Zarem AM, WCR pt5 58 Keyed Carriers , Reduction of Sideband Interference: Watt AD , T-CS Oct 56 Keyer PDM, Transistorized: Williams DA, WCR pt5 57 Keyers, Pulse Width, Transistorized: Riedel JA, T-TRC Apr 57 Kicksorter, Magnetic Core Type, Transistor Circults in: Goulding FS, NCR pt9 56 Kinescopes: Beam Convergence: Schwartz JW, T-ED Oct 58 Color Focusing Grill: Ramberg EG, NCR pt3 56 Improvements In: Janes RB, NCR pt3 56; Cifuentes MG, P Mar 54 Gun Annular Geometry: Schwartz JW, NCR pt3 58, P Nov 58 Post Deflection Focus: Carpenter CP, T-ED Oct 55 Kinetic Power Theorem for Parametric, Longitudinal, Electron-Beam Ampliflers: Haus HA, T-ED Oct 58 Kinetics Problems Programmed for Electronic Computers: Wheeler RCH, T-IE Mar 56 Kirchhoff's Original Paper on Network Topology: Kirchhoff G, T-CT Mar 58 Kirchoff's "Third and Fourth Laws": Weinberg L, T-CT Mar 58 Klystrons: Ampliflers: Inherent Noise In: Rockwell RG, WCR pt3 58 Lightweight Kilowatt , for Aerial Navigation Systems: Rockwell RG , WCR pt3 58 Parameter Measurements: Veronda CM, T-ED Aug 54 Power: Hiestand NP, NCR pt3 55
Power, 8-MM: Bridges TJ, P Feb 58
Power , Reliability in Scatter Communication
Systems: Lazzarini RF, NCR pt6 58
Power, for UHF Transmission: Speaks FA,
T-CS Mar 56 Pulse, Grid Controlled: Swearingen JD, WCR pt3 57 Reflex Type Using Hybrid T: Ishil K, P May 57 Scatter Communications: Moreno T , T-CS Mar 56 Wide Band: Beaver WL , WCR pt3 57 Wide Band UHF 10 KW: Goldman H , NCR pt3 58 Cavities, Frequency Setting of: Robinson LC, T-ED Jul 58 Cavities, Resonant, General Treatment of: Fujisawa K, T-MTT Oct 58 Cavities, Shunt Impedance: Ginzton EL, T-MTT Oct 55 Design Considerations: Olthlus RW, T-CS Jul 54, T-MTT Apr 54 Effect of Initial Velocity Spread on: Harris LA, T-ED Jul 58 Generation of Shaped Pulses Using: Preist DH, NCR pt3 58 Improving Power Output: Jasberg JH, P May 54 Low Power Reflex, Pulsing Techniques: Davis JI, T-MTT Jan 56 Magnetic Tuning: Cacheris JC, P Aug 55 Magnetic Tuning of Resonant Cavities: Jones GR, P Oct 56 Multicavity, Effect of Beam Coupling Coefficient on Operation: Yadavalli SV, P Dec 58 Multicavity, Large Signal Analysis of: Webber SE, T-ED Oct 58 Multicavity, Potential Analog Applied to Design and Operations: Yadavallı SV, P Sep 57 Multipactor Effect: Bol K, NCR pt3 54 Noise: Strum PD, T-MTT Jan 55 Oscillator: Hysteresis in: Moreno T, P Mar 55 Low-Noise: LaPlante RA, T-ED Dec 54
Phase Stabilization: Davis EF, WCR ptl 57
Power, 8 MM: Bell RL, P Sep 56
Potential Distribution at Anode Aperture: Brown KL,
P Mar 54 Power, Amplitude Modulation: Badger GMW, NCR pt3 57 Rapid-Interchange for Transmitter Tuning: Harris LA, NCR pt3 56 Reflex, Frequency Stabilization: Magid M, NCR ptl 57 Reflex, as a Negative Resistance Amplifier: Quate CF, T-ED Jul 58 Reflex, Performance of: Zito G, P Jun 55 Space Charge Effect on Beam Loading: Miliran TG, P May 54

Space-Charge Effects: Waters WE, T-ED Jan 57

Knife Edge Diffraction In the Shadow Region: Anderson LJ, T-AP Jul 58 Kompfner Dip Condition and Backward Wave Oscillation: Gould RW, T-ED Oct 55 Kros-Term System for Retrieval of the Technical Information, Use of: Vigliotta AP, NCR pt8 58 The College: Hunter TA, T-E Jun 58
Courses in Electrical Circuits and Electronics,
Teaching Aids for: Rummer D, T-E Jun 58 Executives, Selection: Tallman OG, T-EM Nov 54 Industrial Standards, Organization of: Whitaker JN, T-I Dec 58 Poems: Pierce JR, SQ Dec 57 Standards, Evolution of: White CE, T-I Dec 58 Ladder Networks: See Networks, Ladder Lagrangian Formulation, Codification of: Blackwell WA, P Jul 58 Laguerre Polynomials in Expansion of a Function: Weiss GH, T-CT Sep 55 Laminate Materials, Attenuation and Phase Velocity Meas-urements at L-Band: Ringenbach ME, T-MTT Mar 55 Laminated Conductor: Ataka H, P Oct 54 Laminates, Cupric Oxidized Foil for: McGinnis LW, NCR pt6 56 Land Mobile Communications, Qualitative Performance Evaluation of Systems: Neubauer JR, WCR pt8 57 Land Mobile Services, Comparison of Split Channel FM and Single Sideband; Macdonald AA, T-VC Dec 56 Landing System and Approach: Cutler B, WCR pt5 58 Languages: Automatic Translator, Mark 1, USAF: Shiner G, NCR pt4 58 Descriptive Models: Chomsky AN, T-IT Sep 56
Foreign, and The Ph.D. Degree: King R, T-E Dec 58
Gap Analysis and Syntax: Yngv VH, T-IT Sep 56 Relative Efficiency of English and German, for Com-munication of Semantic Content: Lowenschuss 0, munication of T-IT Sep 58 in Scientific Education, The Place of: Ware LA, T-E Sep 58 Statistical Calculation of Word Entroples: Barnard GA, T-IT Mar 55 Statistical Study of: Mandelbrot B, T-IT Mar 54 aplace Transform Variable, Separability of: Chang SSL, NCR pt2 55 Laplace Transforms, Series Expansion Method for Finding: Lucke WH, P Nov 58 Lapping and Diffusion Techniques, Preparation of Semi-conductor Devices by: Nelson H, P Jun 58 Large-Signal Analysis of the Multicavity Klystron: Webber SE , T-ED Oct 58 Large-Signal Rise-Times In Junction Transistors: Gartner WW, T-ED Oct 58 Lateral Separation in Air Traffic Control: Welhe VI, NCR pt8 57 Launching Efficiency of Wires and Slots for Dielectric Rod Waveguide: DuHamel RH, T-MTT Jul 58 LD Radio System: Schlaack NF, T-CS Jan 54 Leak Detector, Helium, Ultrasensitive: Lineweaver JL, T-ED Jan 5B Leakage Flux Around a TWT Focusing Magnet: Glass MS, P Oct 58 Leakage Resistance of Capacitors: Tucker RW, T-CP Apr 55 Leaky Modes, Field Representations in Terms of: Marcuvitz N, T-AP Jul 56 Learning and Random Duration, Communications Processes Involving: Bellman R, NCR pt4 58 Learning, Systemic: McPherson RR, P Aug 56 Learning and Teaching Processes in Electrical Engineering Education: Angelo EJ, T-E Sep 58 Least Squares Filters, Fixed Memory, Using Recursion Methods: Blum M, T-IT Seo 57 Least Squares Method System Design: Aaron MR, T-CT Dec 56Lenses. Annular Aperture, Electron Optical Action of: Harris LA, P Sep 58 Aperture, Formula Corrected for Space Charge: Birdsall CK, T-ED Apr 57 Dielectric Bifocal: Brown RM, NCR pt1 56 Dielectric, Matched, Performance of: Jones EMT, T-AP Jan 56 Electron, on Beam Noise, Effect of: Knechtli RC, T-ED Aor 58 Electrostatic , Investigation of Stray Field Effects: Azud R , T-ED Ju! 55 Ferrite, Electronic Scan Using: Medred DB, T-MTT Jan 58 Impossible of Modification: Kay AF, T-AP Jan 57 Microwave Stepped-Index: Peeler GDM, T-AP Apr 58 Scanning System: Hollis JS, T-AP Jan 57 Spherical, Radiation Characteristics: Braun EH, T-AP Apr 56 Spherical, with Simple Feeds, Radiation Patterns of: Webster RE, T-AP Jul 58 Theory and Design of: Huynen JR, WCR pt1 58 Virtual Source: Peeler GDM, T-AP Jul 54

Microwave: Array of Parallel Metallic Plates of Finite Thick-ness for: Primich RI, T-MTT Jul 56 Circularly Symmetric, Aberations in: Bachynski MP, T-AP Jul 56 High Efficiency: Smedes RL, NCR ptl 56
Matching by Simulated Transformers: Morita T,
T-AP Jan 56 Metal-Plate , Reducing Chromatic Aberration in: Proctor EK , T-AP Jul 58 Phase and Amplitude Near-Field Measurements: Morrow CW, NCR pt1 58 Symmetrical: Goatley C, NCR pt1 55 Scanning: noning: Aplanatic Microwave: Cloutier GG , T-AP Oct 57 Dielectric Microwave: Holt FS , T-AP Jan 57 Lunebzrg: Hollis JS , T-AP Jan 57 Mean-Square Phase Errors Minimized: Proctor EK , T-AP Oct 57 Slit, Effect of Beam Position on Deflection in: Harris LA, P Mar 58 Surface Matching: Jones EMT, NCR pt1 54 Letter Symbols and Mathematical Signs, Standards on: IRE Standards, P Aug 57 IRE Standards, P Aug 57

Lewis AcId-Base Theory In Prediction of Semiconductor Surface Response to Ambients: Peattle CG, P Sep 57

Liaison Relations in Research and Development: Rubenstein AH, T-EM Jun 57

Library Indexing: Mooers CN, T-IT Sep 54

Library of Bilip Samples for Simulation of Automatic Radar Data Processing: Walter CM, WCR pt4 58

Licensing of Communications: White EL, T-VC Jun 55

Liebmann, Morrls N. Biography of: Simon EJ, P Apr 57

Life Testing of Components in Rockets and Missiles by Statistical Design: Lloyd DK, T-RQC Dec 58

Light Amplification: Pashler PE, T-BTR Jul 55

Light Pipers, Transmission Characteristics: Harris CC, T-NS Nov 56

Light, Speed of: Smith-Rose RL, SQ Sep 58 Light, Speed of: Smlth-Rose RL, SQ Sep 58
Light, Velocity and Universal Standard of Time: Gerharz R,
P Nov 57 Lighting Devices: Automatic Detection of "Green Rot" in Shell Eggs: Norris KH, T-IE Mar 55 Electronically Produced and Controlled: Edgerton HE, T-IE Mar 55 Lightning: Causes of: Gunn R, P Oct 57
Enhancement of VHF Tropospheric Scatter Signal:
Graf CR, P May 58 Impulses which Produce Whistlers: Helliwell RA, P Oct 58 Protection of Aircraft Antenna System: Huber RF, T-ANE Sep 55 Protectors, Silicon: Pearson GL, P Apr 54 UHF Forward Scatter from: Bauer LH, P Dec 57 UHF Forward Scatter from: Bauer LH, P Dec 57
VLF Radiation from: Hill EL, P Jun 57
Limiter, Video Modulation: Sadler LS, NCR ot7 58
Limiters, Band-Pass, Loss of Signal Detectability In:
Manasse R, T-IT Mar 58; Blachman NM, T-IT Dec 58
Limiters, Travelling-Wave Tube: Fank FB, T-ED Apr 57
Limiting Effects on Signal Content: Young GO, NCR pt4 54
Line-of-Sight Systems, Interference Relative to Over-TheHorizon UHF Systems: Ringeon RM, NCR pt8 56,
T-CS Mar 56 I-CS Mar 56

Line Sources:
Antenna, Maximum Gain of: Solymar L, T-AP Jul 58
Antennas for Narrow Beamwidth and Low Side Lobes:
Taylor TT, T-AP Jan 55
Corrective, for Paraboloids: Sletten CJ, T-AP Jul 58
Radiation Patterns: Yen JL, T-AP Jan 57
with Variable Polarization: Hines JN, T-AP Jan 58
Linear Beam Tube Theory: Wang CC, T-ED Jan 57
Linear Programming and Optimal Telecommunication Networks:
Kalaba RE, P Doc 56 Linear-System Analysis: Boxer R, P Apr 55, Rosenbloom A, NCR pt4 55; Ragazzini, NCR pt2 54, P Nov 43 Linear Systems, Time-Varying, Optimization of: Shinbrot M, T-IT Dec 57 Linearity Testing Techniques for Single-Sideband Equipment: Icenbice PJ Jr, P Dec 56 Liquid Cooling of Airborne Equipment: Robinson W, T-ANE Mar 58 Liquid Level Maasurement, Electronic Techniques in: Greenwood TL, T-I M r 58 Liquid Level Sensor, Ultrasonic: Rod RL, NCR p:9 57 Liquid-Level Switch Using Radioactive Source: Wheeler RW, T-I Jun 57 Liquid Scintillation Counters, Applications of: Hayes FN, T-NS Dec 5B Liquids , Propagation of Ultrasonic Waves in: Krassilnikov VA , WCR pt10 57 Liquids , Ultrasonic Output Power Measurements in: Henry GE , T-UE Dec 57 List Decoding for Noisy Channels: Elias P., WCR pt2 57 Listener Texts of Audio Systems:

Home: Stewart RD, T-AU Mar-Anr 57

Intermodulation Distortion Ratings and Harmonics:

Powell T, T-AU Jul-Au; 57 Literature Abstracts , Automatic Creation of: Luhn HP , NCR oil 10.58Llewellyn Equations, Equivalence with Space Charge Wave Equations: Birduall CK, T-ED Apr 56 Lond Capacity Analysis, Analog Computer for: Gravel JPJ, T-IE Mar 5.7

Load Isolators , High Power Ferrite: Clavin A , T-MTT Oct 55 Local Oscillator Radiatron from TV and FM Sets: Peterson WG , T-BTR Mar 58 Logarithmic Amplifiers, Simplifications Sunstein DE, P Mar 55 Logarithmic Attenuator: Borgs GE, P Apr 54 Logarithmic Attenuators Using Silicon Diodes: Sylvan TP, T-CT Mar 56 Logarithmic Detectors , Radar Detection Probability with: Green BA , T-IT Mar 58 Logarithmic Receiver: Chambers TH , P Aug 54 Logarithmic Receiver, High Accuracy, Improvements in: Stevens RT, P Dec 57 Logarithmic Sweep, A Multidecade: Archbald RW, T-1 Jun 50 Logarithmic Units, New System: Hartley RVL, P Jan 55; Moore JB, P May 55 Logarithms , Napierian: Corrington MS , P Sep 57 Logging, Radioactivity, of Oil Wells: Williams CE, WCR pt5 57 Logic: Maron ME, T-EC Jim 54 Logic Function, Algorithm for: Harris B, T-EC Jun 57
Logic Function, Algorithm for: Harris B, T-EC Jun 57
Logic and illogic In Engineering and Management:
Stanly AL, T-EM Dec 58
Logic, Magnetic Core, Application to Industrial Controls:
Tellefsen H, NCR pt6 58 Logic by Ordered Flux Changes in Multipath Ferrite Cores: Lockhart NF, NCR pt4 58 Logic Theory Machine: Newell A, T-IT Sep 56 Logical Design, Analysis of Filp-Flop operation: Arant GW, T-EC Jun 57 Logical Design Using the Stroke Function: Grisamore NT , $^{\rm TT-EC}$ Jun 58Logical Detecting in Cathode-Ray Coding Tubes: Lippel B, T-I Mar 58 Logical Machine Design Bibliography: Netherwood DB, T-EC Jun 58 Logical Nets, Symbolic Methods in Design: Patterson GW, NCR pt4 54 Logical Techniques for Sequential Control of Chemical Batch Processes: Laird JP, T-IE Aug 58 Logically Micro-Programmed Computers: Blankenbaker JV , T-EC Jun 58 London Symposium on Information Theory: Blachman NM , T-IT Mar $56\,$ Long Line Effect, Pulsed Magnetrons: Pritchard WL, T-MTT Apr 56 Long-Range Communications System, Single Sideband: Morrow WE, P Dec 56 Long-Range Radar Displays, RTCA Study: Sherer LM, T-ANE Jun 55 Longitude Determination by Time Signals: Ward WH, P Aug 56 Longitudinal Propagation, Astronomical Observations, Effects on: Rush S, P Jan 58 Observance of Unusual Signals: Coughlin F, T-ANE Jun 57 Receiver, Airhorne: Freas RR, T-ANE Mar 54 Signals, Unusual: Davidson D, T-ANE Jun 58 Technical Advances and Future Development: Duicar FB, T-CS Mar 55 Los Alamos Nonreactor Electronics: Bell PR, NCR pt9 54 Los Angeles Student Day: Schwartz H, SQ May 56 Loudness Contours, New Determination of: Robinson DW, T-AU Jan-Feb 58 Loudspeakers: Accessory for Reverberance: Martin DW, T-AU May-Jun 54 Design: Oesian:
and Applications: McLean A, T-AU Mar-Apr 57
and Operation: Chemo' J, T-AU Sep-Oct 57
Efficiency and Power Rating: Benson RW,
T-AU Jan-Feb 56; MacPherson Ch,
T-AU Jul-Aug 56 Enclosures, Coffin: Breyfonle LD, SQ May 56 Enclosures, Distributed Port Performance: Petric AF, IJCR pt7 56 Electrostatic, Evaluation of: Larson RJ, T-AU Mar-Apr 56 High-Fidelity: Olson HF, NCR pt6 54 High-Frequency Electrostatic: Bobb L, NCR pt7 55 Installation for High-Fidelity Reproduction in the Home: Bleeksma GJ, T-AU Sep-Oct 57 Measurements, Procedures for: Chavasse P, T-AU May-Jun 58 and Microthones: Beranck LL, T-AU Jan-Feb 55 and Negative Impedance: Werner RE, T-AU Jul-Aug 58 Stereo Reverberation: Vermeulen R, T-AU Jul-Aug 56 Terminated Horn Euclosures: Glenn WE, T-AU Nov-Dec 56 Two-Way, Time and Space Phasing: Hilliard JK, WCR pt7 57 Wide Angle: Miessner BF, T-AU Jan-Feb 58 Wide Angle, of New Type: Pockman L, WCR pt 7 57 Low-Pass, Symmetric, Lossless Filters and Flatness: Stewart JL, T-CT Jun 58 Low-Temperature Electronics: Swenson CA, P Feb 54; Strug-PD, P Feb 55 LRC Series Circuit, Nonlinear, Use of Impedance Concepts: Thomsen JS, T-CT Sep 55

Luminance Signal Levels, Measurement of: IRE Standards, P Feb 58

Cathodo-: Gartick GFJ, P Dec 55 Electro-: Destrian G, P Dec 55

Luminescence:

Recent Advances: Ivey HF, T-CP Dec 57 Lunar Radio Echoes: Trexler JH, P Jan 58 Lunar Thermal Radiation at 35 KMC: Gibson JE, P Jan 58 -- M-Machine Control, Automatic, Gages and Gaging Considera-tions for: Hopper JW, T-IE Aug 58 Machine Control, Transducers for: Snell JK, T-IE May 58 Machine, Inductosyn to Control, Uses and Applications of the: Winget JL , T-IE May 58 Machine Tools: Control: Codes: Bosman EH, T-PT Apr 57
Digital Information Processing for: Susskind AK,
NCR pt4 57, T-EC Jun 58
Standardization in: Bosman EH, T-IE Mar 57 Data Preparation for Numerical Control of: Huskey HD, WCR pt4 58 WCR pt4 58
and Missiles, Nonlinearities In: Bower JL, T-AC Jul 58
Numerical Control of: Kelling LUC, T-IE Mar 55
Ultrasonic: Clark N, T-UE Nov 54
Machine Translation: Taube M, P Jul 57
Machines, Higli Speed, Transmission of Signal Data From:
Shepard ES, T-IE May 58
Machines, Sequential, Analysis of: Gillespie RG,
T-EC Jun 58; Aufenkamp DD, T-EC Dec 58,
T-EC Dec 57 Machining, Mechanical Impedance Transformers for: Balamuth L, T-UE No. 54 Machining of Tungsten Carbide: Goetze D, T-UE Nov 54 Macromolecules and Viruses Studied with the Electron Microscope and Ultracentrifuge: Wyckoff RWG, T-ME Oct 56 Magic-Tee Phase Changer, Errors in: Valllancourt RM, T-MTT Jul 57 Magnacard: Magnetic Recording Studies: Burklg J, WCR pt4 57 Mechanical Handling Techniques: Nelson AM, WCR pt4 57 New Concept In Data Handling: Hayes RM, WCR pt4 57 Magnet, TWT Focusing, Leakage Flux Around: Glass MS, P Oct 58 Magnetic Amplifiers: See Amplifiers Magnetic.
Magnetic Commutator, Low Level: Kalbfell DC, WCR pt5 57
Magnetic Component Encapsulation for Military Airborne
Application: Lucic A, NCR pt6 56

**Location Control Magnetic Method: Talony TE Magnetic Constant, Optical Measuring Method: Talpey TE, T-MTT Sep 54 Magnetic Cores: Blinary Counter, Transistor: Irons HR, P Dec 58
Circuits: Guterman S, NCR pt4 54
for Counter: Bacon JR, WCR pt4 57
Delay Cables: Stein DR, NCR pt3 54
In Digital Data-Processing Systems: Loev D, P Feb 56 In Diodeless Logical Circuits: Russell LA, NCR pt4 57 Kicksorter, Transistor Circuits In: Goulding FS, NCR pt9 56 Logic , Application to Industrial Controls: Tellefsen H , NCR pt6 58 For Logical and Control Functions: Guterman S P Mar 55 Materials for Computers: Van Sant OJ Jr, NCR pt4 54 Matrix Switch, High Speed: Lane AL, NCR pt4 58 Memory Circuits in 16 Channel Multiplex System: Myrick JC, NCR pt8 56 Memory, Repetitive Use of Information: Kraemer GT, SQ Sep 54 SQ Sep 54
Memories, Transistor Driven: Younker EL, T-EC Mar 57
Memories Transistorized: McMahon RE, T-I Jun 57
Oscillators, Transistor, High-Speed, Two-Winding:
Meyerhoff AJ, T-CT Sep 57
Parallel Adder: Chen MC, T-EC Dec 58
Pulse Switching Circuits: Rosenfeld JL, T-EC Sep 58;
Karnaugh M, P May 55 Read-out: Papoulls A, P Aug 54
Selection Systems: Guterman S, NCR pt4 54
Sendust Flake: Hubbard WM, T-CP Mar 57
Storage Pulse-Height Analyzer: Bylngton PW,
NCR pt10 55 Subcarrier Discriminator: Barnes GH, WCR pt5 57 T-TRC Apr 57 T-TRC Apr 57
Telemetering Oscillator: Meyerhoff AJ, WCR pt5 57
Terminal Properties of: Chen TC, P May 58
Transfl.xxx: Rajchman JA, P Mar 56
Magnatic Devices, Manipulating Digital Information by:
Rajchman JA, T-CT Sep 57 Magnetic Disk Memory System: Farrand WA, WCR pt4 57 Magnetic Drum: Application of Analog Techniques: Douce JL, T-I Jun 56 Extension to Gamma 3 Computer: Dreyfus PL, NCR pt4 56 Memory: Porter VJ, NCR pt4 56
Sorting System: Cox 8, NCR pt4 56
Magnetic Effects in Semiconductors, Future Circuit Aspects:
Herold EW, P Nov 57
Magnetic and Electric Sources, Equivalence of: Mayes
PE, T-AP J | 158 Magnetic Equator, New Type of Fading Observable on Paths Crossing the: Yeh KC, P Dec 58 in Ferrite Bodies: Currie MR . P Nov 55 Microwave, in Cosxial Line: Duncan BJ, P Feb 58
Relation to Fusion Reactors, Production of Intense:
Levine M, NCR pt9 58
Strength, Effect on Space-Charge-Wave Propagation:
Brewer GR, P Jul 56

in Wafer-Type Solenoids: Gutman AS, P Jan 57 Magnetic Focusing Fields on Backward Wave Oscillator Starting Conditions, Influence of: Kosmahl HG, T-ED Oct 58 Magnetic Focusing Structures, Periodic, Design of: Sterrett JE, T-ED Jan 58 Magnetic Grid Control of Thyratrons: Burnett JH, NCR pt9 55, P Apr 56 Magnetic Heads, Flux Responsive, for Low Speed Read-Out: Ferber LW, NCR pt4 58 Magnetic Ink , Character Printed in , Synthesis of Waveform Generated by a: Flores I , T-EC Dcc 58 Magnetic Materials, Domain Wall Viscosity in Data-Handling Devices: Newhouse VL, P Nov 57 Magnetic Materials, Permeability and Q Measurements at 50-500 MC: Bady I, NCR pt5 57 Magnetic Materials, Square Loop, Survey of: Legg VE, T-CP Dec 57 Magnetic Measurements , Feedback Amplifier with Negative Output Resistance for: Harris WP , NCR pt5 58 Magnetic Moments of Nuclei , Presession of: Allen TL , WCR pt9 57 WCK RP9 57
Magnetic Permeability Measurements, High-Frequency,
Using Toroidal Coils: Harrington RD, P Apr 58
Magnetic Pickup Amplifiers with Piezoelectric Pickups:
Bauer BB, T -AU May-Jun 55
Magnetic Radio Compass Antenna, Elimination of Drag:
Hemphill AA, T-ANE Dec 55
Magnetic Reading and Recording Head: Brower DF,
NCR pt4 55 Magnetic Recordings: See Recordings, Magnetic Magnetic Resonance in Ferrites: Bloembergen N, P Oct 56 Magnetic Selection System for Memory Units: Sepahban AH, NCR pt4 55 Magnetic Shift Registers, Diodeless, Utilizing Transfluxors: Prywes NS, T-EC Dec 58 Magnetic Tape Equipment for Telemetry: Rawlins RE, NCR pt5 54 Magnetic Tape Recordings: Accelerometer, Subminiature, Self-Recording, for High Shock Duty: Erichsen HW, T-I Sep 5 7 Applications: Camras M, NCR pt 7 55 T-AU Dec 55 Automatic for Aeronautical Research: Sharp EM, T-I Sep 57Cathode Ray Oscilloscope for Monitoring of: Smith FC, T-I Jun 56 Color TV Recordings: Olson HF , NCR pt7 54 , NCR pt7 56; Mullin JT , NCR pt7 54; Grever JL , NCR pt7 58 Audio System: Woodward JG, NCR pt7 56
Electronic System: Houghton WD, NCR pt7 56
Magnetic Head: Zenel JA, NCR pt7 56
Transport Mechanism: Morgan AR, NCR pt7 56
Compound Modulation: Newhouse GB, NCR pt10 55
Data Storage Considerations: Gangnes AV, NCR pt5 56
for Electrocardiography: Webb GN, NCR pt4 57
Equipment for 200 cps to 5 mc: Constock CC, NCR pt10 55 Flight Test Data for Digital Computer: Dannals GC, NCR pt5 57 PM, WOW and Flutter Compensation Techniques Applied: Peshel RL, NCR pt7 57 Future of: Boyers JS, NCR pt7 55 High Fidelity: Moyer RC, T-AU Jan-Feb 55 High Speed Dunilcation of: Leslie JM, T-BTS Mar 56, T-AU Jan-Feb 57 Instrumentation-Type, Techniques in Evaluating: Moore TO, T-I Mar 58 Mechanical Components for Handling: Bixler OC, T-AU Jan-Feb 54 Modulation Noise in: Price RL . T-AU Mar-Anr 58 Multi Channel Transducer: Johnson HA , NCR pt7 57 Navy Standard: Comerci FA , T-AU Sep-Oct 54 Perforator , Soroban High Speed Model GP-100: Bellinger J , NCR pt5 57 Performance Measurement: Hull JB, NCR pt7 56 Pickup Head with Crossed Cores: Camras M, T-AU Nov-Dec 57 Portable Recorder for Precision Data: Maxwell GD, NCR pt10 55 Precise High-Speed Data: Stanley CB, NCR pt10 55 Quantitative Evaluation of System Performance: Stanley CB, NCR pt7 57 Recorder Design: Selsted WT, NCR pt7 55 Recorder/Reproducer for Telemetry: Hadady RE, T-TRC Apr 57 for Repetitive Examination of Translent Phenomena: Dorsett JW, NCR pt5 56 Reverbetron: Goldmark PC, NCR pt7 57 Tape Characteristics: Radocy F, NCR pt7 55
Tape Life: Latham WS, NCR pt7 55
Tape Transport Mechanisms: Schoebel KW, NCR pt7 57 RCA High Performance Equipment: Baybicks S. Television, Packing Density of Information: Selsted WT, NCR pt7 57 Video Signals: Snyder RH, T-BTS Feb 57 Channel Response Regulrements: Walker BG, NCR pt7 55 Ferrite Heads: Chymoweth WR, NCR pt7 55 Synchronizing Multiplex Systems: Maxwell DE, NCR pt7 55

Magnetic Thermocouple Amplifier, Obtaining Optimum Performance from: Nesbitt WE, T-IE May 58 Magnetic Tluckness Gage for Rubber and Plastic Applications: Dexter AM, T-IE Mar 55 Dexter AM, T-IE Mar 55
Magnetic Tuning of Resonant Cavitles: Jones GR, P Oct 56
Magnetic Yokes Using Rotating Probes, Analysis and Snythesis of: Vasilevskis HS, T-BTR Mar 58
Magnetics, Progress in 1953: Radio Progress, P Apr 54
Magnetography, Apolication to Graphic Recording:
Gehman JB, NCR pt5 58
Magnetography, Theory of: Begun SJ, NCR pt5 58 Magneto-Ionic Duct Propagation Using VLF Signals: Helliwell RA, P Apr 58 Magnetometer, Varian Free Precession: Allen TL, WCR pt9 57 Magnetoresistivity, Solid State Gaussistor Electronic Valve: Green M, T-ED Jul 56 Magnetostriction: Delay Lines: Analysis and Application: Thompson TB, T-UE Aug 56 for ATC Transponder Coding: Johnson VL, T-ANE Sep 56 High Performance: Epstein H, T-UE Aug 57 Pulse Transmission Along: Rothbart A, T-UE Dec 57 Transducer Networks of: Rosenberg L, NCR pt 2 58 for Video Singals: Cohn GI, T-CP Mar 58
Filters for MF Band: Adams RT, NCR pt9 57
Frequency-Control Units and Oscillator Circults:
Roberts EA, T-UE Aug 56
Resonators: Adams RT, NCR pt3 55 Transducers for Mechanical Filters: Sharma RL, NCR pt6 58 Magnetrons: Brazing Molybedenum and Tungsten Parts with Ruthenium: Jasionis JP, T-ED Jul 56 Ceramic-to-Metal Seal: Cronin LJ, NCR pt3 55 Ceramic-to-Metal Seat: Cronin LJ, NCR pt3 55
High-Power Pulsed: Okress EC, T-ED Apr 57
Mitron: Boyd JA, P Mar 55
Modes and Operating Voltages: Singh A, P Apr 55
Modulator: Parker TJ, NCR pt5 54
Noise Reduction: Krulee RL, P Jan 56
Pulsed, Long-Line Effect: Pritchard WL,
T-MTT Apr 56 1-MIT APT 30 Pulser Component Design: Gillette PR, T-CP Mar 56 Q-Band, Spurious Modulation in: Goss TM, P Oct 56 Radial Centering of Cathode: Becker GE, T-ED Apr 57 Rectification and Photoconduction Properties of Electron Barrier Layers: Ortusi JA, T-AP Jul 56 Research at Columbia: Bernstein MJ, T-MTT Sep 54 Standards on Terms: IRE Standards, P Mar 56 Tunable CW, in K-Band Region: Fraenkel Z, T-ED Jul 57 Tuning Using a Ferrite Reciprocal Phase Shifter: Bush D , P Nov 58 Very Long Pulses: Nowogrodski M, NCR pt3 55 Voltage Tunable: Boyd JA, NCR pt3 54 Voltage-Tunable, RF Circuits for: Gemulia WJ, WCR pt1 58 Magnets in Audio Devices: Parker RJ, T-AU Jan-Feb 58 Magnets, Permanent, in Audio Devices: Parker RJ, T-CP Mar 58 Mailing Handling System, Electronic, Coding Problems of: Levy M, NCR pt6 57 Maintenance of Airborne Radio Equipment: Bushby TRW, T-ANE Sep 54 Maintenance Effect on Reliability: Amold JB, NCR pt3 54 Maintenance, Preventive Program for Large General Purpose Analog Computers: Sykes RP, NCR pt4 58 Analog Computers: Sykes RP, NCR pt4 58
Man, Controls, and Instruments, Communication Problems
Between: Ziebolz HB, T-IE Apr 58
Man, Radar Cross Section of: Schultz FV, P Feb 58
Man in the Space Environment: Simons DG, NCR pt5 58
Man-Instrument Relationships in Design of Nuclear Instrumentation: Coe GJ, T-I Jun 57
Man-Machine Control Systems: Hoberman M, P May 55;
Bimlingham HP, P Dec 54, WCR pt4 58 Man-Machine Systems, General Design Consideration for: Groce JC, T-I Mar 58 Man-Machine Systems, Sibyl, A Laboratory for Simulation Studies of: Irvin HD, WCR pt4 58 Man-Machine Systems, Synthesis of a Linear Quasi Transfer Function for the Operator in: Jackson AS, WCR pt4 58 Manpower, Scientiffe: Meyerhoff HA, NCR p110 58
Manpower, Technical, Industrial Electronics Help to Conserve:
Bridges JM, NCR pt6 58
Management: (See also Engineering Management) nagement: Usee and Engineering Management)
of applied Research Projects: lams H, T-EM Mar 55
of Basic Research: Linville TM, NCR pt6 55
Business Computer Installation: Brooks FP,
T-EM Jul 56 Challenge of Rellability to: Wooldridge WW, T-RQC Sep 58 of Communication for Aircraft: Hallman LB, T-ANE Jun 57 of Communications in Industry: McKinley JC, T-VC Jun 55 Controls, Organizing for: Lewi JB, T-EM Jun 58 Engineering Costs Analysis: Blume BE, T-EM Mar 57 And Engineering, Logic and Illogic in: Stanly AL, T-EM Dec 58 Engineering Managerial Control: White ES, T-EM Jul 56 of Engineering Personnel: Zarem AM, T-EM Mar 55

Engineering, Problems of: Williamson MA, T-EM Sep 58 of Engineering In Small Company: Scott RM, NCR pt6 55 Rich Rich 39
Engineers In: Curtiss AN, T-EM Jun 57;
Richardson HL, T-EM Jun 57
Estimating Individual Engineering Potential:
Schooley AH, T-EM Apr 56
Evaluating Engineers and Scientists: Martin RA,
T-EM Jun 57, WCR pt10 57 Executive: Linville TM, T-EM Nov 54 Factors Affecting Productivity of Engineers: Batsel MC, T-EM Mar 57 Failure Reporting from Maintenance Personnel: Hadden FA, T-EM Jan 56 Freeing Engineers for Increased Creative Effort: Herwald SW, T-EM Mar 57 Human Relations In: Laport EA, T-EM Apr 56 of Large Research and Development Organizations: Hall NI, P Apr 57 Liaison Relations in Research and Development: Rubenstein AH, T-EM Jun 57 Maintaining Research and Development Personnel in Small Laboratory: Addison A , T-EM Jun 57 Market Develonment: Ehrenfried AD, T-EM Jan 56 of Military Development Programs to Conserve Engineer-ing Manpower: Bridges JM, T-EM Mar 57 Modern Concept of Electronic Packaging: Noble RP, T-IE Mar 57 More Engineering Per Dollar: Dempster 8, T-EM Mar 55 of a Navy R and D Activity: Spangler SB, T-EM Jim 58 Orientation of New Engineer: Fogel LJ, T-EM Jan 56 Operations Research: Prihar Z, T-EM Mar 57 Inventory Problem: Prihar Z, T-EM Mar 57 Personnel Selection and Training for: Baker WRG, T-EM Jun 57 Problems of: Fogel LJ, T-EM Jan 56 Production Engineering: Blahna C, T-EM Apr 56 Project and Group Theories of Organization: Horne CF, T-EM Mar 55 Research and Development Stock room: Rosen L, T-EM Apr 56 Science of, In Research: Stephens FN, T-EM Jun 57 Selection: Johnson AP, NCR pt6 55; Flannigan JC, NCR pt6 55; Vernon LN, NCR pt6 55; McFarlan RL, NCR pt6 55; Wooldridge DE, NCR pt6 55 Selection of Personnel for Small Laboratory: Addison A, T-EM Jun 57 Shortage of Engineers: Wessels PS, T-EM Apr 56 Small Engineering Company Organization: Jarmie TW, T-EM Jan 56 Supervision Criterion: Fogel LJ, T-EM Jan 56 Technical, of Missile Systems: Harriman TJ, T-EM Dec 58 View of TV Transmitter Operational Practices: Harmon RN, T-BTS Dec 57 Viewed by an Engineer: Johnson RW, T-EM Jul 56 in Weapons Development: Metcalf GF, T-EM Jun 57 of Weapons System Projects: Strickroth GJ, T-EM Mar 57 Manufacturing Component Parts for Automation, Problems in: Postle AH, T-PT Apr 58 Manufacturing Scheduling, Analog Computer for: Gravel JPJ, T-IE Mar 57 Map, Ground Conductivity in U.S.: Fine H, P Sep 54 Mapping, Frequency Contour, System Study Through: Fisher JH, T-I Mar 58 Marconi's Last Paper on Microwave Propagation: Carroll TJ, P Aug 56 Marginal Checking: Taylor NH, P Jun 57
Marginal Checking and Maintenance Programming in Computing
System for Air Defense: Astrahan MM, T-EC Dec 56 Marine Communications, Global: Webster EM, T-CS Nov 54 Marine Electronics: Future of: Millar JZ, T-CS Mar 55 Loran: Duncan FB, T-CS Mar 55 in New England Fishing Industry: Rosen L, T-CS Mar 55 Ocean Station Vessel Program: Richards WR, T-CS Mar 55 Plotting: Cole RI, T-CS Mar 55 Radar: See Radar, Marine. Radio Interference Suppression: Smith WC, T-CS Mar 55 Ship identification: Barnette LAM, T-CS Mar 55 and Ship Radio Operator: Woodworth FB, T-CS Mar 55 Shipboard Antenna Systems: Andrews AW, T-CS Mar 55 Single Sideband Transmission: Pappenfus EW, T-CS Mar 55 Telephone Service to Fishing Fleet: Mead FM, T-CS Mar 55 Transmitter Space Diversity: Hansell GE, T-CS Mar 55
U. S. Coast Guard Automatic Direction Finder:
Blakely JR, T-CS Mar 55
Marker Boacon Receiver, Transistorized: Erdmann RG,
T-ANE Sep 57 Market Development: Ehrenfried AD, T-EM Jan 56 Marketing, Examination of Procedures: Trinkaus JW, SQ Dec 58 Markov Envelope Process: Pierce JN, T-1T Dec 58 Markov Process Representation of Radar Data: Sponsler GC , T-IT Mar 57 Markov Processes, Systems Analysis: Sittler RW, T-CT Dec 56

Animonia, as an Atomic Frequency and Time Standard: Mockler RC, T-1 Dec 58 Amplifiers: Basic Power Relations: Salzbero B. P Nov 57 Future Circuit Aspects: Herold EW. P Nov 57 Gran Bandwidth and Noise: Sienman AE. P.Dec 57 for Iris Cavities: Stitch ML. WCR nt3 57 Maximum Efficiency of Heffiner H. P. Sep 57 Noise in: Gordon JP. P. Sep 58 Noise Figure of: Helmer JC., T-MTT Apr 58 Without Nonreciprocal Elements: Autler SH, P Nov 58 Circular Systems Design: Arams FR, P May 58 Superregenerative: Chester PF, P Sep 57 Two-Cavity Unilateral: Sher N, NCR pt1 58 Unilateral Solid-State, Slow-Wave Structures for. DeGrasse RW, WCR pt3 58 DeGrasse RW, WCR pt3 58
and Parametric Amplifiers: Heffner H, WCR pt3 58
Pulsed, Emissive Phase of: Theissing HH, NCR pt3 58
Solid-State, System-Noise Measurement of:
McWhorter AL, P May 58
Solid-State UHF: Kingston RH, P May 58
Systems, Solid-State: Autler SH, WCR pt3 58
Three-Level Solid-State: Scovil HED, T-MTT Jan 58
Masker for Color Television; Haines JH, NCR pt7 56
Matships Sympatrical, Bodd L, TAMT Aoc 57
Matships Sympatrical, Bodd L, TAMT Aoc 58 Matchino Symmetrical: Reed J, T-MTT Apr 57
Mathematical Curriculum for Electrical Engineers, On the Future: Pollak HO, NCR pt10 58 Mathematical Equation an Effective Communication Tool, Making the: Hollander M, WCR pt9 58 Mathematical Formulation of Generalized Logical Design Problem: Ellis D, WCR pt4 57 Mathematical Models for Determination of Efficient Trouble-shooting Routes: Hoelin AJ, T-RQC Jul 58 Mathematical Semantics: Sheingold DH, P Mar 55 Mathematical Signs and Letter Symbols, Standards on: IRE Standards, P Aug 57 Mathematical Studies in Electromagnetic Research, New York University Program: Kline M., T-AP Jul 56 of Information Theory: McMillan B , NCR pt4 55 and Microwaves: Schelkunoff SA , T-MTT Jul 57 Modern Approach Explained: Lieber LR , T-MIL Mar 57 Matrices:
A, Network Analysis by: Bashkow TR, T-CT Sep 57 Analysis of Oscillators and Transistor Applications:
Cote AJ Jr, T-CT Sep 58 Error and Computing, in Linear Differential Analyzers Nathan A, T-EC Mar 58 Method of Circuit Analysis: Pipes LA, T-CT Jun 55; Knausenberger GE, T-CT Jun 55; Percus JK, T-CT Jun 55; Shulke HA, T-CT Jun 55; Pantell RH, T-CT Jun 55; Cheng CC, T-CT Jun 55; Ho EC, T-CT Jun 55; Hohn FE, T-CT Jun 55; Reed MB, T-CT Jun 55; Armstrong HL, T-CT Jun 55 Method of Network Analysis: Circulators, Network Properties of: Treuhaft MA, T-CT Jun 56, P Oct 56 Elementary Applications: Belevitch V, T-CT Jun 56 Equivalent Circuits for Symmetrical Junctions: Kahn WK, T-CT Jun 56 Four-Pole Transformations: Belevitch V, T-CT Jun 56 Four-Terminal Network Representation: Armstrong HL, T-CT Jun 56 N-Ports Synthesis: Oono Y, T-CT Jun 56 of an RC Grounded Quadripole, Necessary Conditions on the: Slepian P, T-CT Jun 58

Representation of Linear 2-Port Networks: Bolinder EF, T-CT Dec 57 Representation of 2-Port Networks: Armstrong HL, T-CT Jun 58 Solution by Flow Graph Methods: Mason SJ, T-CT Sep 57 Square, Separation Transformation for: Meadows HE, T-CT Sep 57 Transformation: Young L, T-CT Jun 58
Treatment of an Electron Beam Problem: Armstrong HL, T-ED Oct 56 Vertex, and Cut-Set Schedule as Special Cases of General Matrix: Hatcher TR, T-CT Dec 58 Mean-Square Expressions in Discrete-Continuous Systems: Sklansky, T-AC Mar 58 Mean-Square Operations: Final Value Systems with Gaussian Inputs: Dooton RC, T-IT Sep 56 Ontinum Nonlinear Extraction and Coding Filters: Ealakushnan AV, T-IT Sep 56 Prediction Theory for Sampled Input Signals: Blum M, T-IT Sep 56 Measurements: Absolute Capacitance: McGregor MC, T-I Dec 58
Absorption of Millimeter Waves: Tolbert CW,
T-AP Apr 57 Acceleration: High-Frequency High-G: Feder EI, T-I Jun 57 Trends In: Orlacchio AW, T-I Jun 57 Acoustic, of Internodulation Distortion: Peterson A, NCR pt7 57 on Active Microwave Ferrite Devices: Poole KM, WCR pt3 57 Airbome, of VHF Reflections from Meteor Trails: Casey JP, P Dec 57

of Amplitude Linearity: Kramer SI P Aug 56

of Amplitude Response in Television: Doba S Jr; P Feb 57, Kramer S1, P Jul 57 Properties of Narrow Slots: Oliner AA, T-AP Jan 57 Angle and Distance, Application of Phase Measuring Techniques: Thompson WJ, T-I Mar 57 Slotted Line: Mittra R, NCR pt8 55 Industrial, with X Rays: Bigelov, JE, T-IE May 58 Insertion Loss: Sorger GU, T-I Oct 55 Instantaneous Frequency, with Microwave Interferometer: Raabe HP, P Jan 57 Antenna, By Sofar Noise: Aarons J, P May 54 Antenna Patterns: Shanklin JP, T-I Oct 55 Antenna-Scattering: Scharfman H, P May 54 of Atmospheric Noise: from 1-000 KC: Watt AD, P Jun 57 at VLF in Canada: McKerrow CA, P Jun 57 In Vivo Gamma, at Very Low Levels: Anderson EC, T-NS Nov 56 Literature of Instrumentation for Radiological Studies: Comstock M, T-NS Jun 56 Audio Impedance , Polar Impedance Evaluator: Berg MR , WCR pt7 57 Loop Antenna: Kennedy PA, T-AP Oct 56 Bolometers: Low-Level Power, Low-Temperature Bolometer Detectors for: Birx DL, T-I Dec 58 Thermal Time Constant of: Sorger GU, T-I Oct 55 of Magnetic Tape Recorder Performance: Hull JB, NCR pt7 56 under Pulsed Power Conditions: Sucher M , T-MTT Jul 55 Measurement Methods and Standards, Radio, Report on URSI Commission I: Weber E, P Jul 58 Bridge, Optimum Convergence Conditions by Phase-Selective Methods: White WE, T-I Sep 57 Microwave: Calibration of Ultrasonic Fields by Thermo-electric Probes: Dunn F, T-UE Aug 57 Frequencies by Lower Frequencies: Mackey RC, T-MTT Jan 57 Canacity Micrometers: Condit RE, T-IE Mar 56 Carrier Frequency of RF Pulses: Bagley A, T-I Oct 55 Neaffield: Richmond JH, T-MTT Apr 55 Noise, Using Ferrites: Mayer CH, T-MTT Jan 56 Nonreciprocal Four-Poles: Macpherson AC, P Aug 55 Peak Power: Henning RE, T-I Oct 55 of Cathode Interface Impedance: Shipley WU, NCR pt3 56 Power, Using Electron Beam Techniques: Power, Recent Developments in: Biggs HC, Cavity Q: Mullen EB, T-I Oct 55 Ceramic Properties: Mason WP, P Jun 54 to Classify Cytological Smears: Tolles WE, NCR pt9 56 T-I Dec 58 Propagation on Oversea Paths: Gudmandsen P, T-AP Jul 57 Color Television Receiver Performance: Ronzheimer SP, T-BTR Apr 56 Q, In the Presence of Coupling Losses: Glinzton EL, T-MTT Oct 58 Complex Impedance by Graphic Presentation: Hess RC, NCR pt 10 55 Report of Advances, 1954: King DD, T-MTT Apr 55 Component Reliability: Munson IK, T-RQC Aug 57 Report of Advances , 1955: Report , T-MTT Apr 56 Shunt Technique: Altschuler HM , T-MTT Jul 55 Standing Wave: Tischer FJ , NCR pt8 55 Composition Resistor Noise: Conrad GT Jr. and Control, Classification System for: Keller EA, T-IE May 58 CRO: Bonn TH, P Aug 56 CRT Beam Aperture: Quinlan EJ, T-BTR Jun 57 Standing-Wave Ratios: Macpherson AC, P Aug 56 Missile Tralectories: Miller VL, WCR pt8 57 Crystal Properties: Mason WP, P Jun 54
Current and Voltage, AC-DC Transfer Instruments for:
Hermach FL, T-I Dec 58
of Dielectric Constant from 100-1200 MC: Bady I,
NCR pt5 56 of Mountain Obstacle Transmission Loss: Lacy RE, NCR pt1 57
Multipressure Measuring System: Bain MB, T-I Mar 57 Noise Figures of Transistor Ampliflers: Anouchi AY, NCR pt5 56
Dielectric Constant of Underground Propagational Medium: El Said MAH, T-AP Oct 56
Dielectric, at Microwaves: Saito S, P Jan 56
Differential Phase and Galn in Color Television Systems: Kelly HP, T-BTR Jul 55
Differential Phase Tracking System: Carswell 1, NCR pt1 57 P Mar 58 Noise Parameters of an Electron Beam: Salto S, T-ED Oct 58
Noise Temperature Ratio of Mixer Crystals: Davis RE,
T-MTT Dec 55 1-MIT Dec 55
Noncontact, Use of RadioIsotopes: Bauschinger 0,
T-I Jun 57
Nonrociprocal Two-Port, Based on Averaging Technique:
Altschuler HM, P Sep 57
of the Parameters of Piezoelectric Vibrators:
Gerber EA, P Oct 58 of Directional Characteristics of Meteor Propagation: Eshleman VR, P Dec 57 Directivity of Directional Couplers: Schafer GE, T-MTT Oct 58 Dissinative 4-Pole: Altschuler HM, T-I Oct 55 Doppler Velocity, Nature of: Berger FB, T-ANE Sep 57 Dosimeter Sensitivity to Radiation: Stein MN, NCR pt8 56 of Permeability and Q of Magnetic Materials, 50-500 Mc: Bady I, NCR pt5 57 of Piezoelectric VIbrators: IRE Standards, P Mar 57 Electric Field Meter, Airborne: Rein GC, T-I Sep 57
Electric Field Meter, Airborne: Rein GC, T-I Sep 57
Electrical Characteristics of Ultrasonic Delay Lines:
Meitzler AH, T-UE Dec 57
Electrolytic Tank, of Mesh Grid Chacteristics: Hsu H,
NCR pt3 57 P Mar 57
Phase Angle: Mostafa AE, T-I Mar 57
Phase Application to Angle and Distance Measurements:
Thompson WJ, T-I Mar 57
Phase, of Varying Signals over Turbulent Paths:
Herbstelt JW, T-AP Jul 56
of Phonograph System Performance In Home:
Erlkson WH, NCR pt7 57
Power, in Ultrasonics: Mattiat OE, T-UE May 55
Preselve Industrials Electrodynamics for Electromagnetic Parameters, Microwave: Saunders WK, NCR pt8 55NCR pt8 55
of Electron Tube Admittance Matrix Parameters at UHF:
Zimet MM, NCR pt5 56
of Emitter and Collector Series Resistance in Transistors: Kulke B, P Jan 57
of Ferrite Loop Antenna: Stewart JL, NCR pt1 57
Ferrite Spheres in Cavities: Spencer EG, NCR pt8 55,
P Jun 56
Field Distributions: Power, 'In Ultrasonics: Mattitat UE, ITUE May Precise, Inductronic Electrodynamometer for: Estoppey RF, T-I Dec 58 Precise, of Small Capacitance: Thompson AM, T-I Dec 58 Precision Microwave Phase-Shift: Magid M, Precision Microwave Phase-Shift: Magid M,
T-I Dec 5B
Progress in 1953: Radio Progress, P Apr 54
Pulse Quantities: IRE Standards, P Nov 55
Radar Attenuation: Janza FJ, T-I Oct 55
Radar Echo, A Dual Standard for: Cohen MH,
T-AP Jul 55
Of Radar Reflections from Model Targets: Kennedy PD,
WCR pt1 57 Blectric: Justice R, T-AP Oct 55
Modulated Scattering Technique: Richmond JH,
T-MTT Jul 55 Field Intensity, on Induction-Heating Equipment: Nash TE, NCR pt6 56 of FM Scatter System: Britton RW, NCR pt8 57 FM Subcarrier, Simplifying by Digital Normalizing Techniques: Humphries J, T-TRC Apr 57 Four-Probe Resistivity, on Rectangular Semiconductors: Marcus A, T-ED Jul 56 Frequency, Automatic, by Quadrature Time Base Compar-ator: Weber IJ, NCR pt5 56 Radio Interference: Thomas LW, T-I Oct 55 Radio Interference: Thomas LW, T-I Oct 55
Radioactive Gauging: Brunton DC, T-IE Mar 56
Radioatton, Minimum Range for: Rhodes DR, P Sop 54
Radiometer, Stability Requirements and Calibration:
Greene JC, P Mar 57
Range: Beck DH, T-I Oct 55
Range, Digital, Increased Accuracy: Harris LB,
T-ANE Jun 56
Receiver Noise at UHF: Maxwell E, T-MTT Apr 56
Receiver Noise at UHF: Maxwell E, T-MTT Oct 55
Reliability: Ryerson CM, T-CS May 56
RF Power, Dry, Static Calorimeter For: Hudson PA,
T-I Dec 58
RMS Pulse Jitter: Taub JL, NCR pt 10 55 Frequency, Locked Oscillators in: Clapp JK, T-i Oct 55 Frequency Response of Power Reactor: Estrada H, T-NS Mar 57 of Harmonics In High Power Wavegulde System: Forrer MP, NCR pt1 57 High-Frequency, Parameters of Transistors: Molozzi AR, T-ED Apr 57 of High Frequency Power Gain of Junction Transistors: Pritchard RL, P Aug 56 of High Gamma Exposure Rates: Brown P, NCR pt8 56 RMS Pulse Jitter: Taub JJ, NCR pt10 55 Sawtooth Waveforms: King S , NCR pt10 55
Scattering Matrix , on Nonreciprocal Microwave Devices:
Pippin JE , P Jan 56 Homodyne Generator and Detection System: Mathers GWC, WCR pt1 57 Sensitivity, Applied to Industrial Testing and Control: Revesz G, T-IE Mar 56 Impedance: Circular-Polarization Coupler: Cohn SB, P Oct 54 Skin Losses by Eddy-Current Bridge: Kerns QA, NCR pt10 55 Interference Output of Television Receivers: IRE Standards, P Sep 54 Small Attenuation: Sweet LO, P Aug 55

of Small Changes in the Resonant Frequency of Circuits: Armstrong HL , T-I Mar 58 Small Reflection Coefficient: Scharfman H , NCR pt8 55 Sound, at Very High Levels: Peterson A, T-AU May-Jun 55 of Space Environment of Earth: Max AJ, NCR pt5 57 Speech and Program Waves: IRE Standards, P May 54 and Standards for Electronics: Astin AV, T-I Dec 58 Standards on Methods of, for Audio Systems and Com-ponents: IRE Standards, P May 56 Step-Up Transformer Response: Bady 1, NCR pt10 55 Swept, Double Detection System with Automatic Syn-chronization: Favin DL, NCR pt5 56 System, Wide-Band Microwave Transmission: Linker JB, Systems, Uncertainty of Chatterton JB, T-I Mar 58 Television: Amplitude Distortion in Color: Bauer JA, P Jan 54 Aspect Ratio and Geometric Distortion: IRE Standards, P Jul 54 Field Strength: Rohrer RE, NCR pt7 56 Temperature Coefficient of Capacitance and Inductance over 5-50 MC Range: Bady I, T-I Sep 57 of Temperature Compensating Ceramic Capacitor-Rudnick N , NCR pt6 57 of Tensor Permeability of Ferrites , Traveling-Wave Cavity for: Ault LA , NCR ptl 57

Third Order Probability Distributions of Video Signals: Schreiber WF , T-IT Sep 56

Time , Optional Signals for: Sherman H , T-IT Mar 56 Time Quadrature Components of Microwave Signals: Richmond JH, T-MTT Apr 55 Transistornistors, at High Power Levels: Kramer SI,
NCR pt5 56
Noise Figure: Grieg DD, NCR pt10 55
Parameters r_o and a_n: Melehy MA, P Dec 57
Parameters by RF Bridge: Hlavacek A,
NCR pt 10 55 T Parameters: Crow RP, NCR pt10 55
Transit-Time, for Photomultipliers: Smith RV,
T-NS Nov 56 Transmission Line Impedance, Non-Euclidean: Kyhl RL, T-MTT Apr 56 Traveling-Wave Tubes , 6 KMC Phase: Augustine CF , T-1 Oct 55 Tropospheric Path Loss: Chisholm JH, WCR pt1 57
Turbine-Generator: Goldman RG, T-PT Apr 57
Two-Port Junctions, Variant in Deschamps GA,
T-MTT Apr 57 HF:
Field Intensity: Chapin EW, T-BTS Jan 56
of High Dielectric Constant Materials, StandingWave Line for: Williams EM, T-I Sep 57 Impedance , Applied to Biophysics: Schwan HP , T-I Oct 55 Use of Concentric Line Transformers: Harris WA, T-1 Oct 55 Ultrasonic Output Power, in Liquids: Henry GE, T-UE Dec 57 Vernier Time-Measuring Technique: Baron RG, P Jan 57 VHF Propagation, in Rocky Mountain Region: Kirby RS, T-VC Jul 56 VHF-UHF Radiation: Glenn AB, T-BTR Oct 55 VHF-UHF, Transadmittance Meter for: Thurston WR, NCR pt5 56 Video, Employing Transient Techniques: Samulon HA, P May 56 Wattmeter: Macpherson AC, P May 57 Waveguide Attenuation, on Short Samples: Pomeroy AF, T-MTT Apr 56

Waveguide, Ferrite Permeability Tensor Values from:
Mullen EB, P Oct 56

Waveguide, Multimodel: Beck AC, T-MTT Apr 55 Rectangular: Angelakos DJ, T-I Oct 55
Wide Band: Strazzulla RL, T-ANE Jun 56
Mechanized Assembly, Development of Systems: Hannahs
WH, T-PT Sep 56 Mechanized Production of Electronics: Stirling CW, T-PT Sep 56 Mechano-Acoustic Circuit Analysis: Bauer BB, T-AU Jul-Aug 54, T-AU Nov-Dec 54, T-AU Jan-Dec 54 Medical Applications: of Electron Linear Accelerator: Weissbluth M, WCR pt9 57 of High Energy Protons: Tobias CA, WCR pt9 57 Medical Diagnosis, Ultrasonic Equipment for: Reid JM, T-UE Aug 57 Medical Electronics: as Aid to Medical Progress: Zworykin VK, NCR pt9 56 and Biophysics: Burton AC, NCR pt9 56 Field of: Squires JR, SQ Dec 55; Herrick JF, SQ May 55 Panel Discussion: Schmitt OH, NCR pt9 55, T-ME Oct 55 Plethysmography: Nyboer J, T-ME Nov 55 Where Is It Going?: Taylor CL, NCR pt9 56; Schmitt OH, NCR pt9 56 Medical Research, Electronic Correlating Equipment for: Kaplan LM, WCR pt5 58 Medicine, Electro-Acoustical Engineering In: Hilliard JK, SQ Feb 56 Medicine , Electronics in: Hodges WE , T-ME Jul 57 Medicine , Ultrasonics In: Herrick JF , T-UE Jun 54; Weikowitz W , P Aug 57

in Cooking: Copson DA, T-ME Feb 56 History and Future: Barrow WL, T-MTT Oct 57

Interferometer, Instantaneous Frequency Measurements: Raabe HP, P Jan 57 And Mathematics: Schelkunoff SA, T-MTT Jul 57 Measurements with Lossy Variable Short Circuit: Altschuler HM, NCR pt8 54

Medium-Frequency Broadcasting, Standardized Transmitting Aerials for: Brownless SF, T-BTS Sep 56 Meteorology, Radar in: Bemis AC, T-CS Mar 55 Meteorology, Radio: Gerhandt JR, SQ May 56 Meteorology, Scatter Propagation Measurements as a Func-tion of: Ringwall DL, T-AP Apr 58 Medium-Range Navigation System for Aircraft: McMullen CG, T-ANE Sep 56 $\begin{array}{c} \text{Membranes, Negative A. mittance Components: Schmitt OH,} \\ \text{T-ME Oct 56} \end{array}$ Meters, Miniature Ruggedized Precision: Faughan JF, NCR pt6 58 Meudon Observatory, Radio Astronomy at: Blum EF, P Jan 58 Memories: Analog: Kozak WS, WCR pt4 58 Analog Techniques Applied to Magnetic Drum: Douce JL, T-I Jun 56 Anertured Plate: Haneman WJ, NCR pt4 58 Capacitors, Ferroelectric, Scanners for: Pulvari CF, Microalloy Transistor: Rittman AD, T-ED Apr 58 Microalloy Diffused Transistors: Thomton CG, P Jun 58 Microbarometer for Small Vertical Displacements: Gunkel W, T-I Dec 57 T-EC Mar 58 Microcalorimeter, Microwave, Equivalence Error in: Omori S, Circults for 16 Channel Multiplex System: Myrick JC, NCR pt8 56 T-I Dec 58 Microdisplacement Meter: Sharaf HF, T-UE Jun 54 Devices:
For Pulse-Height Analyzer: McKibben JL,
NCR pt10 55; Byington PW, NCR pt10 55;
Emmer TL, NCR pt10 55 Microelectrode Work, Amplifiers Used for: Yang CC, T-ME Mar 58 Microelectrodes and Neutralized Imput Capacity Amplifiers, Measurement of Bloelectric Potentials with Amatniek E, T-ME Mar 58 Magnetic Selection System: Sepahban AH, NCR pt4 55 Micrometer, Capacity: Condit RE, T-IE Mar 56 Micromicroammeter, High Stability: Praglin J, T-I Jun 57 Microminiaturization: Three-Core Cell for High-Speed: McKibben JL, NCR pt10 55; Byington PW, NCR pt10 55; Emmer TL, NCR pt10 55; Raffel J, NCR pt4 55 Comminaturization:
Challenge of Environment: Carter EF, NCR pt6 57
Component Development: Stone HA Jr, NCR pt6 57
Methods: Hamilton WW, NCR pt6 57
Military Application: Petzing ER, NCR pt6 57
of Missiles: Moore JR, NCR pt6 57
Recent Developments: Brunetti C, NCR pt6 57 Transistor-Magnetic Core: Guterman S, NCR pt4 55 Digital Filters, Growing, Recursion Formulas for: Blum M, T-IT Mar 58 Electro-Optical Feedback, Bit Storage: Milch A, T-EC Dec 55 Microphones: Cordless System: Chamberlain AB, T-BTS Sep 56
Directional: Clark MA, T-AU Jan-Feb 54
Distant Pickup: Aamodt T, NCR pt6 54
"Lipstick" Condenser: Hilliard JK, T-A Nov-Dec 54,
Correction: T-AU May-Jun 55
and Loudspeakers: Beranek LL, T-AU Jan-Feb 55 Fast Circulating: Leichner GH, T-EC Jun 57
Ferrite Core, for Transistorized Time-of-Flight Analyzer: Wade EJ, NCR pt9 57 Ferroelectrics, Applications to: Pulvari CF, T-CP Mar 56 Finite, Capacity of Asymmetrical Binary Channel with: Chang SH, T-IT Dec 58 Miniature Unidirectional: Baver BB, NCR pt6 54
Phasing: Bauer BB, T-AU Nov-Dec 56
Sound Measurements at Very High Levels: Peterson A, T-AU May-Jun 55 Five Microsecond, for UDOFT Computer: Ashley AH, WCR pt4 57 High-Density Williams Storage: Wong SY, T-EC Dec 55 High-Speed Permanent Storage Device: Wier JM, T-EC Mar 55 Transistorized Dynamic , for Two-Way Communications: Macdonald AA, T-VC Dec 56 Transistorized , for Vehicular Communications: Johnson HA , T-VC Jul 58 High-Speed, and Pulse Generator: Bay Z, T-EC Dec 56 Human: Miller GA, T-EC Sep 57 Magnetic: "Vagabond" Wireless: Phinney TW, T-AU Mar-Apr 54 Core Microphonism Due to Transistor Leads: Durleux CW, Coincident Current, Noise Problem in: McNamara F, T-1 Jun 57 P Jul 56 Microphotometer , Projection , for Quantitative Microscopy: Bostrom RC , T-ME Dec 56 Micropower Audio Amplifier: Keonijian E , T-CT Mar 56 Repetitive Use of Information: Kraemer GT , SQ Sep 54 Transistor-Driven: Younker EL, T-EC Mar 57
Transistorized: McMahon RE, T-I Jun 57
Disk: Farrand WA, WCR pt4 57
Drum, for Univac: Porter VJ, NCR pt4 56
Multiple Coincidence, Wiring of: Blachman NM,
T-EC Mar 56 Microscanning: Tolles WE, T-ME Jul 56
Microscope, Television Color Translating: Zworykin VK,
WCR pt7 57 Microscope, Ultraviolet Television: Williams GZ, NCR pt9 55 Microscopes, Ultraviolet, Flying Spot and Camera Tube: Ramberg EG, T-ME Dec 58 Small Coincident-Current: Bartik WJ, T-EC Jun 56 Permanent Storage, Using Neon Tubes: Raphael MS Microscopy, Color Translating Ultraviolet: Hovnanian HP, T-ME Jul 56 T-I Jun 56 Random Access, Ferrite Apertured Plate for: Rajchman JA, P Mar 57 Microscopy, Television: Robinsion BR, P Jan 55 Microsecond Ferrite Switch: Blasberg LA, WCR pt1 57 705 EDPM System: Merwin RE, T-EC Dec 56 Storage of Information by Humans: Miller GA, T-IT Sep 56 Broadband Mixer with Integral DC Return: Carlson E, T-MTT Mar 55 Williams' Tube, Refill in Phenomena In: Maughmer JM, T-EC Mar 58 Ferrite-Filled, Propagation In: Brodwin ME, T-MTT Apr 58 Melt-Quench Process of Transistor Fabrication: Pankove JI, P Feb 56 for Microwave Wiring: Arditi M, T-MTT Mar 55 Parameters: Black KG, T-MTT Mar 55 Merit Criteria for Noisy Channels: Hauptschein A, T-IT Mar 57 Receiver Head-End, 2,000 Megacycle: Zublin KE, T-MTT Mar 55 Merit Review System, A Subjective: Strauss DJ, T-EM Dec 58 Waveguides: Deschamps GA, T-CS Jul 54, T-MTT Apr 54, T-CS Jul 54, (Abstract) T-MTT Apr 54 Microtron: Kaiser HF, T-NS Mar 56 Mesh and Node Systems of Equations: Reed MB, T-CT Jun 55 Message Redundancy vs. Feedback for Reducing Message Uncertainty: Bishop WB, NCR pt2 57 Microwatt Batteries, Long Life: Elwell CF, P Nov 57 Message Source, Entropy of: Campopiano CN, P Sep 58 Metal-to-Ceramic Vamistor, Thermally Fused: Langford RC, WCR pt6 58 Antenna and Waveguide Techniques Before 1900: Ramsay JF, P Feb 58 Applications in Japan: Niwa Y, WCR pt10 57 Metal Cleaning with Ultrasonics: Kearney TJ, T-UE Jun 54 Assemblies, Miniaturization of: Lewin L, T-MTT Oct 56 Metallic Reflectors, Applications in Navigation: Megla G, WCR pt10 57 Coherent Emission from Pulse-Excited Ammonia: Norton LE, T-MTT Oct 57 Comparators: Matthews EW, T-I Oct 55 Motallized Capacitors, Use of: Lamphier WC, NCR pt6 58
Moteor-Burst Communications: See Communications, Meteor Complantors: Mattnews EW, 1-1 Oct 55
Correlator: Wilcox RH, P Oct 54
Detector: Mendel JT, P Apr 56
Duplexer, High-Power: Lomer PD, T-MTT Jul 58
Engineering, Specialization or Diversification:
Wheeler HA, T-MTT Apr 56, SQ May 56 Meteor-Radiant Distribution: Meeks ML, P Dec 57 Meteor Studies at 13 Meters, Antenna Array for: Gallagher PB, P Jan 58 Meteor Trails: Echoes in Radar: Hawkins GS, P Sep 57
Duty Cycle of Forward-Scattered Echoes from: Wirth HJ, Equipment for College Laboratorles: Reich RJ, T-MTT Jul 56 NCR at1 58 Field, Academic Research Institutes In: Marcuvitz N, T-MTT Apr 58 Radar Echoes from: Hawkins GS, P Sep 56; Eshleman VR, P Apr 55 Foreground Terrain Effects on Transmissions: Trolese LG, NCR pt1 57 Scattering Radio Waves: Villard OG, P Oct 55; Keitel GH, P Oct 55 Meteoric Echoes, Long Range, Via F-Layer Reflection: de Bettencourt JT, T-AP Jan 56 Meteoric Ionization: Generators, Broad-Band Stabilized: Hule JA, WCR pt5 58 Gyrotropic Media, Application of: van Trier AA, T-AP Jul 56

Forward Scattering: Esliteman VR, P Mar 54
Meter, Amplitude Modulation: MacDonald JR, P Oct 54
Meteoric Radio Echoes, Survey: Manning LA, T-AP Apr 54

Meteoric Radio Echoes, Survey: Manning LA, T-AP Apr 54
Meteorological Observation System, Automatic Pelemetering:
Boulay PF, WCR nt5 58
Meteorological Parameter and the Electric Field at a Great
Distance, Correlation Between: Misme P, T-AP Jul 58

Microcalorimeter, Equivalence Error In: Omori S, T-I Dec 58 Mirror, Application of Parageometrical Optics to Design of: Ronchi L , T-AP Jan 58 Mixer Design, Minlmum Noise Figure: Bergmann SM, T-MTT Jul 58 Molecular Amplification and Generation: Wittke JP, P Mar 57, P Jul 57
Ontics: Spencer RC, T-AP Oct 55
Diffraction Problems of: Bremmer H, T-AP Oct 55, P May 57 Geometric and Electromagnetic Theory: Wolf E, T-AP Oct 55 Ovens: Raputano RA, NCR pt9 55; Manhard OH, SQ Sen 56 Paramagnetic Resonance Methods in Biological Research: Blors S, T-ME Feb 56 Path Clearance Evaluated by Distribution Curves: Wheeler BF, T-1 Oct 55 Path Survey Methods: Eddy WC, NCR ptg 55 Peak Power Measurement Techniques: Henning RE, T-I Oct 55 Periscope: Drexler J, P Jun 54 Physiological and Biological Effects:
Absorption of UHF Energy in Tissues: Schwan HP,
T-ME Feb 56 as Industrial Problem: Vosburgh BL, T-ME Feb 56 Biological Simulants Used to Estimate Energy Dose: Hirsch FG, T-ME Feb 56 Diathermy, Effects on Eye: Dailey L, T-ME Feb 56 Diathermy, Problems Involved in Use: Herrick JF, T-ME Feb 56 Energy Densities of Radiating Systems: Tolles WE, T-ME Feb 56 Heat Exchange Characteristics in Animals: Ely TS, T-ME Feb 56 History of Medical Employment of Microwaves: Krusen FH, T-ME Feb 56 Lens Opacities: Williams DB, T-ME Feb 56 Military Aspects: Brody S1, T-ME Feb 56 on Micro-Organisms in Aqueous Solution: Brown GH, T-ME Feb 56 on Radar Personnel: Barron CI, T-ME Feb 56 Protective Measures: Meahl HR, T-ME Feb 56 Power Divider, Variable-Ratio: Sensiper S, T-MIT Apr 58 Power Measurements , Recent Developments in: Engen GF , T-I Dec 58 Power Measurements Using Electron Beam Techniques: Thomas HA, P Feb 57; Hoskin WJ, P Sep 57
Present and Future: Giration EL, T-MTT Jul 56
Propagation Experiences from a "Just-Below-Horizon"
Path: Josephson B, T-AP Apr 58 Propagation Measurements on Overseas Paths: Gud-mandsen P, T-AP Jul 57 Reflection from Ocean: Beard CI, T-AP Apr 56 Reflector, Toroidal: Peeler GDM, NCR nt1 56 Relay Amplifier, 50 Watt: Mallach LW, T-BTS Jun 57 Relay System between St. John and Halifax: Sheffield HC, T-CS May 56 Relay for Telemetry: Taylor LS, NCR pt5 57 Repeater System Using Traveling Wave Tubes: Sawaza-ki N, P Jan 56 Report of Advances in Theory, 1955: Report, T-MTT Apr 56 Scintillation Fading: Tukizi O, T-AP Jan 57 Shot Noise and Amplifiers: Robinson FNH, T-ED Jul 56 Signal Source, Amplitude Stabilization of: Engen GF, T-MTT Apr 58 Signal Spectra, Effect of Ocean Roughness: Beard CI, T-AP Apr 57 Sources, Report of Advances, 1954: King DD, T-MTT Apr 55 Spectrum Synthesis with the Traveling-Wave Tube: Lacy PD, NCR pt5 56 Stepped-Index Luneberg Lenses: Peeler GDM, T-AP Apr 58 Structures , High Power Breakdown of: Hart GK , NCR pt5 56 Switches, High Speed, Precision: Fromm WE, NCR pt1 57 Switching by Crystal Diodes: Millet MR, T-MTT Jul 58 Systems, Industrial Users of: Long FV, WCR pt8 57 Theory and Techniques, Report of Advances, 1956; King DD, T-MTT Apr 57 Theory and Techniques—1957, Advances in: Beam RE, T-MTT Jul 58 Transmission Measuring System, Wide-Band: Linker JB, T-MTT Oct 58 Variable Power Divider and Multiplexer: Teeter WL, T-MTT Oct 57 Military: Applications of Microminiaturization: Petzing ER, NCR pt6 57 Aspects of Biological Effects of Microwave Radiation: Brody S1, T-ME Feb 56 Carrier Telephone Systems: Boyl in RS, T-CS Nov 54 Communications-Electronics Systems Engineering Function, Administration of a: Schauers CJ, T-EM Mar 58 Communications Systems, Economic Analysis in Long-Term Planning of: Krzyczkowski R. WCR pt8 58 Dynamic Equipment Failure Control: Luebhert WF, T-RQC Jun 57

Electronic Equipment, Automatic Testing: McCabe LE, T-ANE Dec 56 Electronic Missile and Airborne Equipment: Ehrenpreis D, NCR pt8 58 Electronics Rellability Requirements, Contract Implica-tions of Allen J, WCR pt6 58

Equipment Design and Commercial Automation Techniques Compatibility Between: Lamb JJ., T-PT Apr 58
Equipment . Power Supply in: Perlman S., NCR pt6 56

Equipment Reliability, Progress in 1956: Bridges JM, T-RQC Aug 57 Heritages, Digital Industrial Electronic Systems and Their: Wassall DE, WCR pt6 58

Their: Wissall DE, WCR nt6 58
Problems Imposed by Automation: Bull WI, T-PT Apr 58
Programs to Conserve Engineering Manpower:
Bridges JM, T-EM Mar 57
Rodar, Career Evaluation: Weaver SM, SQ Sep 55
Reliable Tube Program: Harding KC, T-ROC Aug 57
Reliability Specifications, Current: Dertugger EF,
T-RQC Sep 58

Research, Requirements in Electronics: Schaub BH, WCR pt8 57

Schamhorst Break-Through: Watson-Watt R, T-MIL Mar 57

Television Techniques , Transistorized Airborne: Kelly JJ , NCR pt8 58

Vehicular VHF-FM Reveiver-Transmitter, 920 Channel, Transistorized Frequency Reference and Control System for Brauer F, T-VC Jul 58

Weapon System Complex and Education Goals: Noble DE,

Weapon System Complex and Education Goals: No T-RQC Aug 57
Milky Way Sources at 440 MC: Roman NG, P Jan 58
Miller Integrator: Goldman RG, P May 57
Millimeter Radio Wayes, Attenuation and Fluctuation of: Tolbert CW, NCR at

Tothert CW, NCR p.1.1.57
Millimeter Region, Low-Voltage Operation of the Retarding-Field Oscillator in: Carter CJ, T-ED Jul 58
Millimeter and Submillimeter Power Generation, Dielectric Slow-Wave Structures for: Paintell RH, T-ED Jul 58
Millimeter Wavelengths, Phantom Radar Targets at: Tolbert CW, T-AP Oct 58

Millimeter Waves, Absorption of Telbert CW, T-AP Apr 57
Millimicrosecond Diffused Silicon Computer Diodes:
Forster JH, WCR nt3 58
Millimicrosecond Electro-optical Shutter: Hull JA,
NCR nt5 58

Millimicrosecond Kerr Cell Camera Shutter: Zarem AM, WCR pt5 58

Millimicrosecond Photography, Electronic Framing Camera for: Clark GL, WCR pt5 58

Millimicrosecond Pliotography, Image Converter Camera for: Manninger RC, NCR pt5 57 Millimicrosecond Pulse Generators Using Secondary Emission Tubes: Narud JA, NCR pt5 57

Millimicrosecond Region , Diode Recovery Time Measurement in: Bakanowski AE , WCR pt3 58

MillImicrosecond Region , Measurement of Time of Flight in: Lefevre HW , T-NS Dec 58

Millimicrosecond RF Pulse Transmission: Forrer MP, P Nov 58

Miniature Ruggedized Precision Meters: Faughnan JF, NCR pt6 58

Miniaturization

Alrbome Flashing-Light Beacon: Macko SJ, T-I Sep 57

Connectors for High Temperatures: Stuart CH, T-CP Dec 56

Electronic Equipment, Automatic Assembly Techniques for: Hom FM, T-PT Sep 56 of Metallized Paper Capacitors: Grad PP, NCR pt6 57

of Microwave Assemblies: Lewin L T-MTT Oct 56 of Nuclear Reactor Controls: Kline KH, NCR nt9 57

of Niclear Reactor Controls: Kline KH., NCR nt9 57
Reactors, FerrIstor in Electronic Instruments:
Melshelmer RS, T-I Jun 57
Submiliniature Acclerometer, Self-Recording, for High
Shock Duty: Er Chisen HW, T-I Sep 57
of Transformers: Killiam LF Jr P Apr 56
of VHF Oscillator: Stryker EM Jr, NCR pt3 56
Minimal Forms of a Boolean Function: Urbano RH,
T-EC Sep 56

Minimum Energy Cost of an Observation: Adler FP, T-IT Dec 55

Minimum Energy Transcring Stonals: Beattle LA P Am 58 Minimum Insertion Loss Filters: Fithini EG, NCR nt2 58 Minimum Phase Transfer Function Synthesis: Pantell RH, T-CT Jim 55

Minimum Transcring Signals: Dautre point JL P Sep 58 Minimum Transcring Earth Satellite: Mengel JT, Jun 56. NCR pt 156

Mirror, Microwave , Parageometrical Optics in the Design of Ronch L , T-AP Jan 50 Mismatched Microwave Network , Intrinsic Insertion Loss Tomiyasu K T-MTT Jan 55 Missile:

Aerophysics Phenomena of Electronic Import - Bershader D, WCR pt8-57

and Airborne Military Electronic Equipment: Ehrenpreis D , NCR pt 2.58

D, NCR nt 250 Attude Stabilization Analyze! by Phase Plane Tra-jectorics: Halvers e.JL, WCR pt 157 Automatic Cleri -Out Economics: Teck MR, WCR nt 557 Automatic Test Equipment, Design Criteria for Combett WO, NCR pt 850 Pallistic, Telemetric Rough LL, 1-TRC May 57 Corect Evaluation: Sprenson CE, 80 Sep 54

Computers: Morris HN, NCR pt10 55 Control Instrumentation, Phase Angle Analogs: Parish CL. T-Llun 57

Direction Finder: Friedland MS , NCR pt5 54
Electronic Trajectory Measurements Systems: Miller VL , WCR pt8 57

Flashing-Light Beacon, Miniaturized: Macko SJ, T-I Sep 57

Guidance Accuracy, Analytic Prediction of: Mathews WE, NCR pt8 56

Guidance Systems:
Baseline: Grisetti RS, T-MIL Dec 58 Navigational Measurements Methods: Johnston SL, T-I Jun 56

Reliability of: Gray AR, NCR pt6 58 Reliability Program, Arma Inential: Dertinger EF, NCR pt6 58

Self-Contained: Draper CS, T-MIL Dec 58 Impact on Military Future: Schoeffel MF, T-ANE Sep 56

Life Testing of Components in: Lloyc OK, T-RQC Dec 58

and Machine Tools, Nonlinearities in: Bower JL, T-AC Jul 58

Microniniaturization in: Moore JR, MCR pt6 57 Missile Age, What's Coming After the: Baker WRG, P Mar 58

Navigational Measurements Methods: Johnston SL, T-1 Jun 56

Nonlinear Control System for Stabilizing: Atran L, T-AC Nov 57

Phase Angle Analogs in Instrumentation: Parish CL , T-TRC Apr 57

Photoconductor Spin Counter: Kortman CM, NCR pt10 55

Pitch Stabilization, Feedback Systems for: Katt DR, WCR $\operatorname{\mathfrak{pl}4}$ 57

Program Timer: Hubbard BF, WCR pt6 57 Reliability: Kirby MJ, NCR pt6 55, Gray AR, NCR pt6 55

vs. Complexity: Lichtman SW, NCR pt10 57 for Electronics Designers of: Dreste FE, WCR pt10 57

Indices for Electronic Component Parts: Bills TS, T-RQC Jun 57 in Production: Dertinger EF, NCR pt 6 56

in System Equipment: Yueli JH, T-RQC Sep 56 Tube: Blattel A, T-RQC Jan 57 Solid-State FM/FM Telemetering System: Politi EY, T-TRC Apr 57

Spurious Radiation from Equipment: Albin AL, NCR pt8 58

System Evaluation: Althous EJ, NCR pt11 54 Systems, Technical Management of: Harriman TJ, T-EM Dec 58

Telemetering of Data: Ter Veen LAG, NCR pt5 57
Telemetering Receiving System at A= Test Center:
Roloff HA, T-TRC Dec 57
Temperature Telemetering: Cox JA, WCR pt5 57
Unreliability and Field Checkout: Stanly AL,
T-RQC Jan 57

X-17, Telemetering System for: Cox JA, T-TRC Apr 57

Mitron: Boyd JA, P Mar 55 Mixers:

Beam Tube for: De Grasse RW, WCR pt3 57

Broadband Microstrip: Carlson E, T-MTT Mar 55 Cooling of: Messenger GC, T-MTT Jan 57 Diodes as: Messenger GC, P Sep 57

Germanium, at Low Temperatures, Properties of: Anderson LK, T-MTT Oct 58

with Linear Components, Distortion Reduction: Geiser DT, P. Jun 57 Measuring Noise Temperature Ratio: Davis RE, T-MTT Dec 55

Noise: Houlding N., P. May 58
Optimum Operation of: Deutsch S., T-BTR Jan 55 Performance of: Pritchard WL, T-MTT Jan 55; McLean DA, P Dec 54

Widehand, Design Considerations: Rennie JC, T-CS Sep 57

Design, Microwave, Minimum Noise Figure: Bergmann SM, T-MTT Jul 58 Diode, Analysis of: Macpherson AC, T-MTT Jan 57 Diodes, Microwave, New Concepts in Messenger GC, P Jun 58

Microwave Modulator for: Schafer GE , T-MTT Jul 58 Stabilized by Feedback Borgs GE , P Jul 54 Superconductive Transition , and Cryotron Switching Time: Woodford JB , P Nov 58 Transistor: Strum PD , P Feb 55; Sawels J , P Mar 54

Tubes, Noise in: van der Ziel A, P Jul 58 for UHF Television: Western RE, NCR nt7 54 Mixing in Ferrites: Vartanian PD, WCR nt1 57 Mivata's Method of Synthesis: Kanal L, T-CT Dec 57 MOBIDIC Computer, System Organization of: Terzian J, WCR nt4 57

WUR 114 57
Mobile Communications
AM: Morrow R, T-VC Jul 56
Antennas, VHF- Bykerk RO, WCR pt8 57
Application of Single Sideband for: Firestone WL,
T-VC Jul 58 Applications: White EL, T-VC May 57

Automobile 6 and 12 Volt Electrical Systems: Backman KEH, T-VC Jun 55

Base Mobile System, 1,000 Unit: Stover JS, T-VC Jun 55

Base Station Transmitter, High-Power UHF: Ocko R,

Bonneville Power Administration: Peckhart M, T-VC Jul 56

Communications Engineer in Railroading: Albertson JN, T-VC Jun 55

Coverage in Isolated Desert Terraln: Brinton RL, WCR pt8 57 E and F Sklp in 30-50 MC Band: Allen EW, T-VC Jul 56

Extending Radio Range by VHF Repeaters: Kemp CA, T-VC Jul 56

FCC Service Groupings: Plummer CB, T-VC May 57 and FM Systems: Magnuski H, P Oec 56 T-VC Jun 57

Forest Industries: Olin RW, T-VC Jul 56 450 MC Coverage Tests at Chicago: Glentzer KV, T-VC Jul 56

450-470 Mc: Tittle RW, NCR pt8 54 Frequency Allocation Problems: Spillane LW, WCR pt8 57

Front End Receiver Design: Manke AG, T-VC Jun 55 Future of: York DE, NCR pt8 56 Ground-Based, Antennas, Monopole: Webster RE, T-AP Oct 57

High Performance, for 450 Megacycles: Robbins MA, T-VC Jul 56

in Houston, Texas: Thomton RD, T-VC Jun 55 Impulse Noise in FM Receivers: Lapin SP, NCR pt8 54

Low-Power Industrial Communication Unit: Freeland AF, T-VC May 57

Management of: McKinley JC , T-VC Jun 55; Courtney J , T-VC Jun 55

More Words Per Minute Per Kilocycle: Plummer CB, NCR pt8 56

Operation at 960 MC: Schultz CH, NCR pt8 56 Operation at 900 MC: Schultz CH7, MCR, R69 36 Optimization of Performance: Miller EA, T-VC May 57 Petroleum Industry: Barnette LAM, NCR pt8 54, Ransome RL, T-VC Jul 56; Keller JE, T-VC May 57 Potential Use at 900 MC: Schultz CJ, WCR pt8 57 Power Utilities Applications: Humphreys TG, T-VC May 57

Public Utility System: Buchanan AB, NCR pt8 54 Qualitative Performance Evaluation of Systems: Neubauer JR, WCR pt8 57

Neubater Jr., WCR BIS 57 Radio, Field Application of Transmission Quality Con-trol: Smith RD, T-VC May 57 Railroad Radio: Kearney LE, T-VC May 57 Selective Calling System to 106A Standards: Ornstein W, T-VC May 57

Selective Signaling System Bently D, WCR pt8 57 Semi-Automatic Tuning Equipment: Dettman MC, T-VC Dec 56

Single-Sideband: Brown A, P Dec 56 Single-Sideband AM: Bailey A, T-VC Jun 57
Split Channel FM Compared with Single Sideband:
Macdonald AA, T-VC Dec 56

Squelch System Controlled by Signal-to-Noise Ratio: Klehfoth WG , T-VC Jun 55 Three Channel Common Carrier System: Gehrig DR, T-VC Jun 55

Trucking Industry Applications: Abel RL, T-VC May 57 Uses of: Floegel ME, T-VC Jun 55 Vehicular Radio Station Inspections: Norman SW, T-VC Jun 55

VHF Marine: Green ME , T-VC Jul 56

VHF Radio Used in Railroading: Brannin JW, WCR pt8 57

WCR nt8 57
VHF, SSB and FM Compared: Magnuski H,
T-VC Jun 57, P Dec 56
Mobile Dispatcher System: Collins RW, NCR pt8 55
Mobile-Microwave System: Neubauer JR, T-VC Jun 54

British Developments: Brinkley JR, NCR pt8 57 Demand Repeater, Manually Operated: Meyer SF, NCR nt8 57

Narrowing of Channels: Plummer CB, NCR pt8 57 Service, Frequency Use and Licensing: Webster EM, T-VC Jun 54

System, Single Sideband, VHF: Richardson R, P Jun 57; Morrow RE, P Dec57

Mobile Radiotelephone on 450 MC: Ornstein W, NCR pt8 55

Mobile Radiotelephone Systems, Dial Operated: Dodrill GE T-VC Jul 58 Mobile Single-Sideband Equipment: Morrow RE, P Jan 58

Mobile UHF Relay Operation, Antenna for: Triolo FJ, NCR pt 158 Mobile Unit Compact 150 MC: Robbins MA, T-VC Jul 58 Mobilization of Transistors: Hansen RE, NCR pt8 58

Conversion Filters: Marcatili EA, WCR pt1 58 Conversion in Long Circular Waveguide, Effects of: Warters WD, WCR ptl 58 In Delectric Sheets: Hatkin L, P Oct 54 Ghost, in Imperfect Waveguides: Jaynes ET, P Feb 58

Numbering Mathis HF, P Feb 54
Theory, Combine Coefficients in Yariv A, P Dec 58
Warning Fux AG, T-MTT Dec 55
Medelline of Physical Systems: Ritt RK, T-AP Jul 56

Models for Systems

Mixed, Distributed and Lumped Parameters: Smith OJM, WCR pt2 57

Probability Density Statistics: Widrow B. WCR pt 2 57 Representation of Nonlinear Operators: Zadeh LA, WCR pt2 57

Modular Construction, Implications to Design Engineer: Bauer RE, NCR nto 56 Modular Design of Electronics: Heliry RL, T-PT Sep 56

Modular Design in Electronics: Henry RE, 1-PT Se Modular Design , Recent Developments in: Low RC , NCR pt6 57

Modular Electronic Compenents: James WG, T-CP Sep 56 Modular Packaging for Ground Based Data Processing Equip-ment: Watt CW, WCR pt6 58

Modular System Components of Pin Configuration: Heibel JD, WCR ot 6 57

Modulated Control Systems: Graham RE, NCR pt2 56 Modulated Scattering Technique for Field Distribution Measurement: Richmond JH, T-MTT Jul 55 Modulation:

Amplitude vs Angle:

Binary-Coded, Narrow-Band Communication: Montgomery GF, P Feb 54 Base-Width, of Junction Transistors: Zawels J, T-ED Jan 57

Choosing the Optimum Type of: Kelley GJ, T-CS Jun 58 Choosing the Optimum Type of: Kelley GJ, 1-65 Jun 5 Gain, of Servomechanisms: Buchan JF, WCR pt4 57 Ionoshperic C-oss, from Long Wave Transmitter: Martin ET, NCR pt1 56 Levels In a Frequency Multiplexed System: Brock RL, T-1T Mar 55

Limiter, Video: Sadler LS, NCR pt7 58 Noise in Magnetic Tape Recordings: Price RL, T-AU Mar-Apr 58

Noise in Two-Channel Disk Recordings: Cronin D , T-AU Nov-Dec 58

Optimum Type of: Vogelman JH, T-CS Dec 58 Polyphase, Generation of Single-Sideband Carrier Telephone Channels by: Mensch JR, NCR pt8 58 Power Requirements: Nichols MH, NCR pt5 54 Pulse-Code, Weighted: Bedrosian E, T-IT Mar 58 Pulse Position, 45 Channel System: Schreiner SM, NCR pt5 58

Pulse-Position Unit: Mazur DG, NCR pt5 54

Pulse, Transmitted through a Linearly Modulated Transit-Time Device: Met V., P. Sep 58 Splatter, Spectral Shape of: Price R., NCR pt8 58 Splatter of VHF Transmitter: Firestone WL, NCR pt8 55

of Suppressed Carriers: Booton RC, WCR pt2 57 Systems, Progress in 1953: Radio Progress, P Apr 54

V Nocity , Potential-Well Theory: Gold L , P Dec 58 Weighted Pulse-Code , and Mean-Square Deviation: Bellman R , T-IT Mar 58

Modulators:

Compact Microwave Single-Sideband Using Ferrites: Cacheris JC, T-MTT Jul 56

Distortion Reduction: Geiser DT, P Jun 57 Ferrite, Sidebands of: Rizzi PA, P Apr 56 L-Band Ferrites Coaxial: Vafiades B, NCR pt 1 57 Light, High-Speed, Low-Voltage: Koelsch AC, NCR pt 3 57

NCR PD D 7/ for Microwave Mixers: Schafer GE, T-MTT Jul 58 Microwave Noise Source: Beam WR, T-ED Apr 57 Microwave, Using Ferrites: Cacheris J, P Aug 34 Multigrid, for Analog Multiplier and Squares: Sydnor RL, T-EC Jun 56

Ring, Effect of Rectifier Capacitances: Belevitch V , T-CT Mar 55

Single Sideband:

Ferrites for: Khoury KI, P Oct 57
Microwave, Cotton-Mouton Effect in Ferrites:
Kemanis G, P May 57

Slope, for Magnetic Recording: Erath LW, T-TRC Nov 54

Module, Three-Dimensional Printed-Wiring: Ansley AC , T-PT Apr 58

Modules, Megacycle Magnetic, for Univac: Smith BK, NCR ot4 56

Moisture, Influence of, on Ground Wave Propagation at VHF: Josephson B, T-AP Apr 58 Molecular Ampliflers:

Molecular Ampliflers:
Future Circuit Aspects: Herold EW, P Nov 57
Survey of: Wittke JP, P Jul 57, P Mar 57
Using Auxiliary Radiation to Produce Active Molecules:
Prochorov AM, WCR at 10 57
Molecular Framency Standard: Townes CH, NCR at 10 55
Molecular Microwaye Spectrometer, Oscillator and amplifier:
Gardon JP, T-I Oct 55
Molecular Recompane, Introduction to Muller H, SO Day 56

Molecular Resonance, Introduction to: Muller N., SO Dec 50 Molecular Storage and Read-Cut with Microwaves: Becker CH, NCR 644-50

Moment Problem in Network Synthesis: Spencer RC, T-CT Jun 54

Monitor, Automatic and Continuous Radar Performance: Woods WC , NCR pt8 58

Monitoring, Radiation, Over Telephone Lines: Costroll L, T-NS Aug 58

Monitors, Garama, Dual Function: Connally RE, T-NS Mar 56

Monitors, Transistorized Radiation: Goulding FS, T-NS Aug 58

Monolithic Structure Concept for Ceramic Canaditors: Fabrica is JH, WCR pt6-50

Monopoles:

Disk-Loaded Folded: Seeley EW, T-AP Jan 56
Effect of Ground Screen on Field: Wait JR,
T-AP Apr 56

Ground-Based on: Webster RE, T-AP Oct 57
Monopulse Arrays, Traveling Wave, Pulsed Oberation:
Phillips CE, WCR ptl 57
Monopulse Radar: Pane RM, NCR pt8 55
Monotonic Response, OptImum Filters with: Papoulis A,
P Mar 58

P Mar 58
Monte Carlo Methods, Post-Detection Integration System
Analyzed by: Dilworth RP, NCR nt2 57
Moon-Earth Communication Systems and Radar Reflection
Characteristics of the Moon: Senior TBA, WCR Pt1 58
Moon-Radar Digital Antenna Programmer with Analog Rate
Signal Integrator: Guzmann 0, NCR pt4 58
Moon, Radar Echoes from: Yaplee BS, P Jan 58
Moon Radio Echoes: Trexler JH, P Jan 58
Moon Themial Radiation at 35 KMC: Gibson JE,
P Jan 58

P Jan 58

P Jan 58
More Engineering Per Dollar: Demoster B, T-FM Mar 55
Motivation of Technical People: Spencer LM, NCR pt6 56
Motor Generator, Alrcraft, with Secondary Standard
Frequency Output: Johnson LJ, T-CP Mar 58 Motor Speed Control System:

Analysis by Analog Computer: Bradburn WJ, T-PT Apr 57, T-IE Apr 58

Electronic: Humphrey AJ, T-PT Apr 57 Motors, Plasma: Bostick WH, NCR pt9 58 Mountain Obstacle Measurements: Stewart JL, NCR ntl 57
Mountain with Smooth Crests, Effect on Wave Propagation:
Shkarofsky IP, T-AP Oct 58

Mountains, Smooth Cylindrical, Diffraction by: Neugebauer HEJ, P Sep 58

Moving Target Indication Radar, Clutter Attenuation: Grisetti RS, T-ANE Mar 55

Moving Target Indicators, Airborne, Performance of: Urkowitz H, T-ANE Dec 58 Multilkali Cathodes: Sommer AH, T-NS Nov 56

Multicase Binary Codes for Non-Uniform Character Distribu-tions: Brooks FP, NCR pt2 57

Multichannel Crystal Oscillator: Hahnel A, T-VC Jun 55 Multichannel Telephone Service, FM Radio Relay for: Halina JWO, T-CS Oct 56

Multicoupler and Antenna Amplifier, HF: Fischer K, T-CS Dec 57

Multilevel, Information Channel, with Noise: Watanabe S, T-IT Dec 57

Multiloop Nonlinear Systems: Klotter K, T-CT Mar 54, T-CT Dec 54; Ku YH T-CT Dec 54 Multiloop, Self-Balancing Power Amplifier: Macdonald JR, T-AU Jul-Aug 55

Multimode Oscillators , Frequency Memory in: Edson WA , T-CT Mar 55

Multipath: Analysis, Short Pulse-Long Pulse Method: Lambert JD, WCR ptl 57

Channels, Rake Communication Technique for: Price R, P Mar 58; Hulst GD, P Nov 58
Distortion of TV Signals and Design of Corrective Filter: Balakrishnan AV, NCR pt4 56
Phase Errors in CW-FW Tracking Systems: Sollenberger TE, T-AP Oct 55

Multiplex:

Experimental Work at WCAU-FM: Meehan EJ Jr, NCR pt7 58

Frequency Division, Signal-to-Noise Performance of FM Systems Carrying: Harris DP, NCR at8 58 Low Level Signal: Hill DW, NCR pt5 57 Power Requirements: Nichols MH, NCR pt5 54 Systems:

Applications of Directional Filters for: Coale FS, T-MTT Oct 58

Echo Distortion In FM Transmission: Medhurst RG, P Feb 56

P Feb 56
FM, Nolse and Crosstalk: Runyan RA, NCR ot1 56
Frequency Division, RF Bandwidth: Medhurst RG,
P Feb 56; Hamer R, P Dec 56
Harkins, Principles of: Hershfield WN,
T-BTS Mar 56
Sixteen Channel, with Transistors and Magnetic
Core Memory Circuits: Myrick JC, NCR pt8 56

Multiplexers:

UHF Transmitters, Coupler for: Carlin HJ, NCR pt8 55

High-Speed Electronic , for Telemetering: Bishop RP , NCR pt1 56

High-Speed, High-Accuracy for Analog Signals to Be Used in Digital Systems: Marquand RE, T-TRC Apr 57 Low-Level, High-Speed Sampling System; Francis JP, T-TRC Apr 57 Microwave, Variable Ratio: Teeter WL T-MTT Oct 57

Multiport Biconical Antenna: Henry RC, P Oct 57, NCR pt1 57

Time Division: Bleganski WJ, NCR pt8 57 with Addressed Information Packages: Filipowsky F, NCR pt8 57

Transistorized, for Telemetering: Sacks JM, T-TRC May 57

Waveguide and Strip Transmission: Alstadter D , WCR pt 158

Maltiple Froncenco Shift Tollotyne - Jordan DB., P. Nov. 55 Multiple Tollomatering Antonna System for Supersonic Auroratti. Andorson RE., T-AP Oct. 55

Multipliers:

Analog-

Electronic: Kalbfell DC, T-EC Jun 57 Multiple Input: Porter DD, NCR pt4 56 Using Carriers: Weibel ES, T-EC Mar 57 Using Multigrid Modulator: Sydnor RL, T-EC Jun 56

Using Switching Translstors: Chen K, NCR pt4 56
Digital, High-Speed: Estrin G, T-EC Sep 56;
Lehman M, T-EC Sep 57

Electron, Neutron Detectors: Daum L, T-NS Aug 58 Frequency High-Power: Uenohara M, P Oct 57 Multibeam, Velocity-Type: Matsuo Y, P Jan 56
Ddd Integer Magnetic: Johnson LJ, P Feb 55
Phase Stability: Kaira SN, P Jan 57 Standard-Frequency: Clapp JK, NCR pt5 57 Traveling-Wave: Bates DJ, P Jul 57 General Purpose Electronic: Meyers RA, T-I Jun 56 Photubes:

Recent Development: Linden BR, T-NS Nov 56 Scintillation Counting: Widmaler W, T-NS Nov 56 Iransit Time Dispersion in: Greenblatt MH, T-NS Jun 58

Probability Distribution for Output: Lampard DG, T-IT Mar 56

Time Division: Lilamand ML, T-EC Mar 56 Time-Division, Transistorized Four-Quadrant: Schmid H, T-EC Mar 58

Trigonometric Resolution in Analog Computers: Howe RM, T-EC Jun 57

Tubes , High Output with Accelerator Grids: Allen JS , T-NS Nov 56

Multiply-Instrumented Control Systems: Stewart RM, T-AC Nov 57

Multipole Analysis of Active Networks: Zadeh LA, T-CT Sep 57

Multipressure Measuring System: Bain MB, T-I Mar 57 Multiterminal Transducers, Energy Relations in: Shekel J, T-CT Sep 55 Multivibrators:

Bistable, Survey of Characteristics: Davidson CH, T-EC Jun 57 Junction Transistor: Pederson DO, T-CT Jun 55 Semiconductor Diode: Suran JJ, P Jul 55 Transistor Monostable , for Pulse Generation: Suran JJ , P Jun 58

Transistor, Two-Terminal Analysis: Suran JJ, T-CT Mar 56

Municipal Radio Systems, Integration of: Kennedy ME, T-VC Jul 56

Munsell Value Scale: Ladd JH, P Sep 55

Munnurs:
Mustcal: McKustck VA, T-ME Dec 57
Translents in: Rodbard S, T-ME Dec 57
Muscle, Six-Channel Electromyograph for Studies on:
BasmaJian JV, T-ME Jul 58

Audio Engineering and Research: Martin DW, T-AU Sep-Oct 56 Composition, by Digital Computer Techniques: Brooks FP Jr, T-EC Sep 57 Electronic: LeCaine H, P Apr 56

Energy Distribution in: Overley JP, T-AU Sep-Oct 56 Engineers Knowledge of: Chandler CH, T-AU Sep-Oct 56 Enhancement by Reverberation: Martin DW, NCR pt6 54

Room Acoustics: Snow WB, T-AU Nov-Dec 57 Synthesizer, Electronic: Olson HF, NCR pt7 55

Mutual Information, Question of Terminology: Kreer JG, T-IT Sep 57

-N-

N-1 Compass System: Rosaler RC, NCR pt5 54
N-Ports, Residues of Matrices: Cederbaum I, T-CT Mar 57
N-Stage Series Transistor Circuit: Beck KH, T-CT Mar 56
Napier, John, Spelling of: Wheeler HA, T-CT Jun 55
Napierian Logarithms: Corrington MS, P Sep 57
Narrow Limit Gage Sampling Procedure: Harding HG,
NCR pt10 57

National Bureau of Standards VLF Noise Study: Crichlow WQ, P Jun 57

National Electronics Conference, Student Attendance: Gershon JJ, SQ Dec 56

National Radio Astronomy Observatory, Noise Levels at: Findlay JW, P Jan 58

National Radio Astronomy Observatory Radio Telescope: Emberson RM , P Jan 58 National Television System Committee:

Color Television Signal Specifications: NTSC Signal, P Jan 54; Fink DG, P Aug 54 Color Television Standards: NTSC, P Jnn 54
Color Television Systems, Directions of Improvement:
Richman D, P Sep 56

Richman D, P Sep 56
Field Tests: DeCola R, P Jan 54
Monographs: Fink DG, P Jan 54
Panel Membership: National, P Jan 54
Technical Coordination: Swith DR, P Jan 54
Nation's Scientific and Technical Strength, Improvement of:
Kelly MJ, T-EM Occ 57

Natural Cooling for Avionic Equipment: Welsh JP, T-ANE Mar 58

Nature's Error Criterion: Guillemin EA, T-CT Mar 54; T-CT Sep 54; Skinner LV, T-CT Jun 54; Page CH, T-CT Sep 54

Nature's Palses: Green EJ, SQ Feb 57 Mayaglobe Mavigation System: Clark CT, NCR pt5 54

Aerial, Lightweight Kilowatt Klystron Amplifier for:
Rockwell RG, WCR nt3 58
Aids, Procress in 1953: Radio Procress, P Anr 54
Aids, Standard: on Terms: IRE Standards, P Feb 55
Airborne Donaler Simulation: Lucey WE, WCR nt8 57
Airborne Dual Antenna System for: Spanos WM,
NCR nt5 50 Automatic Navigator: Condie MA, T-ANE Dec 57 Computer ASN-7, Design Features: Françoulis SI, T-ANE Sep 56 Doppler: Fried W3, T-ANE Dec 57, McMahon FA, T-ANE Dec 57 Doppler Noise and , Relation Between: Bushnell RH , T-ANE Dec 58 Doppler, Performance Profiles of: Fried WR, T-ANE Dec 58 Doppler Radar Computer Insalaco JJ, T-ANE Dec 57
Doppler Radar, Reliability Measurements: Stahl PD,
NCR nt6 50 Errors, Theory of, Airborne Direction-Finding: Ancker CJ, T-ANE Dec 50 Infrared: McLucas JL, T-ANE Dec 57
IntermInnetary Travel: Castruccio PA, T-ANE Dec 57
Janus-Type Doppler, Dual Beam Antenna for: Saltzman H, NCR of 1 56 Long-Ranne: Clark CT, NCR pt5 54
Long-Range, Considerations Affecting Choice:
Rosenberg S, NCR pt8 5(, Metallic Reflector Applications in: Megla G, WCR pt10 57 Wissile Guldance Systems: Johnston SL, T-I Jun 56 Navigational Intelligence, Display and Use of: Majendic AMA, T-ANE Sep 58 Navigational Period on Other Planers: Wadel LB, T-ANE Dec 57 T-ANE Dec 57
Havy: Neely GM, T-CS Nov 54
and Power: Weihe VI, T-ANE Sep 58
Stellar Inertial: Horsfall RE, T-ANE Jim 58
TACAN VOR-DME Systems, Co-location of: Ricketts
PE, NCR nt8 56
Navy Instrument Calibration Program: Roach FL, T-I Dec 58
Navy Instrument Calibration Program: Roach FL, T-I Dec 58 Navy Laboratory, Management of: Phelps JM, T-EM Sep 57 Navy Requirements in Basic and Applied Electronics Research: Shostak A, WCR at 857 Navy Specification Program for Reliability: Nucci EJ, T-RQC Sep 58 Near-Field Corrections to Line-of-Sight Propagation: Wheelon AD, T-AP Jul 56, P Oct 55 Near-Zone Power Transmission Formulas: Hu MK, NCR pt8 58 Negative Base Number Systems: Wadel LB, T-EC Jun 57 Negative Impedance Circuits: Lundry WR, WCR pt2 57, T-CT Sep 57 Negative Impedance Convertors: Basic Relations and Limitations: Lundry WR, T-CT Sep 57, WCR pt2 57 in RC A tive fletworks: Yanigisawa T, T-CT Sep 57 Relation of Practical to Ideal Circuits: Larky AI, T-CT Sep 57 Negative and Loudspeakers Impedance: Werner RE , T-AU Jul-Aug 50 Negative Output Resistance Feedback Amplifier for Magnetic Measurements: Harris WP, NCR pt5 58 Negative Resistance Amplifier, Reflex Klystron as a: Quate CF, T-ED Jul 58 Negative Resistance, Nesistor: Polil RG, WCR nt3 57 Negative Resistance, Nesistor: Polil RG, WCR nt3 57 Negative Woodward PM, T-IT Mar 57 Neon Bulb as Nonlinear Current Element: Hendrix CE, T-CP Sep 56 Neon-Bulb Read-Out for Transistor Decimal Counter: Lobman RD, WCR et5 57 Neon Tubes, Permanent Digital Storage: Raphael MS, T-I Jun 56 Nerve Action, Electro-Ionics in: Cole KS, T-ME Oct 56 Nerve Impulse Transmission, Limits on: Wall PD, NCR pt4 56 Nesistor Pohl RG, WCR pt3 57 Netherlands, Electronics Education in: Roger R, SQ Feb 57 Nets, Theory of: Hohn FE, T-EC Sep 57 AC, for Servo Compensation, Design of Levenstein H, T-AC Feb 57 Active: Trixal JG, T-CT Sep 57 'Active" Defined: Zadeh LA, P Mar 56 with Arbitrary Transfer Characteristics, Bandwidth of: Nathan A, P Jun 56 Driving Point Impedance Functions of: DeClaris N, NCR pt 2 56 Four-Terminal Linear: Kawakami M, T-CT Jun 58 IRE, Transactions on: Truxal JG, T-CT Dec 56 Multinole Analysis: Zadeh LA, T-CT Sen 57 RC: Thomton RD, T-CT Sen 57 Using Negative Impedance Converters: Yanigisawa T, T-CT Sen 57

Transfer Function Synthesis: Horowitz 1, WCR pt 2 57

Navard, Long-Distance, Systems Analysis Approach to Choice of Rosenbern S, T-ANE Jun 57

Naval Research Laboratory High-Current Photomultiplier: Shape an JD , T-NS Feb 56

Separation Transformations for Square Matrices: Meadows HE, T-CT Sep 57 Synthesis; Horowitz IM, NCR pt 256 Synthesis Techniques: Linvill JG, NCR pt 257 Transistor Stability: Stern AP, NCR pt2 56 Analogy for Istope Kinetics: Schoenfeld RL, NCR pt4 57 Analysis by A-Matrix Method: Bashkow TR , T-CT Sep 57 Analysis and Synthesis by Digital Computer: Mayeda W, WCR pt2 57 WCK pt.2.57 Audio Flutter-Welghting: Comerci FA, T-AU Sep-Oct 56, NCR pt.7.56 Band-Pass Attenuation and Phase Functions: Grinich VH, NCR pt.2.54 Band-Pass Ladder, Synthesis of: Watanabe H, T-CT Dec 58 Band-Pass, Use of Logarithmic Approximation with Singularity Plots: Tompkins HE, T-CT Jun 55 Bilateral Switching, Analysis and Synthesis of: Miller RE, T-EC Sep 58 Bridge Equivalent for Brune Cycle: Reza FM, P Aug 54 Bridge Equivalent of Brune Network: Van Valkenburg ME, P Nov 56 Cascade Synthesis: Guillemin EA, T-CT Dec 55 Cascaded, Chain Matrix of: Storch L, T-CT Dec 56 Cascaded, Chain Matrix of: Storch L, 1-C1 Dec 56
Cascaded LC Elements, Determination from Return Loss
Coefficients: Fielder DC, T-CT Dec 58
Cascaded Two-Port: Ceder I, T-CT Sep 58
Change of Voltage Reference Terminal: Shekel J,
P Jul 54 Circulators Based on Scattering Concept: Treuhaft MA, T-CT Jun 56, P Oct 56 T-CT Jun 56, P Oct 56
Closed Loop, Root Locus Method: Lass H, P May 56
Compensation, for Ceramic Phonograph Reproducers:
Bauer BB, T-AU Jan-Feb 57
Compensation Theorem: Cheng DK, P Mar 55
Computers for Design of: Bangert JT, NCR pt2 55
Constant Time Delay, with Low Q Elements: Storch L, NCR pt2 54 Coupling: Thomson WE, T-CT Jun 57
Coupling, Applied to Transistor Amplifiers and Antenna Matching: Ligomenides PA, WCR pt2 58 Decomposition Using Topological Formulas: Kim WH, T-CT Dec 58 Delay Line Synthesis of: Linden DA, T-ANE Mar 57 Data for Crystal Filters: Dishal M , NCR pt8 57 by First-Order Predistortion Technique: Desoer CA , T-CT Sep 57 Outlook in: Gulllemin EA, NCR pt2 55 Determinants: Cederbaum I, P Feb 56 Dielectric Image Lines, Components In: King DD, T-MTT Mar 55 Displacement of Zeroes: Papoulis A, P Jan 55
Dissipationless Symmetrical: Jones EMT, P Jul 57
Dissipationless, Theorem for: Szentirmal G, P Aug 58
Double-Tuned Coupling: Power Transfer In: Stern AP,
P Aug 56 Driving Point Functions: Kuh ES, T-CT Dec 55 Topological Considerations In: Seshu S , T-CT Dec 55 Electrical , Order of Differential Equation Determined: Otterman J , P Jul 57 Equivalent, for Coaxial Line to Hellx Junction: Watson WH, T-ED Jul 56 Equivalent for Discontinuities in Balanced Strip Line: Oliner AA , T-MTT Mar 55 of Fixed and Variable Resistors: Armstrong HL , P Aug $58\,$ FM Distortion: Hupert JJ, P Feb 54
Foster's and Gauer's Theorems: Reza FM, NCR pt2 55
Four-Port Constant R, for Signal Amplifier Repeater:
Desoer CA, T-CT Dec 58 Four-Port Symmetrical, Analysis of: Reed J, T-MTT Apr 57, T-MTT Oct 56 Four-Terminal: Four-Terminal:
Cascaded Active: Armstrong HL, T-CT Jun 56
Image Circles: Mathis HF, T-MTT Jan 56
Matric Representation of: Armstrong HL,
T-CT Jun 56
Maximum Efficiency: Bolinder EF, P Jul 56;
Mathis HF, P Feb 55; Altschuler HM, P Aug 55
Functions, Linear Topological Formulas for Coates CL,
T-CT Dec 58 Functions, Pole-Zero Sensitivity In: Kuo FF, T-CT Dec 58 Gain Limitations: Carlin HJ, P Nov 54 Impedance, as Analog Computors: Cremosnik G, P May 58 Impedance Synthesis: Kingston RH, P May 54; Storer JE, P Sep 54 Input-Controlled, Variable-Pass: Jeffrey A, T-IT Mar 56; Keiser BE, T-IT Mar 55 Insertion Loss Filters: Belevitch V, T-CT Dec 55 Isometric Circle Method of Treating: Bollnder EF, P Oct 57 Impedance Transforming: Geipel DH, NCR pt2 55 Iterated, Use of Tchebycheff Functions: Armstrong HL, T-CT Jun 55 Interative Combinational Switching: McCluskey EJ, T-EC Dec 58 Iterative Synthesis: Caryotakis GA, NCR pt 2 55 Jaurmann, Transformations: Once M, P Aug 55

Ladder Analysis by Signal-Flow Graph: Wing O, T-CT Dec 56 A Property of: Zemanian AH, P May 58 Synthesis of: Storch L, P Nov 54 Transient Responses of: Zemanian AH, T-CT Sep 58 Tschebyscheff and Butterworth: Weinberg L , NCR pt2 57 Using Low-Q Coils: Weinberg L, P Apr 58 Least Squares, Use of: Aaron MR, NCR pt2 55 Active Transformed to Passive Bilateral: Guillemin EA, T-CT Sep 57 Containing a Periodically Operated Switch, Trans-mission Through a: Descer CA, WCR pt2 58 Noisy, Canonical Form of: Haus HA, T-CT Sep 58 Simplifications for Analysis of: Matthaei GL, T-CT Sep 57 Survey of Properties: Bolinder EF, T-CT Sep 57 2-Port, Matrix Representation of: Bolinder EF, T-CT Dec 57 Variable, Frequency-Domain Mod: Johnson GW, NCR pt4 58 of Linearly Variable Resistances: Levenstein H, P Feb 58 Loop-and-Node-Analysis Approaches to Simulation of: Otterman J, T-EC Sep 58 Lossless Nonreciprocal, Characteristic Frequencies of: Desoer CA, T-CT Dec 58 Lossless, Synthesis for Prescribed Transfer Impedances: Macnee AB, T-CT Dec 58 Lowpass Ladders, Theorem for: Fujlsawa T, T-CT Dec 55 Matrix: Analysis of Transducers: Shekel J, P May 54 Factorization: Shulke HA, T-CT Jun 55 Method of Analysis and Synthesis: Pipes LA, T-CT Jun 55 Method of Relay Circuit Design: Hohn FE, T-CT Jun 55 Maintenance and Operation Problems: York DE, T-VC Jun 54 Maximally Flat Delay: Wood IE, T-CT Dec 58 Maximum Flow through: Elias P, T-IT Dec 56 Mesh Determinant: Seshu S, P Mar 55; Okada S, Microwave: Equivalent Circuit: Felsen LB, P Feb 54
Intrinsic Insertion Loss of Mismatched: Tomiyasu K,
T-MTT Jan 55 Nonreciprocal Four-Pole: Macpherson AC, P Aug 55 Use of Scattering Matrices: Matthews EW, T-MTT Apr 55 Minimum Phase Transfer Function: Pantell RH, T-CT Jun 55 Mivata's Method of Synthesis: Kanal L , T-CT Dec 57 Modified Wheeler, Measurement of Dissapative 4-Poles: Altschuler HM , T-I Oct 55 , T-MTT Jan 55 Modified Wheeler, NonrecIprocal Two-Port Represented by: Altschuler HM, T-MTT Oct 56
N-Port, Realizability Conditions on: Welnberg L, T-CT Sep 58
N-Port Without Ideal Transformers: Cederbaum 1, T-CT Sep 56 Admittance and Impedance Matrices: Puckett TH, T-CT Mar 56 Pair, Application of Scattering Matrices to Synthesis: Oono Y, T-CT Jun 56 Neutralization and Unlaterialization: Chang CC, T-CT Jun 55 T-CT Jun 55

New Directions: Carlin HJ, T-CT Sep 57

Noisy Fourpoles: Rothe H, P May 56

Noisy, Invariants: Hals HA, NCR pt2 56

Nolsy Two-Port, Geometric Analytic Theory of:
Bollnder EF, P Dec 58

Nonbilateral, Transformed to Passive Bilateral:
Guillerin EA, T-CT Sep 57 Almost-Optimum: Smith OJM, T-IT Mar 54 Compensating, for Feedback Systems: Mishkin E, Noise Suppression: Gordon RL, NCR pt4 56 Use of Impedance Concepts: Thomsen JS , T-CT Sep 55 Nonreciprocal: Digital Computer Analysis of: Mayeda W, NCR pt 2 58 Linear: Cederbaum 1, T-CT Jun 56 Linear, Realizability of: Carlin HJ, P May 55 TEM-Transmission-Line: Jones EMT, WCR pt 1 58 Topological Analysis: Mason SJ, P Jun 57 Two-Ports, Represented by Modified Wheeler Networks: Altschuler HM, T-MTT Oct 56

Numerical Analysis for Design: Belevitch V,
T-CT Mar 56 Optimum-Response Physically Realizable: Chang SSL, P Sep 55 Optimum Synthesis of RC Ladder: Palge A, WCR pt2 58 Parallel-T RC: Oono Y, P May 55
"Passive" Defined: Zadeh LA, P Mar 56

Periodic Functions Approximation Applied to Circuit Theory: Simon JC , T-AP Jul 56

Polyphase Filtering: Madella GB P Jan 55

Phase Difference:

RC: Weaver DK, P Apr 54 RF: Cifuentes MG, P Mar 54 Phase Function: Weinberb L, T-CT Sep 56 Phase Shift: Sherr S, P Jul 54
Phase Shift: Sherr S, P Jul 54
Phase Shift, Wein Bridge: Diamond JM, P Dec 54
Phase-Splitting: Dishal M, P Nov 24
Pi, RF Amplifiers, Use of: Pappenfus EW, SQ Dec 55 Potential Analog Method of Analysis: Vowels RE, T-CT Sep 57 Potential Analogs: Scott RE, NCR pt2 55
Power of Matched Generator: Sweet LO,
T-MTT Apr 57 Properties of Circulators Based on Scattering Concept: Treuhalt MA, P Oct 56, T-CT Jun 56 Pulse-Forming: Trinkhaus JW, T-CP Sep 56
Pulse-Forming, Application Problems: Graydon A,
T-CP Mar 57 Pulse-Forming, Approximating Equal-Ripple Flat-Top Step Response: Perry AD, NCR pt2 57 Rate, for Servo Systems: Lyons LF, NCR pt10 55 Rational Function Approximation: DeClarls N, NCR pt2 55 RC: Design: Sallen RP, T-CT Mar 55 Ladder Synthesis: Scott RE, NCR pt2 54 Parallel-T: Oono Y, P May 55 Phase Difference: Weaver DK, P Apr 54 Pulsed, for Sampled-Data Systems: Sklansky J, NCR pt2 56 Single Component Frequency Control: Clothier WK, T-CT Mar 55; Hall HP, T-CT Sep 55 Three Terminal, with two Capacitors, Limits of Gain: Cederbaum I, T-CT Dec 57 Realization of Optimum Amplifler Noise Performance: Adler RB, T-CT Sep 58 Realization Techniques: Darlington S, T-CT Dec 55 Reciprocity in Active Elements: Shekel J, P Aug 54, T-CT Jun 54 Reflection Coefficient Measurement: Mathis HF, T-MTT Oct 55 Reflection Coefficients with Alternating Zeros: Weinberg L, T-CT Dec 57 Resistance Terminated: Weinberg L, P Jan 55, NCR pt2 54 Resistive, No-Amplification Property of: Ceder 1, T-CT Sep 58 Response, Expansion into Orthogonal Functions: Papoulis A, T-CT Mar 55 Response to Simultaneous AM/FM Signals: Zwelg F, T-CT Dec 55 RLC: Ladder Synthesis: Ho EC, NCR pt 2 54
Lattice Transfer Functions: Flalkow AD, P Apr 55 One Resistance and Real Transformer: Weinberg L, P Feb 54 Synthesis Procedure: Weinberg L. P Feb 54 Transfer-Function Synthesis: Ho EC, 7-CT Sep 56
Transfer-Voltage Ratio: Reza FM, P Sep 54
Sampled-Signal, Synthesis of: Lewis PM,
T-CT Mar 58 Scattering Matrix Theory: Circulators, Network Properties of: Treuhaft MA, T-CT Jun 56, P Oct 56 1-(1 Jun 56, P Oct 56 Elementary Application: Belevitch V, T-CT Jun 56 Equivalent Circuit for Symmetrical Junctions: Kahn WK, T-CT Jun 56 Four-Pole Transformations: Belevitch V, T-CT Jun 56 Synthesis of N-Ports: Oono Y, T-CT Jun 56 Series-Parallel: Weinberg L, T-CT Sep 57 Shape Factors of the Step Response: Zemanian AH, P Sep 56 Shunt Canacitance: Stewart JL, NCR pt2 55 Simplified Method of Solving: Boxer R, P Jan 56 Single-Sideband Crystal Filter Design: Dishal M, WCR pt2 58 Solution of the Right Triangle Problem: Winkler MR , WCR at 4 58 for Switching Functions of Four Variables Contact: Gould R , T-EC Sep 58 Synthesis: without Ideal Transformers: Reza FM, P Jan 54 by Matrix Factorization Method: Ho EC, T-CT Jun 55 and the Moment Problem: Spencer RC, T-CT Jun 54
Problems, Frequency and Time Domain Errors in:
Gumowski I, T-CT Mar 58
Procedure for Transmission Line: Grayzel AI,
T-CT Sep 58 Simple and Double Alternation in: Reza FM, NCR pt 2 56 Techniques: Pantell RH, P May 55; Matthael GL, P Jul 54, NCR pt2 54 of Three-Terminal, with Two Kinds of Elements: Ozaki H, T-CT Dec 58 Tchebycheff Impedance-Matching: Matthael GL, T-CT Sep 56 Tchebycheff Parameter Symmetrical Filter: Grossman AJ, P Apr 57

Tchebycheff Rational Function: Sharpe CB, P Feb 54 Tee-PI Transformations: Balabanian N, P Oct 55

and Linear Programming: Kalaba RE, P Dec 56 Topological Properties: Prihar Z, P Jul 56

Digital Computers and: Baskow TR, WCR pt2 57 and Feedback Control System Design: Trixal JG, NCR pt2 56

Telecommunication:

Geometrical Construction of Conjugate-Image Point: Kalin WK, P Jan 57 Topological Considerations in: Reza FM, T-CT Mar 58 Atmospheric Interference to Medium Wave Droadcasting: Alya SV , P Aug 58Atmospheric Interference to Short-Wave Broadcasting: Aiya SV, P Mar 58 Theorem on Rectification: Stockman H, P Mar 58 Atmospheric, and Solar Flares: King El. T-AP Jan 57 Three Terminal RC, with Two Capicitors, Limits of Gain: Cederbaum 1, T-CT Dec 57 At hospiteric at VLF: Canadian Measurements: McKerrow CA , P. Jun 57 Time Delay: Thomson WE, T-EC Jun 55 Characteristics: Watt AD, P Jun 57
Measured Statistical Characteristics: Watt AD,
P Jan 57 Time Varying: e varying:
Analog Computers: Laning JH, T-CT Mar 55
Analysis: Zadeh LA, T-CT Mar 55; Pipes LA,
T-CT Mar 55; Brodin J, T-CT Mar 55;
Robbins H, T-CT Mar 55
Complex Symbolism: Bolle AP, T-CT Mar 55
Inpulsive Responses: Miller KS, T-CT Mar 55 National Bureau of Standards Investigation: Crich-low WQ, P Jun 57 Relations between Character and Place of Origin; Chapman J, P Jun 57 Whistlers, Rapid Analysis of: Grierson JK, P Jun 57 Periodically Operated Switches: Bennett WR T-CT Mar 55 in Audio Amplifiers: Wall HJ, T-AU Mar-Apr 54 Rectifier Capacitances: Belevitch V, T-CT Mar 55 Resonance Phenomena: Herrero MC, T-CT Mar 55 Response to Suddenly Applied Stationary Random Noise: Lampard DG, T-CT Mar 55 Transform in Spectral Analysis: Gerlach AA, T-CT Mar 55 Audio-Frequency Transistor Amplifiers: Bargellini PM, P Feb 55 Audio and Subaudio, Recording of: Howard DD, NCR pt5 58 Backward-Wave Amplifier Noise Figure: Everhart TE, P Apr 55 Band-Pass Limited Gaussian: Blotekjaer K, Topology: Comments on Slepian P, T-CT Dec 58 Editorial on: Bennett WR, T-CT Mar 58 T-IT Sep 5: and Bandwidth in FM/FM Telemetering: Uglow KM, T-TRC May 57 Kirchhoff's Original Paper on: Kirchhoff G, T-CT Mar 58 Kirchhoff's "Third and Fourth Laws" on: Weinberg L, T-CT Mar 58 and Signal Flow Graph: Wing O, NCR nt 2 58 Beam-Type Microwave Amplifiers, Dip In Minimum: Tien PK, P Jul 56 Bibliography on: Chessin PL, T-IT Sep 55 Binary Transmission Through: Masonson M, NCR pt2 57 Transducer, of a Magnetostrictive Delay Line: Rosenberg L, NCR pt2 58 Broadband Generators: RF: Skolnik MI, T-ED Jul 55
UHF and VHF: Spencer WH, T-I Oct 55
Carcinotron, Measurements: Krulce RL, T-ED Dec 54
Carcinotron, Signal-to-Noise Ratio: Doehler 0,
T-ED Dec 54 Transfer Ratios of Resistance and RLC: Talbot A, P Mar 56 Transfer Tree; Marcus MP, T-EC Jun 57
Transfer Voltage Ratio: Schwarz RJ, P Npv 55 Transient Response: Cathode: Open Discussion Notes, T-ED Dec 54
Caused by Electrode Movement: Glauber JJ, P Apr 55
Channel, Coding for: Elias P, NCR pt4 55
Cliannel, Error Bounds: Feinstein A, T-IT Sep 55
Characteristics of a Backward-Wave Oscillator:
Clcchettl JB, NCR pt3 58 of Band-pass: Peters CJ, NCR pt2 55 Bounds on: Zemanian AH, P May 54, P Mar 55 FM: Gumowski 1, P May 54 Transistor Neutralization, Evaluation of: Cote AJ Jr, T-CT Jun 58 Transistors, Representation of: Pritchard RL, T-CT Mar 56 In Coincident-Current Core Memory: McNamara F, T-I Jun 57 Transmission, Digital Computers Used in Design: Bell DT, WCR pt2 57 Comparator: Greenhow CR, T-ED Dec 54 Complex Process for Envelopes of: Arens R, T-IT Sep 57 Transmission Line Networks and UHF Filter Design: Ozaki H, T-CT Dec 55 Ozaki H, 1-C, Dec 53
Two-Port Active, Instability in: Page DF, T-CT Jun 58
Two-Port, Graphical Method of Determining Efficiency:
Bolinder EF, P Mar 57
Two-Port, Matrix Representation of: Armstrong HL,
T-CT Jun 58 In Composition Resistors, Measurements of: Conrad GT, T-CP Nov 55 in a Correlation Detector: Horowitz M , T-IT Dec 55 Crystal Dlode: Messenger GC , NCR pt8 55 $\,$ Crystal Mixer: Two Terminal Pair, Matrix Analysis: Knausenberger GE, T-CT Jun 55 Noise-Temperature Ratio Measurement: Davis RE, T-MTT Dec 55 Two-Terminal Synthesis: Mlyata F , T-CT Dec 55 Vector , Synthesis of: Horn RE , T-EC Dec 57 Voltage Transfer Synthesis , Concept of One: Lewis PM , T-CT Dec 55 Performance: Pritchard WL, T-MTT Jan 55 Performance: Pritchard WL, 1-M11 Jan 55
Current-Nolse Index for Composition Resistors:
Conrad GT, T-CP Mar 56
Current, and Nonlinearlty in Carbon Resistors:
Williams TR, T-CP Dec 58
Definitions: Open Discussion Notes, T-ED Dec 54
Detecting Pulse Signals: Rochefort JS, NCR pt4 54
of Band-Pass Signals for Scatter-Path Communication:
Price R, T-IT Dec 56 Neurisonic Surgery: Fry WJ, SQ Sep 56 Neutralization: Cheng CC, T-CT Jun 55 Neutralization, Transistor, Networks, Evaluation of: Cote AJ Jr, T-CT Jun 58 Neutrons: Ittons:

Bombardment, Resistance of Silicon Transsistors:
Gillis RC, WCR pt3 57

Damage in Germanium and Silicon Transsistor, Comparison of: Easley JW, WCR pt3 58

Depth Dose in Tissue: Stickley E, NCR pt9 54

Detector, Fast, and Spectrometer, Use of Li*1 (EU) as:
Murray RB, T-NS Dec 58 Detection of Signals: Multiple Alternative Detection: Middleton D, T-IT Mar 55 Repeated Signals: Harrington JV, T-IT Mar 55 Sequential Detection: Bussgang JJ, T-IT Dec 55 Stochastic: Middleton D, T-IT Jun 57 Detectors, Piecewise Quadratic: Deutsch R, NCR pt4 56 Detector Studies at Argonne National Laboratory: Erickson GF, T-NS Jun 56 Detectors, Electron Multiplier: Daum L, T-NS Aug 58
Effects of Irradiation on Germanium and Silicon:
Messenger GC, P Jun 58
Intensity and Gamma Spectrum of Sources: Gnagey LB,
T-NS Jun 56 Diode, Potential-Mimum Region: Slegman AE, T-ED Jan 57 Discussion of: Open Discussion Notes T-ED Dec 54
Diversity Reception: Brennan DG, P Oct 55
in Driven Systems: Richardson JM, T-IT Mar 55
Effect of Frequency Measurement on: Pickard TB,
T-IT Jun 58 Level Control System, NRU Reactor: Lennox CG, T-NS Aug 58 Production in a Linear Pinch: Anderson OA, NCR pt9 58 Radiation on Semiconductor Devices, Effects of: Behrens WV, P Mar 58 Effects of Amplitude Limiting: Young GO, NCR pt4 54 Electromagnetic, Observations in the Vicinity of a Nuclear Reactor: Fain WW, T-AP Jul 58 Electron Beam, Measurements: Smullin LD, T-ED Dec 54 Scintillation Counters: Muehlhause CO, T-NS Nov 56 Time-of-Flight Studies, Fast, Instrumentation for: Smith RV, T-NS Jun 58 New York University Institute of Mathematical, Electromagnetic Research: Kline M, T-AP Jul 56 Error Probabilities for Binary Reception through: Turin GL, P Sep 58 Excess, in Crystal Diode: Richardson JM, T-MTT Jul 57 Newfoundland, Founding of IRE Section In: Ryder JD, SQ Feb 56 Factor Measurement: Hudson AC, P Dec 55
Factor in Traveling-Wave Tubes: Hok G, P Aug 56 Nickel Alloys , Filamentary , Hot Strength Properties of: Wolk B , T-ED Apr 58 Nipkow-Disk Scanner for Cytological Measurements: Sawyer HS , NCR pt9 58 Behavior in Junction Transistors: Coffey WN, P Feb 58 Noble Element Scintillators: Northrop JA, T-NS Dec 58 of the Darlington Compound Connection for Transistors: Bachmann AE, T-CT Jun 58 Definition Extended: Haus HA. P May 57 Acoustic, in Vehicles: Reinhardt 'JJ, T-VC Apr 58 Additive Stationary, Prediction of Derivatives of Polynomial Signals in: Kanter I, WCR nt4 58 as Air Force Communications Problem: Hollingsworth LM, NCR nt8 56 of a Maser Amolifier: Helmer JC. T-MTT Anr 58 Measurements on Variable Reactance Amplifiers Using Semiconductor Diodes: Herrmann GF, P Jun 58 Meter: Strim PD, T-I Oct 55 Microwave Amplifiers: Haus HA, T-ED Dec 54 Microwave Mixer Design, Minimum: Bergmann SM, T-MTT Jul 58 Amplitude vs. Angle Modulation: Montgomery GF, P Feb 54 Amplitude Distribution Analysis: Orr LW, NCR pt10 54

Theorem: Bose AG, NCP pt8 55, T-CT Sep 56 of Transistor Amplifiers, Measuring: Anouch AY, P Mar 58

Traveling-Wave Tuber St. John GE, T-ED Dec 54 Filtering of Nonrandom Signals: Johnson KR, T-IT Jun 56

Flicker Resistance: van der Ziel A, T-ED Feb 54 Fluorescent Lamps as Source, Temperature Dependence: Mumford WW, 7-I Oct 55, T-MTT Dec 55
FM/FM Telemetering: Uglow KM, T-TRC May 57
Fourpole: Rothe H, T-ED Dec 54, P Jun 56

Frequency Modulation:

Limiting Forms of Spectra- Mullen JA, P Jun 57 Multichannel Radio, Equalization of: Party CA, P Nov 57

in Oscillators: Berstein 1, P Jan 57; Stewart JL, P Mar 56

Spectra: Ward RC , P Dec 57 Gas Discharge Source: Honig W, NCR pt3 55 Gating, AGC and Sync System for TV Receivers: Spracklen JG, T-BTR Jun 57; Wood GC, T-BTR Jun 57

Gaussian:

Correlation Function After Clipping: McFadden JA, T-IT Jun 56

Curse—Transmitter, Spectrum Amplitude: Shepherd NH, T-VC Apr 58

Detection of Sinusoidal Signals: Miller KS, NCR pt4 56 Generation of: Stein S, T-IT Jun 56

Generation of: Stein S, T-IT Jun 56
Smoothly Limited, Correlation Function of:
Baum RF, T-IT Sep 57
General Sources in Tubes: Pierce JR, T-ED Dec 54
Generation, Minimum, in Backward-Wave Ampliflers,
Conditions for Curric MR, T-ED Apr 58
Generator: Winter DF, NCR pt4 54; Bernstein RI,
NCR pt10 54

Generator , Standard White: Zucker H , T-I Dec 58 Generator , Standard White: Zucker H , T-I Dec 58 Generators , Gas Discharge: White WD , P Jul 56 Grid: Stahmann JR , T-ED Jan 55 Heterodyne Type Analyzer: Richard JD , T-AU Mar-Apr 55

High Frequency Shot, In P-N Junctions: Uhlir A, P Apr 56

Impulse, In FM Receivers: Lapin SP, NCR pt8 54
Impulse, The Reaction of Sync Separators In Television
Receivers to: Luedicke E, T-BTR Sep 58
Induced Grid: Talpey TE, P Apr 55, NCR pt4 54 Infinitely Clipped, Fourth Product Moment of: McFadden JA, T-IT Dec 58

Inherent, in Klystron Amplifiers: Rockwell RG, WCR pt3 58

Input Gaussian, Influence of Threshold Action on RMS Value: Teasdale RD, P May 57

IRE Technical Committee Standardization: Open Discussion Notes, T-ED Dec 54

Invariants of Linear Noisy Networks: Haus HA, NCR pt2 56

Junction Transistor: Nielsen EG, P Jul 57; van der Ziel A, P Jun 58

Junction Transistor and Diode: van der Ziel A, P Mar 58

Klystron: Strum PD, T-MTT Jan 55 Level in Superheterodyne Radar Receivers: Haney DW, T-ANE Dec 56

Levels at the National Radio Astronomy Observatory: Findlay JW, P Jan 58

List Decoding for Noisy Channels: Elias P, WCR nt 2 57

Low-, Klystron Oscillator: LaPlante RA, T-ED Dec 54 In Low-Noise Devices, Bridge Method of Measuring: Champlin KS, P Apr 58 Low-Temperature Swenson CA, P Feb 54

Low, Tunable Preamplifiers for Microwave Receivers: Currie MR, P Mar 58

Magnetron, Generation of: Lehr CG, T-ED Dec 54
Magnetron, Measurement: Gottschalk WM,
T-ED Dec 54; Boyd JA, T-ED Dec 54

Maser Amplifier: Siegman AE, P Dec 57; Gordon JP, P Sep 58

Measurements, Cathode Test Utilizing: Dahlke W, P Sep 58 Measurements in UHF Range: Maxwell E, T-MTT Dec 55

Methods of Solving Problems: Bennett WR, P May 56

Microphonic, In Microwave Components: Open Discussion Notes, T-ED Dec 54

Microphonic, Reduction of: Kenn V, T-ED Feb 54 Microphonism Due to Transistor Leads: Durieux CW, P Jul 56

Microwave: Beam Amplifiers, Minimum Figure: Haus HA, P Aug 55

Devices, Report of Advances, 1954: King DD, T-MTT Apr 55

Equivalent Circuit for: Siegman AE , T-ED Oct 57 Measurements, Using Ferrites: Mayer CH, T-MTT Jan 56

Oscillator, Measurement: Mueller R, T-ED Dec 54; Dalman CG, T-CT Dec 54; McClain EF, T-ED Dec 54

Receiver Sensitivity: Pritchard WL , T-ED Dec 54; Open Discussion Notes , T-ED Dec 54 Shot and Amplifiers: Robinson FNH, T-ED Jul 56

Mixer Crystal: Houlding N., P.May 58 in Mixer Tubes; van der Ziel A., P.Jul 58 Modulation , In Magnetic Tape Recordings: Price RL , T-AU Mar-Apr 58

Modulation, In Two Channel Disk Recordings: Croniny D, T-AU Nov-Dec 58

Monitoring Open Discussion Notes . T-ED Dec 54 Multilevel Information Channel with: Watanabe S, T-IT Dec 57

T-IT Dec 57

In Multiplexinn FM Systems Ruman RA NCR pt 1 56
Narrow Band Gaussian, Envelope and Phase Modulated Components: Price R, T-IT Sep 55

and Navlgatlon, Doppler, Relation Between: Bushnell RH, T-ANE Dec 58

In a Nonlinear Conductance: Strum PD, P Aun 54
Through Nonlinear Devices: Deutsch R, NCR pt 4 55

Outland Nonlinear Conductance: Strum PD, P Aun 54

Through Nonlinear Devices: Deutsch R, NCR pt 4 55

Outland Nonlinear Conductance: Strum PD, P Aun 54

Optimum Amplifier, Performance, Network Realization of: Adder RB, T-CT Sep 58
Output of Balanced Frequency Discriminator: Sleplan D, P Mar 58

Parameters of an Electron Beam , Measuring: Salto S , T-ED Oct 58

PDM/FM Radio Telemetering: Uglow KM, T-TRC Apr 57

Performance of Linear Ampliflers, Optimum: Haus HA, P Aug 58

Phase-Locking In Presence of: Margolis SG, T-IT Jun 57

Physical Sources of: Pierce JR P May 56 Power of an Optimum Linear Discrete Filter: Blum M, T-IT Dec 57

Power Spectrum of-Carrier Frequency: Stewart JL,

Precipitation Static in Aircraft Antennas: Tanner RL, NCR ptl 56, T-AP Apr 57

Probability Distributions, Expanded Second-Order: Barrett JF, T-IT Mar 55 Problems, Systematic Approach to: Siegert AJF, T-IT Mar 58

Problems, Vehicular, in Land Mobile Systems:
Meyer SF, NCR pt8 58
Quantization of a Signal in: Myers GH, T-I Jun 56
Radar, Range Determination Improved: Bourret R,
P Dec 57

Radar Tracking, due to AGC: Delano RH, NCR pt4 56 P Jun 56

Radio, of Auroral Origin: Little GH, P Aug 56 Radiometer Stability Requirements and Calibration: Greene JC, P Mar 57

Random Linear Filter, Estimation of Impulse Response: Turin GL, T-IT Mar 57

Ratio of Steady Sinusoidal Signal to: Phillips ML,
P May 56

Receiver, Measurements at UHF: Maxwell E, T-MTT Apr 56

Receiver No se Figure, Indication of: Hendler AJ, NCR nt5 57

Rectification of Two Signals in: Campbell LL, T-IT Dec 56Reductions

in Backward-Wave Amplifiers: Currie MR, P May 57

in Carbon Composition Resistors: Ostaff WA, P May 57

by Crystal Mixer Cooling and Antennas: Messenger GC, T-MTT Jan 57 in Magnetrons: Krulee RL, P Jan 56

in UHF Amplifiers: Glenn AB, T-BTR Apr 54
in Region of Potential Minumum; Whinnery JR,
T-ED Dec 54 Resolution of Signals in; Helstrom CW, P Sep 55

Resolution of Signals in: Helstrom CW, P Sep 55 in Sampled-Data Systems, Statistical Invariance of: Zadoff SA, WCR pt4 58
Scintillation of Radio Stars: Little CG, P Aug 56 in Semiconductors and Photoconductors: Van Vliet KM, P Jim 58

Sequential Detection of a Sine-Wave Carrier: Blasbalg H, T-IT Dec 57

Shot: Amplification in Beams: Twombly JC, WCR pt3 57

in Junction Diodes and Transistors: Guggenbuehl W, P Jun 57

in Junction Transistors: van der Ziel A, P Nov 55, P Jul 57 in Transistors: Hanson GH, P Nov 57

Sideband, VHF Transmitter: Firestone WL, NCR pt8 55

Signal Detection and Location by Digital Methods: Dinneen GP, T-IT Mar 56 Sources:

Effect on Electronic Systems: Wiesner JB, T-ED Dec 54

for Eight-Millimeter Waves: Bridges TJ, P May 54

Microwave, Report of Advances, 1955: Report, T-MTT Apr 56

Modulator and Power Supply: Beam WR, T-ED Apr 57

in Trans stors, Flicker: Chenette ER, P Jun 50

Soviet Literature on: Green PE, T-IT Jun 56 Specification: Open Discussion Notes , T-ED Dec 54 Spectrum of Carrier Modulated by: Medhurst RG, P Jun 55

Square Law and Synchronous Detectors, Behavior of: Sorger GU, T-I Oct 55

Squelch System Control: Klehfoth WG , T-VC Jun 55 Standards, Microwave, Gas Discharge Noise Sources as: Olson KW, T-I Dec 58

Statistical Considerations Involved in Separation of Signal: Ville JA, T-IT Mar 57 Summary of Fluctuation Symposium Papers: Huggins WH, T-ED Dec 54

Suppression in Nonlinear Systems: Gordon RL, NCR pt4 56

Suppression in Speech: Di Toro MJ, NCR pt4 54 Survey of Communications Antennas: Scheldorf MW, T-VC May 57

Systematic Approach to Class of Problems: Darling DA, T-IT Mar 57; Siegert AJF, T-IT Mar 57

Temperature: Strim PD, T-MTT Jul 56
Temperatures, Dependence of Range of Tropospheric
Scatter Communications on: Hausman AR,
T-CS Dec 58

Terrestrial, Report of URSI Commission IV: Dinger HE, P Jul 58

Tetrode Ion Oscillations: Waters WE, T-ED Dec 54

and Atmospheric, Radio Systems Performance In: Watt AD, P Dec 58

In Gas Discharge, Spectral Distribution: Bergmann SM, T-MTT Oct 57

Bergmann SM, T-MTT Oct 57
Television Signal Detection: Bridges JE, P Sep 54
Thunderstom Radiation: Aiya SV, P Aug 55
Time Statistics of: Brown WM, T-IT Dec 58
Transistor Measurement of: Grieg DD, NCR pt 10 55
Traveling-Wave Tube, Design for Low-Noise:
Buchmiller LD, T-ED Jul 57
Traveling-Wave Tube, Minimum Figure: Harrison SW, P Feb 55

Traveling-Wave Tubes: Mungall AG, T-ED Apr 55 Triode, Equivalent Circuit for: van der Ziel A,

T-ED Apr 54

Triode, Measurement and Analysis: Harrls WA,
T-ED Dec 54

Zero Error Capacity of Noisy Channel: Shannon CE,

T-IT Sep 56

Nomenclature and Classification for Standards of Measure-ment: McNish AG, T-I Dec 58 Nomograph for Designing Elliptic-Function Filters: Henderson KW, P Nov 58

Noncontact Measurements, Use of RadioIsotopes: Bauschinger O, T-I Jun 57 Nondestructive Testing by Ultrasonics: Harrison BM, NCR pt9 55

Non-Gaussian Noise in Linear Systems: Gold B, T-IT Mar 54

Nonlinear:

Capacitance of Germanium Diode, Harmonic Generator Using: Kita S, P Jun 58

٧,

Circuits , Gain-Phase Relations of: Levinson E , NCR pt4 58 Control, Obstacles to Progress In: Chestnut H, T-AC Jul 58

Control System for Stabilizing a Missile: Kalman RE, WCR pt4 57

Devices from Harmonic Measurements, Parameters of: Haber F, T-ED Jan 58 Devices Having Gaussian Inputs, Theorem for: Price R, T-IT Jun 58

Devices , Instantaneous Effect on Cross-Correlation: Leipnick R, T-IT Jun 58

Elements:
General Energy Relations: Manley JM,
P Jul 56
Manual Energy Relations:

Quantum Derivation of Energy Relations: Weiss MT, P Jun 57

 $\begin{array}{c} \text{Sampled-Data Systems Containing: Tou J,} \\ \text{P May } 58 \end{array}$

Small Signal Theory, General Properties of: Rowe HE, P May 58 Feedback Control Systems , Analysis of: Mikhall SL , WCR pt4 58

Feedback Systems, Stability of Forced Oscillations in: Bonenn Z, T-AC Dec 58

Filtering, Optimum, of Balakrishman: Beutler FJ, T-IT Jim 58

Filters: White WD, T-CT Dec 54 Function Representation, Operational Amplifiers: Howe RM, T-EC Dec 56

and Hysteresis Combined Gains in Complex Control Systems: Halstenberg RV, T-AC Jul 58 Media, Lossiess, Power-Flow Relations in: Haus HA, T-MTT Jul 58

T-MTT Jul 58

Operators , Representation of: Zadeh LA , WCR pt2 57

Reactance Traveling-Wave Amplifier , Low-Noise:
Engelbrecht RS , P Sep 58

Resistive Elements , Power Relationships for:
Pantell RH , P Dec 58

Servomechanism , Second Order , Design and Performance of a Model: Kuba RE , T-AC Jul 58

Availability of Necessary Theory for: Smlth OJM, T-AC Jul 58 Experimental Determination of Optimum: Bose AG, NCR pt4 56

Feedbacks, Measurement and Stabilization of: Casserly G, NCR pt4 56

SUBJECT INDEX

Noise Suppression: Gordon RL, NCR pt4 56 Resnonse Measurements: Booton RC, T-CT Dec 54
Transfer Functions with Thyrite: Kovach LD,
T-EC Jun 58 Noalinearities: in Adaptive or Self-Optimizing Control Systems: Taylor CF, T-AC Jul 58 and Current Noise in Current Resistors: Williams TR, T-CP Dec 58 in Machine Tools and Missiles: Bower JL, T-AC Jul 58 in Process Systems: Holzmann EG, T-AC Jul 58
Nonmean Square Error Criteria: Sherman S, T-IT Sep 58
Nonontical Fields, Effect of Supperrefractive Layers:
Gossard EE, T-AP Apr 56
Norrandom Inputs of Zadeh-Ragazzini Prediction Model:
Blum M, T-IT Jun 56 Nonreciprocal: Devices at Low Microwave Frequencies, Mixer Garnets for: Ancker-Johnson B, P Jul 5B Ferrite Devices: Vinding JP, P Oct 57 Linear Networks: Cederbatum 1, T-CT Jun 56 Microwave Components: Chait HN, NCR pt8 54 Microwave Ferrite Devices: Hogan CL, P Oct 56 Networks, Analysis by Digital Computer: Mayeda W, NCR pt2 58 Phase Shift Sections: Chalt HN, NCR pt5 76 Ring Circuits, Properties of: Tischer FJ, T-MTT Jan 58 TEM-Transmission-Line Network: Jones EMT, WCR pt1 58 Wave Propagation in Ionized Gaseous Media: Goldstein L, T-MTT Jan 58 Nonsaturated Circults: Florida CD, T-CT Sep 57 Nonsaturation of Reverse Current in Junction Diodes: Armstrong HL, T-ED Apr 58 Armstrong HL, T-ED Apr 58

Nonuniform Dielectric Medfa: Barrar RB, T-AP Jul 55

Nonuniform Transmission Lines: Kaufman H, T-AP Oct 55

NOR Circuit for Translstors: Rowe WD, WCR pt4 57

NORDIC II Computer: Jeeves A, WCR pt4 57

Normal Mode Theory vs Ray Theory in Wave Propagation

Problems: McCracken LG, T-AP Jan 57

Normal Mode Warping: Fox AG, T-MTT Dec 55

Norton's and Thevenin's Theorems Generalized: Zadeh LA,

P Mar 56 Nuclear: Counting Circuits , Transistorization of: Graveson RT , T-NS Aug 58 Emulsions, Scanning by Track Recognition System: Becker S , NCR pt9 57 Fusion, Controlled: Post RF, P Feb 57
Industry, Electronics in: Berkner LV, NCR pt9 54
Instrumentation, "Hard-Bottoming" Technique in Circuit
Design: Harris CC, 7-NS Mar 56 Instrumentation in Industrial Electronics: Anton N , T-IE Apr $58\,$ Instrumentation, Man-Instruments Relationships: Coe GJ, T-I Jun 57 Instruments, Transistorized: Shea RF, NCR pt9 57 Magnetic Moments, Precession of: Allen TL, WCR pt9 57 WCR pt9 57
Power Plant, Experimental Boiling Water Reactor Type,
Control Aspects of: Lipinski WC, NCR pt9 56
Propulsion of Rockets: Murray FJ, NCR pt10 55
Pulse Amplifiers, Transistorized, Noise in: Jones AR,
NCR pt9 57 Radiation: inition: from Air Burst Bomb, Effects on Tactical Communi-cation System: Eggert J, NCR pt8 56 Applications to Aeronautical Navigational Aids: Colien MJ, T-CS Mar 57 Background, Detected by Nai Crystals: Miller CE, T-NS Nov 56 Background During Teapot Atomic Tests: Sander HH, T-NS Jun 58 Effect on Capacitor Reliability: Paddock RR, T-RQC Dec 58 Effect on Semiconductor Devices: Keister GL, P.Jul 57 Effect of High Intensity, on Component Parts and Materials: Lascaro CP, NCR nt6 58 Effects on Electronic Components: Baldwin T, NCR nt8 56 Effects on Silicon Diodes: Clark JW, WCR pt9 57 Effects on Vidicon Performance: Davidson RA, T-NS Aug 58 Environment, Components for: Clark JW, NCR pt6 58 Measurements of: Dosimeter Sensitivity: Stein MN, NCR pt8 56 Field, Instrumentation for Carp G, NCR pt8 56 at High Rates. Brown P, NCR pt8 56 Ionization Chamber: Higinbotham WA, T-NS Mar 57 Over Telephone Lines: Costrell L. T-NS Aug 58
Over Telephone Lines: Costrell L. T-NS Aug 58
Transistorized: Goulding F5, T-NS Aug 58
Neutron, Resistance of Silicon Transistors to:
Gillis RC, WCR pt3 57 Reactions, Inelastic, of Protons in Scintillators: Johnston LH, T-NS Dec 58

Automatic Start-Up of Cox RJ, T-NS Feb 56

Boiling Water and Pressurized Water, Relative Stability: McPhee J, T-NS Mar 57 Control Design , Electronic Analog Devices for: Mann ER , T-NS Mar 56 Control, Solid-State Devices for: Malaker SF, NCR pt 10 55 Control System, Fast Time Scale Simulation of: Friedensolin G, T-NS Aun 58 Controls, Miniaturization: Kline KII, NCR pt9 57 Controls, Transistorized and Miniaturized: Kline KH, NCR pt9 57 Electromagnetic Noise and Propagation Observations in the Vicinity of: Fain WW, T-AP Jul 58 Electronics: Breazeale WM, NCR at 954
Frequency Response: Estanda H, T-NS Mar 57
Fusion, Production of Intense Magnetic Fields and
Their Relation to: Levine M, NCR pt 958 Geneva Conference, Control and Automatic Startup: Epler EP, NCR pt9 56 Heterogeneous , Designing for Stability: Little D , T-NS Mar 57 Instrumentation: Cox RJ, T-NS Feb 56 Instruments: Wade EJ, NCR nt9 54
NRU, Neutron Level Control System: Lennox CG,
T-NS Aug 58 NRU, Thermal Power Control of the: Lennox CG, T-NS Aug 58 Plants , Capacitance Level Gage: Gernert W , T-NS Aug 58 Power Plant Control Systems: Grace JN, NCR pt9 54 Reactivity Computer: Stubbs GS , T-NS Mar 57 Safety Aspects of Control Circuitry: Cole TE, NCR pt9 54 Safety Circuits, Application of Transistors to: Wade EJ, T-NS Aug 58 Scintillation Counter Application: Managan WW, T-NS Dec 58 Semiconductor Dielectric Amplifier: Walker JM, NCR pt3 57 NCR pt3 57
Simulators: Flschbeck KH, NCR pt9 54
Start-Up Simulation: Franz JP, T-NS Mar 57
Steam Electric Power Plant: Kerr W, T-IE Mar 56
Transport Lag Simulation by Analog Computer:
Stone RS, T-EC Sep 57
Vibration, in Grid Controlled Vacuum Tubes:
Gross GH, NCR pt3 57 Water-Cooled, Simulation of Hot Channel Boiling in: Johnson SO, T-NS Jun 58 Systems, Instrument Opportunities in: Parsegian V, NCR pt9 56 Null-Zone Reception , Binary Transmission by: Bloom FJ , P Jul 57 P Jul 57
Number Systems , Negative Base: Wadel LB , T-EC Jun 57
Number Systems: Auerbach IL , SQ Sep 58
Numerical Analysis on Computer , Switching Times for Drift
Transistor: Mitchell A , NCR pt 35
Numerical Analysis for Network Design: Truxal JG ,
T-CT Sep 54: Belevitch V , T-CT Mar 56
Numerical Analysis , Operational Calculus for: Thaler S ,
NCR pt 2 56 Numerical Control of Machine Tools: Kelling LUC, T-IE Mar 55; Huskey HD, WCR pt4 58 Numerical Control System for a Drivmatic Riveter: Lakin HM, WCR pt6 58 Numerical Transform Calculus: Boxer R , P Oct 57 Nyauist Diagrams , Dual: Jones P , T-CT Mar 54 Nyauist Sampling Theory and Amplitude Quantization: Widrow B , T-CT Dec 56 -0-Oak Ridge Nonreactor Electronics: Bell PR, NCR pt9 54 Oblique Waves Over a Corrugated Conductor: Hougardy RW, T-AP Oct 58 Observation, Minimum Energy Cost of: Adler FP, T-IT Dec 55 Observatory, Meudon, Radio Astronomy at: Blum EJ, P Jan 58Observatory, National Radio Astronomy, Noise Levels at: Findlay JW, P Jan 58 Observatory, National Radio Astronomy Telescope Program: Emberson RM, P Jan 58 Obstacle Gain at Microwave Frequencles: Bradshaw SR, WCR pt1 58 Obstetrics, Electronic Alds to: Larks SD, WCR pt5 58 Ocean, Microwave Reflection from: Beard CI, T-AP Apr 56 Ocean Roughness, Effect on Microwave Signal Spectra: Beard CI, T-AP Apr 57 Ocean Station Vessel Program, Electronics Equipment: Richards WR, T-CS Mar 55 Oceanic Duct Propagation, Prediction of, from Climatological Data: Anderson LJ, T-AP Oct 55 Data: Anderson LJ, T-AP Oct 55
Ohm's Law, 125 Years of: Berring H, SQ Seo 54
Oll Well Radioactivity Logging: Williams CE, WCR et 57
Omni-Range Alroraft Navigation System:
Accuracy of: Anderson WG, T-ANE Mar 55
RTCA Studies: Sherer LM, T-ANE Jen 55
One-Way Transmission Devices: Smoll AE P May 54
Open Wire Lines: Goubau G, T-MTT Oct 56
Operating Room Intecommunication System: Davis MM Jr,
NCR et 9 56
Operating Amplifier as Improved: Nitzberg P, P May 58 Operational Amplifier an Improved: Nitzberg R , P Mar 58 Operational Amplifiers, Representation of Nonlinear Functions: Howe RM, T-EC Dec 56 Operational Calculus, Applications to Ground-Wave Propaga-tion: Bremmer H, T-AP Jul 58

Operational Calculus for Numerical Analysis: Thaler S, NCR pt2 56 Operational Feedback in Data Processing Amplifiers: Smith RA, WCR pt5 58 Operational Fixed Microwave Council: Campbell CD, T-VC Jun 55 Operations Research: Jansky CM Jr, NCR pt6 55; Watson-Watt R, NCR pt6 55; Kingsbury S, NCR pt6 55; Brothers LA, NCR pt6 55; Ernst ML, NCR pt6 55; Clark AB, NCR pt6 55; Morse PM, T-MIL Mar 57 and Communications Systems Planning: Higdon RV, T-CS Dec 57 for Computer Control: Macqueene PH, T-AC Dec 58 Inventory Problem: Prilhar Z, T-EM Mar 57 as Managerial Instrument of Advice and Decision: Prihar Z , T-EM Mar 57 Organization: Weldon FL, NCR pt11 54
Training for: Page T, NCR pt11 54
Operator, Human, Translent Response of: Hyndman RW, T-ME Dec 58 Ontar Guidance Device for the Blind: Kallmann HE, P Sep 54
Optical Automatic Ranging: Kallmann HE, P Sep 54
Optical Filters: Cheatham TP, NCR pt4 54
Optical Freshel-Zone, Gain of a Rectangular Aperture:
Polk C, T-AP Jan 56 Operational Measurement of Dielectric Constant: Talpey 1E, T-MTT Sep 54 Optical Method for Calibrating Test Records: Bauer BB, T-AU Sep-Oct 55 Ontical Pumping and Detection, Gas Cell Atomic Clock Using: Arditi M, NCR ptl 58 Optical and Radar Tracking Range: Kullmann EV, NCR pt5 58 Optical Tracking of Earth Satellite: Whipple FL, NCR pt1 56, P. Jun 56 Electromagnetic Problems in Quasi-Optical Range, New York University Research: Kline M. T-AP Jul 56 Geometrical, In Electron Trajectories: Yadavalii SV, P Nov 55 Microwave: Spencer RC, T-AP Oct 55 and Antenna Theory: Spencer RC, T-AP Jul 56 Diffraction Problems of: Bremmer H, T-AP Oct 55 Geometric, and Electromagnetic Theory: Wolf E, T-AP Oct 55 E.T-AP Oct 55

Parageoneometrical, Application of, to the Design of Microwave Mirror: Ronchi L, T-AP Jan 58

Spatial Filtering: O'Neil EL, T-IT Jun 56

Optimeter: Wolfe RW, WCR nt5 57

Optimal, What is: Zadeh LA, T-IT Mar 58

Optimization of Man-Machine Control Systems: Birmingham HP, WCR nt4 58

Optimization of Man-Machine Control Systems: Stiphed M. Optimization of Time-Varying Linear Systems: Shinbrot M, T-IT Dec 57 Optimum Filters with Monotonic Response: Papoulis A, P Mar 58 Optimum Finite Code Groups: Storer JE, P Sep 58 Optimum Linear Estimation for Random Processes: Swerling P, WCR pt4 58 Optimum Noise Performance of Linear Amplifiers: Haus HA, P Aug 58 HA, P Aug 58
Optimum-Smoothing Processes in Filter Terms, Definition and Synthesis of: Boughton EM, T-I Mar 58
Onto-Electronic Devices: Loebner EE, P Dec 55
Oral Examination Procedure: Mason SJ, P May 56, SQ Dec 57 Orbital Radio Rolays: Pierce JR, NCR pt10 55 Ordnance Dial Reader and Translator: Kintner PM, T-I Jun 56 ORDRAT: Kintner PM, T-I Jun 56
Organ, Electronic, Tone Radiation: Martin OW,
T-AU May-Jun 55, NCR pt 755
Organic Coatings for the Protection of Printed Circuits:
Harmon E, WCR pt 658 Organization in Manufacture of Airborne Equipment, Impact of Reliability Requirements on: Crowley JJ, T-RQC Sep 58 Organization for Operations Research: Weldon FL, NCR ptll 54 Organization and Systems: Rothstein J, T-IT Sep 54 Organizations, Information-Theoretical Model: Kochen M, T-IT Sep 54 Organizing for Reliability: Okun AM, T-ROC Jan 57 Orthogonal Mode Transducer: Feed RL, NCR at5 56 Orthonormal Basis for Representing Transients: Armstrong HL, T-CT Sep 57 Oscillations: Backward Wave: Kompfner Dip Condition: Gould RW, T-ED Oct 55 Suppression by Filter Helix Methods: Siegman AE, T-ED Apr 55 in Multiloop Circuit - Klotter K , T-CT Dec 54 Simultaneous, in Oscillators: Schaffner JS, T-CT Jun 54 Stability of Forced, in Nonlinear Feedback Systems: Bonenn Z, T-AC Dec 58 Oscillators: Admittance Diagrams: Rivish HJ, P Feb 54 Amplitude-Modulated UHF, Minimizing Incidental FM: Shaffner G, P Apr 57 Backward-Wave: Bifilar Helix for: Tien PK , P Jul 54 Characteristics: Johnson HR, NCR pt3 54, P Jun 55 Efficiency: Gros PW, P Jul 55 Experiments at 100-200 KMC: Karp A, P Air 57

with External Feedback: Vernon FL, NCR pt3 57 for Low Voltage Operation: Beaver WL, NCR pt3 56 Megacycle Band 8000-18,000: Johnson HR, T-ED Apr 57 Noise Characteristics of: Cicchetti JB, NCR pt3 50 O-Type Carcinotron Tube: Palluel P, P Mar 56 O-Type, Starting Conditions: Kosmahl HG, T-ED Cet 58 Pulsed M-Type: Klein G , NCR pt3 58 Starting Conditions: Weelein RD , T-ED Apr 57 and Traveling-Wave Amplifiers: Multer MW, P Nov 54 P Nov 54
Tubes: Menke WW, NCR pt3 56
20-40-KMC: Grow RW, T-ED Jul 56
Velocity and Current Distributions in Spent Beam
of: Gewartowski JW, T-ED Oct 58
for VHF: Dunn DA, T-ED Jul 57
Barkhausen-Kurz, at Centimeter Wavelengths: Boone
EM, T-ED Jul 58 Blocking, Gillette PR, NCR pl3 55 Blocking, Transistor: Linvill JG, P Nov 55 Cathode-Follower-Coupled Phase-Shift: Reich HJ, P Feb 55; Fleming L, P Jun 52; Stewart JL, P Oct 55 Class-C, Simultaneous Asynchronous Oscillations in: Disman MI, P May 58 Crystal, in Communications Receivers: Manke AG, T-VC Dec 56 Crystal-Controlled, Design: Sherman JH Jr, P Oct 55 Crystal, Reducing Frequency Variation over Wide Tem-perature Range: Koemer LF, NCR pt8 56 Evaluation of Quality: Francini G, T-CT Sep 55 Frequency Control in 300-1200 MC Region: Fraser DW, P Nov 56 Frequency Modulation Noise: Stewart JL, P Mar 56; Berstein I, P Jan 57 Frequency Stable LC: Bernard WB, P Jul 55; Lea N, P Aug 55 Gaussistor: Green M, T-ED Jul 56 Generation of Equally Spaced Frequencies In Given Band: Makow DM, T-CS Sep 57 Hartley, in FM/FM Telemetering: Link WF, NCR pt10 55 Helitron: Walkins DA, P Oct 58 Helix-Type Backward Wave, With Extended Tuning Range: Maninger L, WCR pt3 58 High Stability Frequency S.andard: Sulzer PG, P Jun 55 Klystron: Hysteresis in: Moreno T, P Mar 55
Low-Noise: La Plante RA, T-ED Dec 54
Phase Stabilization: Davis EF, WCR ptl 57
Power, 8 mm: B·II RL, P Sep 56
Laboratory Demonstrations, Phase Shift: Skar RC, SQ Sep 54 Laboratory Demonstrations , Three-Phase: Smiley G , SQ Sep 54LC, Frequency Stable: Clapp JK, P Aug 54
Local Radiation from TV and FM Sets: Peterson WG,
T-BTR Mar 58 Local, Stabilization: Pan WY, T-BTR Oct 56 Locked, in Frequency Standards and Measurements: Clapp JK, T-I Oct 55 Low-Frequency Transistor: Dasher BJ, NCR pt2 55 Magnetostriction Roberts EA, T-UE Aug 56 Atomic: Birnhaum G, WCR pt3 57 Frequency Stabilization: Goldstein I, T-MTT Jan 57 Noise Measurements: Mueller R, T-ED Dec 54; Dalman CG, T-ED Dec 54; McClain EF, T-ED Dec 54 Pliase Stabilization: Peter M , P Jul 55; Strandberg MWP , P May 56 Stability: Buss RR, T-ED Apr 54; Shelton EJ, T-ED Dec 54 Molecular: Townes CH, NCR pt10 55
Molecular, Using Auxillary Radiation: Prochorov AM, WCR pt10 57 Molecular Microwave: Gordon JP, T-I Oct 55 Multichannel Crystal: Hahnel A, T-VC Jun 55 Multimode, with Constant Time Delay: Met V, P Aug 57 Multimode, Frequency Memory In: Edson WA, T-CT Mar 55 New Frequency Standard by Quenching: Sawazaki N , T-MTT Apr 56 Nonotron, Negative Beam Loaded: Jepsen RL, P Aug 57 Parallel-Network: Stewart JL, May 55 Platinotron: Brown WC, P Sep 57 Amplitude Stability: MacLean WR, P Dec 54 for Dielectric Heating: Wilson TL, T-IE Mar 55 Unsymmetrical Square-Wave: Paynter DA, T-CT Mar 56 Precision Components for: Hodgin D, NCR pt3 54 Pulse-Synchronized, Analysis of: Salme G, P Nov 56 Quartz Servey Lea N. P. Nov 58, NCR pt5 58 Radar, Noise Requirements: McLeod WW , 1-ED Dec 54 RCC O'Brien BJ, P Feb 54
RC 'D'Brien BJ, P Feb 54
RC 'D'Brien BJ, P Feb 54
RC 'Dhase-Shift: Sherr S, P Jul 54
RC 'Phase-Shift Power, Transistorized: Giacoletto LJ,
T-AU May-Jun 57 Reflex Klystron, Frequency Stabilization: MagId M, NCR pt1 57

Retarding-Field, Low-Voltage Operation in Millimeter Region: Carter CJ, T-ED Jul 58 Retarding-Fleid, Low Voltage One Centimeter: Carter CJ, T-ED Jul 56 Solid-State Maser: Staff Report, SQ May 57 Square-Wave Transistor, Improved Jensen JL, T-CT Sep 57 Square-Wave Transistor Power: Uchrin GC, P Jan 55 Stable Variable Frequency: Makow DM, P Aug 56 Stablizing: Altman JL, T-MTT Jul 54 Standard-Frequency Controlled: Felch EP, NCR pt10 54 Strain Gage, Transistorized: Foster WH, NCR pt5 57, T-TRC Apr 57 Strophotron , Research and New Developments of: Agdur B , WCR pt 10 57 Sweep, 6 KMC: Alsbern DA, T-I Oct 55 and Switching, New Dlode for: Esaki L, WCR pt3 58 Synchronization by Periodically Interrupted Waves: Fraser DW, P Sep 57 Three-Phase ULF: Smiley G, P Apr 54 Applications, Matrix Analysis of: Cote AJ, T-CT Sep 58 Audio: Kretzmer ER, P Feb 54; Oakes JB, P Aug 54 Circuits, Design: Page DF, P Jun 58
Diffused-Base Germanium: Warner RM, T-ED Jul 58
Prequency Stability: Keonjian E, T-CT Mar 56;
Cheng CC, P Feb 56
Magnetic-Core, High-Speed, Two-Winding:
Meyerhoff AJ, T-CT Sep 57 Magnetic, for Telemetering: Meyerhoff AJ, WCR pt5 57 Transistorized Strain Gage: Foster WH, T-TRC Apr 57 Traveling-Wave Tube, in Microwave Repeater System Kurokawa H, P Dec 57 Traveling-Wave, X-Band, Feedback: Price VG, NCR pt3 57 Tunable Microwave: Stephenson JG, NCR pt8 54 TV Vertical, Minimizing the Effect of Cutoff in: Love SF, T-BTR Mar 58 Variable, Frequency Stabilization of: MaKow DM, T-I Dec 57 VHF, Miniaturization of: Stryker EM Jr, NCR pt8 56 Voltage-Controlled, Phase Locking: Margolis SG, T-IT Jun 57 Voltage-Controlled, Transistor: Riddle FM, T-TRC Nov 54 Voltage-terntable: Sullivan JW, P Nov 54 Wide-Band Electrically Timable: Stewart JL, NCR pt3 55 Wide-Range Junction Transistor Audio: Melehy MA, WCR pt 2 58 Wien Bridge: Diamond JM, P Sep 54 X-Band Rapid-Sweep: Rickert HH, NCR pt10 54 Cathode Ray, Measurements: Bonn TH, P Aug 56 Cathode Ray, in Television Broadcast Operation: Derchert RW, T-BTS Mar 55 Electrophotographic: Broding RA, NCR pt5 57 T-1 Dec 57 Readers, Automatic: Fisher LL, NCR pt10 55; Segel D, T-TRC Apr 57 Recorders for Efficient Use, Design Of: Payne VE; T-I Mar 58 Transistorized: Reichert WG Jr. NCR pt10 55 Oscilloscope System, Transient Analysis of Coaxial Cables Considering Skin Effect: Wigington RL, P Feb 57 Oscilloscopes, 24 Channel for Monitoring Magnetic Tape Records: Smith FC, T-I Jun 56 Outdoor Sound Systems, High-Powered: Benson RW, T-AU Jan-Feb 57 Out-of-Sight Control Instrumentation, Phase-Angle Analogs: Parish CL, T-I Jun 57 Overland UHF Transmissions, Foreground Terrain Effects: Trolese LG, T-AP Oct 58 Over-the-Horizon Radio Link: Altman FJ, T-MTT Dec 55 Over-the-Horizon Systems: Broadband Link for Florida and Cuba: Adams RT , NCR pt8 56 Radio Link Between Puerto Rico and Dominican Republic: Gray RE , NCR pt8 56 Radio Transmission Tests between Florida and Cuba: Stiles KP, NCR pt8 56 UHF, Interference Relative to Line-of-Sight Systems: Ringoen RM, NCR pt8 56 VHF, Design of: Ringoen RM, NCR pt8 56 Over-the-Horizon Transmission: See Beyond-Horizon-Transmission Oximetry: Paul W, T-ME Jul 58 Packaging Electronic, Modern Concept: Noble RP, T-IE Mar 57, T-PT Apr 57 and Integration of Transistor Assemblies: Hagens HH, NCR pt6 58 of Transistorized Assemblies: Lawson AA, T-PT Apr 57, T-IE Mar 57 for Vibration: Comuntzis MG, T-CP Sen 54 PAM Systems, Error Signal Detection: Carlstedt 0, T-TRC Mar 56

Pandora's Black Boxes: Carlin HJ, T-CT Sep 57 Panel on Electron Tubes Program: Schwartz LS, T-QC Feb 54

Panel Light Amplifier, High Gain: Kazan B, P Oct 57

Panoramic Receiver, Dielectric Tuning of: Butler TW, P Sep 55 Panoramic Receiver Response: Batten HW, P Jim 54 Parabolic Cylinder, Diffraction by: Crysdale JH, T-AP Jul 58 Parabolic Defocused Antenna, Illuminating Curved Passive Reflector With: Yang RFH, WCR pt1 58 Parabolic Dome Antenna: Barab JD, WCR pt1 58
Parabolic Reflectors, Treatment of Problems: Chatterjee B,
P Jan 56 Parasoloid Reflector: Jones EMT, T-ANE Jul 54, T-AP J I 58 Paraboloidal Reflector, On-Axis Defocus Characteristics of: Cheng DK, T-AP Oct 55 Paraboloids, Corrective Line Sources for: Sletten CJ, T-AP Jul 58 Paragemetrical Optics, Application of, to the Design of a Microwave Mirror. Ronchi L., T-AP Jan 58
Paramagnetic Resonance Methods in Biological Research: Blois 5, T-ME Feb 56 Paramagnetic Resonance for Spectrometry: Sands RH, WCR pt6 57 Paramagnetic Resonance Methods in X Band, Frequency Measuring Using: Crandell PA, WCR pt 158 Parameters of Nonlinear Devices from Harmonic Measurements. Haber F, T-ED Jan 58 Parametric Amplifiers: See Amplifiers, Parametric
Parametric, Longitudinal, Electron-Beam Amplifiers, Kinetic
Power Theorem for: Haus HA, T-ED Oct 58
Parity Checking, Generalized: Gamer HL, T-EC Sep 58
Parity Checks, Multiple Error Corrections by Means of:
Sacks GE, T-IT Dec 58 Parity Conservation, Scintillation Counting in Experiments on Hayward RW, T-NS Dec 58 Partial Factoring, Representation of Flow Graph Transmissions: Mason SJ, T-CT Sep 57
Partiale Accelerators: Wilson RR, SQ Sep 58
Particle, Volumetric, Size Analysis via Electronics: Berg RH, T-IE May 58 Particles and Accelerators: McFarland GC. WCR pt9 57
Parts Cleaning, Ultrasonic: McKenna QC. T-UE May 55
Passive Repeater Using Double Flat Reflectors:
Cappuccini F, P Apr 58
Patent Approval: Graf AW, SQ Dec 54
Patlent-Data Systems for Hospitals: Webb GN,
NCR pt9 58 Pattern Redundancy: Lowenschuss O, T-IT Sep 58; Glovazky A, T-IT Dec 56; Rickeman EC, T-IT Jun 57 PDM Keyer, Transistorized: Williams DA, WCR pt5 57 Peaking Transformer on New Principle: Boygjian A, T-CP Sep 56 Pedestals, Eliminated in Switches: Sebestyen G, T-EC Sep 57 Pencil Beam Antenna, Double Parabolic Cylinder: Spencer RC, T-AP Jan 55 Pencil Tubes In UHF-VHF Tuners: Harris WA, T-BTR Jan 55 T-BTR Jan 55
Penny-Weighing Problem: Golay MJE, T-IT Sep 58
Pentode Gyrator: Sharpe GE, T-CT Dec 57
Pentode vs. Triode Audio Harmonics: Powell T, P Aug 55
People, Thines, and the Engineer: Gordon JF, T-EM Mar 57
Perforated Tape Reader: Biance RJ, T-I Jun 56
Periodic Electrostatic Focusing of Hollow Electron Beam:
Johnson CC, T-ED Oct 58
Periodic Functions Approximation 5 and 10 periodic Punctions Processing 10 periodic Punctions Punctions Processing 10 periodic Punctions Processing 10 periodic Punctions P Periodic Functions Approximation Applied to Antenna Pattern Synthesis and Circuit Theory: Simon JC, T-AP Jul 56
Periodic Magnetic Fields, Focusing of Convergent Beams by: Palmer JL, WCR pt3 57 Periodic Magnetic Focusing Structures, Design of: Sterrett JE, T-ED Jan 58 Periodic Structure, Crossed Field, Propagation in a: Kiel A, T-ED Apr 58 Periscope, Microwave: Drexler J, P Jun 54
Permalloy Cores, Switching Characteristics of: Rossing TD, T-EC Sep 58 Permanent Magnets in Audio Devices: Parker RJ, T-AU Jan-Feb 58, T-CP Mar 58 T-AU Jan-Feb 58, T-CP Mar 58

Permeability, Ferrite
Rods, Splieres and Disks: Spencer EG, P Oct 56
Waveguide, Measurement of: Mullen EB, P Oct 56

Permeability Measurements, High-Frequency Magnetic.
Using Toroidal Colls: Harrington RD, P Apr 58

Permeability Measurements, Inductance of Toroidal Cores:
Schwartz RF, P Oct 57 Permeability Tensors: Propagation in Circular Waveguides: Walker LR, T-AP Jul 56 Spin Wave Equations: Rado GT , T-AP Jul 56 Personnel-Engineers in Management: Curtiss AN , T-EM Jun 57; Richardson HL , T-EM Jun 57 Evaluating Engineers and Scientists: Martin RA , T-EM Jun 57 , NCR pt10 57 Maintaining Research and Development Personnel in Small Laboratory: Addison A., T-EM Jun 57 Problems of Automation: Weinberg E , T-PT Apr 58 Selecting Research and Development Personnel for Small Laboratory: Addison A , T-EM Jun 57 Selection and Training: for Engineering Management: Baker WRG, T-EM Jun 57, NCR pt11 54
Government Viewpoint: Mitchell JM, NCR pt11 54 Industry Viewpoint: Baker WRG, NCR ptl1 54 T-EM Jun 57

University Viewpoint: Hollister SC, NCR pt11 54

Perturbed Messages, Optlmum Filters for: Bendat JS, T-CT Mar 57 Petroleum Mobile Communications: Barnette LAM, NCR pt8 54 Petroleum Production Telemetering and Remote Control Systems: Stilley JC, T-TRC Apr 57 Phantom Radar Targets at Millimeter Wavelengths: Toibert CW, T-AP Oct 58 Phase Annie: Phase Annle:
Analogs in Out-of-Sight Control Instrumentation:
Parish CL, T-I Jun 57, T-TRC Apr 57
Measurement Apparatus: Mostafa AE, T-I Mar 57
Phase Centers of Microwave Antennas: Carter D,
T-AP Oct 56, T-AP Jun 56
Phase Changer, Magic-Tee, Errors in: Vaillancourt RM,
T-MTT Jul 57 Phase Comparison Method for Tracking Earth Satellite: Mengel JT, NCR pt1 56, P Jun 56 Phase Compensation of Video Delay Lines: Gillen DA, T-BTR Jan 55 Phase Contour Platter, Microwave: Ajioka JS, P Sep 55 Phase Dependence of a Ferromagnetic Microwave Amplifier: Whirry WL, P Sep 58 Phase Detector for Color Reference Oscillator: Clark EG, NCR pt 7 54 Phase Difference Measurements of Satellites, Continuous: Herbstreit JW, P Aug 58 Phase-Difference Network: Weaver DK Jr, P Apr 54 Phase Errors: Arbitrary, Effect on Gain and Bandwidth Characteristics of Radiation Pattern: Cheng DK, T-AP Jul 55 Multipath, in CW-FW Tracking Systems: Sollenberger TE, T-AP Oct 55 of Two-Phase Resolver: Schachter J, P Jul 57
Phase Function: Weinberg L, T-CT Sep 56
Phase Inverter and Driver Systems, Audio, Distortion in:
Bernard WB, NCR pt7 58 Phase Lock Circuits, Design and Performance: Jaffe R, T-IT Mar 55 Phase-Locked Loop, Response to Sinusoid Plus Noise: Margolis SG, T-IT Jun 57 Phase-Locked Loop to Telemetry as a Discriminator or Tracking Filter, Application of: Gilchriest CE, T-TRC Jun 58 Phase Measurement, Application to Angle and Distance Measurements: Thompson WJ, T-I Mar 57 Phase Measurements, Differential, Ground Antenna Phase Behavior: Carswell I, NCR pt1 57 Phase Measurements in Video Range: Graustein WW Jr, NCR pt10 54 Phase-Measuring Circuit , Automatic Microwave: Mittra R , T-I Dec 57 Phase-Meter, Direct Reading Microwave: Dropkin HA, NCR pt1 58 Phase Modulation, Frequency Translation by: Mathers GWC, WCR pt1 57 Phase Plane Trajectories for Analyzing Missile Attitude Stabilization: Halvorsen JL, WCR pt4 57 Pliase Regulated Power Supply for Transistors: Deuitch DE, T-CT Sep 57 Phase-Selective Indicators, Optimal Convergence Conditions in Alternating-Current Bridge Networks: White WE, T-I Sep 57 of Amplifiers at Low Frequency: Hamer H, T-EC Sep 57 Considerations In: Rekoff MG, T-AC Dec 58 Measurements, Precision Microwave: Magid M, T-I Dec 58 1-1 Dec 58 Oscillator, RC Transistorized: Giacoletto LJ, T-AU May-Jun 57 by Periodic Loading of Waveguide: Simmons AJ, T-MTT Dec 55 of Single-Sideband Signal Reception: Norgaard DE, P Dec 56; Lewis HM, P Sep 57 Transformer Design to Minimize: Grossner NR, T-CP Sep 57 Phase Shifters: Broad-Band Microwave 90-Degree: Schiffman BM, T-MTT Apr 58 Ferrite: Scharfman H, P Oct 56 for Antenna Beam Scanning: Reggia F, P Nov 57 Microwave: Soohoo RF , NCR pt5 56; Sensiper S , P Mar 57 Nongyromagnetic: Wenglin S, NCR pt1 57 Reciprocal, Magnetron Tuning Using: Bush D, P Nov 58 Reciprocal, in Rectangular Waveguide: Clavin A, T-MTT Jul 58 Microwave Continuous: Sichak W, P Nov 55 Nonreciprocal Sections: Chalt HN, NCR pt5 56 in Radio Teletype: Costas JP, P Jan 57
Scannina Antenna Errors: Kurtz LA. T-AP Oct 56
Using Wien Bridge: Diamond JM, P Dec 54
X-Band: Barnett EF, T-I Oct 55
Phase Stability of Frequency Multipliers: Kalra SN, P Jan 57 Phase Stabilization to Microwave Frequency Standards: Davis EF, WCR pt1 57 Phase Stabilization of Microwave Oscillators: Strandberg MWP, P May 56; Peter M, P Jul 55 Phasers, Microwave, Applications of Ferrites to: Brown AC, P Apr 58

Phasing of Two-Way Loudspeakers: Hilliard JK, WCR pt7 57

Phase Tracking Interferometer: Penfield H. P Jan 58

Phenomenological Theory of Statistical Thermodynamics: Mandelbrot B , T-IT Sep 56 Multiplier, Recent Developments in: Linden BR, T-NS Nov 56 Photovoltaic Cell, Germanium: Rothlein BJ, T-ED Aar 54 Physical Constants, Standards and: DuMond JWM, T-I Dec 58 Philips Research Laboratories, Electronics Research in: Rinia H, WCR pt10 57 Phonetic Typewriter: Olson HF, T-AU Jul-Aug 57 Phonocardiography: Physical Phenomena for Communications, Exploitation of: Ryerson JL, NCR pt8 58 Frequency Range Identification: Luisada AA, T-ME Dec 57 Physics Content, Experiment in the Reduction of: Ryder JD, T-E Sep 58 Intracardiac: Lewis DH, T-ME Dec 57 Physiograph: Geddes LA, NCR pt9 56 Physiological Amplifiers, Transistors in: MacNichol EF, T-ME Mar 58 Analysis: Webb GN, T-ME Dec 57 Instrumentation for: Webb GN, T-ME Jul 56
Use of Phase Filter: Middleton FH, T-I Jun 56
Standardization of: Mannhelmer E, T-ME Dec 57;
Bekkering DH, T-ME Dec 57 Physiological Auscultatory Correlations: Greene DG, T-ME Dec 57 Physiological Information , Short Distance Telemetering of: Beenken HG , T-ME Dec 58 Physiological Research , Analog Computer Employing Network Analogy Techniques: Kaufer GE , T-ME Jul 57 Status of: Sprague HB, T-ME Dec 57 Phonocatheters: Wallace JD, T-ME Dec 57 Phonographs. Piano, Research and Development on: Quitter JP, WCR pt7 58, T-AU Sep-Oct 58 Amplifiers, Equalization and Tone Controls: Slaymaker FH, T-AU Jan-Feb 55 Ceramic Reproducers, Compensation Networks for: Bauer BB, T-AU Jan-Feb 57 Picard's Method and Analog Computation: Tomovich R, T-EC Mar 57 High Fidelity Reproducers: Bauer BB, NCR pt7 57 Home Measurement of System Performance: Erikson WH, NCR pt7 57 Pickup, Capacitance, for Heart Sounds and Murmurs: Groom D, T-ME Dec 57 Pickup Head, Magnetic, Hum Balanced: Camras M, T-AU Nov-Dec 57 Low-Pressure Cartridge: Glenn WE, NCR pt7 57 Pickups , Ceramic , Engineering Consideration of: Bauer BB , T-AU Jul-Aug 56 Pickups , FM: Miessner BF , T-AU Jul-Aug 54 Pickups , for Stereophonic Record Production: Bachman WS , NCR pt7 58 Pictorial Display, Aircraft: Cursor Coordinated Display: Arnold WO, T-ANE Jun 55 Operational Advantages of: McKnight FS, T-ANE Mar 56 Pictorial Plotter: Romano S, T-ANE Sen 55 RTCA Studies: Sherer LM, T-ANE Jun 55 Picture Coding, Computer Simulation Chain for Research on: Graham RE, WCR pt4 58 System for Automobiles: Goldmark PC, NCR pt7 56 Phosphors: Efficiencies in Color Television Tubes: Altes SK, NCR pt3 56 Picture Storage in X-Ray Fluoroscopy: Gombash W Jr, NCR pt5 57 Electroluminescence of: Bowtell JN, P May 56 Physical Chemistry of: Kroger FA, P Dec 55 Picture Tubes: Thermostimulable, for Ultrasonic Detection: Elion HA, T-UE Aug 57 Cutoff Voltage Characteristics: Niklas WF, P Aug 58 Horizontal-Deflection Testing: Knight MB, T-RQC Apr 56 Translent Response of: Cohn GI, T-CP Jim 58
Photocapacitor, Cadmium Sulfide: Ramsa A, NCR pt3 57
Photocathodes, Multialkali: Sommer AH, T-NS Nov 56
Photocells, Semiconductor, Using Lateral Photoeffect:
Wallmark JT, P Apr 57 110°: Schuster WD, WCR nt7 57 110°: Schuster WD, WCR nt7 57 110°, Ion Trap Gun for: Swedlund LE, NCR nt3 57 Standardization of Deflection Angle: Torsch CE, T-BTR Oct 55 Photoconductive Camera Tubes , Low-Velocity Scanning Employed , Transient Response of: Redington RW , T-ED Jul 57 Transfer Characteristics: Moss H, P Dec 54 Transfer Characteristics: moss n, r bec 54
Piezoelectricity:
Cnefficient of Plates: Bechmann R, NCR pt6 54
Crystals, IRE Standards on: IRE Standards, P Apr 58
Equations of State: Bechmann R, T-UE May 55
Fifters, Ceramic IF Band Pass: Mattiat OE, NCR pt6 56
Phonograph Cartridge of Low Pressure: Glenn WE,
NCR pt7 57 Photoconductors: Germanium and Silicon: Schultz ML, P Dec 55 Intermetallic Compounds: Frederikse HPR, P Dec 55 Internetative Committees: Presentise HPK, P Dec 55 Lead Salt: Moss TS, P Dec 55 as Missile Spin Counter: Kortman CM, NCR pt10 55 Noise in Semiconductors and: Van Vliet KM, P Jun 58 Performance of: Rose A, P Dec 55 Pickups Connected to Magnetic Pickup Amplifiers: Bauer BB, T-AU May-Jun 55 Progress in 1953: Radio Progress, P Apr 54 Zinc and Cadmium Compounds: Bube RH, P Dec 55 Photodiodes, Narrow Base Germanium: Sawyer DE, P Jun 58 Properties of Ceramics , Effect of Heat: Browns A , T-AU May-Jun 57 Resonator: Cadv WG , T-UE May 55 Photoelectric Cells—A Review of Progress: McGee JD, T-CP Mar 58 Resonators, Application to Band-Pass Amplifiers: Lungo A, NCR pt6 58 Photoelectric Colorimeter: Chatten JB, P Jan 54
Photoelectric Transducers in Plethysmography: Feitelberg
S, T-ME Nov 55 Lungo A, NCR pt6 58 Transducers: Electronic Design Considerations: Bradley W Jr, NCR pt9 56 Photoelectric Registration Control Systems: Frommer JC, T-IE May 58 Ultrasonic, Transient and Steady-State Response: Cook EG, NCR pt9 56 Photoemission and Dark Emission Problems: Engstrom RW, T-NS Dec 58 in Ultrasonics: Cady WG, WCR pt9 57 Vibrator, Definitions and Methods of Measurements: IRE Standards, P Mar 57 Photogrammetry of Glaciers: Harrison AE , SQ Sep 57 Photography: Fractional Microsecond Light Source of High Intensity: Forgacs RL , NCR nt5 57 Image Converter: King RW , T-TRC May 55 Millimicrosecond, Electronic Framing Camera for: Clark GL , WCR nt5 58 Vibrators , Measurement of the Parameters of: Gerber EA , P Oct 58 Piliboxes, Scanning with Microwave: Rotman W, T-AP Jan 58 Pilot-Induced Oscillations in Aircraft: Van Horn IH, NCR pt4 57 Millimicrosecond, with Image Converter Camera: Manlinger RC, WCR pt5 57, NCR pt5 57; Stoudenheimer RG, NCR pt5 57 Pinch, Linear, Neutron Production in: Anderson OA, NCR pt9 58 of Rupture of High Speed Rotors: Condit R, NCR pt5 57 Plinhole Camera , Gamma Ray: Mortimer RK , NCR pt9 54 Pin-Shaped Modular Components: Heibel JD , WCR pt6 57 Pipelline Microwave System: Maglinis WP , T-CS Jul 54; T-MTT Apr 54; Dyke E , T-CS Jul 54 . T-MTT Apr 54 Photometer for Chromacity Coordinate-Plotting: Highleyman WH, NCR pt 7:56 Photomultipliers:
Computers, Possible Use in: King G, SO Dec 54 Planar Microwave Transmitting Tubes: DoolIttle HD, T-VC May 57 Counters in High-Energy Physics Experiments: Moyer BJ, T-NS Nov 56 Planar Transmission Lines: Park D, T-MTT Apr 56, T-MTT Apr 55, T-MTT Oct 55, T-MTT Jan 57; Giger AJ, T-MTT Jul 56; Packard KS T-MTT Apr 57 EMI Development of: Sharpe J, T-NS Dec 50 Fatigue in: Cathey L, T-NS Dec 58 High Current Coxial: Glass NW, T-NS Dec 50 NRL High Current: Shipman JD, T-NS Feb 56 Regulation of Dynode Voltages for: Enslein K, T-NS Aig 58 Planetary Radiation Measurements at CM Wavelengths: Mayer CH, P Jan 5B Planetary and Solar Emission at 11 Meters Wavelengths: Kraus JD, P Jan 58 Plasma Frequency Reduction Factors in Electron Beams: Branch GM , T-ED Apr 55 Regulation of Individual Dynode Voltages: Harris OR , T-NS Mar 57 Plasma Motors: Bostlick WH, NCR pt9 58 Plasma Oscillations: Gabor D, T-AP Jul 56 for Scintiffation Counters: Widmaier W., T-NS Dec 58 Special Purpose, for Scintillation Counting: Schenkel FW, T-NS Dec 58 Plastic Scintillators, Heavy Elements in: Hyman M, T-NS Dec 58 for Sub-Millimicrosecond Region: Morton GA, T-NS Dec 58Plates: Broad-Dand Quarter-Wave: Avres WP, T-MTT Oct 57 Parallel, Propagation Between: Hudson AC, T-MTT Anr 57 Transit Time Dispersion in: Greenblatt MH, T-NS Jun 58 Transit-Time Measurements: Smith RV, T-NS Nov 56 20th Century, Review of: Jannings AE, T-NS Dec 58 Photosensitive Germanium Devices: Seed RG, NCR pt10 54 Platform Poise, Formula for: Norko RJ, T-EWS Mar 58 Platinotron: Brown WC, P Sen 57 Pfethysmography: Phototubes: Assembly: Day C, T-ED Feb 54 Definitions of Terms: IRE Standards, P Aug 54 Clinical Applications: Membow R, T-MT Nov 55 Electronic: Nyheer J, T-ME Nov 55

Electronic Flowmeter System: Kalmus HP, T-ME Nov 55

Power Converter, Transistor: Uchrin GC, P Feb 56

Fingertip Plethysmographs: Feltelberg S , T-ME Nov 55Power Divider, Microwave Variable Ratio: Teeter WL, T-MTT Oct 57 Printed Circuits Impedance-Power Divider, Variable-Ratio Microwave: Vaillancourt RM, T-MTT Apr 58 and Electrical Properties of Body Tissues: Schwan HP, T-ME Nov 55 Power Dividers, Broadband Fixed Coaxial: Reed J, NCR ptl 57 in Experimental Psychology: Moore U, T-ME Nov 55 Power Flow Gottschalk WM, P Dec 55
Power-Flow Relations in Lossless Nonlinear Media:
Haus HA, T-MTT Jul 56
Power Galn, Maximum Available, of Linear Fourpoles:
Linden DA, T-CT Dec 58
Power Galn and Stability: Karp MA, T-CT Dec 57 Automatic Impedance, Z-Scope of: Vinding JP, NCR pt5 56 Impedance, Automatic RF: Watts CB Jr, NCR pt5 57 NCR ot5 57
Point, and New Six-Channel X-Y Recorder:
Craddock HC, T-I Mar 58
Simplified Automatic: Riblet HB, T-I Jun 56
Point Contact Rectifiers: Cutler M, T-ED Jul 57;
Lehovec K, T-ED Jan 56
Point Source Feed, Reflector Surface of Radar Antenna with:
Laasonen P, T-AP Oct 55
Polar Immedance Evaluator: Berg MR, WCR pt7 57
Polarguide: Klopfenstein RW, P Feb 56
Polarimeter, Comell Radio: Cohen MH, P Jan 58
Polarimeter In Microwave Region: Akabane K, P Jan 58
Polarimeter at 200 MC: Suzuki S, P Jan 58
Polarization: Power Generation, Electric, Automatic Devices for: Hartranft AC, T-IE Aug 58 Power Handling Capacity of Slab Lines: Badoyannis GM, WCR ptl 58 Power Limiting Using Ferrites: Soohoo RF, NCR pt1 58 Power Measurements: Low-Level, Low-Temperature Bolometer Detectors for Birx DL, T-I Dec 58 Microwave , Calorimeters for: Sucher M , T-MTT Apr 58; James AV , T-MTT Apr 58 Power Measurement, Microwave, Hall Effect and Its Application to: Barlow HM, P Jul 58 Application to: Barlow HM, P Jul 58
Microwave, Recent Developments In: Engen GF,
T-I Dec 58
Problems In: Henry GE, NCR pt 258
RF, Dry, Static Calorimeter for: Hudson PA, T-I Dec 58
Power and Navigation: Weihe VI, T-ANE Sep 58
Power, Optimal Distribution of Signal, In a Transmission
Link: Raisbeck G, T-IT Sep 58 Polarization: of Barium Titanate: Froemel JG, NCR pt9 57 Chart: Deschamps GA, T-MTT Jul 54 Clrcular: for Alrcraft Radar Return: Panaslewicz JJ, NCR pt8 56 NCR pt8 56

In Microwave Cavitles: Tinkham M, P Jun 55
Produced by Perlodic Loading of Wavegulde:
Simmons AJ, T-MTT Dec 55

Fading Over an Obilgue Path: Hedlund DA, T-AP Jan 58
Line Source with Variable: Hines JN, T-AP Jan 58
Measurements, Radio Astronomy: Cohen MH, P Jan 58
Radar, Power Scattering Martix: Graves CD, P Feb 56;
Kennaugh EM, P May 56

Vertical, Universal Curves for Reflection Coefficient:
Ohman GP, T-AP Jan 57

Waves Reflected from Ionosphere: Inouye GT,
NCR pt1 54
latizer for Rain Cancellation: Crandell PA Power Plant, Nuclear, Experimental Bolling Water Type: Lipinski WC, NCR pt9 56 Power Plant, Nuclear Reactor- Steam Electric, Control Problems: Kerr W, T-IE Mar 56 Power Relationships for Nonlinear Resistive Elements: Pantell RH, P Dec 58 Power Scattering, Radar: Graves CD, P Feb 56; Kennaugh EM, P May 56 Power-Spectrum Analyzer Filter Problem: Chang SSL, P Aug 54 Power Spectrum Computer, Automatic: Smith HW, T-I Dec 57 Polarizer for Rain Cancellation: Crandell PA, T-MTT Jan 55 Power Supplies: Pole-Zero Sensitivity in Network Functions: Kuo FF , T-CT Dec 58 Balanced, Unregulated, Dual: Hemmenway KN, P Aug 56 Poles and Zeros, Representation of Speech: Chang SH, NCR pt7 57 OC High Voltage, Components for: Wouk V, WCR pt6 57 Poles and Zeros Squared: Papoulis A, P Jan 58 Politics and Engineers: Dreher C, SQ May 58 Polymers, Electrical and Mechanical Properties: Hoffman JD, T-CP Jun 57 Design, Regulated, Thermal Considerations In: Wileman R, WCR pt6 58 for Electrodynamic Shakers: Fritch DJ, NCR pt6 56 Polynomial Signals in Additive Stationary Noise, Prediction of Derivatives of: Kanter I, WCR pt4 58
Polynomials, Automatic Analog Computer Method of Solving: Levine L, NCR pt4 57
Polyphase Concept in Communications: Kunze AA, NCR pt8 55 Microwave Noise Source: Beam WR, T-ED Apr 57 in Military Equipment: Perlman S , NCR pt6 56 Phase Regulated, for Transistors: Deultch DE , T-CT Sep 57 Transistor Inverter Circuit for: Chester MS, NCR ot 6, 56 Static-Magnetic Regulated DC: Keefe JT, WCR ot 6, 58 Transistor Regulated: Middlebrook RD, P Nov 57; Kopaczek TF, P Aug 58 NCR pt8 55 Probability Theory: Polyphase Filtering: Madella GB, P Jan 55 Polyphase Modulation, Generation of Single-Sideband Carri-er Telephone Channels by: Mensch JR, NCR pt8 58 Transistor, for Video Circuits: Packard RH, T-BTS Dec 57 Polyrod Arrays, Closely Spaced High Dielectric Constant: Mickey LW, NCR pt1 58 Portable Equipment: Weisz WJ, T-VC Jun 54 Portable Frequency Standard for Navigation: Antonucci P, T-I Oct 55 Power, Ultrasonic Output, Measurements in Liquids: Henry GE, T-UE Dec 57 Preamplifier: IF, Design Consideration: Rennie JC, T-CS Sep 57
Low Nolse Tunable, for Microwave Receivers:
Currle MR, P Mar 58 Posicast Control, Analog Study of Dead-Beat: Taliman GH, T-AC Mar 58 Posicast Control of Damped Oscillatory Systems: Smith OJM, P Sep 57 Transistor Feedback: Burr RP, T-BTR Jun 57
Precession of Nuclear Magnetic Moments: Allen TL,
WCR pt9 57 Positive Ion Oscillations In Long Electron Beams: Mihran TG, T-ED Jul 56 Precipitation, Electrification of: Gunn R, P Oct 57
Precipitation Static Noise in Aircraft Antennas: Tanner RL,
NCR pt1 56 Positive Real Functions, Transformations of: Seshu S, T-CT Dec 57 Precision Potentiometers, Environmental Effects: Green AW, T-CP Mar 57, T-AP Apr 57 Positive Real System Functions, Shape Factors of Sten Response: Zemanlan AH, P Sep 56 Positron Scanner for Brain Tumor Localization: Aronow S, Prediction: diction:
of Derivatives of Polynomial Signals in Additive
Stationary Noise: Kanter I, WCR pt4 58
and Filtering for Random Parameter Systems:
Beutler FJ, T-IT Dec 58
Nonrandom Inputs of Zadeh-Ragazzini Model:
Blum M, T-IT Jun 56
Solution of Integral Equation: Miller KS, T-IT Jun 56 Normal System, Canadian Automation: Levy M, NCR pt6 58; Barsczewski A, NCR pt6 58; Jensen H, NCR pt6 58 Post-Detection Integration Systems , Analysis by Monte Carlo Methods: Dilworth RP , NCR pt2 57 Process Control: Potential Analog Method of Network Analysis: Vowels RE, T-CT Sep 57 Theory Approach to Information Rates: Powers KH, NCR pt4 56 Potential Analog in Synthesis of Stagger Tuned Filters: Wheeler HA, T-CT Mar 55
Potential Solution of a Homogeneous Strlp Line of Finite Width: Hayt WH, T-MTT Jul 55
Potential-Well Theory of Velocity Modulation: Gold L, P.D. 5 Theory, Nonlinear: Drenick RF, T-IT Sep 54
Theory for Sampled Input Signals, Minimization of Mean
Square Error: Blum M, T-IT Sep 56
Predictive Coding: Elias P, T-IT Mar 55
Predictive Quantizing of Television Signals: Graham RE,
WCR pt4 58 Potentials Produced by an Eccentric Current Dipole In a Finite-Length Circular Conducting Cylinder: Okada RH, T-ME Dec 56 Predictor Design, Analog Computer Applications In: Bates MR, T-EC Sep 57 Dielectric: PIhl GE, P Dec 54
Environmental Effects on Precision: Green AW, T-CP Mar 57 Predistortion Technique, First-Order, In Network Design: Desoer CA, T-CT Sep 57 Preselector In Balanced Strip Line: Michelson M , T-MTT Mar 55 Measurement and Effects of Error Rate: Rasmussen SB, NCR pt 6 57 Pressure, Intracardiac, Measuring System for Infants and Adults: Warnick A, NCR pt9 58 Precision Wire-Wound: Sullivan RJ, NCR pt3 54
Theory, Measurement and Reduction of Linearity Errors:
Fritchle FP, NCR pt6 57
Wirewound: Csepely JA, T-CP Sep 54 Pressurized Water Reactor Plants , Capacitance Level Gauge: Gernert W, T-NS Aug 58 Preventive Maintenance Program for Large General Purpose Analog Computers: Sykes RP, NCR pt4 58

Printed Antennas: McDonough JA, NCR pt1 57

Application in Electronic Packaging Noble RP, T-PT Apr 57, T-IE Mar 57 Assembling of: Brown ER, SO May 55 For Auto-Assembly: Bassler SG, NCR pt6 55 Autofab: Staff Report, SQ May 56 Board Assemblies , Automatic Soldering Machine for: Oates WL , NCR nt6 58 Boards , XXX-P , Effects of Temperature and Humidity: Spalding J , WCR pt6 57 Ceramic, Package System Design: Fabricius JH, WCR pt6 57 Coatings for Wiring- Martel RA, T-PT Apr 57 Cupric Oxidized Foil for Laminates: McGinnis LW, NCR pt6 56 Engineering Approach: DeCola R, NCR pt6 55 Engineering to Facilitate Production: Calcut RC, NCR pt6 56 Etched Boards, Vibration: Allen MS, WCR pt6 57 Eyelet Failure in Etched Wiring: Hodges WJ, T-PT Apr 57 Historical Survey: Barrett RM, T-MTT Mar 55 Honeycomb Structure Rigidizes, for High Vibration: Deimel EO, WCR pt6 58 IF Amplifier for Color TV: Ruth L, T-BTR Jul 56 Insulated Flexible: Wilkens WB, WCR pt6 58 Module, Three-Dimensional: Anslev AC, T-PT Apr 58 Organic Coating for the Protection of: Harmon E, WCR pt6 58 Standards and Test Procedures: Gamson ER, NCR pt6 56 Telemetering Components: Ter Veen LAG, NCR pt10 55 Wiring, Short Cuts to: Ost R, T-PT Apr 57, T-IE Mar 57 Xerography: Schwertz FA , NCR pt6 56 Printed Material , Scanning , Statistics Concerning: Deutsch S , T-IT Jun 57 Printing Telegraph Signal Normalizer: Dingley EN, T-CS Oct 56 "Private Line" Radio Systems: Macdonald AA, T-VC Dec 56 Private Microwave Radio for Power Co.: Hazen DF, T-CS Nov 54 Probability Density, Control System to Optimize: Axelby GS, WCR pt4 57 GS, WCR pt4 57
Probability Density, in Systems: Widrow B, WCR pt2 57
Probability Distribution, Diagonal Expansion of Second-Order, in Orthogonal Polynomials: Brown JL, T-IT Dec 58
Probability Distribution, Third Order, Measurement in Television Signals: Schreiber WF, T-IT Sep 56
Probability Distributions, Random Function, Alter a Nonlinear Filter: Young GO, WCR pt4 58 Probability of Hit Problems, Analog Solution of: Van Home TB, T-EC Sep 57 Probability, Inductive, Application of: Schwartz LS, P Dec 58 Probability-Resonance Relationships: Amber GH, P Dec 58 Markov Diagrams: Mason SJ, T-CT Sep 57 New Interpretation of Information Rate: Kelly JL, T-IT Sep 56 Signal-Flow Graphs and Random Signals: Huggins WH, P Jan 57 Switching Circuits as Topological Models in: Warfield JN, T-EC Sep 58 Systems Analysis of Oiscrete Markov Processes: Sittler RW, T-CT Dec 56 Excited Airframe: Curtis WL, T-ANE Sep 56 for Microwave Nearfield Measurements: Richmond JH, T-MTT Apr 55 Rotatable Inductive, Waveguide: Tischer FJ, P Aug 55 as Standing Wave Detectors: Rubin SW, T-: Oct 55 Thermoelectric, Calibration of Ultrasonic Fields: Dunn F, T-UE Aug 57; Fry WJ, NCR pt8 57 Ultrasonic Liquid Level Sensor: Rod RL, NCR pt9 57 Problems of Engineering Management- Fogel LJ, T-EM Jan 56 Proceedings, Comprehension of: Hunter TA, SQ Dec 54, SQ Dec 56. Analog vs Digital Computer: Stout TM, T-AC Nov 57 Automatic, with Radiation Gauges: Faulkner WH, T-IE Mar 57, T-PT Apr 57 Electronic: Mathewson CE, T-IE Mar 55 Electronic Drive, Variable Speed: Humphrey AJ, T-PT Apr 57, T-IE Mar 57 Magnetic Thickness Gage for Rubber and Plastic Appli-cations: Dexter AM, T-IE Mar 55 Production Scheduling, Analog Computer for: Gravel JPJ, T-PT Apr 57, T-I Mar 57 Radioactivity, Application of: Walters NE, T-IE Mar 55 Systems Considerations for Computers In: Braun EL, NCR pt4 58 Xatron Drive: Humphrey AJ, T-IE Mar 57, T-PT Apr 57 X-Ray Techniques, Application of: Rogers TH, T-IE Mar 55 Process Industry , Applications of Computers in: Gunning WF , NCR pt4 57 , T-EC Jun 58 Process Instrumentation for the Measurement and Control of Level: Revesz G , T-IE Aug 58

Process Monitoring by Dielectric Constant: Howe WH, T-IE Apr 58

in a Crossed Field Periodic Structure: Kiel A, T-ED Apr 58

Process Systems, Nonlinearity in: Holzmann EG, T-AC Jul 50 Processing Receiving Tubes: Knecht W, T-ED Feb 54
Product Development, Commercial: Thainer R,
NCR pt 10-58 Product Development and Market Development: Ehrenfried AD, T-EM Jan 56 Automating Small-Lot Electronic: Schneider WA, T-PT Anr 58 Engineering: and Television Quality: Mahuron HH, T-RQC Apr 56 Line Design, Automatic: Imus HO, SQ May 56 Line Testing of Equipment: Dordick HS, WCR pt5 57 Low Volume, Economic Aspects of Wire Processing for Dension J, NCR nt6 58 Denston J, NCR nt6 58
Management in: Blahna C, T-EM Apr 56
Profile, Peacethine, Component-Parts Bottleneck in: Kahn L, T-PT Apr 58
Seniautomatic, of Stacked Ceramic Receiving Tubes: Chamberlain RH, WCR pt6 58
Techniques in Electronics, Symposium on Automatic Foctory: T-PT Sep 56 Testing in Automatic Factory: Dordick HS, T-IE Mar 57, T-PT Apr 57 Productivity in Research Laboratories: Individual Variations: Shockley W, P Mar 57 Statistics on: Miessner BF, P Oct 57 Professional Man and HIs Readling: Stroud JB, T-E Dec 58 Program Timer for Gulded Missiles: Hubbard BF, WCR pt6 57 Program Wave Volume Measurements: IRE Standards, P May 54 Programmed, Logically Micro-, Computers: Blankenbaker JV, T-EC Jun 58 Programming: Automatic, of AM and FM Broadcasting Stations: Schafer PC, WCR pt7 58 Automatic, Techniques in: Vandivere EF, T-8TS Jan 56 on a Drum Computer, Minimum Time: Shiffman B, NCR nt4 58 Dynamic, in Statistical Communication Theory: Bellman R, T-IT Sep 57 Linear, and Optimal Telecommunication Networks: Kalaba RE, P Dec 56 Project Direction In the Development of Avionics Systems: Godwin CJ, WCR pt9 58 Project Management, Air Frame and Electronics Viewpoints: Hall EN, WCR pt9 58 Project Organization, Publication and: Lowe MH, WCR pt9 58 Project-Oriented Industrial Organization: Imus HO Jr, T-EM Dec 57 Project Overlay System of Research Organization: Bowie RM, T-EM Sep 57 Project Tinkertoy: Henry RL, T-PT Sep 56 Projection Microphotometer for Quantitative Microscopy: Bostrom RC, T-ME Dec 56 Prolate Spherold: Antenna: Wells CP, T-AP Jan 58 Antenna, Radiation from: Myers HA, T-AP Jan 56 Radar Cross Section: Siegal KM, T-AP Jul 56 Propagation: Airborne Laboratory: Ringwalt DL, NCR pt1 55 Airborne , Refraction Anomalies in: Wong MS , P Sep 58 Airborne Refractive Index Measurements: Crain CM , P Oct 55 and Air Force Communications: Hollingsworth LM, NCR pt8 56 Anomatous , in Ferrite-Loaded Waveguide: Seidel H , P Oct 56 Astronomical Observations, Effects on: Rush S, P Jan 58 Atmospheric Attenuation at Microwaves: Marner GR , NCR pt 1 55 Atmospheric Bending Predicted by Weather Observations: Bean BR , P Nov 57 Atmospheric Effects on VHF and UHF: Millman GH, P Aug 58 P Aug 58
Atmospheric Refraction of 8.7 MM Radiation:
Marner GR, NCR pt156
Attenuation and Fluctuation of Millimeter Radio Waves:
Tolbert CW, NCR pt157
Auroral: Booker HG, T-CS Mar 56 Auroral Booker No. 1-Co Mar 56 Auroral Back-Scatter Echoes: Ownen L., WCR pt1 57 Auroral, VHF and Sporadic E: Dyce R., T-AP Apr 55 Back Scattering from Sea: Katzin M., NCR pt1 55 Bandwidth Useful in Scatter Transmission: Vogel JP, P Nov 56 P Nov 56
Beyond-Horizon:
Bandwidth Capabilities: Tidd WH,
NCR ntl 55, P Oct 55
Characteristics: Bullington K, P Oct 55
Field Measurements: Barghausen AF, NCR ntl 55
Role of Meteors: Eshleman VR, NCR ntl 55
S and X Band Signals: Gordon WE, NCR ptl 55
Transmission Characteristics: Bullington K,
NCR ntl 55
IHE Padio Systems: Mossyn WE, Is NCR ntl 55 UHF Radio Systems: Morrow WE Jr, NCR pt 1 55 in Circular Waveguides Filled with Gyomagnetic Material: Walker LR , T-AP Jul 56 Constants for Traveling-Wave Tube: Brewer GR , T-ED Apr 57; Dunn DA , T-ED Oct 58 Constants , Traveling-Wave-Tube , Approximate Ex-pressions for: Louisell WH , T-ED Oct 58

in Dielectric Slab Loaded Rectangular Waveguide: Vartaman PH, T-MTT Anr 58 in Doubly Refractino Media: Lav B. T-AP Jul 56 Effect of Superrefractive Layers on Nonoptical Fields: Gossard EE , T-AP Anr 56 Electromagnetic Pulses Around the Earth: Levy BR, T-AP Jan 58 Experiences from a "Just-Below-Horizon" Path: Josephson B, T-AP Apr 58 JOSEPHSON B, ITAH ADD 56
Far Beyond Horizon:
At 100 MC: Barsis AP, NCR pt 1 54
At UHF: Carroll TJ, NCR pt 1 54
FCC Rules and Data: Allen EW, NCR pt 1 54 in Ferrite-Filled Microstrip: Brodwin ME, T-MTT Apr 58 in Ferrite-Filled Transversely Magnetized Waveguide: Vartanian PH, T-MTT Jul 56, T-AP Jul 56 above 40-MC over Irregular Terrain: Egli JJ, P Oct 57 Ground Conductivity Measurements: Stanley GM , NCR pt1 55 Ground-Wave, Electrical Constants of Soil at Low Frequencies: Wait JR, P Oct 57 Guided Submillimetric: Karbowiak AE, P Oct 58 Heat Loss in Grooven Metallic Surface: Marcatlli EA, P Aug 57 Height-Gain Curves at 8.6 MM; Straiton AW, T-AP Jul 56 On Helical Structures: Sensiper S, P Feb 55; Stark L, P Jul 55 Ionospheric: Anomalous Transequatorial: Villard OG , NCR pt1 57
Autocorrelogram of Complete Carrler Wave: Price
R , P Jun 57 Cross Modulation from 1000-KW Transmitter: Martin ET, NCR ptl 56 Doppler Shift of Signals: Takahashi I, P Oct 57 Effect on Cosmic Waves: Little CG, P Nov 54 Effects at VIF and UHF: Little CG, P Aug 56 Multipath, Analyzed by Short Pulse-Long Pulse Method: Lambert JD, WCR pt1 57 New York University Research on: Kline M, T-AP Jul 56 Report on URSI Commission III: Manning LA, P Jul 58 VHF, Review of: Morgan MG, P Jun 55
Line-of-Sight:
Near-Field Corrections to: Wheelon AD,
T-AP Jul 56, P Oct 55
Long-Range, Low-Frequency: Shmoys J, P Feb 56
in Magnetized Ferrites: Kales ML, P Oct 56 Magneto-Ionic Duct, Using VLF Signals: Helliwell RA, P Apr 58 Marconi's Last Paper: Carroll TJ, P Aug 56 Measurements on Oversea Paths: Gudmandsen P, T-AP Jul 57 Meteor Burst: de Bettencourt JT, NCR ptl 58; Vincent WR, WCR ptl 57 for Extended Range VHF Communications: Vincent WR, P Dec 57, WCR pt1 57 JANET System: Forsyth PA, P Dec 57 Meteor-Radiant Distributions: Meeks ML, P Dec 57 Oblique-Path Dita: Vincent WR, P Dec 57 Oblique-Path D to: Vincent WR, P Dec 57
Wavelength Dependence of Information Capacity:
Eshleman VR, P Dec 57
Meteor Echoes: Villard OG, P Oct 55
Meteor-Radiant Distributions: Meeks ML, P Dec 57
Mode Numbering: Mathls HF, P Feb 54
Modes in Dielectric Sheets: Hatkin L, P Oct 54;
Guerbilsky A, P Jun 55
Monthly Mean Refractivity Gradient: Bean BR, P Oct 55 on Multifilar Helices: Johnson HR, T-ED Jan 56
Nonlinear, in Traveling-Wave Amplifiers: Kiel A,
T-ED Oct 55 Nonlinearity in Ferrites: Clavin A, P Feb 56; Sakiotis NG, P Aug 55 Nonreciprocal, In Ionized Gaseous Media: Goldstein L., T-MTT Jan 58 Normal Mode Theory vs Ray Theory: McCracken LG, T-AP Jan 57 Observations in the Vicinity of a Nuclear Reactor: Fain WW, T-AP Jul 58 Obstacle Gain Measurements: Kirby RS, P Oct 55 Oceanic Duct, Prediction of from Climatological Data: Anderson LJ, T-AP Oct 55 batas: Anterson LS, 1-AP Oct 55
between Parallel Plates: Hudson AC, T-MTT Apr 57
in Parallel Wire Arrays: Pierce JR, T-ED Jan 55
Particle-Energy Relations: Ortusi JA, T-AP Jul 56
Phase Measurements of Varyling Signals over Turbulent
Paths: Herbstreit JW, T-AP Jul 56
Progress in 1953: Radio Progress, P Apr 54 of Pulses in Cylindrical Bars: Meitzler AH, NCR pt9 56 Radar Terrain Return at Near Vertical Incidence: Moore RK, P Feb 57 Radar Type, for Communications Systems: Lacy RE, NCR pt1 56 Radio Signals on Overwater Paths: LaGrone AH, T-AP Apr 55 Radio Transmission Loss at 100 MC: Rice PL, T-AP Apr 55 Through Random Distributions of Spheres: Beard CI, WCR pt1 58

Ray Theory vs Normal Mode Theory: McCracken LG, T-AP Jan 57 Reflection Coefficients over Irregular Terrain: Bullington K, P Aug 54; Sherwood EM, P Jul 55 Reflection by Rough Surfaces: Twersky V, T-AP Jan 57 Refractive Index Data Present and Future Uses: Anderson LJ, T-AP Jan 57 Refractivity Index of First 125 Meters: Birnbaum G, P Oct 55 Research at University of Sydney: Bailey VA, WCR pt10 57 Scatter: See Scatter Propagation and Scattering of Waves Scintillation Fading of Microwaves: Tukizi 0 Seismic Pulse: Pekerls CL, T-AP Jul 56 Space-Charge-Wave, Effects of Magnetic Field Strength: Brewer GR, P Jul 56 Space-Wave Fadeouts at 1,046 MC: Bean BR, P May 54 Short-Wave, Frequency Variations in: Ogawa T, P Dec 58 Surface Wave Diffraction by Semi-Infinite Dielectric Slab: Angulo CM, T-AP Jan 57 Through Time Varying Media: Feinsteln J, NCR pt1 54 Transhorizon, Antenna-Beam Distortion: Waterman AT, T-AP Jul 57 Tropospheric: Bandwidth Available in 200-Mile VHF: Ames LA, T-AP Oct 55 Beyond-the-Horizon, Refractive Index Factor: Gray RE, NCR $\operatorname{pt1}$ 57 and Communications Beyond the Horizon: Chisholm JH, T-CS Mar 56 Effect of Super-Refractive Layers: Barsis AP, WCR pt1 57 Long-Distance Overwater at 400 MC: Dinger HE, P Jul 58 New York University Research on: Kline M, T-AP Jul 56 Over 350-Mile Path at 960 MC: Gerks IH, NCR pt1 56 Path Loss Measurements at 400 MC: Chisholm JH, WCR pt1 57 Radio Wave: Barsis AP, T-BTS Oct 56 Report on URSI Commission II: Smyth JB, P Jul 58 Scattered Fields, Characteristic of: Trolese LG, T-AP Jul 55, P Oct 55 UHF-TV Band: Herbstreit JW, NCR ptl 54 UHF and VIIF TV Bands: Boese WC, T-BTS Jan 56 of Ultra Short Waves Beyond the Horizon: Ortusi JA, T-AP Apr 55 Ultrasonic, in Liquids: Krassilnikov VA, WCR pt10 57 Unusual, at 40 MC from USSR Satellite: Wells HW, P Mar 58 VHF. Beyond-Hortzon Field Strength: Rogers TF, P May 55 Diffraction by Alaska Range Mountains: Swenson GW Jr, P Aug 56 over Irregular Terrain: Kirby RS, T-AP Jan 56 Measurements in Rocky Mountain Region: Kirby RS, T-VC Jul 56 Off-Path: Pineo VC, P May 58
Transmission Loss Reduction: Crysdale JH,
P May 55; Kirby RS, P Oct 55 and UHF TV Bands: Boese WC, T-BTS Jan 56 Atmospheric Noise: Watt AD, P Jun 57; Chapman J, P Jun 57; Nelson RR, P Nov 57 Attenuation vs Frequency Characteristics: Wait JR, P Jun 57 Geometrical Ontics: Wait JR. P. Jun 57 Intercontinental Frequency Comparison: Pierce JA, P Jun 57 in Lower lonosphere: Waynick AH, P Jun 57 Mode Theory: Wait JR, P Jan 57; Budden KG, P Jun 57 Pulse Propagation Across Coast Line: Wait JR, P Nov 57 Radiation from Lightning Strokes: Hill EL, P Jun 57 Reflection at Sharply Bounded Ionosphere: Yabroff IW, P Jun 57 Transmission Loss Curves for: Wait JR, T-CS Dec 58 Very Short Electric Waves for Radio Communications: Marconi G , T-AP Jan 57 Proposals, Technical, in the Electronics Industry: Eddy FN, T-EM Dec $58\,$ Propulsion and Interplanetary Travel: Chapman S, NCR pt5 58 Protective Coating: Gamson ER, T-CP Sep 54, T-RQC Dec 54 Protons: Beam Study in A Fixed Frequency Cyclotron: Green FL, T-NS Mar 56 Gyromagnetic Ratio , Free Precession Determination of: Bender PL , T-I Dec 58 High Energy, Biological and Medical Applications: Tobias CA, WCR pt9 57 in Scintillators, Inelastic Nuclear Reactions of: Johnston LH, T-NS Dec 58 Varian Free Precession Magnetometer: Allen TL, WCR pt9 57

100 Proximity Indicator System: White RT , SQ Dec 56 PTM Over-the-Horizon Radio Link: Altman FJ, T-MTT Dec 55 Public Address System, 9000 Watt: Martin DW, T-AU Nov-Dec 56 Public Relations Function in Engineering Organization: Garrigan TE , T-EM Sep 57 Public Safety Systems, Contributions of Aeronautical Communication: Collins WC, T-CS Mar 57
Publications and the Project Organization: Lowe MH, WCR pt9 58 Pulse Amplifier, Klystron, Grid Controlled: Swearingen JD, WCR pt3 57 Pulse Amphifiers Using Transistor Circuits: Graveson RT , T-NS Dec 58 Pulse Amplifiers Transistorized: Nuclear, Noise in: Jones AR, NCR at9 57
Wide-Danit: Eddins WT, NCR at5 57
Wide-Danit: Eddins WT, NCR at5 57
Pulse Amplitude Modulation Conversion to PDM: Kuchn RL,
T-TRC Apr 57 Pulse Amplitude Modulation, PAM/PDM Decommutator with Improved Synchronization: Heberling ED, WCR pt5 58 Pulse Applications of New Semiconductor Device: Stasior RA, NCR pt2 57 Pulse Code Modulation: Airborne: Data Collecting and Recording System: Knight P, T-TRC Apr 57 Telemetering Systems, Coding for Noise and Interference Suppression: Harmuth IIF, T-TRC Apr 57 Compatible PCM/FM System: Bennewitz PE, WCR pt5 58 Data Handlino on Ground: Hagan T, T-TRC Apr 57 48 Channel: Schreiner SM, NCR nt8 57 to Reduce Nolse and Increase Channel Capacity: Mediurst RG, T-CT S-p 56 Telemeter Marquand RE, WCR nt5 57
Weighted Bedroslan E, T-IT Mar 58
Weighted, and Mean-Square Devlation: Bellman R,
T-IT Mar 58 Pulse Counting, Transmission Secondary Electron Multiplica-tion for: Sternglass EJ, T-NS Nov 56 Pulse-Current Regulator, Magnetic: Lawrence JD, NCR nt4 57 Pulse, Delayed, Generator as Variable Time Interval Standard: Broderick D, WCR pt5 58 Pulse Detection, Effects of Signal Fluctuation: Schwartz M., T-IT Jun 56 Pulse Distribution System for TY: Audi JS, NCR pt7 54
Pulse Duration Molitation:
Bandwidth Requirements: Rock FE, T-TRC Apr 57
Conversion from PAM: Kuehn RL, T-TRC Apr 57
PDM/FM Radio Telemetering, Noise and Bandwidth:
Uplow KM, T-TRC Apr 57

Pulse Distortion of Trans-Horizon 3000-MC Signals: Josephson B, T-AP Apr 58 Pulse Distribution System for TV: Auki JS, NCR pt7 54

System, Transistor Airborne: Klemens WP, WCR nt5 58 Pulse-Excited Microwave Emission from Ammonia: Norton LE , T-MTT Oct 57

Pulse-Firing and Recovery Time Characteristics of 2D21
Thyratron: Olmstead JA, NCR pt6 57
Pulse-Formun Networks: Trinkhaus JW, T-CP Sen 56
Application Problems: Graydon A, T-CP Mar 57
Approximating Equal-Ripple Flat-Top Step Response:
Perry AD, NCR pt2 57

Linear: Guillemin EA, T-CT Mar 57; Gore WC, T-CT Sep 56

Pulse Front Response of Transformers: Gillette PR , T-CP Mar 56

Pulse Generation , An Improved Concept: Schneiderman M , T-I Dec 57

Pulse Generation, Transistor Monostable Multivibrators for: Suran JJ, P Jun 58 Pulse Generators:

and High Speed Memory Circuit: Bay Z, T-EC Dec 56 Millimicrosecond: Beck AC, T-MTT Dec 55

Millimotrosecond, Using Secondary Emission Tubes: Narud JA, NCR pt5 57 Precision: Miller HL, T-NS Jun 56 Pulse-Height Analyzer: Hignibotham WA, T-NS Cov 56 Transistor, for Digital Systems: Hamilton DJ, T-EC Sep 58

Pulse-Height Analyzers For Coded Decimal Presentations: McKibben JL, NCR pt10 55

Serial-Memory 100-Channel: Emmer TL, NCR m10-55 Survey of: Highbotham WA, T-NS Nov-56 Using Magnetic Core Storage: Bylington PW, NCR m10-55

NCR pt10.55
Pulse Jitter Instrument: Taub JJ, NCR pt10.55
Pulse Measurement Standards: IRE Standards, P. Nov. 55
Pulse Modulation Transmitted through a Linearly Modulated Transmit-Time Device: Met V, P. Sep. 58
Pulse Multiplex Telemetering, Automatic Data Separation System: Magasiny IP, T-TRC Feb. 55
Pulse Narrowing by Filters: Moore RK, P. Dec. 56
Pulse Packages, Use in Line-Type Pulsers: Luna A, NCR pt6.57
Pulse Packages, Tibes and Transfer Pates. Achievides

Pulse Packing Densities and Transfer Rates, Achieving Maximum: Thompson BW, WCR pt4 58 Pulse Position Coding, Error Rates: Campbell LL, T-IT Mar 57

Pulse Radar, Prediction of Performance: Hall WM, P Feb 56

Pulse Spectrometry, Amplifier for: Kelley GG, NCR pt9 57

Pulse Switching Circuits, Magnetic Core: Rosenfeld JL, T-EC Sep 58

Pulse-Switching with Magnetic Cores. Karnauch M. P May 55

Pulse-Switching Reactor Mathias RA NCR pt3 55 Pulse-Synchronized Oscillators, Analysis of: Salme G,

Pulse-Time Determination; Optimum: Mallinckrodt AJ, T-IT Mar 54

Pulse Time Modulation, Spectral Power Density Functions: Kaufman H, T-IT Mar 55

Pulse Train Signals by Comb Filters, Enhancement of: Galejs J, T-IT Sep 58

Pulse Trains, Random, Statistical Description of Coincidences Amono: Stein S, P May 58 Pulse Transfer Function, Root Locus Method of: Mori M, T-AC Nov 57

Pulse Transmission Along Magnetostrictive Delay Line: Rothbart A, T-UE Dec 57

Pulse Transmission, Millimicrosecond RF: Forrer MP, P Nov 58

Pulse, Waveform Degradation Due to Waveguide Dispersion: Elliott RS, T-MTT Oct 57 Pulse-Width Control of Transistors: Van Scoyoc JN, T-IE May 58

Pulse Width Modulation

Signal Transmission over Restricted Bandwidth Systems: Hefferman HJ, T-TRC Apr 57

Hetterman HJ, 1-TRC Apr 57

Traman Techniques: Kaplan H, T-TRC Anr 57

Traman Techniques: Kaplan H, T-TRC Anr 57

Pulsed Geiger Counters: Witzel AB T-NS Feb 56

Pulsed Power Measurements, Operation of Bolometer, Sucher M, T-MTT Jul 55

Pulsed Radiation, Electron Linear Accelerator as Source: Kelliher MG, T-NS Jun 56

Pulsed Search Radar, Maximum Angular Accuracy: Swerling P., P Sep 56

Pulsed Signals, Detection in Presence of Noise: Swerling P, T-IT Sep 57

Pulser Component Design for Magnetron: Gillette PR, T-CP Mar 56 Pulsers, High Voltage, Adjustable Pulse Width: Wouk V, T-I Mar 57

Pulsers, Line-Type, Use of Pulse Package: Luna A, NCR pt6 57

Pulses:

Binary, Regeneration of: DeLange OE, T-MTT Dec 55 Elastic, Propagation in Cylindrical Bars: Meltzler AH, NCR pt9 56

Generation of Shaped, Using Microwave Klystrons: Preist DH, NCR pt3 58 Generators, Length-Modulated, Feedback Control of: Shea JE . NCR pt4 56

Kilowatt Junction Transistor fon Fletcher NH. P Apr 57 Kilowatt. Junction Transistor for: Fletcher NH. P Apr 5
Magnetizing, Domain Wall Viscosity In Data Handling
Devices: Newhouse VL., P Nov 57
Modulated Radars, Bandwidth Conservation in:
Rosien RA, NCR ptB 58
Nature's: Green EJ, SQ Feb 57
Position Modulation System, 45 Channel: Schreiner S,
NCR ptB 58
Section 1 June 19 Section 1 NCR ptB 58
Section 1 June 19 Section 1 NCR ptB 58

Position Telemetry System: Weisman L. NCR pt5 58 and Random Interference, Methods of Reducing: Creutz PM, NCR pt8 58

Shape and Frequencey Separation, Effect on FSK Transmission Through Fadime: Turin GL, NCR pt5 58

Totalizer, Bi-Directional, for Control and Telemetry: Wright, HD, NCR nt1 56
Transformer, Mer Type: Babcock A, NCR nt6 56
Transformers, High Power, Output Pulse Shape of: deBudda RG, NCR nt8 58

VHF, Techniques for Handling: Rosenheim DE, P Feb 57

Pumping to Extend Traveling-Wave-Tube Frequency Range: Buchmiller LD, P Jul 5B Punch Card for Automatic Control: Atwood WL, NCR pt10 54

Punch Card to Automatic Weighing of Bulk Materials, App-lication of: Young WM, T-IE Aug 58 Punch Card Recording and Multiple Counting Data: LeVine HD, NCR ptg 56

Punched Paper Tape Reader, High Speed: Angel AM, WCR pt4 57 Push-Pull Audio Amplifier Theory: Valko IP, T-AU Jan-Feb 58; Metelsy MA, T-AU Jul-Aug 57

Push-Pull Circuits, Transistor Matching In: Anouchi AY, WCR pt2 57

Push-Push Stages, Single-Ended, Analyses of Drivers: A Jemina H. T-AU Sen-Oct 55

-0-

Q of Cavity Resonators, Determination of: Singli A, T-MTT Apr 58

Q Determination of Resonant Circuits: Skar RC , T-DTR Oct 54

Q Factors of Transmission Line Cavity: Young L, T-CT Mar 57

Q Measurements, Microwave, in the Presence of Coupling Losses: Ginzton EL, T-MTT Oct 58 0, Value of: Green EJ, SO Feb 56

O, Valle Or: General D., SO Fed 36 Quadrature Time Base Comparator for Automatic Frequency Measurements: Weber IJ, NCR pt 5 56 Quadripole, RC, Compactness of Slepian P, T-CT Mar 53 Quadripole, and RC Grounded, Necessary Conditions on the Matrix of Slepian P, T-CT Jun 58

Quadruple-Diversity Tropospheric Scatter Systems: Long WG , T-CS Dec 57 Quality Control:

Quality Control:

Barnes Colorimeter: Shannon WW, T-BTR Jan 54
in Electronics: Torrey MN, P Nov 56
and Information Theory: Rothstein J, NCR pt4 56
Progress in 1953: Radio Progress, P Apr 54
Training for: Quirk CJ, NCR pt6 56
Quality Demands, Tomorrows: Imus HO, T-RQC Jul 58
Quality in Production: Weller R, T-QC Dec 54
Quality and Television Production Engineer: Mahuron HH,
T-RQC Apr 56

Quantitative Microscopy , Projection Microphotometer for: Bostrom RC , T-ME Dec 56

Quantization of Signal Plus Random Noise: Myers GH, T-I Jun 5's Quantizers, Logarithmic Time and Amplitude, Transistorized: Gott E, T-I Mar 57

Quantizers , Logarithmic Voltage: Glaser EM , T-EC Dec 55

Quantizing: Bit-Squeezing Technique Applied to Speech Signals: David EE Jr, NCR pt4 56

Reduced Alphabet Representation of TV Signals: Kretzmer ER, NCR pt4 56

of Television Signals: Graham RE, WCR pt4 58 Quantum Derivation of Energy Relations in Nonlinear Elements: Weiss MT, P Jul 57

Quantum Mechanical Amplifiers: Strandberg MWP, P Jan 57 Quantum Theory and Solid-State Physics: Dacey GC,

Quarter-Wave Dipole: Josephson B, WCR pt1 57 Quarter-Wave Plates, Broad-Band: Ayres WP, T-MTT Oct 57

rtz: AT-Type Resonators: Bechmann R, P Nov 56 Crystal Units, Q of: Wamer AW, NCR pt9 55 Crystal Units, Simplified Bridge Type Measurements on: Hafner E, NCR pt5 58

Crystals, Synthetic: Hale DR, NCR pt3 54
Delay Lines: Spaeth DA, NCR pt6 54
Filter Cyrstals, High-Frequency: Bechmann R, P Mar 58 Impurity Effects on Resonator Properties: Chi AR, P Sep 55

Resonator: Shaull FM, P Aug 54 Resonators, Frequency-Temperature Behavior: Bechmann R, NCR pt9 55

Servo Oscillator: Lea N, P Nov 58, NCR pt5 58 Synthetic, Resonator Properties of: Chi AR, NCR pt9 56 Temperature Coefficient: IRE Standards, P Jan 56; Gerber EA, P Oct 55

Overtone and: Bechmann R, P Nov 55 Variation with Temperature of Resonator Characteristics: Bechmann R, P Mar 56

Wafers, Ultrasonic Cutting of: Gibbs NE, T-UE Aug 56 -R-

Radar:

Air Traffic Control Symbolic Display System: Harris LT, NCR pt8 56 Alrhome:

Alphome:
Applications: Post EA, T-ANE Sep 54
Field Test Equipment: Kelth WW, NCR ot8 57
Laboratory: Ringwalt DL, NCR pt1 55
Reflectors and Circular Polarization: Panaslewicz JJ, NCR pt8 56

Storm Avoidance Training: Balzer ME, T-ANE Mar 57 Aircraft Visibility Diagram , Three Dimensional: Felner A , NCR pt8 56

Angular-Tracking, Inverse Probability in: Du Waldt BJ, T-IT Mar 56 Antennas:

Broad-Band Low Sidelobe: McCoy AM, WCR ptl 58 Early Warning: Flaherty JM, NCR ptl 58 with Point Source Feed, Reflector Surface of: Laasonen P, T-AP Oct 55

Three-Dimensional Scanning: Gardiner FJ, WCR pt1 57

Width of Coverage: Court AWG, P Aug 55
Applications of Detection Theory to: Siebert WM,
NCR pt4 58

ATC Transponder: Johnson VL, T-ANE Sep 56 Attenuation Measurements by Inflight Calibration: Janza FJ, T-I Oct 55 Beacon System:

Beacon System:
for Air-Traffic Control: Crippen DS, T-ANE Mar 57;
Vickers TK, T-ANE Jun 55
ATC, Coding Requierments for: Vickers TK,
T-ANE Sep 57
Performance: Thaler S, T-ANE Jun 57
Clutter Simulator: Atkin J, NCR pt8 57
Comb Filters for: George SF, P Jul 54
Countermeasures; Joint Board, T-MIL Mar 57
Countermeasures; Joint Board, T-MIL Mar 57
Countermeasures; Simulator, Stemilich L, NCR pt 8 58 Countermeasures Simulator: Stemilicht L, NCR pt8 58
Cross Section of a Man: Schultz FV, P Feb 58
Cross Section of a Prolate Spheroid: Siegel KM,
T-AP Jul 56

Currents ExcIted on Conducting Surface of Large Radius of Curvature: Walt JR, T-MTT Jul 56
Data Presentation, Improvements in: Curtis KV, T-ANE Jun 58

Data Processing, Automatic, Library of BIIb Samples for Simulation of: Walter CM, WCR pt4 58 Detection Philosophy: Siebert WM, T-IT Sep 56 Detection Probability with Logarithmic Detectors Green BA, T-IT Mar 58

Detection Problems, Bias Levels Useful In: Pachares J, T-IT Mar 58

Digital Moon, Antenna Programmer with Analog Rate Signal Intergrator: Guzmann 0, NCR pt4 58 Signal Intergrator: Guzmann D, NCR pt4 58
Directional Measurements of Meteor Propagation:
Eshleman VR, P Dec 57
Display as Linear Filter: Levine D, T-ANE Sep 56
Displays: Sherer LM, T-ANE Jun 55
Doopler AN/APN 96: McKay MW, NCR nt5 58
Doppler Navigation System Reliability Measurements:
Stahl PD, NCR pt6 58 Doppler, Navigational Computer: Insalaco JJ, T-ANE Dec 57 Duplexer, Broad-Band, Balanced: Jones CW, T-MTT Jan 57 Duplexer for Interference Elimination: Reingold I, NCR pt3 57 Duplexers, Ferrite Switches in: Vinding JP, WCR pt1 57 Echoes: from Airrora: Little CG, P Aug 56 A Dual Standard for Measurement: Cohen MH, T-AP Jul 55 from Meteors: Hawkins GS, P Sep 56; Eshleman VR, P Apr 55 from the Moon: Yaplee BS, P Jan 58, P Sep 57 from Overdense Meteor Trails: Hawkins GS, Elevation-Angle Errors Due to Refraction: Fannin BM, T-AP Jan 57 False Alarm Time: Hollis R , P Jul 54 False Echam Fire: Hollis R, P Jul 54
False Echoes: Lee R, P Aug 54
FM, Precise New System: Ismail MAW, P Sep 56;
Johnson RW, P May 57
Guidance, Improved Simultaneous Phase Comparison:
Sommer HH, T-ANE Jun 56 Hazards Due to Total Body Irradiation: Schwan HP, P Nov 56 In-Flight, for Aircraft System Malfunction Detection: Jamgochian J, T-I Mar 58 Instrumentation, Digital Data Acquisition System for: Snyder RL, WCR pt5 58 Magnetic, Electromagnetic Efficiency of Heads in: Camras M, T-AU Nov-Dec 58 Magnetic Tape, Modulation Noise in: Price RL, T-AU Mar-Apr 58 Magnetic, Time and Frequency Scaling in: Wiener FM, T-AU Jul-Aug 58 Marine: Avoiding Collisions: Wylie FJ, T-CS Mar 55 Beacon Requirements for Great Lakes: Jansky CM, T-CS Mar 55 Harbor Systems: Gross FA, T-CS Mar 55 Identification System: Tiffin CM, NCR pt5 55 Improvements in Picture and Plotter: Isbister EJ, T-CS Mar 55 Low Cost "Big Radar" for Smaller Vessels: Moore CE, T-CS Mar 55 in Meteorology: Benis AC, T-CS Mar 55 Naval Use of: Hansen GO, T-CS Mar 55 Navigational Supplements to: Phillips EC, T-CS Mar 55; Tyssy JW, T-CS Mar 55; Hansen GO, T-CS Mar 55 New Marine: Isbister EJ, T-CS Mar 55 Plotting: Moffitt JG, T-CS Mar 55; Cole RI, T-CS Mar 55 Responder Beacons: Jansky CM, T-CS Mar 55 Ship Identification: Barnette LAM, T-CS Mar 55 for Small Vessels: Moore CE, T-CS Mar 55 Markov Process Representation of Data: Sponsler GC , T-IT Mar 57 Measurement of Reflections from Model Targets: Kennedy PD, WCR pt1 57 in Meterology: Bemis AC, T-CS Mar 55 Military, Career Evaluation: Weaver SM, SQ Sep 55
Monopulse: Page RM, NCR pt8 55
Moving-Target, Alrborne, Reduced Platform Motion and Scanning Noise in: Anderson DB, WCR pt1 58
Moving Target Indication, Clutter Attenuation:
Grisetti RS, T-ANE Mar 55 MTI, Amplitron and Stabilotron in: Weil TA, NCR pt5 58 Narrow Band Relay System: Doerr CW, NCR nt8 55 Navigation Aid; Mannheimer D, T-ANE Dec 54 Noise, Improvement of Range Determination with: Hochstadt H, P Sep 58; Turin GL, P Oct 58 Noise, Range Determination Improvement: Bourret R, P Dec 57 Performance Monitor, Automatic and Continuous: Woods WC, NCR pt8 58 Phantom Targets at Millimeter Wavelengths: Tolbert CW, T-AP Oct 58 Power Scattering: Graves CD, P Feb 56; Kennaugh EM, P May 56 P May 56
Prolate Spheroidal Antennas: Myers HA, T-AP Jan 56;
Siegel KM, T-AP Jul 56
Pronagation Loss: Skolnik MI, P May 57
Propagation Survey Experiments for Communications
Systems: Lacy RE, NCR nt1 56
Pulse-Forming Networks: Trinkhaus JW, T-CP Sen 56
Pulse Forming Networks: Trinkhaus JW, T-CP Sen 56
Pulse Modulated, Bandwidth Conservation in:
Rosien RA, NCR pt8 58

Pulse, Prediction of Performance: Hall WM, P Feb 56

Pulsed, Electron Linear Accelerator as Source: Kelliher MG, T-NS Jun 56 Pulsed Search, Maximum Angular Accuracy: Swerling P, P Sep 56

SUBJECT INDEX Rain Cancellation: Crandell PA, T-MTT pt2 Jan 55 Receivers, Degradation of Detection from Adding Two Receiver Outputs: McCord HL, NCR pt1 57 Receivers, Superheterodyne, Noise Level: Haney DW, T-ANE Dec 56 Reduced Range from External Noise: Tiberio U, P Dec 54 Reflection Characteristics of the Moon and Earth-Moon-Earth Communication Systems: Senior TBA, WCR pt1 58 Reflections from Aurora: Booker HG, NCR pt 1 56 Remoted Systems, Information Rates in: Mechler EA, T-CS May 56 and Reproduction of Stereo Sound, Compatible Method of: Stark PA, T-AU Nov-Dec 58 and Reproduction of Stereophonic Sound, A Compatible Method of: Lamberty BJ, T-AU Jul-Aug 58 Ring Quasi-Arrays: Knudsen HL, T-AP Jul 56 Safety Beacons, RTCA Study: Sherer LM, T-ANE Jun 55 Sea Clutter: Hoover RM, NCR pt9 57 Correlation on Measurements: Macdonald FC, NCR pt1 56 Sea Clutter, Mechanisms: Katzin M, P Jan 57 Sea Clutter Noise: Schooley AH, P Aug 56 Search, Angular Accuracy of: Bernstein R, NCR pt5 55 Self-Calibrating: Wolff EA, P Oct 54 Signal Measurement and Recording System, High-Speed: Nirenberg A, NCR pt5 58 Simulation, Search, Aximuth Estimating Procedures Using Digital Processing and: Walter CM, T-ANE Jun 58 Snace Exploration by: Gordon WE, P Nov 58 Spherical Luneberg Lens: Braun EH, T-AP Aor 56
Stereo "3D" Indicating Systems: Tower WR, NCR nt5 54
Tape, Instrumentation-Type Magnetic, Techniques in
Evaluating: Moore TO, T-I Mar 58
Terrain Return at Near Vertical Incidence: Moore RK,
P Feb 57 Thunderstorm Avoidance: Greenslit CL, T-ANE Sep 54 Track-While-Scan: O'Neil SJ, NCR nt5 54
Tracking Noise due to AGC: Delano RH, NCR nt4 55,
P Jun 56 Tracking Range: Kullmann EV, NCR pt5 58 Tracking of Russian Earth Satellite: Peterson AM, P Nov 57 Transceivers, Packaged High Power: Ellis-Robinson HNC, NCR pt8 58 Two-Channel Disk, Modulation Noise in: Cronin D, T-AU Nov-Dec 58 Waveguides Pressurized, Deflection of: Virgile LG, T-MTT Oct 57 Weather Detection, Choice of Wavelength: Hitsclifeld W, P Jul 54 Weather Forecasting: Stout GE, SQ May 57
Weather Installation, Double Ridge Waveguide:
Anderson TN, T-MTT Jul 55
Radiac Systems, Dosimeter Sensitivity Measurements:
Stein MN, NCR pt8 56 Radial Line Discontinuities: Whinnery JR, P Jan 55 Radial Resonators, Frequencies of Higher Order Modes in: Stinson DC, T-MTT Jul 55 Radiation: from Antennas, Effects of Cross Polarization: Kelleher KS, NCR pt 1 56 Cerenkov and Undulator, Motz A, T-AP Jul 56 Characteristics of Cardioid-Pattern Antenna: Shanks HE, T-AP Jan 58 Characteristics of a Zig-Zag Antenna: Sengupta DL, T-AP Apr 58 Counter, Semiconductor P-N Junction: Salzberg B, P Aug 58 of Directional HF Antennas and Transmission Lines, Suppression of Undesired: Brueckmann H, P Aug 58 from Dielectric Rod Waverguides: Duncan JW, T-AP Jul 57 Disks and Conical Structures: Leitner A , T-AP Oct 56 Electromagnetic, Patterns and Sources: Miller C, T-AP Jul 56 FCC, Requirements at UHF, Techniques Involved In Meeting: Bell J, T-BTR Mar 58 Field Produced by Slot in Large Circular Cylinder: Bailin LL, T-AP Jul 55 Gages, Automatic Process Control: Faulkner WH, T-IE Mar 57, T-PT Apr 57 Hazards Due to Total Body Irradiation: Schwan HP, from HF Antenna, Long-Distance, Horizontal Pattern of: Silberstein R, T-AP Oct 57 lonizing, for Study of Virus Structure: Pollard E, T-ME Oct 56 Leakage from Braided Coaxial Cable: Schatz ER, NCR nt5 56 from Line-Sources and Infinite Strip-Sources: Yen JL, T-AP Jan 57 from Modulated Surface Wave Structures: Thomas AS, NCR pt 1 57; Pease RL, NCR pt 1 57 Neutron , Effects on Semiconductor Devices: Belirens WV , P Mar 58

Nonreflecting Absorbers: Severin H, T-AP Jul 56

Effect of Arbitrary Phase Errors on Gain and Beamwidth Characteristics: Clieng DK, T-AP Jul 55

Nuclear: See Nuclear Radiation Patterns:

Produced by Current Distribution over a Cone Surface: Unz H, T-AP Apr 58 of Slotted Elliptic Cylinder Antennas: Wong JY, T-AP Oct 55 of a Spherical Luneberg Lens with Simple Feeds—Webster RE, T-AP Jul 58
Webster RE, T-AP Jul 58
Pulse Type, Effect on Transistors Packaged in a Moist
Atmosphere: Boham WA, P Dec 58
From Radial Dipole through Dielectric Spherical Shell:
Andreasen MG, T-AP Oct 57
From a Rectangular Waveguide Filled with Ferrite:
Tyras G, T-MTT Jul 58 Resistance and Thermal Stability of Silicone
Dielectrics: Christensen DF, T-CP Jun 58 Simulation of Fraunhofer Patterns in Fresnel Region: Cheng DK , T-AP Oct 57 from Slotsin Cylinders . Convergent Representation for Fields: in Metal Plates: Wait JR, P Oct 56, T-AP Jul 35 on a Sphere: Mushiake Y, T-AP Jan 57 Spurious, from Missile-Borne Equipment: Albin AL, NCR nt8 58 Therapy: Electron Accelerators and Radioactive Sources for: Nunan C, WCR pt9 57 Electron Linear Accelerator for: Weissbluth M, WCR pt9 57 from TV and FM Sets, Local Oscillator: Peterson WG, T-BTR Mar 58 VHF-UHF, Measurements of: Glenn AB, T-BTR Oct 55 VLF from Lightning Strokes: Hill EL, P Jun 57 Radiators:
Circularly Polarized Slot: Simmons AJ, T-AP Jan 57 Ferrod: Reggia F, NCR ntl 56
Sandwich Wire Antenna: Rotman W, NCR ntl 57
Strip Line: Fubini EG, T-MTT Mar 55
Radio Altimeters, Effect of Precipitation on Design:
Moore RK, T-ANE Mar 57 Radio Astronomy: Absorption Techniques for 21-CM Research: Lilley AE, P Jan 58 Antenna Problems in: Bracewell RN, NCR pt1 57, NCR pt1 58 Antenna System for Solar Studies: Jasik H, P Jan 58 Cassiopeia A and Cygnus A Measurements: Wells HW, P Jan 58 Comet 1956 H on 600 MC: Hunaerts J, P Jan 58 Considerations in High-Sensitivity Radiometry: Strum PD, P Jan 58 Cornell Radio Polarimeter: Cohen MH, P Jan 58 Cosmic Background Radiation: Ko HC, P Jan 58 Cosmic Rays and Radio Noise, Production of: Marshall L, P Jan 58 Cosmical Electrodynamics: PiddIngton JH, P Jan 58
Dynamic Spectrum Analyzer for Solar Studies:
Goodman J, P Jan 58 Early Experiments: Reber G , P Jan 58
Effects Due to Longitudinal Propagation: Rush S , P Jan 58 Extragalactic 21-CM Studies: Heeschen DS, High Resolution Radio Telescope for Use at 3.5 M: Mills BY, P Jan 58 Hydrogen Study of Stellar Associations and Clusters: Menon TK, P Jan 58 Hydrogen 21-CM Line, Excitation of: Field GB, P Jan 58 Interferometer for: Covington AE, T-AP Jul 57 Interferometer for Solar Radiation: Wild JP, P Jan 58 Interferometry of Discrete Celestial Sources: Bracewell RN, P Jan 58 Introduction to: Haddock FT, P Jan 58 Ionospheric Absorption Measurements: Little CG, P Jan 58 Irregular Refraction in the lonosphere: Booker HG, P Jan 58 Jansky's Discovery: Jansky CM Jr, P Jan 58 Large Aperture Telescope Antennas: Kraus JD, P Jan 58 Limar Radio Echoes: Trexter JH, P Jan 58 Lunar Thermal Radiation at 35 KMC: Gibson JE, P Jan 58 Measurements of Planetary Radiation: Mayer CH, P Jan 58 Measurements at VHF and Microwaves: Aarons J, P Jan 58 Meteor-Studies at 13 Meters , Antenna Array for: Galfagher PB , P Jan 58 Meudon Observatory: Blum EJ, P Jan 58 Milky Way at 440 MC; Roman NG, P Jan 58 Phase Tracking Interferometer Penfield H. P Jan 58 Penturbations of Radio Waves Penetrating the Ionosphere: Lawrence RS, P Jan 58 Planetary and Solar Emission: Kraus JD; Planetary and Solar Emission: Kraus JD:
Polarimeter in Microwave Region: Akabane K, P Jan 58
Polarimeter at 200 MC: Suzukl S P Jan 58
Polarization Measurements: Coher MH. P Jan 50
Present and Future Capabilities of Microwave Crystal Receivers: McCoy CT, P Jan 58
Radar Echoes from the Moon: Yanlee BS: P Jan 58
Padiometers, Source Comparison: Drake FD, P Jan 58
Radiometers, Method of Calibrating: Hey JS, P Jan 58
Report on URSI Commission: V Haddock FT, P Jan 58
Restoration of Cosmic Noise Distribution in the Presence of Errors: Bracewell RN, P Jan 58

Scanning the Sun with Antenna Array: Christiansen WN, P Jan 58 Solar Activity Radio Spectrum: Maxwell A, P Jan 58 Solar Corona Characteristics - Bracewell RN, P Jan 58 Solar Flares Study - Dodson HW, P Jan 58 Solar Flux Measurements at 10.7-CM: Medd WJ, P Jan 58 Solar Radiation at 4.3 MM+ Coates RJ, P Jan 58 Spectral Lines In: Barrett AH, P Jan 58 Sydney 19.7-MC Radio Telescope+ Shain CA, P Jan 58 U.S. National Observatory, Noise Levels: Findlay JW, P Jan 58 U.S. National Observatory Telescope Program: Emberson RM, P Jan 58 Radio Beam Counter-System: Hecht H., T-ANE Mar 56 Radio on Campus: Malone W, SQ Sep 57 Radio Climatology, First Meetling on: Bean BR, P J.il 58 Radio Commication, Beginnings of: Pratt H, SQ Dec 55 Radio Communications by Means of Very Short Electric Waves: Marconi G, T-AP Jan 57 Radio-Controlled Devices, History of: Hammond JH, P Sep 57 Radio Direction Finders - See Direction Finders , Radio Radio and Electronics in Brazil: Schooley AH, P Feb 57 Radio Frequency Spectrum, Expansion of: Straiton AW, SQ Dec 56 Radio Interference Measurements, Principles and Application of: Showers RM, T-I Dec 58 Radio Inventions, History of: Hammond JH, P Sep 57 Radio Meteorology: Gerhardt JR, SQ May 56 Radio Organizations, International, and Information Theory: Stumpers FLHM, T-IT Jun 57 Radio Progress During 1953: Radio Progress, P Apr 54 Radio Relay:
Microwave, 50 Watt Amplifier for: Mallach LW,
T-BTS Jun 57 Microwave, for Telemetry: Raylor LS, NCR pt5 57 Military: Considerations for: Ribe ML, T-CS Nov 54 Microwave: Metzger S, T-CS Jul 54, T-MTT Apr 54 UHF: Nordahl JG, T-CS Nov 54 Operation, Mobile UHF, Antenna for: Triolo FJ, NCR nt1 58 Operation in Power Radio Service: Dodrill GE, T-VC Jun 54 Orbital: Plerce JR, NCR pt10 55
Point-to-Point: Norton KA, T-CS Mar 56
Portable, Multichannel, 11,000 MC: Engelmann H, NCR pt8 57 Kemp CA, T-VC Jul 56
System, Microwave, between St. John and Hallfax: Sheffield HC. T-CS May 56
Systems, FM for Multi-Channel Telephone Service: Halina JWO, T-CS Oct 56 Halina JWO, T-CS Oct 56
Systems, Radlo, Reduction of Bandwidth Requirements for: Mack A, NCR pt8 58
Tangier System of RCA: Dietsch CG, T-CS Jan 54
Radlo Sextant: McCoy DO, NCR pt5 55
Radlo Starant: McCoy DO, NCR pt5 55
Radlo Stara, Scintillation of: Little CG, P Aug 56
Radio Stars, Scintillation of: Little CG, P Aug 56
Radio Technical Commission for Aeronautics:
Alt Traffic Control Studies: Sherer LM, T-ANE Jun 55
Current Activities: Dellinger JH, T-ANE Sep 57
Explanation of: Dellinger JH, T-ANE Sep 55
Radio Telephone, as Navigational Supplement to Radar:
Hansen GO, T-CS Mar 55 Radio Telescope:
Antennas of Large Aperture: Kraus JD, P Jan 58
High Resolution, fcr Use at 3.5M: Mills BY. P Jan 58
National Radio Astronomy Observatory: Emberson RM, P Jan 58 P Jan 58
Sydney 19:7-MC: Shain CA, P Jan 58
Radio, Transistor, Series Tuned Methods In Circuitry:
Chow WF, T-CT Sen 57
Radio, Transistorized Pocket, Construction of:
Jacobsen AB, SQ Sep 58 Radio Waves, Cylindrical: Sensiper S, T-AP Jan 57 Radio Waves, Refraction, Atmospheric: Janes HP, SQ Dec 56 Radio Waves , Speed of: Smith-Rose RL , SQ Sep 58 Application to Measurement and Control: Walters NE , T-IE Mar 55Gaging, Measurement and Control in Process Industries: Brunton DC, T-IE Mar 56 Isotopes, Positron-Emitting, for Brain Tumor Localization: Aronow S, NCR pt9 56 Logging of Oil Wells: Williams CE, WCR nt5 57
Source in Liquid Level Switch: Wheeler RW, T-I Jim 57
Sources for Radiation Therapy: Nunan C, WCR nt9 57
Tracer Study of Cathodes: Shepherd WG, T-ED Feb 54
Tracer Study of Sewage Field in Santa Monica Bay:
Ely RL, T-NS Mar 57 Waste , Industrial Sterilization Process: Jeppson MR , T-IE Mar 56

Radiography, Television In: Ogilvie AR, WCR pt6 57 Radioisotopic Thermoelectric Generator: Briggs JL, NCR pt9 57

Radioisotopes, Noncontact Measurements for Continuous Processes: Bauschinger O, T-1 Jun 57

SUBJECT INDEX Radiological Instrumentation: Carp G , NCR pt8 56 Radiological Studies , Literature of Instrumentation for: Comstock M , T-NS Jun 56 Circuits: Graham M, P Dec 58 Circuits, Comparison: Goldstein SJ, P Nov 55; Tucker DG, P Mar 57 Dicke, Theoretical Sensitivity of: Strom LD, P Sep 57, WCR pt1 57 High-Sensitivity Microwave, Considerations in: Strum PD, P Jan 58 Method of Calibrating: Hey JS, P Jan 58 Microwave, Calibration Procedure for: Whitehurst RN, P Oct 57 Multiplier-Type Compared with Subtraction-Type: Galejs J., P. Oct. 57 Source Comparison, for Radio Astronomy: Drake FD, P Jan 58 Stability Requirements and Calibration: Greene JC, P Mar 57 Radiometric Inertial Reference System: Bolie VW, NCR pt8 56 Radiometric Receiver, Dicke: Stewart C, NCR pt8 55 T-MTT Apr 55 Radiophones, Handre-Talkie Portable: Macdonald AA, T-VC Dec 56 Radio-Photo Transmissions, Frequency-Shift, Spectrum of: Watt AD, T-CS Oct 56 Radiotelephone: otelennone: Air-Ground: Lynch WW, T-CS Nov 54 AT&T Overseas: Stiles KP, T-CS Jan 54 Mobile, 450 MC: Omstein W, NCR pt8 55 System, Dial Direct Automatic: McDonald R, T-VC Jul 58 Systems, Dial Operated Mobile: Dodrill GE, T-VC Jul 58 Radioteletype Communication, Single Channel: Voelcker HB, NCR pt8 58 Radioteletype Systems, Multichannel, over a 5000-Mile Ionospheric Path: Brennan AT, NCR pt8 58 Radiotherapy, Acceleration for: Nygard JC, NCR pt9 55 Antenna Pattern Calculation: Richmond JH, T-MTT Jul 55 for Ground Electronic Equipment: Ratynski MV, NCR pt1 56 Tester: Walcutt RP, NCR pt5 54 Transmission Characteristics of Sandwiches: Mathis HF, T-MTT Oct 55 Railroad Radio Communication: Kearney LE, T-VC May 57 Railroad Trains, Communications in Tunnels: Monk N, T-VC Dec 56 Railroading, Role of Communications Engineer: Albertson JN, T-VC Jun 55 T-VC Jun 55

Railroading, VHF Radio Used in: Brannin JW, WCR pt8 57
Rail Cancellation: Crandell PA, T-MTT Jan 55
RAKE Binary-PCD Buffer: Mooney JF, WCR pt4 57
RAKE Communication Teclinique for Multipath Channels:
Price R, P Mar 58; Hulst GD, P Nov 58
Random Interference and Pulse, Methods of Reducing:
Creutz PM, NCR pt8 58 Random Function Probability Distributions After a Nonlinear Filter: Young GO, WCR pt4 58 Random Functions, Axis-Crossing Intervals of: McFadden JA, T-IT Mar 58, T-IT Dec 56 Random Inputs, Response of a Certain Class of Systems: Heilfron J, T-IT Mar 55 Random-Multipath Channels, Noisy, Communication through: Turin GL, NCR pt4 56 Random Parameter Systems, Prediction and Filtering for: Beutler FJ, T-IT Dec 58 Random Processes: Locally Stationary: Silverman RA, T-IT Sep 57
Optimum Linear Estimation for: Swerling P,
WCR pt4 58 Wiener-Hopf Integral: Youla DC, T-IT Sep 57 Range Measurements, Digital, Increasing Accuracy: Harris LB, T-ANE Jun 56 Range Measurements, Precision: Beck DH, T-I Oct 55 Range measurements, Precision: Beck DH, T-I Oct 55 Rare Earth Oxide Cathodes: Cronin LJ, NCR nt3 57 Rate Gyro, Transfer Function of: Bender M, T-I Mar 57 Rating vs Sampling Dilemma on Components: Hecht B, WCR nt6 58 Rating System for Electronic Components and Devices: Lamb JJ, T-RQC Feb 56 Lamb JJ, 1-KUC Feb 50
Ratings of Receiving-Type Tubes, Influence of the Internal Correction Voltage on: O'Neill GD, T-ED Apr 58
Ratiometer: Pappas NL, T-I Apr 54
Ray Theory vs Normal Mode Theory in Wave Propagation Problems: McCracken LG, T-AP Jan 57 Rayleigh-Ritz Method Applied to Dielectric Steps In Wave-guides: Collin RE, T-MTT Jul 57; Angulo CM, T-MTT Oct 57 Reactancectance:
Amplifier Low-Noise Wide-Band: Salzbero B. P. Jun 50:
Amplifiers, Basic Power Rela-: Salzberg B. P. Nov 57:
Residual Bridge. Diamond JM. T-I Dec 57:
Theorem for Antennas: Levis CA, P. Aug 57;
Solymar L. P. Agr 58: Reaction Concept, Application to Scattering Problems: Cohen MH. T-AP Oct 55 Reactivity Computer, Design and Use: Stubbs GS, T-NS Mar 57 Reactor, Ferristor Melsheiner RS T-I Inn 57 Reactor Pulse-Switching Mathias RA NCR nt3 55 Reactors, Nuclear: See Nuclear Reactors

Read, Should a Talk Be from a Prepared Manuscript: Loughren AV, T-EWS Mar 58 ders: High-Speed, for Perforated Tape: Bianco RJ, T-I Jun 56 Ordnance Dial Reader and Translator: Kintner PM, T-I Jun 56 Paper Tape High Information Rate: Welcome W, WCR pt5 57
Punched High-Speed: Angel AM, WCR pt4 57
Reading Equipment, Automatic for Film Data Records:
McPherson RG, T-1 Sen 57 Reading, Information Rate of a Human Channel: Pierce JR, P Mar 57 Reading Magnetically Recorded Data: Lubkin S. T-EC Sep 54 Reading Magnetically Recorded Data: Stroud JB, T-E Dec 58 Reading Rates of Human Channels: Pierce JR, WCR pt2 57 Reading System, Nonreturn-to-Zero Magnetic Recording Hongland AS, T-EC Sep 55 Read-Out-Low Speed, Flux Responsive Magnetic Heads for: Ferber LW, NCR pt4 58 of Magnetic Cores: Papoulis A, P Aug 54 Molecular Storage and, with Microwaves: Becker CH, NCR pt4 58 RF Nondestructive: Widrow B, T-EC Dec 54
Real Functions, Positive Transformations of: Seshu S, T-CT Dec 57 Real-Time Simulation, Aspects of: Bauer WF, T-EC Jun 58, NCR pt4 57 Realizability Conditions on n-Port Networks: Weinberg L, T-CT Sep 58 Receivers: Airborne HF, Conversion to Single-Sideband: Robinson HA, P Dec 56 All Electronic Signal Seeking: Hargens CW, T-BTR Oct 55 of Automatic Direction Finder: Mullin LR, T-ANE Dec 55 Automatic Indication of Noise Figure: Hendler AJ, NCR pt5 57 Automobile, 12-Volt AM, Signal Seeker, and FM, Development of: Hsu CC, T-BTR Mar 58 Baseband and IF Diversity Combining, Evaluation of: Adams RT, NCR pt8 58 Battery-Powered, Transistors for: England JW, NCR pt3 56 Broadcast Transistor Pocket: Holmes DD, NCR nt7 55 Circuitry, Critical Band-Pass, Alignment Techniques for: Sebastian WA, WCR pt7 58 Sedastal W. W. R. B. 7.

Sodan Anti-Noise Device: Rudd JB, T-CS Jan 54

Color Projection: Bailey WF, NCR nt7 55

Color Television: See Color Television Receivers

Communications, Crystal Oscillators in: Manke AG,

T-VC Dec 56 With Ferrite Antenna, Methods of Testing: IRE Standards, P Sep 55 Ferrite Components: Schlicke HM, NCR nt7 55
FM, Impulse Noise: Lanin SP, NCR nt8 54
IF and Baseband Diversity Combining, Evaluation of:
Adams RT, T-CS Jun 58
Impulse Interference Blanker: Engels R, T-CS Oct 56 Logarithmic: Chambers TH, P Aug 54 Logarithmic, High Accuracy, Improvements in: Stevens RT, P Dec 57 Measurements by Solar Noise: Aarons J, P May 54 Crystal , Present and Future Capabilities of: McCoy CT , P Jan 58 Low Noise Tunable Preamplifiers for: Currie MR, P Mar 58 Radiometric: Ringoen RM, NCR pt5 54 Sideband-Mixing Superheterodyne: Cohn M, P Nov 56 Mobile, Front End Design: Manke AG, T-VC Jun 55 Noise, Measurements at UHF: Maxwell E, T-MTT Apr 56 Noise Reduction by Crystal Mixer Cooling and Antennas: Messenger GC, T-MTT Jan 57 Panoramic: Batten HW, P Jun 54 Panoramic, Dielectric Tuming of: Butler TW, P Sep 55 Pocket, for Vehicular Communications: Neubauer JR, T-VC Jul 58 Progress in 1953: Radio Progress, P Apr 54 Radar, Calculation of Noise Level: Haney DW, T-ANE Dec 56 Radar, Degradation of Detection from Adding Two Receiver Outnuts: McCord HL, NCR pt2 57 Radiometric, Dicke: Stewart C, NCR pt8 55 Signal in Noise Detection for Scatter-Path Communica-tion: Price R, T-IT Dec 56 Single-Sideband: Factors Influencing Design: Couillard LW, P Dec 56 for HF Radio Circuits, Point-to-Point Service: Goldstine HE, P Dec 56 Standards on Interference Measurement: IRE Standards, P Aug 56 Strip Type Components in: Zublin KE, T-MTT Mar 55 Television: See Television, Receivers. Automobile: Freedman LA, P Jun 55; Santilli RA, NCR pt7 58 Broadcast: Barton LE, T-BTR Jun 54, P Jul 54, Stern AP, NCR pt7 54 Communications: Schwartz S, T-VC Dec 56

Design Considerations in First Stage: Freedman LA, NCR pt3 57 Patents and Bibliography: Wilson CF, T-AU May-Jun 56 CW, Detection of Sputniks Land II by: Kraus JD, P Mar 58 150-MC FM: Giguere WJ, P Apr 58 for Marker Beacon: Erdmann RG, T-ANE Sep 57 State of the Art: Selsted WT, T-AU Sen-Oct 54 from Discontinuitles in Transmission Lines: Moore RK, T-MTT Apr 57 Television Sinnals: Olson HF, T-AU Nov-Dec 54 On 35-MM Film: Frayne JG, T-AU May-Jun 54 Pocket-Size Broadcast: Helmes DD, P Jim 55 Radio Design Problems: Worcester JA, T-BTR Apr 56 F-Laver, and Long-Range Meteoric Echos: de Bettencourt JT, T-AP Jan 56 Microwave from the Ocean: Beard Cl, T-AP Anr 56 Radio, from Electron-Ion Clouds: Eshleman VR, T-AP Jan 55 Time Expansion Device: Schiesser H, T-AU Jan-Feb 54 Time or Frequency Compression-Expansion: Fairbanks G, T-AU Jan-Feb 54 Six-Transistor Portable: Holmes DD, NCR pt3 57 Superheterodyne, 150 KMC: Johnson CM, T-MTT Sep 54 Time and Frequency Scaling in: Wiener FM, T-AU Jul-Aug 58 from Rough Ocean: Beard CI , T-AP Apr 57 by Rough Surfaces: Twersky V , T-AP Jan 57 from Satellite-Produced Ion Columns: Hendricks CD , P Oct 58 NTSC Color Signal, Head Drum Stabilization for Kabell LJ, WCR pt7 58 Television, Circuit Problems: Creamer EM Jr, NCR pt3 57 Tetrajunction Circuits: Proudfit A, NCR pt3 57 Transmitter, UHF Satellite: Katz L, T-BTS Mar 55 Video Transistor Amplifiers: Salaman RG, T-BTR Sep 58 Optical Method for Calibrating Test Records: Bauer BB, T-AU Sep-Oct 55 from Strip Grating: Primich R1, T-AP Apr 57 Reflectometer for Mobile Transmitter: Stryker EM Jr, NCR pt8 55 Phonetic Typewriter: Olson HF, T-AU Jul-Aug 57 Progress in 1953: Radio Progress, P Apr 54 Radar-Signal: Nirenberg A, NCR pt5 58 Reflectors: Receiving Tubes, High Dissipation, Heat-Flow Consideration: Schade OH Jr, NCR pt3 56 Airbome, for Aircraft Radar Return: Panasiewicz JJ, NCR pt8 56 Receiving Tubes, Stacked Ceramic, Semiantomatic Production of: Chamberlain RH, WCR of 658
Reception, Statistical Approaches to: Van Meter D, T-IT Sep 54 Shaped Beam Techniques: Peterson RM NCR nt3 58 Stereophonic Disk, Tracing Distortion In: Corrington MS, NCR pt7 58 NCR pt8 56
Curved Current Distributions on: Plonsey R, NCR pt1 56
Curved Passive: Bedrosian E T-AP Oct 55
with Defocused Parabolic Antenna, Illuminating Curved
Passive: Yang RFH, WCR pt1 58
Double Flat, in Passive Repeater: Yang RFH,
NCR pt1 57; Cappuccui F, P Apr 58 Stereophonic Methods: Tinkham RJ, WCR pt7 57 Reciprocal Ferrites in Transmission Lines: Fleri D, Applications: Camras M, T-AU Nov-Dec 55, NCR pt 7 55 T-MTT Jan 58 Reciprocal Inductance: Stockman H, P Mar 55; P Jul 55; McAleer HT, P Jul 55; Baghdady EJ, P Sep 55 High Fidelity Magnetic: Moyer RC, T-AU Jan-Feb 55 Feed, Improvement of Impedance: Scheldorf MW, P Nov 57 Reciprocity, Three-Terminal Elements: Shekel J, T-CT Jun 54 Flat Microwave, Gain of: Crosby DR NCR nt1 54 Metallic, Applications in Navigation: Megla G, WCR nt10 57 Rectangular Multimode Waveguides: Angelakos DJ, T-I Oct 55 Reciprocity Relationships for Gyrotropic Media: Harrington RF, T-MTT Jul 58 Rectification , General Circuit Theorem on: Gewartowski JW , P Oct 57 Parabolic, Treatment of Problems: Chatterjee B, P Jan 56 Recognition of Characters Using Decision Functions: Chow CK, T-EC Dec 57, WCR pt4 57 Rectification Network Theorem on: Stockman H, P Mar 58 Paraboloidal, on-Axis Defocus Characteristics of: Cheng DK, T-AP Oct 55 Reflector-Type Periodic Broad-Band Antennas: Franks RE, WCR ptl 58 Recognition and Detection of Signals by Human Observers: Swets JA , T-IT Sep 56 Rectification of Two Signals in Noise: Campbell LL, T-IT Dec 56 Recombination Coefficient in Lower Ionosphere: Mitra AP, T-AP Jul 54 Rectifiers: Capacitances, Conversion Loss of Ring Modulators: Belevitch V, T-CT Mar 55 Split, for Antenna Impedance Matching: MattIngly RL, WCR pt1 57 Recombination of Injected Carriers in Semiconductor Ingots: McKelvey JP, T-ED Oct 58 Crystal Diode, Excess Noise in: Richardson JM, T-MTT Jul 57 Surface of Radar Antenna with Point Source Feed: Laasonen P , T-AP Oct 55 Recombination in Semiconductors: Bemski G, P Jul 58, P Jun 58 Crystal, Pressure Dependence of: Matthei WG, T-MTT Jan 58 Toroidal Microwave: Peeler GDM. NCR pt 156 Reflex Techniques in VHF-UHF Set: Wulfsberg PG, NCR pt8 55 Record-Playback, Transistorized Amplifier for Dictation Ma-chine: Fleming RF, NCR pt7 58 Diode, Interference Generated by Airborne Devices Utilizing: Senn JC, WCR pt5 58 Recorders: Aerographic Cathode-Ray Tube: Hunter HH, NCR pt5 58 Germanium and Silicon: Henkels HW, P Jun 58 Anomalies in Airborne Propagation: Wong MS , P Sep 58 Harmonic Generation with Ideal: Page CH, P Oct 58 Medium Power Silicon: Andres RJ, WCR pt3 57; Bisson DK, WCR pt3 58 Airborne, of Small Weight and Size: Smith SL, T-I Jun 56 Atmospheric, of 8.7 MM Radiation: Mamer GR, NCR ptl 56 Impedance for X Band: Gabriel WF, P Sep 54 Magnetic, Frequency-Modulated: Richter W, T-IE Mar 56 Point Contact: Cutler M, T-ED Jul 57; Lehovec K, T-ED Jan 56 Atmospheric , Radar Elevation-Angle Errors: Fannin EM , T-AP Jan 57 Power, Industrial Uses: Morton LW, T-IE Mar 55 Atmospheric , Radio Waves: Janes HP , SQ Dec 56 Magnetic Tape, Performance Measurements: Hull JB, NCR pt7 56 Selenium, Voltage Ratings: Bechtold N, NCR pt3 55 Silicon: Pearson GL, P Apr 54; Rixlenberg HG, NCR pt3 55 Radio Stars to Study: Booker HG, P Jan 58 Superrefractive Layers, Effect on Nonoptical Fields: Gossard EE, T-AP Apr 56 Multichannel Audio: Fuji WM, WCR pt7 57 Oscillographic, Design of, for Efficient Use: Payne VE, T-1 Mar 58 Recursion Formulas for Growing Memory Digital Filters: Blum M, T-IT Mar 58 Tropospheric: Reher G, T-AP Jul 55 Refractive Index: Six-Channel X-Y, and Point Plotter: Craddock HC, T-1 Mar 58 Red Cell Permeation by Water, Measurements: Solomon AK, NCR pt9 54 Data, Present and Future Uses: Anderson LJ, T-AP Jan 57 Video Tape: Factor in Tropospheric Propagation beyond the Horizon: Gray RE , NCR $\mathfrak{p}t1.57$ Redundancy: Ampex Instrumentation Applications of: Koller EL, WCR pt5 57 Approach, the Group for Optimum Design for Reliability: Chin JHS, WCR pt6 58 Measurements, U. S.: Crain CM, T-AP Jan 54
Smokes and Aerosols: Crain CM, T-I Dec 57
Regeneration of Binary Microwave Pulses: DeLange OE,
T-MTT Dec 55 Symposium on: Snyder R, WCR pt7 57 Circuits: Creveling CJ, P Apr 56 Integrators in Analog Computers: Scott NR, T-EC Dec 57 Audio, Stereosonic System: Clark HAM, T-AU Jul-Aug 57 Intersymbol: Davis H, NCR pt4 55
Pattern: Lowenschuss O, T-IT Sep 58
Reliability through, Analogies: Block AC, T-RQC Nov 57 Regeneration Effects in Double-Tuned Band-Pass Amplifiers: Bura P, NCR pt2 57 of Audio and Subaudio Noise: Howard DD, NCR pt5 58 Automation and the Applications of Tape Recording in Broadcasting and Telecasting: Isberg RA, T-BTS Dec 57 Regenerative Amplifier with Distributed Amplification: Golosman BS , P Apr 56 in Set of Patterns, Determination of: Rickeman EC, T-IT Jun 57; Glovazky A, T-IT Dec 56 Study of: Watanabe S, T-IT Sec 54 at Various System Levels, Reliability Improvement Through: Flehinger 8J, NCR pt6 58 Regenerative Pulse Generator: Cutler CC, P Feb 55 Registration, Photoelectric, Control Systems: Frommer JC, T-IE May 58 Calibration by B-Line Patterns: Bauer BB, NCR pt7 55 Calibrating Mechanically-Recorded Lateral Frequency, IRE Standards on: IRE Standards, P Dec 58 Regrettor, Nimber 2-B: Henry JM, SQ May 55
Regulation of Dynode Voltages for Photomultiplier Tubes:
Enslein K, T-NS Aim 58
Regulator, Amplitude, for Microwave Signal Sources: Fire
P, NCR pt5 56 Changer for Stereophonic Production, Requirements of: Faulkner W, NCR pt7 58 Reference Cavity for C Band: Hall J, NCR pt8 54
Reference Cavity Design Considerations: Gerard WA,
T-MTT Apr 57 Color TV on Black-and-White Film: Hughes WL, NCR pt7 55 Color TV, on Black and White Lenticular Film: Brum-augh JM, T-BTR Oct 57 Regulator Tubes , Grid Current: Diamond JM , P May 57 Re-Invention by Young Engineers: Herold EW , P May 58 Reference Generator for Color TV Receivers: Rausch RH, T-BTR Jun 57 Color TV on Magnetic Tape: Grever JL, NCR pt7 58 Columbia Compatible Stereophonic: Goldmark PC, T-AU Mar-Apr 58, NCR pt7 58 Reference Signals, Television: Characteristics and Applications: Cameron CF, T-CP Sep 54 for Broadcast Transmissions: Wentworth JW, NCR pt7 57 Damping, Automatic, for Wind Tunnel Applications: Olsson CO, T-I Sep 57 Keyed: Whalley WB, NCR pt7 57 Testing Signals: Gronberg HC, NCR pt7 57 Refill Phenomema in Williams Tube Memories: Maughmer JM, T-EC Mar 58 Circuits, Matrix Method of Design: Hohn FE, T-CT Jun 55 Orsson CO, 1-1 Sep 5 /
Data Systems: Greenwood TL, NCR pt10 55
Film Data: McPherson RG, T-1 Sep 57
Flutter Content: IRE Standards, P, Mar 54; Jensen AG, P Jul 54 DC Arc Suppression for Contacts: Godsey WJ, T-CP Jun 57 Electrostrictive: Crownover JW, T-CP Sep 54 High Reliability: Cumningham DH, WCR nt6 57 Radio: See Radio Relays: Refinery, Modern, Automatic Techniques in Data Handling for a: Deutsch WG, T-IE Aug 58 Graphic , Application of Magnetography to: Gehman JB , NCR pt5 58 Reflected Number Systems: Sydnor RL, T-EC Jun 56 Reflection: NCK ptb 58 Heartheats of a Fetus: Mack E, T-ME Dec 58 Magnetic, Audio Direct, Equalization Considerations: Synder RH, NCR pt7 56 Industrial Applications: Johnston RE, WCR pt6 57 with Alternating Zeros: Weinberg L, T-CT Dec 57 of E-Plane Tapered Waveguides: Matsumaru K, T-MTT Apr 58 Stacked Ceramic: Daniels JW, WCR pt6 57 Vibration and Shock Resistant: Boylan AP, NCR pt6 57 Adverse Environents: Davies GL, T-AU Sep-Oct 54 of Irregular Terrain at 10 CM: Sherwood EM, P Jul 55 Wire Spring, Manufacture for Communication Switching Systems: Rice JW, T-PT Apr 57, T-IE Mar 57 Measurement through a Lossless Network: Mathis HF, T-MTT Oct 55 Measurement, Small: Scharfman H, NCR pt8 55 Measurement by Waveguide Impedance Meter: Eachman HL, T-MTT Jan 55 Audio Direct, Equalization Considerations: Snyder RH, NCR pt7 56 Reliability: Electromagnetic Efficiency of Heads in: Camras M, T-AU Nov-Dec 58 Acceptance Sampling of Tubes: Goldsmith BP, T-RQC Apr 55 Electron-Beam Reproducing Head: Gratian JW, T-AU Jan-Fen 54 Air Force Ground Equipment Program: Naresky JJ, NCR pt10-57 Microwave, Measurement Technique: Macpherson AC, P Aug 56 Logical Reading System for Nonreturn-to-Zero: Hoagland AS, T-EC Sep 55 Air Force Programs, Lambert JS., T-ROC Sep 58 for Vertical Polatization, Universal Curve for: Ohman GP, T-AP Jan 57 Airborne Computer Laboratories IBM Program: Kuehn RE, NCR pt10 57 Magnacard Studies: Burkig J, WCR pt4 57 Navy Standard Recorder-Reproducer: Comerci FA, T-AU Sep-Oct 54

Convex Sirface: Brandstatter JJ, WCR pt1 57

in Airborne Electronic Equipment, Price of: Wulfsberg AH, T-RQC Jan 57

Airborne Gimbaled Equipment, Vibration of: Ehrenpreis D., NCR pt10-57 in Anborne Systems: Warsher A , NCR ptl1 54
Aircraft Electronics: Levine MB , NCR pt5 55
Alfoy Junction , Transistor: Wahl AJ , P Apr 56
AOL Myth: Aclieson MA , WCR pt10 57
Aspects of Systems Design: Moskowitz F ,
T-RQC Sep 56 , NCR pt6 56

Assurance, Inspection Testing for: Peterson NM, T-RQC Dec 58

Automation as Path to: DeGuiro ML, T-PT Sep 56 Background of: Smith TA, T-RQC Sep 56 Bombing System Program: Wendt RL, NCR pt6 56 Capacitors:

Accelerated Life Testing of: Levenbach GJ, T-RQC Jun 57

In-Process Controls to Maximize: Herrick HS, T-RQC Aug 57

of Ceramic Tetrode, 300-Watt Stacked: Foote WB, T-RQC Jan 57

Challenge to Management: Wooldridge WW , T-RQC Sep 58

and Complexity: Felker JH, SQ Dec 56
Complexity and Unreliability in Electronic Equipment:
Scheer GH, T-AU Mav-Jun 55
Component, Measurement of: Munson IK,
T-RQC Aug 57

Component Part Information in Circuit Design: Xavier MA, T-RQC Sep 58

MA, T-RQC Sep 58
of Component Parts: Goetz JA, T-RQC Apr 55
Component Parts: Dependence of System Upon: Acheson
MA, SQ Feb 58
Computer Methods for Estimating Weibull Parameters:
Kao JHK, T-RQC Jul 58
Considerations, Integrating, Into Systems Analysis:
Heyne JB, WCR pt6 58

Contract Implications of Military Requirements: Allen J, WCR pt6 58

Contribution of Component Engineer: Brown RW, WCR pt10 57

Control Based on Multiple Sequential Feedback: Ryerson CM, T-RQC Jul 58 Criterion for Constrained Systems: DiToro MJ, T-RQC Sep 56

DC Overpotential Testing of Components: Woulk V, NCR pt10 57

Definition of Terms: Knight CR, T-RQC Apr 55
Design for: Meltzer SA, T-RQC Sep 56; Taylor NH,
P Jun 57

Detecting Intermittent Circuit Faults: Wald S, NCR pt6 55

and Economics of Telecommunication Systems: Prihar Z , T-CS Jun 58

Effect of Maintenance on: Amold JB, NCR pt3 54
Efectron Tubes:
Design Factors: Acheson MA, T-RQC Apr 56
Effects of Operating and Environmental Factors:
Bowie WS, T-RQC Feb 56

Life-Quality Measure: Kao JHK, T-RQC Apr 56

Military Program: Harding KC, T-RQC Aug 57 Subminiature Environmental Effects: Pleak HC, T-RQC Jan 57

Electronic, Increased by Use of Redundant Circuits: Creveling CJ, P Apr 56

of Electronic Components, Selection of Computational Method: Connor JA, T-RQC Jan 57 Electronic Equipment: Pertschik DW, T-RQC Nov 57 of Electronic-Mechanical Components, New Testing Concepts: Grumet H, T-RQC Jan 57

and Engineering Colleges: Krohn CA, WCR pt6 58

Engineering and Testing for: Romia HG, T-RQC Feb 56 of Ground Support Equipment, Approach to: Barov M, WCR pt10 57

High, in New Filamentary Tubes: Wood R, T-RQC Jan 57

Improvement by Field Performance Analysis: Landers RR, NCR pt11 54

Improvement Through Redundancy at Various System Levels: Flehinger BJ, NCR pt6 58

Levels in Equipment Design, Selection of: Garbarino HL, T-IE Apr 58

and Longevity for Space Technology: Matthews AR, NCR pt6 58

in Magnetic Amplifier Production: Patton HW, NCR pt6 56

Measurement and Prediction: Ryerson CM, T-CS May 56

Measurements, Doppler Radar Navigation System: Stahl PD, NCR pt6 58

Method for Determination of: Portz KE, T-RQC Aug 57

in Military Electronic Equipment, Progress, 1956: Bridges JM, T-RQC Aug 57

Military Electronics, Dynamic Failure Control: Luebbert WF, T-RQC Jun 57 Military Specifications: Dertinger EF, T-RQC Sep 58

Complexity as Factor in: Lichtman SW, NCR pt10 57

Designers Handbook for: Dreste FE, WCR pt10 57 Electronic Component Parts: Bills TS, T-RQC Jun 57

and Electronic Production Techniques: Gray AR, NCR pt6 55

Field Checkout: Stanly AL, T-ROC Jan 57 Guidance Systems: Gray AR, NCR pt6 58 Prediction of: Kirby MJ, NCR pt6 55 in Production Dr. Kirby MJ, NCR pt6-55 in Production Phase: Dortinger EF, NCR pt6-56 System Enuipment: Yueh JH, T-ROC Sen-56 Tubes: Blattel A, T-RQC Jan-57 Navy Specification Program for: Nucci EJ, T-RQC Sen-58

Nuclear Radiation, Effects on Capacitors: Paddock RR, T-RQC Dec 58

Optimum Design for , through the Group Redundancy Approach: Chin JHS , WCR at 6 58 Organizing for Okun AM , T-RQC Jan 57

Organizing for: Okun AM, T-RQC Jan 57
Partners in, Components Engineer and the Sales
Engineer: Knox PC, NCR pt6 58
Parts vs Syrtems: Hill D, T-RQC Feb 56
of Power Amplifier Klystrons in Scatter Communication
Systems: Lazzarini RF, NCR pt6 58
Prediction Technique in Design of Complex Systems:
Blanton HE, NCR pt10 57

Prediction of Tube Failure Rate Variations: Feyerherm MP, T-RQC Jan 57

Program, Arma Inertial Guidance System: Dertinger EF, NCR pt6 58

Program for Electrical Design: Dreste FE, T-RQC Feb 56

Rating System for Electronic Components and Devices: Lamb JJ, T-RQC Feb 56

Redundancy: Hersley RH, T-ANE Mar 56 Through Redundancy, Analogies: Block AC, T-RQC Nov 57

Relay Design for: Cunningham DH, WCR pt6 57 Research and Development Programs: Dertinger EF, NCR pt10 57

Results on USAF Ground Equipment: Naresky JJ, NCR nt6 58

as Responsibility of Engineering Management: Savant CJ, T-RQC Jan 57

Requirements, Impact in Manufacture of Airborne Equipment: Crowley JJ, T-RQC Sep 58
Role of Quality Engineering: Hulnick RA, NCR pt10 57

Sequential Test for Comparing Components: Stevens CF, T-RQC Nov 57

Standardization of Components: Curtis GD , T-CP Nov 55

Statistical Aspects in Systems Development: Youtcheff JS , T-RQC Nov 57

Statistical Design for Tests: Miles RC, T-RQC Apr 55 Statistics of System Failures: Parsons JH, NCR pt6 55

Submarine Telephone Cable Repeater Components: Wooley MC, T-RQC Nov 57

System Aspects of: Tall MM, T-RQC Sep 58
Systems Design: Moskowitz F, NCR pt6 56,
T-RQC Sep 56

of Subminiature Electron Tubes , Quality Control Program: Hoyle H , T-RQC Jan 57

Switching Elements, Topology as a Factor: Lipp JP, T-RQC Jun 57

Techniques for Circuit Design: Hellerman L, T-RQC Sep 58 Television Receiver Performance: Quirk CJ, T-RQC Apr 56

Test Program, Data Handling for: Walter VW, T-I Mar 58

Tests , Confidence That Can Be Placed on: Ryerson CM , WCR pt6 58

Training for Quality Control: Quirk CJ, NCR pt6 56 Transistors:

Germanium Power Type: Jacobsen AB, T-RQC Jun 57 Improvements: Zierdt CH, T-RQC Jun 57

Naval Material Laboratory Study: Martin RE, T-RQC Jun 57

of Transmission, Cost of: Fano RM, NCR pt 2 57 of Tubes in Military Applications: Jervis ER, P Jun 54

TV-Receiver, Progress in: Boden EH, T-RQC Jul 58 with Unreliable Components and Equipment: Luebbert WF, NCR pt6 56

Vitreous Enamel Dielectric Capacitors: Weller BL, WCR pt6 57

Voltage Reference Tubes for Severe Conditions: Handley EJ, NCR pt6 55

of Weapon Systems Furing Flight-Readiness Checkout:
Patterson M, WCR pt6 58
White-Noise Vibration Test for Electronic Tubes:
Robbins JD, T-RQC Jan 57
Reliable Design and Development Techniques: McGregor
JE, T-RQC Sep 58

Reliable System Design by Component Part Engineering-Walance CG, T-RQC Sen 58

Remote Broadcasting Transistor Amplifier: Birch JK, NCR pt7 56

Remote Control:

Automatic Logging of AM, FM, and TV Broadcasting Transmitters: Schafer PC, WCR nt7 58

of Broadcast Transmitter and Directional Antenna: Ross IL, NCR pt7 58 Coding for Mass J, T-TRC Feb 55

Closed Loop Systems, Influence of Coding: Bonenn Z , T-TRC May 57

50-KW Broadcast Transmitter: Harmon RN, NCR pt 7 58 Progress in 1953: Radio Progress, P Apr 54

Progress Survey, 1955: Uglow KM, T-TRC May 57 Survey of Progress in 1956 and 1957 in Telemetry and: Rock FE, T-TRC Jun 58

Systems:

for Airborne Test Vehicle: Nickel L , T-TRC Apr 57 Petroleum Production Operations: Stilley JC , T-TRC Apr 57

Telecontrol: Gruenberg EL, T-TRC May 57 Ultrasonic, for Home TV Receivers: Adler R, T-BTR Jun 57

by Telephone: Doersam CH, NCR pt1 56
Telephone Circuit for Antenna Test Site: Young L,
T-AP Oct 58

Demand, Manually Operated for 450-470 MC Band: Meyer SF, NCR pt8 57

)

Passive, Using Double Flat Reflectors: Yang RFH, NCR pt1 57; Cappliccini F, P Apr 58 Signal Amplifler, Four-Port Constant R Network for: Desoer CA, T-CT Dec 58

Site: Chamman RD, T-MTT Apr 54, T-CS Jul 54 Statlons, VHF: Neubauer JR, NCR pt8 55 Submerned: Lawton CS, T-CS Nov 54 System, Microwave, Use of Traveling-Wave Tubes: Sawazaki N, P Jan 56

Systems, Traveling-Wave Tube Used as Amplifier and Oscillator Kurokawa H, P Dec 57 Telephone Cable, Submarine: Wooley MC, T-RQC Nov 57

VHF, Extending Mobile Radio Range by: Kemp CA, T-VC Jul 56

Reproducer, Magnetic Tape, for Telemetry: Robbins JD, T-RQC Jan 57

Reproducing System, Audio, Stereosonic: Clark HAM, T-AU Jul-Aug 57

Reports, Government Contract, Maximum Utility in: Herold EW, P Jan 58; Warren FH, P Nov 58

Report Writing, Two-Hour Course in: Hohmann RE, WCR pt9 58

Research:

Academic, Institutes In the Microwave Field: Marcuvitz N, T-MTT Apr 58

at Adelaide University: Huxley LGH, WCR pt10 57 Aeronautical Electronics In: White JA, WCR pt8 57 Air Force-Industry-University Cooperation: Barrett RM, WCR pt8 57

Army Requirements: Merrill HJ, WCR pt8 57
Basic. Management of: LinvIlle TM, NCR pt6 55
Career Evaluation: Herzog GB, SQ Feb 57
Career Evaluation, Missiles Guided: Sorenson CE, SQ Sep 54

and Development Activity, Management of a Navy: Spangler SB, T-EM Jun 58

and Development Operations Relocate, Minimizing Employee Losses When: Lander RF, WCR pt9 58

Employee Losses When: Lander RF, WCR pt9 58 and Development Organizations:
Management of: Hall NI, P Apr 57
Productivity in Laboratories: Shockley W,
P Mar 57; Miessner BF, P Oct 57
and Development Stockroom: Rosen L, T-EM Apr 56
and Development Technical Planning Group, Organization and Management of: Hausman AH, T-EM Mar 58 and Engineering Teams, Size of: Kershner RB, T-EM Jun 58

T-EM Jun 58
Evaluating Engineers and Scientists for Programs:
Martin RA, WCR pt10 57, T-EM Jun 57
Lauoratories: Phelps JM, T-EM Sep 57; Zener C,
T-EM Sep 57; Meloy T, T-EM Sep 57; Boyd JE,
T-EM Sep 57; Bowie RM, T-EM Sep 57

Management: Stephens FN, T-EM Jun 57
Military Requirements: Schaub BH, WCR pt8 57
Navy Requirements: Shostak A, WCR pt8 57
Operations: Jansky CM Jr, NCR pt6 55; Watson-Watt
R, NCR pt6 55, Kingsbury S, NCR pt6 55; Brothers
LA, NCR pt6 55; Ernst ML, NCR pt6 55

Philips Laboratories, Eindhoven, Netherlands: Rinia H, WCR pt10 57

Utility of Government Contract Reports: Herold EW, P Jan 58; Warren FH, P Nov 58

Russian Programs: Krassilnikov VA, WCR pt10 57; Prochorov AM, WCR pt10 57; Siforov VI, WCR pt10 57

Soviet Scientists, Impressions of: Bockris JO, SQ May 58

SQ May 58 Studying for: Pierce JR, SQ Feb 55 Sydney University: Bailey VA, WCR pt10 57 in the University: Gartlein CW, T-EM Dec 57 Dispersed Facilities, Management of: Meloy T, T-EM Sep 57

Institute of Technology: Boyd JE, T-EM Sep 57 Navy, Management of: Plelps JM, T-EM Sep 57 Project Overlay System of Organization: Bowie RM, T-EM Sep 57

Westinghouse Electric , Planning of Work: Zener C , T-EM Sep 57

Residual Reactance Bridge: Diamond JM, T-1 Dec 57 Resins, Epoxy, Electrical Properties of: Pitt CF, T-CP Dec 57

Resistance:

Inductance, and Capacitance from Mutual Inductance Standard, Derivation of: Rayner GH, T-I Dec 58 Negative, Nesistor: Pohl RG, WCR pt3 57 Paper Analogy: Harries JHO, P Feb 56 Thermal, of Silicon Junction Devices: Lin HC, NCR pt3 57

Transistor Thermal, Measurement of: Reich B, Welding Machines, Control Techniques: Solomon JL, NCR pt 6 57 Resistive Elements , Nonlinear , Power Relationships for: Pantell RH , P Dec 58 Resistors: Army Applications: Osche RA, NCR pt6 57 Carbon Composition, Lowering Current Noise: Ostaff WA, P May 57 Cathode Bias, for Class A, Triode: Winkler MR, T-AU Sep-Oct 54 Coaxial: Kohn CT, P Aug 55 Coaxial: Kohn CT, P Aug 55

Composition, Current Noise Index: Conrad GT,
T-CP Mar 56, T-CP Nov 55

Deposited Carbon Film, Factors Affecting Formation
of: Doucette El, WCR ntó 58

Evaporated Metal Film: Stein SJ, T-CP Dec 56

Film, Molded Metal: Wellard C, WCR ptó 57

Limitations: Podolsky L, T-CP Mar 54

Resistivity at RF: Tiberio U, P Dec 54

Russian Terminology: Schultz GF, P Nov 56

Short Term Life Ratings: Sacket WT, T-CP Aug 55 Short Term Life Ratings: Sackett WT, T-CP Apr 55 Wirewound, Precision: Galbrath JS, T-CP Dec 56 Resnatron as a 200-MC Power Amplifier: Tucker EB, P Aug 58 Resolution of Signals in Gaussian Noise: Helstrom CW, Resolver Definitions: Knox LA, T-CP Dec 56 Resolver Function Error Versus RC Loading: Knox LA, T-CP Nov 55 Resonance: in a Coaxial Line Containing Dielectrics: Carr JW, T-MTT Jul 55 Gyromagnetic, In Ferrite-Loaded Rectangular Guide: Seidel H, WCR pt1 57 Isolator, 5-MM: Welss MT, T-MTT Jul 58
Isolators, Rectangular Wavegulde: Welss MT,
T-MTT Oct 56 Loss Properties of Ferrites in 9-KMC Region: Sensiper S, P Oct 56 Measurements on Ferrites: Pippin JF, T-MTT Jan 58 Method for Measuring Dielectric Properties of Low-Loss Solid Materials in Microwave Region: Salto S, "P Jan 56 Molecular, Introduction to: Muller N, SO Dec 58 Paramagnetic, for Spectrometry: Sands RH, WCR nt6 57 Phenomena In Time Varying Circuits: Herrero MC, T-CT Mar 55 Probability Relationshins: Amber GH, P Dec 58 Relations In Single Crystal Ferrites: Artman JO, P Oct 56 Surface, of Bubbles and Biological Cells: Ackerman E, NCR pt9 56 Resonant Frequency, Measurement of Small Changes In: Armstrong HL, 1-1 Mar 58 in Balanced Strip Line: Michelson M, T-MTT Mar 55 Cavity, Determination of O: Singh A, T-MTT Apr 58 Electromagnetic, Variational Principles: Berk AD, T-AP Apr 56 Exponential Transmission Lines: Ghose RN, T-MTT Jul 57 Filters, Parallel-Coupled Transmission-Line: Colm SB, T-MTT Apr 58 Plezoelectric: Cady WG. T-UE May 55 Piezoelectric, Application to Band-Pass Amplifiers: Lungo A, NCR pt6 58 Properties of Quantz, Imputities Effect: Chi AR, P Sep 55 Quarter Wave, Direct-Coupled, Band-Pass Filters with: Matthaei GL, NCR pt1 58 Quartz: AT-Type Frequency-Temperature-Angle: Beckmann R, P Nov 56 Effects of Evaporated Electrodes: Once M , P May 57 Frequency Standards: Shaull JM, P Aug 54 Overtone and Temperature Coefficient: Bechmann R, P Nov 55 Radial, Frequencles of Higher Order Modes: Stinson DC, T-MTT Jul 55 Synthetic and Doped Synthetic Quartz: Chi AR, NCR pt9 56 Traveling-Wave: Milosevic LJ, T-MTT Anr 58 Variation with Temperature: Bechmann R, P Mar 56 Variational Principles: Rumsey VH, T-AP Jan 57 Respiration, Artificial, Electronic Control of: Montgomery LH, T-ME Jul 58 Respirator, Servo Operated, for Premature Infants: Melville AW, T-ME Dec 58

Bounded Nondecreasing Step , Necessary Condition for: Geffe PR , T-CT Sep 5B

of Linear Systems to Non-Gaussian Noise: Gold B, T-IT Mar 54

of Linear Systems to Signals Modulated in Amplitude and Frequency: Medhurst RG, T-CT Sep 56 Responsibility of Management: Coloman AF, T-EM Nov 54

Restoration of Cosmic Noise Distribution: Bracewell RN, P J in 58

of a Certain Class of Systems to Random Inputs: Heilfron J. T-IT War 55

Response

Resumes: Armstrong OE , SO May 57 Retarding-Field Oscillator: Carter CJ , T-ED Jul 56 Retrace Driven Deflection Circuit: Guggi WB , T-BTR Oct 56 Retrieval of the Technical Information , Kros-Terin System for: Vigliotta AP , NCR pt8 58 Sampled-Data Filters, Synthesis of: Bergen AR, NCR nt2 57 Sampled-Data Systems: Analysis of Discrete Markov Processes: Sittler RW, T-CT Dec 56 Analysis in Frequency Domain: Boxer R, NCR nt10 55 Bibliography: on: Stroner PR, T-AC Dec 58 Containing Nonlinear Element: Tou J, P May 58 Return on Investment: Peek SC, NCR pt11 54 Reverberation for Music Enhancement: Martin DW, NCR pt6 54 Reverbetron: Goldmark PC, NCR pt 7 57 Digital Compensation for Control and Simulation: Tou J, P Sep 57 Reverse Current in Junction Diodes, Nonsaturation of: Armstrong HL, T-ED Apr 58 Nonlinear Control by Intermittent Action: Kalman RE, WCR pt4 57 Reversing Mills, Automatic Card Programmed Control of: Browning EH, T-EC Apr 58 Pulse Transfer Function: Mori M, T-AC Nov 57 Pulsed RC Networks: Sklansky J, NCR pt2 56 Review of Computer Progress, 1956 Review, T-CT Mar 57 Review of Computer Progress in 1957: Castanias RP, T-EC Mar 58 Signal Flow Reductions in: Salzer JM, WCR pt4 57 Statistical Analysis of: Johnson GW, WCR pt4 57 RF Voltmeter Calibrating Consoles: Selby MC, NCR nt5 58 Statistical Invariance of Noise in: Zadoff SA WCR pt4 58 Rhombic Antennas , Mutual Impedance: Chancy JG, T-AP Jan 54 Survey of Analysis Techniques: Murphy GJ, T-AC Feb 57 Riblet's Theorem: Ozaki H, T-MTT Jul 58 Techniques for Feedback Problems: Kranc GM, WCR pt4 57 Richards Algorithm, Theorem on: Sublette IH, T-CT Jun 58 Ridge Waveguides, Calculation of Parameters: Chen TS, T-MTT Jan 57 and Z-Transform Applications, Bibliography of: Freeman H., T-AC Mar 58 Right Triangle Problem, Network Solution of the: Winkler MR, WCR pt4 58 Z-Transform Method, Modified, Additions to: Jury EI, WCR pt4 57 Sampled Data Theory, Simplifying Additions to: Carlson CO, WCR pt4 58 Broad-Band Coaxial Hybrid: Albanese VJ, T-MTT Oct 58 Sampled-Signal Networks, Synthesis of: Lewis PM, T-CT Mar 58 Circuits: Mismatching in Traveling-Wave Resonant Circuit: Tomiyasu K , T-MTT Oct 57 Sampling: Analog Simulation: Klein RC, T-TRC May 55 Resonance Properties: Tischer FJ, T-MTT Jan 57 Goniometers for Direction Finders: Ito, T-ANE Dec 54 Band-Limited Functions: Berkewitz RS, P Feb 56 Bit-Squeezing Technique Applied to Speech Signals: David EE Jr, NCR pt4 56 Modulators , Effect of Rectifier Capacitances: Belevitch V, T-CT Mar 55 Detector for Television Sound: Schlesinger K, T-BTR Jul 56 Rippled Wall and Stream Amplifiers: Birdsall CK, in Feedback Control Systems: Kukel J, NCR pt4 57 Gage, Narrow Limit: Harding HG, NCR pt10 57 Lags, Compensation for: Ryerson JL, NCR pt2 56 Mechanical Devices for Telemetering Systems: Brinster J, T-TRC Apr 57 P Nov 54 Rise Time, Collector Current, Effect of Nonlinear Collector Capacitance: Bashkow TR, T-ED Oct 56 Riveter, Drivmatic, Numerical Control System for: Borsos RD, WCR pt6 58 Multivariate Normal: Marsaglia G, T-IT Jun 57 Nonuniform, of Band-Limited Signals: Yen JL, T-CT Dec 56 Rocket Instrumentation for Atmospheric Studies: Spencer NW, P Jul 54 Rocket Propulsion: Murray FJ, NCR pt10 55
Rockets and Missiles, Life Testing of Components:
Lloyd DK, T-RQC Dec 58 Nyquist Theory and Amplitude Quantization: Widrow B , T-CT Dec 56 Rome Air Development Center, UHF Mutual Environment Test Program: Berliner J, T-CS Mar 57 Room Dimensions for Optimum Listening: Kilpsch PW, T-AU Jan-Feb 58 Parametric Computer Techniques: Hirsch CJ, T-EC Jun 57 Systems , Low-Level , High-Speed: Francis JP , T-TRC Apr 57 Theorem: Fogel LJ, T-IT Mar 55; Jagenman DL, T-IT Dec 56 Analog Computer Method for Solving: Levine L, NCR pt4 57 Theorems for Continuous Signals: Balakrishnan AV, T-IT Jun 57 Design of Translstor Feedback Amplifiers: Pederson DD, WCR pt 2 58 Tube Acceptance: Goldsmith BP, T-RQC Apr 55 Rating Dilemma on Components: Hecht B, WCR nt6 58 Method: Lass H, P May 56 Method, Analysis of Systems with Dead Time: Powell FD, P Jun 57 the Zeros of Bandwidth Limited Signals: Bond FE, T-IT Sep 58Method of Pulse Transfer Function: Morl M , T-AC Nov 57 Sandwich Wire Antenna: Rotman W NCR pt 1 57 Properties of: Lorens CS, P Sep 58 Sandwiches, Transmission Characteristics: Mathis HF, T-MTT Oct 55 Root Square Locus Plot for Synthesizing Optimum Servo Systems: Chang SSL, NCR pt4 58 Satellites: Rotary Joint, Microwave: Fromm WE, NCR pt1 58
Rotary Joint for Two Channels of Same Frequency Band:
Raabe HP T-MTT Jul 55 Continuous Phase Difference Measurements of: Herbstreit JW, P Aug 58 Control and Power Supply Problems: Stulllinger E, T-1 Jun 56 Rotary Joints Annular, Waveguide: Tomlyasu K, P Apr 56 Doppler Measurements: Bernstein M. P Apr 58 Rotating Components, Applications: Brown RN, T-CP Sep 54 Electromagnetic Analogs for Gravitational Fields in Vicinity of White WD, P May 58 Rotors , High-Speed , Electronic Failure Detection and Photography: Condit R NCR nt5 57 Rubber Membrane Analogy: Harries JHO , P Feb 56 Exploration of Outer Space: Hagen JP, P Jun 56, NCR nt1 56 Explorers I and III, Observations by CW Reflection: Kraus JD, P Aug 58 IGY Program: Kaplan J, P Jun 56, NCR pt1 56 Russian: See also Soviet Russian Electrical Units: Schultz GF, P Jan 54 Instrumentation for Cloud Measurements: Hanel RA, NCR pt5 58 Russian Publications on Switching Theory: Belevitch V, T-CT Mar 56 Russian Research Programs: Krassilnikov VA, WCR pt10 57; Prochorov AM, WCR pt10 57; Siforov VI, WCR pt10 57 Ion Columns, Reflections from: Hendricks CD, P Oct 58 Russian Terminology: for Antennas: Schultz GF, P May 56 for Condensers: Schultz GF, P Aug 56 for lonosphere: Schultz GF, P Mar 56 Launching IGY: Finlay WH, P Jan 58 Measurements, Doppler Equation for: Schwartzman A, P May 58 Optical Tracking of: Whipple FL, P Jun 56, NCR pt1 56 for Resistance and Resistors: Schultz GF, P Nov 56 Phase Difference and Doppler Shift Measurements for Studying lonospheric Structure Using: Thompson MC, P Dec 58 for Vacuum Tubes: Schultz GF. P Nov 56, P Jun 54 Russian Ten's aid Abbreviations: Schultz GF. P Jun 54 Placing in Orbit: Rosen MW, P Jun 56, NCR pt1 56 -5-Telemetering Problem: Mazur DG, P Jun 56, NCR pt 1 56 SADIC Sequential Data Processing System: Jorgenson DE , T-I Jun 56 Scientific Value of: Van Allen JA, P Jun 56, NCR ntl 56 Sal-89Klystron Amplifier: Swearingen JD , WCR nt3 57 Salaries, Evaluating Engineers and Scientists for: Martin RA, WCR pt10 57, T-EM Jun 57 Spin, Effects on Ground-Received Signal: Bolljahn JT, T-AP Jul 58 Sales Engineer and the Components Engineer, Partners in Reliability: Knox PC, NCR pt6 58 Soutnik Effect on American Thinking: Lucey P. SQ Feb 58
I Last Days of: Kraus JD. P Mar 58
I's Last Days in Orint: Kraus JD. P Sep 58
I's Last Days in Orint: Kraus JD. P Sep 58
I, Signal Characteristics of: Kraus JD. P Mar 58
I and II, Detection by CW Reflection: Kraus JD, P Mar 58 Sales Engineer, Human Catalyst of the Electronics Industry: Young HA, WCR pt9 58 Sales Engineering, Career Requirements and Possibilities: Crossley A, SQ Sep 54; Pell AR, SQ Dec 56; Jokinen RA, SQ Dec 56

Sample-and-Hold Circuits for Time Correlation of Analog-Voltage Information: Eddin, WT, NCR pt5 58 Sample Space Trajectory of Time-Shifted Signal Vectors: Shorman H, T-IT Dec 57

Sampled Data, Interpolation and Extrapolation of: Lees AB, T-IT Mar 56

Radio Observations of: Brown RR, P Nov 57

Radio and Radar Trackin p. Peterson AM, P Nov 57

III, Antipodal Reception of Garriott OK, P Dec 58

USSR, Unusual Propagation at 40 MC from Wells HW P Mar 58

Systems Television: Plummer CB T-BTS Mar 55 On-Channel Booster System: DeWitt JH, T-BTS Mar 55

Operational Report: Whitworth JR, T-BTS Mar 55

Transmitter-Receiver Design and Operation: Katz L, T-BTS Mar 55

Tracking Antenna: Sletten CJ, WCR pt1 57 Tracking System Using Low Level Detection Beachien DJ SQ Sep 57

Tracking and Telemetering: Mengel JT, P Jim 56, NCR pt1 56

Uses for Singer SF. SO Sen 56 Vannuard, Launching of: Staff Report, SO Feb 58 Vannuard, Importance of: Staff Report, SQ Feb 58 Saturation

Controlled:

on Transistor Switches: Mondy NF, T-CT Sen 57 in Transistor Circuits: Moody NF, T-CT Sen 57 Nonsaturated Circuits: Florida CD, T-CT Sen 57 Response, Effects of Servo Bandwidth on: Biernson GA, T-AC Mar 58

Sawtooth Testing of Audio Amplifiers: Hitchcock RC, T-DTS Feb 57

Sawtooth Waveform Measurement: King S, NCR pt19 55 Scalar-Vector Analog of Green's Theorem: Unz H, T-AP Jul 58

Scalloped Beam Amplification: Militan TG, T-ED Jan 56 Scanned Arrays, Effective Aperture of: Bickmore RW, T-AP Apr 58

Scanner for Cytological Measurements, Nipkow-Disk: Sawyer HS, NCR pt9 58

Scanners for Ferroelectric Memory Capacitors: Pulvari CF, T-EC Mar 58

Antenna Arrays, Tolerances for: Elliott RS, T-AP Jan 58

Antonnas , Ferrite Phase Shifter: Reggia F , P Nov 57

Antenna, Three-Omensional Performance Analysis: Gardiner FJ, WCR pt1 57

Content, X-Band Antenna, McCann JG, T-AP Oct 56 Electronic Techniques, Topological Transformations by: Air DG, T-I Jun 58 Electronic, Using Ferrite Luneberg Lens: Medved DB, T-MTT Jan 58

Errors of Antenna Arrays: Kurtz LA, T-AP Oct 56 Flying Spot Techniques in Automatic Inspection: Mans-berg HP, WCR pt6 57

Helical Line, for Beam Steering a Linear Array: Stark L, T-AP Apr 57 Lenses-

Dielectric Microwave: Holt FS, T-AP Jan 57 Luneherg: Hollis JS, T-AP Jan 57

Mean-Square Phase Errors Minimized: Proctor EK, T-AP Oct 57

Microwave Ablantic: Clouter GC, T-AP Oct 57 Low-Velocity, Transient Response of Photoconductive Camera Tuber: Redinaton RW, T-ED Jul 57 with Microwave Pillhoxes: Rotman W., T-AP, Jan 58 Nuclear Emulsion, Track Recognition System: Becker S., NCR pt9 57

Pattern Redundancies , Determination of: Riekeman EC , T-IT Jun 57 Probability Statistics Concerning Typewritten or printed Material: Deutsch S , T-IT Jun 57

Rapid-, Phased Array for Wave Propagation Measurements- Miller RE, WCR pt1 58

Surface Wave Antennas - Hougary R.W., T-AP Oct 58
Techniques in Instrumentation: Berkley C., NCR mt9-55
Two-Dimensional Microwave Antenna Array, Electrically: Spradley JL, NCR mt1-98
Scatter Propagation: See also Scattering of Wives:

Antenna-to-Medium Coupling Loss: Staras H, T-AP Apr 57

Auroral Propagation: Booker HG, T-CS Mar 56, P Aug 55

Bandwidth Capabilities: Tidd WH, NCR pt 1 55 Beyond-the-HorizonExtension of Air-Ground UHF Voice Communications: Rogers TF, NCR pt6 58 Beyond-the-Horizon Transmission: Paul D1, T-AP Jan 58

Communications Range, Tropospheric, Dependence on Moise Tempers ures: Hausean AR, T-CS Dec 58 Communications Systems, Reliability of Power Amplifier Klystrons in: Lazzariu RF, NCR pt6 58

Communications Systems, Transportable Tropospheric Sycial AJ, NCR at 6.58

Communications Systems, Tropospheric, Controlled Carrier Operation of: Yeh LP, NCR nt8 50

Data Reduction Equipment for Scatter Link: En ne D, T-I Dec 57

Echoes from Meteor Trails , Duty Cycle of: Wirth HJ , NCR nt1 58

NCR nt1 58
Exponential Correlation of Dielectric Fluctuations:
Wiseelon AD, P. Oct 55
Fading of Rivio Way 51 Silverean RA, T-AP Oct 58
Field Measurements: Darghausen AF, NCR nt1 55
FM Systen. Measurement of: Printin RW, NCR nt8 57
Forward; Wiesner J, T-AP Jul 56; McNitt JR,
T-CS Mar 56

Frequency Allocation Problems: Webster EM, T-CS Mar 56

Lightning , Enhancement of VHF , Tropospheric Signal: Graf CR , P May $58\,$

Lightning Strokes, Forward UHF from: Bauer LH, P Dec 58 lonospheric-

Beyond-the-Horizon Communication System Design: Ringoen RM, T-CS Mar 56 Communication: Bailey DK, NCR pt 1 55

Dependence on Angle of Scatter: Bailey DK, T-AP Jul 56
From Edding: Silverman RA, P. Oct 55
Experimental Results: Kirby RC, T-CS Mar 56
High-G in Antennas for: Cottony HV, T-CS Mar 56
By Meteor Trails: Villard OG, P. Oct 55 60 KW Transmitter for Communications by: Hollis JL , T-CS Sep 57

Studies for Point-to-Point Communications: Abel WG, P Oct 55 Techniques: Hedlund DA, T-CS Mar 56

Turbulent Density Fluctuations: Villars F, P Oct 55

VHF Fading Characteristics: Sugar GR, P Oct 55

VHF Transmission: Dailey DK, P Oct 55
Klystron Amplifier: Moreno T, T-CS Mar 56
from Lower Ionosphere, Extreme Range of VHF Transmission by: Kirby RC, NCR pt1 58

Measurements as Function of Meteorology: Ringwalt DL , T-AP Apr 58

Meteoric Ionization: Eshleman VR, P Mar 54 Meteorological Effects at VHF: Bean BR, T-CS Mar 56 Meteors, Role of: Eshleman VR, NCR ptl 55 by Nonisotronic Irregularities: Booker HG, NCR ptl 56 Overwater, Signal Fluctuations: Ament WS, T-CS Mar 56

Point-to-Point UHF Systems: Morrow WE Jr, NCR pt1 55

Probability Distribution of Vector Amplitude: Norton KA, P Oct 55

Relationships in Transhorizon Propagation: Waterman AT Jr, P Nov 58

S and X Band Signals Gordon WE , NCR pt1 55 Single Sideband Modulation for: Gerks IH. NCR pt8 57 Stratospheric, Role in Radio Communication: Booker HG, P Sep 57

Tests at 505 MC and 4090 MC: Bullington K, T-CS Mar 56

Transmission Characteristics: Bullington K, NCR nt1 55

Tropospheric: Gordon WE. P. Jan 55
Airborne Refractive Index Measurements: Crain CM,
P. Oct 55

Angular Scattering and Multipath Properties: Chisholm JH. P Oct 55 Anistronic Turbulence: Staras H, P Oct 55 Bandwidth Capabilites: Tidd WH, P Oct 55, NCR pt1 55

Characteristics of: Bullington K, P Oct 55 Characteristics of: Bullington K, P Oct 55
Communication Systems, Controlled Carrier
Operation of: Yeh LP, NCR pt8 58
and Communication Beyond-the-Horizon:
Chishohm JH, T-CS Mar 56
Communications, Dependence of Range on Noise
Temperatures: Hausman AR, T-CS Dec 58
Communications Systems, Transportable: Svien AJ,
NCR pt8 58

Data, Statistical Study of Yeh LP, WCR pt1 58

Factors in: Villars F, P Oct 55 Fading Rate: Norton KA, P Oct 55 Field Strengths at Long Distance: Ames LA, T-CS Mar 56

Flelds, Characteristics of: Trolese LG, P Oct 55, T-AP Jul 55 Klystron Amplifier for: Speakes FA, T-CS Mar 56

Line-of-Sight Phenomena: Near-Field Corrections: Wheelon AD, P Oct 55, T-AP Jul 56

Ray Treatment: Muchinore RB. P Oct 55 Scattered Components: Wheelon AD, P Oct 55, T-AP Jul 56

Measurements Near the Horizon: Janes HB, P Oct 55

Monthly Mean Refractivity Gradient: Bean BR, P Oct 55

Multihop Circuits, Transmission of Digital Data over: Lawrence CN, NCR pt8 58

Normally Stratifled Troposphere: Carroll TJ, P Oct 55

Obstacle Gain Measurements: Kirby RS. P Oct 55 Over Hilly Terrain: Kurihara Y. P Oct 55 Path-Length Variations: Herbstreit JW, P Oct 55

Phase-Difference Variations: Deam AP, P Oct 55 Point-to-Point Radio Relaying: Norton KA, T-CS Mar 56

Quadruple-Diversity Systems: Long WG, T-CS Dec 57

Radio Transmission, Theory of: Booker HG, P Mar 55

Refractive Index of First 125 Meters: Rimbau G. P Oct 55 Spacing of Radio Terminals: Gerks IH, P Oct 55

System Parameters: Beverage HH, T-CS Mar 56 Tests at 505 and 4090 MC: Bullington K, P Oct 55

Transmission Loss and Fading Range: Norton KA, P Oct 55

UHF Communication Systems Diversity Reception, Signal-to-Noise Ratio: Brennan DG, P Oct 55

Long-Range: Mellen GL, P Sep 55 Useful Bandwidth for Transmission: Vogel JP, P Nov 56

VHF Overwater Measurements: Ames LA, P Oct 55 by Turbulent Inhomogenelties: Balser M, T-AP Oct 57; Stein S, T-AP Jul 58

Turbulent Mixings Role of: Bolgiano R, T-AP Apr 58

VHF Forward, Solar Cycle Influence on Lower Ionosphere and: Ellyett C, P Oct 58

VHF and UHF Signals in Canada Hav DR, P Sep 55 Scattering Matrix in Network Theory: Circulators, Network Properties of: Treuhaft MA, T-CT Jun 56, P Oct 56

Concept in Circulators: Treuhaft MA, P Oct 56, T-CT Jun 56

Elementary Applications: Belevitch V, T-CT Jun 56 Equivalent Circuits for Symmetrical Junctions: Kahn WK, T-CT Jun 56

Four-Pole Transformations: Belevitch V, T-CT Jun 56 Measurements on Nonreciprocal Devices: Pippin JE, P Jan 56

Synthesis of N-Ports: Oono Y, T-CT June 56 Scattering of Waves: See also Scatter Propagation Approximate Method for Problems: Schensted CE, T-AP Jul 56

Back Scatter:

Cross Section of a Cylindrical Antenna: $\mbox{Hu\ YY}\,,$ $\mbox{T-AP\ Jan\ }58$

from Doubly Trochoidal , Doubly Sinusoidal Surfaces: Hoffman WC , T-AP Jul 55 Long-Range Auroral Echoes: Owren L, WCR pt1 57

Observations, Sweep-Frequency Method: Silber-stein R, T-AP Apr 54 by Sea in 10-50 KMC Region: Wiltse JC, P Feb 57

from Thin Dielectric Spherical Shell: Andreasen MG, T-AP Jul 57

from Water and Land: Grant CR, P Jul 57

Backward, Schwinger Variational Principle: Dolph CL, T-AP Jul 56 Boundary Value Problems: Sinclair G, T-AP Jul 56; Silver S, T-AP Jul 56 by Dielectric Rings: Phillipson LL, T-AP Jan 58

Diffraction Theory for Cylinders and Spheres: van de Hulst HC, T-AP Jul 56

Electromagnetic Problems, Impulse Response in: Kennaugh EM, NCR pt1 58

by Figures of Revolution: Honda JS, WCR ntl 57
Forward and Back, from Certain Rough Surfaces:
Ament WS, T-AP Jul 56
Forward, by Spheres: Kock WE, WCR ntl 58
Incoherent, by Free Electrons: Gordon WE,
P Nov 58

Meteor-Trail Echoes in Radar: Hawkins GS, P Sep 57 Multiple: Wiesner J, T-AP Jul 56

Multiple, by Randomly Distributed Obstacles: Chu CM, T-AP Apr 56, T-AP Jul 56 Plane-Wave, by Small-Angle Cones: Felsen LB, T-AP Jun 57

Power, of Radar: Graves CD, P Feb 56 Problems , Application of Reaction Concept to: Cohen MH , T-AP Oct 55

Prolate Spheroid , Radar Cross Section: Siegel KM , $T\text{-AP}\ \text{Jul}\ 56$

Off a Rough Surface, Model for: Spetner LM, T-AP Jan 58 by Rough Surfaces: Twersky V, T-AP Jan 57

Scattered Fields and Scattered Power: Bolljahn JT , T-AP Jan 56

Scintillation Fading of Microwaves: Tukizi 0, T-AP Jan 57

From Sea: Katzin M, NCR pt1 55 Sea Clutter: Katzin M, NCR pt1 56 Theory, Vector Combining Electric and Magnetic Fields: Bremmer H, T-AP Jul 56 Variational Method in Problems: Jones DS, T-AP Jul 56

by Wires and Plates: Weber J, NCR pt1 54, P Jan 55; Brick DB, P May 55 Scharnhorst Break-Through: Watson-Watt R, T-MIL Mar 57 Science and Engineering Education Europe—U.S.A.: Babits VA, T-E Dec 58

Science and Engineering Teachers Vanishing: Straiton AW, T-E Mar 58

Science Fiction, Value of: Asimov 1, SO Dec 56
Science Teacher, High-School, Views Industry-Education
Cooperation: Miner TD, T-E Jan 58
Science, Will It Come to an End?: Gamow G, T-MIL Mar 57
Scientific Manpower: Meyerhoff HA, pt10 58
Scientific Strength of U.S., Improvement of: Kelly MJ,
T-EM Dec 57

Scientists. Evaluating for Research and Development Activity: Martin RA, WCR pt10 57, T-EM Jun 57

Sequential Machines, Analysis of: Aufenkamp DD, T-EC Dec 57, T-EC Dec 58; Gillespie RG, T-EC Jun 5B

Mass Education of: Miessner BF , P Jul 58 Relation of Utilization to Shortage of: Hirsch I, T-EM Sep 58 Responsibility of: Lucy P, SQ Dec 58 Scintillation: Counters Application to Reactors: Managan WW, T-NS Dec 58 Background Radiation Detected by NaI Crystals: Miller CE, T-NS Nov 56 Development in France: Laberyie J, T-NS Dec 58 Gas: Northrop JA , T-NS Nov 56 Improved Time Response: Kerns QA, T-NS Nov 56 Liquid, Applications of: Hayes FN, T-NS Dec 58 Multiplier Phototube for: Widmaier W, T-NS Nov 56 Neutron: Muehlhause CO, T-NS Nov 56 Peak Efficiency of Nal Crystals for Gamma Rays: Lazar NH, T-NS Nov 56 Photomultiplier, in High-Energy Physics: Moyer BJ, T-NS Nov 56 PhotomultipHer Transit-Time Measurements: Smith RV, T-NS Nov 56 Photomultipliers for: Widmaier W., T-NS Dec 58 Photomultipliers , Regulation of Individual Dynode Voltages: Harris OR , T-NS Mar 57 Physics of Solld-State Light Amplifiers: Cusano DA , T-NS Nov 56 Recent Development in Field: Morton GA, T-NS Nov 56 Symposium: T-NS Nov 56
Transistorized: Bender A, NCR nt9 57
Transmission Characteristics of Light Pipers:
Harris CC, T-NS Nov 56 Counting in Experiments on Parity Conservation: Hayward RW, T-NS Dec 58 Counting, Special Purpose Photomultiplier for: Schenkel FW, T-NS Dec 58 Detectors, In Vivo Gamma Measurements at Very Low Levels: Anderson EC, T-NS Nov 56 Fading of Microwaves: Tukizi O, T-AP Jan 57 Gaseous: Eggler C, T-NS Nov 56 Intensity of Some Cerenkov Counter Media: Madey R, T-NS Nov 56 Phenomena in Sodium lodide: Van Sciver WJ, T-NS Dec 58 of Radio Stars: Little CG, P Aug 56 Spectra, Gamma Ray: Lazar NH, T-NS Dec 58
Spectrometer Pulse-Height Distributions, Gamma-Ray
Unscrambling of: Hubbell JH, T-NS Dec 58 Spectrometry, Low-Energy Gamma: Borkowski CJ, T-NS Nov 56 Scintillators: Alkall Hallde: Van Sciver W, T-NS Nov 56
Decay Times of: Swank RK, T-NS Dec 58
Gas-Free Liquid, Temperature Effects: Seliger HH,
T-NS Nov 56
Glass: Ginther RJ, T-NS Dec 56 Intrinsic Resolution: Kelley Gg, T-NS Nov 56 Noble Element: Northrop JA, T-NS Dec 58 Organic, Decay Times of: Owen RB, T-NS Dec 58 Plastic, Heavy Elements in: Hyman M., T-NS Dec 58 Protons in, Inelastic Nuclear Reactions of: Johnston LH, T-NS Dec 58 Solutions Containing Heavy Elements: Kallmann HP, T-NS Nov 56 Screens, Absorbing Plane, Diffraction of Electromagnetic Waves Caused by Apertures: Neugebauer HEJ, T-AP Apr 56, T-AP Jul 56 Sea Clutter: Radar, Correlation of Measurements: Macdonald FC, NCR pt1 56 Radar, Mechanisms of: Katzin M, P Jan 57 Radar, Mechanisms of: Katzin M., P Jan 57
Radar, Nolse: Schooley AH, P Aug 56
in Radar and Sonar: Hoover RM, NCR pt9 57
Recent Developments in Theory: Katzin M, NCR pt1 56
Sea. Instrument Landina at: Akers F. T-MIL Der 57
SEAC System Design: Leiner AL, T-EC Jim 54
Sealing Metal and Ceramic Parts for Fonning Reactive Alloys:
Beggs JE, T-CP Mar 57 Seals: Metal-to-Ceramic: Pryslak NE, T-ED Feb 54; Hall JL, WCR pt6 57 Mica, at 10,000 MC: McBride WJ, T-ED Feb 54 Minature Tube: Hasse AP, T-ED Feb 54 Second Detector, Fringe Area Performance: Bridges JE, T-BTR Jan 55 Secondary Emission of MgO Thin Films: Wargo P, T-ED Feb 54 Secrecy and Electronic Engineering: Beckerly JG, NCR pt9 54 SEER, A Sequence Extrapolating Robot: Hagelbarger DW, T-EC Mar 56 Seismic Pulse: Pekeris CL, T-AP Jul 56 Selection of Laboratory Executives: Tallman OG, T-EM Nov 54 Selective Signaling System: Dently D, WCR at 8 57
Selectivity Curves for Analysis of Communication Equipment and
System Performance: Toth E, NCR at 8 56 Selectivity Determination of Resonant Circuits: Skar RC, T-BTR Oct 54 Selectivity and Transient Response Synthesis: Skar RC, Sonnenfeldt RW, T-DTR Jil 55

Selectors, Microwave, Crossed-Mode Tunable: Spencer NA, NCR $\mathrm{pt}5.56$ Sequential Test for Comparing Reliabilities: Stevens CF , T-RQC Nov 57Selenium Rectifier Voltage Ratings: Bechtold N. NCR pt3 55 Self-Adjusting System for Optimum Dynamic Performance: Anderson GW, pt4 58 Serendipity: Kallmann HE, P Dec 57 Series-Parallel Networks: Weinberg L, T-CT Sep 57 Serrodyne Frequency Translator: Cumming RC, P Feb 57 Servo Oscillator, Quartz: Lea N, P Nov 58, NCR pt5 58 Self-Biasing Circuit, Cold Cathode Gas Triode Operation: Silver M, P Feb 57 Servo-Operated Respirator for Premature Infants: Melville AW, T-ME Dec 58 Servo-Pressure Control System for Iron Lung: Biernson GA, NCR nt4 58 Self-Development into Supervision and Management: O'Bryan HM, WCR pt10 57 Self-Employment, Inception, Problems of: Gertsch EP, SQ Dec 56 Servo Valve, Applying the Electro-Hydraulic, to Industry: Spencer R, T-IE Aug 58 Self-Employment, Preparation for: Dempster B, SQ Dec 57 Self-Organizing Systems: Farley BG, T-IT Sep 54 Self-Oscillating Frequency Converter: Sunstein DE, T-BTR Jan 55 Servomechanisms: AC Networks for Compensation, Design of: Levenstein H, T-AC Feb 57 Adaptive: Benner AH, NCR pt4 55 Aircraft Control Communication: O'Neil SJ, T-CS May 56, T-ANE Jun 56 Semantic Constraints in Analysis of Communication Systems: Hauptschein A, P Sep 57 Semantic Contents, Communication of, Relative Efficiency of English and German Languages for: Lowenschuss 0, T-IT Sep 58 Aircraft Instrument, Nonlinear Compensation by Analog Simulation: Lebell D, T-AC May 56 Semiautomatic Circuit Component Tester: Brammer FC, T-IE Aug 58 Ampliflers, Transistor Germanium, Operating at High Temperatures: Thompson PM, T-CT Sep 57 Semiautomatic Tuning Communications Equipments
Dettman MC, T-VC Dec 56 for Automatic Regulation of Breathing: Meyers GH, WCR pt5 58 Biological: Schmitt OH, NCR nt9 54 Closed-Loop Response: E1-Sabbagh HH, WCR nt4 57 eniconductors: Analog Solution of Space-Charge Regions in: Giacoletto LJ, P Jun 58 Closed-Loop System Analysis: McRuer DT, T-CT Mar 54 Capacitance Amplifier: Dill F Jr, NCR pt3 56 Control Systems with Random Inputs: Booton RC, T-CT Mar 54 Capacitors, Voltage-Sensitive: McMahon ME, WCR pt3 58 Feedback System Trends: Smith OJM, T-CT Mar 54 Component, New Passive: Warner RM Jr, NCR pt3 58 Gain Modulation of: Buchan JF, WCR pt4 57
Generalized Evaluation: Cavwood WP, T-IT Mar 54 Compound, Transistor Research: Jenny DA, P Jun 58 Magnetic Amplifier Application: Johannessen PR, NCR pt4 55 Definitions of Terms: IRE Standards, P Oct 54 Nonlinear, in Antenna Instrumentation, Stabilization: Bacon J, T-AC Feb 57 Current Build-Up in: Shockley W, P Dec 58 Development of: Aldridge CA, NCR pt3 57 Effects of Neutron Radiation on: Behrens WV, P Mar 58 Nonlinear Compensating Circuit: Surber WH Jr , NCR pt4 55 Nonlinear, Second-Order, Design and Performance of a Model: Kusa RE, T-AC Jul 58 Nonlinearities, Effect on Performance: Smith CL, WCR pt4 57 Lapping and Diffusion Techniques: Nelson H, P Jun 58 Review of Other: Angello SJ, P Jun 58 Standards on Letter Symbols: IRE Standards, P Jul 56 Optimum Lead-Controller Synthesis: Walters LG, T-CT Mar 54 Diffusion Problems, Impedance Networks for Solving: Cremosnik G, P May 58 Positioning, with Finite Time Delay and Signal Limiter: Evans DH, T-AC Feb 57 Diode Amplifier: Kaufmann HW, NCR pt4 55; Ko WH, SQ Sep 57 Predictor: Silva LM, T-CT Mar 54 Response: Stout TM, T-CT Mar 54 Diodes, Switching Transient in Forward Conduction of: Armstrong HL, T-ED Apr 57 Saturable, Steady State Approach to Theory of: Lozier JC, T-AC May 56 Diodes, Thermal Properties: Carman JN, NCR pt3 55 Diodes for TV Receivers: Roveto JP, T-BTR Jul 54 Saturated Response, Bandwidth Effect on: Biernson GA, T-AC Mar 58 Effect of Nuclear Radiation: Keister GL, P Jul 57
Filaments, Four-Probe Resistivity Measurements:
Marcus A, T-ED Jul 56 Stability, Using Dual Nyquist Diagram: Jones P, T-CT Mar 54 in USAF Aeronautical Communications: Donkin FW, T-CS Mar 57 Wide-Band AC Rate Networks: Lyons LF, NCR pt10 55 Graded Impurity, Junction Capacitance: Glacoletto LJ, T-ED Jul 57 Servos, Digital-Hydraulic: Cheetham RP, WCR pt4 58 Servos, Hydraulic: Keller GR, SQ Feb 57 Having Different Energy Gaps , Junctions between: Armstrong HL , P Jun 58 Servos, Hydrallic: Relief GR, 3Q Feb 37 Servosystem, Optimization: Lyman RC, NCR pt5 54 Servosystems, Root Square Locus Plot for Synthesizing Optimum: Chang SSL, NCR pt4 58 Shaft, Digital, Position Indicator: Raudenbush DH, NCR pt5 58 Ingots, Recombination of Injected Carriers in: McKelvey JP, T-ED Oct 58 Intermetallic: Minden HT, T-CP Sep 58 Junction Diodes and Transistors: Guggenbuehl W, P Jun 57 As Lonarithmic Elements: Schaeffer NM, P Jul 54 Negative Resistance: Pohl RG, WCR pt3 57 Photocells, Lateral Photoeffect Used: Wallmark JT, P Apr 57 Shaft Position Digitizer System of High Precision; deBey LG, NCR pt5 58 Shakers, Electrodynamic, Power Supply Considerations: Fritch DJ, NCR pt6 56 Shamon Information Transmission Theory for Continuous Signals: Kolinogorov AN, T-IT Dec 56
Shape Factors of the Step Response: Zemanian AH, P Sep 56 and Photoconductors , Noise in: Van Vliet KM. P Jun 58 P-N Junction Radiation Counter: Salzberg 8 , P Aug 58 Prediction of Surface Response to Ambients: Peattie CG, P Sep 57 Sheet Arrays, Partly Reflecting: von Trentini G, T-AP Oct 56 Progress in 1953: Radio Progress, P Apr 54 Shield, Inductor, or Antenna, Spherical Coll as: Wheeler HA, P Sep 58 Rapid Determination of Properties: Davis L, T-ED Apr 54 Shielded-Air-Cored Inductors: Schildknecht RO, NCR pt6 58 Recombination in: Bemski G, P Jun 58 Research, History of: Pearson GL, P Dec 55 Spacistor: Statz H, P Mar 57 Shielded Enclosures , Field Strength Computations: Lessner RG , P Mar 57 Tetrodes, High-Frequency: Statz H, P Nov 57 Standards on Graphical Symbols, 1957: IRE Standards, P Dec 57 Shielded-Strip Transmission Line Impedance: Cohn SB, T-MTT Jul 54° Shielded with Coated Glass: Hawthorne EI, P Mar 54 Shielding of Radio Waves by Conductive Coatings: Hill EL, T-AP Apr 55 Status of Microwave Applications of: Lax B, T-MTT Jan 58 Switching Techniques, Microwave: Garver RV, T-MTT Oct 58 Shields, High-Frequency: Lafferty RE, NCR pt6 56 Variable Capacitor, Future Circuit Aspects: Herold EW, P Nov 57 Shift Register: Fornelectric: Anderson JR, T-EC Dec 56
High Speed: Newhouse VL, T-EC Sen 56
Ship Radio Operators, New Responsibilities Proposed:
Woodworth FB, T-CS Mar 55 Semidigital Process Simulator: Terao M., T-1 Mar 58 Semidigital Process Simulator: Terao M., I-I Mar 58 Semigroup Methods applied to Coding Problems: Schutzenberger MP, T-IT Sep 56 Semimechanized Assembly of Electronic Test Equipment, Problems Selby CS, T-PT Aur 57 Shock of Airborne Gimbaled Equipment: Ehrenpreis D, NCR ot10 57 Sendust Flake: Hubbard WM T-CP Mar 57 Snock, Instrumentation Subjected to Severe Vibration and: Ehrenpreis D , NCR ot5 58 Sense Antenna, Requirements and Design: Bolljahn JT, T-ANE Doc 55 Short-Wave Broadcasting, Atmospheric Noise Interference to: Aiya SV, P Mar 58 Sensitivity Function, Formulation of: Lynch WA, T-CT Sep 57 Separation Transformations for Square Matrices: Meadows HE, T-CT Sep 57 Shortage of Scientists, Relation of Utilization to: Hirsch I, T-EM Sep 58 Shot Noise: R Motes: Amplification in Beams: Twombly JC, WCR et 3.57 In Junction Diodes and Transistors: van der Ziel A, P Jul 57, P Nov 55 In Semiconductor Junction Diodes and Transistors: Gugnenbuehl W, P Jun 57 Sequential Filter Theory, Bernoulli Detection: Blasbalg H, T-IT Jun 57

108 in Transistors: Hanson GH, P Nov 57 Shunt Impedance of Klystron Cavities: Ginzton EL , T-MTT Oct 55 Shunt Technique for Microwave Measurements: Altschuler HM, T-MTT Jul 55 Shutter, Millimicrosecond Electro-optical: Hull JA, NCR pt5 58 Sibyl, A Laboratory for Simulation Studies of Man-Machine Systems: Irvin HD, WCR pt4 58 Sideband and Carrier Selection, Electromechanical Filters for: George RW, P Jan 56 Slideband-Mixing, Superheterodyne Receiver: Cohn M, P Nov 56 P Nov 56 Sidebands Produced by Ferrite Modulators: Rizzi PA, Signals: Alphahets , Birnary: Slepian D , T-IT Jun 56 AM and FM , Response of Linear Systems: Medhurst RG , T-CT Sep 56 Analysis in Electroencephalography: Saltzberg B , T-ME Jul 57 Band-Limited, Applied to Carrier Systems: Oswald J, T-CT Dec 56 Bandwidth and Time Duration Related: Lampard DG, T-CT Dec 56 Bandwidth-Limited, Nonuniform Sampling of: Yen JL, T-CT Dec 56 Characteristics of Sputnik I: Kraus JD, P Mar 58 Correlated, Linear Coding for Transmission: Kramer HP, T-IT Sep 56 Correlation Function of a Sine Wave Plus Noise: McFadden, T-IT Jun 56 Detectability in Band-Pass Limiters, Loss of: Manasse R, T-IT Mar 58; Blachman NM, T-IT Dec 58 Detection and Location by Digital Methods: Dinneen GP , T-IT Mar 56Detection and Recognition by Human Observers: Swets JA , T-IT Sep 56 Effects of Fluctuation on Pulse Detection: Schwartz M, T-IT Jun 56 Flow Graphs: w Graphs: Algebraic Approach to: Nathan A, P Dec 58 Analysis: Mason SJ, T-CT Sep 57 Feedback Theory: Mason SJ, P Jul 56 Formulation of Sensitivity Function: Lynch WA, T-CT Sep 57 T-CT Sep 57
How To Avoid Them: Mason SJ, NCR pt2 57
Ladder Network Analysis for Analog Computer
Programmine: Wing 0, T-CT Dec 56
and Network Topology: Wing 0, NCR pt2 58
and Random Signals: Zadeh LA, P Oct 57;
Happ WW, P Sep 57 Flow Reductions in Sampled-Data Systems: Salzer JM, WCR pt4 57 WCR pt4 57
Fluctuating, Intermittent Communication by:
Montgomery GF, P Dec 57
Frequency-Time Representation, Using Natural Components: Huggins WH, NCR pt2 57
Generating a Gaussian Sample: Stein S, T-IT Jun 56
Generator Output Voltage at 100 to 1000 MC,
Calibration of: Hedrich AL, T-I Dec 58 Generator, Synchronizing, Television: Welsh W, P Aug 55 Levels, Television, Measurement: IRE Standards, P Feb 58 Measurement of Time-Quadrature Components Richmond JH , T-MTT Apr 55 Microwave Reflection from the Ocean: Beard CI, T-AP Apr 56 Mutilation Prevention on Radio-Teleprinter Services: Moore JB, NCR pt8 57 Moise Distortion/Noise Distortion, Evaluation by VOSIM: Shepherd NH, NCR pt8 57 Nonrandom, Filtering of: Johnson KR, T-IT Jun 56 Nonrandom Input of the Zadeh-Ragazzini Prediction Model: Blum M, T-IT Jun 56 Parameter Estimation: Glaser EM, T-IT Dec 58
Parameters in Noise, Estimating: Slepian D,
T-IT Mar 54 Practically Time and Frequency Limited: Ellem F, T-CT Jun 56 Quantization in Noise: Myers GH, T-I Jun 56 Radar, Degradation in Detection from Adding Two Receiver Outputs: McCord HL, NCR pt2 57 Random, Limits on Correlation Properties: Kraus G, T-CT Dec 56; McIdicton, T-CT Dec 56; Silverman RA, T-CT Dec 57

Sampling Band-Limited Functions: Berkowitz RS, P Feb 56

Signal-to-Noise Ratio:

Seeking Broadcast Receiver, All-Electronic; Hargens CW, T-BTR Oct 55 Seeking Radio, Trigger Circuit: Hsu CC, P Oct 55; Strandberg MWP, P Mar 56 Signal-to-Noise Performance of FM Systems Carrying Frequency Division Multiplex: Harris DP, NCR pt8 58

Diversity Reception: Brennan DG, Oct 55 Squelch System Controlled by: Klehfoth WG, T-VC Jun 55

Sinusoidal , Detection in Gaussian Noise: Deutsch R , NCR ${\rm pt4}\ 56$

Sinusoidal, Ratio to Noise: Phillips ML, P May 56 System. Solective: Bently D, WCR nt3 57 Theory: Kulikowski R, T-CT Dec 57 Identification Problem: Zadeh LA, T-CT Dec 56

SUBJECT INDEX Speech Transmission: David EE, T-CT Dec 56 System Theory: Ham JM, T-CT Dec 56; Huggins WH, T-CT Dec 56 Time, for Determination of Longitude: Ward WH P Aug 56 for Time Measurements: Sherman H, T-IT Mar 56 with Uniform Ambiguity Functions: Lerner RM, NCR pt4 58 between a Vehicle and an Automatic Telephone Exchange Stewart JR, T-VC Apr 58 Alloy High Frequency Transistors: Rittmann AD, T-ED Apr 56 Diffused: Hughes HE, WCR pt3 57 High Temperature: Thornton CG, NCR pt3 54, P Feb 55 Junction, Recovery Phenomena: Firle TE, WCR pt3 57 WCR nt3 57

Microwave Transients from Avalancing:
Moll JL, P Jun 58
as Mixers: Messenger GC, P Sep 57
Radiation Effects on: Clark JW, WCR pt9 57
and Rectifiers: Rudenberg HG, NCR pt3 55
Tetrode Transistor: Stewart RF, P Jul 57
Electronic Enerary Band Structure: Herman F, P Dec 55
and Germanium, Properties of: Conwell EM, P Jun 58
Junction Devices, Thermal Resistance of: Lin HC,
NCR pt3 57 Photoconduction in: Schultz ML. P.Dec 55 P-N-P Fused-Junction Transistor: Wannlund WL, WCR pt3 57 WCR pt.3-57
P-N-P-N Triodes, Electrical Characteristics of:
Mackintosh IM, P Jun 58
Power Transistor, 85-Watt: Aldrich RW, T-ED Dct 58
Power Transistors, Blocking Capability of Alloyed:
Emeis R, P Jun 58
Properties of, Related to Rectifier Design: Finn G,
T-CP Dec 56 Rectifiers and Lightning Protectors: Pearson GL, P Anr 54 Regrowth by Zone Melting Method: Carman JN, T-ED Feb 54 Transistor Structures by the Diffused-Meltback Process: Lesk IA, T-ED Jul 58 Transistors: Bradley WE , P Feb 54; Adcock WA , P Jul 54 Transistors, Pulse Applications: Stasior RA, NCR pt2 57 Silicone Dielectrics, Thermal Stability and Radiation Resistance of: Christensen DF, T-CP Jun 58 Silver Oxide Cadmium Alkaline Batteries: Howard PL, NCR pt6 57 Silver-Zinc Rechargeable Battery: Howard PL, NCR pt6 56 Air Traffic Control, New Universal System: Berkowitz SM, T-ANE Jun 57 Analog Computer, Electronic Switch for: Dramantides ND, T-EC Dec 56 Aspects of Real-Time: Bauer WF, T-EC Jun 58, NCR Pt4 57 of Automatic Radar Data Processing , Library of Blib Samples for: Walter CM , WCR pt 4 58 Digital Compensation for: Tou J, P Sep 57 Doppler, Applied to Alrborne Navigation: Lucey WE, WCR pt8 57 Fast Time Scale, of a Reactor Control System: Friedensohn G, T-NS Aug 58 of Hot Channel Boiling in Water-Cooled Reactors: Johnson SO, T-NS Jun 58 of Human Tracking Problem on the UDEC III Computer: Platzer HL , WCR pt4 58 Inductive Inference Machine: Solomonoff RJ, NCR pt2 57 of Man-Machine Systems, Sibyl, A Laboratory for: Irvin HD, WCR pt4 58 of Networks, Loop-and-Node-Analysis Approaches to: Otterman J., T-EC Sep 58 of Nuclear Reactor Start-Up: Franz JP, T-NS Mar 57 Real-Time Rate: Bauer WF, NCR nt4 57 Search Radar, Azimuth Estimating Procedure Using Dinital Processing and: Walter CM, T-ANE Jun 58 Speech Experiments Using Digital Computer: David EE, WCR pt 7 58 of Transport Lags by Analog Computer: Stone RS, T-EC Sep 57 Simulators: Electronic Heartbeat, and a Cardiac Tachometer: Roy OZ, T-ME Jul 58 Evaluation of Flight Information: Klimowski F, T-ANE Sep 56 1-ANE Sep 30
for Flight-Path Study McDonouch SL, T-ANE Dec 54
Radar Chitter: Atkin J, NCR pt8 57
Radar Countermeasures: Stemlicht L, NCR pt8 58
Semidicital Processes: Terao M, T-I Mar 58
Voice (VOSIM), Evaluation of SINAD Interference:
Shepherd NH, NCR pt8 57 Single Component Frequency Control of RC Network: Hall HP, T-CT Sep 55 Single-Sideband Airborne HF Receiver-Transmitter, Conversion to: Robinson HA, P Dec 56 AM, for Mobile Communications: Dailey A, T-VC Jun 57 in Amateur Service: Grammer G , P Dec 56

Automatic Tuning Techniques for Equipment: DeLong VR , $P\ Dec\ 56$ Binary Data Transmission Techniques for Linear Systems: Doclz ML, P May 57 Carrier Strength: Shepherd NH, P Apr 57; Firestone WL, P Dec 56 Carrier Telephone Channels, Generation by Polyphase Modulation: Mensch JR, NCR pt8 50 Communications, Introduction to Problems: Honey JF, P Dec 56; Frank RL, P Apr 57; Nicolosi JP, P Apr 57 Compared with Split Channel FM for Land Mobile Services: Macdonald AA, T-VC Dec 56 Compatible, for Broadcast Service: Kahn LR, NCR pt7 57, WCR pt7 57 Crystal Filters, Modern Network Theory Design of: Dishal M, WCR pt2 58 Double Sideband vs: Costas JP, P Apr 57 Economics and Power: Pappenfus EW, P Dec 56
Electromechanical Filters for: Lundgren DL, P Dec 56 Entertonischanten Filters für Lündigen DL, P Dec Equipment for Point-to-Point Service on HF Radio Circuits: Goldstine HE, P Dec 56 Equipment for Standard Broadcast Service, Improved Compatible: Kahn LR, NCR pt7 58 Factors Affecting Intelligibility in Communications: Young NH, T-CS Mar 57 Frequency Control Techniques for: Craiglow RL, P Dec 56 and FM Mobile Service: Magnuski H, P Dec 56, T-VC Jun 57 Generation and Detection Methods: Frank RL, P Apr 57; Lewis HM, P Sep 57 High-Frequency Integrated System: Jacob MI, T-CS Mar 57 for International Telegraph: Becken ED, P Dec 56 tor International Telegraph: Becken ED, P Dec 56
Introduction to Special Issue on: Kaar IJ, P Dec 56
Jammers, AM Transmitters as: Costas JP, P Dec 58
Linearity Testing Techniques for Equipment:
Icenbice PJ, P Dec 56
Microwave Modulator, Cotton-Mouton Effect in Ferrites:
Kemanis G, P May 57 for Military Vehicular Radio Sets: Kulinyi RA, P Dec 56 for Mobile Communication, Application of: Firestone WL, T-VC Jul 58 for Mobile Communications Systems: Brown A, P Dec 56 Mobile Equipment: Morrow RE, P Jan 58 Mobile Radio System, VHF: Richardson R, P Jun 57; Morrow RE, P Dec 57 Modulation for Scatter Propagation: Gerks IH, NCR pt8 57 Modulators, Use of Ferrites for: Khoury KI, P Oct 57 Phase-Shift Method of Reception: Lewis HM, P Sep 57 Power and Economics: Pappenfus EW, P Dec 56 Power Gain Compared to Double Sideband: Nicolosi JP, P Apr 57 Problems of Transition: In Aeronautical Communications: Honey JF, P Dec 56 in Operation: Young NH, P Dec 56
Radio Network, World-Wide High Frequency: Bray E, NCR pt8 58 Receivers, Factors Influencing Design: Couillard LW, P Dec 56 Signals: Phase Shift Method of Generation: Norgaard DE, P Dec 56 Phase Shift Method of Reception: Norgaard DE, P Dec 56 Third Method of Generation and Detection: Weaver DK Jr , P Dec 56 Speech Clipping in Communications Systems: Kahn LR , P Aug 57 Spectrum Conservation: Cox RT , P Dec 56 and Synchronous AM System Compared: Costas JP , P Dec 56 Synchronous Communications: McPherson RR, P Apr 57
Synthronous Communications: McPherson RR, P Apr 57
Synthesizer Stabilized Systems: Fisk B, P Dec 56
System Installed at KDKA, Kahn Compatible, Field
Experience With: Harmon RN, WCR pt 758
System, Kahn Compatible, Mathematical Analysis of:
Costas JP, P Jul 58 Technique: and Frequency Shift Telegraph: Buff C, P Dec 56; Moore JB, P Apr 57 for Marine Communications: Pappenfus EW, T-CS Mar 55 and Spectrum Administration: McConnaughey GC, P Dec 56 Time Compressed (Ticoss) System: Jacob MI, Transition to Techniques in Aeronautical Communication:
Honey JF, T-ANE Mar 56
Transmission, Early History of: Oswald AA, P Dec 56
Transmission Without Transient Distortion:
Kallmann HE, P Apr 55 Transmission, WABC Field Test of Compatible: Marx F, NCR pt7 58 Transmitters: Distortion Reduction: Bruene WB, P Dec 56 Linear System Compared with Envelope Elimination and Restoration System: Kalin LR, P Dec 56 VHF: Smith JW, P Dec 56 UHF, Long-Range: Bartow JE, P Apr 57; Morrow WE, P Dec 56

SUBJECT INDEX

109

Environment of Earth, Problem of Measuring: Max AJ, NCR pt5 57 for VHF Mobile Service, Comparison with FM: Magnuski H, T-VC Jun 57, P Dec 56 an RF Transformer: Edson WA , P Aug 55 Systems, Minimum Weight: Clarke GM, P Sep 58 for Traveling-Wave Tubes: Worcester WG, T-ED Jan 56 Wafer-Type, Magnetic Field in: Gutman AS, P Jan 57 Wide-Band Phase Splitting Networks: Saraga W, P Apr 57 Environment, Man in: Simons DG, NCR pt5 58 Exploration, Challenge to Electronics Industry: Prew HE, T-MIL Dec 57 Single-Wire Transmission Line Experiments: Roberts TE, T-AP Apr 54 Solid-State Analog-to-Digital Conversion Device: Palevsky M , NCR pt4 58 Exploration by Radar: Gordon WE, P Nov 58 T-AP Agr 54
Singularity Plots, Use of Logarithmic Approximation:
Tompkins HE, T-CT Jim 55
Site Selection: Pyrin RD, T-MTT Agr 54, T-CS Jul 54;
Chapman RD, T-MTT Agr 54, T-CS Jul 54 Solid-State Devices: Circuit Aspects of: Herold EW, P Nov 57 Manipulation of Information by: Rajchman JA, T-CT Sep 57 Electrical Propulsion: Stublinger E, NCR pt10 55 Ionic and Nuclear Propulsion: Murray FJ, NCR pt10 55 Orbital Radio Relays: Pierce JR, UCR ntl0 55 Synthetic Training: Amico GV, UCR ntl0 55 Telemetry: Ruckstuhl CD, UCR ntl0 55 Terminal Environment in: Whitpple FL, NCR nt5 58 Skin-Loss Measurement by Eddy-Current Bridge: Kerns QA, NCR nt10 55 for Nuclear Reactor Control: Malaker SF, NCR pt10 55 Standards on Methods of Testing Transistors: IRE Standards, P Nov 56 Skin Thickness Measurement: Hutchinson F, NCR pt9 54 Skywave Absorption , HF , Determination of: Pucillo GL , T-AP Jul 57 Solid-State Electrolytic Capacitor, Recent Advances in: Fraioli AV, T-CP Jun 58 Solid-State FM/FM T elemetering System: Politi EY, T-TRC Apr 57 Slab, Partially Short-Circuited Conducting, Resistance of: Frankl DR, P Jun 57 $\,$ Frequency Correlation Systems, Active: Kock WF, NCR pt8 58 rranx UK, P. Jin 57 Slab and Trough Lines, Characteristic Impedance: Chisholm RM, T-MTT Jul 56 Slalom Focusing: Cook JS, P. Nov 57 Slides, Should They Be Used in a Technical Presentation: Lillo CL, WCR pt9 58 Solid-State Light Amplifiers, Physics of: Cusano DA, T-NS Nov 56 Solid-State Maser Amplifiers, Unilateral, Slow-Wave Structures for: DeGrasse RW, WCR pt 3 58 Solid-State Maser Systems: Autler SH, WCR pt 3 58 Frequency Equivalence: Kock WE, P Feb 58, WCR pt1 57 and High Vacuum: Hafstrom JR, WCR pt5 58 Human Capability in: Hetherington AW, WCR pt5 58 Manned Operations, Dynamic Survival Potential in: Flickinger D, WCR pt5 58 Ship Telemetry: Scharla-Neilson H, T-TRC Apr 57, T-TRC Jun 58 Solid-State Physics, Introduction to: Benedict TS, SQ Dec 58 Slots: Antennas: Annular, Design Data for: Cumming WA, T-AP Apr 58 Solid-State Physics, and Quantum Theory: Dacey GC, SQ Dec 58 Survival and Performance of Man in: Levedahl BH, WCR pt5 58 Cylinder: Bailin LL, T-AP Jul 55 Cylinder, Elliotic: Wong JY, T-AP Oct 55 Direction-Finding Annular: Hougardy HH, NCR pt1 58 Solid-State Pulse Width Modulator: Kaplan H , T-TRC Apr 57 Technology: nnology: Electronics in: Draper CS, NCR nt5 58 IGY and: Berkner LV, NCR pt5 58 Our Interest in: Stever HG, T-MIL Dec 58 Reliability and Longevity for: Matthews AR, NCR pt6 58 Solution of Linear System Optimization Equations: Shinbrot M , T-IT Dec 57 Endfire: Stephenson BT, T-AP Apr 55 Solving Large Systems in Easy Stages: Kron G, P Apr 54 Sonar, Sea Clutter: Hoover RM, NCR pt9 57 Annular: Kelly KC, NCR pt1 57
Employing Photoetched Tri-Plate Transmission
Lines: Sommers DJ, T-MTT Mar 55 Sonic Analyzer, Heterodyne Type: Richard JD, T-AU Mar-Apr 55 Travel, Communications and Navigation Techniques of: Castruccio PA, T-ANE Dec 57 Sonic Gas Analyzers and Their Industrial Uses: Steele DI, T-IE May 58Mutual Coupling in: Ehrlich MJ, P Jun 54 Nonresonant: Dion A, T-AP Oct 58 Two-Dimensional: McCormick GC, T-AP Jan 58 Two-Dimensional, Second-Order Beams: Kurtz LA, T-AP Oct 57 Travel, Future Instrumentation Problems in: Lehan FW, WCR pt5 58 Sonic Spectrum Analyzer: Feldman EF, NCR pt10-55 Sonic Valve Pressure Gage: Noble FW, T-ME Jul 57 Sortation Control, Electronic Approach to: Burtness RW, T-IE May 58 Travel, Measurements, State of Art in: Young W, WCR pt5 58 Spacer Materials: Hickel JC, T-ED Feb 54
Spacing Error of Eight-Element Adcock: Travers DN,
T-AP Jan 57 Sorting and Digitization of Random Graphical Data: Carson VS, T-I Jun 56 for Wavegulde Coupling: Barkson JA, WCR pt1 57 Circularly Polarized Radiators: Simmons AJ, T-AP Jan 57 Sound Measurements at Very High Levels: Peterson A, T-AU May-Jun 55 Spacistor: Statz H, P Mar 57 Tetrode, High-Frequency Semiconductor: Statz H, P Nov 57 Sparkover Machine Tools, Electronic Considerations in Theory and Design: Williams EM, T-IE Mar 55 Spatial Filtering in Optics: O'Neill EL, T-IT Jun 56 Closely Spaced: Stenen RJ, T-ANE Jul 54 Coaxial Line, Characteristic Impedances of the: Smolarska J, T-MTT Apr 58 Sound Recording and Reproducing Progress in 1953: Radio Progress, P Apr 54 Cone, Surface Fields Produced by: Held G, T-AP Oct 57 Sound Reproduction, Home Listener Tests: Stewart RD, T-AU Mar-Apr 57 in Cylinders, Convergent Representations for Radiation Fields: Bailin LL, T-AP Oct 57, T-AP Jul 56 Line, Tuning a Probe in: Caicoya JI, P Apr 58 Lines, Approximate Parameters: Owyang GH, T-AP Jan 58 Sound Reproduction, Natural: Morgan HK, T-AU Jul-Aug 54 Sound System, 9000-Watt, Airborne: Martin DW, T-AU Nov-Dec 56 Spectra of Composite Video Signal: Chatten JB, T-BTR Jul 55 Spectra of Waves with Periodic Modulation: Skinner LV, T-CT Jun 54 Sound Systems, High-Powered, Outdoor: Benson RW, T-AU Jan-Feb 57 Spectral Analysis: Moody RC, P Apr 58 Sound, Transistorized, Section for TV Receivers: Schiess G, T-BTR Jun 58 Spectral Analysis, Application of Time Variable Transforms Gerlach AA, T-CT Mar 55 Narrow, Impedance Properties: Oliner AA, T-AP Jan 57 Radiating, Excitation by Strip-Circuit Transmission Lines: Frost AD, T-MTT Oct 56 Radiation Conductance: Oliner AA, NCR nt8 54 Spectral Lines in Radio Astronomy: Barrett AH, P Jan 58 Spectral Phonocarciography, Instrumentation for: Webb GN, T-ME Jul 56 Sources, Microwave, Report of Advances, 1954: King DD, T-MTT Apr 55 on Sphere, Radiation Characteristics: Mushiake Y, T-AP Jan 57 Soviet: See also Russian Soviet Computer Production: T-EC Mar 57 Spectral Power Density Functions in Pulse Time Modulation: Kaufman H, T-IT Mar 55 1-AP Jan 57
and Wires for a Dielectric Rod Waveguide, Launching
Efficiency of: DuHamel RH, T-MTT Jul 58
Small-Signal Wave Effects in Double-Base Diode:
Suran JJ, T-ED Jan 57 Soviet Institute of Technical Information: Staff Report, SQ Sep 58 Spectral Shape of Modulation Splatter: Price R , NCR pt8 58 Spectograph, Sound, for Analyzing Whistlers: Grierson JK , P Jun 57 Soviet Literature on Noise, Correlation and Information: Green PE, T-IT Jun 56 Smith Chart for Impedance Transformations: Dawirs HN, P Jul 57 Soviet Research: Bockris JO, SQ May 58 Spectrometer: Soviet Technology:
American Engineer's View of: Lincks GF, SQ Dec 5c' Audio: Essler WO, T-AU Mar-Apr 55
Detector, Multichannel: Kendall HW, T-::S Dec 58 Smoothing, Least-Square, Geometric Aspects: Hauser AA Jr, P Apr 54 Metallurgy: Hollomann JH, SQ May 58 Electronics: Rouault CL, SQ May 58 Industrial Control: Heuman GW, SQ May 58 Fast-Neutron Detector and Use of Li*((Eu) as: Murray RB, T-NS Dec 58 Gamma-Ray, for High Counting Rates: Nelligan WB, T-NS Dec 58 Sodium Clock: Dicke RH, NCR pt10 55 Sodium lodide, Scintillation Phenomena in: Van Sciver WJ, T-NS Dec 58 in Perspective: Roberts FM, SQ May 58 Microwave Spin Resonance: Unterberger RR, NCR pt1 5BSodium lodide Spectrometer for High Energies: Knudsen AW, T-NS Dec $58\,$ Space: Balanced Beam Charge Distribution: Chodorow M, P Feb 58 Soil, Electrical Constants at Low Frequencies: Wait JR, P Oct 57 Molecular Microwave: Gordon JP, T-I Oct 55 Pulse-Height Distributions, Gamma-Ray Scintillation, Unscrambling of: Hubbell JH, T-NS Dec 58 Conditions in a Reflected Flow of Electrons: Wallmark JT , T-ED Apr 55 Solar: Activity, Radio Spectrum of: Maxwell A, P Jan 58 Corona Characteristics: Bracewell RN, P Jan 58 Cycle Influence on Lower lonosphere and VHF Scatter: Ellyett C, P Oct 58 Flares and Atmospheric Noise: King EI, T-AP Jan 57 Sodium Iodide, for High Energies: Knudsen AW, T-NS Dec 58 Diffusion Problems, Impedance Networks for Solving: Cremosnik G, P May 58 Total-Absorption, Response Functions of: Koch HW, T-NS Dec 58 Effects in Klystrons: Waters WE, T-ED Jan 57 Grid High-Transconductance Guns: Gleichauf PH, P Aug 58 Total Absorption, Response to Gamma Rays: Davis RC, T-NS Nov 56 Flares and Atmospheric Noise: King EI, T-AP Jan Flares Studies , Antenna for: Jasik H, P Jan 58 Noise Studies , Antenna for: Jasik H, P Jan 58 Planetary Emission at 11 Meters Wavelength: Kraus JD, P Jan 58 Radiation at 4.3 MM: Coates RJ, P Jan 58 Radiation , Interference for: Wild JP, P Jan 58 Radio Flax Measurements at 10.7-CM: Medd WJ, P Jan 58 Spectrometry, Para magnetic Resonance: Sands RH, WCR pt6 57 Regions in Semiconductors, Analog Solution of: Giacoletto LJ, P Jun 58 Spectrometry, Scintillation Low-Energy Gamma: Borkowski CJ, T-NS Nov 56 in Accelerated Electron Beams, Symmetry Property of: Shkarofsky IP, T-ED Oct 58 on an Accelerating Stream: Danielson WE, T-ED Dec 54 Spectroscopic Components: King WC, T-MTT Sep 54 Spectroscopic Components: King WC, T-MTT Sep 54 Spectroscopy Aspects of Fusion Research: Cunningham S, WCR pt5 58 Research: Callahan JL, T-CS Jan 54; Miller WA, T-CS Jan 54; Moulton AB, T-CT Jan 54; Nelson JH, T-CS Jan 54; Rush JH, T-CS Jan 54 Along Electron Beams: Rigrod WW, P Jan 58 Equation, Equivalence to Llewellyn Equa-tions: Birdsall CK, T-ED Apr 56 Spectroscopy, Biochemical, Electronics in: Gallagher TF, NCR pt9 58 Studies, Dynamic Spectrum Analyzer for: Goodman J, P Jan 58 Spectroscopy, High Energy Gamma: Swartz CE, T-IIS Nov 56 Along Magnetically Focused Electron Beams: Labus J, P Jun 57 Temperature and Atmospheric Attenuation in 7-8 MM Wavelength Range: Whitehurst RN, P Dec 56 Parametric Amplification of: Louisell WH, P Apr 58 Spectrum-Administration, Related to Single-Sideband Techniques: McConnaughey GC, P Dec 56 Soldering of Components, Automation Technique: Lawson AA, NCR pt6 56 Soldering, "Fountain": Steams T, T-PT Apr 50 Propagation, Effect of Magnetic Field Strength: Brewer GR, P Jul 56 Communications: Swelling P, T-MIL Dec 58 Analyzer Duncan NL, NCR pt10 54
Analyzer, Ionic: Feldman EF, NCR pt10 55
Analyzer for Whistlers: Nelson RR, P Nov 57
Carrier Modulated by Noise: Medlurst RG, P Jun 55
Compression and Its Problems: Schultz C, T-VC Jul 56
Conservation S ngle-Sideband: Cox RT, P Dec 56 Communications and Telemetering in: Wiesner JB, NCR pt5 58 Soldering Machine, Automatic, for Printed Circuit Board Assemblies: Oates WL, NCR pt6 58 Solderless Wrapped Connection: Mallina RF, T-PT Sep 56 Craft. Control at Long Range: Sigley DT , IICR pt5 57 Aluminum Foil, for Traveling-Wave Tubes: Glass RC, T-ED Apr 57 Electronic Control and Instrumentation: Kiebert MV, NCR pt5 57 Microwave Signal, Effect of Ocean Roughness: Beard CI, T-AP Apr 57

Current , Grid Voltage Division Test: Jolly JA , ISCR pt3 57

Foil, Leakage in: Clarke GM, P May 58

Radio: Craven TAM, T-BTS Dec 58

110 Power, Computer: Smith HW, T-LDec 57 Synthesis, Microwave, with Traveling-Wave Tube: Lacy PD, NCR pt5 56 Speech Amplifier, High Efficiency: Sullivan H, NCR pt7 57 Bandwidth Compression Techniques: Campanella SJ, T-AU Sep-Oct 58, WCR pt7 58 Clipped Lacy RE, NCR pt6 54 Clipping in Single-Sideband Communications Systems: Kahn LR, P Aug 57 Communication in Noise, Human Factors: Egan JP, NCR pt4 58 Constant Amplitude: Ferrell PJ. NCR pt8 58 How to Prepare Pierce JR, P Oct 57
Kit, Multiaudience, Multipurpose. Seligsoln 1,
WCR pt9 58 Noise Suppression: Di Toro MJ, NCR pt4 54 Noise Suppression: Di Toro MJ, NCR pt4 54
Representation by Poles and Zeros: Chang SH,
NCR pt7 57
Signals, Bit-Squeezing Technique Applied to:
David Ee, NCR pt4 56
Sound Recognition: Stubbs HL, NCR pt4 54
Time or Frequency Compression-Expansion:
Fairbanks G, T-AU Jun-Feb 54
Using Digital Computer Simulation, Experiments With:
David EE, WCR pt7 58
Visible: Vibric F, T-AU Mays Iup 54 Visible: Vilbrig F, T-AU May-Jun 54 Wave Volume Measurements: IRE Standards , P May 54 and Writing, Engineering, Challenging Field of: Pierce JR, T-EWS Mar 58 and Writing, Good, Their Importance to the Engineer: Goldsmith AN, T-EWS Aug 58 Spherical Coil as an Inductor, Shield, or Antenna: Wheeler HA. P. Sep 58 Spike in TR Tubes: Dougal AA, T-ED Jul 56 Spin Resonance Spectrometer, Microwave: Unterberger RR, NCR pt158 Spin Wave Equations, Permeability Tensors: Rado GT, T-AP Jul 56 Spit Channel FM, Compared with Single Sideband for Land Mobile Services: Macdonald AA, T-VC Dec 56 Sputnick: See Satellites Sporadic-E Propagation, VHF: Dyce R, T-AP Apr 55 Spurious Frequency Measurement in Waveguide: Morelli M, NCR pt8 58 Spurious Modulation in Magnetrons: Goss TM, P Oct 56 Spurious Radiationrious Radiation-Control of, in Canada: Browne GCW, NCR pt7 55 FCC: Webster EM. NCR pt7 55 Filters for TV Transmitters: Judge WJ, NCR pt7 55 JTAC Study: Loughren AV, NCR pt7 55 Measurements of: Weber E, NCR pt7 55 from Missile-Borne Equipment: Albin AL, NCR pt8 58 Spurious Responses of an Ultrasonic Delay Line: Zimmerman MS, NCR pt2 58 Square Law Circuit Element, Wideband: Soltes AS, T-ED Apr 55 Square Loop , Magnetic Materials , Survey of: Legg VE , T-CP Dec $57\,$ Square Matrices, Separation Transformations for: Meadows HE, T-CT Sep 57 Squarers , Analog , Using Multigrid Modulator: Sydnor RL , T-EC Jun $56\,$ Squelch Systems Controlled by Signal-to-Noise Ratio: Klehfoth WG , T-VC Jun 55 Stability , Criteria for: Cutteridge OPD , T-CT Jun 58 Stability of Forced Oscillations in Nonlinear Feedback Systems: Bonenn Z , T-AC Dec 58
Stability and Power Gain: Karp MA , T-CT Dec 57
Stability of Vitrous Enamel Dielectric Capacitors: Weller EL , T-CP Mar 58 Stabilization, Amplitude, of a Microwave Signal Source: Engen GF, T-MTT Apr 58 Stabilizing Microwave Oscillators: Altman JL , T-MTTJ il 54Stabilotron and Amplitron in MTI Radar Systems: Weil TA, NCR nt5 58 Stable Variable Frequency Oscillator: Makow DM, P.A.ig 56 Staff Engineer's Part in Controlling Cost: Purinton HG, T-EM Feb 54 Stagger Tuned Filters, Synthesis of: Wheeler HA, T-CT Mar 55 Stainless Steel in Large Tube Fabrication: Okress EC, T-ED Feb 54 Standardization for Component Reliability: Cartis GD , T-CP Nov $55\,$ Standardization in Electronic: Production and Machine Tool Control: Bosman EH, T-IE Mar 57, T-PT Apr 57 Standardization Laboratory for Electrical Measuring Instru-ments: Recce JO, T-1 Jun 57 Standards: Antennas and Waveguide Terms: IRE Standards, P Sep 55 Atomichron Atomic Frequency: McCoubrey AO, NCR pt1 58; Mainberger W, NCR pt1 58 NCR pt. 158; Mainberger W, NCR pt. 158
on Audio Systems and Components, Methods of Measurement: IRE Standards, P May 56
Audio Terms: IRE Standards, P Jul 54, P Dec 58
for Automation: Rogers AW, T-PT Apr 58
Calibrating Mechanically Recorded Lateral Frequency
Records: IRE Standards, P Dec 58
Cells, Construction and Characteristics of: Vincent
GD, T-I Dec 58

Cesturi, Beam Frequency, in Canada (Abstract) Kalia SN, T-1 Dec 58 Circuit Terms- IRE Standards, P Mar 54 on Color Television: Wentworth JW, T-BTS Sep 56, T-CTR Jul 56 1-JR Jul 56
Color Television, NTSC: NTSC Signal, P. Jan 54, NTSC Standards, P. Jan 54; Fink DG, P. Aug 54
Color Television Terms. IRE Standars, P. Jan 55
of Common System of Air Traffic Control: Morgan
HK, T-ANE Jun 57 Electrical and Electronic Equipment Reference Designa-tions: IRE Standards, P Nov 57 on Electron Devices
Microwave Tube Terms: IRE Standards,
P Mar 56 Storage Tube Terms: IRE Standards, P Apr 56 Electron Tube, Definitions of Terms: IRE Standards, P Jan 57 on Electron Tubes, TR and ATR Tube Definitions: IRE Standards, P Aug 56 on Facsimile Terms: Colin SB, P Aua 56, NCR pt5 56 on Feedback Control Systems Terminology: IRE Standards, P Jan 56, T-AC Feb 57 Flutter Content in Sound Recording: IRE Standards, P Mar 54, Jensen AG, P Jul 54 Frequency: Bridge-Balancing Oscillator: Sulzer PG, P Jun 55 P Jim 55
Crystal Circuits: Felch EP, P May 55
HF Crystal Units for Warner AW. P Sep 54
Locked Oscillators in Clanp JK, T-I Oct 55
Output, A fireraft Motor Generator with: Johnson LJ,
T-CP Mar 58 Portable: Antonucci P, T-1 Oct 55
Quartz Resonator: Shaulf JM, P Aun 54
Review of: Lewis FD, P Aun 55
Simple Circuit for: Felch EP, P May 55
Graphical Symbols for Diagrams: IRE Standards,
P Jun 54 P Jun 54
Graphical Symbols for Semiconductor Devices:
IRE Standards . P Dec 57
on High Fidelity Equipment: Published Standards ,
T-AU Jul-Aug 56
High Frequency Selby MC . T-I Dec 58
High-Frequency Innedance: Powell RC T-I Dec 58
Index to IRE Definitions of Tenns , 1942-1957:
IRE Standards , P Feb 58 Industrial Electronics Terms: IRE Standards, P Sen 55
Information Theory Terms, IRE: IRE Standards,
P Sen 58 Laboratory Evolution of White CE . T-I Dec 58 Laboratory , Industrial , Organization of: Whitaker JN , T-I Dec 58 of Length, Antomic Beam Sources and: Kessler KG, T-I Dec 58 Letter Symbols and Mathematical Signs: IRE Standards , P Aug 57 Low Frequency, Direct Current and: Silsbee FB, T-I Dec 58 of Measurement, Classification and Nomenclature for McNish AC, T-I Dec 58 and Measurements for Electronics: Astin AV, T-I Dec 58 Mechanically Vibrating Frequency, Instabilities in: Mason WP, T-I Dec 5ℓ Methods of Measuring Pulse Quantities: IRE Standards, P Nov 55 Microwave Frequency, Phase Stabilization to: Davis EF, WCR pt 1 57 Davis EF, WCR nt1 57
Microwave Impedance: Beatty RW. T-1 Dec 58
Microwave Noise, Gas Discharge Noise Sources as:
Olson KW, T-1 Dec 58
Mutual Inductance, Derivation of Resistance, Inductance, and Capacitance from: Rayner GH, T-1 Dec 58
Navigation Aids Terms: IRE Standards P Feb 55
Phototube Terms: IRE Standards P Auo 54
and Physical Constants: DuMond JWM. T-1 Dec 58
Piezoelectric Crystals: IRE Standards, P Mar 57,
P Aur 58 Present , Should Universal Physical Constants Replace: DilMond JWM , T-I Dec 58 Printed Circuits: Gamson ER. NCR nt6.56
Program, Physical and Electrical, for the AEC-Bross HC, T-I Dec.58
on Receiver Interference Measurements: IRE Standards, P. Aug.56 RETMA for Electronic Assembly: Bosman EH, T-PT Apr 57, T-IE Mar 55 for Miniature Wavequide Flanges: Anderson TN, T-MTT Apr 57 on Semiconductor Devices, Letter Symbols: IRE Standards, P Jul 56 Semiconductor Terms: IRE Standards, P Oct 54 on Solit-State Devices , Transistor Testing: IRE Standards , P Nov 56 Symbols for Feedback Control Systems: IRE Standards , P Nov 55 Aspect Radio and Geometric Distortion: IRE Stan-dards, P Jul 54 Measurement of Luminance Signal Level: IRE Standards , P Feb 58

Receiver Interference Output: IRE Standards , P Sep 54

Receivers, Measurement of Interference Output, IRE: IRE Standards, P Jul 58. (Supplement) Signal Measurement Terms: IRE Standards, P May 55 Terminology for Feedback Control Systems: Axelby GS, T-AC Mar 58; Proposed Standards, T-AC Mar 58; Macqueene PH, T-AC Dec 58 for Test-Line Signals: Chapin EW, NCR pt7 57 Testing Point-Contract Transistors: IRE Standards, P May 58 P Sep 55

Receivers with Ferrite Antennas: IRE Standards, P Sep 55 Time, Atomic Frequency and, Ammonia Maser as an: Mockler RC, T-I Dec 58 Transistorized Airborne Frequency: Hykes GR, NCR pt5 58 Tube Noise Measurements: Open Discussion Notes, T-ED Dec 54 Ultra-Precise Quartz Crystal Frequency: Warner AW, T-I Dec 58 Variable Time Interval , Delayed Pulse Generator as: Broderick D , WCR pt 5 58 Volume Measurements of Speech and Program Waves: IRE Standards , P May 54 White Noise Generator: Zucker H, T-I Dec 58 Standing-Wave Detector, Microwave: Tischer FJ, NCR pt8 55 Standing-Wave Indicator. Stryker EM Jr, NCR pt8 55 Standing-Wave Line, for UHF Measurements of High Dielec-tric Constant Materials: Williams EM, T-I Sep 57 Standing-Wave Ratios: Expressed in Decibels: Dettinger D, T-MTT Jul 57 Measurement of: Macpherson AC, P Aug 56 Matching Technique: Goldstone L, T-MTT Apr 57 Statistical Prediction of: Mullen JA, T-MTT Apr 57 Stars as Noise Source: Little CG, P Aug 56 Static Discharger for Aircraft: Tanuer RL, NCR pt8 57 Static Test, C-130 Aircraft, Instrumentation for: Hartsfield WW, T-1 Mar 58 Statically Stable Membranes, Negative Admittance Components: Schmitt OH, T-ME Oct 56
Stationary Processes, Passage of: Siegert AJF,
T-1T Mar 54 Stationary Random Processes: Cross-Correlation Property: Brown JL , T-IT Mar 57 Wiener-Hopf Integral: Youla DC , T-IT Sep 57 Statistics: Analysis of Sampled-Data System: Johnson GW, WCR pt4 57 Aspects of Reliability in Systems Development: Youtcheff JS, T-RQC Nov 57 Calculation of Word Entropies in Four Western Languages: Bannard GA, T-IT Mar 55 Communication Theory, Dynamic Programming in: Bellman R, T-IT Sep 57 Communication Theory, Signal-Flow Graphs and Random Signals: Huggins WH, P Jan 57; Zadeh LA, P Oct 57 Concerning Typewritten or Printed Material: Deutsch S, T-IT Jim 57 Decision Problem, Detection as a: Van Meter D, NCR pt4 58 Description of Coincidences Among Random Pulse Trains: Stein S, P May 58 Design: Miles RC, T-RQC Apr 55 Design: Miles RC, 1-RQL ARF 55
Design, Life Testing of Components in Rockets and
Missiles by: Lloyd DK, T-RQC Dec 58
of Filled Vessels: Stewart JL. P Nov 58
Functions Evaluation by Analog Computer: Favreau RR,
NCR pt4 56 Invariance of Noise in Sampled-Data Systems: Zadoff SA, WCR pt4 58 Prediction of Voltage Standing-Wave Ratio: Mullen JA, T-MTT Apr 57 Probability Density in Systems: Widrow B, WCR pt2 57 Probability of Hit Problems, Analog Solution: Van Home TB. T-EC Sep. 57 Problems, Solution by Automatic Control Techniques: Cospriff RL, NCR pt4 57 Study of Tropospheric Scatter Propagation Data: Yeh LP, WCR pt 1 58 of System Failures: Parsons JH, NCR pt6 55 Techniques in Quality Control: Torrey MN, P Nov 56 Steady-State Approach to Servomechanisms: Lozier JC, T-AC May 56 T-AC May 56
Steinmetz CP Blography of: Wagoner CD, SQ Sep 57
Stellar Inertial Navigation: Horsfall RB, T-ANE Jun 58
Step Response Approximated in Pulse-Forming Network:
Perry AD, NCR pt2 57
Step Response, Shape Factors: Zemanian AH, P Sep 56
Step Response, Bounded Nondecreasing, Necessary Condition for: Araon MR, T-CT Sep 58 Step-Twist Wavegulde Components: Wheeler HA, T-MTT Oct 55 Stereophonics: Audio Systems, Simplification of: Sobel A, P Jul 58 Recorders. Fun WM, WCR pt7 57 CBS Compatible Disk: Goldmark PC, NCR pt7 58 T-AU Mar-Apr 58 Compatibility Problems in Disk Production-Bauer BB, NCR pt7 58 Methods: Tinkham RJ, NCR pt7 57

SUBJECT INDEX 111

Hybrid Junction: Pascalar HG, T-MTT Jan 57

Phonograph Pickups for: Bauer BB NCR nt7 58 Record Changer, Requirements: Faulkner W, NCR pt 7 58 and Reproducing System: Clark HAM, T-AU Jul-Aug 57 RIAA Engineering Committee Activities: Bachman WS, NCR pt7 58 Tracing Distortion in Disk Recording: Corrington MS, NCR pt7 58Westerex System: Davis CC, NCR pt7 58, P Oct 58 Reverberation: Venneulen R, T-AU Jul-Aug 56 Basic Principles of: Snow WB, T-AU Mar-Apr 55 Compatible Method of Recording and Reproduction of: Stark PA, T-AU Nov-Dec 58; Lamberty BJ, T-AU Jul-Aug 58 for Movies: Ranner RH, NCR pt6 54 Stereotape Magazine, Four-Track, for Home Hi-Fi: Tinkham RJ, WCR pt7 58 Stochastic Problems in Wave Propagation: Feinstein J, T-AP Jan 54, T-AP Apr 54 Stochastic Process: Gaussian Distribution of Crossings: Helstrom CW, T-IT Dec 57 Signal Detection in Additive Normal Noise: Middleton D , T-1T Jun 57 Capacity in Meteor-Burst Communication Systems: Helbig WA, P Sep 58; Rach RA, P Dec 57 Capacity in JANET System: Campbell LL, P Dec 57 Color TV Recording on Black and White Lenticular Film: Brumbaugh JM, T-BTR Oct 57 Electro-Optical Feedback Bit: Milch A, T-EC Dec 55 Electron Beam, Slalom Focusing: Cook JS, P Nov 57 Electrostatic System for Use as Time-of-Flight Analyzer: Hahn J , NCR pt9 57 Energy, Large Capacitors for: Warner DF, T-CP Dec 56 Frame, in Television, Visual Effects of Using: Baldwin MW, NCR pt4 58 High Density Williams: Wong SY, T-EC Dec 55 High-Speed Permanent Device: Wier JM, T-EC Mar 55 Information and Memory in Humans: Miller GA, T-IT Sep 56 T-IT Sep 56
Information, in Microsnace: Newberry SP, WCR pt4 58
Large Capacity: DeLano RB Jr, NCR pt3 54
Light Amplifier: Kazan B, P Dec 55
Noise Limitations: Winkler S, NCR pt3 54
Penmanent High-Sneed: Ryan RD, T-EC Sep 54
Picture, in X-Ray Fluoroscopy: Gombash W Jr,
NCR pt4 57 Transfer-Storage Counter: Wolfe RW, WCR pt5 57 es: Direct View: Stone RP, T-ED Feb 54 with Halftone Display: Knoll M, P Oct 54 Halftone Picture: Pensak L, NCR pt3 54; Knoll M, NCR pt3 54 NCR pt3 54
High Speed Dark-Trace: Nozick S, NCR pt3 54
Multicolor: Beintema CD, T-ED Oct 57
Standards on Terms: IRE Standards, P Apr 56
Target Structures: Knoll M, T-ED Feb 54
Television, Direct View: Koda NJ, WCR pt7 57
Typotron: Smith HM, NCR pt4 55
Williams, Improved Method for: Graliam M,
T-EC Sep 56 1-EC 509 50
Strain Gage Oscillator: Varallo FA, T-I Apr 54
Strain Gage Oscillator, Transistorized: Foster WH,
NCR nt5 57, T-TRC Apr 57
Stratospheric Scattering, Role in Radio Communication:
Booker HG, P Sep 57 Strengthening the Recognition of Engineering: Griffin GW, NCR pt6 56 Stretched-Log Frequency Axis: Stockman H, P May 54 Strip Grating, Transmission and Reflection Properties: Primich RI, T-AP Apr 57 Strin Lines: Attenuation and Phase Velocity Measurements: Ringenbach ME, T-MTT Mar 55 Balanced, Resonator and Preselector: Michelson M, T-MTT Mar 55 r-Mill Mar 25 for Bandbass Filters Bradley E T-MTT Mar 55 Component Characteristics and Applications: Fromm WE. T-MTT Mar 55 Coupled with Rectangular Inner Conductors: Horgan JD, T-MTT Apr 57 Dimensions and Optimum Impedance: Packard KS, T-MTT Oct 57 Directional Couplers, 3 DB: Shimizu JK, WCR ot1 57 Directional Coupling from Waveguide: Perini H, WCR ptl 57 Double Ground Plane System: Dahlman BA, T-MTT Oct 55 Equivalent Circuits for Discontinuities: Oliner AA, T-MTT Mar 55 Excitation of Surface Waveguides and Radiating Slots: Frost AD, T-MTT Oct 56 Filter Design: Bradley EH, T-MTT Apr 56 Filters and Directional Couplers: Jones EMT, T-MTT Apr 56

Filters, Synthesis of Ozaki H. T-CT Jun 58 Historical Survey: Barrett RM. T-MTT Mar 55 Homogeheous, Potential Solution: Hayt WH, T-MTT Jul 55

Surface Resistivity of Insulating Materials at High Humidity: Williams JC , T-RQC F h 56
Surface Resonances of Bubbles and Biological Cells: Ackerman E , NCR pt9 56 Isolator: Fix OW, NCR pt5 56 Low-Pass Filters: Van Patten RA, NCR pt1 57 Broadband Mixer with Integral DC Return: Carlson E, T-MTT Mar 55 Surface Waves: Barlow HM, P Jul 58 Antennas: for Microwave Wiring: Arditi M., T-MTT Mar 55 Parameters: Black KG, T-MTT Mar 55 for 2,000 Megacycle Receiver Head-End: Zublin KE, T-MTT Mar 55 Beacon: Plummer RE , T-AP Jan 58 Reacon: Plummer RE, T-AP Jan 58
Image Line: Cooper HW, NCR pt1 58
Scanning: Hougardy RW, T-AP Oct 58
Spherical: Elliott RS, T-AP Jul 56
Wavequide Loaded: Hymenian RF, NCR pt1 58
Diffraction by Semi-Infinite Dielectric Slab: Angulo CM, T-AP Jan 57
Excitation Efficiency: Kay AF, NCR pt1 55 Miniature: Torrow EN, T-MTT Mar 55
Photoetched Tri-Plate: Wild NR, T-MTT Mar 55
Employed in Slot Array: Sommers DJ,
T-MTT Mar 55 Problems in: Cohn SB, T-MTT Mar 55
Radiators: Fubini EG, T-MTT Mar 55 NCR ntl 55
with Rectangular Inner Conductors, Capacity and
Characteristic Impediance: Begovich NA,
T-MTT Mar 55; Pease RL, T-MTT Mar 55
Research into Basic Aspects: Frost AD, T-MTT Mar 55 Excitation by Vertical Antenna: Brick DB, P Jun 55 Over a Ferrite Slab, Propagation of: Pease RL, T-AP Jan 58 Method of Launching: Lawson JD, P Jan 56 Model Transmission Line Investigations: Goubau G, T-AP Apr 57 Shielded, Coupled Strip: Cohn SB, T-MTT Oct 55 T-AP Apr 57

Occurrence of: van der Pol B, T-AP Jul 56

Parasitic Arrays Excited by: Elliott RS, T-AP Jul 55

on Right-Angled Wedge: Karp SN, WCR ptl 58

Structures, Modulated, Radiation from: Thomas AS,

NCR ptl 57; Pease RL, NCR ptl 57

Structures, Single Slab Arbitrary Polarization: Hansen
RC, T-MTT Apr 57 Transmission: Calculating the Characteristic Impedance of: DeBuda RG, T-MTT Oct 58 High-Q Components: Fubini EG, NCR pt8 54
Slot Radiation Conductance: Oliner AA. NCR nt8 54
and Waveguide Multiplexers: Alstadter D,
WCR pt1 58 Strip-Sources, Radiation Patterns: Yen JL, T-AP Jan 57 Strobe Light, High-Speed Machinery: Patraiko J, T-IE Mar 56 Transmission Line Radiating Discontinuity: Ehrlich MJ, NCR pt1 55 Ultrasonic, Variable Delay Line Using: Ross JD, NCR pt2 58 Strophotron: Alfven H. P Aug 54 Strophotron, Research and New Developments of: Agdur B WCR pt10 57 Surgery , Cardiovascular , Electronic Applications in: Hopps JA , T-ME Jul 57 Survey Methods for Microwave Paths: Eddy WC, NCR pt8 55 Stroboscope, Ultrasonic: Hiedemann E, NCR pt9 56 Stroboscopic Frequency Meter: McLeish CW. P Mar 54 Stronger-Signal Capture in FM Reception: Baghdady EJ, P Apr 58 Sweep Circuits for Television Receivers: Schlesinger K, P Jun 56; Wagner TCG, P Mar 57 Student Members of IRE: Hunter TA, T-E Mar 58 Student's View of Engineering: Tirrell JE. T-E Sep 58 Studio, Compressor-Limiter Audio Amplifier for: Templin EW, WCR nt7 58 Sweep Generator, Transistor, High-Voltage Push-Pull: McLean A, T-AU Mar-Apr 57 Sweep, A $Multidecade\ Logarithmic:\ Archbald\ RW,\ T-I\ Jun\ 58$ Switches , Switching: Broad-Band Waveguide Series T:MTT- Griemsmann JWE , T-MTT Oct 56 Subaudio Time Delay Circuit: Morrill CD, T-EC Jun 54 Subcarriers: Discriminator: Heberling ED, T-I Mar 57 Discriminator, Transistor - Magnetic: Barnes GH, WCR pt5 57, T-TRC Apr 57 Characteristics of Pennalloy Cores: Rossing TD, T-EC Sep 58 FM, Airborne Filter for Low Distortion of: Link WF, WCR pt5 57 Detector: Coale FS, T-MTT Dec 55, T-MTT Jul 56 Subcommutator, Low-Level, Electronic: Walter JM, T-TRC Apr 57 T-MTT Jul 56

Diode, Boolean Algebra for Analysis of:
Beizer B, P Apr 58

Electrical: Seshu S, T-CT Sen 56

Electronic, Complexity in: Muller DE, T-EC Mar 56

High-Speed Transistor: Bowe JJ, T-ED Jul 56

Floating Junction Transistor, Small Signal

Analysis: Bell NW, T-ED Oct 55

Higher Ambient Transistors: Rowe JJ, T-ED Jul 56 Subjective Experiments in Visual Communication: Graham RE , NCR of 4 58Submarine Cable, Aeronautical Communications: Gilbert JJ, T-CS May 56Submarine Telephone Cable Repeaters , Reliability of Passive Components: Wooley MC , T-RQC Nov 57
Submarines , Limitations of VLF Antenna for: Wheeler HA , T-AP Jan 58 Higher Ambient Transistors: Bowe JJ, T-ED Jul 56 Junction Transistor, for High-Speed Computer: Prom GJ, T-EC Dec 56 Submarines, New Look at: Momsen CB, T-MIL Dec 57 Magnetic Core Pulse: Rosenfeld JL, T-EC Sep 58 Submillimeter and Millimeter Power Generation, Dielectric Slow-Wave Structures for: Pantell RH, T-ED Jul 58 N Values, Synthesis of: Berlin RD, T-EC Mar 58 Pedestal Free: Sebestyn G, T-EC Sep 57 for Symmetric Functions, Synthesis of: Epstein G, T-EC Mar 58 Submillimetric Region, Guided Wave Propagation in: Karbowiak AE, P Oct 58 Subminiaturization Techniques: Shapiro G, NCR pt3 54 Subscription Television , Technical Boundary Conditions: Ellett A , NCR pt7 56 as Topological Models in Discrete Probability Theory: Warfield JN, T-EC Sep 58 Sun, Scanning with Antenna Array: Christiansen WN, P Jan 58 Transistor: Lebow IL, P Jun 54; Beter RH, NCR pt4 55 Superconductive Transition Mixer and Cryotron Switching Time: Woodford JB Jr, P Nov 58 Superconductivity, Future Circuit Aspects: Herold EW, P Nov 57 Manufacture of Wire Springs Relays: Rice JW, T-PT Apr 57, T-IE Mar 57 Wire Spring Relays for: Rice JW, T-IE Mar 57, T-PT Apr 57 Superconductivity, Cryotron: Buck DA, P Apr 56 Superheterodyne Receiver for 150 KMC: Johnson CM, T-MTT Sep 54 ommutation, for High Sampling Speeds: Switzer WL, NCR nt5 57 Superrefractive Layers, Effect on Nonoptical Fields: Gossard EE, T-AP Apr 56 Commutator, for Critical Applications: Gerring FH, T-TRC Apr 57 Superregenerative Detection with Transistors: Chow WF, T-CT Mar 56 Controlled Saturation Transistor: Moody NF, T-CT Sep 57 Supersonic Aircraft, Multiple Telemetering System for: Anderson RE, 1-AP Oct 55 Supersonic Nomber, Environmental Factors in: Katz I, NCR pt8 57 Cryotron, Switching Time, and Superconductive Transition Mixer: Woodford JB Jr, P Nov 58 Cryotron, Switching Time of: Aharoni A, P Apr 58 Supervision: Current, Millimicrosecond Transistor: Yourke HS, T-CT Sep 57 Criterion: Fogel LJ, T-EM Jan 56
Self-Development for: O'Bryan HM, WCR pt10 57
Transition from Engineer to: Elliott HM, WCR pt10 57 Detection and Identification of Symmetric Functions: Marcus MP. T-EC Dec 56 Discontinuities in Phase Space: Hung JC, NCR pt4 57 Supervisor, Transition from Engineer to: Elliott HM, T-EM Jun 58 Suppressed Carrier Modulation: Booton RC Jr., WCR pt 2 57 Discontinuous Automatic Controls: Rose NJ NCR pt4 56 Surface Barrier Transistors, Measurement of High-Frequency Equivalent Circuit Parameters: Molozzi AR, T-ED Apr 57 Junction: Scohey JE, P Dec 56
Junction, High-Spred: Salzberg B, SQ Feb 57
Junctions Use of Avalanche Phenomena: Salzberg B, P Aug 57 Surface Barriers, Gold-Germanium, Transient Behavior of: Curtis 0, T-ED Oct 56 Surface Contamination of Dielectric Materials: Chaikin SW, T-RQC F.:b 56 Junction, Silicon, Recovery Phenomena: Firle TE, WCR nt3 57 Surface Currents , Controlled by Use of Channels: Saunders WK , T-AP Jan 56 and Transistors, Switching Time: Kingston RH, P May 54 Surface Currents, Excited by Half Planes: Wait JR, T-AP Jan 56 Electronic, for Analog Computer Simulation and Auto-correlation Application: Diamantides ND, T-EC Dec 56 Electronic, Low-Level: Dorsett E, NCR pt5 57 Surface Recombination of Injected Carriers in Semiconductor Injusts: McKelvey JP, T-ED Oct 58 Surface Resistance at Infrared Frequency: Beattle JR, P Jan 56 Electronic, Precision, with Feedback Amplifier: Edwards CM, P Nov 56

112 Magnetic:

High-Speed: Uebelc GS , NCR nt1 57 High-Speed, for 70 KMC: Turner EH, T-MTT Jul 58 Microsecond Blashera LA , WCR nt1 57 in Radar Duplexer: Vinding JP , WCR nt1 57 Functions of Four Variables , Contact Networks for: Gould R , T-EC Sep 58 Functions, Reduction of Warfield JN, T-EC Jun 58 Functions of Three Variables: Davies DW, T-EC Dec 57 GASH, Projectics of: Wieder HH, P Aug 57
Germanium Power Devices: Philips J, T-ED Jan 58
High-Speed Precision: Fromm WE, NCR pt1 57
Liquid Level, Using Radioactive Source: Wheeler RW, T-I Jun 57 Core Matrix, High-Speed: Lane AL, NCR pt4 58 Current Steering in: Rajchman JA, T-EC Mar 57 Mechanical Sampling, for Telemetering Systems: Brinster J, T-TRC Apr 57 Microwave , Applications of Ferrites to: Brown AC , P Apr 58 Microwave, by Crystal Diodes: Millet MR, T-MTT Jul 58 Microwave Seniconductor Techniques: Garver RV, T-MTT Oct 58; Armistead MA, P Dec 56 Multiterminal P-N-P-N: Aldrich RW, P Jun 58 Networks , Analysis and Synthesis of Bilateral: Miller RE , T-EC Sep 58 Networks, Iterative Combinational: McCluskey EJ, T-EC Dec 58 Nonbinary Theory: Lowenschuss O, NCR pt4 58 and Oscillator, New Diodes for: Esaki L, WCR pt3 58 PN N: Hoerni JA, WCR pt3 58 Russian Publications on Theory: Belevitch V, T-CT Mar 56 Studio Problems with Color Signals: Morse HW, T-BTS Jan 56 Switcher, Automatic Preset Television Program: Petrik JS, T-BTS Dec 58 Switcher, Video, Diode Matrix Vertical Interval: Aha R, T-BTS Dec 58 System for Brain Mapping: Barus C, T-ME Dec 56 Toggle, Subminiature: Jakubowski GC, T-CP Mar 56 Topology of Elements vs Reliability: Lipp JP, T-RQC Jun 57 Transfluxor: Abbott HW, P Aug 57
Transfent in Forward Conduction of Semiconductor Diodes: Armstrong HL, T-ED Apr 57 High-Speed, Thyristor: Mueller CW, T-ED Jan 58 Junction for Kilowatt Pulses: Fletcher NH, P Apr 57

Transistors: for Analog Multipliers: Chen K, NCR pt4 56 Diffused Base, Switching Time Calculations: Grinich VH, WCR pt3 58 and Diodes, Switching Time: Kingston RH, P May 54

P-N-P Drift, Computer Analysis of High Current Switching Times: Mitchell A, NCR pt3 58 P-N-P-N: Moll JL, P Sep 56 Simulation in IBM 704: Domenico RJ, T-EC Dec 57 Three-Terminal P-N-P-N: Mackintosh IM, T-ED Jan 58

Transmission Through a Linear Network Containing a Periodically Operated: Deseer CA, WCR pt.2 58 Tube High Power Microwave Gas Discharge: DiToro MJ, NCR pt.2 58

Vacuum Relays, Industrial Applications of Johnston RE, WCR pt6-57

Voltage Sensitive: Otley KO: P. Oct 58
Waveguide: High-Speed: Teeter WL., T-MTT Oct 55
SWR Indicators: Swent Wide-Range: Pevser WP: T-1 Aur 54
Sydney University Wave Propagation Research: Builey VA,
WCR pt10: 57

Symbol Displays: Farrand WA, T-1 Jun 57 Symbolic Methods in Logical Net Design: Patterson GW, NCR pt4 54

Symbols for Feedback Control Systems: IRE Standards, P Nov 55, T-AC 91 Feb 57
Symmetric Functions, Folding of: Weeg GP, T-EC Dec 58
Symmetric Functions, Synthesis of Circuits for: Enstein G, T-EC Mar 58

Symmetrical Matching: Reed J, T-MTT Apr 57
Symmetry Property of Space-Charge Waves in Accelerated
Electron Beams: Shkarofsky IP, T-ED Oct 58 Symmetry Relations , Two-Terminal Pair: Kiessling RC , NCR pt2 58

Symposium on Automatic Factory in Production of Electronic Equipment, Opening Remarks: T-PT Sep 56

Symposium on Physiologic and Pathologic Effects of Microwaves: T-ME Feb 56

Symnosium on Information Theory, 1956: T-IT Sep 56 Symc Clipper, Noise-Gated, with AGC for TV Receivers: Spracklen JG, T-BTR Jun 57; Wood GC, T-BTR Jun 57 Sync Generator, Transistor Circuitry in TV: Leeds LM, T-BTR Sep 58

Sync Separators in Television Receivers to Impulse Noise, The Reaction of: Luedicke E, T-BTR Sep 58 Synchro Definitions: Knox LA, T-CP Dec 56 Synchrocyclotron, UCRL 720-MEV: Smith BH, WCR pt9 57

Synchronizing Signal Generator, Television: Welsh W, P Aug 55

Synchronous Communications: Costas JP, P Dec 56; P Apr 57, T-CS Mar 57; McPlerson RR, P Apr 57 Synchronous Demodulators - Booton RC , WCR pt2 57 Synchronous Detection Process: Webb JK, WCR pt8 57
Synchronous Detection in Television Receivers: Avens J,
T-BTR Feb 58

Synchronous Detector Using a Harmonic Pair Switching Wave: Altes SK, T-ETR Mar 58

Synchronous and Exalted-Carrier Detection in Television Receivers: Avins J, T-BTR Feb 58

Synchrotector: Schlesinger K, T-BTR Jul 56 Synchrotron Beam, Rapid Placement on Internal Target: Stubbins WF, T-NS Jun 55

Syntax and Gap Analysis: Yngv VII, T-IT Sep 56

Ithesis:

of Active RC Single-Tuned Bandnass Filters:
Bongorno JJ, NCR pt2 58
and Analysis of Digital Systems by Boolean Matrices,
Campeau JO, T-EC Dcc 57
of Band-Pass Ladder Network: Fielder DC,
T-CT Dec 58

Bott-Duffin, Cascade Representation of: Hazony D, T-CT Jun 58

of Circuits for Symmetric Functions: Epstein G, T-EC Mar 58

of the Crystal-Capacitor Lattice-Filter: O'Meara TR, T-CT Jun 58

and Definition of Optimum-Smoothing Processes in Filter Terms: Boughton EM, T-1 Mar 58 Design of Filters by: Saal R, T-CT Dec 58

of Driving Point Impedances With Geometric Symmetry:
Baum RF, T-CT Dec 58
of Linear Quasi-Transfer for the Overator in Man-Machine
Systems: Jackson AS, WCR nt4 58
of Lossless Networks for Prescribed Transfer Impedances:
Macnee AE, T-CT Sep 58

of Multichannel Amplifiers: Barton BF, WCR pt2 58 Network Problems, Frequency and Time Domain Errors in: Gimowski F, T-CT Mar 58

of N-Valued Switching Circuits: Berlin RD, T-EC Mar 58

Procedure for Transmission Line Networks: Grayzel AI, T-CT Sep 58

of RC Grounded Two-Ports: Kuli ES, T-CT Mar 58 of Samplet-Signal Hetworks: Lewis PM, T-CT Mar 58 of Strip-Line Filters - Ozaki H, T-CT Jun 58 Techniques and Active Networks: Linvill JG, NCR pt2 57

of Three-Terminal Networks with Two Kinds of Elements: Ozaki H, T-CT Dec 58 Topological: Van Valkenburg ME, WCR nt2 58 Synthesizer Stabilized Single-Sideband Systems: Fisk D, P Dec 56

Systemic Learning: McPherson RR, P Aug 56 Systems:

Analysis:

Discrete Markov Processes: Sittler RW, T-CT Dec 56

Integrating Reliability Considerations Into: Heyne JB. WCR pt6 58

Perspective for Signal Theory Ham JM, T-CT Dec 56

Aspects of Reliability Tall MM, T-RQC Sep 58 Considerations for Computers in Process Control: Braun EL, NCR pt4 58

Reliable, by Component Part Engineering Walance CG, T-RQC Sep 58 Reliability of: Moskowitz F, T-RQC Sep 56, NCR pt6 56

Use of Least Squares: Aaron MR T-CT Dec 56 Development, Statistical Aspects of Reliability: Youtcheff JS, T-RQC Nov 57

routenett JS, T-RQC Nov 57
Engineering: Schlager KJ, T-EM Jul 56, Ryan FM, T-CS Oct 56; Auerbach IL. WCR pt 10 57
Career Evaluation: Staff Report. SQ Sep 57
Desion: Rothstein J. T-EM Feb 54
Educational Needs in: Johnson RP, NCR pt 4 58
Engineers: Testimor C C & CO.

Engineers, Training of: Cole RI T-EM Sep 58 Impulse Response Determination: Zabusky NJ, T-AC May 56

Mixed, Distributed and Lumped Model for: Smith OJM, WCR pt2 57

Performance, Application of Taylor's Series for Determining Heyne JB, NCR pt6 58 Probability Density in: Widrow B, WCR pt 2 57
Theory, As Extension of Circuit Theory: Linvill WK,
T-CT Dec 56

-T-

Tables of Combinations, Detection and Identification of Symmetric Switchino Functions: Marcus MP, T-EC Dec 56

Azimuth Error: Latimer DWT, T-ANE Dec 56 Bearing and Distance Accuracy: Latimer DWT, T-ANE Dec 56

Coverage and Channel Requirements: Decker MT, T-ANE Sep 57

System, Transponder Antenna Design: Parker EG, WCR pt1 57

VOR-DME Systems, Co-location of: Ricketts PE, NCR pt8 56

Tacitron Thyratron: Johnson EO, P Sep 54

Tail Cap Antennas , Current Distribution on: Carswell I, T-AP Oct 55

Talk Cap Antennas, Current Distribution on: Loughren AV, T-EWS Mar 58

Talking Drums and Binary Coding- Borrowman JH. P Jan 57 Tank Farm Data Reduction System: Gimpel DJ, T-IE Mar 57, T-PT Apr 57

Tantalum Electrolytic Capacitors: Warner DF , T-CP Nov 55, McLean DA , NCR pt6 56 , P Jul 56

Tantlaytic Capacitors , Up-Grading Roberts WR , WCR pt6-58

Automation and the Applications of Tape in Broadcast-ing and Telecasting: Isberg RA, T-BTS Dec 57 Equipment, Video, Automatic Operation of. Byloff RW, WCR pt7 58

Helix Traveling-Wave Structures, Electronic Theory of: Scotto MJ, T-ED Oct 55

High Information Rate Reader: Welcome W, WCR pt5 57

High-Speed Reader: Angel AM, WCR nt4 57 Punched, Logical Combination of: Mason RM, T-EC Dec 57

Recorders, Video

Instrumentation Applications of: Koller EL, WCR pt5 57

Symposium: Snyder R, WCR pt7 57 Recordings

Recordings:

Applications: Camras M. T-AU Nov-Dec 55

Automation and the Applications in Broadcasting and and Telecasting: Isberg RA, T-BTS Dec 57

Digital Airborne: Arcand T, WCR pt 558

Instrument-Type Magnetic, Techniques in Evaluating: Moore TO. T-I Mar 58

Television, Achievement of Practical Tape Speed: Ginsburg CP, T-BTS Jun 57

Taner Sections in Circular Waveguides: Gerosa G, P Dec 58

Tapered Transpission Lipes:

Tapered Transmission Lines:
Design of: Klopfenstein RW, P Jan 56
and Fourier Transforms: Bolinder EF, P Apr 56
Matching Section: Collin RE, P Apr 56;
Klopfenstein RW, P Aug 56

Tapered Velocity Couplers: Cook JS, NCR pt8 55; Fox AG, NCR pt8 55

Fox AG, NCR pt8 55
Tare II Hatcher ET, T-TRC Apr 57
Target Detectability on CRT Screens, Factors Influencing: Opland JW, T-ANE Dec 58
Target Detection-Position Estimation Schemes, Automatic: Walter CM, NCR pt5 58

Tanescripts:
Availibility: Crone WR, SQ Sep 55
Use, Expansion of: Jacobsen AB, SQ Sep 56
Value of: Crone WR, SQ Sep 55
Taylor's Series for Determining Component and System
Performance, Application of: Heyne JB, NCR pt6 58

Tchehychoff.

Functions, Analysis of Nonlinear Circuits with Harmonic Excitation: Ellern F, T-CT Jun 56

Functions in Iterated Networks: Armstrong HL, T-CT Jun 55

Ŕ.

Impedance-Matching Networks: Matthaei GL, T-CT Sep 56

Insertion Loss, Design of Two-Section Symmetrical Zobel Filters for: Tuttle WN, WCR pt2 58 Parameter Symmetrical Filters: Grossman AJ, P Apr 57 Ladder Network , Explicit Formulas for: Weinberg L , NCR pt2 57

RC Band-Pass Filters, Synthesis of: Helman D, NCR pt2 56 Spelling of: Gannett EK, T-CT Mar 55 Symmetrical Filters, Dissipative Effects in: Pawsey DC, P Oct 58

Teacher Is a Grafter: Manning CS, T-EM Mar 58
Teacher, High-School Science, Views Industry-Education
Cooperation: Miner TD, T-E Jun 58

Teachers, Vanishing, in Science and Engineering: Straiton AW, T-E Mar 58

AW, T-E MAT BE
Teaching:
Aids, Electronic: Ramo S, T-E Jun 58
Aids for Laboratory Courses in Electrical Circuits and
Electronics: Rummer D, T-E Jun 58
Carter Evaluation: Straiton AW, SQ Dec 54
Device, Automatic: Weimer PK, T-E Jun 58
and Learning Processes in Electrical Engineering Education: Angelo EJ, T-E Sen 58

Teamwork Brainstroming Solves Problems: Pleuthner WA, NCR pt6 56

Technical Information in Soviet Union: Staff Report, SQ Sep 58

Technical Institutes: in the Next Decade: Beatty HR , T-E Mar 58 Importance of: Wilson DR, SQ May 55 In Soviet Union: Staff Report, SQ May 58 Technical Meetings, Organization of: Fano RM, T-IT Sep 55, P Feb 56

Technical Proposals in the Electronics Industry: Eddy FN, T-EM Dec 58

Technical Strength of U.S., Improvement of: Kelly MJ, T-EM Dec 57

Technical Writing:

nnical Writing:
for Air Force: Boushey HA, T-EWS Mar 58
for Electrical Manufacturing: Oliver FJ, T-EWS Mar 58
for Electronic Design: Lippke JA, T-EWS Mar 58
for Electronics: Kinn JM, T-EWS Mar 58
Engineer-Writers, Nontechnical Help for: MacPherson
RB, NCR pt10 58

Engineering, Double Standard in: Conners T, T-EWS Aug 58

Engineering, Without Gobbledegook: Fujii T, T-EWS Aug 58

Engineering Writing Organizations: Hirsch I, T-EM Jan 56

Field of: Hamlett RT, SQ Feb 55, SQ Feb 57 Guidance: Whinnery JR, SQ May 57; Fujii T, SQ May 58

Major Pitfalls of: Connolly TE, T-EWS Aug 58 Part Time for Students: Penfield P, SQ Feb 58 Remunerations in: Hunter TA, SQ Feb 56 Report Writing, Two-Hour Course in: Hohmann RE, WCR pt9 58

Roadblocks in: Griggs T, NCR pt10 58 noduplocks in: Origos I. NCK REID SB and Speech, Engineering, Challenging Field of: Pierce JR, T-EWS Mar 58 and Speech, Good, Their Importance to the Engineer: Goldswith AN, T-EWS Aug 58

for Technical Journal: Ebersol ET Jr, NCR pt10 58 Technical Trade, Tricks of: Chapline JD, T-EWS Mar 58

Technicians as Aid to Engineers: Petrou NV, T-E Mar 58

Technicians as Aid to Engineers: Petrou NV, T-E M: Technicians, PostItion of: Gerslion JJ, SQ Sep 56
Techniques: Rowe EG, T-QC Dec 54
Techniques Microwave, Report of Advances, 1954:
King DD, T-MTT Apr 55
Tee Circulator: Swanson WE, WCR pt1 58
Tele-Man: Hoffmann H Jr, NCR pt8 58
Tele-Man: Hoffmann H Jr, NCR pt8 58
Telecommunication, General Systems Approaches to Optimization Problems: Kalaba RE, NCR pt8 57

Optimization Problems: Aardaa RE, NCR pt8 37
Telecommunication Networks:
and Linear Programming: Kalaba RE, P Dec 56
Topological Properties: Prihar Z, P Jul 56
Telecommunication Systems, Reliability and Economics of:
Prihar Z, T-CS Jun 58

Telecontrol: Grienberg EL , T-TRC May 57 Telegraph:

egrum: Frequency Shift, Single-Sideband Technique Apolied to: Buff C, P Dec 56: Moore JB, Apr 57 International, Single-Sideband Operation for: Becken ED, P Dec 56

Submerged Repeaters: Hazen DF, T-CS Nov 54 Terminal Circuits: Boughtwood JE, T-CS Nov 54 Terminal Enuipment: Cusack FH, T-CS Nov 54

T-TRC Mar 56; Campbell CA, T-TRC Mar 56; Anderson GF, T-TRC Mar 56 Antenna for Aircraft: Butterfield FE, T-AP Jan 57 Antenna for Multiple Operation: Wynn JB Jr, NCR pt5 54

Automatic Reduction System: Hatcher ET, T-TRC Apr 57

Automatic Tracking Antennas for: Oltman HG, NCR ntl 56

Ballistic Missiles: Rauch LL, T-TRC May 57 Bibliography of: Kiebert MV, T-TRC Jun 58 Bidirectional Pulse Totalizer: Wright HD, NCR pt 1 56 Channel Selection for Multicarrier System: Taylor LS, NCR pt 5 58

NCR pt5 58
Commutation System, Low-Level: Shandelman F, T-TRC Apr 57
Components, Processing of: ter Veen LAG, NCR pt5 57
Data Interpretation: Rauch LL, NCR pt5 54
Data Reduction: Herling ED, T-TRC May 57
as a Discriminator or Tracking Filter, Application of Phase-Locked Loop to: Gilchnest CE, T-TRC Jun 58
of Earth Satellite: Mengel JT, P Jun 56, NCR pt1 56
of Earth Satellite Launching Vehicle: Mazur DG, NCR pt1 56, P Jun 56
Electrograph: Webb JC, NCR pt9 58

Electrocardiograph: Webb JC, NCR pt9 58
Electromechanically Stabilized DC Amplifier: Riester
HA, T-IE Mar 55

Field of: Kiebert MV, SQ May 56 Flight Data Processed for Digital Computer: Dannals GC, NCR pt5 57

Flight Testing at Boeing-Wichita: Dettbam AJC, T-TRC Apr 57

Flight Testing of Piloted Aircraft: Van Doren ML, T-TRC May 55

FM FM, Automatic Test Set for: McGec HA, T-TRC May 57

FM/FM Radio , Noise and Bandwidth: Uglow KM , T-TRC May 57

FM, Precision Subcarrier Discriminator: Duerrg WH, NCR pt1 56

High Acceleration: Horning TD, WCR pt5 58 High Capacity Pulse Code Telemeter: Shaw GS, NCR pt1 56

High-Speed Electronic Multiplexer and Coder: Bishop RP, NCR pt1 56

and Information Theory: Lelian FW, T-TRC Nev 54 Long-Ranne Reception: Wynn JB, NCR pt5 57 Magnetic Tane Equipment: Rawlins RE, NCR pt5 54 Magnetic Tane Recorder, Reproducer: Hadady RE, T-TRC Apr 57

Mechanical Sampling Devices, Specification and Design: Brinster J, T-TRC Apr 57

Meteorological Observation System, Automatic: Boulay PF, WCR pt5 58

Microbarometer for Small Vertical Displacements: Gunkel W, T-I Dec 57

Microwave Relay: Taylor LS, ICR nt5 57 Missile, X-17 System: Cox JA, T-TRC Anr 57 Missiles: ter Veen LAG, NCR nt5 57

Multiple Antenna System for Supersonic Aircraft: Anderson RE , T-AP Oct 55 Oscillator, Transistor-Magnetic: Meyerhoff AJ, T-CT Sep 57

PCM Transistorized for Extended Environments: Marquand RE, WCR pt5 57 PDM/FM Radio, Noise and Bandwidth: Uglow KM, T-TRC Apr 57

Phase Angle Analogs in Control Instrumentation: Parish CL, T-I Jun 57, T-TRC Apr 57 Power Amplifier for 200 MC Band: McRae DD, T-TRC Apr 57

T-TRC Apr 57
Progress in 1953: Radio Progress, P Apr 54
Progress Survey, 1955: Uglow KM, T-TRC May 57
Proportional Data Transmission: Petrie WC, NCR pt5 54
Pulse Multiplex, Automatic Data Separation System:
Magasiny IP, T-TRC Feb 55
Pulse Position Modulation Unit: Mazur DG, NCR pt5 54
Pulse Position System: Weisman L, NCR pt5 58
Receiving Station Time Pulse Detector: Star J,
NCR pt5 58

Receiving System at the Air Force Missile Test Center: Roloff HA, T-TRC Dec 57, T-TRC Air 57 and Remote Control, Survey of Progress in 1956 and 1957 in: Rock FE, T-TRC Jun 58

Short Distance, of Physiological Information: Beenken HG, T-ME Dec 58

Simplified Automatic Data Plotter for: Riblet HB, T-1 Jun 56

Solid-State FM/FM System: Politi EY, T-TRC Apr 57 in Space: Wiesner JB, NCR pt5 58 in Space Flight: Ruckstuhl CB, NCR pt10 55

Space Ship: Scharla-Nellson H, T-TRC Apr 57, T-TRC Jun 58

System for Petroleum Production: Stilley JC, T-TRC Apr 57

by Telephone: Doersam CH, Jr. NCR nt1 56 Temperature Measurement from Missiles: Cox JA, WCR pt5 57

Transistor Circuits: Smith JH, T-TRC Apr 57
Transistor Circuits: Smith JH, T-TRC Apr 57
Transistorized FM/FM System: Colander RC, T-TRC May 55

Transistorized Time Multiplexer: Sacks JM, T-TRC May 57 Transmitter. Rawlins RE, NCR pt5 54; Reynolds FN, NCR pt5 54

Transmitter, Subminiature: Hendershot LR, NCR pt 1 56 Visual Internolation Errors: Katz L, T-TRC Feb 55 Wide-Band Microwave Link: Glass RE, T-TRC Apr 57

Automatic, Exchange, Signaling between a Vehicle and an: Stewart JR, T-VC Apr 58

for Automatic Remote Control and Telemetering: Doersam CH Jr, NCR pt1 56

Cable Design: Kinasley HFX, T-CS Nov 54
Cables, Fault Location on: Kantrowitz P, T-CS Dec 58
Cables, Submarine, Passive Components for Repeaters:
Wooley MC, T-RQC Nov 57

Channels Single-Sideband Carrier, Generation by Polyphase Modulation: Mensch JR, NCR pt8 58 Equipment Features, Military: Hoffmann JP, T-CS Nov 54

Lines, Radiation Monitoring Over: Costrell L, T-NS Aug 58

Multichannel FM Radio Relay Systems for: Halina JWO, T-CS Oct 56 Public, Global: Donald DD, T-CS Nov 54 Remote Control Circuit for Antenna Test Site: Young L, T-AP Oct 58 Service to the Fishing Fleet: Mead FM, T-CS Mar 55

System, Military: Boykin RS, T-CS Nov 54
Teleprinter, Signal Normalizer for: Dingley EN,
T-CS Oct 56

Teleprinter Services, Signal Mutilation and Error Prevention: Moore JB, NCR nt8 57

Telescopes, Radio, Resolution, Pattern Effects and Range: Kraus JD, T-AP Jul 56

Teletyne:
Multichannel Terminal: Mack A, T-CS Nov 54 Multiple Frequency Shift: Jordan DB. P. Nov 55
Phase Shift: Costas JP, P. Jan 57
Predicted-Wave System: Doelz ML, NCR pt8 54
Standard, Irregular Lines by: Brown J, T-I Mar 58
Teletypewriter with Integration Detection: Harmath HF, NCR pt8 55

Television:

Allocations Study Organization: Town GR, T-BTS Dec 57

Amplifiers:

Common-Emitter Transistor: Bruun G, P Nov 56

Deflection Horizontal Testing of: Lankard GM, T-BTR Oct 57 High Power UHF: Koros LL, T-BTS Mar 55 Microwave Relay, 50 Watt: Mallach LW, T-BTS Jun 57

Multistage Transistorized: Spilker JJ Jr, WCR pt 2 57 Pedestal Processing: Kennedy RC, NCR pt7 56

Power: Hamilton GE, T-BTS Dec 55 Amplitude Response Measurements: Doba S Jr, P Feb 57; Kramer SI, P Jul 57

Antenna Problems at UHF and VHF: Krause LO,

Antenna, VHF Traveling-Wave: Siukola MS, T-BTR Oct 57, WCR pt7 57

Aspect Ratio and Geometric Distortion: IRE Standards, P Jul 54

Automatic Level Control for Film Systems: Hurford WL, T-BTS Feb 57 Bandwidth Reduction by Digital Coding: Schreiber WF, NCR pt4 58

Bandwidth Reduction of Signals, Photographic Simulation of: Morrison WC, T~BTS Jan 5€

Broadcasting:

Audio Problems: Chipp RD, T-BTS Mar 55 Booster Installation, UHF: Epstein J, T-BTS Mar 55

Determination of Service Areas: Cullum AE, T-BTS Sep 56

Multiple System with Antennas of Equal Height: Wolf LJ, T-BTS Jan 56 On-Channel Satellite Booster System: DeWitt JH, T-BTS Mar 55

Progress in 1953: Radio Progress, P Apr 54 Camera Tubes, Recent Developments in: Veith FS, T-BTS Dec 57

Cameras, Precision Deflection Yoke: Benzuly HJ, T-BTS Dec 55, NCR pt3 55

CBS Colortron Picture Tube: Fyler N, T-ED Feb 54 CBS Hollywood Facilities: Chinn HA, P Jul 54 Clamp Circuit: Wendt KR, NCR pt7 54; Rhodes RN, NCR pt7 54

Co-Channel, Interference Reduction: Chapin EW, T-BTS Jun 58

T-BTS Jum 58
Coded Picture Transmission: Roschke EM NCR nt7 56
Coding Continuous Source: Kelly JL, NCR nt2 57
Comb Filters: Stateman MJ, NCR nt4 54
Color: See Color Television
Community Systems: Taylor AS, T-BTS Sen 56
Composite Video Signal, Waveforms and Spectra:
Chatten JB, T-BTR Jul 55
Codless Microplane System: Chamberlain AB,

Cordless Microphone System: Chamberlain AB, T-BTS Sep 56

Deflection System, Vertical Transistorized: Palmer W, T-BTR Oct 57

Deflection Yoke for Camera Tube: Benzuly HJ, NCR pt3 55 Demodulator Stable Precision- Hartman WH, WCR pt 7 57

Economical Guide to Station Planning: Weise DM, T-BTS Feb 57

Emergency Standby Facilities for Aural Transmitter: Wolfe B, T-BTS Feb 57 In Europe: Gibas HAS NCR pt7 55

FCC Rules and Propagation Data: Allen EW, NCR pt1 54

Ferrite Components: Schlicke HM, NCR pt7 55 Field Strength Measurements: Rohrer RE, NCR pt7 56 Frame Storage In, Visual Effects of Using: Baldwin MW, NCR pt4 58

and Frequency Modulation Sets, Local Oscillator Radia-tion from: Peterson WG, T-BTR Mar 58 Gun, High Transconductance Wideband: Atti E, NCR et 3 58

Helical Antenna Adapted to Structural Tower Shapes: Fisk RE, T-BTS Sen 58 High Definition System: Thompson FT, NCR nt7 55

High Light Aperture Equalizer: Sullivan MV, NCR pt7 57

High Power UHF, Developments in: Young JE, NCR pt7 57

Horizontal Linearity: Tossberg J, NCR pt7 55 Image Orthicon Burn-In , Prevention of: Wilner JT , T-BTS Feb 57

Image Orbiticons at Low Light Levels: Rotow AA, NCR pt3 56 Image Tube Using Bombardment Induced Conductivity: Decker RW, NCR pt3 57 Industrial Use of Schneider HF T-IE Mar 56

Integration of Color Equipment with Monochrome Facilities: Laeser PB, T-BTS Jan 56

Intercity Transmission: Barstow JM, T-BTS Mar 55 Interference, Cochannel, Reduction of: Middlekamp LC, T-BTS Dec 58 Mannetic Tape Recording:

Channel Response Requirements: Walker BG, NCR pt7 55 Forrite Heads: Chynoweth WR . NCR pt7 55

Packing Density of Information: Selsted WT, NCR pt7 57 For Sinnals: Snyder RH, T-BTS Feb 57
Synchronization of Multiplex Systems: Maxwell DE,
NCR pt7 55

Management View of Transmitter Operational Practices: Harmon RN, T-BTS Dec 57

Master Control, Automation in: Berryhill JL, T-BTS Dec 57

Measurement of Service Area for Broadcasting: Kirby RS, T-BTS Feb 57

Measurements Employing Transient Techniques: Simulan HA, P May 56

Microscope, Ultra-Violet, for Cytological Studies: Williams GZ, NCR pt9 55 Microscopy: Robinsion CR, P Jan 55 Mobile Monitoring Unit- Day RL, T-BTS Feb 57

Mobile Unit, Conversion for Flexibility and Operating Convenience: Huntarian HF, T-BTS Mai 56 Modern, Electronic Composites in: Kennedy RC, P Nov 58

Multipath Distortion of Signals and Design of Corrective Filter: Dalakrishnan AV, NCR pt4 56 Pack Type System: Harris WB, NCR pt7 56 Picture Quality: Amos P, T-BTR Apr 54 Picture Signals, Reworking of: Embree RR, NCR pt4 56 Picture Turbes:

Cutoff Voltage Characteristics of: Niklas WF , P Aug 58

Horizontal-Deflection Testing: Knight MD, T-RQC Apr 56

110 degrees: Schuster WD, WCR pt7 57 110 degrees, Ion Trap Gun for: Swedlund LE, NCR pt3 57

Standardization of Deflection Angle: Torsch CE, T-BTR Oct 55

Transfer Characteristics: Moss H, P Dec 54 Program Switcher, Automatic Preset: Petrik JS, T-BTS Dec 58

Programming, Automatic Gain Control: Diehl MH, T-BTS Jun 57

Propagation in VHF and UHF Bands: Boese WC, T-BTS Jan 56

Pulse Distribution System for Network Studio- Auld JS , NCR pt 7 54 $^{\circ}$

Quality, Role of Production Engineer, Mahuron HH, T-RQC Apr 56

in Radiography: Ogilive AR, WCR pt6 57

AGC Design Considerations for: Overdeer RH, NCR pt7 58

Automatic Decoding in Chromatron: Rector RH Jr, WCR pt7 57

Automatic Fine Tuning of: Baugh CW, WCR pt7 57 Automatic Fine Tuning Circuitry in: Farr KE, T-DTR Mar 58

Color Reproduction Errors: Weiss H, P Sep 54 Constant-Input Impedance RF Amplifier for: Yin HB, T-BTR Oct 57

Yin HB, T-BTR Oct 57
Demodulator: Hartman WH, WCR pt 7 57
to Impulse Noise, The Reaction of Sync Separators in, Luedicke E, T-BTR Sep 5e
Interference Output: IRE Standards, P Sep 54;
Sumplement, P Jul 58
Noise-Gated AGC and Sync System: Spracklen JG, T-BTR Jun 57; Wood GC, T-BTR Jun 57
Performance Reliability: Quirk CJ, T-RGC Apr 56
Picture Area Losses: Townsend CL, T-BTS Sep 58
Portable, Design Considerations: Wellner FR, T-BTR Jun 57

Reduced-Alphabet Representation of Signals: Kretzmer ER, NCR pt4 56

Reduced Bandwidth, Possibilities of: Deutsch S, T-BTR Oct 56

Reduction of Co-Channel Interference, by Frequency Control of Carriers: Believed WL, T-BTS Feb 57 Reduction of Sweep Interference: Intrator AM, T-BTR Apr 56

Reliability, Progress in Boden EH, T-RQC Jul 58 as Remote Sensory Perception Aid: Day JP, WCR pt5 57

Synchronous and Exalted-Carrier Detection in: Avins J, T-BTR Feb 58 Transformerless Single Rectifier: Sillman D, NCR pt 7 58

Transistorized: Webster RR, WCR pt7 58 Transistorized, Circuits: Creamer EM, NCR pt3 57 Transistorized Sound Section for: Schless G, T-BTR Jun 58

Ultrasonic Remote Control for Home: Adler R , T-BTR Jun 57

VHF, Constant Input-Impedance RF Amplifier for: Ym HB, T-ETR Oct 57

Reception, Distortion Reduction in: Ruston J, WCR pt 7 58

Satellite Systems: Plummer CB, T-BTS Mar 55 UHF Satellite Operation: Whitworth JR, T-BTS Mar 55

UHF Satellite Transmitter-Receiver Design and Operation: Katz L, T-DTS Mar 55
Sectionalized Tower in AM Broadcast Service: Goodnow AC, NCR pt7 58

Detection in Thermal Noise: Bridges JE , P Sep 54

Measurement Term Standards: IRE Standards, P May 55

Measurement of Third Order Probability Distributions: Schreiber WF , T-IT Sep 56

Predictive Quantizing of: Graham RE, WCR at 4.58 Slide Sequencing Arrangement: Peterson RE, T-BTS Jan 56

Sound, Sampling Detector for: Schlesinger K, T-BTR Jul 56

Spurious Emission Filters: Judge WJ, NCR pt7 55 Standards, on Luminance Signal Levels: IRE Standards, P Feb 58

Station Construction: Euchwald B, T-BTS Dec 55 Storage Tube, Direct View: Koda NJ, WCR pt7 57 Studio Switching Problems: Morse HW, T-BTS Jan 56 Subscription, Technical Boundary Conditions: Ellett A, NCR pt7 56

Sweep Circuit: Schlesinger K, P Jun 56; Wagner TCG, P Mar 57

Sync Generator, Transistor Circuitry in: Leeds LM, T-DTR Sep 58

T-RTR Sep 58

Synchronization Generator, High StabilityThompson FT, NCR pt7 56

Synchronizing Signal Generator: Welsh W, F An 155

Tape and Fifer Techniques to Increase Broadcast
Operational Efficiency: Isberg RA, T-BTS Jan 56

Tape Recorder Symposium: Snyder RH, WCR nt7 57

Tape Recording Systems, Achievement of Practical
Speeds: Ginsburg CP, T-BTS Jun 57

Technical Standards for: Wentworth JW, T-BTR Jul 56,
T-BTS Sep 56

Test Strine Signal: Farber RJ, T-DTR Jol 56

of Canadian Broadcasting Company: Ste. Marie A, NCR pt7 57

Dynamic Standard Signal for Black and White and Color Systems: Kennedy RC, NCR pt7 57 Keyed Reference Signals: Whalley WD, NCR pt7 57

Network: Thorpe J, NCR nt7 57 during Programming: Popkin-Clurman JR, NCR pt7 57

Reference Signal for Broadcast Transmissions: Wentworth JW , NCR pt7 57 Reference Test Signal: Gronberg HC, NCR pt7 57 Standards for Test-Linc Signals: Chapin EW, NCR pt7 57

Techniques, Transmission Popkin-Clurman JR, T-BTS Jun 57

Vertical Interval Test Signal: Morris RM, NCR pt 7 57

Transistor Amplifier, 80-Volt-Output: Grinich VH, T-BTS Sep 56, T-BTR Oct 56, T-CT Mar 56 Transistor Amplifiers, Amplification-Bandwidth Exchange: Prigh TA, P May 57

Transistor Design for Picture IF Stages: Turner R , T-BTR Oct 57

Transistorized Airborne Military Techniques: Kelly JJ, NCR pt8 58

Transistorized, Horizontal Deflection and High Voltage System: Schiess G, T-BTR Jun 58 Transmitters:

Transmitters:
50 Kilowatt: Ruston J, T-BTS Jan 56
Monitor for: Cady CA, NCR pt7 56
One Kilowatt UHF - Tissot TP, T-BTS Dec 55
One Megawatt ERP: Bias F J, T-DTS Mar 55
Transfer Switch: Schunemann CF, NCR pt7 54
Transmitting Antennas: Kear FG, P Feb 54;
Masters RW, NCR pt7 55
Tubes, Poet Acceleration Schlesing K

Tubes, Post-Acceleration: Schlesinger K, P May 56

Traveling-Wave Transmitting Antenna: Siukola MS, WCR pt7 57, T-BTR Oct 57
Tuners, Practical Aspects of Design: Nestlerode CD, T-BTR Oct 57

Two-Dimensional Systems: Bowie RM, NCR pt7 58 Amplifier Tubes: Pan WY, T-ED Feb 54, T-BTR Jan 54

Mixer: Western RE, NCR pt7 54
Onniguide Antenna: Woodward OM, NCR pt1 55
Propagation: Herbstreit JW, NCR pt1 54;
Carroll TJ, NCR pt1 54
VHF Allocation Situation: Weber F, T-BTS Jan 56

Vertical Interval Test Signals: Morris RM,
T-BTS Dec 57

Vertical Oscillators, Minimizing the Effect of Cutoff in: Love SF, T-BTR Mar 58

Videotape Recorder, Instrumentation Applications of: Agdur B, WCR pt10 57

Visual Perception Studies: Sziklai GC, T-IT Sep 56 WOR-TV Antenna System: Adams GJ, NCR pt7 54 Temperatures:

Coefficient of Canacitance and Inductance over 5-50 MC Range, Measurement of: Bady I, T-I Sep 57 Coefficient Measurement, Dynamic: Takacs AS, WCR pt6 58

Control, Reactor Outlet: Stubbs GS, T-NS Sep 54
Dependence of X-Band Fluorescent Lamp Noise
Sources: Mumford WW, T-MTT Dec 55

Effects of Ambient, on Electron Tubes: Hopkinson K, T-RQC Jul 58

Effect on Printed Wiring Boards: Spalding J, WCR pt6 57

in Forced Convection Cooled Electronic Equipment, Prediction of: Fried L., T-CP Jun 58

Limits and Ratings for Avionic Equipment: Welsh JP, T-ANE Mar 58

Measurement of Aircraft Equipment: Rollsenow WM, T-ANE Mar 58

Noise, Dependence of Range of Tropospheric Scatter Communications on: Hausman AR, T-CS Dec 50 Rise Measurement of Transformers: Rand A, T-CP Mar 58

Rise of Transistors , Measurement of Internal: Nelson JT , P Jun 58

Sensitivity of Current Gain in Power Transistors: Reich B, T-ED Jul 58 Telemetering from Missiles: Cox JA, WCR pt5 57 Tensor Club of Great Britain: Stigant SA, T-CT Sep 55 Tensor Permeability Measurements of Ferrites, Circularly Polarice I Traveline-Way Cavity for: Ault LA, WCR pt1-57

Terrinol for All-Motel Tubil Keld WH, T-ED Feb 54 Terrinol Environ with in Shale Flight Whompt FL, ACR nt5 50

Tern inclody for Feedback Control Systems: Axelby GS, T-AC Mar 50; Proposed Standards, T-AC Mar 58; Macqueen PH, T-AC Dec 58

Ternary Counters: MacKny RS , T-EC Dec 55

Diffraction Losses, Comparison of Experiments with Productions: Crysdale JH, T-AP Jul 50

Effects of Foreground on Overland Microwave Trans-missions: Trolese LG, NCR pt1 57

Effects on Overland UHF Transmissions: Trolese LG, T-AP Oct 58

Effects on Propagation above 40 MC - Egh JJ, P Oct 57

Radar Return at Near-Vertical Incidence: Moore RK , P(Feb) 57

Tesla, Nikola: Pratt H, P Sop 56 Test Generator for Horizontal Scan: Gruen WJ, T-BTR Jan 54

Test Signals Television-

st Signals Television of Canadian Droadcasting Company: Ste. Maric A, NCR pt7 57

Dynamic Standard Signal for Black and White and Color Systems: Kennedy RC, NCR pt7 57

Keyrd Reference Signals: Whalley WB, NCR pt7 57

during Programming: Popkur-Cluman JR, NCR pt7 57

Reference Signal for Broadcast Transmissions: Wentworth JW, NCR pt7 57

Reference Test Signal: Gronbern HC, NCR pt7 57 Standards for Test-Line Signals: Chapin EW, NCR pt7 57

Vertical Interval: Morris RM, NCR pt7 57
Tester, Semiautomatic Circuit Component: Brammer FC, T-IE Aug 58

Testing-

Automatic, Electronic Components: Wafter VW, T-IE May 58

Automatic, in Military Electronic Equipment Business: McCabe LE, T-ANE Dec 56 Automatic, for Production: Dordick HS, WCR nt5 57

of Components, Use of High Voltage DC: Would V, NCR pt10 57

Feedback System: White CF, T-AC Dec 58 with Millimicrosecond Pulses: Beck AC, T-MTT Apr 54, T-CS Jul 54

with Millimicrosecond Pulses: Beck AC, T-CS Jul 54 Nondestructive Ultrasonic, for Structural Adhesives: Vincent CT, WCR at 957 Production, in Automatic Factory: Dordick HS, T-PT Apr 57, T-IE Mar 57

of Printed Circuits: Gamson ER, NCR pt6 56 Tetrodes

Ceramic, 300 Watt Stacked, Reliability: Foote WB, T-ROC Jan 57

Emitter Gudmundson RA, T-ED Oct 58 High-Frequency: Stewart RF, NCR nt3 56 High-Frequency NPN Gernanium: Baker DW, NCR nt3 56

NCR pt3 56
Ion Oscillations: Waters WE, T-ED Dec 54
Power-Transistor: Maunin JT, T-ED Jan 57
Spacistor, Highl-Frequency: Statz H, P Nov 57
Transistor, Silicon: Stewart RF, P Jul 57
Theorem for Noisy Channels: Feinstein A, T-IT Sep 54,
T-IT Sep 55

Theorem for Nonlinear Devices Having Gaussian Inputs: Price R , T-IT Jun 58

Electron Linear Accelerator for: Weissbluth M, WCR pt9 57

Radioactive Sources for Radiation: Nunan C, WCR pt9 57 Thermal:

and Atmospheric Noise, Radio Systems Performance in: Watt AD, P Dec 58 Considerations in Regulated Power Supply Design: Wileman R , WCR pt6 58

Design of Commercial Airborne Electronic Equipment: Passman HM , NCR pt8 57

Design of Electronic Equipment Operating at 300-500 Degrees C: Welsh JP, T-ANE Dec 58 Effects in Tubes: Levy IE, T-ED Feb 54 Fused Metal-to-Ceramic Vamistor: Langford RC, WCR pt6 58

Noise, in Gas Discharge, Spectral Distribution: Bergmann SM, T-MTT Oct 57 Power Control of the NRU Reactor: Lennox CG, T-NS Aug 58

Resistance in Junction Transistors: Sparkes JJ, P Jun 58 Resistance of Silicon Junction Devices: Lin HC, NCR pt3 57

Resistance, Transistor, Measurement of: Reich B, P Jun 58

Stability and Power Dissipation of Junction Transistors: Lin HC , T-CT Sep 57

Stability and Radiation Resistance of Silicone Dielectrics: Christensen DF, T-CP Jun 58 Stability, Transistor: Hellstrom MJ, T-ETR Sep 58 Velocity Effects in Electron Guns: Itzkan 1, P Jun 57 Velocity Effects in Magnetically Confined Beams: Szabo A, T-ED Jul 58

Improved Keen-Alive Design for: Walsh D, P Jun 58 Keen-Alive Design: Gould L, P Apr 57 Resonant Window Fabrication: Reungold I, T-ED Feb 54 Spike in: Daugal AA, T-ED Jul 56

Thermionic Current in a Parallel Plan Diode: Giacoletto LJ, Thermionic Tubes, Thermistors for the Gradual Application of Heater Voltage to: Gano JJ, T-EC Mar 58
Thermistors: Wilson R, SQ Dec 57 Bounds for Compensation of Resistance and Conductance: Soble AB, T-CP Sep 57, T-CT Sep 57 Compensation of Transistor Amplifiers: Soble AB, T-CT Sep 57 Gradual Application of Heater Voltage: Gano JJ, NCR pt6 57, T-EC Mar 58 Thermocouple, Magnetic, Amplifier, Obtaining Optimum Performance from: Nesbitt WE, THE May 58 Thermoelectric Effects: Jaumot FE, P Mar 58 Thermoelectric Generator, Radioisotope: Briggs JL, NCR pt9 57 Thermoelectric Probes , Calibration of Ultrasonic Fields by: Fry WJ , NCR pt9 57; Damn F , T-UE Aug 57 Thermoelectron Engine, Diode Configuration of: Hatsopoulos GV, P Sep 58 Thermodynamics, Statistical, Phenomenological Theory of: Mandelbrot E., T-IT Sep 56 Thermonuclear Energy, Controlled Fusion Research: Post RF, P Feb 57 Thermonuclear Fusion, Controlled: Herold EW, NCR pt 9 58; Warfield G, SQ Feb 58
Thermonuclear Fusion Power Program, Ultra-high Vacuum Research in Support of the: Lange WJ, WCR pt 9 57
Thermonuclear Reactions, Controlled: York H, WCR pt 9 57 Thermostimulable Phosphors, for Ultrasonic Detection: Elion HA, T-UE Aug 57 Thevenin's and worton's Theorems Generalized: Zadeh LA, P Mar 56 Thickness Gages, Magnetic, for Rubber and Plastic Applications: Dexter AM, T-IE Mar 55 Three-Dimensional Data Presentation: Michael FR, T-ED Feb 54 Three-Dimensional Hyperbolic Space, Cayley-Klein Model of: Bolinder EF, P Sep 58
Three-Dimensional Information, Presentation of: Kennedy EJ, NCR pt8 58 Three-Terminal Devices, Properties of: Mason SJ, T-CT Dec 57 Threshold Detection: Basore BL, NCR pt4 54 Threshold Detector, Automatic Bias Control: Dugundji J, T-IT Mar 57 Thunderstorn Noise Power Radiation: Alya SV, P Jul 55, Thunderstorms, Electrification in: Gunn R, P Oct 57 Cold Cathode, for Selective Calling System:
Omstein W, T-VC May 57
Current Interruption by Grid: Johnson EO, NCR pt3 54 Function Generation by Integration of Steps: Comley W, WCR pt4 57 Grid Control Recovery: Reich HJ, T-ED Jul 57 Ionization in: Silver M, T-ED Apr 54 Magnetic Grid Control: Burnett JH, NCR pt9 55, P Apr 56 Pulsed Operation: Silver M, T-ED Apr 54 X-Ray Emission: Schneider S, P Jun 55
Thyristor High-Speed Switching Transistor: Mueller CW, T-ED Jan 58 Thyrite for Analog Multiplier: Kovach LD, T-EC Jun 54

Third Method of Generation and Detection of Single-Sideband Signals: Weaver DK Jr, P Dec 56 Thompson, Browder Julian, Biography of: Bowles EL, P Apr 57 Thunderstorm Avoidance Radar: Greenslit CL, T-ANE Sep 54 Tacitron: Johnson EO, P Scp 54
2D21, Pulse-Firing and Recovery Time Characteristics:
Objected JA, NCR pt6 57 Thyrite, Nonlinear Transfer Functions with: Kovach LD, T-EC Jun 58 Ticoss, Time-Compressed Single-Sideband Systems Jacob MI, T-CS Jun 58 Time and Amplitude Quantizer, Logarithmic, Transistorized: Gott E, T-I Mar 57 Time-Compressed Single-Sideband System (Ticoss): Jacob MI, T-CS Jun 58 Time Compression-Expansion of Speech: Fairbanks G, T-AU Jan-Feb 54 Time-Delay Circuti, Sub-Audio: Marill CD, T-EC Jun 54 Time-Delay Networks for Analog Computers: Cunningham WJ, T-EC Dec 54Time Division Multiplex Systems: Bieganski WJ, NCR pt8 57 with Addressed Information Packages: Filipowsky F , NCR pt8 57 Time-Division Multiplier: Lilamand ML, T-EC Mar 56 Time-Division Multiplier, Transistorized Four-Quadrant: Schmid H, T-EC Mar 58 Science it, a Community
Time Domain:
Network Synthesis: Ba HII F, T-CT Sep 54
Synthesis for Optimum Extrapolators: Steeg CW,
T-AC Nov 57
Continued Linear Fifters and Predictor Synthesis of Optimum Linear Filters and Predictors: Steeg CW, NCR pt4 57 Transient Synthesis: Kautz WH, T-CT Sep 54; Popoulis A, T-CT Mar 55 Time Duration, Equivalent, Definition of: Lampard DG, T-CT Dec 56

Time Expansion Device: Schlesser H, T-AU Jan-Feb 54 Time-of-Flight Analyzers: Electrostatic Storage System: Hahn J, IICR pt9 57

Multichannel: Garner HL, NCR nt9 57
Transistorized, with Ferrite Core Memory: Wade EJ, NCR nt9 57 Tracer Study, of Sewage Disposal by Isotopes: Ely RL, T-NS Mar 57 Tracers, Network Analogy for Isotope Kinetics: Schoenfeld RL, NCR pt4 57 Time and Frequency Domain Errors in Network Synthesis Problems: Gumowski I, T-CT Mar 58 Track Recognition System for Scanning Nuclear Emulsions: Becker S , NCR pt9 57 Time and Frequency Scaling in Magnetic Recording: Wiener FM , T-AU Jul-Aug 58 Tracking: Thre Interval Telemetering System: Wilde N., T-TRC Apr 57 Time Jitter in Video Pulse Trains: Fitch JL., T-I Anr 54 Antenna: Sletten CJ, WCR pt 1 57 Automatic, Antenna Arrays for Telemetering: Oltman HG, NCR pt 1 56 Time Measurements, Optimal Signals for: Sherman H, T-IT Mar 56 Conical Scan Antennas for: Damonte JD, NCR et 1.56 Ontical, of Satellites: Whipple FL, P Jun 56, NCR et 1.56 Time-Measuring, Vernier Technique: Caron KG, P Jan 57 Time Quadrature Components of Microwave Signals: Richmond JH, T-MTT Apr 55 Problem, Human, Simulation on UDEC III Computer: Platzer HL, WCR pt4 58 Time Response in Scintillation Counting, Improvement of: Kerns QA, T-NS Nov 56 Radio and Radar, of Sputnik: Brown RR, P Nov 57; Peterson AM, P Nov 57 Time-Reversal Techniques for Delay Distortion Correction: Bouert BP, T-CS Dec 57 Radiometric Inertial Reference System: Colie VW, NCR pt8 56 Time-Sampline Tube: Stone RP, NCR nt3 55, P Aun 55
Time-Sequential Tabular Analysis of Flip-Flop Logical
Operation: Arant GW, T-EC Jun 57
Time Series Analysis, Autocorrelated Error Terms:
Weller RK, NCR nt4 54 Range, Ontical and Radar: Kullmann EV, NCR nt5 58 Research Applied to Human Dynamic Response: McRuer DT, WCR pt4 58 Satellite, Antenna for: Sletten CJ, WCR pt1 57 Time Signals: Cems: CW-FW, Multipath Phase Errors in: Sollenberger TE, T-AP Oct 55 Differential Phase, Ground Antenna Phase Behavior: Carsvell I, NCR atl 57 for Determination of Lour stude: Ward WH, P Asig 56 Standard WWV and WWVH:
National Bureau of Standards, P Oct 56 Time Standard, Atomic Frequency and, Ammonia Maser as an: Mockler RC, T-I Dec 58 Drone , With Lightweight Airborne Package: Walcek EJ, WCR pt5 58 Time Standards: Lewis FD, P Sep 55
Time Statistics of Noise: Brown WM, T-IT Dec 58
Time, Tube That Tells: Eriksen W, NCR nt3 58
Time, Universal Standard and Velocity of Light:
Gerbarz R, P Nov 57 Satellite, Detection, Low Level: Beaubien DJ, SQ Sep 57 and Telemetering: Mengel JT, P Jun 56, NCR pt 56 Time-Varying Linear Systems, Optimization of: Shinbrot M, T-IT Dec 57 Traffic Capacity of Transponder Systems, Increasing the: Davis H, NCR nt5 58 Traffic Light Control System, VHF Radio Coordinated: Hassel EW, T-VC Dec 56 Time-Varying Networks: Analog Computers: Laning JH, T-CT Mar 55 Analysis: Zadeh LA, T-CT Mar 55; Pipes LA, T-CT Mar 55; Brodin J, T-CT Mar 55; Robbins H, T-CT Mar 55 Training for Operations Research Groups: Page T, NCR pt11 54 Trajectory Measurements, Electronic, in Missile Tests: Miller VL, WCR pt8 57 Complex Symbolism: Bolle AP, T-CT Mar 55 Impulsive Responses: Miller KS, T-CT Mar 55 Periodically Operated Switches: Bennett WR, T-CT Mar 55 Trajectory, Sample Space, of Time-Shifted Signal Vectors: Sherman H, T-IT Dec 57 Tramag FM/FM Subcarrier Discriminator: Barnes GH, T-TRC Apr 57, WCR pt5 57 Rectifier Canacitances: Delevitch V, T-CT Mar 55 Resonance Phenomena: Herrero MC, T-CT Mar 55 Response to Suddenly Applied Stationary Random Noise: Lampard DG, T-CT Mar 55 Tramag Techniques, Pulse Width Modulation: Kaplan H, T-TRC Apr 57 Trancoder, BIZMAC: Beaulieu DE, WCR pt4 57
Transac C-1100 Transistorized Computers for Airborne and Mobile Systems: Hollander GL, T-ANE Sep 58 Transform in Spectral Analysis: Gerlach AA, T-CT Mar 55 Transactors: Sharpe GE, P May 57
Transactors, Axioms on: Sharpe GE, T-CT Sep 58
Transactors, Axioms on: Sharpe GE, T-CT Sep 58
Transadmittance Meter for VHF-UHF Measurements;
Thiriston WR, NCR pt5 56 Timing Systems, Heterogeneous or Homogeneous: Proctor DR, WCR pt8 58 Diagnosis by Ultrasonic Echo Ranging: Reid JM, NCR pt9 55 Transatlantic Diurnal Variations at 16 KC: Pierce JA, P May 55 Electrical Properties of: Schwan HP, T-ME Nov 55 Neutron Depth Dose: Stickley E, NCR pt9 54 Visualization by Ultrasonic Echo Ranging: Reid JM, NCR pt9 55 Transceiver, Airborne Single-Sideband: Pappenfus EW, T-CS May 56 Transceivers, Packaged High Power Radar: Ellis-Robinson HNC, NCR pt8 58 Titanium, Use in Vacuum Devices: Beggs JE, T-ED Apr 56 Transco Microwave System: Rhodes HA, T-CS Jul 54, T-MTT Apr 54 Toggle Switches, Subminiature: Jakubowski GC, T-CP Mar 56 Topological Analysis of Linear Nonreciprocal Networks: Mason SJ, P Jun 57 Transducers:
Barometric Pressure to Current: Lapinski FA, T-I Jim 57
Biological: Stevens SS, NCR pt9 54; Schmitt OH,
NCR pt9 58 Topological Considerations in Network Theory: Reza FM, T-CT Mar 58 Topological Formulas for Linear Network Functions: Coates CL, T-CT Mar 58 Binary Coded Decimal Converter: Ziserman M, T-I Jun 56 Topological Formulas, Network Decomposition Using: Kim WH, T-CT Dec 58

Topological Method for Determination of Minimal Forms of Boolean Function: Urbano RH, T-EC Sep 56

Topological Models in Discrete Probability Theory, Switching Circuits as: Warfield JN, T-EC Sep 58 Broad-Band Dual-Mode Circular Waveguide: Tompkins RD, T-MTT Jul 56 Comparison Methods Based on Electromechanical Coupling: Woollett RS, NCR pt9 57 DC Voltage Discriminator: Stucky NP, T-I Jun 56 Design for Sonic and Ultrasonic Range: Massa F, NCR pt9 57 Topological Networks: Comments on: Slepian P, T-CT Dec 58
Editorial on: Bennett WR, T-CT Mar 58
Kirchhoff's Original Paper on: Kirchhoff G, T-CT Mar 58
Kirchhoff's "Third and Fourth Laws" on: Weinberg L,
T-CT Mar 58 Diagram: Bracewell RN, P Oct 54
Diagram: Bracewell RN, P Oct 54
Digital Sine-Cosine: Henn W, T-I Jun 56
Direct-Reading Digital, Principles and Techniques for:
Kliever WH, T-IE Apr 58 Electrostrictive, in Ultrasonics: Cady WG, WCR nt9 57
Ferroelectric Materials: Berlincourt D, T-UE Aug 56
Linear, Interconnection of: Kurss H, NCR nt2 54
for Machine Control: Snell JK, T-IE May 58
Magnetic and Eddy Current Type, for Use in Industrial
Electronics: Elam DL, T-IE May 58 Signal Flow Graph and: Wing O, NCR pt2 58
Fopological Properties of Telecommunication Networks:
Prihar Z, P Jul 56 Topological Synthesis: Van Valkenburg ME, WCR pt 258 Topological Transformations by Electronic Scanning Techniques: Aid DG, T-I Jun 58
Toroidal Microwave Reflector: Peeler GDM, NCR ntl 56
Toroids, Ferrite, to Eliminate External Magnets and Reduce
Switching Power: Treubaft MA, P Aug 58 Magnetic Head for Megacycle Range: Kornei O, NCR pt5 56 Magnetostriction, for Mechanical Filters: Sharma RL, NCR pt6 58 Toroids, Impregnation for High Temperatures: Deimel EO, T-CP Dec 56 Mathematical Definitions for Measure Criteria: Fogel LJ, T-I Jun 56 Toroids, Inductance of: Schwartz RF, P Oct 57
Totalizer, Bi-Directional Pulse, for Control and Telemetry: Wright HD, NCR pt1 56 Matrix Analysis of: Shekel J, P May 54 Multichannel, for Magnetic Recording: Johnson HA, NCR pt7 57 TR Switch, Keep-Alive Instabilities: Bridges TJ, P Apr 56 Multipurpose Industrial: Werme JV, T-I Jun 56 Multiterminal, Energy Relations in: Shekel J, T-CT Sep 55 TR Tubes: Comparison Method of Tuning: Rickert HH, T-I Oct 55 Networks of Magnetostrictive Delay Line: Rosenberg L , NCR pt 2 58 $\,$ Failure to Keep-Alive Electrodes: Hall JD, T-ED Feb 54

Nonlinear, Input-Output Relationship Represented: Zadeh LA, WCR pt2 57

Orthononal Mode: Fogel RL, NCR pt5 56
Photoelectric and Strain Gage, in Plethysmography:
Feitelberg S, T-ME Nov 55

Piezoelectric; Electronic Des gn Considerations: Bradley W Jr, NCR pt9 56 Ultrasonic, Transient and Steady-State Response: Cook EG, NCR pt9 56 in Ultrasonics: Cady WG, WCR pt9 57
Resistance, Delay-Line, Measurement of: McCue JJG, NCR pt2 58 Sequential SADIC System, 200 Channel: Jorgenson DE, T-I Jun 56 Torsional: Thurston RN, NCR pt9 55 Ultrasonic Flownetering - Swennel RC, NCR pt9 55
Underwater Sound, Measurement of Acoustic Power
Radiated from: Bobber RJ, NCR pt2 58
Waveguide-to-Coaxial, Optimizing Bandwidth:
Friedman DS, T-MTT Jan 57 Wire Strain System Calibration: Harrison GW, NCR pt1 56 Transequatorial Ionospheric Propagation: Villard OG, NCR pt1 57 Transfer Characteristics, Symmetrical, of the Narrow-Band Four-Crystal Lattice Filter: O'Meara TR, T-CP Jun 58 Transfer Functions: Branch Williams RC,T- CT Dec 5B Imaginary Axis Translation of: Ryerson JL, NCR pt4 58 Nonlinear, with Thyrite: Kovach LD, T-EC Jun 58 for the Operator In Man-Machine Systems, Synthesis of: Jackson AS, WCR pt4 58 Pulse, Root Locus Method of: Mori M T-AC Nov 57 Ouasi, for the Operator in Man-Machine Systems, Synthesis of: Jackson AS, WCR nt4 58 of a Rate Gvro: Bender M. T-I Mar 57 Simulation, Using One Operational Amplifier: Bridgman A, WCR nt4 57 Synthesis by Active RC and RL Structures: Horowitz 1, WCR pt2 57 Transfer Impedances, Synthesis of Lossless Networks for Prescribed: Macnee AB, T-CT Sep 58 Transfer Rates, Achieving Maximum Pulse Packing Densities and: Thomson BW. WCR pt4 58 Transfer Storage Counter: Wolfe RW, WCR pt5 57
Transfer Tree Miminization of Marcus MP, T-EC Jm 57
Transfluxors: Rajchman JA, P Mar 56
Configurations and Applications: Abbott HW,
P Aug 57 Controlled Electroluminescent Display Panels: Rajchman JA, P Nov 58 Diodeless Magnetic Shift Regidters Utilizing: Prywes NS, T-EC Dec 58 Temperature Characteristics: Abbott HW, T-ED Apr 57 Transformations: nstomations:
Bilinear: Mathis HF, T-CT June 56
Matrices: Young L. T-CT Jun 58
of Positive Real Functions: Balabanian N, T-CT Dec 57
Separation, for Square Matrices: Meadows HE,
T-CT Sep 57 Theory Applied to Linear Active and/or Nonbilateral Networks: Guillemin EA, T-CT Sep 57 Airbone, Size Reduction of: Lee RE, T-CP Sep 58
Audio, Miniaturized, for Transistor Applications:
Kajihara HH, T-AU Jan-Feb 56
Balun Wide-Band- Roberts WK, P Dec 57
Balun, Very Wide-Band for VHF and UHF: O'Meara TR,
P Nov 58 P NOV 50 Blocking Oscillator, Gillette PR, NCR pt3 55 Broad-Band Stepped, from Rectangular to Double-Ridged Wavenunde: Hensperger ES, T-MTT Jul 58 Cathode-Follower Impedance Matching: Schultz TJ, T-AU Mar-Apr 55, T-AU May-Jun 55 Computer Design of: Etchison W T-CP Mar 58 Concentric-Line, in UHF Measurements: Harris WA, T-I Oct 55 1-1 Oct 55
DC: Smith JS, T-VC Jul 56
Desian Chart: Lee R, T-CP Apr 55
Desian for Zero Phase Shift: Grossner NR, T-CP Sep 57
Double-Slura: Ellenwood RC P Feb 54
Double-Tuned IF, for Transistor Amplifiers:
Hellstrom MJ, NCR pt3 56 Emitvalent Circults for: Erdei M. T-CT Dec 58 Exponential Transmission Lines: Glose RN, T-MTT Jul 57 Fluorochemical: Kilham LF, NCR pt3 55 Front Edge Response Measurement Bady I, NCR pt10 55 Ideal Crosby DR . T-CT Jun 58 Ideal, in Brune Cycle: Reza FM, T-CT Mar 54 Ideal Networks without: Cederbaum I, T-CT Sep 56 Impedance, Quarter-Wave, Synthesis of: Riblet HJ, T-MTT Jan 57 Miniaturization, Using Fluorochemicals Kilham LF, Peaking, on New Principle: Boyajian A, T-CP Sep 56 Pulse Front Response of: Gillette PR, T-CP Mar 56 Pulse, High Power Output Pulse Shape of: deBudda RG, NCR pt8 56 NCR pt8 56 Simulated Lens Matching by Morita T, T-AP Jan 56 Solenoid RF: Edson WA, P Aug 55 Stepped Transmission Line: Cohn SD, T-MTT Aar 55 Stepped Transmission-Line, Optimum Design of: Solymar L T-MTT Oct 58 Subminiature, and Junction Transistor Circuits: Dankin EF. T-CP Apr 55

Temperature-Rise Measurement of: Rand A, T-CP Mar 58

for Transistor Amplifiers , Single Tuned: Colodny SH , NCR pt7 58 Wafer Coil Pulse: Babcock A NCR pt6 56 Wide-Band Quarter Wave: Collin RE, P Feb 55 Windings, Power, New Transpositions in: deBudda RG, NCR pt2 58 Transforms, Laplace, Series Expansion Method for Finding: Lucke WH, P Nov 58 Transforms Time Variable, Application to Spectral Analysis: Gerlach AA, T-CT Mar 55 Transforms, Two-Sided Z- Thomson WE, T-CT Jim 56 Transhorizon Propagation, Rapid Beam-Swinging Ex-periment: Waterman AT, T-AP Oct 58 Transhorizon Propagation, Scattering Relationships in: Waterman AT, P Nov 58 Transhorizon Signals: Josephson B, T-AP Apr 58 Transient Analysts of Coaxial Cables Considering Skin Effect:
Wigington RL, P Feb 57

Transient Behavlor of Gold-Germanium Surface Barriers:
Curtis O, T-ED Oct 56

Transient Belavlor of Ground Wave on Sperical Earth:
Wait JR, T-AP Apr 57 Transient Behavior In Point-Contact Diodes: Armstrong HL, P May 57 Transient , Forward Switching , in Semiconductor Diodes: Bames FS , P Jul 58 Transient Measurement Techniques for Video: Samulon HA, P May 56 Transient Responses: Band-Pass Systems: Peters CJ, NCR pt2 55 of Bode's Ideal Feedback Amplifiers: Heckbert AI, T-CT Sep 57 Bounds on for Networks: Zemanian AH, P May 54, P Mar 55 of Cascaded-Tuned Circuits: Talkin Al, T-CT Sep 54 vs Chrominance Bandwidth in Receivers: Baugh CW, NCR pt3 56 of Color Television Receivers: Avins J, P Jan 54
of Conventional Filters: Henderson KW, T-CT Dec 58
of Drift Transistors: Johnston RC, P May 58
FM: McCoy RE, P Mar 54; Gunourki I,
P May 54, P June 55; Linden DA, P Jul 57 Glow Discharges: MacKay RS, P Jan 54 of the Human Operator: Hyndman RW, T-ME Dec 58 Improvements in Some Bounds on: Zemanian AH, P Dec 58 of Junction Transistors , Effect of Collector Capacity: Easley JW, T-ED Jan 57 of Ladder Networks: Zemanian AH, T-CT Sep 58 of Phosphors: Cohn GI, T-CP Jun 58 of Photoconductive Camera Tuhes: Redington RW, T-ED Jul 57 of P-N Junctions: Gossick BR, P Feb 56 Repetitive Examination by Magnetic Tape: Dorsett JW, NCR pt5 56 Transistor Switching Circuits: Lebow IL, P Jun 54
Synthesis and Selectivivity: Sonnenfeldt RW,
T-BTR Jul 55 and System Impulse Response: Zabusky NJ, T-AC May 56 Transistor Problem: MacDonald JR, T-CT Mar 56 of TV Receivers: Avins J, T-PTR Jan 54 of Unijunction Transistors: Suran JJ, T-CT Sep 57 Transient Sequencing Delays Applied to Air Traffic Control: Wheeler RC Jr, NCR pt8 57 Transient Synthesis in the Time Domain: Kautz WH, T-CT Sep 54; Papoulis A, T-CT Mar 55 Transients: from Avalanching Silicon Diodes , Microwave: Moll JL , P Jun 58 Cardiac Vibrations as: Dunn FL, T-ME Dec 57 in Conducting Media: Richards PI, T-AP Apr 58 in Heart Sounds and Murmurs: Rodbard S, T-ME Dec 57 Millimicrosecond, Cathode-Ray Tube for: Germeshausen KJ, T-ED Apr 57 Orthonormal Basis for Representation: Armstrong HL, T-CT Sep 57 Transinformation, Question of Terminology: Kreer JG, T-IT Sep 57Transistorized Assemblies, Packaging of: Lawson AA, T-IE Mar 57, T-PT Apr 57 Transistorized Equipment:
Computers for Alrhome and Mobile Systems, Transac C-1100: Hollander GL, T-ANE Sep 58
Consine Sine Function Generator: Schmid H, WCR pt4 58 Decade Counter Szerlip A, WCR pt6 58 Digital-to-Analog Converter: Rowe WD, T-I Mar 58
Four-Quadrant Time-Division Multiplier: Schmid H,
T-EC Mar 58 Frequency Reference and Control System for 920 Channel Military Vehicular VHF-FM Receiver-Transmitter. Brauer F , T-VC Jul 58 Microphones for Vehicular Communications: Johnson HA T-VC Jul 58 Nuclear Counting Circuits: Graveson RT, T-NS Aug 58 Radiation Meritors: Goulding FS, T-NS Aug 58 Reactor Safety Circuits: Wade EJ, T-NS Aug 58 Sound Sectler for TV Receivers: Schiess G, T-BTR Jun 58 Television Receiver: Webster RR, WCR pt7 58 TV Horizontal Deflection and High Voltage System: Schiess G, T-BTR Jun 58

Voltage Controllable Frequency Source: Sander WB, WCR pt5 58 Transistorized Dynamic Microphone for Two-Way Communications: Macdonald AA, T-VC Dec 56 Transistorized FM/FM Telemetering System: Colander RC, T-TRC May 55 Transistorized Radio Receiver Design Problems: Worcester JA, T-BTR Apr 56 AC Computing Amplifiers Using: Krause CA, T-EC Sep 58 Accuracies in Sweep Measurements: Follingstad HG, NCR pt3 54 Audio Envipment: Holec VP, T-AU Jul-Aug 56 Frequency Standard: Hykes GR, NCR pt5 58 Military Television Techniques: Kelly JJ, NCR Pt8 58 PDM System: Klemens WP, WCR pt5 58 Alloy Junction, Base Resistance for: Wahl AJ, T-ED Jul 58 Alloyed-Junction: Gracolletto LJ, NCR pt3 54 Alloyed Silicon Power, Blocking Capability of: Emeis R, P Jun 58 Alpha Cut-off Frequency: Haneman D. P Dec 54
Amplification Factor vs. Emitter Current: Giacoletto LJ,
P Oct 55 Ambient Higher: Bowe JJ, T-ED Jul 56
Amplifiers: Hurley RB. T-CP Sep 54
and Antenna Matching, Coupling Networks Applied
to: Ligomenides PA, WCR pt2 58 Audio: Hayes AE, NCR pt7 56
Frequency Noise: Baroellini PM, P Feb 55
High Fidelity, 10 Watts: Crow RP,
NCR pt7 56 Power: Bereskin AB, NCR pt7 57
Power, Circuit Considerations for Output Stages:
Minton R. NCR pt7 57 Automatic Gain Control: Chow WF, T-BTR Apr 55, P Sep 55 Chopper, Low-Level: Smith TE, T-TRC Apr 57 Class-C: Melehy MA, T-CT Sep 58 Common Emitter: Dion DF, P May 58; Purton RF, P Dec 58 Common Emitter Video: Brum G, P Nov 56 Constant Resistance AGC Attenuator: Hurtig CR, T-CT Jun 55 DC: Stanton JW, T-CT Mar 56 Dec 3 Statton 39, 1-CT Mar 56 Decade, for Audio-Frequency Applications: Bereskin AB, T-AU Sep-Oct 57 for Dinital Computers: Simkins OW, P Jan 56 Double-Tuned IF Transformers for: Hellstrom MJ, NCR pt3 56 Amnlifiers: Feedback: Internal: Stem AP, P Jul 55 Multiple Loop and Single Loop: Davis EM Jr, WCR pt2 58 WCR pt2 50
Root Locus Design: Pederson DO, WCR pt2 58
Single Loon: Blecher FH, T-CT Sep 57
Wide Band- Abraham RP, WCR pt2 57
IF, Stability Considerations: Holmes DD,
NCR pt3 56 Measuring Noise Figures of: Anouchi AY, P Mar 58 Multistage Video: Spilker JJ Jr, WCR Pt2 57 Power, Base-Current Feedback in: Boxall FS, WCR pt2 57 WCR pt2 57
Physiological: MacNichol EF, T-ME Mar 58
RC Coupled, Minimizing Gain Variations with Temperature: Prugh TA, P Dec 56
RC, Design of: Murray RP, T-AU May-Jun 58
Receiver Video: Salaman RG, T-BTR Sep 58
Record-Playback, for Dictation Machine: Fleming RF, NCR pt7 58 for Renote Broadcasting: Birch JK, NCR pt7 56 Servo, Germanium, Operating at High Temperatures: Thompson PM, T-CT Sep 57 Single Tuned Transformers for: Colodny SH, NCR pt 7 58 "Squared" Input Stages for Low-Level: Hinrichs
K, WCR pt2 58 K, WCR nt2 58
Stability of: Bahrs GS, WCR pt2 57
Stability and Power Gain: Stem AP, P Mar 57
Stabilizing DC: Klein ML, WCR pt2 58
Stable to 95 Denrees C: Greatbatch W. P Der 55
Temperature Compensated: Keoniian E. P Aor 54
Thermister Compensation of: Soble AB,
T-CT Sep 57 Unilateralization: Chu GY, P Aug 55 Unilateralized Common Collector: Vallese LM, P Nov 57 Video: Grinich VH, T-CT Mar 56 Video, Amplification-Bandwidth Exchange: Prugh TA, P May 57 Video, Stagger-Tuned: Grinich VH, T-BTR Oct 56
Applications in Communications Equipment: Holmes
DD, P Jun 58 Applications to Computers: Henle RA, P Jun 58 Assemblies, Packaging and Integration of: Hagens HH, NCR pt6 58 Audio-Frequency Measurements Bridge: Cooper BFC , P Jul 55 Audio Oscillator: Amplitude Stabilized: Kretzmer ER, P Feb 54 Circuits: Oakes JB, P Aug 54 Wide-Range Junction: Melehy MA, WCR pt 2 58

SUBJECT INDEX

Audio, Miniaturized, for: Kajihara HH, T-AU Jan-Feb 56 Automobile Reciever: Freedman LA, P Jun 55; Santilli RA, NCR pt7 58 Base-Contact Overlap: Pritchard RL, P Jan 55 Base Layer Resistivity: Moll JL, P Jan 56 for Battery-Powered Portable Recievers: England JW, NCR pt3 56 Behavior at High Temperature: Armstrong LD P Mar 54 Bias Considerations in Circuit Design: Ghandhi SK, T-CT Sep 57 Bibliography: Krull AR, T-ED Aug 54 Binolar, Frequency Resnonse: Valdes LR, P Feb 56 Bistable Elements for Heavy Duty Operation: Moody NF, T-CT Sep 57 Blocking Oscillator: Linvill JG, P Nov 55 Blocking Oscillator: Linvill JG, P Nov 55
Broadcast Pocket Receiver: Holmes DD, NCR pt7 55, P Jun 55
Broadcast Receiver: Stern AP, NCR pt7 54; Barton LE, P Jul 54, T-BTR Jan 54
Business, Invited Essay on: Shockley W, P Jun 5B
Curcuits: Linvill JG, T-CT Mar 56
Analog: Lohman RD, NCR pt 2 54
Analysis: Shekel J, P Oct 54
Application Engineer: Abboud FL, T-8TR Sep 58
Cascaded Active Four-Terninal Networks: Armstrong HL, T-CT Jun 56
Equivalent, High-Frequency: Middlebrook RD, Equivalent, High-Frequency: Middlebrook RD, NCR pt 2 57 Graphical Analysis by Separation or Variables: Finn DL, NCR pt2 56 Inverter, for Power Supply: Chester MS, NCR pt6 56 Linear, Synthesis Procedure: Burnett JR, NCR pt 2 54 Logical, Resistor-Coupled: Marcovitz MW, T-EC Jun 58 in Magnetic Core Type Kicksorter: Goulding FS, NCR pt9 56 Mapping Vacuum Tube Computers in: Monroe GR, WCR pt4 58 N-Stage Series: Beck KH, T-CT Mar 56 Partitioning Techniques: Markarian H. NCR nt 2 54 Pulse Amplifiers Using: Graveson RT, T-NS Dec 58 Switching: Lebow IL, P Jun 54; Beter RH, NCR pt4 55; Prom GJ, T-EC Dec 56 in TV Sync Generators: Leeds LM, T-BTR Sep 58 Class-B Amplifier Distortion: Joyce MV, NCR nt7 55 Classifier, Automatic: Morcerf FJ, NCR nt6 58 Coders, High-Speed, 10-Bit: McMillian L, WCR nt5 57 Collector Capacitance, Nonlinear Effect on Collector Current Rise Time: Bashkow TR, T-ED Oct 56 Common Collector, Representation of: Grinich VH, T-CT Mar 56 Communications Receiver: Schwartz S, T-VC Dec 56 Computer Circuit Symbolism: O'Toole J8, WCR pt4 57 Controlled Saturation Applied to Switching Circuits: Moody NF, T-CT Sep 57 Converter RC Filters: Linvill JG, P Mar 54 Correlation Between Flicker Noise Sources in: Chenette ER, P Jun 58 Current Amplification: Emitter Current and Junction Temperature: Gartner WW. P Nov 5B Factor, Variation with Emitter Current: Webster WM, P Jun 54; Matz AW, P Mar 5B Measurements: Stansel FR, T-I Apr 54
Current-Analog Computing: Kerfoot BP, T-EC Jun 56
Current Gain, Junction and Surface Factors: Moore AR,
P Jun 54 Current Switches, Millimicrosecond: Yourke HS, T-CT Sep 57 Cutoff Frequency Measurement: Cripps LG, P Apr 58 Darlington's Compound Connection for: Ghandhi SK, T-CT Sep 57 Decimal Counters: Lohman RD, WCR nt5 57
Depletion Layer, Design Theory: Gartner WW,
P Oct 57; Rosenthal JE, P Jul 58
Design for Higher Frequencies: Pucel RA, P Jul 55 Development Intrinsic-Barrier: Warner RM, T-ED Jul 56 1-EU Jul 36 Diffused Base N-P-N Sillcon, High-Frequency: Sardella, NCR pt3 58 Diffused Base, Switching Time Calculations for: Crinich VH, WCR pt3 58 Diffused 50-Watt Sillcon: Wolff EA, WCR pt3 57 Diffused Sillcon Land Amelifica, Millour pt 36 Diffused Silicon Logic Amplifier: Miller LE WCR pt3 58 Diffusion Capacitances: Misawa T. P Jun 55 High Current Switching Times, Computer Analysis of: Mitchell A, NCR pt3 58 in High Frequency Amplifiers: England JW, NCR pt3 57 High Frequency, Circuit Considerations: England JW, NCR pt3 57

Impurity Diffusion Coefficients: Greenberg LS, T-ED Apr 56

Transient Response of: Johnston RC, P May 58

Internal Current Gain: Hyde FJ, P Dec 58

As a Linear Amplifier: Griswold PM, NCR pt3 58

Effective Collector Capacitance in: Zuleeg R, P Nov 58 85-Watt Silicon Power: Aldrich RW, T-ED Oct 58 Elecuric-Network Representation: Pritchard RL, T-CT Mar 56 Events-Per-Unit-Time Meter: Chisholm H, NCR pt5 56 Excess Reverse Currents: onic Conduction: Law JT, P Sep 54 Surface Conduction Channels: Christensen H, P Sep 54; McWhorter AL, P Sep 54 Fabrication by Melt-Quench Process: Pankove JI, P Feb 56 Foedback Preamplifiers: Burr RP, T-BTR Jun 57 Five-Watt, Class A, Silicon Power: Flaherty P, NCR pt3 58 Five Watt, 10 Megacycle: Nelson JT, WCR pt3 57, P J.m 58 FM/FM System: Fulton WB, WCR nt5 57 FM Receiver, 150 MC: Giguere WJ, P Apr 58 Frequency Scanner: Kummer O. NCR nt10 54 Frequency Variations of Parameters: Pritchard RL, P May 54 Fused Junction, P-N-P Silicon: Wannlund WL WCR pt3 57 Germanium: Alloy-Diffused, Properties of: Jochems PJW, P Jun 58 Diffused-Base: Talley HE, WCR pt3 58; Thomas DE, T-CT Mar 56 Diffused-Base Oscillator: Warner RM, T-ED Jul 58 Power, Reliability: Jacobsen AB, T-RQC Jun 57 Resistivity Measurements: Valdes LB, P Feb 54 and Silicon, Comparison of Neutron Damage in: Easley JW, WCR nt3 58 Wafers, Thickness Determination: Moore AR, T-ED Oct 57 Gain Boundaries: Matare HF, NCR pt3 55 Grown-Diffused Technique: Cornelison B, WCR pt3 57 พะเหม ว/ Hearing Aid: Webster SK, T-AU Mar-Apr 54 Hermetically Sealed: Zlerdt CH, T-ED Feh 54 For High-Freuwency Use: Greene RD, NCR pt3 55 Performance vs. Material: Giacoletto LJ, NCR pt3 55 High-Injection Level Operation: Misawa T, P Jun 55 High Power: Saby JS, NCR pt3 54 High Power, with Evaporated Aluminum Electrodes: Henkels JW, T-ED Oct 57 Higher-Frequency Design: Statz H, P Nov 54 Hybrid-Pi, Equivalent Circuit: Wilhelmsen CR, T-BTR Mar 58 IF Amplifier-Limiter: Raper JAA, T-CT Mar 56 Intercom System: Vincent EP, T-BTS Dec 57 Intrinsic Barrier: Hittinger WC, P Apr 55 Inverters at 2D KC: Martin WA, T-I Jun 57 Alloy, Solution for Alpha: Wahl AJ, T-ED Jul 57 Alpha Approximation: Macnee AB, P Jan 57; Middlebrook RD, T-ED Jan 56 with Alpha Greater than Unity: Schenkel H, P Mar 56 Audio Amplifier Design: Trent RL, T-AU Sep-Oct 55 Audio Power Amplifiers: Fewer DR, T-AU Nov-Dec 55 Avalanche-Operated, in Ring Counter: Lindsay JE, T-CT Sep 57 JE, 1-UI Sep 57
Base-Width Modulation and High-Frequency Equivalent Circuit: Zawels J, T-ED Jan 57
Carrier Generation and Recombination in P-N Junctions: Sah CT, P Sep 57 as Charge Controlled Device: Sparkes JJ, P Dec 57 €ircuits: for Digital Computers: Wanlass CL, T-EC Mar 55 Equivalent, New: Chu GY, NCR pt 2 54 Multivibrators and Flip-Flops: Sard EW, NCR pt2 54 Subminiature Transformers, Use of: Dunkin EF, T-CP Apr 55 Effect of Collector Capacity on Transient Response: Easley JW, T-ED Jan 57 Factors Affecting Reliability: Wahl AJ, P Apr 56 Floating, Use as Small Signal Switches: Bell NW, T-ED Oct 55 1-ED Oct 55
Frequency Response: Pritchard RL, T-CT Jun 55
High-Current Limit: Fletcher NH, P Jun 57
Inductive AC Admittance: Onco M, P Oct 56
Flio-Flop Design: Suran JJ, NCR pt2 57
Junction Temperature as Function or Time:
Mortenson KE, P Apr 57
for Kilowatt Pulses: Fletcher NH, P Apr 57
Jacon Signal Rice Times in Carten MM Large-Signal Rise-Times in: Gartner WW T-ED Dct 58 Measurement Considerations in High Frequency Power Gain: Pritchard RL, P Any 56
Measurement of High-Frequency Parameters:
Molozzi AR, T-ED Apr 57
Measurement of r and alpha: Pederson DO,
T-CT Jun 55 Multivibrators, Regeneration Analysis: Pederson DO, T-CT Jun 55 Noise Figure: Nielsen EG, P Jul 57

Noise Figure Behavior in: Coffey WN, P Feb 58 Noise rigure Senavior in: Correy WM, Pres 38
Properties of: Kircher RJ, T-AU Jul-Aim 55
Review of: Moll JL, P Nov 55
Stripp Effect on Current Gain: Moore AR, P Jun 54;
Stripp KF, P Jul 55 Shot Noise: Guggenbuehl W, P Jun 57; van der Ziel A, P Jul 57 Temperature Dependence: Gartner WW, P May 57 Thermal Stability and Power Dissipation: Lin HC, T-CT Sep 57 Triode, Structure-Determined Gain Band Product of: Early JM, P Dec 58 Variation of Current Amplification Factor with Emitter Current: Fletcher NH, P Oct 56 Current: Fletcher NH, P Oct 56
Large-Signal Behavlor: Ebers JJ, P Dec 54
Large-Signal Transient Response: Moll JL, P Dec 54
Life Data, Evaluation of: Johnson JD, T-RQC Aug 57
Linear Characterization of: Follingstad HG,
T-I Mar 57 Logarithmic Time and Amplitude Quantizer: Gott E, T-I Mar 57Logic Circuits: for Digital Computers: Bothwell TP, T-EC Sep 56 Direct-Coupled: Harris JR, T-EC Mar 58 Direct-Coupled Transistor Characteristics for: Easley JW, T-EC Mar 58 High Speed: Cagle WB, WCR pt 2 57 Lumped Models of: Linvill JG, P Jun 58 Magnetic Core: Memory Dischminator: Bross HR, P Dec 58
Memory: McMahon RE, T-I Jun 57
Memory Call: Guteman SS. NCR pt4 55
Memory, DrIven by: Younker EL, T-EC Mar 57
Subcarrier Discriminator: Barnes GH,
WCR pt5 57 Telemetering Oscillator: Meyerhoff AJ, WCR pt5 57 Mass Production of: Mann GP, SQ May 57 Matrix Analysis: Knausenberger GE, T-CT Jun 55 Measurements: of Emitter and Collector Series Resistances: Kulke B , P Jan 57 of Internal Temperature Rise of: Nelson JT , P Jun 58 of Maximum Oscillator Frequency: Drouilhet PR, T-CT Jun 55 T-CT Jun 55
at High Power Levels: Kramer SI, NCR pt5 56
Metrology: Alsberg DA, T-ED Aug 54
Microalloy: Rittmann AD, T-ED Aug 54
Microalloy: Rittmann AD, T-ED Apr 58
Microalloy Diffused: Thomton CG, P Jun 58
Microphone, Low Noise: Davidson JJ, NCR pt7 57
Microphonism Due to Leads: Durieux CW, P Jul 56
Micropower Audio Amplifier: Keojian E, T-CT Mar 56
Minority Carrier Lifetime: Lederhandler SR,
P Apr 55 Minority Carriers , Diffusion Lengths and Conductivities: Chang SSL , P Jul 57 Mixer: Zawels J , P Mar 54; Strum PD , P Feb 55 Mobilization of: Hansen RE , NCR pt8 58 Monostable Multivibrators for Pulse Generation: Suran JJ , P Jun 58 Multielectrode Tube Analogy: Stockman H, P Jun 54 Multivibrators, Two-Terminal Analysis: Suran JJ, T-CT Mar 56 Network Element: Bangert JT, T-ED Feb 54 Neutralization and Unilateralization: Cheng CC, T-CT Jun 55 Neutralization Networks, Evaluation of: Cote AJ, T-CT Jun 58 Norse: Figure Behavior: Coffey WN, P Feb 58
Figure of the Darlington Compound Connection
for: Buchmann AE, T-CT Jun 58 Figure, Measurement of: Grieg DD, NCR pt10 55
Junction: van der Ziel A, P Mar 58, P Jun 58
Test Set: Carlisle RW, NCR pt10 54
Theory of: Matare HF, P Dec 58
Nonlinearity—Dependence on Emitter Bias Current:
Fewer DR, T-AU Mar-Apr 58
Nonsaturating Pulse Circuits: Linvill JG, P Jul 55
NOR Circuit: Rowe WD, WCR pt4 57
in Nuclear Instruments: Shea RF, NCR pt9 57
Nuclear Pulse Noise in: Jones AR, NCR ot9 57
Nuclear Reactor Controls, Miniaturized: Kline KH, NCR pt9 57
Nuclear Reactor Controls, Miniaturized: Kline KH, NCR pt9 57
Nuclear Reactor Controls, Miniaturized: Kline KH, NCR pt9 57
Nuclear Reactor Controls, Miniaturized: Kline KH, NCR pt9 57
Nuclear Reactor Controls, Miniaturized: Kline KH, NCR pt9 57
Nuclear Reactor Controls, Miniaturized: Kline KH, NCR pt9 57
Nuclear Reactor Controls, Miniaturized: Kline KH, NCR pt9 57
Nuclear Reactor Controls, Miniaturized: Kline KH, NCR pt9 57
Nuclear Reactor Controls, Miniaturized: Kline KH, NCR pt9 57 Operation, High Current Mode of: Thornton CG, T-ED Jan 58 Oscillations, Internal: Hollmann HE, P Aug 54 Oscillators: Riddle FM, T-TRC Nov 54 Applications, Matrix Analysis of: Cote AJ, T-CT Sep 58 Circuits, Junction, Design Basis for: Page DF, P Jun 58Frequency Stability: Keonjian E, T-CT Mar 56; Cheng CC, P Feb 56 Low-Frequency: Dasher BJ, NCR pt2 55 Magnetic-Core, High-Speed, Two-Winding: Meyerhoff AJ, T-CT Seo 57 Power: Uchrin GC, P Jan 55 Souare-Wave, Improved: Jensen JL, T-CT Sep 57 Strain Gage: Foster WH, T-TRC Apr 57, NCR pt 557 Oscillograph: Rejchert WG Jr, NCR pt10 55 Outdiffusion for Production of: Halpern J, P Jan 58

Output Circuit Bandwidth Limitations: Stewart JL , T-CT Mar 57

Output Pairs Randomly Selected: Anouchi AY, WCR pt2 57

Packaged in a Mo st Atmosphere, Effect of Pulse Type Rathation on: Boham WA, P Dec 58 Parameters, Wide-Band Bridge for Determining: Zawels J, T-ED Jan 58

Parasitic Canacitance: Pritchard RL, P Jan 55
PCM Telemeter for Extended Environments.
Marquand RE, WCR pt5 57
PDM Keyer: Williams DA, WCR pt5 57

Performance Characteristics at VHF: Theriault GE, T-BTR Jun 57

Physical Mechanisms Leading to Deterioration of: Messenger GC, T-ED Jul 58
Point-Contact, IRE Standards on Testing: IRE Standards P May 58

Point-Contact, Lithium Doping for Accelerated Power Aging: Miller LE T-ED Jul 55

Point-Contact, Negative Resistance Regions: Miller LE, P Jan 56

P Jan 56

Power Clark MA, P Jun 58

Converter: Uchrin GC, P Feb 56

Design: Fletcher NH, P May 55; Armstrong LD, P Mar 54; Clark MA, NCR nt3 56

Effective Emitter Area of: Emeis R, P Jun 58

Effective Emitter Area of: Emeis R, P Jun 58

Electrical Claracteristics: Nussbaum A, P Mar 55

Gain, High-Frequency: Pritchard RL, P Sep 55

Gain and Parameters as Functions of Temperature and Frequency: Glenn AB, NCR nt3 56

High-Speed, for Computer and Transmission

High-Speed, for Computer and Transmission Applications: Westberg RW, WCR pt3 57 Recent Developments: Moers HT, T-ED Jan 55
Saturation Voltages of: Rudenberg HG, P Jun 58
Self-Blas Cutoff Effect: Fletcher NH, P Nov 55
Stupplies, Regulated: Middlebrook RD, P Nov 57;
Kopaczek TF, P Aug 58

Supply, Phase Regulated: Deuitch DE, T-CT Sep 57

Supply, for Video Circuits: Packard RH, T-BTS Dec 57

Temperature Sensitivity of Current Gain In: Reich B, T-ED Jul 58

Pulse-Code Modulator: Partridge GR, T-EC Dec 54 Pulse Generator for Digital Systems: Hamilton DJ, T-EC Sep 58

Pulse Wide-Band: Eddins WT NCR bt5 57 Pulse Width Control of: Van Scoyoc JN, T-IE May 58

Pulse Width Keyer: Riedel JA, T-TRC Apr 57 Radio Circultry, Series Tuned Methods: Chow WF, T-CT Sep 57

RC Phase-Shift Power Oscillator: Giacoletto LJ, T-AU May-Jun 57

RCA Commercial, Applications: Cohen RM, T-ED Feb 54

Receivers: See Receivers, Transistor

Improvements in: Zierdt CH, T-RQC Jun 57 Low-Power Audro: Dukat FM, T-QC Dec 54 Naval Material Laboratory Study: Martin RE, T-RQC Jun 57 Studies: Ryder RM, P Feb 54

Research in Compound Semiconductors: Jenny DA, P Jun 58

Research, Implications of: Bardeen J, P Jun 58

Amplification: Mueller CW, P Feb 54 Interferance Suppressors Using: Pecota W, NCR pt8 58

NCR nt8 58
Parameter Bridge for: Hlavacck A, NCR nt10 55
Triode Junction: Pankove JI, T-ED Feb 54
Saturation Current: Webster WM, P Mar 55
Scintillation Counter: Bender A, NCR nt9 57
Semiconductor Device: Aldridge CA, NCR nt3 57
Shift Registers: Baker RH, P Jul 54; Huang C, NCR pt4 54

NCR pt4 54
Short-Circuit Current Gain and Phase Determination:
Thomas DE, P Jun 58
Shot Noise: van der Ziel A, P Mar 55, P Jul 57;
Gusgerbiechl W, P Jun 57; Hanson GH, P Nev 57
Silicon: Adcock WA, P Jul 54
Alloy, High-Frequency. Rittman AD, T-ED Apr 56
Alloy Type, Medium Power: Ritdenberg HG,
NCR pt2 57

Fusion: Gudmindsen RA, T-ED Jan 55 High-Frequency, Pulse Applications: Stasior RA, NCR pt2 57

High Power: Henkels HW, WCR pt3 58 NPN High-Frequency: Phillips AB, NCR pt3 57 Resistance to Neutron Bombardment: Gillis RC, WCR pt3 57

Surface Barrier: Bradley WE, P Feb 54
Six-Channel Airborne Digitizer: McMillan SH,
NCR nt5 58

for Sixteen Channel Multiplex System: Myrick JC, NCR pt8 56

Small-Signal Parameters: Pritchard RL, NCR pt3 54 and Solid-State Circuits Papers, Foreword to: Tompkins HE, T-CT Sep 57 Spacistor: Statz H, P Mar 57

Tetrode, High-Frequency Semiconductor: Statz H, P Nov 57

Stability Aseltine JA, NCR pt 2 56

Standards on Methods of Testing: IRE Standards, P Nov 56

Structures by the Diffused-Meltback Process: Lesk IA , T-ED Jul 58

Subcarrier Generator for Color Receivers: Kabell LJ, T-BTR Jul 55

Super Alpha Composite: Pearlman AR, T-ED Jan 55
Superregenerative Detection: Chow WF, T-CT Mar 56
Surface-Barrier: Angell JB, NCR pt7 54
Surface Barrier, Measurement of High-Frequency
Parameters: Molozzi AR, T-ED Apr 57

Parameters: Molozzi AR, T-ED Apr 57
Surface-Barrier, Silicon: Bradley WE, P Feb 54
Surface Effects: Lederhandler SR, P Apr 55
Surface Recombination, Effect on Current Gain: Moore
AR, P Jur 54; String KF, P Jul 55
Switches P-N-P-N: Moll JL, P Sep 56
Switches, Three-Tenminal P-N-P-N: MacKintosh IM, T-ED Jan 58

Switching:

itchine:
for Analog Multipliers: Chen K, NCR pt4 56
Circuits. Beter RH, NCR pt4 55
Circuits for High-Speed Computer: Prom GJ,
T-EC Dec 56
Circuits, Transient Response: Lebow IL, P Jun 54
High-Speed, Thyristor: Mueller CW, T-ED Jan 58
Simulation on IBM 704: Domenico RJ,
T-EC Dec 57

Time: Kingston RH, P May 54
Technological Impact of: Morton JA, P Jun 58
Telemeterina Circuits: Smith JH, T-TRC Aor 57
Television IF Design: Turner R, T-BTR Oct 57
Television Vertical Deflection System: Palmer WF, T-BTR Oct 57

Tenth Anniversary of the: Brattain WH, P Jim 58 Terminology and Notation, Need for Revision in: Armstrong HL, P Dec 58 Tester for T Parameters: Crow RP, NCR at 10 55

Testing: Gottfried NJ, NCR pt10 54

Annilications: Dwork L, T-ED Feb 54
High-Frequency: Stewart RF, NCR nt3 56
High-Frequency, NPN: Baker DW, NCR nt3 56
Power: Maupin JT, T-ED Jan 57
Silicon: Stewart RF, P Jul 57

Thermal Resistance, Measurement of: Reich B, P Jun 58

Time-of-Flight Analyzer with Ferrite Core Memory: Wade EJ, NCR pt9 57

Thermal Stability: Hellstrom MJ, T-BTR Sep 58 Time Multiplexer for Telemetering: Sacks JM, T-TRC May 57

Tramag FM/FM Subcarrier Discriminator: Bames GH, T-TRC Apr 57

Transient Behavior of Gold-Germanium Surface Barriers: Curtis 0, T-ED Oct 56

Transient Response Problem: Macdonald JR, T-CT Mar 56

Translator, USAF Automatic Language, Mark I: Shiner G, NCR pt4 58

Trigger Circuit, Analysis, Henle RA, SQ May 56 Triodes, Germantum N-P-I-N- Junction: Unger DM, P Apr 58

Two-Dimensional Current Flow at High Frequencies: Pritchard RL, P Jun 58

Two-Emitter High-Alpha: Rutz RF, P Jul 55 Unijunction, Transvent Response of: Suran JJ, T-CT Sep 57

Univibrator with Stabilized Pulse Duration: Hamilton DJ, T-CT Mar 58

Unsymmetrical Square-Wave Power Oscillator: Paynter DA, T-CT Mar 56 Vs Vacuum Tubes: Fink DG, SQ May 56

VHF FM Transmitter—Thomas DE, T-ED Apr 54 VHF Point-Contact Parameter Measurements: Thomas DE, P Nov 54

Video. 80 Volt Output: Grinich VH, T-BTS Sen 56 Voltage-to-Digital Airborne Converter: MacIntyre RM, WCR pt4 57

Wide-Gap Emitter for: Kroemer H, P Nov 57 Translt-Time Dispersion in Multiplier Phototubes: Greenblatt MH, T-NS Jun 58

Transit-Time Measurements for Photomultipliers: Smith RV, T-NS Nov 56

Translation of Foreign Articles: Soohoo EL. P May 58 Translation, Mechanical: Taube M, P Jul 57 Translators:

Translators:
Binary-to-Binary Decimal: Campbell CA,
NCR pt5 57
Computer: Kontsoudas A, SQ May 57
Donnler Data: Kintner PM, T-1 Jun 56
Ordnance Dia' Reader and: Kintner PM, T-1 Jun 56
for Unit-Distance Binary-Decimal Codes: O'Brien JA,
T-EC Jun 57
Transmission Characteristics of Inclined Wire Gratings:
Snow OJ, T-AP Oct 56

Transmission Characteristics of Light Pipers: Harris CC, T-NS Nov 56

Transmission Characteristics of Sandwiches: Mathis HF , T-MTT Oct $55\,$

Transmission Circuits , Signal Theory Approach to Design.
David EE , T-CT Dec 56 Transmission Error Function for Meteor-Burst Communica-tion: Montgomery GF, P Jul 58

Transmission Formulas, Near-Zone Power: Hu MK, NCR pt8 58

Transmission Lines

Bridges, Wide-Band Coaxial Hybrid: Alford A, NCR pt1 56

Calibration of Two-Port Devices: Wentworth FL, T-MTT Jul 56 Cavities, Q Factor: Young L, T-CT Mar 57 Chart: Deschamps GA, T-MTT Jul 54 Coaxial:

Attenuation Measurements: Raburn LE, NCR pt7 55

Components: Dwork B, NCR pt8 55
Directional Coupler. Cirlin HJ, NCR pt8 55
Terminations: Kohn CT, P Aug 55
Wide-Band and DC Return: McLaughlin JW,
T-ED Oct 57

of Composite Section: Klopfenstein RW. T-AP Jul 54 Coupled, Directional Couplers: Shimizu JK, T-MTT Oct 58

Directional Coupler, Loop-Type for L Band: Lombardini PP, T-MTT Oct 56 Directional Couplers: Firestone WL, P Oct 54, P Aug 55; Pierce JR, SQ Dec 54; Knecktli RC, P Jul 55

Disk, Step Discontinuities in: Bracewell RN, P Oct 54

Enumalent Circuit for: Packard KS, T-MTT Apr 57 Exponential: Ghose RN, T-MTT Jul 57 Ferrite Loaded, Nonreciprocal Effects: Boyet H, P Apr 57

Filters, Impedance Chart for: Dawirs HN, P Apr 55 Graphical Filter Analysis: Dawirs HN, T-MTT Jan 55 Helical, Dielectric Support: Griemsmann JWE, T-MTT Jan 56

Impedance of Air-Spaced Strip: Dukes JMC, P Jul 55

Impedance Matching: Balabanian N, T-MTT Jul 55 Impedance Transformation , Smith Chart for: Dawirs HN , P Jul 57

Long Line Effect and Pulsed Magnetrons: Pritchard WL, T-MTT Apr 56

Measurement, Non-Euclidean: Kyhl RL, T-MTT Apr 56

Microwave Isolator, Braodband Ferrite: Vartanian PH, T-MTT Jan 56

Microwave Termination: Ellenwood RC, P Feb 54
Minimum-Loss Two-Conductor: Raisbeck G,
T-CT Sep 58

Network , Nonreciprocal TEM: Jones EMT, WCR pt 1 58

Networks, Synthesis Procedure for: Grayzel AI, T-CT Sen 58 Nouniform: Kaufman H, T-AP Oct 55 Higher Order Solutions: Solumar L, P Nov 57 Impedance Matching: Willis J, P Dec 55 Open Wire Lines: Gouban G, T-MTT Oct 56 Inhomo

Inhomogeneous, Anisotropic: Klopfenstein RW, T-MTT Oct 56

Paraholic Yang RFH, P Aug 55 Parameters of Terminating Cavities: St Clair MW, T-MTT Jul 56

Phase Shift Attenuation: Park D. T-MTT Apr 56 Planar: Park D. T-MTT Apr 55, T-MTT Oct 55, T-MTT Apr 56, T-MTT Jan 57, Giger AJ, T-MTT Jul 56; Packard KS, T-MTT Apr 57

Polygon Cross Section, Skin Resistance: Wheeler HA, P Jul 55

Radial Discontinuities: Whinnery JR , P Jan 55 Reciprocal Ferrites in: Fleri D, T-MTT Jan 58 Reflection Form Discontinuities: Moore RK , T-MTT Apr 57

Resonator Filters, Parallel-Coupled: Cohn SB, T-MTT Apr 58

Round Wire between Parallel Planes: Wheeler HA, T-AP Oct 55

Shielded Balanced-Pair, Formulas for Capacitance of: King BG, P May 58 Shielded-Strip, Impedance: Cohn SB, T-MTT Jul 54

Slab, Power Handling Capacity of: Badoyannis GM, WCR pt1 58 Slab, Shielded, Impedance of: Bates RHT, T-MTT Jan 56

Slot, Approximate Parameters of: Owyang GH, T-AP Jan 58

Slotted, Impedance of: Collin RE, T-MTT Jan 56

Balanced: Oliner AA, T-MTT Mar 55, Michelson M, T-MTT Mar 55

Calculating the Characteristic Impedance of: de Buda RG, T-MTT Oct 58

Circuit, Excitation of Surface Waveguldes and Radiatino Slots: Frost AD, T-MTT Oct 56 Components, Characteristics and Applications: From WE, T-MTT Mar 55

Coupled, with Rectangular Inner Conductors-Horgan JD, T-MTT Apr 57 Dimensions and Optimum Impedance: Packard KS, T-MTT Oct 57

Directional Couplers, 3 DB: Shimizu JK, WCR pt1 57

Double Ground Plane System: Dahlman BA, T-MTT Oct 55

Filter Design: Bradley EH, T-MTT Apr 56 Filters, Band-Pass: Bradley EH, T-MTT Mar 55
Filters and Directional Couplers: Jones EMT,
T-MTT Apr 56

High-Q Components: Fubini EG, NCR pt8 54

Historical Survey: Barrett RM, T-MTT Mar 55
Hybrid Junction: Pascalar HG, T-MTT Jan 57
Isolator: Fix OW, NCR nt5 56
Laminate Materials at L Band: Fromm WE,
T-MTT May 55 Microstrip: Arditi M , T-MTT Mar 55; Zublin KE , T-MTT Mar 55; Black KG , T-MTT Mar 55; Carlson E , T-MTT Mar 55 Carlson E, T-MTT Mar 55
Miniature: Torgow EN, T-MTT Mar 55
Photoetched Tri-Plate: Wild NR, T-MTT Mar 55;
Sommers DJ, T-MTT Mar 55
Problems in: Cohn SB, T-MTT Mar 55
Radiators: Fubini EG, T-MTT Mar 55
with Rectangular Inner Conductors: Begovich NA,
T-MTT Mar 55; Pease RL, T-MTT Mar 55 Research at Tufts College: Frost AD, T-MTT Mar 55 Shielded Coupled: Cohn SB, T-MTT Oct 55 Slot Radiation Conductance: Oliner AA, NCR ptB 54 and Waveguide Multiplexers: Alstadter D, WCR pt1 58 Surface-Wave: Model: Goubau G, T-AP Apr 57
Radiating Discontinuity: Ebrlich MJ, NCR ntl 55
Single Slab Arbitrary Polarization: Hansen RC,
T-MTT Apr 57 Suppression of Undesired Radiation of: Brueckmann H, P Aug 58 P Aug 58
Symmetrical Matching: Mathis HF, T-MTT Apr 56
Tanered: Fink DG, P Apr 56
Design of: Klopfenstein RW, P Jan 56
and Fourier Transforms: Bolinder EF, P Apr 56
Matching Section: Collin RE, P Apr 56; Klopfenstein RW, P Aug 56 Velocity Couplers: Cook JS, NCR pt8 55; Fox AG, NCR pt8 55 Terminating Cavities: Lebowitz RA, T-MTT Jan 56
Time Bridge: Kline M, NCR pt5 56
Transformers, Stepped, Design of: Colin SB,
T-MTT Apr 55; Solymar L, T-MTT Oct 5B Trough and Slab Lines, Characteristic Impedance: Chisholm RM, T-MTT Jul 56 UHFAttenuation Calculations: Nail JJ, P Feb 54 Transmission Loss Curves for Propagation at Very Low Frequencies: Wait JR, T-CS Dec 58 Transmission Loss at 100 MC: Rice PL, T-AP Apr 55
Transmission Loss Reduction by Mountain Obstacle:
Crysdale JH, P May 55 Transmission Measuring System, Wide-Band Microwave: Linker JB, T-MTT Oct 58 Transmission, Multivariate Information: McGill WJ, T-IT Sep 5 4 Transmission Network, Digital Computers Used in Design: Bell DT, WCR pt2 57 Transmission, Pulse, Along Magnetostricitya Delay Line: Rothbart A, T-UE Dec 57 Transmission Rates: Coded Facsimile System: Michel WS, WCR pt2 57 List Decoding for Noisy Channels: Elias P, WCR pt2 57 WCR ut2 57

Transmission and Reflection Properties of Strip Grating:
Primuch RI, T-AP Apr 57

Transmission Reliability, Cost of: Fano RM, NCR pt2 57

Transmission of Signal Data from High-Speed Machines:
Shepard ES, T-IE May 58

Transmission Through a Linear Network Containing a Periodically Operated Switch: Desoer CA, WCR pt2 58 Transmission, VHF Nonoptical Propagation: Clara JM, T-MTT Dec 55 nsmitters:
AM, FM, and TV Broadcasting, Remote Control and AM, FM, and TV Broadcasting, Remote Control and Automatic Logging of: Schafer PC, WCR pt7 58
AM, as SSB Jammers: Costas JP, P Dec 58
American Cable and Radio: Webster FD, T-CS Jul 54
Aural Television, Emergency Standby Facilities for:
Wolfe B, T-BTS Feb 57 Base Station, UHF for Mobile System: Ocko R, WCR pt8 57 Proadcast, Remote Control of: Ross IL, NCR pt7 58 Broadcast, TV-AM-FM, Spurious Radiation from: Towlson HG, T-BTS Jan 56 Color Television, Characterisites Effect: Fredendali GL, P Jan 54 Color Television, Correction of Differential Phase Distortion: Cooper VJ, T-BTS Jun 57 Distortion Reduction: Bruene WB, P Dec 56 HF Multichannel: Hill FR, T-CS Jul 54 for HF Radio Circuit, Point-to-Point Service: Goldstine HE, P Dec 56 lonospheric Cross Modulation: Martin ET, NCR pt1 56 for lonospheric Scatter Communications: Hollis JL, T-CS Sep 57 Linear System Compared with Envelope Elimination and Restoration System: Kahn LR, P Dec 56 Noiso Spectrum Amplitude, Gaussian Curse: Shepherd NH, T-VC Apr 58 Reciever, UHF Satellite: Katz L , T-BTS Mar 55 Remote Controlled 50 KW Broadcast: Harmon RN, NCR pt 7 58

Semiautomatic Tuning: Dettman MC, T-VC Dec 56 Single-Sideband, Conversion of Airborne HF: Robinson HA, P Dec 56

Single Sideband for Marine Communications: Pappenfus EW, T-CS Mar 55

E-Type: Heffner H, P Aug 55

Efficiency Improvement Through Collector Potential Degression: Sterzer F., T-ED Oct 58 Space Diversity for Shipboard Reception: Hansell GE, T-CS Mar 55 Electron Bunching and Energy Exchange: Webber SE, T-ED Jan 57 Subminiature, for Telemetering: Hendershot LR, NCR pt1 56 Telemetering: Rowlins RE, NCR pt5 57; Reynolds FN, NCR pt5 54 Estiatron Electrostatically Focused: Blattner D, NCR pt3 58 NCR pt5 54
Television , 50 Killowatt: Ruston J, T-BTS Jan 56
Television , Monitor for: Cady CA, NCR pt7 56
Transistor , VHF , FM: Thomas DE , T-ED Apr 54
Tubes for Linear Amplifier Service: Norton RL ,
NCR pt8 56 Equivalent Networks for Coaxial Line to Helix Junction: Watson WH, T-ED Jul 56 Field Theory, Helix Impedance, Correction to: Tien PK, P Jul 57 Focusing Magnet, Leakage Flux Around: Glass MS, P Oct 58 Tubes Planar Microwave: Doolittle HD. T-VC May 57 Tuning by Rapid-Interchange Klystrons: Harris LA, NCR pt3 56 Focusing Magnets of Minimum Weight: Glass MS, P Aug 57 as Frequency Mixers and Dividers: DeGrasse RW, WCR pt3 57 TV, Operational Practices, Management View of: Harmon RN, T-BTS Dec 57 Frequency Mixing and Dividing: DeGrasse RW, P Jul 57 UHF Satellite: Katz L, T-BTS Mar 55 UHF-TV, One Kilowatt: Tissot TP, T-BTS Dec 55 UHF-TV, One Megawatt ERP: Bias FJ, T-BTS Mar 55 Frequency Multiplier: Bates DJ, P Jul 57 Frequency Range, Pumping to Extend: George WD, P Jun 58, P May 58 VHF Linear, Design Considerations: Gallagher DC, T-CS Oct 56 Fundamentals of: Gewartowski JW, SQ Sep 57 Gain Fluctuations with Frequency: Cohen SA, T-ED Jan, 57 Generators, Millimicrosecond Pulse: Beck AC, T-MTT Dec 55 Transponder:
Air Traffic Control, Compact RF Unit for: Skar RC, WCR pt5 58
Antenna for TACAN: Parker EG, WCR pt1 57 Helices, Coupled: Wade G, T-ED Jul 55 Helices, Coupled: Wade G, T-ED Jul 55
Helix-Impedance: Tien PK, P Jul 57
High Gain, for X Bands: McClure R, WCR pt3 57
High-Power, Circuits for: Chodorow M, P Aug 57
High-Power, Design of: Chodorow M, P May 56
A Hybrid-Type, for High-Power Pulsed Amplification:
Natos EJ, T-ED Jul 58
Impedance of Periodically Loaded Structures: Nalos
EJ, P Oct 54 Magnetostriction Delay Line for: Johnson VL, T-ANE Sep 56 Systems, Increasing the Traffic Capacity of: Davis H, NCR pt5 58 Transport Lags, Simulation by Analog Computer: Stone RS, T-EC Sep 57 Transverse Electron Motion, Influence on Backward-Wave Oscillator Starting Conditions: Kosmahl HG, T-ED Oct 5B Traps, Electrons, and Holes: Shockley W, P Jun 58 Komfner Dip Conditions: Johnson HR, P Jul 55 Light-Weight, Low-Level, S-Band: Bramick JO, NCR pt3 57 Traveling-Wave Antennas:
Broadband: Reynolds DK, NCR ptl 57
Circular: Bergman WJ, NCR ptl 55 Limiters: Fank FB, T-ED Apr 57
Low-Noise: Buchmiller LD, T-ED Jul 57
Low-Noise Guns: Knecktli RC, NCR pt3 56 Coupled Waveguide Excitation of: Weeks WL, WCR pt 1 57 for Television Transmitting: Slukola M, WCR pt7 57 in Microwave Repeater System: Sawazaki N, P Jan 56 VVCR Dr. 37.
VHF, for Television Transmitting: Siukola MS,
T-BTR Oct 57

Traveling-Wave, Cavity for Tensor Permeability Measurements: Ault LA, NCR ptl 57

Traveling-Wave Directional Filter: Coale FS, T-MTT Oct 56 Microwave Spectrum Synthesis: Lacy PD, NCR pt5 56
Minimum Noise Figure: Harrison SW, P Feb 55
Modified Contra-Wound Helix Circuits: Birdsall CK,
T-ED Oct 56 Noise Factor: Hok G, P Aug 56 Noise Factor: Hok G, P Aug 56 Noise Figure Measurements: St. John GE, T-ED Dec 54 Traveling-Wave Electron Deflection System: Honey RC, T-MTT Jul 54 T-will Jul 34
Traveling-Wave Monopulse Arrays, Pulse Operation:
Phillips CE, WCR pt 1 57
Traveling-Wave Resonators: Milosevic LJ, T-MTT Apr 58 Nonreciptocal Loss Using Ferrite Attenuators: Cook JS, P Jul 54 Traveling-Wave, Resonant Circuit, Effect of Mismatched Ring: Tomiyasu K, T-MTT Oct 57 O-Type Carcinotron: Palluel P, P Mar 56
Parameters, Integral Equation Solution of:
Parzen P, T-ED Jul 55 Traveling-Wave Tubes:
Aluminum Foll Solenolds: Glass RC, T-ED Apr 57 with Periodic Circuits: Gould RW, T-ED Jul 58 Periodically Focused, High Power: Purl 0T, P Feb 58 Ampliflers: Backward-Traveling Power: Tien PK, P Jan 57 and Backward-Wave Oscillators: Muller MW, P Nov 54 Phase Measurement System, 6 KMC: Augustine CF, T-I Oct 55 P Nov 54
Backward-Waves: Rowe JE, P Aug 56
Electrostatically Focused Hollow Beam:
Crunily CB, T-ED Jan 56
Ferromagnetic: Tien PK, P Apr 58
High-Efficiency, Design Procedure for: Rowe JE,
T-ED Oct 58 Power Flow, Equivalent Circults: Wang CC, P Nov 54
Power Series Solution of Equations: Mullen JA,
T-ED Apr 57 T-ED Apr 57

Precision Helix Winding and a Mechanism of Loss Variation: Iverson AH, T-ED Oct 56

Propagation Constants: Brewer GR, T-ED Apr 57; Dunn DA, T-ED Oct 58

Propagation Constants, Approximate Expressions for: Louisell WA, T-ED Oct 58 High Gain: Denman ED, T-ED Apr 56 Large Signal Analysis: Rowe JE, T-ED Jan 56 Large Signal Behavior of: Caldwell JJ, T-ED Jan 56 S-Band, with Noise Figure Below 4 DB: Caulton M, P May 58 Large Signal, Design Information: Rowe JE, P Feb 56 Large Signal Theory: Tien PK, P Mar 55; Rowe JE, P Aug 55 Low-Noise Nonlinear Reactance: Engelbrecht RS, P Sep 5B Selection and Application of: Nielsen AH, NCR pt3 57 with Slow-Wave Structures: Matthews AR, NCR pt3 56 Medium Power L-Band: Holmboe LW, T-ED Jan 57 Millimeter Wavelength: Robertson SD, T-MTT Sep 54 Solenoids: Worcester WG, T-ED Jan 56 Space Harmonic Circuit: Karp A, P Jan 55 Standards on Terms: IRE Standards: P Mar 56 System for Multiplying Gain: Arams FR, P Jan 55 Tape-Helix Model: Scotto MJ, T-ED Oct 55 Multiple Helix Circuits in: Putz JL, WCR pt3 57 Nonlinear Wave Propagation: Kiel A, T-ED Oct 55 with Tapered Velocity Parameter: Geppert DV, P Sep 58 Repeater, and Local Oscillator: Kurokawa H, P Dec 57 Television in Radiography: Ogilvie AR, WCR pt6 57 with Periodic Permanent Magnets: Siekanowicz WW, Transverse-Current: Dunn DA, P Jul 56, P Jul 56 Transverse-Field, with Periodic Electrostatic Focusing: Adler R, P Jan 56 P Jan 56 Very Low-Noise: Kinaman EW, P May 58 Very Low-Noise: Kindman Ew, P May 35 VHF: Dunn DA, 7-E D Jul 57 Backward-Wave: Heffner H, P Jun 54 Backward-Wave Bifilar Helix: Tien PK, P Jul 54 Backward-Wave Oscillators, 100–200 KMC: Karp A, Apr 57 Adler R, P Jan 56

Twin Helices: Chodorow M, NCR pt3 54

For 2000-MC Relay: Slekanowicz W, P Jul 54

Types E, C, M, O: Guenard P, P Feb 56

Video Detector, Noise Analysis: Wade G, NCR pt3 55

X-Band: Nevins JE, NCR pt3 55

X-Band Feedback Oscillator: Price VG, NCR pt3 57

Trees in a Graph, Number of: Weinberg L, P Dec 58

Triangle Problem, Network Solution of the Right: Winkler MR, WCR pt4 58

TRICE High-Speed Incremental Computers: Mitchell JM. Broad Band, Low Noise, for X and C. Bands: Fank FB, WCR pt3 57 Cathode-Ray, for Millimicrosecond Transients: Germeshausen KJ, T-ED Apr 57 Characteristics for Finite C: Birdsall CK, T-ED Aug 54 Coupled-Structure: Rynn N, T-ED Apr 57 TRICE High-Speed Incremental Computers: Mitchell JM, NCR pt4 58Crossed-Field Devices , Large Scale Behavior of: Feinstein J , P Oct 57 Trigger Circuits Employing Controlled Saturation: Moody NF, T-CT Sep 57
Iriggering Signals, Minimum: Dautremont JL Jr, P Sep 5B; Beattle LA, P Apr 58 Crossed Field, Gun and Focusing System for: Hoch OL, WCR pt3 57 Crossed-Field, the M-I Tube: Johnson CC, VCR pt3 58 Trigonometric Problems:
Analog Computer for Solution of Tangents: Preston
FS , T-EC Sep 55

Analog Computing Technique for Solution of: Robinson AS, T-EC Sep 55 Trigonometric Resolution in Analog Computers: Howe RM , T-EC Jun 57 $\,$

Triodes:

Audio Harmonics: Powell T, P Aug 55 Cathode Followers , Graphical Analysis for Audio Frequencies: Schultz TJ, T-AU Mar-Apr 56 Cathode-Followers for Impedance Matching: Schultz TJ, T-AU Mar-Apr 55

Cold Cathode Gas, Self-Biasing Circuit: Silver M, P Feb 57

Design for Maximum Gain: Barciss M., P. Nov. 55 Electron Gun: Ho KC, T-ED Jul 55
Germanium N-P-I-R Junction Transistor: Unger DM,
P Apr 58

Grounded Grid: Harris WA, NCR pt3 55 History of: Hammond JH, P Sep 57 Microwave: McLinden JE, NCR pt3 55 Miniature Dual , Low Distortion Operation of: Knapp JZ , T-AU Jul-Aug 55

Noise, Equivalent Circuit: van der Ziel A., T-ED Apr 54 Noise Measurement and Analysis: Harris WA, Noise Measureme T-ED Dec 54

Planar, Small Signal Performance: Van Ohlsen LH, T-ED Dec 54

P-N Junction, Advances in Understanding of: Pritchard RL, P Jun 58

Silicon P-N-P-N, Electrical Characteristics of: Mackintosh IM, P Jun 58

Twin High Reliability McCool CD, T-ED Feb 54 Useful to 10,000 MC: Begas JE, P Jan 55 Tropospheric Effects on 6-MC Pulses: Silberstein R, P Dec 58

Tropospheric Propagation: See Propagation, Tropospheric Tropospheric Refraction near Hawaii: Reber G, T-AP Jul 55

Tropospheric Scattering: See Scatter Propagation,

Troubleshooting Routes, Efficient, Mathematical Models for Determination of: Hoehn AJ, T-ROC Jul 58 Trough and Slab Lines, Characteristic Impedance: Chrisholm RM, T-MTT Jul 56

Trunk Service, Microwave System for: Lenehan JJ, T-MTT Apr 54, T-CS Jul 54

Tube That Tells Time: Eriksen W, NCR pt3 58

Analysis Program: Wilson RD , T-ED Feb 54 Feedthrough Capac-tors, Continuous and Discontinuous Performance above VHF: Williams EM, NCR pt6 56 Microwave, Advances in: Pierce JR, P Dec 54

Inspection Procedures: Whittier RJE , T-QC Feb 54
Panel on Electron Tubes Coordination Program:
Schwartz LS , T-QC Feb 54

Design, UHF: Grown RS, T-BTR Jul 54 UHF Television: Local Oscillator Radiation: Mukai VS , T-BTR Jul 55

UHF, Using as RF Amplifier: Quirk JB, T-BTR Feb 58
Television, Practical Aspects of Design: Nestlerode
CD, T-BTR Oct 57

Automatic, for Single-Sideband and Equipment: Delong VR, P Dec 56 Automatic, of Television Receiver: Baugh CW Jr, WCR pt7 57

Circuit for Electrically Small Antennas: Webster RE, T-AP Jan 55

Circuits: Brooks HB, T-I Apr 54
Circuitry in Television Receivers, Automatic Fine:
Farr KE, T-BTR Mar 58

a Probe in a Slotted Line: Caicoya JI, P Apr 58

Semiautomatic, in Mobile Communications Equipment: Dettman MC, T-VC Dec 56 UHF-VHF, Use of Pencil Tubes: Harris WA, T-BTR Jan 55 of Wideband TR Tubes: Rickert HH, T-I Oct 55

Wide-Range Systems: Lyman HT, NCR pt7 54

Tunnels, Communication with Trains: Monk N, T-VC Dec 56

Turbine-Generator, Measurements: Goldman RG,
T-PT Apr 57

Turbojets, Fully Automatic Cruise Control System:
Genthe WK, WCR pt4 57
Turbulent Mixing in Scatter Propagation, Role of:
Bolglano R, T-AP Apr 58
Turnstile Circulator: Allen PJ, T-MTT Oct 56
Turnstile Junction: Meyer MA, T-MTT Dec 55
Turnstile PolarIzer for Rain Cancellation: Crandell PA,
T-MTT Jan 55

Twin Triode, High Reliability: McCool CD, T-ED Feb 54
Two Phase Resolvers, Phase Error of: Schachter J,
P Jul 57

Two-Ports

Two-Ports
Graphical Method of Determining Efficiency:
Bolinder EF, P Mar 57
Nonreciprocal, Measurements Based on Averaging
Technique: Altschuler HM, P Sep 57
RC Grounded, Synthesis of: Kuh ES, T-CT Mar 58
Two-Terminal Pair Symmetry Relations: Klessling RC,
NCR pt2 58

Two-Way Communications , New Developments in: Macdonald AA, T-VC Dec 56

Two-Year Graduate Degree: Boulton BC, T-E Mar 58 Typewriter, Phonetic: Olson HF, T-AU Jul-Aug 57

Typewritten Material, Scanning, Probability Statistics Concerning Delitsch S T-IT Jun 57

Typotron Sterace Tithe: Scrittli HM., NCR pt4-55

UDOFT Computer, 5 Microsecond Memory for. Ashley AH, WCR pt4 57

UHF Field Intensity Measurements: Chapin EW, T-BTS Jan 56

UHF Mutual Environment Test Program, Rome Air Development Center: Berliner J, T-CS Mar 57
UHF, Techniques Involved in Meeting FCC Radiation Requirements at: Bell J, T-BTR Mar 58

UHF Transmissions, Terrain Effects: Trolese LG, T-AP Oct 58

UHF Tuner Using an RF Amplifier: Quirk JB, T-BTR Feb 58

U.K. Project Powell FH, T-QC Feb 54 Ultracentrifuge, Study of Viruses and Macromolecules: Wyckoff RWG, T-ME Oct 56

Ultra-Short Waves Beyond the Horizon, Propagation of: Ortus: J, T-AP Apr 55

Ultrasonics:

Action on Nerve Tissue: Fry WJ, NCR pt6 54 Action on Nerve Tissic: Fry WJ, NCR ntb 54
Analysis: Hueter TF, NCR ntb 57
Analysis: Hueter TF, NCR ntb 57
Analysis: Banno S, NCR ntb 54
Burolar Alann: Banno S, NCR ntb 54
Calibration of Fields by Thermoelectric Probes: Dunn F,
T-UE Aug 57; Fry WJ, NCR ntb 57

Cutting of Quartz Wafers: Gibbs NE, T-UE Aug 56
Decortication of Natural Fibres: Fleming ER,
NCR pt9 55

Delay Lines: Arenberg DL, NCR pt6 54; Voznak E, T-UE May 55

Measuring Electrical Characteristics of: Meitzler AH, T-UE Dec 57 Spurious Responses of: Zimmennan MS, NCR pt 2 58

Terminating Circuits and Passband Measurements: Axelbank M, NCR pt2 58

Dentistry: Balamuth L, NCR pt9 55; Strock AE, NCR pt9 55

Destruction of Erythrocytes: Ackerman E , NCR pt9 55 Detection with Phosphorescent Materials: Petermann LA, T-UE Aug 56

Detection with Thermostimulable Phosphors: Elion HA, T-UE Aug 57 Dosimetry for Medical Use: Tombero VT, NCR nt4 57

Drill, Magnetostrictive Rotating: Marshall NK, WCR pt9 57 Echo Ranging for Tissue Diagnosis: Reld JM, NCR pt9 55

Echo Ranging for Tissue Visualization: Howry DH, NCR pt9 55

Effect on Electrolytes and Electrode Processes: Barnartt S. NCR nt6 54 Effects on Livino Cells: Newcomer EH. NCR nt6 54 Equipment, Industrial, Measurements of Acoustic Power in: Welkowitz W. NCR nt2 58

m: Werkowitz W. NCR vit 258
Emilment for Medial Diagnosts: Relid JM, T-UE Aug 57
Field of: Cady WG. SQ Feb 55
In Finishing of Cathode-Ray Tube Gun: Niklas WF,
T-UE May 55
Flowmetering Transducer: Swengel RC, NCR nt9 55
Industrial Uses: Bayles AL, NCR nt6 54
Instrument for Measuring Intensity of: Herrick JF,
NCR nt2 58

NCR pt2 58
Liquid Level Sensor: Rod RL, NCR pt9 57
in Medicine and DentIstry: Welkowitz W, P Aug 57
Nondestructive Testsine: Harrison BM, NCT pt9 55
Nondestructive Tests for Structural Adhesives:
Vincent CT, WCR pt9 57
Output Power Measurements In Liquids: Henry CE,
T-UE Dec 57

Parts Cleaning: McKenna QC, T-UE May 55
Piezoelectric and Electrostrictive Transducers: Cady WG, WCR pt9 57

Piezoelectric Transducers in Electronic Design: Bradley W Jr, NCR pt9 56 Piezoelectric Transducers, Transient and Steady-State Response: Cook EG, NCR pt9 56

Power Measurements: Mattiat OE, T-UE May 55 Propagation of Pulses in Cylindrical Bars: Meitzler AH, NCR pt9 56

Remote Control for Home Receivers: Adler R , T-BTR Jun 57

Resonator Properties of Synthetic and Doped Synthetic Quartz: Chi AR, NCR pt9 56

Strohoscope: Hiedemann E , NCR pt9 56 Surface Resonances of Bubble and Biological Cells: Ackermann E NCR pt9 56

Surface Waves, Variable Delay Line Using: Ross JD, NCR pt 2 58

Systems. Measurements of Delay in: Arenberg DL, NCR pt2 58 Testing Steam Turbine Generators: Goldman RG, T-IE Mar 57

Transducer Design: Massa F , NCR pt9 57 Ultrasonic Manufacturers Association: Rich SR , NCR pt9 57

Use to Determine Elastic Moduli or Small Specimens: McSkimin HJ, T-UE Aug 57

Wave Propagation in Liquids: Krassilnikov VA, WCR pt 10 57

Ultraviolet-

Microscopes, Flying Spot and Camera Tube: Rumberg EG, T-ME Dec 58

Microscopy, Color Translating: Hovnanian HP, T-ME Jul 56

Microspectrophotography in Medicine: Montgomery PO'B, NCR pt9 55

Television Densitometry in Medicine: Montgomery POB, NCR pt9 55

Television Microscope for Cytological Studies: Willrams GZ , NCR pt9 55

Uncertainty of Measurement Systems: Chatterton JB, T-I Mar 58

Underground "Atmospherics": Powell T P Nov 58 Underground Water Prospecting: El-Said MAH, P Jan 56; Brown GL, P Jul 56; Lowy H, P Aug 56 Undersea "Atmospherics": Powell T, P Nov 58

Underwater Sound Transducers, Measurement of A Power Radiated from: Bobber RJ, NCR pt 2 58 Acoustic Unilateralization: Cheng CC, T-CT Jun 55 Union Electric System Installation: Fox GW, T-MTT Apr 54, T-CS Jul 54

Unionization of Engineers: Amann J, T-EM Dec 57; Rains H, T-EM Dec 57 Unistors: Mason SJ. T-CT Sep 57

Unit Construction Practice: Harrison KW, P May 54
Unit-Distance Number Representation Systems: Patterson GW, P Jul 57

Univac Magnetic Computer:
Drum Memory: Porter VJ. NCR pt4 56
Logical Design and Specifications: Gehring AJ,
NCR pt4 56

Megacycle Magnetic Modules: Smith BK , WCR pt4 56 Universal Component, Unreliability of: Acheson MA, T-RQC Jan 57

T-RQC Jan 5 /
Universal Curves for Vertical Polarization Reflection Coefficient: Olman GP, T-AP Jan 57
Universal Physical Constants Replace Present Standards,
Should: Di Mond JWM, T-I Dec 58

University of Adelaide Electronics Research: Huxley LGH, WCR pt10 57 University-Air Force-Industry Cooperation in Research: Barrett RM, WCR pt 8 57

University Research: Gartlein CW, T-EM Dec 57 University of Sydney Wave Propagation Researche: Balley VA , WCR pt 10 57

WCR RIJO 57
Univibrator, Transistor, with Stabilized Pulse Duration: Hamilton DJ, T-CT Mar 58
Unknowns, Truth About: Shively R, SQ Feb 55
Unreliability Study: Jones WR, T-QC Feb 54
User's Problems: Okun AM, T-CP Sep 54
U. S. Forest Service Mobile Radio Performance:
Claypool WS, T-VC Jun 54
U. SSP Integration Types Int. Groce PE Int. WCP at 2.57

USSR Information Theory in: Green PE Jr. WCR pt 2:57
Utility in Government Research and Development: Herold EW, P Jan 58

Utilization of Scientists , Relation to Shortage: Hirsch I, T-EM Sep 58

High, and Space: Hafstrom JR, WCR pt5 58
Multiturn Coils for Use in: Nicoll FH T-ED Apr 57
System, Demointable: Shrader TM, T-ED Feb 54
Tubes, Grld Controlled, Minimization of Vibration Noise:
Gross GH, NCR pt3 57

Tube Requirements in Vertical-Deflection Circuits: Angel KW, T-BTR Sep 58

Angel RW, 1-bit Resp 36 Tuhes vs Transistors: Fink DG P Apr 56 . SQ May 56 Ultrahigh, Research In Support of the Thermonuclear Fusion Power Program: Lange WJ, WCR at5 58 Window for X Band: Shaw HJ, T-MTT Jul 38

Valves, Electronic, Solid-State: Green M. T-EO Jul 56 Vamistor, Thermally Fused Metal-to-Ceramic: Langford RC, WCR pt6 58

Vanouard Earth Satellite Program: See Satellites
Variable Binary Scaler: Murray DB. T-EC Jun 55
Variable Function Delay for Analog Computers: Stone RS,
T-EC Sep 57

Varistors , Hynerbolic Analogs Using: Holbrook GW. P Oct 58 VHF Field Intensities in DIffraction Zone: Ghose RN, T-AP Jan 54

VHF Linear Transmitter, Design Considerations: Gallagher DC, T-CS Oct 56

VHF Omni-Range Aircraft Navination System
Accuracy of: Anderson WG, T-ANE Mar 55
RTCA Studies: Sherer LM, T-ANE Jun 55
Vector Electrocardiography Electronic Computer for:
DeCote R, T-ME Jul 57

Vector Networks, Synthesis of Horn RE, T-EC Dec 57 Vectorgraph, Cathode-Raw, Uzel F Jr., NCR ot7 55 Vectors, Time-Shifted Signal, Space Trajectory of: Sheman H, T-IT Dec 57

Vectorscope Applications: Schlesinger K., T-BTR Oct 54 Vehicles, Acoustic Noise In: Reinhardt NJ, T-VC Apr 58 Vehicular Antennas, Broadband: Brueckmann H NCR pt8 58 Vehicular Communications

Base Stations , Interference between: Glesselman AC , T-VC Jul 58

Electrical Systems, Sources of Interference Short BH, T-VC Jul 58

FCC Rule Making Procedures for: Baker WE , T-VC Jul 58

Future of: York DE, NCR pt8 56 in Petroleum Industry: Ransone RL , T-VC Jul 56 Pocket Receivers for Neubauer JR , T-VC Jul 58 Transistorized Microphones for Johnson HA , T-VC Jul 58

Transmissions Field Strength Data: Egfl J.J., T-VC Jul 58

VHF-FM Receiver-Transmitter, 920 Channel Military, Transistorized Frequency Reference and Control System for: Brauer F, T-VC Jul 58 Vehicular Noise Problems In Land Mobile Systems: Meyer SF, NCR pt8 58 Vehicular Radio Sets, Single-Sideband Military: Kulinyi RA, Velocityand Current Distributions in Spent Beam of Backward-Wave Oscillaton: Gewartowski JW, T-ED Oct 58 of Light and Universal Time Standard: Gerharz R, P Nov 57

Measurements, Doppler, Nature of: Berger FB, T-ANE Sep 57 Modulated Beam, Bunched Electron Current in: Maeda H,

Modulation of Electromagnetic Waves: Morgenthaler FR, T-MTT Apr 58

Modulation, Potential Well Theory of: Gold L, P Dec 58

Type Frequency Multiplier: Collin RE, P Dec 56 Vernier Time-Measuring Technique: Baron RG, P Jan 57
Vertical Deflection System, Transistorized Television:
Palmer W, T-BTR Oct 57

Vertical Interval Test Signals, Automatic Level Control Using: Popkin-Cluveman JR, NCR pt7 58 Vertical from Moving Bases, Indication of: Wrigley W. T-ANE Dec 58

Vertical Oscillators, TV, Minimizing the Effect of: Love SF, T-BTR Mar 58

Vertical Polarization Reflection Coefficient, Universal Curves for: Ohman GP, T-AP Jan 57

Very-Low Frequencles: Antenna for Submarines, Limitations of: Wheeler HA, T-AP Jan 58

Measurement of Ground Conductivity at: Wait JR, T-AP Jul 58

Monopole Antenna, Earth Currents Near: Wait JR, P Aug 58

Signals, Magneto-Ionic Duct Propagation Using: Helliwell PA, P Apr 58

Transmission Loss Curves for Propagation at: Walt JR, T-CS Dec 58

Transmitting Antenna Design: Wheeler HA, T-AP Jan 58 Wave Propagation: Wait JR, P Jun 57 Atmospheric Nolse:

Canadian Measurements: McKerrow CA, P Jun 57

Measured Statistical Characteristics: Watt AD, P Jan 57

National Bureau of Standards Investigation: Crichlow WQ, P Jun 57 One-100 KC: Watt AD, P Jun 57

Relation between Character and Place of Origin: Chapman J, P Jin 57 Whistlers, Rapid Analysis of: Grierson JK, P Jun 57; Nelson RR, P Nov 57

Attenuation vs Frequency Characteristics: Wait JR, P Jun 57

Geometrical Optics: Wait JR, P Jun 57 Intercontinental Frequency Comparison: Pierce ET, P Jun 57

in Lower lonosphere: Waynick AH, P Jun 57 Mode Theory: Walt JR, P Jan 57, P Jun 57; Budden KG, P Jun 57

Pulse Propagation Across Coast Line: Wait JR, P Nov 57

Radiation from Linhtning Strokes: Hill EL, P Jun 57 Reflection at Sharply Bounded Ionosphere: Yabroff IW, P Jun 57 Very Slort Electric Waves, for Radio Communications: Marconi G, T-AP Jan 57

Marconi G, 1-AP Jain 57 Vessels, Filled, Statistics of: Stewart JL. P Nov 58 Vibration of Etched Circuit Boards: Allen MS, WCR ot6 57 Vibration, Honeycomb Structure Rigidized Printed Wiring for: Deimel ED, WCR pt6 58

Deimel ED, WCR pt6 58
Vibration Noise, Minimization in Grid-Controlled Tubes:
Gross GH NCR pt3 57
Vibration Packaging for: Comunitation MG, T-CP Sep 54
Vibrational Characteristics of Receiving Tubes, Impulse Test
for Evaluating: Jolly SA, NCR pt6 58
Vibrations and Shock, Instrumentation Subjected to Severe:
Ehrenpreis D, NCR pt5 58
Vibration Communication Management

Vibrators, Communication, New Design Concept: Tollefsen AB Jr, NCR pt8 56

Vibrators, Piezoelectric, Measurement of the Parameters of: Gerber EA, P Oct 58

Vibratory Tactile Stimuli, Communication by: Hirsch J, T-ME Dec 56 Video:

Amplifiers with Stringent Electrical and Mechanical Re-gurements: Develet JA, P Aug 58

Modulation Limiter: Sadler LS, NCR pt7 58 Receiver, Transistor Amplifiers: Salaman RG, T-BTR Sep 58

Signals, Magnetostrictive Delay Line for: Cohn GI, T-CP Mar 58

Switcher, Diode Matrix Vertical Interval: Aha R, T-BTS Dec 58

Tape Equipment, Automatic Operation of: Byloff RW, WCR et7 58

Tape Recorder, Instrumentation Applications of: Koller EL, WCR pt5 57 Techniques, Progress in 1953: Radio Progress, P Apr 54 Vidicon Performance, Effects of Radiation on: Davidson RA, T-NS $A \log 58$

Viruses and Macromolecules Studied with the Electron Microscope and Ultracentrifuge: Wyckoff RWG, T-ME Oct 56

Viruses Ionizing Radiation Used in Study of Structure: Pollard E , T-ME Oct 56

Visual Communication , Subjective Experiments in: Graham RE, NCR pt4 58

Visual Communication System: Weihe VI, T-ANE Dec 56 Visual Effects of Using Frame Storage in Television: Baldwin NW Jr, NCR pt4 58

Visual Interpolation Errors in Plotting of Curves from Commutated Data: Katz L , T-TRC Feb 55 Visual Monitoring , Bar-Graph Scope: Wolcott HO, WCR pt5 57

Visual Perception, Studies in Speed of: Sziklal GC, T-IT Sep 56

Vitascan: Haines JH, T-BTS Oct 56 Victor Cata Link, GCA by Automatic: Fling JJ. WCR nt4 58
Voice Simulator (VOSIM), SINAD Interference Evaluated by:
Shepherd NH, NCR pt8 57 Voltage:

DC. Reference: Worcester K. WCR ot 658 to Digital Airbome, Translstorized Converter: MacIntyre RM, WCR pt 457

to Digital, High-Speed, Translation Equipment for Industrial Data Control: LaFontaine JF, T-IE May 58 Divider Bias Tubes: Armstrong HL, P Jul 57
Feedback in Junction Transistors: Sparkes JJ, P Jun 58
Measurements, Current and, AC-DC Transfer Instruments
for: Hermach FL, T-I Dec 58

at 100 to 1000 MC, Signal Generator Output, Calibration of: Hedrich AL, T-I Dec 58

Quantizer, Logarithmic: Glaser EM, T-EC Dec 55 Ratings of Selenium Rectifiers: Bechtold N. NCR pt3 55 Reference Devices, Silicon Junction Diodes: Enslein K, T-1 Jun 57

Reference Tube, Ceramic-Metal: Culp JW, T-ED Apr 57 Reference Tube, Ceramic-Metal: Culp JW, T-ED Apr References Tubes, Reliable: Handly EJ, NCR nt6 55 Regulator Tube, Gaseous Impurities and Performance: Drennan JE, T-ED Feb 54 Regulators, Anallysis and Design: Friedman IB, T-CP Mar 56

Regulators, for Color Television Receivers: Byram RE, T-ED Jul 57

Sensitive Semiconductor Capacitance: McMahon ME, WCR pt3 58

Sensitive Switch: Otley KO, P Oct 58 Standing Wave on Cyclotron Dees, Approximate Method of Obtaining: Donaldson MR, T-NS Mar 56 Standing Wave Ratio, Statistical Prediction of: Mullen JA, T-MTT Apr 57

Tandise JA, 1-MIT Apr 37

Standing Wave Ratio, Matching Technique: Rizzi PA, T-MTT Jul 56; Goldstone L, T-MTT Apr 57

Transfer Synthesis: Lewis PM. T-CT Seo 55

Tunable Magnetron, RF Circuits for: Gemulla WJ, WCR ntl 58

Variable Capacitors, Low Impedance Diodes Used as: Palmer WF, T-BTR Jun 58

Volumeter Calibrating Consoles, RF: Selby MC, NCR nt5 58 Volume Measurements: IRE Standards, P May 54 Volume Recombination of Injected Carriers in Semiconductor Ingots: McKelvey JP, T-ED Oct 58

Volumentric Particle Size Analysis via Electronics: Berg RH, T-IE May 58

VOR-DME TACAN Systems, Co-location of: Ricketts PE,

Vortac Air Traffic Control System: Ricketts PE . NCR pt5 58 Vortac , Airborne , Distance Measuring Equipment: Dodington SH , NCR pt5 58

Vortex Thermometer for Airborne Navigation: Ruskin RE, T-ANE Jun 56

Vratsanos' Theorem: Ansell HG, T-CT Jun 58

-- W --

Wafer Coil Pulse Transformer: Babcock H, NCR pt6 56
Wafers, Germanium, Thickness Determination for Transistor
Production: Moore AR. T-ED Oct 57
Wall Street Looks at Engineering Management: Roehl OC,
NCR pt10 57

Water Prospecting by Means of Electromagnetic Interference Fringes: El-Said MAH, P Jan 56; Brown GL, P Jul 56; Lowy H, P Aug 56

Water Vapor Dielectric Constant at 9,000 MC: Saito S, P Aug 55

Wattmeter, Microwave High-Power, with High Precision: Macpherson AC, P May 57

Wattmeter for 3 CM, Double-Van Torque-Operated: Cullen AL, T-MTT Apr 58

Wave Coupling Warped Normal Modes: Fox AG, T-MTT Dec 55

Wave Propagation: See Propagation

Wave Transaction: See Propagation
Wave Theory, Applications of Fourier Transforms:
Bolinder EF, T-MTT Apr 57
Wave Trains, Periodically Interrupted, Synchronization of
Oscillators by: Fraser DW, P Sep 57 Waveforns:

of Composite Video Signal: Chatten JB. T-BTR Jul 55 Extraction of Information by Delay Line Filtering Technique: Park JH. WCR pt 2 57

Pulse, Degradation Due to Waveguide Dispersion: Elliott RS, T-MTT Oct 57 of a Radio Atmospheric at Short Ranges: Wait JR, P Aug 56

Real, Envelopes and Pre-Envelopes of: Dugandyl J, T-IT Mar 58

Wavequides:

equides: Amplitude Concept Applied to Junct on Problems: Ortusi JA, T-AP Apr 56 Annular Rotary Joint: Tomiyasu K, P Apr 56 Array for Solar Noise Studies: Gruznberg H, T-AP Oct 54

Arrays, Long, Optimum Aperture Function: McConnick GC, T-AP Jan 57

Attenuation, Measurements on Short Samples: Pomeroy AF, T-MTT Apr 56

Attenuator Using Corrugated Surface with Resistance Card: Morita K, WCR ptl 57 Bolometer Mounts: Kent LI, WCR nt5 58 Broad-Band Quarter-Wave Plates: Ayres WP, T-MTT Oct 57

Broad-Band Series T for Switching. Griemsmann JWE, T-MTT Oct 56

Broadbanding Windows: Hereward HG, P Sep 54 Choke, Serrated: Tomiyosu K, T-MTT Jan 56 Circular:

Birefringence of Ferrites: Karayianis N. P. Oct 56
Components for: Lanciani DA. T-MTT Jul 54
Design of Conical Taner in: Solymar L. P. Mar 58
Containing Ferrite, Circular Electric Waves In:
Kumagai N., WCR ptl 58

Future of: Beck AC, T-MTT 4pr 57 with Gyromagnetic Material, Propagation In: Walker LR, T-AP Jul 56

Polarization, Method of Producing: Kirschbaum HS, T-MTT Jul 57

Mode Conversion in: Warters WD, WCR pt 158 Susceptance of a Circular Iris: Handelsman M, NCR pt 556

Circularly Polarized Slot Radiators Simmons AJ, T-AP Jan 57

to-Coax Transitions, Broadband: Wheeler GJ, NCR pt1 57

Components, Definitions for: IRE Standards, P Sep 55 Components, High-Power Breakdown: Hart GK, NCR pt1 55

Coupler, Multiple Branch: Reed J. T-MTT Oct 58 Coupling through Aperture Containing Ferrite: Stinson DC, T-MTT Jul 57

Counting through Slots: Barkson JA, WCR pt1 57 Cylindrical, Excitation of Dielectric Rod by: Angulo CM, T-MTT Oct 58

Dielectric Filled: Anderson TN, T-MTT Mar 55 Dielectric Rod, Launching Efficiency of Wires and Slots for: DuHamel RH, T-MTT Jul 58

Dielectric Rod, Radiation from: Duncan JW, T-AP Jul 57

Dielectric Slab Loaded Rectangular, Propagation In: Vartanian PH, T-MTT Apr 58 Directional Coupling:

to Coaxial Line: Lombardini PP, WCR ntl 57
to Strip Line: Perini H, WCR ntl 57
Discontinuities: Near OT. T-MTT Jan 55
Double-Ridge: Anderson TN, T-MTT Jul 55,
T-MTT Jan 56

E-Plane Tapered, Reflection Coefficient of: Matsumaru K, T-MTT Apr 58 Electrical Analog Clement PR, P Jan 55
Electromagnetic, Variational Principles: Berk AD, T-AP Apr 56

Ellipticity on Dominant-Mode Axial Ratio: Sandsmark PI, T-MTT Oct 55

Excitation of Traveling-Wave Antennas: Weeks WL, WCR pt1 57

Ferrite Circulators, High-Power: Rizzi PA, T-MTT Oct 57

Ferrite-Filled, Transversely Magnetized: Vartanian PH, T-MTT Jul 56

Ferrite-Loaded, Anomalous Propagation In: Seldel H, P Oct 56

Ferrites, Use of at 0.87 CM and 1.9 CM: Stewart C, T-MTT Apr 55, NCR pt8 55 Field Displacement Effects in Die ectric and Ferrite Loaded: Straus TM, WCR pt1 58

Filter Design Theory, High-Q: Riblet HJ, T-MTT Oct 58

Filter, Modified Equal-Element, Band-Pass: Bawer R, T-MTT Jul 57

Flanges, Miniature, RETMA Standards: Anderson TN, T-MTT Apr 57

Flat for Millimeter Range: Hopfer S, T-MTT Sep 54 H-Guide, for Microwaves: Tischer FJ, NCR pt5 56 H-Guide, at Microwaves and Millimeter Waves: Tischer FJ, WCR pt1 58

Hannonic Effects and Measurement at High Power: Forcer MP, NCR pt1 57 Heat Loss in Grooved Metallic Surface: Marcatill EA, P Aug 57

Helix, Circular Electric Waves in, Heat Loss of: Morrison JA, T-MTT Apr 58

Hybrid Junctions, Recent Advances in: Loth PA, T-MTT Oct 56

Impedance Meter: Bachman HL. T-MTT Jan 55 Impedance of Narrow Slots: Oline-AA, T-AP Jan 57 Impedance of Open- and Closed-Ridge: Mihran TG, P Aing 55

Imperfect. Ghost Modes in: Jaynes ET, P Feb 58 Ion Filles Properties of: Smullin LD, P Jan 58 Junction, Graphical Analysis: Stein S, P Mar 54; Deschamps GA, P May 54; Felsen LB, P Sep 54 Junction , Trimode , Turnstile: Potter RS , NCR pt 5 56