The

ELECTRONIC ENGINEERING MASTER INDEX

A subject index to the contents of electronic and allied engineering publications printed throughout the world from

January through December, 1949

NEW YORK
ELECTRONICS RESEARCH PUBLISHING COMPANY, INC.
1950

Other Indispensable Electronic Engineering References

The Electronic Engineering Master Index

1925-1945 Edition.	320 pages.	$17.50
1935-1945 Edition.	209 pages.	$10.00
1946 Edition.	202 pages.	$14.50
1947-1948 Edition.	339 pages.	$19.50

The Electronic Engineering Patent Index

1946 Edition.	476 pages.	$14.50

PRINTED IN THE UNITED STATES OF AMERICA

PREFACE

The 1949 edition of the *Electronic Engineering Master Index* is the fourth volume in the series covering the electronic and allied engineering literature published throughout the world since 1925. The titles of all articles appearing in foreign-language magazines have been translated into English. Wherever possible the original title of these articles are also given.

Containing more than 12,000 new entries, this volume indexes almost 400 of the major international scientific magazines, journals, and proceedings, resulting in the most comprehensive bibliography of the electronic and allied engineering arts published today.

As in the 1947–1948 volume, this edition lists all U. S. electronic and allied engineering patents granted during the period covered—of which there were 4,000—under the various subject headings. We have included the patent references with the titles of articles and reports in order to afford the user of this volume the utmost correlation between the described and patent phases of the art.

The listings of declassified U. S., British and Canadian documents have been greatly expanded and brought up to date, in order to make available as much as possible of the important war and postwar research in electronics, atomic physics and the allied fields.

In addition, we have expanded our coverage of special reports and documents not appearing in regularly published periodicals by including for the first time a list of British and American reports on German and Japanese research and developments, as well as the titles of many theses on electronic and related subjects submitted at major American universities.

In the Bibliography of Engineering Books, we have listed the books published during 1949 in the United States, as well as many of those published in England, France, Germany, etc. It is hoped that with subsequent editions of the *Electronic Engineering Master Index* we will eventually list the books of all the technical publishers of the world.

The cumulative cross index of subjects at the end of this book serves as a guide to the present compilation as well as to the 1925–1945, the 1935–1945, the 1946, and the 1947–1948 editions. In order to facilitate use of this cumulative index we have given each edition a volume number. The 1925–1945 and 1935–1945 editions are each referred to as volume 1, because the 1935–1945 book is actually the second part of the 1925–1945 book, including the same page numbers. The 1946 edition is referred to as volume 2, the 1947–1948 edition as volume 3, and the 1949 edition as volume 4. The volume number of subsequent editions will continue in consecutive order.

In the cross index there will be a boldface number, which is the volume reference, preceding the page number referred to. Thus, under some specific reference we may find the numbers **2**-115, **4**-130. This means some material can be found on page 115 of volume 2, the 1946 edition, and also on page 130 of volume 4, the 1949 edition. If the reference is to volume 1 and bears the index number **1**-109 or higher, then the information can be found in *either*

the 1925–1945 edition or the 1935–1945 edition on the same page. If the volume 1 index page number reference is less than 1-109 then it can only be found in the 1925–1945 edition. (This is so because all page numbers below page 109 in this edition fall only within the years 1925–1935.)

We wish to express our appreciation to Evrom Allen Mintz, managing editor of the Electronics Research Publishing Co., Inc., for his contributions to the book. Acknowledgment is also extended to Charles Tepfer, Norman Weinstein, and Arnold J. Unger for their aid in the preparation of this volume.

JOHN F. RIDER

New York City, N. Y.
June, 1950

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Key to Abbreviations

Aug	August	Jan	January
Apr	April	Mar	March
bibliog	bibliography	Nov	November
contd	continued	Oct	October
Dec	December	p	page
diag	diagram	pt	part
ed	edition or editor	Sep	September
Feb	February	sup	supplement
il	illustrations	v	volume

Each magazine article entry is presented as follows:

Title of article
Author or authors
Title of periodical
Volume number
Page number
Month and year

Sample entry:

Circuits for travelling-wave tubes. J. R. Pierce. IRE Proc 37:510-515 May '49

Government documents and reports are indicated by a code group at the end of the entry. Some code groups used are BDDA (British Declassified Documents); MDDC (Manhattan District Declassified Documents); WDL (War Department Library). The source of these reports is given in the List of Publications Indexed.

Sample entry:

Video amplifier and scope. E. W. Titterton. MDDC 829

Each patent entry is presented as follows:

Title of patent
Patentee
Patent Number
Number of claims
Date of application
Date granted

Sample entry:

Tone arm and pickup assembly. Clarence F. Jensen, 2,475,785, 6 cl. Appl Mar 18, '47; granted July 12, '49

For additional information on patents, see "Pat Gazette" entry in the List of Publications Indexed.

LIST OF PUBLICATIONS INDEXED

Acad Sci (USSR) Bul—Bulletin of the Academy of Sciences, physics series. Cherkasski Per 2, Moscow

Acoust Soc Am J—Journal of the Acoustical Society of America. Quarterly. $8, nonmembers $10; single copies $2. American Institute of Physics, 57 E. 55th St., New York

Acta Phys Aust—Acta Physica Austriaca. Springer-Verlag, Molkerbasttei 5, Vienna

Acta Phys Polo—Acta Physica Polonica. Al. Slowackiego 15 m.g. Cracow, Poland

Acta Polyt—Acta Polytechnica. Irregular. Royal Swedish Academy of Engineering Sciences, Stockholm, Sweden.

Advanc Sci—Advancement of Science. British Association for the Advancement of Science, Burlington House, London W. 1

AEC, AECD, and AECU—Documents published by the Atomic Energy Commission, Document Sales Agency, P.O. Box 62, Oak Ridge, Tenn.

Aero Digest—Aero Digest. Monthly. $3; single copies 50¢. Aeronautical Digest Publishing Corp., 515 Madison Ave., New York

Aero Eng Rev—Aeronautical Engineering Review. Monthly. $3; single copies 50¢. Institute of the Aeronautical Sciences, Inc., 2 E. 64th St., New York

Aero Quart—The Aeronautical Quarterly. Royal Aeronautical Society, 4 Hamilton Place, W. 1, London

Aero Sci J—Journal of the Aeronautical Sciences. Quarterly. $12; single copies $1.50. Institute of the Aeronautical Sciences, Inc., 2 E. 64th St., New York 2, N. Y.

Aerovox Res Worker—Aerovox Research Worker. Monthly. Aerovox Corporation, New Bedford, Mass.

AIEE Trans—Transactions of the American Institute of Electrical Engineers. 33 W. 39th Street, New York

Akad Nauk Dok—Bulletin of the Academy of Science, USSR. Wolkhonka 14, Moscow. NOTE: An asterisk after magazine title on any listing indicates English translation of article available at Brookhaven National Laboratory, Upton, N. Y.

Akad Nauk Izvest OTN—Bulletin of the Academy of Sciences, technical science series. Wolkhonka 14, Moscow

Alta Frequenza—Alta Frequenza. Associazione Elettrotecnica Italiana, Via San Paolo 10, Milan, Italy

Am Bld—American Builder and Building Age. Monthly. $3; single copies 50¢. Simmons-Boardman Pub. Corp., 30 Church St., New York

Am Cer Soc Bul—Bulletin of the American Ceramic Society. Monthly. $6; single copies 50¢. American Ceramic Society, 2525 N. High St., Columbus 2, Ohio

Am Cer Soc J—Journal of the American Ceramic Society. Monthly. $15; single copies $1.50. American Ceramic Society, 2525 N. High St., Columbus, Ohio

Am Chem Soc J—Journal of the American Chemical Society. Monthly. $12; single copy $1. American Chemical Society, 60 E. 42nd St., New York

Am Dyestuff Rep—American Dyestuff Reporter. Biweekly. $5. Howes Pub. Co., 1 Madison Ave., New York

Am Gas J—American Gas Journal. Monthly. $3; single copies 35¢. American Gas Journal, Inc., 53 Park Place, New York

Am Helic—American Helicopter. American Helicopter Society, Bridgeport, Conn.

Am J Phys—American Journal of Physics. Monthly, except June, July, Aug. $6; single copies $1.50. American Association of Physics Teachers, 57 E. 55th St., New York 22, N. Y.

Am J Roentgenology & Radium Therapy—American Journal of Roentgenology & Radium Therapy. American Roentgen Ray Society, Detroit, Michigan

Am J Sci—American Journal of Science. Monthly. $8; single copies 75¢. American Journal of Science, New Haven, Conn.

Am Mach—American Machinist. Biweekly. $5; single copies 50¢. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York 18, N. Y.

Am Met Soc Bul—Bulletin of the American Meteorological Society. Monthly. $3.50; single copies 35¢. American Meteorological Society, 5 Joy St., Boston, Mass.

Am Mineral—American Mineralogist. Bimonthly. $4; single copies $1. George Banta Pub. Co., Menasha, Wisc.

Am Photog—American Photography. Monthly. $2.50; single copies 25¢. American Photographic Publishing Co., 607 Guardian Bldg., St. Paul 1, Minn.

Am Rocket Soc J—Journal of the American Rocket Society. Quarterly. $4; single copies $1. Rocket Society, Inc., 29 W. 39th St., New York 18, N. Y.

Am Soc CE Proc—Proceedings of the American Society of Civil Engineers. Monthly, except July & Aug. $8; single copies $1. American Society of Civil Engineers, 33 W. 39th St., New York

Am Soc for Metals Trans—Transactions of the American Society for Metals, 7301 Euclid Ave., Cleveland, Ohio

Am Water Works Assn J—Journal of the American Water Works Association. Monthly. $7; single copies 75¢. American Water Works Association, 500 5th Ave., New York

Amateur Wireless—Amateur Wireless Journal of the Wireless Institute of Australia. 191 Queens St., Melbourne, Australia

Amph Eng N—Amphenol Engineering News. Monthly. Gratis. American Phenolic Corporation, 1830 S. 54th Ave., Chicago 50, Ill.

Anais Acad Brasil Cien—Anais da Academia Brasileira de Ciencias. Academia Brasileira de Ciencias, Rio de Janeiro, Brazil

Anal Chem—Analytical Chemistry. Monthly. $3; single copies 50¢. American Chemical Society, 1155 16th St., N.W., Washington, D. C.

Ann de Phys—Annalen der Physik. Irregular. Johann Ambrosius Barth, Salonstrasse 18B, Leipzig, Germany

Ann Geofis—Annali di Geofisica. Istituto Nazionale di Geofisica, Citta Universitaria, Rome

Ann Phys—Annales de Physique. Bimonthly. Masson et Cie, 120 Boulevard Saint Germain, Paris, 6e

Ann Radioelec—Annales de Radioelectricite. Quarterly. 23 rue du Maroc, Paris

Ann Telecommun—Annales de Telecommunication. Monthly. Centre National d'etudes des Telecommunications, 24 rue Morere, Paris

APCO Bul—The APCO Bulletin Monthly. The Associated Police Communication Officers, Inc., Detroit, Michigan.

Appl Sci Res—Applied Scientific Research, section A. Irregular. Martinus Nijhoff, The Hague, Holland

Arch Elek—Archiv fur Elektrotechnik. Irregular. Springer-Verlag, Jebenstrasse 1, Berlin-Charlottenburg, Germany.

Arch Elek Ubertragung—Archiv der Electrischen Ubertragung. Monthly. Hauptstrasse 61, Friedrichsdorf, Germany

Arch Forum—Architectural Forum. Monthly. $5.50; single copies $1. Time, Inc., 350 5th Ave., New York

Arch Record—Architectural Record. Monthly. $4.50; single copies $1. F. W. Dodge Corp., 119 W. 40th St., New York

Arch Tech—Archiv fur technisches Messen. Monthly. Leibniz Verlag, Lotzbeckstrasse 2b, Munich, Germany

Ark Mat Astr Fys—Archiv for Matematik, Astronomi och Fysik. Irregular. Royal Swedish Academy of Sciences, Stockholm, Sweden

ASME Trans—Transactions of the American Society of Mechanical Engineers. Monthly, except Mar, June, Sept, Dec. $12; single copies $1.50. American Society of Mechanical Engineers, 29 W. 39th St., New York

Assoc Suisse Elect Bul—Bulletin de l'Association Suisse des Electriciens. Seefeldstrasse 301, Zurich 8, Switzerland

ASTM Bul—American Society for Testing Materials Bulletin. 8 times yearly. $2.75; single copies 50¢. 20th & Northampton Sts., Easton, Pa.

Astrophys J—Astrophysical Journal. Bimonthly. $12; single copies $3. University of Chicago Press, 5750 Ellis Ave., Chicago, Ill.

Atti Accad Sci Torino—Transactions of the Academy of Science of Turin, Turin, Italy

Atti della Accad Naz Lincei—Atti della Accademia Nazionale dei Lincei. Rendiconti, Classe di Scienze Fisiche, Matematiche e Naturali. Monthly Accademia Nazionale dei Lincei, Rome

Audio Eng—Audio Engineering. Monthly. $4; single copies 35¢. Radio Magazines, Inc., 342 Madison Ave., New York 17

Audio Rec—Audio Record. Monthly. Gratis. Audio Devices, Inc., 444 Madison Ave., New York

Aust J Inst Tech—Australian Journal of Instrument Technology. Bimonthly. 414 Collins St., Melbourne, Australia

Aust J Sci Res Ser A—Journal of the Commonwealth Scientific & Industrial Research Organization. Quarterly. 314 Albert St., East Melbourne, Australia

Automotive Ind—Automotive Industries. Semimonthly. $2; single copies 25¢. Chilton Co., 100 E. 42nd St., New York

Aviation W—Aviation Week. Weekly. $6; single copies 50¢. McGraw-Hill Pub. Co., 330 W. 42nd St., New York

Avtomatika i Tele—Avtomatica i Telemekhanika. Monthly. Academy of Sciences, Moscow

AWA Tech Rev—AWA Technical Review. Irregular. 555 Parramatta Road, Ashfield, N.S.W., Australia

Bak Rev—Bakelite in Review. Quarterly. Bakelite Division, Union Carbide & Carbon Corp., 30 E. 42nd St., New York

BBC Quart—B.B.C. Quarterly. British Broadcasting Co., Broadcasting House, London, W. C. 1

BDDA—British declassified documents. H.M. Stationery Office, P.O. Box 569, Cornwall House, London, S.E. 1

Beama J—Beama Journal. Monthly. British Electrical & Allied Manufacturers' Assn, 36 Kingsway, London, W.C. 2

Bel Lab Rec—Bell Laboratories Record. Monthly. $20. Bell Telephone Laboratories, Inc., 463 West St., New York

Bell System Tech J—Bell System Technical Journal. Quarterly. $1.50; single copies 50¢. American Telephone and Telegraph Co., 195 Broadway, New York

Bibliography of Scientific and Industrial Reports—See PB listing

Biochemical J—Biochemical Journal. The Biochemical Society, Liverpool, England

Blast Furnace & Steel—Blast Furnace & Steel Plant. Monthly. $2. Steel Publications, Inc., Box 477, Pittsburgh, Penna.

Bone Joint Surg J—Journal of Bone and Joint Surgery. American Orthopedic Association, Boston, Mass.

Brit Govt Pub—H.M. Stationery Office, P.O. Box 569, Cornwall House, London S.E. 1, or British Information Services, 30 Rockefeller Plaza, New York

Brit Interplanetary Soc J—Journal of the British Interplanetary Society. 157 Friary Road, London S.E. 15

Brit IRE J—Journal of the British Institution of Radio Engineers. Monthly. 9 Bedford Square, London W.C. 1

Brit J Radiol—British Institute of Radiology. Monthly. 32 Welbeck St., London W. 1

Brit Stand Inst—British Standards Institution. British Standards Institution, 24-8 Victoria St., London S.W. 1

Broadcast Eng J—The Broadcast Engineers' Journal. Monthly. $2.50; single copy 35¢. National Association of Broadcast Engineers and Technicians, 116-03 91st St., Richmond Hill 18, New York

Broadcast N—Broadcast News. Bimonthly. $2; single copies 50¢. Radio Corporation of America, Engineering Products Dept., Camden, New Jersey

Brown Boveri Rev—Brown Boveri Review. Monthly. Brown, Boveri & Co., Ltd., Baden, Switzerland

Bus Transportation—Bus Transportation. Monthly. $5; single copies 50¢. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York

Business W—Business Week. Weekly. $6; single copies 25¢. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York

CAA J—Civil Aeronautics Journal. Monthly. Civil Aeronautics Administration. 75¢. Superintendent of Documents, Washington 25, D.C.

Cables & Trans—Cables et Transmission. Quarterly. Sotelec, 16 Rue de la Baume, Paris 8e

Camb Phil Soc Proc—Proceedings of the Cambridge Philosophical Society. Quarterly. Cambridge University Press, Bentley House, 200 Euston Road, London, N.W. 1

Can J Res—Canadian Journal of Research. Monthly. National Research Council of Canada, Ottawa, Canada

Can Min J—Canadian Mining Journal. Monthly. $7.50; single copies $1. National Business Publications, Ltd., Gardenvale, Quebec, Canada

Cap—Cornell-Dubilier Capacitor. Monthly. Cornell-Dubilier Electric Corp., Hamilton Boulevard, S. Plainfield, N. J.

Cenco—Cenco News Chats. Quarterly. Central Scientific Co., 1700 Irving Park Road, Chicago, Ill.

Chalmers Tek Hog—Chalmers Tekniska Hogskolas Handlinger (Transactions of Chalmers University of Technology). Irregular. N. J. Gumperts Bokhandel, Gotenborg, Sweden

Chem Age—The Chemical Age. Weekly. Benn Brothers, Ltd., Bouverie House, 154 Fleet St., London, E.C. 4

Chem & Eng N—Chemical & Engineering News. Weekly. $6; single copies 15¢. American Chemical Society, 60 E. 42nd St., New York

Chem & Ind—Chemistry and Industry. Weekly. Society of Chemical Industry, 56 Victoria St., London S.W. 1

Chem Eng—Chemical Engineering Progress. Monthly. $6; single copies 75¢. American Institute of Chemical Engineers, 120 E. 41st St., New York

Chem Ind—Chemical Industries. Monthly. $5; single copies 60¢. Maclean-Hunter Pub. Corp., 522 5th Ave., New York 18

Chem Soc J—Journal of the Chemical Society. Monthly. The Chemical Society, Burlington House, Piccadilly, London W. 1

CIT—Theses submitted at California Institute of Technology, Pasadena, California

Coal Age—Coal Age. Monthly. $15. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York

Columbia U EE Dept—Theses submitted to Department of Electrical Engineering, Columbia University, N. Y.

Comm N—Communication News. Quarterly. N. V. Philips' Glocilampenfabricken, Eindhoven, Holland

Comm Rev—Communication Review. Irregular. Communication Review, 16 Hunter St., Sydney, Australia

Communications—Communications. Monthly. Bryan Davis Publishing Co., Inc., 52 Vanderbilt Ave., New York 17

Compt Rend Acad Sci—Comptes Rendus hebdomadaires des Seances de l'Academie des Sciences. Weekly. Gauthier-Villars, 55 Quai desGrand-Augustins, Paris.

Constr Methods—Construction Methods. Monthly. $2; single copies 25¢. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York

Council Sci Ind Res Aust J—Journal of the Council of Scientific and Industrial Research of Australia. Quarterly. Commonwealth Scientific and Industrial Research Organization, 314 Albert St., E. Melbourne, Victoria, Australia

CQ—CQ. Monthly. $3; single copies 35¢. Radio Magazines, Inc., 342 Madison Ave., New York

Dan Acad Tech Sci Trans—Transactions of the Danish Academy of Technical Science. 1 Kommission Hos G.E.C. Gad, Vimmelskaftet 32, Copenhagen K, Denmark

Distrib Elec—Distribution of Electricity. Quarterly. 51-3 Hatton Garden, London E.C. 1

DuPont Mag—DuPont Magazine. Bimonthly. E. I. Du Pont de Nemours & Co., Wilmington, Del.

Edison Elec Inst Bul—Edison Electric Institute Bulletin. Monthly. $2. Edison Electric Institute, 420 Lexington Ave., New York

Elec Comm—Electrical Communication. Quarterly. $2; single copies 50¢. International Telephone & Telegraph Co., 67 Broad St., New York 4

Elec Eng—Electrical Engineering. Monthly. $12; single copies $1.50. American Institute of Electrical Engineers, 500 5th Ave., New York 18

Elec Mfg—Electrical Manufacturing. Monthly. Gage Pub. Co., 1250 Ave. of the Americas, New York 20

Elec Rev—Electrical Review. Weekly. Electrical Review, Dorset House, Stamford St., London S.E. 1

Elec Times—Electrical Times. Weekly. Sardinia House, Sardinia St., London, W.C. 2

Elec West—Electrical West. Monthly. $2; single copies 25¢. McGraw-Hill Pub. Co., 68 Post St., San Francisco 4, Calif.

Elec World—Electrical World. Weekly. $6; single copies 35¢. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York

Electrician—Electrician. Weekly. 30s; single numbers 6d. Benn Bros. Ltd., Bouverie House, 154 Fleet St., London, E.C. 4

Electricity (USSR)—Electricity (Elektrichestvo). Monthly. Cherkosski Per. 2, Moscow. NOTE: An asterisk after magazine title on any listing indicates English translation of article available at Brookhaven National Laboratory, Upton, N. Y.

Electrochem Assoc Japan J—Journal of the Electrochemical Association of Japan, Tokyo

Electrochem Soc J—Journal of the Electrochemical Society. Monthly. $10; single copies $1. American Electrochemical Society, 235 W. 102nd St., New York 25, N. Y.

Electrochem Soc Trans—Transactions of the Electrochemical Society. Semiannually. Single copies $2 to members, $7 to nonmembers. Electrochemical Society, 235 W. 102nd St., New York

Electro-Ind Bul—Bulletin of the Electro-Industry of Weak Currents. 10 issues annually. Pybny. Per 2, Moscow. NOTE: An asterisk after magazine title on any listing indicates English translation available at Brookhaven National Laboratory, Upton, N. Y.

Electronic Eng—Electronic Engineering. Monthly. 28 Essex St., Strand, W.C. 2, London

Electronics—Electronics. Monthly. $6.00; single copies 75¢. McGraw-Hill Publishing Co., Inc., 330 W. 42nd St., New York 18

Electronique—Electronique. Monthly. 21 Rue des Jeuneurs, Paris 2e

Elektron—Electron. Monthly. 4, Anastasius-Grun-Strasse, Linz, Austria

Elektron Wiss und Tech—Das Elektron in Wissenschaft und Technik. Monthly. Hans Reich Verlag, Maxstadstr. 1, Garmisch-Partenkirche, Bavaria, Germany

Elektrotech und Maschinenb—Elekthotechnik und Maschinenbau. Springer-Verlag, Molkerbastei 5, Vienna I, Austria

Elektrotech Zeit—Elektrotechnische Zeitschrift. Weekly. Verband Deutscher Elektrotechniker, Wegnestr. 13/15, Wuppertal-Barmen, Germany

Elektrotechnik—Elektrotechnik. Verlag Technik G.M.B.H., Dorotheenstrasse 41. Berlin, N.W. 7

Elektrotechnika—Elektrotechnika. V. Honved-u. 22, Budapest, Hungary

Elettronica—Elettronica i Televisione. 16 Via Garibaldi, Turin, Italy

Elettrotecnica—Elettrotecnica. Semimonthly. Milan, Italy

Endeavour—Endeavour. Imperial Chemical Industries. Quarterly. Nobel House, Buckingham Gate, London S.W. 1

Eng & Min J—Engineering & Mining Journal. Monthly. $3; single copies 50¢. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York

Eng Digest—The Engineer's Digest. Monthly. Engineers' Digest, Ltd., 120 Wigmore St., London W. 1

Eng N—Engineering News-Record. Weekly. $6; single copy 35¢. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York 18

Engineer—Engineer. Weekly. 28 Essex St., Strand, London W.C. 2

Engineering—Engineering. Weekly. 36 Bedford St., Strand, London W.C. 2

Ericsson Rev—Ericsson Review. Irregular. Telefonaktiebolaget L. M. Ericsson, Stockholm, Sweden

Ericsson Tech—Ericsson Technics. Irregular. Telefonaktiebolaget L. M. Ericsson, Stockholm, Sweden

ETZ—See Electrotech Zeit. Monthly. Wuppertal, Germany

Factory Management—Factory Management and Maintenance. Monthly. $3; single numbers 35¢. McGraw-Hill Publishing Co., Inc., 330 W. 42nd St., New York 18

Far Soc Dis—Discussions of the Faraday Society. Irregular. Aberdeen University Press, Ltd., 6 Upper Kirkgate, Aberdeen, Scotland

Far Soc Trans—Transactions of the Faraday Society. Aberdeen University Press, Ltd., 6 Upper Kirkgate, Aberdeen, Scotland

Fernmeldetech Zeit—Fernmeldetechnische Zeitschrift. Monthly. Friedr. Vieweg & Sohn, Brunswick, Germany

Fidelco Tec Bol—Boletin Tecnico de Fidelco, S.A. Monthly. Fidelco, S.A., Apartado 2619, Havana, Cuba

FM-TV—FM-TV. Monthly. $3; single copies 25¢. 264 Main St., Gt. Barrington, Mass.

Food Ind—Food Industries. Monthly. $3; single copies 35¢. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York

Franc Elec Soc Bul—Bulletin de la Societe Francaise des Electriciens. Monthly. 8-14 Avenue Pierre Larousse, Malakoff (Seine), France

Franklin Inst J—Journal of the Franklin Institute. Monthly. $8; single numbers $1. The Franklin Institute of the State of Pennsylvania, Benjamin Franklin Parkway at 20th St., Phila. 3, Pa.

Frequenz—Frequenz. Monthly. Fachverlag Schiele & Schon, Leuschnerdamm 13, Berlin, S.O. 36, Germany

Frontier—Frontier. Quarterly. Armour Research Foundation of Illinois Institute of Technology, Technology Center, Chicago 16, Ill.

Funk und Ton—Funk und Ton. Verlag fur Radio-Foto-Kinotechnik G.m.b.H., Eichborndamm 141/167, Berlin-Borsigwalde, Germany

Gas Age—Gas Age. Biweekly. $4; single copies 25¢. Moore Pub. Co., Inc., 9 E. 38th St., New York.

GEC Jour—G.E.C. Journal. Quarterly. The General Electric Co., Ltd., Magnet House, Kingsway, London, England

GE Ham N—General Electric Ham News. Bimonthly. Gratis. General Electric, Tube Div., Electronics Dept., Schenectady, New York

Gen Elec Rev—General Electric Review. Monthly. $4; single numbers 40¢. General Electric Co., Schenectady 5, New York

Gen Rad Exp—General Radio Experimenter. Monthly. General Radio Co., 275 Massachusetts Ave., Cambridge, Mass.

Genie Civil—Le Genie Civil. Weekly. Genie Civil, 5 Rue Jules Lefebre, Paris 9e

Glass Ind—Glass Industry. Monthly. $3.50; single copies 35¢. Ogden Pub. Co., 55 W. 42nd St., New York

Guide to Russian Sci Lit—Guide to Russian Scientific Periodical Literature. Monthly. Brookhaven National Laboratory, Upton, New York

Ham Tips—Ham Tips (RCA). Irregular. Radio Corporation of America, Tube Dept., Harrison, N. J.

Heat & Ven—Heating and Ventilating. Monthly. $3; single copies 30¢. Industrial Press, 148 Lafayette St., New York

Heating-Piping—Heating, Piping and Air Conditioning. Monthly. $3; single issues 35¢. Keeney Pub. Co., 6 North Michigan Ave., Chicago, Ill.

Helv Phys Acta—Helvetica Physica Acta. Irregular. Journal of the Societe Suisse de Physique. Editions Berkhaueser S.A., Basel, Switzerland

HF—HF. Quarterly. 7 Rue de la Science, Brussels, Belgium

HP Jour—Hewlett-Packard Journal. Monthly. Hewlett Packard Co., 395 Page Mill Road, Palo Alto, Calif.

IEE Proc—Proceedings of the Institution of Electrical Engineers. Monthly. Savoy Place, London W.C. 2

Illum Eng—Illuminating Engineering. Monthly. $10; single copies $1.50. Illuminating Engineering Society, 51 Madison Ave., New York

Ind & Eng Chem—Industrial and Engineering Chemistry. Monthly. $4; single copies 75¢. American Chemical Society, 1155 16th St., N.W., Washington, D.C.

Ind Plast Mod—Industrie des Plastiques Modernes. Les Publications Techniques Associees, 40 Rue du Calisee, Paris 8e

Ind Radiography—Industrial Radiography. American Industrial and X-Ray Society, Chicago, Ill

Indian J Phys—Indian Journal of Physics. Monthly. Indian Association for the Cultivation of Science, 210 Bowbazar St., Calcutta, India

Inst Pet J—Journal of the Institute of Petroleum. Monthly. Institute of Petroleum, 26 Portland Place, London W. 1

Instrumentation—Instrumentation. Quarterly. Minneapolis-Honeywell Regulator Co., Brown Instruments Div., Wayne & Windrim Avenues, Phila., Pa.

Instruments—Instruments. Monthly. $3. Instruments Pub. Co., 921 Ridge Ave., Pitts., Pa.

Intl Proj—International Projectionist. Monthly. $2.50; single copies 30¢. International Projectionist Pub. Co., Inc., 19 W. 44th St., New York 18

Iodine Abstracts—Iodine Abstracts and Reviews. Chilean Iodine Educational Bureau, Inc., 120 Broadway, New York 5, N. Y.

IRE Proc—Proceedings of the Institute of Radio Engineers. Monthly. $18; single numbers $2.25. Institute of Radio Engineers, Inc., 1 E. 79th St., New York

IRE Proc (Australia)—Proceedings of the Institution of Radio Engineers Australia. Monthly. Science House, Essex and Gloucester Sts., Sydney, New South Wales, Australia

Iron Age—Iron Age. Weekly. $8; single numbers 35¢. Chilton Co., Inc., 100 E. 42nd St., New York 17

Iron & Steel Eng—Iron and Steel Engineer. Monthly. $7.50; single issues $1.50. Association of Iron & Steel Engineers, 1010 Empire Bldg., Pitts., Pa.

Iron & Steel Inst J—Journal of the Iron and Steel Institute. Monthly. Iron and Steel Institute, 4, Grosvenor Gardens, London, S.W. 1

Isotopes Div Circ—Isotopes Division circulars. Atomic Energy Commission, Oak Ridge, Tennessee

Jour Ap Mech—Journal of Applied Mechanics. Quarterly. $5, members $2.50; single copies $1.35. American Society of Mechanical Engineers, 29 West 39th St., New York 18

Jour Ap Phys—Journal of Applied Physics. Monthly. $7; single copies 70¢. American Institute of Physics, 57 E. 55th St., New York 22.

Jour Chem Phys—Journal of Chemical Physics. Monthly. $12; single copies $1.25. American Institute of Physics, 57 E. 55th St., New York

Jour Geophys Res—Journal of Geophysical Research. Quarterly. $3.50; single copies $1. The Johns Hopkins Press, Baltimore 18, Md.

Jour Math Phys—Journal of Mathematics and Physics. Quarterly. Massachusetts Institute of Technology, Cambridge 39, Mass.

Jour Metals—Journal of Metals. Monthly. $8; single copies 75¢. American Institute of Mining and Metallurgical Engineers, Inc., 29 W. 39th St., New York

Jour Phys & Rad—Le Journal de Physique et le Radium. Monthly. 12, place Henri-Bergson, Paris 8e

Jour Phys Colloid Chem—Journal of Physics and Colloid Chemistry. Monthly, except July, Aug., and Sept. $10; single copies $1.75. Williams & Wilkins Co., Mt. Royal and Guilford Avenues, Baltimore, Md.

Jour Sci Instr—Journal of Scientific Instruments and Physics in Industry. Monthly. Institute of Physics, 47 Belgrave Sq., London, S.W. 1

Konin Ned Akad Proc—Koninklijke Nederlandsche Akademie van Wetenschappen Proceedings. Amsterdam, Holland

Kungl Tekn Hogsk Handl—Kungliga Tekniska Hogskolan. Valhallavagen, horsal 432, Stockholm, Sweden

Light & Lighting—Light and Lighting. Monthly. 32 Victoria St., London

Light Metals—Light Metals. Monthly. Bowling Green Lane, London, E.C. 1

Machine Design—Machine Design. Monthly. $10; single copies $1. Penton Publishing Co., Penton Bldg., Cleveland, Ohio

Machinery—Machinery. Weekly. Machinery Publishing Co., Ltd., Clifton House, 83-117 Euston Road, London, N.W. 1

Marconi Rev—Marconi Review. Quarterly. Marconi's Wireless Telegraph Co., Ltd., Electra House, Victoria Embankment, London W.C. 2

Marine Eng—Marine Engineering and Shipping Review. Monthly. $3; single copies 35¢. Simmons-Boardman Publishing Corp., 30 Church St., New York 7

Materials & Methods—Materials and Methods. Monthly. $4; single copies 50¢. Reinhold Publishing Corp., 330 W. 42nd St., New York 18

Math Tables—Mathematical Tables and other Aids to Computation. Quarterly. $5. National Research Council, Prince and Lemon Sts., Lancaster, Pa.

MDDC—Manhattan District Declassified Documents. U.S. Atomic Energy Commission, Document Sales Agency, P.O. Box 62, Oak Ridge, Tenn.

Mech Eng—Mechanical Engineering. Monthly. $7; single copies 75¢. American Society of Mechanical Engineers, 29 W. 39th St., New York 18

Mech Handling—Mechanical Handling. Monthly. Louis Cassier Co., Ltd., Dorset House, Stamford St., London

Mech World Eng Record—Mechanical World and Engineering Record. Manchester, England

Met Mag—Meteorological Magazine. Monthly. H. M. Stationery Office, P.O. Box 569, London S.E. 1 (Also available at British Information Services, 30 Rockefeller Plaza, New York 20, N. Y.)

Metal Finishing—Metal Finishing. Monthly. $4; single copies 45¢. Finishing Publications, Inc., 11 W. 42nd St., New York

Metal Ind—Metal Industry. Weekly. Dorset House, Stamford St., London S.E. 1

Metal Progress—Metal Progress. Monthly. $7.50; single copies $1.50. American Society for Metals, 7301 Euclid Avenue, Cleveland, Ohio

Metal Treat—Metal Treatment. Quarterly. 49 Wellington St., Strand, London W.C. 2

Metallurgia—Metallurgia. Monthly. Kennedy Press, Ltd., 31 King St. West, Manchester 3, England

Metals & Alloys—Metals and Alloys. Monthly. $2; single copies 25¢. Reinhold Publishing Corp., 330 W. 42nd St., New York 18

Metals Tech—Metals Technology. 8 issues per year. 212 York St., York, Pa.

Mfg Rec—Manufacturing Record. Monthly. $3; single copies 35¢. Manufacturers Record Publishing Co., 109 Market Place, Baltimore Md.

Microtecnic—Microtecnic. Bimonthly. Case Postale St., Francois, Lausanne, Switzerland

Mid Eng—Midwest Engineer. Monthly, except June, July, and Aug. $3; single copies 35¢. Western Society of Engineers, 84 E. Randolph St., Chicago 1, Ill.

Mining Eng—Mining Engineering. Monthly. $8; single copies 75¢. American Institute of Mining and Metallurgical Engineers, Inc., 29 W. 39th St., New York

Mod Ind—Modern Industry. Monthly. $4; single copies 50¢. Magazines of Industry, Inc., 347 Madison Ave., New York 17

Mod Plastics—Modern Plastics. Monthly. $5; single copies 75¢. Modern Plastics, Inc., 122 E. 42nd St., New York 17

Muirhead Technique—Muirhead Technique. Muirhead & Co., Ltd., Beckenham, Kent, England

Nat Acad Sci Proc—Proceedings of the National Academy of Sciences. Monthly. $5; single copies 50¢. National Academy of Sciences, 2101 Constitution Ave., Washington 25, D.C.

Nat Bur Stand—National Bureau of Standards Reports. Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

Nat Bur Stand Res J—Journal of Research of the National Bureau of Standards. Monthly. $4.50; single copies 60¢. Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

Nat Bur Stand Tech Bul—Technical News Bulletin of the National Bureau of Standards. Monthly. $1; single copies 10¢. Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

Nat Research Council Bul—National Research Council, 2101 Constitution Ave., Washington, D.C.

Nat Safety N—National Safety News. Monthly. $7.50; single copies 75¢. National Safety Council, Inc., 20 N. Wacker Drive, Chicago, Ill.

Nature—Nature. Weekly. McMillan & Co., Ltd., St. Martin's St., London, W.C. 2

Naturwiss—Naturwissenschaften. Springer - Verlag, Jebenstrasse 1, Berlin-Charlottenburg 2, Germany

NEC Proc—Proceedings of the National Electronics Conference, c/o Mr. Karl Kramer, Jensen Manufacturing Co., 6601 South Laramie Ave., Chicago, Ill.

Neue Bauwelt—Neue Bauwelt. Monthly. Verlag des Druckhauses Tempelhof, Berlin-Tempelhof, Mariendorfer Damm 1/3

Nickel Topics—Nickel Topics. Monthly. The International Nickel Co., Inc., 617 Wall St., New York 5

NRC—Report obtainable from National Research Council of Canada. National Research Council, Ottawa, Canada

Nucleonics—Nucleonics. Monthly. $10; single numbers $1. McGraw-Hill Publishing Co., 330 W. 42nd St., New York 18

Nuovo Cim—Il Nuovo Cimento. 10 issues annually. Societa italiana di fisica, Pisa, Italy

NYU EE Dept—Theses submitted at College of Engineering, New York University, University Heights, New York

N.Z. J Sci Tech—New Zealand Journal of Science and Technology. Bimonthly. Government Printer, Wellington, New Zealand

Observatory—Observatory. Bimonthly. The Royal Observatory, Greenwich, London, S.E. 10

Ohmite N—Ohmite News. 10 issues per year. Ohmite Manufacturing Company, 4835-41 Flourney St., Chicago 44, Ill.

Oil & Gas J—Oil and Gas Journal. Weekly. $3; single copies 50¢. Petroleum Publishing Co., 211 South Cheyenne St., Tulsa, Oklahoma

Onde Elec—L'Onde Electrique. Monthly. Bulletin de la Societe des Radioelectriciens. Etienne Chiron, 40, Rue de Seine, Paris 6e

Opt Soc Am J—Journal of the Optical Society of America. Monthly. American Institute of Physics, Inc., 57 E. 55th St., New York 22

Oscillographer—The Oscillographer. Quarterly. Allen B. DuMont Laboratories, Inc., Instrument Div. 1000 Main Ave., Clifton, New Jersey

Overseas Eng—Overseas Engineer. Monthly. Bowling Green Lane, London, E.C. 1

Paper Ind—Paper Industry and Paper World Monthly. $2; Fritz Publications, Inc., 59 E. Van Buren St., Chicago, Ill.

Pat Gazette—Official Gazette, United States Patent Office. Weekly. $17.50, including annual index $21; single copies 35¢. Superintendent of Documents, Government Printing Office, Washington, D.C. Individual patents 25¢ each. Order from Commissioner of Patents, Washington 25, D.C.

PB—Pamphlets issued by U.S. Department of Commerce, Office of Technical Services, Washington 25, D.C.

Pet Eng—Petroleum Engineer. Monthly. $3; single copies 25¢. Petroleum Engineer Pub. Co., Irwin-Keasler Bldg., Dallas, Texas

Pet Processing—Petroleum Processing. Monthly. $3. National Petroleum Publishing Co., 1213 W. 3rd St., Cleveland 13, Ohio

Phil Mag—The Philosophical Magazine. Monthly. Taylor and Francis, Ltd., Red Lion Court, Fleet St., London E.C. 4

Phil Trans R Soc—Philosophical Transactions of the Royal Society. Irreg. Cambridge University Press, 200 Euston Road, London

Philips Comm N—Philips Communication News. Quarterly. N. V. Philips' Gloeilampenfabrieken, Eindhoven, Holland

Philips Res Rep—Philips Research Report. Bimonthly. N. V. Philips' Gloeilampenfabrieken, Eindhoven, Holland

Philips Tech Comm Aust—Philips Technical Communication. Philips Electrical Industries of Australia Pty., Ltd., 69-73 Clarence St., Sydney N.S.W., Australia

Philips Tech Rev—Philips Technical Review. N. V. Philips' Gloeilampenfabrieken, Eindhoven, Holland

Phys Chem J (USSR)—Journal Physical Chem (USSR). Moscow. NOTE: An asterisk after magazine title on any listing indicates English translation of article available at Brookhaven National Laboratory, Upton, New York

Phys Prog Rep—Reports of the Physical Society on Progress in Physics. 1 Lowther Gardens, Prince Consort Road, London, S.W. 7

Phys Rev—The Physical Review. Semimonthly. $25. American Institute of Physics, Inc., 57 E. 55th St., New York 22

Phys Soc Proc—Proceedings of the Physical Society. Monthly. The Physical Society. 1 Lowther Gardens, Prince Consort Road, London, S.W. 7

Phys Today—Physics Today. Monthly. $4; single copies 50¢. American Institute of Physics, 57 E. 55th St., New York 22

Physica—Physica. Martinus Nijhoff, The Hague, Holland

P. O. Elec Eng J—Post Office Electrical Engineers' Journal. Quarterly. Birch & Whittington, Epsom, Surrey, England

Poste e Telecom—Poste e Telecommunicazioni. Monthly. Ministero P.T., 76 Via del Seminario, Rome, Italy

Power—Power. Monthly. $5; single copies 50¢. McGraw-Hill Publishing Co., Inc., 330 W. 42nd St., New York 18

Power Pl Eng—Power Generation and Power Plant Engineering. Monthly. $10; single copies $1. Technical Publishing Co., 53 W. Jackson St., Chicago 4, Ill.

Priroda—Nature. Pushkinskaya 23, Moscow, U.S.S.R.

Product Eng—Product Engineering. Monthly. $6; single copies 75¢. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York

Prog Theor Phys—Progress of Theoretical Physics (Japan). Akitaya Co., Ltd., Osaka, Kyoto, Japan

Pub Util—Public Utilities. Biweekly. $15; single copies $1. Public Utilities Reports, Inc., Munsey Bldg., Washington, D.C.

Purdue U Eng Bul—Engineering Bulletin Purdue University. Lafayette, Ind.

QST—QST. Monthly. $4; single copies 40¢. American Radio Relay League, West Hartford, Conn.

Quart Ap Math—Quarterly of Applied Mathematics. Brown University, Providence, Rhode Island

Quart J Mech Ap Math—Quarterly Journal of Mechanics and Applied Mathematics. Quarterly. Geoffrey Cumberlege, Oxford University Press, Amen House, London, E.C. 4

Radio Age—Radio Age. Quarterly. Department of Information, Radio Corporation of America, 30 Rockefeller Plaza, New York 20

Radio & Electronics—Radio and Electronics (Wellington, N.Z.). 46 Mercer St., Wellington, N.Z.

Radio & TV N—Radio and Television News. Monthly. $4; single copies 35¢. Ziff-Davis Pub. Co., 185 N. Wabash Ave., Chicago 1, Ill.

Radio & TV Ret—Radio and Television Retailing. Monthly. $2; single copies 35¢. Caldwell-Clements, Inc., 480 Lexington Ave., New York 17

Radio Bul—Radio Bulletin. 46 Rue des Aduatiques, Brussels 4, Belgium

Radio Club Am Proc—Proceedings of the Radio Club of America, Inc. $4; single copies 50¢. The Radio Club of America, 11 W. 42nd St., New York

Radio Comp Mfrs Assn Tech Bul—Radio Component Manufacturers' Association Technical Bulletin, 22 Surrey St., London W.C. 2

Radio Ekko—Radio Ekko. 17 Nordre Paradisveij, Holte, Denmark

Radio-Electronics—Radio Electronics. Monthly. $3.50; single copies 30¢. Radcraft Publications, 25 W. Broadway, New York 7

Radio Franc—La Radio Francaise. Monthly. Dunod, 92 Rue Bonaparte, Paris 6e

Radio Ind Coun Spec—Radio Industry Council Specifications. The Radio Industry Council, 59 Russell Square, London, W.C. 1

Radio J—Radio Journal. Av. Celso Garcia, 2598, Caixa Postal 10,008, Sao Paulo, Brasil

Radio Maint—Radio Distribution and Maintenance. Monthly. $3; single copies 25¢. Boland & Boyce, Inc., 460 Bloomfield Ave., Montclair, N. J.

Radio Prof—Radio Professionnelle. Monthly. 81 Rue de la Pompe, 18 bis, Villa Herran, Paris 16e

Radio Ser Deal—Radio Service Dealer. Monthly. $2; single copies 25¢. Cowan Publishing Co., 342 Madison Ave., New York 17

Radio Serv N—Radio Service News (RCA). Bimonthly. RCA Tube Department, Harrison, N. J.

Radio Tech—Radio Technik. Monthly. Technischer Verlag Erb., Wien VI, Mariahilfer Strasse 71, Austria

Radio Tech Dig—Radio Technical Digest Edition Francaise. Bimonthly. 122, Blvd. Murat, Paris 16e

Radio Times—Radio Times of India. Biweekly. 29 New Queen's Road, Bombay 4, India

Radio-TV Ap Sales—Radio-Television Appliance Sales. Monthly. Poulter Publications, Ltd., 54 Bloor St., West, Toronto 5, Canada

Radiogram—Radiogram. Monthly. Scott Radio Supply, 266 Alamitos Ave., Long Beach 2, Calif.

Radiotekhnika—Radiotekhnika. Svyazizdat, Denisovski 30, Moscow, Russia

Radio Welt—Radio Welt. Monthly. Titania—Verlagsgesellschaft Inc., 126 Sechshauserstrabe, Vienna 15, Austria

RCA Rev—RCA Review. Quarterly. $2; single copies 75¢. RCA Corporation of America, RCA Laboratories Division, Princeton, N. J.

Refrig Eng—Refrigerating Engineering. Monthly. $14; single copies 50¢. American Society of Refrigerating Engineers, 40 West 40th St., New York

Res Nat Bur Stand J—Journal of Research of the National Bureau of Standards. Monthly. $4.50; single copies 60¢. Superintendent of Documents, Washington 25, D.C.

Research—Research. Monthly. Butterworth's Scientific Publications Ltd., 4-6, Bell Yard, Temple Bar, London, W.C. 2

Rev d'Optique—Revue d'optique. Monthly. 3-5 Boulevard Pasteur, Paris 15e

Rev Mod Phys—Reviews of Modern Physics. Quarterly. $3; nonmembers $4.00. American Institute of Physics Inc., 57 E. 55th St., New York 22

Rev Sci—Revue Scientifique. Biweekly. 4 Rue Pomereu, Paris 16e

Rev Sci Instr—The Review of Scientific Instruments. Monthly. $5; non-members, $7; single copies 50¢. American Institute of Physics, Inc., 57 E. 55th St., New York 22

Rev Soc Cuba Ing—Revista de la Sociedad Cubana de Ingenieros. Bimonthly. Avenida de Belgica No 258, Havana, Cuba

Rev Tech Comp Franc Thomson-Houston—Revue Technique Compagnie Francaise Thomson-Houston. 173 Boulevard Haussmann, Paris 8e

Rev Telecom—Revista de Telecommunicacion. Palacio de Communicaciones, Madrid, Spain

Rev Telegr—Revista Telegrafica Electronica. Monthly. Arbo Editores, Peru No. 165, Buenos Aires, Argentina

Revue Gen Elec—Revue Generale De L'Electricite. Monthly. 12, Place Henri-Bergson, Paris 8e

Ricerca Sci—Ricerca Scientifica Ricostruzione. Consiglio Nazionale delle Ricerche, Piazalle delle Scienze 7, Rome

Roads & Bridges—Roads and Bridges. Monthly. Monetary Times Printing Co. of Canada, Ltd., 341 Church St., Toronto, Ontario, Canada

Roads & Streets—Roads and Streets. Monthly. $5. Gilette Pub. Co., 22 W. Maple St., Chicago, Ill.

Rock Prod—Rock Products. Monthly. Maclean-Hunter Pub. Corp., 309 W. Jackson Blvd., Chicago, Ill.

Roy Aero Soc J—Journal of the Royal Aeronautical Society. Monthly. Royal Aeronautical Society, 4 Hamilton Place, Piccadilly, London, W. 1

Roy Astr Soc Mon Not—Monthly Notices of the Royal Astronomical Society. Bimonthly. Burlington House, London, W. 1

Roy Irish Acad Proc—Proceedings of the Royal Irish Academy. Hodges, Figgis, & Co., Ltd., Dublin

Roy Met Soc Quart J—Quarterly Journal of Royal Meteorological Society. Quarterly. Royal Meteorological Society, 49 Cromwell Road, South Kensington, London S.W. 7

Roy Soc Proc—Proceedings of the Royal Society of London, Burlington House, London, W. 1

RSGB Bul—R.S.G.B. Bulletin. Monthly. Official Journal of Incorporated Radio Society of Great Britain. New Ruskin House, Little Russell St., London, W.C. 1

RSGB Proc—R.S.G.B. Proceedings. New Ruskin House, London, W.C. 1

RTJ—Radio & Television Journal. Monthly. $3; single copies 35¢. Kolbe Publications Inc., Radio City, 1270 6th Ave., New York 20

Rubber Age—Rubber Age. Monthly. $3; single copies 35¢ Palmerton Pub. Co., Inc., 250 W. 57th St., New York

Ry Age—Railway Age. Weekly. $6; single copies 50¢. Simmons-Boardman Publishing Corp., 30 Church St., New York 7

Ry Mech Eng—Railway Mechanical Engineer. Monthly. $3; single copies 50¢. Simmons-Boardman Pub. Co., 30 Church St., New York

S Afr IEE Trans—Transactions of the South African Institute of Electrical Engineers. Monthly. Marshall and Holland Sts., Johannesburg, South Africa

Saab Son—Saab Sonics. Svenska Aeroplan Aktiebolaget, Sweden

SAE Jour—SAE Journal. Monthly. $10; single copies $1. Society of Automotive Engineers, Inc., 29 W. 39th St., New York 18

Safety Eng—Safety Engineering. Monthly. $4; single copies 50¢. Alfred M. Best Co., Inc., 75 Fulton St., New York

Schweiz Arch—Schweizer Archiv fur angewandte Wissenschaft und Technik. Monthly. Verlags-Abteilung Vogt-Schild AG, Solothurn, Switzerland

Schweiz Elektrotech Ver Bul—Schweizerischer Elektrotechnischer Veren Bulletin. Semimonthly. Seefeldtstrasse 301, Zurich 8, Switzerland

Sci AIM Bul—The Scientific Bulletin of the Association of Engineers and Electricians. Annual. The Montefiore Electrotechnical Institute, Rue Saint Gillis 31, Liege, Belgium

Sci Am—Scientific American. Monthly. $5; single copies 50¢. Scientific American, 24 W. 40th St., New York 18

Sci Mon—Scientific Monthly. Monthly. $7.50; single copies 75¢. 1515 Massachusetts Ave., N.W., Washington 5, D.C.

Science—Science. Weekly. $7.50; single copies 25¢. American Association for the Advancement of Science, 1515 Massachusetts Ave., N.W., Washington 5, D.C.

Science & Culture—Science and Culture. Indian Science News Association, 92 Upper Circular Road, Calcutta 9, India

SDLC—Slavic Division, Library of Congress, Washington, D.C.

Service—Service. Monthly. $2; single copies 25¢. Bryan Davis Publishing Co., Inc., 52 Vanderbilt Ave., New York 17

Sewage Works J—Sewage Works Journal. Bimonthly. $5; single copies $1. Federation of Sewage Works Association, 325 Illinois Bldg., Champaign, Ill.

Short Wave Mag—Short Wave Magazine. Monthly. 49 Victoria St., London, S.W. 1

Soc Belge Elec Bul—Societe Belge des Electriciens Bulletin. Quarterly. 8 Rue Sabatier, Marcinelle, Belgium

Soc Chem Ind J—Journal of the Society of Chemical Industry. Monthly. Society of Chemical Industry, 56 Victoria St., London, S.W. 1

Soc Motion Picture Eng J—Journal of Society of Motion Picture Engineers. Monthly. $6.25; $10 non-members; single copies $1.25. Society of Motion Picture Engineers, Inc., 342 Madison Ave., New York 17

Soc Sci Fennica, Commentationes Phys-Math—Societas Scientiarum Fennica, Commentationes Physica-Mathematicae. Kasarngatan 24, Helsinki, Finland

Standardization—Standardization. Monthly. $4; single copies 35¢. American Standards Association, Inc., 70 E. 45th St., New York 17

Steel—Steel. Weekly. $1; single copies 35¢. Penton Pub. Co., Penton Bldg., Cleveland, Ohio

Strowger J—Strowger Journal. Automatic Telephone and Electric Co., Ltd., Strowger Works, Liverpool 7, England

Suc Serv—Successful Servicing. Monthly. Gratis. John F. Rider Publisher, Inc., 480 Canal St., New York 13

Sylvan N—Sylvania News. Monthly. Sylvania Electric Products Inc., P.O. Box 431, Emporium, Pa.

Sylvan Tech—The Sylvania Technologist. Quarterly. $1.50; single copies 50¢. Sylvania Electric Products Inc., Technical Relations Dept., 40-22 Lawrence St., Flushing, N. Y.

Tech Mitt Schweiz—Technische Mitteilungen von der Schweizer ischen Post-Telegraphen- und Telephonverwaltung. Bimonthly. Berne, Switzerland

Tech Mod—La Technique Moderne. Biweekly. Dunod, 92 Rue Bonaparte, Paris 6e

Tech Rev—Technology Review. Monthly except Aug, Sept, Oct. $3.50; single copies 50¢. Massachusetts Institute of Technology, Room 1-281, Cambridge 39, Mass.

Tech Suisse Romande Bul—Bulletin Technique de la Suisse Romande. Biweekly. Chauderon 475, Lausanne, Switzerland

Techni-Talk—Techni-Talk on AM, FM, TV Servicing (GE). Bimonthly. General Electric Co., Electronics Dept., Schenectady 5, New York

Tele-Tech—Tele-Tech. Monthly. $3; single copies 40¢. Caldwell-Clements, Inc., 480 Lexington Ave., New York 17

Tele-Vision Eng—Tele-Vision Engineering. Monthly. $3; single copies 50¢. Byran Davis Pub. Co., Inc., 52 Vanderbilt Ave., New York 17

Telegr & Teleph Age—Telegraph and Telephone Age. Monthly. $1.50; single copies 25¢. 25 Beaver St., New York 4

Telev & View—Television and The Viewer. Monthly. Portrait Press, Ltd., 46 York Road, London, W. 3

Telev Franc—La Television Francaise. Monthly. 21 Rue des Jeuneurs, Paris 2e

Telev Ital—Televisione Italiana. Monthly. 16, Via Garibaldi, Torino, Italy

Telev Soc J—Journal of the Television Society. Quarterly. The Television Society, 68 Compton Road, London N. 21

Televiser—Televiser. Monthly. $5; single copies 50¢. Television Publications, 1780 Broadway, New York

Tesla Tech Rep—Tesla Technical Reports. KOVO Ltd., Hybernska 32, Prague II, Czechoslovakia

Textile Inst J—Journal of the Textile Institute. Monthly. Textile Institute, 16 St. Mary's Parsonage, Manchester, England

Textile World—Textile World. Monthly. $2; single copies 35¢. McGraw-Hill Pub. Co., Inc., 330 W. 42nd St., New York

Tijdschr ned Radiogenoot—Tijdschrift van het Nederlandsch Radiogenootschap. Monthly. Magazine of the Dutch Radio Association. Oude Utrechtscheiveg 8, Baarn, Holland

Toute la Radio—Toute la Radio. Monthly. Societe des Editions Radio, 9 Rue Jacob, Paris 6e

Tracerlog—Tracerlog. Irregular. Tracerlab, Inc., 130 High St., Boston 10, Mass.

TSF pour Tous—T.S.F. pour Tous. Etienne Chiron, 40 Rue de la Seine, Paris

U Calif Eng Dept—University of California Engineering Department, Berkeley, California

U.S. Govt Pub—United States Government Publications. U.S. Government Printing Office, Washington 25, D.C.

U.S. Naval Inst Proc—United States Naval Institute Proceedings. Monthly. $4; single copies 50¢. United States Naval Institute, Annapolis, Md.

Uspekhi Fiz Nauk—Uspekhi Fizicheskikh Nauk. Monthly. Orlikov per., no. 3, Moscow

VDI—Zeitschrift des Vereines Deutscher Ingenieure. Verlag G.m.b.H. Duesseldorf, Ingenieurhaus, Prinz-Georg-Str. 77, Germany

Vestnik Svyazi—Vestnik Svyazi. VOKS, the All Union Society for Cultural Relations with Russia, Moscow

Vickers Elec Div Bul—Vickers Electric Division Bulletins, 1815 Locust St., St. Louis 3, Mo.

Volta Rev—The Volta Review. Monthly. $3; single copies 35¢. Volta Bureau, 1537 35th St., N.W., Washington 7, D.C.

Welding J—Welding Journal. Monthly. $5; single copies 75¢. American Welding Society, 33 W. 29th St., New York

Westinghouse Eng—Westinghouse Engineer. Bimonthly. $2; single copies 35¢. Westinghouse Engineer, 306 Fourth Ave., P.O. Box 1017, Pittsburgh 30, Pa.

Wheeler Lab Mono—Wheeler Monographs (USA). Wheeler Laboratories, 259-09 Northern Boulevard, Great Neck, New York

Wireless & Elec Trader—Wireless & Electrical Trader. Biweekly. Dorset House, Stamford St., London S.E. 1

Wireless Eng—Wireless Engineer. Monthly. Iliffe & Sons, Ltd., Dorset House, Stamford St., London S.E. 1

Wireless World—Wireless World. Monthly. Iliffe & Sons, Ltd., Dorset House, Stamford St., London S.E. 1

World Oil—World Oil. Monthly. $2. Gulf Publishing Co., Box 2608, Houston, Texas

Yale U EE Dept—Theses submitted at School of Engineering, Yale University, New Haven, Conn.

Zeit angew Phys—Zeitschrift fur angewandte Physik. Irregular. Springer-Verlag, Berlin-Charlottenburg 2, Jebenstrasse 1, Germany

Zeit f. Phys—Zeitschrift fuer Physik. Irregular. Springer-Verlag O.H.G., Berlin-Charlottenburg 2, Jebenstrasse 1, Germany

Zeit Met—Zeitschrift fuer Meteorologie. Monthly. Deutscher Zentralverlag G.m.b.H., Berlin P. 17, Michaelkirchstr. 17, Germany

Zeit Naturforsch—Zeitschrift fur Naturforschung, Johannesweg 11, Turbingen, Germany

Zh Eksp Teor Fiz—Journal of Experimental and Technical Physics (USSR). Monthly. Academy of Sciences, Moscow, U.S.S.R. NOTE: an asterisk after the title of an entry indicates English translation available at Brookhaven National Laboratory, Upton, New York

Zh Tekn Fiz—Journal of Technical Physics. Russian Academy of Science, Darogav Sosnovku 2, Leningrad 21, U.S.S.R. NOTE: an asterisk after the title of an entry indicates English translation available at Brookhaven National Laboratory, Upton, New York

ELECTRONIC ENGINEERING MASTER INDEX

1949

ACCELERATORS

Birmingham 1.3 bev accelerator. T. Coor. Office of Naval Res. (London Branch) NP 999 5 pp June 14, '49. AEC

Design study for a 3-bev proton accelerator. M. S. Livingston and others. 50 pp AECU 337

Design study for a ten bev magnetic accelerator. 17 pp '47 MDDC 1697. Also PB 96400

Development of linear accelerators and synchrotrons for radio-therapy and for research in physics. J. Cockcroft. IEE Proc pt I:296-303 Nov '49

Drift tube design in linear proton accelerator. 6 pp '46 MDDC 1310

Electromagnetic radiations in accelerators. V. M. Lopukhin and V. A. Ugarov. Uspekhi Fiz Nauk 34:398-414 No 3 '48

European electron induction accelerators. German Industry Rep. BIOS/MISC 77 Brit Govt Pub

Ion "velocitron". 6 pp '48 MDDC 1641. Also PB 96475

Linear accelerators. D. W. Fry and W. Walkinshaw. Phys Prog Rep 12:102-130 '49

4-mev Van de Graaff and 40-foot linear accelerator specifications. W. P. Sessions. 11 pp June 24, '49 AECU 391

Microwave linear electron accelerator. G. R. Newbery. Brit J Radiology 22:473-486 Aug '49

New accelerators for charged particles. A. P. Grinberg. Zh Tekn Fiz pt 1 19:1-29 Jan '49; pt 2 Synchrotron. 19:153-183 Feb '49. In Russian

Particle accelerators. E. Thomas. PB 97610

Patents

Accelerating apparatus for charged particles, John P. Blewett, 2,465,786, 7 cl. Appl Jan 24, '47; granted Mar 29, '49

Apparatus for imparting high energy to charged particles, Willem F. Westendorp, 2,480,169, 13 cl. Appl Oct 26, '46; granted Aug 30, '49

Electronic induction accelerator apparatus and method, Gail D. Adams, jr., 2,473,123, 15 cl. Appl July 27, '45; granted June 14, '49

High-voltage generator, Lee de Forest, 2,489,082, 6 cl. Appl July 1, '44; granted Nov 22, '49

Imparting high energy to charged particles, Herbert C. Pollock and Willem F. Westendorp, 2,485,409, 12 cl. Appl Jan 5, '46; granted Oct 18, '49

Magnetic induction device, Charles G. Smith, 2,473,477, 8 cl. Appl July 24, '46; granted June 14, '49

Method and apparatus for control of beam energy, Charles P. Baker, 2,485,470, 8 cl. Appl Aug 13, '45; granted Oct 18, '49

See also

Betatrons
Cyclotrons
Electrostatic Generators

ACOUSTICS and SOUND

Absorption by sound-absorbent spheres. Richard K. Cook and Peter Chrzanowski. Nat Bur Stand Res J 42:219-223 Mar '49. Also in Acoust Soc Am J 21:167+ May '49

Acoustic pocket lamp. (Eine akustische Taschenlampe) Radio Tech 25:647 Nov '49

Acoustical research and development. German Industry Rep. CIOS XXI-2 Brit Govt Pub

Acoustics and modern physics. P. M. Morse. Phys Today 2:14-17 Aug '49

Acoustics; methods of P. T. Reichsanstalt. German Industry Rep. BIOS 208 Brit Govt Pub

Channels of equal acoustic quality with different frequency-response characteristics and different bandwidths. P. V. Anan'ev. Radiotekhnika 4:16-26 Jan-Feb '49

Devices for speech analysis and compression. I. H. F. Vilbig. NEC Proc '49

Extraction and portrayal of pitch of speech sounds. O. O. Gruenz, jr. and L. O. Schott. Acoust Soc Am J 21:487-495 Sep '49

Investigations with artificial vocal resonators. T. V. Tarnoczy. Akust Zeit 8:169-175 Oct '43

Language of audio. J. D. Goodell. Audio Eng 33:25-32 July '49

Listeners' sound-level preferences. T. Somerville and S. F. Brownless. BBC Quart 3:245+ Jan '49

Objectives for sound portrayal. Ralph K. Potter. Acoust Soc Am J 21:1 Jan '49

Propagation of sound in composite media. R. J. Urick and W. S. Ament. Acoust Soc Am J 21:115 Mar '49

Propagation of sound waves along liquid cylinders. William J. Jacobi. Acoust Soc Am J 21:120+ Mar '49

Proposed standard terminology for acoustics now out for year's trial. E. Dietze and C. F. Wiebusch. Standardization 20:46-47 Feb '49

Radiation of sound into a circular tube with an application to resonators. Chalmers Tekniska Hogskola Trans No 70 50 pp '48. In English

ACOUSTICS and SOUND–Cont'd.

Reproduction of sound. (Abstract) Harry F. Olson. IRE Proc 37:162 Feb '49

Reverberation time contours. (Il tempo di riverberazione limite) G. G. Sacerdote. Alta Frequenza 19:69-72 Apr '49. Abstracts in French, English, and German

Sound and the human ear. S. Bennon. Westinghouse Eng 9:60-64 Mar '49

Sound transmission and noise. A. J. King. Nature 162:499+ Sep 25, '48

Sound transmission through single walls. Albert London. Nat Bur Stand Res J 42:605-615 June '49

Transmission of reverberant sound through single walls. A. London. RP 1998 Nat Bur Stand

Patents

Cathode-ray type sound recording system, George L. Beers, 2,478,681, 1 cl. Appl July 18, '45; granted Aug 9, '49

Device for adjusting the stereophonic effect in devices for stereophonic transmission, Kornelis de Boer and Roelof Vermeulen, 2,481,911, 2 cl. Appl Apr 26, '46; granted Sep 13, '49

Octophone, James Andrew Cashin, 2,475,444, 6 cl. Appl Sep 18, '46; granted July 5, '49

Sound recording method and apparatus, Homer R. Montague, 2,477,640, 3 cl. Appl June 27, '44; granted Aug. 2, '49

Sound responsive control, John L. Barker, 2,489,255, 15 cl. Appl Mar 15, '41; granted Nov 29, '49

Voltage two-tone source, Eugene R. Shenk, 2,482,561, 16 cl. Appl Mar 19, '46; granted Sep 20, '49

Volume control, Charles N. Kimball and Ben E. Brown and Simeon R. Tyler, jr., 2,486,480, 11 cl. Appl Feb 8, '46; granted Nov 1, '49

Wave analysis, Ralph K. Potter, 2,463,642, 7 cl. Appl Dec 4, '46; granted Mar 8, '49

See also

Hearing Aids & Hearing
Sonar
Ultrasonics

ACOUSTICS and SOUND, Auditoriums, Rooms and Studios

Acoustical analysis by models. F. Malvarez. Rev Telegr No 444:530-531+ Sep '49. In Spanish

Acoustics of auditoria. (Ueber die Akustik von Zuhoererraeumen) R. Weisse. Neue Bauwelt 1: 101-103 '49

Acoustics of D.R.P. broadcasting studios, Munich. German Industry Rep. BIOS 407 Brit Govt Pub

Acoustics of rooms. M. A. S. Ross. Nature 164: 1080-1081 Dec 24, '49

Architectural acoustics of German theatres and concert halls, Prague. W. Frank. Akust Zeit 6:205-208 Dec '43

Architectural acoustics—new trends in teaching and research. R. H. Bolt and A. M. Clarke. Tech Rev 51:279-280+ Mar '49

Considerations for the construction of a sound-proof room. (Principes de realisation d'une chambre sourde) M. Milosevic. Rev Tech Comp Franc Thomson-Houston 12:17-34 May '49

Definition of a speech intelligibility index for auditoriums. (Definition d'un indice d'intelligibilite de la parole dans salles) J. Pujolle. Ann Telecommun 4:325 Aug-Sep '49

Demonstration studio for sound recording and reproduction and for sound film projection. Philips Tech Rev 10:196-204 Jan '49

Design for acoustics. L. L. Beranek. Phys Today 2:19-22 July '49

How to improve sound insulation in the school and hearing conditions in the classroom. Robert B. Newman. Arch Forum 91:152-153 Oct '49

Music tent, designed by experts, demonstrates that temporary canvas buildings can be beautiful, workable and inexpensive. Arch Forum 91:89 Sep '49

Practical determination of the reverberation time of a room with the cathode-ray oscillograph. A. Moles. Radio Franc No 2:4+ Feb '49

Variable room-acoustics. K. F. Darmer. Akust Zeit 6:331-350 Nov '41

See also

Broadcasting (AM & FM)
Television, Broadcasting, Stations & Studios

ACOUSTICS and SOUND, Electroacoustical Systems

Considerations on electro-acoustic transformation and consequences with practical examples. (Betrachtungen ueber elektroakustische Wandler und einige Folgerungen mit Beispielen aus der Praxis) Buerck. Funk und Ton 3:187-201 Apr '49

Electrical acoustic installations in St. Stephan's cathedral. (Elektroakustische Einrichtungen in St. Stephans-Dom) Radio Tech 25:133-137 Feb '49

Electro acoustic fundamentals for the transmission of an increased audio band. Furrer and others. Tech Mitt Schweiz Telegr-Teleph Verw 27:3-14 Feb '49. In French and German

Electro-acoustics in Germany. Pt I and pt II BIOS 980 Brit Govt Pub

Influence of reproducing system on tonal-range preferences. H. A. Chinn and P. Eisenberg. IRE Proc 36-472-580 May '48. Corresp. 37:401-402 Apr '49

Principal possibilities of electroacoustic energy transformation and its classification. F. A. Fischer. Arch Eleck Ubertragung 3:129-135 July '49

Problems in audio engineering. L. S. Goodfriend. Audio Eng pt 1 33:22-23 May '49; pt 2 33:15-17+ June '49; pt 3 33:20-21+ July '49; pt 4 33:19-20+ Aug '49; pt 5 33:18-19+ Sep '49; pt 6 33:23-25 Oct '49

Psycho-acoustic aspects of higher quality reproduction. C. J. LeBel. Audio Eng 33:9-11+ Jan '49

Sound equipment of the U.N. (L'equipement sonore de l'O.N.U.) Tech Mod 41:25-27 Jan '49

Subjective testing of sound reproducing equipment. Lewis S. Goodfriend. Acoust Soc Am J 21:81-84 Mar '49

Systems of electro-acoustic transformation. (Systematik der elektroakustischen Wandler) (Letter) Gosewinkel. Frequenz 3:336-338 Nov '49

ACOUSTICS and SOUND, Electroacoustical Systems–Cont'd.

Patents

Receiver connection in electroacoustic duplex system, Otto Tschumi, 2,461,945, 2 cl. Appl Jan 20, '45; granted Feb 15, '49

See also

Loudspeakers
Microphones
Public Address System
Sonar

ACOUSTICS and SOUND, Measurements

Acoustic calibrator for the sound-level meter. E. E. Gross. Gen Rad Exp 24:6-8 Dec '49

Acoustics meters. H. Gerling. PB 98758

Audio frequency measurements. W. L. Black and H. H. Scott. Audio Eng pt 1 33:13-16+ Oct '49; pt 2 33:18-19+ Nov '49

Audio measurements in AM, FM and TV. F. H. McIntosh. Communications 29:10-11+ Nov '49

Calculation of acoustical response. (Calcolo della funzione di senzazione acoustica) G. G. Sacerdote. Alta Frequenza 18:17-23 Feb '49. Abstracts in French, English, and German

Calculation of the sound field of circular membranes in a rigid wall. (Ueber die Berechnung des Schallfeldes von kreisfoermigen Membranen in starrer Wand) Stenzel. Ann der Phys series 6 vol 4:303-324 Nov 6, '49

Cathode-ray sound spectroscope. R. C. Mathes and others. Acoust Soc Am J 21:527-537 Sep '49

Double crystal acoustic interferometer. W. J. Fry. Acoust Soc Am J 21:17-29 Jan '49

Instantaneous audience measurement system. Tele-Tech 8:38+ May '49

Measurement of acoustic impedance. Osman K. Mawardi. Acoust Soc Am J 21:84-90 Mar '49

Measurement of nonlinear distortion. (Abstract) Arnold P. G. Peterson. IRE Proc 37:163 Feb '49

Measurement of quality in audio reproduction. David Fidelman. Radio & TV N pt 1 42:3-6+ July '49; pt 2 42:9-10+ Aug '49

Methods and instruments for the visual analysis of complete audio waveforms. H. R. Foster and E. E. Crump. NEC Proc '49

Methods of acoustic measurement. '47 PB 96339

New audiometer. G. von Bekesy. Arch Eleck Ubertragung 1:13-16 July-Aug '47

New frequency scale for acoustic measurements. W. Koenig. Bell Lab Rec 17:299-301 Aug '49

New high speed level recorder. P. V. Bruel and Uno Ingard. Acoust Soc Am J 21:91-93 Mar '49

New sound intensity meter. (Ein neuer Schallpegelzeiger) Holle. Funk und Ton 3:367-372 July '49

Photoelectric type of acoustic spectrograph using sound film. D. Brown and others. Phys Soc Proc series B 62:149+ Mar 1, '49

Rating sound system performance. Vincent Salmon. Radio & TV N 42:15-18+ Oct '49

Sound analysis with an ultrasonic plate spectroscope. E. Mohr. Akust Zeit 6:209-222 July '41

Sound measurements reference laboratory. Bell Lab Rec 27:215 June '49

Patents

Analysis and display for complex waves, Lester Y. Lacy, 2.476,445, 9 cl. Appl Oct 6, '45; granted July 19, '49

Audience reaction integrator, Chester A. Rackey and Thomas H. Phelan, 2,480,607, 2 cl. Appl Jan 18, '45; granted Aug 30, '49

Audiometer, Lourens Blok, 2,481,900, 6 cl. Appl May 3, '46; granted Sep 13, '49

Audiometer, Lourens Blok, 2,481,973, 4 cl. Appl May 3, '46; granted Sep 13, '49

Audiometer for air and bone conducting receivers having a scale with a single zero hearing loss reference, Ralph E. Allison, 2,471,136, 11 cl. Appl Dec 9, '46; granted May 24, '49

Decibeloscope, Rudolph W. Stanmyre, 2,486,890, 1 cl. Appl May 25, '46; granted Nov 1, '49

Device for indicating the sum of the intensity and duration of sound, Rudolph W. Stanmyre, 2,469,282, 4 cl. Appl Oct 26, '46; granted May 3, '49

Means for indicating sound pitch or voice inflection, Gerard Michael Horovitch, 2,487,244, 6 cl. Appl Sep 1, '45; granted Nov 8, '49

Speech analysis and synthesis system, Homer W. Dudley, 2,466,880, 8 cl. Appl Dec 17, '46; granted Apr 12, '49

AERIALS

See Antennas

AIRCRAFT, Airways Traffic Control

Dimeal aircraft approach and landing system. (Abstract) Ludlow B. Hallman, jr. IRE Proc 37:175 Feb '49

Future in approach and landing systems. (Abstract) Harry Davis. IRE Proc 37:169 Feb '49

111A key equipment for air traffic control. W. O. Arnold. Bell Lab Rec 27:394-398 Nov '49

Operational research into air traffic control. G. E. Bell. Roy Aero Soc J 53:965-978 Oct '49

Radio aids to approach and landing-control of air traffic. A. Violet. Onde Elec 29:91-109 Mar '49. In French

RTCA plans complete air traffic control. D. W. Rentzel and F. B. Lee. SAE J 57:28-30 Apr '49

System of air navigation and traffic control recommended by the radio tech commission for aeronautics. P. C. Sandretto. Elec Comm 26:17+ Mar '49

Traffic-control requirements for jet transport aircraft. Warren T. Dickinson. Aero Digest 58: 39-40+ June '49

Visual signals used in traffic control. O. S. Field. Aviation W 50:20-22+ May 16, '49

Will airway facilities be ready for jets? Irwin C. Nye. Aero Digest 58:38+ June '49

Patents

Airplane approach control system, Nelson B. Coley, 2,475,221, 21 cl. Appl June 24, '48; granted July 5, '49

Airway traffic control system, Neil D. Preston and Forest B. Hitchcock, 2,484,462, 54 cl. Appl May 25, '44; granted Oct 11, '49

AIRCRAFT, Airways Traffic Control, *Patents*–Cont'd.

Airway traffic control system, Oscar S. Field and Ralph W. Hewes, 2,484,463, 37 cl. Appl June 22, '44; granted Oct 11, '49

Airway traffic control system, Oscar S. Field and Sedgwick N. Wight, 2,458,361, 53 cl. Appl July 29, '44; granted Jan 4, '49

Airway traffic controlling system with verification of communicated messages, Neil D. Preston and Forest B. Hitchcock, 2,481,239, 12 cl. Orig appl Mar 31, '44; divided and this appl Oct 17, '46; granted Sep 6, '49

Airways traffic control system, Sedgwick N. Wight and Oscar S. Field, 2,459,399, 34 cl. Appl Dec 24, '42; granted Jan 18, '49

Traffic control system, Philip J. Herbst, 2,490,268, 5 cl. Appl Jan 30, '47; granted Dec 6, '49

See also

Direction finders
Navigational Aids, Aircraft

AIRCRAFT, Blind Landing System

Indicators for a ground-controlled approach system. C. W. Sherwin. PB 3959

Instrumental landing system for aircrafts. A. N. Bhattacharyya. Indian J Phys 23:13+ Jan '49

Micro-wave radio blind landing systems for aircrafts. A. N. Bhattacharyya. Indian J Phys 23:88-92 Feb '49

Radio aids to instrument approach and landing. B. C. Ayres. SAE Jour 57:89-91 Sep '49

Radio landing equipment. (Radiolandingsbakens) Radio Bul pt 1 vol 18 July '49; pt 2 18:267-270 Aug '49; pt 3 vol 18 Sep '49; pt 4 18:339-342 Oct '49

What we learned from the Berlin airlift. M. A. Chaffee and R. B. Corby. Electronics 22:78-83 Aug '49

Patents

Aircraft landing system, James H. Brodie, 2,488,050, 14 cl. Appl Jan 15, '48; granted Nov 15, '49

Airway traffic control system, Sedgwick N. Wight and Oscar S. Field, 2,463,095, 10 cl. Appl Aug 9, '44; granted Mar 1, '49

Apparatus, including an altimeter for aiding the landing of aircraft, Robert J. Herbold, 2,489,219, 12 cl. Appl Dec 28, '44; granted Nov 22, '49

Blind navigational method and system, Reymond J. Kirchner, 2,487,759, 5 cl. Appl Feb 16, '44; granted Nov 8, '49

Instrument for landing aircraft, Robert J. Herbold, 2,489,218, 15 cl. Appl Nov 7, '44; granted Nov 22, '49

Instrument landing system, Donald S. Bond, 2,459,482, 7 cl. Appl Nov 30, '45; granted Jan 18, '49

Instrument landing system, Irving Wolff and Philip J. Herbst, 2,459,481, 9 cl. Appl Oct 18, '45; granted Jan 18, '49

Instrument landing system, Loren F. Jones, 2,490,306, 4 cl. Appl Apr 30, '47; granted Dec 6, '49

Light-sensitive altitude and direction indicator, Robert J. Herbold, 2,489,220, 13 cl. Appl Mar 15, '45; granted Nov 22, '49

See also

Direction finders
Navigational Aids, Aircraft

AIRCRAFT, Communication

See Communications, Aircraft

AIRCRAFT, Equipment

Airborne electronic systems analysis in the lab. J. J. MacGregor and K. L. Huntley. Communications 29:26-27 July '49

Aircraft electrical equipment. German Industry Rep. CIOS XXXI-9 Brit Govt Pub

Airport approach lighting for landings. William C. Norvell. Westinghouse Eng 9:130-133 Sep '49

Application of servo systems to aircraft. J. R. Moore. Aero Eng Rev 8:32-43+ Jan '49

Beavertail height finder AN/CPS 4. A. R. Tobay. PB 98801

Conditions in German aircraft instrument industry. German Industry Rep. BIOS 881 Brit Govt Pub

Eighteenth international aviation salon. M. Adam. Onde Elec 29:305-308 July '49. In French

Electrical equipment and accessories for Japanese aircraft. Japanese Industry Rep. BIOS/JAP/-PR/116 Brit Govt Pub

Electrical equipment in the Saab Scandia. Artur Boke. Saab Sonics (Sweden) 6:19-24 Apr-June '49

Electrical tachometers, small generators and indicators. German Industry Rep. BIOS 1537 Brit Govt Pub

Electronic pressure-sensitive transducer. G. Day. Jour Sci Inst 26:327-329 Oct '49

Engine analyzer proved in service. Aviation W 51:35-36 Dec 19, '49

Flight refuelling radar beacon. Engineer 188:652 Dec 2, '49

Indicator compounds as used in a complete aircraft interception installation. W. A. Higinbotham. PB 98719

Landing cable and its possible modern applications. S. Ostrovidow. Onde Elec 29:255-267 June '49. In French

New power conversion means developed; electronic systems in airborne equipment. A. N. Stanton. Aviation W 51:29-30+ Nov 14, '49

Performance of aircraft interphone systems with conventional and throat microphones. H. Lauer and W. Willms. PB 98679. In German

Rectified AC system for aircraft. L. M. Cobb and others. Elec Eng. 68:95-101 Feb '49

Reports on wave propagation, instrument flying, airborne radar equipment, principles of Y-radar technique, sonar, and reports and drawings covering "Erika" radar, 1938-1945. PB 84908. In German

Safety in aircraft electric systems. Morton H. Adolphe. Elec Eng 68:227-228 Mar '49

Small power transformers for aircraft electrical equipments. A. L. Morris. IEE Proc pt II 96: 413-425 June '49

AIRCRAFT, Equipment–Cont'd.

Thermo-electric effect for de-icing. Curtiss D. Bassett. Aero Digest 58:59-60+ May '49

Weight analysis: basic consideration in design of aircraft electrical systems. Gen Elec Rev 52:41-45 July '49

Patents

Aircraft Bank and turn control system, Carl G. Nyman, 2,472,918, 9 cl. Appl Aug 23, '44; granted June 14, '49

Aircraft control apparatus, Robert J. Kutzler and Theodore J. Wilson, 2,471,821, 21 cl. Appl Dec 30, '44; granted May 31, '49

Aircraft control system, Theodore H. Barth, 2,485,-953, 34 cl. Appl Apr 24, '40; granted Oct 25, '49

Aircraft gun position indicator, Sydney J. Goldberg, 2,464,985, 5 cl. Appl Apr 6, '42; granted Apr 12, '49

Aircraft pressure control system, Hubert T. Sparrow, 2,465,759, 28 cl. Appl June 22, '44; granted Mar 29, '49

Angle of attack and yaw indicator and control mechanism, Don W. Young, 2,463,585, 15 cl. Appl Oct 10, '46; granted Mar 8, '49

Automatic control, Charles F. Kettering and Albert W. Fischer, 2,458,784, 10 cl. Orig appl Apr 7, '44; divided and this appl Sep 28, '45; granted Jan 11, '49

Automatic control system for dirigible craft, Arthur Philip Glenny, 2,488,286, 9 cl. Appl Feb 23, '46; granted Nov 15, '49

Combined beam indicator, compass and gyro-horizon for aircraft, Richard W. French, 2,467,972, 8 cl. Appl Apr 19, '47; granted Apr 19, '49

Control system, Joseph R. Schoenbaum, 2,485,245, 10 cl. Appl July 7, '44; granted Oct 18, '49

Craft locating apparatus, Robert J. Herbold, 2,489,-221, 9 cl. Appl June 26, '45; granted Nov 22, '49

Earth inductor compass, Harry W. Phair, 2,464,057, 6 cl. Appl Nov 23, '44; granted Mar 8, '49

Electric means for indicating the altitude and position of a craft when landing on a runway, Robert J. Herbold, 2,489,222, 11 cl. Appl June 7, '46; granted Nov 22, '49

Electrical airplane propulsion, Lee A. Kilgore, 2,462,-201, 11 cl. Appl Feb 2, '43; granted Feb 22, '49

Electrical pulse regulator, Norman H. Milde, 2,462,-883, 5 cl. Appl Oct 29, '46; granted Mar 1, '49

Electrically and power operated pitch changing mechanism, Archibald Graham Forsyth, 2,474,144, 14 cl. Appl Dec 13, '44; granted June 21, '49

Elevational control system for aircraft gun mounts, Morris F. Ketay, 2,463,182, 19 cl. Appl Mar 7, '40; granted Mar 1, '49

Ice detector, Herbert Friedman and Lester Wolfe, 2,480,846, 11 cl. Appl Jan 16, '45; granted Sep 6, '49

Isolated radiant energy control system, James Y. Dunbar, Robert D. Gilpin and Norman R. Hussey, 2,481,503, 5 cl. Appl Mar 19, '45; granted Sep 13, '49

Magnetic compass stabilizer, Britton Chance, 2,463,-245, 8 cl. Orig appl Jan 10, '40; divided and this appl Oct 13, '44; granted Mar 1, '49

Navigation instrument, Robert L. Wathen, 2,467,412, 6 cl. Appl June 9, '44; granted Apr 19, '49

Pressure control apparatus, Albert E. Baak, 2,473,-776, 15 cl. Appl June 22, '44; granted June 21, '49

Radio-shielded unit, Gregor L. Lang, 2,485,241, 3 cl. Appl Apr 7, '45; granted Oct 18, '49

Slip-ring structure, Harry T. Jensen, 2,473,147, 7 cl. Appl Jan 15, '46; granted June 14, '49

Temperature control apparatus for cabins of aircraft, Hubert T. Sparrow, 2,474,441, 17 cl. Appl June 6, '46; granted June 28, '49

See also

Antennas, Aircraft
Communications, Aircraft

Altimeters

Acoustic altimeter for aircraft, design and production. German Industry Rep. CIOS XXXII 76 Brit Govt Pub

Aeromatic's new altitude control. Aviation W 50:28 Mar 28, '49

Direct-capacitance aircraft altimeter. W. L. Watton and M. E. Pemberton. IEE Proc pt II 96:379-386 June '49

Narrow beam recording radar altimeter for topographic survey. B. F. Cooper. NRC 1642. Also PB 872595

Pressure-height corrector for radar altimetry. B. I. McCaffrey. NRC 1805

Sonic altimeter for aircraft. German Industry Rep. CIOS XXXII 76. Brit Govt Pub

Patents

Aircraft instrument indicator, Irving Wolff, 2,475,212, 4 cl. Appl May 23, '47; granted July 5, '49

Altitude responsive control and signal device, John D. Sasser, 2,468,945, 7 cl. Appl July 21, '44; granted May 3, '49

Automatic altimeter setting indicator and transmitter, David Atlas, 2,487,778, 7 cl. Appl Jan 29, '48; granted Nov 15, '49

Echo ranging apparatus, Henry T. Winchel, 2,491,-020, 4 cl. Appl Apr 25, '47; granted Dec 13, '49

Radio altimeter calibration means, La Vern Carl Moore, 2,468,097, 4 cl. Appl June 9, '43; granted Apr 26, '49

Radio frequency system for altitude or distance measurement, Robers Marsh Smith, 2,492,012, 3 cl. Appl Sep 1, '39; granted Dec 20, '49

Radio transmission control, Doren Mitchell, 2,491,276, 9 cl. Appl Apr 20, '48; granted Dec 13, '49.

Radio wave altimeter, Douglas Max Heller, 2,465,723, 11 cl. Appl May 6, '43; granted Mar 29, '49

Superheterodyne radio altimeter or locator, Wendell L. Carlson, 2,466,532, 13 cl. Appl Oct 20, '43; granted Apr 5, '49

Automatic Pilots

Aircraft; automatic pilots for, notes and diagrams. German Industry Rep. CIOS 51 Brit Govt Pub

Electrical pickoffs for pilotless aircraft instruments. J. Anderson. ASME Trans Paper No 49 SA 13 June '49

Electronic pilots back in service. Aviation W 51: 53-54 Nov 14, '49

Investigation of automatic pilot. Friedrich and Ludwig. PB 98899

Modern auto-pilot. F. W. Meredith. Roy Aero Soc J 53:409-432 May '49

AIRCRAFT, Equipment, Auto. Pilots–Cont'd.

Research reports on radio controlled aircraft, signal beam apparatus, directional antennas, airborne radar equipment, etc., 1935-1945. PB 84900

Patents

Altitude control, Richard L. Divoll, 2,474,618, 15 cl. Appl Apr 8, '46; granted June 28, '49

Automatic control system, Andrew Hacskaylo, 2,486,402, 2 cl. Appl Sep 13, '46; granted Nov 1, '49

Automatic control system for airplanes, Paul Porton, 2,463,905, 15 cl. Appl Mar 15, '46; granted Mar 8, '49

Automatic control system for vehicles, Henri-Georges Doll, 2,463,362, 15 cl. Cont of appl July 17, '43; this appl Feb 7, '47; granted Mar 1, '49

Automatic pilot for helicopters, Wlademar A. Aures and Mortimer F. Bates, 2,479,549, 1 cl. Appl Nov 10, '43; granted Aug 23, '49

Maneuvering automatic control, Charles M. Young, 2,464,629, 11 cl. Appl Jan 1, '45; granted Mar 15, '49

Radio craft guidance system, Herbert H. Thompson, 2,482,809, 12 cl. Appl Apr 8, '48; granted Sep 27, '49

AIRCRAFT, Navigational Aids

See Navigational Aids, Aircraft

AMMETERS

Ammeter shunts. G. W. Stubbings. Elec Rev 144: 1083-1084 June 24, '49

Compensator—a device for measurement of alternating currents within a broad frequency range. V. Hlavsa. Tesla Tech Rep 4-10 Mar '49

Grid current must be measured. (Gitterstrommen bor maales) Radio Ekko 10:201 Oct '47

Instrument for measurement of grid current of vacuum tubes. A. Watton. PB 2933

Measurement of extremely small direct currents. (Die Messung extrem Kleiner Gleichstroeme) Elektron Wiss und Tech 3:7-14 Jan '49

Measuring heavy direct currents. Elec Eng 68:242 Mar '49. Corresp. G. Keinath. 68:827 Sep '49

Method for measuring very high speed transient currents. A. M. Zarem and F. R. Marshall. Rev Sci Instr 20:133-135 Feb '49

Newly developed electronic microammeter and direct current amplifier for measuring small direct currents from thermoelectric or bridge circuits. R. H. Muller. Anal Chem 21:27A-28A Oct '49

"Oscar II"—for the sightless amateur, an improved milliammeter. W. A. Sperry. CQ 5:24-25 Aug '49

Radio frequency ammeter. Rufus P. Turner. Radio-Electronics 20:41 Jan '49

Shunts and inductors for surge current measurements. Power Pl Eng 52:86+ Dec '48

Simple recording system for small currents. 1 p '48 AECD 2214

Vacuum-tube current integrator of improved design. (Letter) L. H. v. d. Tweel. Rev Sci Instr 20:323 Apr '49

Patents

Alternating current load indicator, Rufus L. Briggs, 2,470,334, 5 cl. Appl June 13, '46; granted May 17, '49

Calibrating peak current meter, Clarence W. Hansell, 2,472,013, 5 cl. Orig appl Apr 11, '42; divided and this appl Nov 20, '43; granted May 31, '49

Electric quantity standard, Theodore A. Rich, 2,475,-640, 11 cl. Appl Mar 21, '46; granted July 12, '49

Electrical measuring instrument, John Cecil Redman, 2,470,644, 7 cl. Appl Nov 19, '46; granted May 17, '49

Electrical testing device, Adam Samstag, 2,463,567, 1 cl. Appl Aug 29, '45; granted Mar 8, '49

Frequency controlled ammeter, Frank Rieber, 2,463,312, 5 cl. Appl Jan 29, '44; granted Mar 1, '49

Variable-rate electric meter, Paul G. Whitmore, 2,469,673, 11 cl. Appl May 24, '45; granted May 10, '49

See also

Measurements & Meters, Galvanometers
Measurements & Meters, Multimeters

AMPLIFICATION and AMPLIFIERS

Amplification of pulses by gating methods. J. A. Fejer. S Afr IEE Trans 40:39-49 Feb '49

Amplifier, preamplifier (circuit diagram). MDDC 135 Amplifier response. 11 pp '46 MDDC 714

Amplifier synthesis through conformal transformations. (Abstract) D. L. Trautman, jr., and J. M. Pettit. IRE Proc 37:164 Feb '49

Amplifiers (line) for telephones and television. German Industry Rep. BIOS 687 Brit Govt Pub

Analysis of rotating amplifiers. Ph.D. thesis. Bernard Litman. Columbia U EE Dept '49

Building a large amplifier. (Vi bygger en stor Kvalitets-Forstaerker) Radio Ekko 10:78-79 Apr '47

Cathode couplings and application. (Kathodekoblingen og dens Anvendelse) Radio Ekko 13:6-7 Jan '50

Concise theory of aperiodic amplifiers. B. A. Khanov. Radiotekhnika 4:57-69 Mar-Apr '49. In Russian

Control amplifier. (Styreforstaerker) Radio Ekko 10:136-139 July '47

Correspondence between the static characteristics and the dynamic parameters of electrical negative-resistance devices. G. Cartianu. Onde Elec 29:44+ Jan '49

Criteria for the permissible non-linear distortion of amplifiers. V. F. Schut and C. W. Kosten. Appl Sci Res B1:261-267 '49

Design of resistance-capacity coupled amplifiers. H. Mayr. Microtecnic 2:245-248 Dec '48. In English

Directional receiver for quality amplifiers. (Radioforspand til Kvalitets-Forstaerkere) Radio Ekko 11:4-6 Jan '48

Distributed amplification. (Der Kettenverstaerker) Feigs. Funk und Ton 3:291-301 May '49

Electronic circuitry. J. McG. Sowerby. Wireless World 55:348 Sep '49

MPLIFICATION and AMPLIFIERS–Cont'd.

xamination of amplifier stability by applying a sudden DC test voltage. B. Carniol. Tesla Tech Rep 11-20 Mar '49

rid current with RC coupling. H. T. Ramsay. Wireless Eng 26:115+ Apr '49

igh impedance input stage for a valve amplifier. P. O. Bishop. Electronic Eng 21:469-470 Dec '49

igh-quality amplifier design. Glen Southworth. Radio & TV N 42:39-41+ Nov '49

ıcreased phonograph record amplification. (Erhoehte Schallplattenverstaerkung) Radio Tech 25:113-115 Feb '49

ıcreasing space-charge waves. J. R. Pierce. Jour Ap Phys 20:1060-1066 Nov '49

Iodel 501 amplifier. MDDC 896

Iodulation amplifiers. (Modulationsforstaerkeren) Radio Ekko 11:7+ Jan '48

legative grid bias. (Negativ Gitterforspaending) Gjetting. Radio Ekko 9:123-124 June '46

)ne-and two-stage amplifiers. F. A. Annett. Power 93:115-116+ Nov '49

'atents on solid-state amplifying devices. P. S. Martin. Sylvan Tech 2:4-6 July '49

'ractical aspects of logarithmic amplifiers. C. J. LeBel Audio Eng 33:22-24 Nov '49

'roblem of band spread. (Zum Problem der Bandernreitenregolung) Funk und Ton 3:570-574 Nov-Dec '49

IC coupled amplifiers with sharp low frequency cut-off. (Note su alcuni schemi di stadi a resistenza capacita con amplificazione notevolmente variabile nel campo delle basse frequenze) E. Volta. Elett & Tel 4:175-178 Aug '49 Abstracts in French and English

t. E. 1947 model amplifier: control amplifier. (R. E. Kvalitets Forstaerker 1947: Styre-Forstaerkeren) Radio Ekko 10:108-110 June '47

Rapid grid voltage. (Gitterforspaending i en Fart) Radio Ekko 10:246 Dec '47

Relation between amplification and band width. (Ueber den Zusammenhang zwischen Verstaerkung und Bandbreite bei einem mahrstufigen Verstaerker mit Kreisen gleicher Resonanzfrequenz) Funk und Ton 3:584-586 Nov-Dec '49

Required amplifier effect for good amplification. (Den udkraevede Forstaerkereffekt for god Hojttalergengivelse) Radio Ekko 10:74 Apr '47

Response of an amplification stage. W. Kleen. Ann Radioelec 4:136-137 Apr '49. In French

Semi-conductors as amplifiers. (Halbleiter ersetzen die Verstaerkerroehre) Radiowelt 4:22-23 Mar '49

Sensitivity limits of fundamental tube circuits. (Die Grenzempfindlichkeit fundamentaler Roehrenschaltungen) Kleen. Frequenz 3:209-216 July '49

Use of ferrite-cored coils as converters, amplifiers and oscillators. V. D. Landon. RCA Rev 10:387-396 Sep '49 Vacuum tube amplifiers. '48 PB 95594

Patents

Amplifier circuits with double control, Johan Lodewijk Hendrik Jonker and Petrus H. J. A. Kleynen, 2,473,754, 5 cl. Appl May 9, '46; granted June 21, '49

Amplifier control circuit, Raymond W. Lavender, 2,465,809, 3 cl. Appl Oct 18, '46; granted Mar 29, '49

Amplifier with heater compensation, Lionel P. Paradise and Werner F. Auerbacher, 2,480,418, 5 cl. Appl May 4, '44; granted Aug 30, '49

Apparatus for compressing the amplitude range of signals, Walter Selove, 2,480,201, 4 cl. Appl May 8, '46; granted Aug 30, '49

Apparatus for stepping up direct-current voltage, Charles C. Shumard, 2,477,095, 6 cl. Appl Mar 30, '48; granted July 26, '49

Automatic gain-control system, Neil B. Farnsworth, 2,480,842, 7 cl. Appl Mar 6, '45; granted Sep 6, '49

Cascade amplifying circuit using gaseous discharge tubes, Paul W. Stutsman, 2,468,417, 1 cl. Orig appl May 3, '45; divided and this appl Oct 17, '46; granted Apr 26, '49

Electrical alternating currents amplifier, Howard J. Tyzzer, 2,481,456, 2 cl. Appl Mar 9, '45; granted Sep 6, '49

Electronic amplifier for galvanometer oscillographs, Kenneth R. Geiser, 2,465,082, 2 cl. Appl Aug 2, '44; granted Mar 22, '49

Electronic circuit, Samuel C. Hurley, jr., 2,460,455, 2 cl. Appl Jan 4, '47; granted Feb 1, '49

Electronic circuit, Samuel C. Hurley, jr., 2,460,456, 1 cl. Appl Jan 4, '47; granted Feb 1, '49

Electronic relay, John Nigro, 2,490,457, 3 cl. Appl Mar 30, '45; granted Dec 6, '49

Feedback antenna system, George T. Royden, 2,480,164, 15 cl. Appl Apr 9, '45; granted Aug 30, '49

Frequency selective amplifier, Allen E. Hastings, 2,490,805, 4 cl. Appl Oct 11, '45; granted Dec 13, '49

Low-frequency converter-amplifier system, Albert J. Williams, jr., Raymond E. Tarpley, and Norma C. Johnson, 2,485,948, 9 cl. Appl Jan 31, '47; granted Oct 25, '49

Plural function circuit, Richard H. Stafford, 2,469,-281, 6 cl. Appl July 8, '46; granted May 3, '49

Signal-amplifier stage, Gus W. Wallin, 2,480,987, 3 cl. Appl Mar 30, '45; granted Sep 6, '49

Stabilized high gain amplifier, Howard L. Daniels, 2,489,272, 5 cl. Appl Apr 9, '45; granted Nov 29, '49

Stagger damped tuned amplifier, Henry Wallman, 2,480,205, 5 cl. Appl Sep 14, '45; granted Aug 30, '49

Supervisory signaling device, Pierre Marie Gabriel Toulon, 2,473,314, 5 cl. Appl Mar 9, '46; granted June 14, '49

Variable transconductance amplifying circuit, Gerrit Petrus Alma, 2,490,569, 2 cl. Appl July 20, '46; granted Dec 6, '49

Volume controlled sound reinforcement system, Edward W. Kellogg, 2,468,205, 6 cl. Appl Dec 31, '46; granted Apr 26, '49

Special Types

Amplidyne generator—its performance and design. M. S. Hoffenberg. S Afr IEE Trans 40:175-188 Aug '49

Amplifier with modulation limits. (Forstaerker med Udstyringsbegraenser) Radio Ekko 12:56-57 Mar '49

AMPL. and AMPLIFIERS, Sp. Types–Cont'd.

Barrier-type photo-cell amplifier. T. A. Ledward. Electrician 143:2036-2042 Dec 23, '49

Cathode coupled amplifier. (Den katodekoblede) Forstaerker) Radio Ekko 12:53+ Mar '49

Compact 6AS7G amplifier for home reproduction systems. C. G. McProud. Audio Eng pt 1 33:17-19 Mar '49; pt 2 33:16-19 Apr '49

Double triodes in cascade coupling. (Dobbelt-Triode i Kaskadekobling) Radio Ekko 13:8 Jan '50

Drawing No 2W1893B; "Z" regulator control and preamplifier schematic (circuit diagram). MDDC 1192

Ether's Giant amplifier. (Amplificador Ether's Giant) Radio J 1:25-27 Sep '49

Fast amplifier circuit schematic. MDDC 894

Fast pulse amplifiers for nuclear research. W. C. Elmore. Nucleonics 5:48-55 Sep '49

Grounded grid. Radio Ekko 10:177-179 Sep '47

High-fidelity tuner-amplifier. M. Harvey Gernsback. Radio-Electronics pt 1 20:32-33 July '49; pt 2 20:38-40 Aug '49

High quality amplifier: new version. D. T. N. Williamson. Wireless World pt 1 55:282-287 Aug '49; pt 2 55:365-369 Oct '49; pt 3 55:423-427 Nov '49; pt 4 55:477-479 Dec '49

Model 100 amplifier (circuit diagram). MDDC 131

Model 500 amplifier (circuit diagram). MDDC 102

New type of high-frequency amplifier. J. R. Pierce and W. B. Hebenstreit. Bell Sys Tech J 28:33+ Jan '49

Self-stabilizing amplifier. PB 96910

Stabilized decade-gain isolation amplifier. Joseph F. Keithley. Electronics 22:98+ Apr '49

Standard amplifier type OV-301. (Standardversterker type OV-301) Radio Bul pt 1 18:259-263 Aug. '49; pt 2 vol 18 Sep '49

Transmitting amplifier for the K2 carrier system. H. C. Fleming. Bell Lab Rec 27:391-393 Nov '49

Wide range equalizing amplifier. Harry R. Hyder. Radio & TV N 42:52-53+ Oct '49

Patents

Dynamoelectric machine, Charles A. Thomas, 2,464,-871, 7 cl. Appl Oct 16, '44; granted July 5, '49

AMPLIFICATION and AMPLIFIERS, Audio

Amplifier for comparatively low frequencies. S. P. Pivovarov. Zh Tekn Fiz 18:799-804 June '48. In Russian

Amplifier for reproducing sound from magnetic tape. German Industry Rep. BIOS 207 Brit Govt Pub

Amplifiers: audio-frequency power amplifiers; low frequency. German Industry Rep. BIOS 563 Brit Govt Pub

Audio amplifiers. W. J. Crawley. Short Wave Mag 7:751-755 Dec '49

Audio systems in FM receiver. J. Richard Johnson. Radio Maint 5:16+ Feb '49

Cathode follower as audio power amplifier. H. T. Sterling. Audio Eng 33:14-15 Dec '49

Combined audio amplifier and phonographic oscillator. (Amplificador e Oscilador Fonografico) Radio J 1:1-2 Aug '49

Custom audio installation. I. Greene. Service pt 1 18:14-15+ May '49; pt 2 18:30-31+ June '49

Feedback amplifier for pilotuners and phonographs. John S. Carroll. Radio & TV N 41:39+ Feb '49

High-power triode amplifier. Walter T. Selsted and Ross H. Snyder. Audio Eng 33:9-10+ Feb '49

High quality amplifier: new version. D. T. N. Williamson. Wireless World. pt 1 55:282-287 Aug '49; pt 2 55:365-369 Oct '49; pt 3 55:423-427 Nov '49; pt 4 55:479 Dec '49

Improved phono amplifier. John S. Carroll. Radio Elec 20:42-43 Aug '49

Latest in triode high fidelity amplifiers. Llewellyn B. Keim. Radio & TV N 41:42+ Feb '49. Correction: 41:157 Mar '49

Musician's amplifier. D. Sarser and M. C. Sprinkle. Audio Eng 33:11-13+ Nov '49

New 50-watt amplifier circuit. F. H. McIntosh and G. J. Gow. Audio Eng 33:9-11+ Dec '49

New portable audio amplifier for AM-FM-TV. W. W. Dean. Audio Eng 33:11-14+ July '49

Practical cathode follower audio amplifier. W. E. Gilson and Russell Pavlat. Audio Eng 33:9-10+ May '49

Three-dimensional reproducer system. Michael Wolfe. Radio & TV N 41:44-45+ June '49

Three tube phonograph amplifier for AC. (trerors Grammofon-Forstaerker for Vekselstrom) Radio Ekko 9:188-191 Sep '46

Tunable AF amplifier. O. G. Villard, jr. Electronics 22:77-79 July '49

TV HI-FI audio installations. I. Greene. Service 18:20+ Aug '49

Unusual audio amplifier. John D. Goodell and Curtis W. Fritze. Radio & TV N 41:8-10+ Mar '49

Useful 10 watt amplifier. W. D. Hayes. Radio-Electronics 20:42 Apr '49

Versatile amplifier for 6 or 117 volts. Paul W. Streeter. Radio-Electronics 20:62-64 June '49

15 watt amplifier. (15 Watt-Kvalitetsforstaerker) Radio Ekko 12:131-134 July '49

15 watt LF amplifier with triodes. (15 WATT LF Forstaerker med Trioder) Radio Ekko 11:104-105 June '48. Also 11:129 July '48

25 watt high sensitivity LF amplifier. (25 Watt LF-Forstaerker med stor Folsomhed) Radio Ekko 11:164-167 Sep '48

Wide-range phono amplifier. Charles S. Mayeda. Radio & TV N 42:46-48+ Nov '49

Patents

Audio amplifier circuits for radio transmitters, John H. Pratt, 2,481,533, 7 cl. Appl Oct 28, '44; granted Sep 13, '49

Audio-frequency amplifier, Eric Watkinson, Andre Willem Storm, and Charles Gordon Smith, 2,473,265, 6 cl. Appl Dec 4, '46; granted June 14, '49

Simple-stage high-gain amplifier, Pierre Marie Gabriel Toulon, 2,471,252, 8 cl. Appl Apr 30, '47; granted May 24, '49

Variable gain amplifier, Lester R. Yates, 2,462,452, 4 cl. Appl Mar 12, '45; granted Feb 22, '49

MPL. and AMPLIFIERS, Audio, *Patents*–Cont'd.

ibrato system for amplifiers, Nathan I. Daniel, 2,466,306, 3 cl. Appl Oct 29, '47; granted Apr 5, '49

ide band amplifier coupling circuits, Frank H. McIntosh, 2,477,074, 9 cl. Appl Dec 22, '48; granted July 26, '49

Preamplifiers

C-614 speech amplifier. F. E. Wingfield. Short Wave Mag 7:178-181 May '49

ɔmposite audio preamp. Herbert G. Eidson, jr. Communications 29:28-29 Jan '49

ɔntinuously variable equalizing pre-amplifier. David C. Bomberger. Audio Eng 33:14-15 Apr '49

odulator pre-amplifier. C. B. Raithby. Short Wave Mag 6:790-791 Jan '49

ew developments in preamplifiers. C. J. LeBel. Audio Eng 33:9-12+ June '49

estricted range speech amplifier. GE Ham N 4:1-5 Sep-Oct '49

implified preamplifier design. H. T. Sterling. Audio Eng 33:16-17+ Nov '49

seful microphone pre-amplifier. (Un pre-amplificador de microfoxno util) Fidelco Bol Tec 1:6 May '49

ersatile phonograph preamplifier. Paul St. George and Benjamin B. Drisko. Audio Eng 33:14-16+ Mar '49

Patents

utomatic volume control preamplifier, Louis N. Theroux, 2,468,139, 2 cl. Appl Mar 6, '45; granted Apr 26, '49

Improvement Techniques

udio frequency response. Radio & TV Ret pt 1 How to make measurements and interpret the results. 50:59+ Aug '49; pt 2 Relating audio power to sound power and loudness. 50:101+ Oct '49

udio service and development techniques. J. Carlisle Hoadley. Radio & TV N 42:72-73+ Oct '49

elow 50 cycles. S. J. White. Audio Eng 33:16-18+ Dec '49

leaning up the speech; discussing amplifier-modulator design. J. A. Plowman. Short Wave Mag 7:348-352 July '49

oupling capacitors can be troublesome. John T. Bailey. Radio-Electronics 20:43 May '49

qualization monitor. Rev Telegr No 438:153-155+ Mar '49. In Spanish

ixed bias for audio output stages. Joseph R. Bookee. Radio & TV N 42:80-82+ Nov '49

ood bass reproduction on phonograph. (En god Basfremhaevelse ved Grammofongengivelse) Radio Ekko 11:19 Jan '48

ow to check audio amplifiers. Rufus Turner. Radio Maint 5:12-13+ Oct '49

ow to eliminate cathode hum in audio amplifying circuits. (Como eliminar el zumbido del catodo en los circuitos amplificadores de audio) A. Loisch. Fidelco Tec Bol 1:28-29 Apr '49

odernizing a remote amplifier. Adelbert Kelley. Communications 29:14-15 Apr '49

Neutralization of input capacitance on LF amplifiers. V. H. Attree. Electronic Eng 21:162 May '49

Stabilizing gain. T. S. Korn. Electronics 22:122+ Feb '49

Two logarithmic circuits. Frank H. Rockett. Electronics 22:130+ Jan '49

Why must we have bad audio? Llewellyn B. Keim. Radio & TV N 41:41-43+ Jan '49

AMPLIFICATION and AMPLIFIERS, DC

Carrier type DC amplifier for biological research. C. R. Maduell and H. M. Owen. Electronics 22:128+ Oct '49

Construction and test of a double triode pliotron 5674 in a balanced bridge DC amplifier circuit. M.S. thesis. Robert Arnold. Ohio State U Phys Dept Sep '48

DC amplifier employing negative feedback. Joseph F. Lash. Electronics 22:109+ Feb '49

DC amplifier techniques in oscillography. M. Maron. NEC Proc '49

Design and application of a logarithmic amplifier. C. W. Johnstone. 4 pp AECU 363

Design and limitations of DC amplifiers. E. J. Harris and P. O. Bishop. Electronic Eng pt 1 21:332-335 Sep '49; pt 2 21:355-359 Oct '49

Direct-coupled amplifier employing a cross-coupled input circuit. (Abstract) J. N. Van Scoyoc and G. F. Warnke. IRE Proc 37:170 Feb '49

Direct-coupled amplifier with cathode follower. Raymond H. Bates. Radio & TV N 42:62-63 Nov '49

Improvements in or relating to thermionic valve circuits. Edmund Harry Cooke-Yarborough and Charles D. Florida. Ministry of Supply Gr Brit NP 1028 6 pp Apr 22, '49. AEC

Interstage coupling for DC amplifiers. P. O. Bishop. Electronic Eng 21:61 Feb '49

Inverse feedback DC amplifier. F. J. M. Farley and H. E. Gove. NRC 1618

Simple stable DC amplifier for measurement of bioelectric potentials. J. W. Moore. Rev Sci Instr 20:698-699 Sep '49

TMB type AM-1A direct-coupled amplifier for the measurement of slow transient impulses. W. S. Campbell. PB 97212

True DC amplifier with stable gain characteristics. PB 98522

Wide-band DC amplifier stabilized for gain and for zero. A. J. Williams, jr. and others. AIEE Proc section 9132:1-5 July '49

Patents

Amplifier for small direct currents, John A. Hipple, jr., 2,462,190, 5 cl. Appl Mar 15, '45; granted Feb 22, '49

Compensated amplifier, Otto H. Schmitt, 2,479,970, 1 cl. Appl Feb 8, '44; granted Aug 23, '49

Direct-coupled amplifier with direct-current feedback, Russell J. Grambsch, 2,458,849, 1 cl. Appl Aug 20, '45; granted Jan 11, '49

Direct-current amplifier, Francis L. Moseley, 2,459,177, 2 cl. Appl Mar 5, '45; granted Jan 18, '49

AMPL. and AMPLIFIERS, DC, *Patents*–Cont'd.

Direct-current amplifier and circuit, Heinz Hermann Weichardt, 2,466,065, 16 cl. Appl Sep 8, '44; granted Apr 5, '49

Direct-current transformer, George E. Mallinckrodt, 2,467,840, 7 cl. Appl Dec 20, '46; granted Apr 19, '49

Direct-current voltage amplifier, Edmond Egbertus Carpentier, 2,490,727, 6 cl. Appl Dec 6, '47; granted Dec 6, '49

Electronic amplifier, Louis John Heaton-Armstrong, 2,468,066, 3 cl. Appl Nov 11, '44; granted Apr 26, '49

Means for multiplying voltages, Van M. Cousins, 2,471,262, 8 cl. Appl Oct 24, '46; granted May 24, '49

Vacuum tube amplifier, Robert C. Moore, 2,474,435, 5 cl. Appl Jan 8, '45; granted June 28, '49

Voltage multiplying circuit, Sidney Darlington, 2,473,414, 6 cl. Appl Nov 7, '47; granted June 14, '49

AMPLIFICATION and AMPLIFIERS, Feedback

Analysis of the transient response of amplifiers with shunt feedback. C. D. Florida. Atomic Energy Res Estab EL/R 368 38 pp Aug '49. AEC

Circuit techniques for miniaturization. P. G. Sulzer. Electronics 22:98-99 Aug '49

Combined current and voltage feedback. K. R. Sturley. Electronic Eng 21:159-161 May '49

Correction to "Theory of the superregenerative amplifier". Leon Riebman. IRE Proc 37:608 June '49

Degenerative circuits. A. T. Parker. Radio Maint 5:18-20+ Apr '49

Degenerative feedback. (Letter) Morton Nadler and Victor Toma. IRE Proc 37:60 Jan '49

Equivalent circuit method for feedback amplifier analysis. T. W. Winternitz. Communications 29: 14-15+ Nov '49

Experiment on the conditional stability of regenerative amplifiers. (Versuch zur bedingten Stabilitaet rueckgekoppelter Verstaerker) Weber. Frequenz 3:253-259 Sep '49

Feedback amplifier design. Hans Mayr. Wireless Eng 26:297-305 Sep '49

Feedback and phase inversion. C. A. Tuthill. Radio Ser Deal pt 1 10:20-21+ Jan '49; pt 2 10: 19-20 Apr '49

Feedback formulae. (Rueckkopplung) Funk und Ton pt 1 3:opp pp 394, 395 July '49; pt 2 3:opp pp 448, 449 Aug '49; pt 3 3:opp pp 512, 513 Sep-Oct '49

Generalized transformer concepts for feedback amplifiers and filter networks. Wheeler Mono No 5:1 Apr-Sep '48

Negative feedback amplifiers. C. F. Brockelsby. Wireless Eng 26:43+ Feb '49

Negative feedback amplifiers. (Amplificateurs a contrereaction) E. Chamagne and G. Guynot. Ann Telecomm 4:119-122 Apr '49

Power gain and the bandwidth of feedback amplifier stages. A. van der Ziel and K. S. Knol. Philips Res Rep 4:168-178 June '49

Reflex amplifier considerations in receiver design. Edward Kasner. Radio & TV N 41:46+ Feb '49

Regenerative amplifiers. Y. P. Yu. IRE Proc 37: 1046-1049 Sep '49

Research reports covering cavity resonators, cyclotrons, crystal vibration, feedback, microwaves, etc., 1942-1944. PB 84893. In German

Selective feedback amplifiers for low frequencies. (L'amplification selective en basse frequence) L. de Queiroz Orsini. Onde Elec pt 1 29:408-413 Nov '49; pt 2 29:449-456 Dec '49

Single stage negative feedback AC amplifier. (Einstufige gegengekoppelte Wechselstromverstaerker) Geyger. Funk und Ton 3:278-285 May '49

Some dangers in the use of negative feedback in radio receivers. E. G. Beard. Philips Tech Commun No 2-3:3-13 '49

Theory of the superregenerative amplifier. Leon Riebman. IRE Proc 37:29-33 Jan '49

Transient analysis of cathode-coupled feedback. D. A. Watkins and H. L. Fishbine. 26 pp AECU 184

Patents

Negative feedback amplifier, Hugo Romander, 2,480,163, 6 cl. Appl Apr 14, '45; granted Aug 30, '49

Negative feedback amplifier, John W. Rieke, 2,459,045, 8 cl. Appl Jan 30, '46; granted Jan 11, '49

Negative feedback amplifying circuit, Norman D. Webster, 2,488,357, 6 cl. Appl May 20, '47; granted Nov 15, '49

AMPLIFICATION and AMPLIFIERS, Intermediate Frequency

Amplifiers for use in stagger-tuned circuits. L. J. Libois. Onde Elec 29:124-129 Mar '49. In French

Calculations of constants for a staggered-tuned amplifier with linear phase-shift vs frequency characteristic in a given bandwidth. (Determination des elements d'un amplificateur a circuits accordes sur des frequences differentes et tels que la fonction phase-frequence soit lineaire dans un domaine de frequences determine) A. Fromageot and P. Belgodere. Ann Telecommun 4:169-176 May '49

Design of a (television) IF amplifier using stagger-tuned circuits. R. Aschen. TSF pour Tous 25: 293-295 Sep '49

Home study courses useful to radiomen. S. Freedman. Radio-Electronics 21:47-48 Nov '49

IF amplifier in miniature. Radio-Electronics 20: 38-39 July '49

Intermediate-frequency gain stabilization with inverse feedback. G. F. Montgomery. PB 98746

Stagger-tuned low-pass amplifiers. W. E. Thomson. Wireless Eng 26:357-359 Nov '49

Subminiature IF amplifiers. R. L. Henry and G. Shapiro. FM-TV 9:25+ Apr '49

AMPLIFICATION and AMPLIFIERS, Linear

Fast linear amplifier model B-3. 2 pp '47 MDDC 1284

General purpose linear amplifier. 7 pp '47 MDDC 718

General purpose linear amplifier. W. H. Jordon and P. R. Bell. PB 95781

MPL. and AMPLIFIERS, Linear–Cont'd.

neral theory of linear amplifiers. S. P. Strelkov. Avtomatika i Telemekhanika pt 1 9:233-244 May-June '48. In Russian

lzy linear. GE Ham N 4:1-6 July-Aug '49

inear amplifier model B-1 model B-4. 2 pp '47 MDDC 1285

inear RF amplifiers. Styrk G. Reque. QST 33: 15-20+ May '49

tudy of signal/noise ratio in standard linear amplifiers. T. E. Cranshaw and B. B. Kinsey (Cavendish Lab) BR 449 12 pp Dec 14, '43. AEC

MPLIFICATION and AMPLIFIERS, Magnetic

mplification by magnetization. F. N. McLure. Westinghouse Eng 9:92-96 May '49

nalysis of interlinked electric and magnetic networks with application to magnetic amplifiers. D. W. Ver Planck and M. Fishman. IRE Proc 37:1021-1027 Sep '49

nalysis of magnetic amplifiers with feedback. D. W. Ver Planck and others. IRE Proc 37:862-866 Aug '49

nalytical determination of characteristics of magnetic amplifiers with feedback. D. W. Ver Planck and others. AIEE Trans 68:565-570 '49. Also in AIEE Proc section 9139:1-6 July '49

asic considerations in the design of push-pull magnetic amplifiers. M. A. Rozenblat. Avtomatika i Telemekhanika 10:32-50 Jan-Feb '49. In Russian

iscussion on magnetic amplifiers. IEE Proc 96: 115+ May '49

iscussion on the papers in this issue by Mr. Milnes and Messrs. Gale and Atkinson. IEE Proc pt II 96:355-364 June '49

xperimental study of the magnetic amplifier and the effects of supply frequency on performance. E. H. Frost-Smith. Brit IRE J 9:358-373 Oct '49. Discussion: 9:440-443 Dec '49

eedback in magnetic amplifiers. Alan S. Fitz-Gerald. Franklin Inst J pt 1 247:223+ Mar '49; pt 2 247:457 May '49

lagnetic amplifier. P. M. Kintner and G. H. Fett. Radio & TV N 42:14-18+ Aug '49

lagnetic amplifier. (Magnetverstaerker) Poehn. Radiowelt 4:1-4 Feb '49

lagnetic amplifier studies on the analog computer. E. L. Harder and others. NEC Proc '49

lagnetic amplifiers. (Les amplificateurs magnetiques) Electronique 36:22-24 Oct '49

lagnetic amplifiers IEE Proc pt II 96:767-768 Oct '49

lagnetic amplifiers. M. Alixant. Radio Tech Dig 3:153-159 June '49. In French

lagnetic amplifiers. "Cathode Ray". Wireless World 55:69+ Feb '49

lagnetic amplifiers. James Greig. Nature 163: 501+ Mar 26, '49

lagnetic amplifiers. A. G. Milnes IEE Proc pt II 96:329-338 June '49

elf-saturation in magnetic amplifiers. W. J. Dornhoefer. AIEE Proc section 9140:1-16 July '49. Also in Elec Eng 68:988 Nov '49

Some aspects of magnetic materials used in transductors. Lennart F. Borg. IEE Proc pt II 96: 316+ Apr '49

Some fundamentals of DC controlled reactors with resistive load. H. F. Storm. AIEE Proc section 955:1-7 Apr '49

Theoretical and experimental study of the series-connected magnetic amplifier. H. M. Gale and P. D. Atkinson. IEE Proc 96:99+ May '49

Theory of magnetic amplifiers. M. Liwchitz-Garik and others. NEC Proc '49

Patents

Magnetic amplifier, Alan S. FitzGerald, 2,464,639, 19 cl. Appl Apr 13, '45; granted Mar 15, '49

Magnetic amplifier system, Alan S. FitzGerald, 2,461,046, 13 cl. Appl May 3, '46; granted Feb 8, '49

Magnetic amplifying circuits, Stanley Edwin Tweedy, 2,475,575, 8 cl. Appl Oct 29, '47; granted July 5, '49

Applications

Amplistat-a magnetic amplifier. R. E. Morgan. Elec Eng 68:663 Aug '49

Barkhausen noise and magnetic amplifiers. J. A. Krumhansl and R. T. Beyer. Jour Ap Phys pt 1 Theory of magnetic amplifiers. 20:432-436 May '49; pt 2 Analysis of the noise. 20:582-586 June '49

Characteristics of Deltamax. W. S. Spring. Electronics 22:152+ June '49

Magnetic amplifier design handbook. Vickers Elec Div Bul 2000

Magnetic amplifier increases speed range of motor. J. E. Priest. Elec World 132:94-96 July 16, '49

Magnetic amplifier remote-positioning system. J. W. Drisko. PB 98547

Magnetic amplifiers as measuring and regulating units. W. Geyger. PB 98730

Magnetic amplifiers for shipboard application. L. W. Buechler. Elec Eng 68:33-37 Jan '49

Principles of the magnetic amplifier as a measuring unit. W. Geyger. PB 98551

Servos with magnetic amplifiers (transductors). German Industry Rep. BIOS MISC 57 Brit Govt Pub

Study of the series-connected magnetic amplifier. H. M. Gale and P. D. Atkinson. IEE Proc pt II 96:339-354 June '49

Transductor DC pre-saturated reactor, with special reference to transductor control of rectifiers. U. Lamm. Acta Polyt No 17 215 pp '48

Transformer used as amplifier. Product Eng 20:100 Nov '49

AMPLIFICATION and AMPLIFIERS, Power

Amplifiers: audio-frequency power amplifiers; low frequency. German Industry Rep. BIOS 563 Brit Govt Pub

Conversion of a motor generator into a low noise power amplifier. H. S. Sommers, jr. and others. Rev Sci Instr 20:244-252 Apr '49

Design of class-B driver. W. H. Anderson. Radio Elec 21:42-43 Nov '49

AMPL. and AMPLIFIERS, Power–Cont'd.

Drawing No 2W1693C; "Z" regulator main power amplifier schematic (circuit diagram). MDDC 1191

Earthed-grid power amplifiers. P. A. T. Bevan. Wireless Eng 26:182-192 June '49

Lazy linear. GE Ham N 4:1-6 July-Aug '49

Low-distortion power valves. G. Diemer and J. L. H. Jonker. Wireless Eng 26:385-390 Dec '49

Nominal power output and actual power output. E. G. Beard. Philips Tech Commun No 1:3-5 '49

Operating conditions for a class "C" power amplifier. (Conditions de fonctionnement d'un amplificateur de puissance, classe "C") G. Cottin. Electronique 37:10-14 Nov '49

Operating conditions for the optimum working of output valves in high-power broadcast amplifiers. N. L. Bezladnov. Radiotekhnika 4:5-15 Jan-Feb '49. In Russian

Power tubes in parallel at UHF. J. R. Day. Electronics 22:166 Nov '49

Screen modulated final. J. D. Kline. Radio & TV N 41:110+ June '49

Suppressor grid modulated amplifier. (Forstaerker til Fanggittermodulation) Radio Ekko 9:137-138 June '46

Symmetrical amplifiers for FM or TV broadcasting; Symmetron. Westinghouse Eng 9:155-156 Sep '49

Symmetron amplifier. D. L. Balthis. Radio & TV N 41:20-21+ May '49. Also in Tele-Tech 8:42+ Apr '49

35 watt hi-fidelity amplifier. Richard .J. Cleary. Radio & TV N 41:36-37+ Apr '49

Patents

Combination power amplifier, Fred B. Stone, 2,492,542, 5 cl. Appl Sep 7, '45; granted Dec 27, '49

Electron tube power output circuit for low impedance loads, Edwin K. Stodola, 2,488,567, 3 cl. Appl June 16, '45; granted Nov 22, '49

AMPLIFICATION and AMPLIFIERS, Push-Pull

Designing cathode coupled paraphase amplifiers. N. Alpert. Tele-Tech 8:57-59 Sep '49

Designing push-pull amplifiers. David Fidelman. Radio-Electronics 20:65-67 June '49

7193's on two metres. J. H. Jowett. Short Wave Mag 7:375-376 July '49

Push-pull AF amplifiers. K. R. Sturley. Wireless Eng 26:338-343 Oct '49

Push-pull circuit (elementary description). (Modtaktskobling) Radio Ekko 11:109-111 June '48

Push-pull coupling. (Push-Puhl-Kobling) Radio Ekko 11:38+ Feb '48

Patents

Push-pull amplifier system, Robert B. Dome, 2,485,369, 3 cl. Appl Dec 4, '47; granted Oct 18, '49

Push-pull system, Milton Dishal, 2,462,849, 4 cl. Appl Aug 4, '45; granted Mar 1, '49

Sweep amplifier, Edwin A. Kraugh, 2,475,188, 2 cl. Appl Dec 20, '44; granted July 5, '49

Tunable coupling network for push-pull amplifiers, John A. Redmond, 2,467,778, 4 cl. Appl Sep 29, '44; granted Apr 19, '49

AMPLIFICATION and AMPLIFIERS, RF & VH

Ampliconversor. J. E. Poledo. Rev Telegr No 444 525-529+ Sep '49. In Spanish

Investigations on phase distortion in carrier frequency amplifiers. (Untersuchungen ueber Laufzeitverzerrungen im Traegerfrequenzverstarker) Goswin Schaffstein. Frequenz 3:125-135 May '4

New type of VHF tank design. B. E. Parker. FM TV 9:14-15 Oct '49

Noise free short wave amplifier. (En stofsvag KB Forstaerker) Radio Ekko 12:176-177 Sep '49

Page from a designer's notebook. Clayton F. Bane CQ 5:19 Mar '49

Using the "cascode" on 50 mc. QST 33:29+ Ma '49

Patents

Electron discharge tube high-frequency amplifie and modulating circuits therefor, Victor Jame Cooper and Ernest Green, 2,472,195, 4 cl. App Oct 24, '46; granted June 7, '49

Harmonic class C amplifier, Albert S. Harris, 2,469,598, 12 cl. Appl Apr 25, '47; granted May 10, '4

High-frequency amplifier with controlled load impedance, Klaas Posthumus, 2,480,195, 9 cl. App May 1, '46; granted Aug 30, '49

High-frequency amplifying circuit arrangement Maximilaan Julius, Otto Strutt and Aldert van der Ziel, 2,478,021, 9 cl. Appl May 9, '46; granted July 26, '49

Neutralized high-frequency amplifier, Klaas Post humus and Cornelis Adolf Gehrels, 2,477,545, 3 cl Appl May 9, '46; granted July 26, '49

Ultra high frequency amplifier system, William T Brown, 2,485,559, 5 cl. Appl Apr 12, '45; granted Oct 25, '49

AMPLIFICATION and AMPLIFIERS, Wideband

404A—a broadband amplifier tube. G. T. Ford Bell Lab Rec 27:59+ Feb '49

Complex correction of wide amplifiers. G. V Braude. Electro-Ind Bul (USSR) * No 9:19-3 '40

Design of optimum transient response amplifiers P. R. Aigrain. IRE Proc 37:873-879 Aug '49

Input impedance and gain of grounded-grid amplifier. P. E. Ohmart. 7 pp AECU 230

Low frequency response of wide-band amplifiers (Ueber die Verstaerkung der tiefen Frequenzen in Breitbandverstaerkern) Dillemburger. Funk und Ton 3:423-428 Aug '49

10 mc wide-band amplifier and scope (circuit diagram). MDDC 101

New amplifier for milli-microsecond pulses. N. E Schrock. HP J 1:1-4 Sep '49

Pulse amplifiers. P. Gouvary. Telev Franc No 46 29-31+ Apr '49. In French

RC coupling in wide-band amplifiers. (RC-Kopplung in Breitbandverstaerkern) Radio Tech 25 534-537 Sep '49

Secondary emission tubes in wide-band amplifiers (Letter) N. F. Moody and G. J. R. McLusky Wireless Eng 26:410-411 Dec '49

Some notes on wide-band feedback amplifiers. V Fitch. 28 pp AECU 194

AMPL. and AMPLIFIERS, Wideband–Cont'd.

Special side-band scope amplifier. Milton Kaufman. Radio & TV N 42:74-76+ Oct '49

Stabilizing a wide-band DC amplifier. A. J. Williams, jr. and others. Elec Eng 68:934 Nov '49

Study of amplifiers for square-wave signals. H. Gilloux. Radio Franc No 1:6+ Jan '49

Transient response of damped linear network with particular regard to wide-band amplifiers. 20 pp MDDC 770

Transient response of wide-band amplifiers. W. E. Thomson. Wireless Eng 26:264-266 Aug '49

VHF and UHF amplifier. D. L. Balthis. FM-TV 9:16+ Mar '49

Wide-band amplifier. J. C. Plowman. Electronic Eng 21:338-340 Sep '49

Wide-band amplifier calculations. F. Juster. Toute la Radio No 137:207-210 July-Aug '49. In French

Wide-band amplifier (see-saw circuit). (Ein Breitbandverstaerker) Funk und Ton 3:238-239 Apr '49

Wide range amplifier increases sensitivity of V. T. voltmeter. Rufus P. Turner. Radio & TV N 41: 78+ Mar '49

Patents

Band pass amplifier, William W. Moe, 2,491,326, 4 cl. Appl May 26, '45; granted Dec 13, '49

Cathode-coupled amplifier, Madison Cawein, 2,489,-266, 4 cl. Appl Sep 14, '45; granted Nov 29, '49

Cathode-coupled wide-band amplifier, Alfred C. Schroeder, 2,460,907, 6 cl. Appl Dec 28, '44; granted Feb 8, '49

Pass band width control circuit, Harold George Fisher and Eugene Orville Keizer, 2,464,125, 5 cl. Appl Mar 3, '45; granted Mar 8, '49

Phase and amplitude control circuit for wide-band amplifiers, John J. Mahoney, jr., 2,464,594, 4 cl. Appl Apr 6, '46; granted Mar 15, '49

Thermionic valve amplifier, Bertram Morton Hadfield, 2,475,547, 9 cl. Appl Oct 2, '44; granted July 5, '49

Wide-band amplifier, James L. Potter, 2,481,870, 8 cl. Appl Dec 14, '45; granted Sep 13, '49

Video

Amplifiers (line) for telephones and television. German Industry Rep. BIOS 687 Brit Govt Pub

Balancing at video frequencies. W. Mazel. Telev Franc No 45 7-11 Mar '49. In French

Behavior of video-amplifiers at the higher frequencies. (Le fonctionnement de l'amplificateur video-frequence sur les frequences elevees) R. Gondry. Telev Franc No 54 13-16 Dec '49

Cathode-compensated video amplification. Alexander B. Bereskin. Electronics pt 1 22:98-103 June '49; pt 2 22:104-107 July '49

Cathode neutralization of video amplifiers. J. M. Miller, jr. IRE Proc 37:1070-1073 Sep '49

Counter-reaction video frequency amplifiers. F. Juster. Telev Franc No 52 11-14+ Oct '49. In French

DC coupled video amplifiers. Radio & TV Ret 50: 57+ Dec '49

Decoupling in video amplifiers. Electronic Eng 21: 393 Oct '49

Double pentode preamplifier for TV. (Preamplificateur a double pentode) A. V. J. Martin. Telev Franc No 53 25-26 Nov '49

How to service video amplifiers. Matthew Mandl. Radio Maint 5:14-16+ Sep '49

Maximum speed of amplification in a wide-band amplifier. Wheeler Mono No 11 Apr-Sep '48

New figure of merit for the transient response of video amplifiers. R. C. Palmer. IRE Proc 37: 1073-1078 Sep '49

One tube TV preamp. Service 18:44+ May '49

Preamplifier in television. Toute la Radio 132:44-47 Jan '49

Stagger-peaked video amplifiers. Allan Easton. Electronics 22:118+ Feb '49

Stagger tuned video IF systems. Radio N 40:55 Oct '48

Symmetrical amplifiers for FM or TV broadcasting. Westinghouse Eng 9:155-156 Sep '49

Television booster amplifier design. Radio Maint 5: 16-17+ May '49. Also in Aerovox Res Worker 19: 1-3 Mar '49

Television stabilizing amplifier. J. L. Schultz. Radio & TV N 41:12-15+ May '49

Transformer-coupled HF or MF amplifiers for television receivers. F. Juster. Telev Franc No 51 10-13 Sep '49. In French

TV RF amplifier circuits. Service 18:16-17+ July '49

Video amplifier and scope. MDDC 829

Video amplifier testing-using a square wave generator. T. B. Tomlinson. Electronic Eng 21:204-208 June '49

Video amplifiers and DC restorers. H. C. Pleak. Sylvan N 16:T21-T23 June-July '49

Video-frequency amplifiers. (Amplificadores de video-frequencis) J. J. Ramil Moral. Rev Telecom pp 48-85 June '49

Video-frequency stage. (L'etage video-frequence) R. Gondry. Telev Franc No 53 6-9 Nov '49

Video IF amplifier design. Aerovox Res Worker 19: 1-3 Jan '49

Video IF amplifiers. Martin Clifford. Radio Maint 5:10-11+ June '49

Video receiver circuits simplified. D. D. Cole. Tele-Tech 8:33+ Jan '49

Wide-band amplifiers for TV. (Amplificateurs HF a large bande-pour television) Toute la Radio No 134:105-106 Mar-Apr '49

Patents

Amplifier with rising frequency response, Robert C. Moore, 2,488,314, 4 cl. Appl June 20, '46; granted Nov 15, '49

Variable gain amplifier, Alton Le Roy Olson, 2,476,-900, 3 cl. Appl Apr 20, '45; granted July 19, '49

See also

Television, Receivers & Reception, Front End

AMPLITUDE MODULATION

See Modulation

ANTENNAS

Antennas. Radio-Electronics 20:30-31 July '49

Antennas and open-wire lines. Jour Ap Phys pt 1 Theory and summary of measurements. R. King. 20:832-850 Sep '49; pt 2 Measurements on two-wire lines. K. Tomiyasu. 20:892-896 Oct '49; pt 3 Image-line measurements. P. Conley. 20:1022-1026 Nov '49

Channel guide antenna. W. Rotman. NEC Proc '49

Current distributions on some simple antennas. Wayne Webb and Richard C. Raymond. Jour Ap Phys 20:330+ Apr '49

Diffraction antennae with axial symmetry. J. N. Feld. Akad Nauk Izvest 51:155-158 Jan 20, '46. In English

Experimental determination of the distribution of current and charge along cylindrical antennas. G. Barzilai. IRE Proc 37:825-829 July '49

Experimental investigation of formulas for the prediction of horn radiator patterns. G. A. Woonton and others. Jour Ap Phys 20:71+ Jan '49

Feedback antennas. (Rueckgespeiste Antennen) Grosskepf. Frequenz 3:157-163 June '49

Fundamental limitations of small antennas. Harold A. Wheeler. IRE Proc (Australia) 10:47 Feb '49

Importance of a good aerial and earth system with practical examples. Kenneth W. King. Radio Times 4:14+ Apr 1, '49

Infinitely long cylindrical antenna. Charles H. Papas. Jour Ap Phys 20:437+ May '49

Interference-free reception with screened lead-in antennas. (Stoerarmer Empfang durch Antennen mit geschirmter Niederfuehrung) W. Hormuth. Frequenz 3:61-73

Investigation of the radiation field of simple radiators. M.S. thesis. John Ned Hines. Ohio State U EE Dept June '49

Linear communication antennas. P. O. Laitinen. PB 98345

More about scatterbacks. R. L. Castle. Short Wave Mag 7:190-191 May '49

Multi-band radiating system. D. Westwood. Short Wave Mag 6:778-782 Jan '49

New principle for broad band antennas. M. W. Scheldorf and J. F. Bridges. Tele-Tech 8:43+ June '49

Radiating surface systems. J. N. Feld. Akad Nauk Izvest 51:203-206 Jan 30, '46

Reports covering radio receivers, band filters, voltmeters, antennas, transformers, etc., 1942-1945. PB 84926

Simple antennas are good. (Enkle Antenner er gode) Radio Ekko 12:142 July '49

Technical manuals and research reports covering transmitters, wave propagation, antennas, magnetrons, VHF tubes, frequency and voltage measurement, and radar methods, 1941-1944. PB 84896. In German

Three-band aerial system. P. Pennell. Short Wave Mag 7:262-264 June '49

Transmitter dipole. J. Muller-Strobel and J. Patry. Schweiz Arch angew Wiss Tech 14:306-314 Oct '48

Transpole variotenna. Hugo Gernsback. Radio-Electronics pt 1 20:28-29 Aug '49; pt 2 20:34-35 Sep '49

Tune your antenna with a string. H. A. Ulyat. Radio & TV N 42:47+ Oct '49

Patents

Antenna, David W. Martin, 2,483,217, 9 cl. Appl Apr 21, '47; granted Sep 27, '49

Antenna, Edgar N. Gilbert, 2,480,186, 3 cl. Appl Oct 10, '45; granted Aug 30, 49

Antenna, Gardiner G. Greene, 2,486,597, 11 cl. Appl Mar 30, '46; granted Nov 1, '49

Antenna, George B. Vernier and Richard L. Rost, 2,491,629, 4 cl. Appl Nov 13, '45; granted Dec 20, '49

Antenna, Harold A. Newell and Albert W. Kramer, 2,489,720, 5 cl. Appl Sep 23, '48; granted Nov 29, '49

Antenna, Henry J. Riblet, 2,485,920, 5 cl. Appl Apr 26, '44; granted Oct 25, '49

Antenna, Lan Jen Chu, 2,479,209, 6 cl. Appl July 9, '45; granted Aug 16, '49

Antenna, Leonard J. Eyges, 2,472,201, 7 cl. Appl Dec 10, '45; granted June 7, '49

Antenna, Nils E. Lindenblad, 2,487,567, 10 cl. Appl Sep 5, '46; granted Nov 8, '49

Antenna, Pasquale Anthony Guarino and David Williams, 2,489,287, 6 cl. Appl Mar 26, '46; granted Nov 29, '49

Antenna, Robert M. Silliman, 2,479,272, 12 cl. Appl Dec 10, '45; granted Aug 16, '49

Antenna, Robert W. Masters, 2,480,153, 11 cl. Appl Jan 27, '45; granted Aug 30, '49

Antenna, Robert W. Masters, 2,480,154, 30 cl. Appl Jan 27, '45; granted Aug 30, '49

Antenna, Roger E. Clapp, 2,478,242, 4 cl. Appl Nov 4, '44; granted Aug 9, '49

Antenna, Roger E. Clapp, 2,480,182, 8 cl. Appl Sep 19, '45; granted Aug 30, '49

Antenna, Sidney B. Pickles, 2,477,647, 10 cl. Appl Jan 29, 45; granted Aug 2, '49

Antenna, Sidney B. Pickles, 2,485,654, 5 cl. Appl May 28, '46; granted Oct 25, '49

Antenna and lobe switcher, Nils E. Lindenblad, 2,488,419, 32 cl. Appl June 30, '43; granted Nov 15, '49

Antenna construction, Harold O. Peterson, 2,478,313, 3 cl. Appl July 19, '45; granted Aug 9, '49

Antenna control system, James R. Moore and Humbert P. Pacini, 2,479,586, 13 cl. Appl June 28, '44; granted Aug 23, '49

Antenna current indicator, Carl G. Seright, 2,485,171, 5 cl. Appl Oct 12, '46; granted Oct 18, '49

Antenna orientation control system, William H. Newbold, 2,481,331, 5 cl. Appl Aug 29, '44; granted Sep 6, '49

Antenna system, George W. Fyler, 2,479,337, 12 cl. Appl Oct 16, '45; granted Aug 16, '49

Antenna system, Jack H. Irving, 2,480,189, 6 cl. Appl Oct 30, '44; granted Aug 30, '49

Antenna system, John P. Shabklin, 2,483,240, 13 cl. Appl Sep 7, '45; granted Sep 27, '49

Antenna system, Ralph K. Potter, 2,485,457, 4 cl. Appl Oct 20, '44; granted Oct 18, '49

Antenna system, Robert W. Masters, 2,480,155, 9 cl. Appl Feb 28, '45; granted Aug 30, '49

Antenna system, Thomas M. Gluyas, jr., 2,490,957, 4 cl. Appl June 30, '46; granted Dec 13, '49

ANTENNAS, *Patents*–Cont'd.

Antenna system for short waves, Lester C. Van Atta, 2,486,620, 15 cl. Appl Oct 25, '43; granted Nov 1, '49

Apple-core reflecting antenna, Lan Jen Chu, 2,486,589, 1 cl. Appl Feb 27, '45; granted Nov 1, '49

Broad-band antenna system, Robert W. Wehner, 2,485,177, 19 cl. Appl Feb 28, '46; granted Oct 18, '49

Control circuit for antenna scan systems, Bob E. Watt, 2,482,143, 9 cl. Appl Aug 9, '44; granted Sep 20, '49

Dipole antenna, Harold Goldberg, 2,478,913, 4 cl. Appl Feb 7, '44; granted Aug 16, '49

Dual frequency antenna, Edgar N. Gilbert, 2,479,227, 6 cl. Appl Nov 6, '45; granted Aug 16, '49

Flat beam antenna, Lan Jen Chu, 2,478,241, 3 cl. Appl July 9, '45; granted Aug 9, '49

High-gain antenna system, Philip S. Carter, 2,485,138, 2 cl. Appl Oct 3, '46; granted Oct 18, '49

Illuminated radio antenna, Francis G. Wood, 2,473,981, 1 cl. Appl Jan 21, '46; granted June 21, '49

Loop antenna, Armig G. Kandoian, 2,490,815, 13 cl. Appl Jan 27, '45; granted Dec 13, '49

Loop antenna, Lewis H. Van Billiard, 2,492,772, 5 cl. Appl May 9, '46; granted Dec 27, '49

Loop antenna circuit, Malcolm P. Herrick, 2,483,047, 5 cl. Appl Dec 24, '46; granted Sep 27, '49

Radio antenna, Eric Osborne Willoughby, 2,480,172, 8 cl. Appl Jan 16, '45; granted Aug 30, '49

Radio waves radiators, Henri Gutton, 2,477,694, 3 cl. Appl July 19, '46; granted Aug 2, '49

Receiving antenna, Verlois R. Parker, 2,486,872, 2 cl. Appl Mar 4, '46; granted Nov 1, '49

Self-supporting aerial electric conducting cable, James J. Morrison and Alfred L. Duna, 2,473,965, 5 cl. Appl Jan 8, '47; granted June 21, '49

Triple element autodirectional antenna system, Arthur H. Gutschow and Charles R. Reese, 2,483,504, 3 cl. Appl July 13, '48; granted Oct 4, '49

Calculations and Characteristics

Antenna impedances. 1947 PB 94788

Antennas: theoretical basis for calculations and practical applications. (Antenas: fundamentos teoricos en que se basan sus calculos y applicaciones practicas) Jose A. Vallodares. Rev Soc Cuba Ing 57:205-220 Sep-Oct '49

Design of radio aerials. Nature 163:418+ Mar 12, '49

Driving point impedance of a vertical cylindrical radiator and concentric ring of subsidiary radiators over perfectly conducting earth. H. Caffarata. Marconi Rev pt 1 12:12-20 Jan-Mar '49; pt 2 12:57-67 Apr-June '49

Effective length of a linear transmitting antenna. C. J. Bouwkamp. Philips Res Rep 4:179-188 June '49

Gain of aerial systems. D. A. Bell. Wireless Eng 26:306-312 Sep '49. Corresp. 26:409-410 Dec '49

General folded dipole antenna design. D. L. Waidelich. Communications 29:18-20+ Apr '49

Ground plane field of the wide angle conical dipole. P. D. P. Smith. Jour Ap Phys 20:636 June '49

Impedance characteristics of some experimental broad-band antennas for vertical incidence ionosphere sounding. H. N. Cones. RP 2006 Nat Bur Stand

Impedance transformation in folded dipoles. R. Guertler. Brit IRE J 9:344-350 Sep '49

Method of determining the polar diagrams of long-wire and horizontal rhombic aerials. Oct '48 PB 96554

Radiation resistance of linear aerials. A. A. Samarski and A. N. Tikhonov. Zh Tekh Fiz 19:792-803 July '49

Radiation resistances of loaded antennas. Richard C. Raymond and Wayne Webb. Jour Ap Phys 20:328+ Apr '49

Some aids in sketching field strength diagrams. F. Duerden. Electronic Eng 21:375-378 Oct '49

ANTENNAS, Aircraft

Antennas. PB 95317

Flush-mounted aircraft antennas. Vin Zeluff. Electronics 22:158+ Apr '49

Flush mounted zero-drag antennas for USAF aircraft. Machine Design 21:97 Aug '49

Lab checks scale-model antennas: Boeing Antenna Lab. Aviation W 51:30 Nov 7, '49

Low-drag aircraft antenna for reception on omnidirectional range signals in the 108 to 122 mc band. (Abstract) John P. Shanklin. IRE Proc 37:163 Feb '49

Measurement of the impedances of aircraft antennas. P. Durand. Onde Elec 29:73-78 Feb '49. In French

Omnidirectional aircraft antenna. John Markus. Electronics 22:168+ May '49

Reports covering ionosphere research, problems in Lufthansa radio operations, atmospheric disturbances and development and tests of aircraft antennas, 1943-1945. PB 84899

Suppressed aircraft aerials. G. E. Beck. Wireless World 55:468-470 Dec '49

Patents

Aircraft antenna system, Arthur E. Wilde, jr., 2,490,330, 10 cl. Appl June 26, '44; granted Dec 6, '49

Antenna for aircraft, James Keller De Armond, 2,484,817, 4 cl. Appl Dec 15, '42; granted Oct 18, '49

Modulated reflecting-resonant target, Edwin J. Istvan, 2,462,102, 11 cl. Appl Aug 2, '45; granted Feb 22, '49

Transmitting antenna with automatic tuning, particularly for aircraft wireless, Hans Kappeler, 2,472,904, 3 cl. Appl Jan 20, '45; granted June 14, '49

See also

Communications, Aircraft
Direction Finders

ANTENNAS, Amateur

Aluminum 144 mc beam is light and strong. L. W. May. Radio-Electronics 20:131-134 Mar '49

Antennas for 160 meters. QST 33:27-29 May '49

Break-in with one antenna. M. E. Hiehle. QST 33:18-20+ Nov '49

ANTENNAS, Amateur–Cont'd.

Building an aerial rod. (Wir bauen eine Stabantenne) Radio Tech 25:241 Apr '49

Constructing the cubical quad. Ray Hoffman and A. David Middelton. CQ 5:11-14+ June '49

Experimental all-band nondirectional transmitting antenna. G. L. Countryman. QST 33:54-55 June '49

53-foot rotating antenna mast. R. R. Goshorn. QST 33:33-35 Dec '49

"Gamma" match. H. H. Washburn. QST 33:20-21+ Sep '49

Grounded folded dipoles. James W. Hunt. QST 33:28-29 Apr '49

Installing a practical 75-meter mobile antenna. J. Oberlies. QST 33:25-26+ Dec '49

Inverted rhombic and biconical beams. QST 33:42-43 June '49

Invisible antenna. A. F. Scotten. QST 33:46-47 Feb '49

Local/DX antenna for the 7 mc band. Woodrow Smith. Radio & TV N 41:86+ Mar '49

Lumber facts and figures. J. F. Antenen. QST 33:16-17 Dec '49

Quad for ten. B. C. Cooper. Short Wave Mag 7:345-346 July '49

Receivers and aerials for the 144 mcs band. E. A. Dedman. RSGB Proc 6:1-5 July '49

Reflections on the g8po aerial. J. E. Ironmonger. RSGB Bul 25:38-40 Aug '49

RST 519—solid copy. W. I. Orr. CQ 5:22-23+ Dec '49

Single turn loop. Woodrow Smith. Radio & TV N 41:58-59+ Jan '49

Super interlaced beam for 10 and 20 meters. A. Ussher. QST 33:17-19 Aug '49. Correction: Z56Z beam dimensions. 33:31 Nov '49

Three-pound 10-meter beam. E. F. Harris. Radio & TV N 42:70-71+ Oct '49

Two-band antenna-matching networks. J. G. Marshall. QST pt 1 33:14-18 Oct '49; pt 2 33:48-51+ Nov '49

Two-band rotary beam aerial. RSGB Bul 24:277-278 May '49

Two-element beam for twenty. P. Pennell. Short Wave Mag 7:352-355 July '49

Variable-frequency antenna. R. O. Williams. QST 33:41-44 July '49

Vertical beams on 14 mc. A. D. Mayo. QST 33:48-49 Sep '49

VHF bands; aerials. E. J. Williams. Short Wave Mag 7:769-770 Dec '49

Why not a windom? Eric Johnson. RSGB Bul 25:186-187 Dec '49

Your Beam—will it stay up? R. W. Woodward. QST 33:38-39 Oct '49

See also

Communications, Amateur
Reception & Receivers, Communication, Amateur

ANTENNAS, Arrays

Antenna systems for multichannel mobile telephony. (Abstract) W. C. Babcock and H. W. Nylund. IRE Proc 37:163 Feb '49

Beam design and adjustment. W. A. Sparks and S. S. Leigh. Short Wave Mag 7:422-424 Aug '49

"Capital X" array for 28 mc. R. R. Campbell. QST 33:45+ Mar '49

Design considerations for directive antennae-arrays at medium wave broadcast frequencies, taking into account the final radio frequency amplifier circuits. J. C. Nonnekens. HF 1:26-31 Jan '49. In English

Design of practical high power slotted wave guide arrays. Dec '48 PB 96634

Design of Yagi aerials. R. M. Fishenden and E. R. Wiblin. RSGB Bul 25:180 Dec '49

6-element aerial array for the VHF's. F. Charman and H. E. Smith. RSGB Bul 26:66-68 Sep '49

Food for VHF thinking. M. D. Mason. Short Wave Mag 7:455-458 Aug '49

Omni-directional vertically-polarized antenna array for very short waves. R. S. Rettie. NRC 1643

Radiation patterns and gain of a four-antenna array located at the corners of a square around a central parasitic antenna. G. Boudouris. Brit IRE J 9:427-439 Dec '49

Ten-metre beam. L. J. J. Morgan. Short Wave Mag 7:188-190 May '49

VHF sandwich; stacked arrays for 50 and 144 mc. Edward P. Tilton. QST 33:36-37 June '49

Patents

Antenna, Roger E. Clapp, 2,470,016, 3 cl. Appl Sep 14, '45; granted May 10, '49

Antenna array, Charles F. Valach, 2,481,801, 3 cl. Appl Dec 8, '45; granted Sep 13, '49

Radiant energy directivity pattern scanner, Russell H. Varian, 2,464,276, 28 cl. Appl Aug 3, '43; granted Mar 15, '49

Search antenna array, Eugene Fubini and Morton Hamermesh, 2,473,421, 9 cl. Appl May 30, '45; granted June 14, '49

ANTENNAS, Auxiliary Equipment

BK with the AR88. N. P. Spooner. Short Wave Mag 6:799-800 Jan '49

Coax line installation practices. I. Kamen. Service pt 1 18:14-15+ Sep '49; pt 2 18:20-21+ Oct '49

Compact antenna coupling device. Sidney Wald. Radio & TV N 41:7+ Mar '49

Considerations on electronic multicouplers. (Abstract) W. R. Aylward and E. G. Fubini. IRE Proc 37:170 Feb '49

Detector receiver antenna connections. (Detektormodtagerens Antennekobling) Radio Ekko 12:232-233 Dec '49

Glass antenna spreader. (Antennespredere af Glas) Radio Ekko 11:117-118 June '48

Mast head antenna switching. Dana A. Griffin. Radio & TV N 42:42-43+ Sep '49

Quick change of pace for the prop-pitch motor. Dick Saunders. CQ 5:20+ Aug '49

Rotating the beam by remote control. P. A. O. Northey. RSGB Bul 24:176-177 Jan '49

Screened antenna house. (Geschirmte Antennen-Anlage) ETZ 70:166-167 May '49

Wideband matching of various half-wave dipoles by means of two homogeneous conductor sections. PB 94960

ANTENNAS, Auxiliary Equipment–Cont'd.

Patents

Antenna rotation control system, Charles Philip Edwards, 2,487,429, 6 cl. Appl Jan 30, '47; granted Nov 8, '49

Antenna testing shield, Doyle E. Collup, 2,490,782, 7 cl. Appl Apr 5, '46; granted Dec 13, '49

Control mechanism for positioning a mast in alternate predetermined positions, Alan C. Middleton, 2,474,486, 7 cl. Appl Dec 5, '45; granted June 28, '49

Directive antenna control system, Aaron Robert Kolding, 2,458,175, 5 cl. Appl July 27, '44; granted Jan 4, '49

Loop inductance compensator, Stanley Cutler and Norton Wiener, 2,460,492, 4 cl. Appl Oct 30, '46; granted Feb 1, '49

Power-driven mechanism and portable demountable supporting standard therefor, Stanley R. Howard, 2,474,250, 21 cl. Appl July 27, '44; granted June 28, '49

Radio antenna mounting and connector, Harold Z. Benton, 2,471,020, 2 cl. Appl Apr 25, '45; granted May 24, '49

Radio scanning apparatus, Robert F. Hays, jr., 2,472,824, 11 cl. Appl June 16, '45; granted June 14, '49

Sector antenna switching, Sven H. M. Dodington, 2,485,576, 3 cl. Appl Apr 19, '47; granted Oct 25, '49

Ultra high frequency antenna coupling coil assembly, Arthur C. Germer, 2,467,737, 3 cl. Appl May 24, '45; granted Apr 19, '49

ANTENNAS, Broadcast (AM)

Battle Creek station WBCK makes unique antenna installation using solid dielectric cable. Amph Eng N vol 2 Mar '49

Classification of broadcast receiving aerials. Radio Comp Mfrs' Ass'n Tech Bul 1:4-6 Dec '48

Model techniques for determination of the characteristics of low frequency antennas. E. A. Jones. PB 98292

Receiving aerials. C. J. W. Hill. Radio Times. 4:13+ Oct 16, '49

Two second AM proof of performance. A. F. Schoenfuss. Tele-Tech 8:30-33+ Oct '49

Patents

Automotive vehicle antenna, Joseph B. Cejka, 2,468,391, 13 cl. Appl Dec 3, '47; granted Apr 26, '49

Automotive vehicle antenna, Joseph Benjamin Cejka, 2,481,823, 13 cl. Appl May 25, '48; granted Sep 13, '49

Extensible car radio antenna, Irving Bernstein and Murray Director, 2,491,601, 4 cl. Appl Nov 20, '46; granted Dec 20, '49

Ground wire system, Winfield R. Koch, 2,473,377, 10 cl. Appl Oct 2, '46; granted June 14, '49

Outside mounted automobile antenna, Milton R. Friedberg, 2,473,141, 10 cl. Appl Apr 19, '47; granted June 14, '49

Radio aerial for use on vehicles, Charles Molyneux Carington, George William Shoobert, and Walter Jonathan Pickett, 2,491,713, 2 cl. Appl Oct 13, '47; granted Dec 20, '49

Radio antenna, Charles A. Trowbridge, 2,482,567, 4 cl. Appl July 5, '46; granted Sep 20, '49

Vehicle antenna, Harold F. Jenkins, 2,478,273, 2 cl. Appl Dec 11, '47; granted Aug 9, '49

ANTENNAS, Directional

Application of a variational principle to biconical antennas. C. T. Tai. Jour Ap Phys 20:1076-1084 Nov '49

Attenuation between parabolic antennas. E. Dyke. Electronics 22:114 July '49

Dielectric directional antennas. (Dielektrische Richstrahler) Mallach. Fernmeldetech Zeit 33-40 Feb '49

Dimensioning of directional antennas. German Industry Rep. FIAT 610 Brit Govt Pub

Directional antenna for the 152-162 mc communications band. J. S. Brown and V. J. Moffatt. Communications 29:14-16+ Mar '49

Directional antennas for AM broadcasting. John H. Battison. Electronics 22:101+ Apr '49

Effect of conductor size on the characteristics of helical beam antennas. M.S. thesis. Thomas Earl Tice. Ohio State U EE Dept Sep '48

Electromagnetic field of the conical horn. Ph.D. thesis. Marvin G. Schorr. Yale U EE Dept '49

Half beacon antenna. A. Baunlich. PB 2707

Helical beam antenna design techniques. J. D. Kraus. Communications 29:6-9+ Sep '49

Infinite rejection beam. W. F. Hoisington. Electronics 22:146+ May '49

Influences on the radiation of directional antennas at very short wave lengths. (Die Beeinflussung der Strahlung von Richtantennen fur kuerzeste Wellen) Elektron Wiss und Tech 3:149-152 Apr '49

Iron core loop antennas. (Cadres a fer) J. Gourevitch. Toute la Radio No 141:29-31 Dec '49

Metal lenses, a new directional antenna system for very short waves. (Metall-Linsen, ein neues Richtantennensystem fuer sehr kurze Wellen) Elektron Wiss und Tech 3:141-148 Apr '49

Multi-band rotary. Bob Haner. CQ 5:25-28+ Sep '49

Reflector antenna with direction indicator. (Reflektorantenne med Retningsviser) Radio Ekko 9: 157-158 July '46

Research reports covering directional, rotatable beam and Yagi antennas, 1937-1945. PB 84901

Research reports on radio controlled aircraft, signal beam apparatus, directional antennas, airborne radar equipment, etc., 1935-1945. PB 84900

Short waves and directive antennas. M. A. Bonch-Bruevich. Electricity (USSR) USSR* pp 228-234 '25

Patents

Antenna, Henry J. Riblet, 2,473,446, 5 cl. Appl Nov 6, '45; granted June 14, '49

Antenna, John W. Marchetti, 2,462,881, 16 cl. Appl Oct 25, '43; granted Mar 1, '49

Antenna, John W. Marchetti, 2,474,854, 4 cl. Appl July 20, '44; granted July 5, '49

Antenna, Rene A. Braden, 2,460,869, 1 cl. Appl Mar 14, '46; granted Feb 8, '49

Antenna system, George E. Hulstede, 2,472,213, 6 cl. Appl Oct 3, '45; granted June 7, '49

ANTENNAS, Directional, *Patents*–Cont'd.

Beacon transmitter, Christiaan Jan de Lussanet de la Sabloniere, 2,478,463, 4 cl. Appl July 28, '47; granted Aug 9, '49

Circuit arrangement for compensating the aerial effect of directional antennae, Theodoor Willem La Riviere, 2,460,357, 5 cl. Appl May 1, '46; granted Feb 1, '49

Directive antenna system, Cassius C. Cutler, 2,482,-158, 3 cl. Appl July 21, '45; granted Sep 20, '49

Directive antenna system, Clifford A. Warren, 2,458,885, 16 cl. Appl Dec 15, '44; granted Jan 11, '49

Directive antenna system, Joel M. Lanxner, 2,480,-143, 4 cl. Appl Sep 11, '46; granted Aug 30, '49

Electromagnetic horn, Wilmer Lanier Barrow, 2,467,578, 19 cl. Orig appl Jan 9, '39; divided and this appl Dec 10, '41; granted Apr 19, '49

Energy directing apparatus, Gerald L. Tawney, 2,469,419, 15 cl. Appl Oct 26, '43; granted May 10, '49

Loop antenna system, Lester L. Libby, 2,465,381, 19 cl. Appl Mar 12, '45; granted Mar 29, '49

Parabolic antenna, Steven E. Mautner, 2,471,828, 3 cl. Appl July 4, '44; granted May 31, '49

Single null loop antenna, Myron Y. Eck and Jerome J. Hodapp, 2,474,238, 6 cl. Appl June 27, '45; granted June 28, '49

See also

Direction Finders
Radar, Antennas

ANTENNAS, FM and VHF

Adding FM to an AM array. M. L. Jones and I. Mager. FM-TV 9:11-12 Sep '49

Broadbanding ring-type FM antennas. B. E. Parker: Tele-Tech 8:22-23 July '49

Colinear coaxial array for 152 megacycles. R. G. Rowe. Tele-Tech 8:34+ Jan '49

Directional VHF antennas. Aerovox Res Worker vol 19 July '49

16-element FM receiving antenna. Lewis Dickensheets. Communications 29:8-9 Apr '49

Elliptically polarized radiation from inclined slots on cylinders. (Abstract) George Sinclair. IRE Proc 37:161 Feb '49

Flush-mounted antenna for mobile application. Donald R. Rhodes. Electronics 22:115+ Mar '49

Impedance transformation in folded dipoles. R. Guertler. IRE Proc (Australia) 10:95+ Apr '49

Mobile radio antennas for railroads. W. C. Babcock. Bell Lab Rec 27:172-175 May '49

Multi-V antenna for FM broadcasting. M. W. Scheldorf. Electronics 22:94+ Mar '49

Operating and maintenance instructions for RF power monitor for the 2 to 20 megacycles range. Report. R. L. Linton U of Calif Eng Dept Apr 9, '48

Plotting VHF station performance graphically. M. R. Ludwig. QST 33:24-25 Jan '49

Rotating antenna. H. Windhausen. Rev Telegr No 442:374-378+ July '49. In Spanish

8 section Pylon makes 546 kw a reality at WBRC-FM. O. O. Fiet. Broadcast N No 53:32 Feb '49

VHF dummy antenna. B. E. Parker. Electronics 22:100-101 Oct '49

VHF helical beam antenna. Harold E. Taylor and Don Fowler. CQ 5:13-16+ Apr '49

Patents

Antenna for signal receivers, John R. Ebbeler, 2,485,264, 5 cl. Appl Jan 5, '49; granted Oct 18, '49

ANTENNAS, Measurements and Testing

Antenna impedance measurement by reflection method. E. Istvanffy. IRE Proc 37:604-608 June '49. Also in Elec Comm 26:285-291 Dec '49

Antennas for radiation measurements. Harold E. Dinger and George E. Leavitt. Elec Eng 68:315 Apr '49

Calculation of the current distribution on a linear antenna to produce a given radiation pattern. M.S. thesis. Morris M. Handelsman. Ohio State U EE Dept Dec '48

Crystal checker for 70 cm. E. Johnson. Short Wave Mag 7:132-133 Apr '49

Effect of input configuration on antenna impedance. Ph.D. thesis. John R. Whinnery. U of Calif Eng Dept Aug '48

Field pattern formulas for antennas of simple geometry mounted on an infinite plane. M.S. thesis. Paul I. Pressel. Ohio State U EE Dept Sep '48

Impedance and power meter for the 144 mcs band. H. A. M. Clark. RSGB Bul 25:6-11+ July '49

Lab checks scale-model antennas. Aviation W 51: 30 Nov 7, '49

Measured impedance of vertical antennas over finite ground planes. A. S. Meier and W. P. Summers. IRE Proc 37:609-616 June '49

Measured phase velocity and current distribution characteristics of helical antennas radiating in the beam mode. M.S. thesis. Milton Aronoff. Ohio State U EE Dept Sep '48

Measurement and interpretation of antenna scattering. D. D. King. IRE Proc 37:770-777 July '49

Measurement of antenna efficiency and gain. PB 98561

Measurement of current and charge distributions on transmitting and receiving antennas. (Abstract) Tetsu Morita. IRE Proc 37:163 Feb '49

Measurements on loop antennas. (Messungen an Rahmenantennen) Roeschen. Funk und Ton 3: 271-277 May '49

Parasitic-array patterns. Joseph L. Gillson. QST 33:11-15+ Mar '49

Received power of a receiving antenna and the criteria for its design. Yung-Ching Yeh. IRE Proc 37:155-158 Feb '49

See also

Measurements & Meters, Field Strength

ANTENNAS, Microwave

Broad-band transition from coax to helix. (Abstract) C. O. Lund. IRE Proc 37:161 Feb '49

Channel section waveguide radiator. A. L. Cullen. Phil Mag 40:417-428 Apr '49

Characteristic vibrations of thin metallic and slot antennas. M. L. Levin. Akad Nauk Dok 63:661-664 '48. In Russian

NTENNAS, Microwave–Cont'd.

ombination slot antenna and resonant tank circuit. N. L. Harvey. NEC Proc '49

ielectric antennas. H. Aberdam. Telev Franc No 50 11-14+ Aug '49. In French

iffraction pattern from an elliptical aperture. (Abstract) R. J. Adams and K. S. Kelleher. IRE Proc 37:163 Feb '49

lectrically small cavity antennas. Report. J. T. Bolljahn. U of Calif Eng Dept Nov 26, '48

lectromagnetic horn. W. D. Oliphant. Electronic Eng pt 1 21:255-258 July, '49; pt 2 21:294-299 Aug '49

valuation of the gain of a microwave radiating system. F. Bosinelli. Ricerca Sci 18:1109-1015 Aug-Sep '48

ains and effective areas of horn antennas. (Richtfaktor und wirksame Flaeche von Hornantennen) Funk und Ton 3:412-415 July '49

mpedance and radiation characteristics of slotted cylinder antennas. R. E. Beam and H. D. Ross, jr. NEC Proc '49

aws of potential distribution along slits. J. N. Feld. Akad Nauk Izvest 55:407-410 Feb 20, '47. In English

ens antenna. K. J. Hammerle. Ph.D. thesis. Purdue U Aug '47

Microwave antennas. J. Maillard. Onde Elec 29: 110-123 Mar '49. In French

Microwave antennas and dielectric surfaces. R. M. Redheffer. Jour Ap Phys 20:397+ Apr '49

Multiple slot antennas. Ya N Fel'd. Zh Tekn Fiz 18:1265-1272 Oct '48. In Russian

Predetermination of antenna characteristics by means of models. R. D. Boadle. IRE Proc (Australia) 10:155-159 June '49

Resonance slot antennas in wave guides. M. L. Levin. Akad Nauk Izvest 12:310-321 May-June '48. In Russian

Simultaneous reception from both ends of a rhombic antenna. Report. Robert DeLiban. U of Calif Eng Dept Nov 9, '48

Slotted wave guides and their applications to antennas. (Les guides a fente et leur application aux aeriens) M. Bouix. Ann Telecommun 4: 75-86 Mar '49

Study of the emf method. C. T. Tai. Jour Ap Phys 20:717-723 July '49

System of ultra-high-frequency omni-directional slot antennas for the blossom IV-A warhead. H. J. Rowland and others. PB 98648

Theory of end-fire helical antennas. (Abstract) Arthur E. Marston and M. D. Adcock. IRE Proc 37:161 Feb '49

Theory of radiation patterns of electromagnetic horns of moderate flare angles. C. W. Horton. IRE Proc 37:744-749 July '49

Transmission-line characteristics of the sectoral horn. H. S. Bennett. IRE Proc 37:738-743 July '49

Patents

Adjustable antenna, Carl K. Gieringer, 2,474,242, 1 cl. Appl June 13, '45; granted June 28, '49

Aerial reflecting signal target, Jacob George Sperling, 2,489,337, 3 cl. Appl Aug 10, '45; granted Nov 29, '49

Antenna, George H. Brown and Jess Epstein, 2,471,515, 8 cl. Appl July 25, '44; granted May 31, '49

Antenna, John B. Varaway, jr., and Harvey Kees, 2,467,961, 2 cl. Appl Feb 20, '46; granted Apr 19, '49

Antenna, Robert J. Adams and Harvey W. Lance, 2,476,949, 8 cl. Appl Aug 2, '45; granted July 26, '49

Antenna for radiating circularly polarized waves, Paul J. Kibler, 2,460,260, 5 cl. Appl Oct 3, '45; granted Jan 25, '49

Broad band antenna, Allen S. Meier, 2,463,547, 5 cl. Appl Jan 23, '45; granted Mar 8, '49

Center fed antenna, Leon Himmel, 2,462,865, 10 cl. Appl May 24, '45; granted Mar 1, '49

Construction of ultra high frequency broad-band antennas, Albrecht Streib, Earle Dayton Thorne, and Robert S. Wehner, 2,492,404, 5 cl. Appl Nov 10, '45; granted Dec 27, '49

Dipole antenna, Harold Goldberg, 2,491,493, 7 cl. Orig appl Feb 7, '44; divided and this appl Sep 20, '46; granted Dec 20, '49

Directional microwave antenna, Cassius C. Cutler, 2,483,575, 7 cl. Appl July 26, '44; granted Oct 4, '49

Directional microwave antenna, Cassius C. Cutler, 2,489,865, 6 cl. Appl July 31, '44; granted Nov 29, '49

Directive high-frequency antenna, Stanley L. Breen, Lan Jan Chu, and Chia-Shan Pao, 2,480,181, 2 cl. Appl Jan 24, '45; granted Aug 30, '49

Directive microwave antenna, Carl B. H. Feldman, 2,482,162, 4 cl. Appl June 5, '43; granted Sep 20, '49

Directive microwave radio antenna, George C. Southworth, 2,460,401, 37 cl. Orig appl Nov 28, '41; divided and this appl Apr 1, '43; granted Feb 1, '49

High-frequency antenna, John B. Caraway, jr., 2,467,962, 5 cl. Appl Jan 28, '47; granted Apr 19, '49

High-frequency antenna, Louis E. Raburn and Elmer W. Everson, 2,467,991, 4 cl. Appl June 6, '47; granted Apr 19, '49

High-frequency radiant energy absorbing device, David E. Sunstein, 2,474,384, 3 cl. Appl Apr 28, '44; granted June 28, '49

Radiating electromagnetic resonator, William W. Hansen, 2,460,287, 9 cl. Orig appl Jan 17, '38; divided and this appl Nov 5, '42; granted Feb 1, '49

Radiating electromagnetic resonator, William W. Hansen and Russell H. Varian, 2,460,286, 10 cl. Orig appl Jan 17, '38; divided and this appl Nov 13, '40; granted Feb 1, '49

Radio antenna, Donald Jackson, 2,471,215, 8 cl. Appl Nov 15, '46; granted May 24, '49

Slotted wave guide antenna, Lan Jen Chu, 2,477,510, 12 cl. Appl Jan 31, '44; granted July 26, '49

Three-phase slot antenna system, Robert S. Whener, 2,487,622, 12 cl. Appl Feb 28, '46; granted Nov 8, '49

Traveling wave antenna, Nils E. Lindenblad, 2,478,700, 10 cl. Appl Nov 11, '44; granted Aug 9, '49

Ultra high frequency antenna system, Harner Selvidge, 2,471,045, 11 cl. Appl Oct 21, '44; granted May 24, '49

Wave modifying reflector, Walter J. Albersheim, 2,472,782, 6 cl. Appl Sep 7, '45; granted June 14, '49

ANTENNAS, Microwave–Cont'd.

See also
Microwaves, Propagation
Radar, Antennas
Transmission Lines
Waveguides

ANTENNAS, Polarization

Antennas for circular polarization. W. Sichak and S. Milazzo Elec Comm 26:40+ Mar '49

Geometrical representation of the polarization of a plane electromagnetic wave. (Abstract) George A. Deschamps. IRE Proc 37:172 Feb '49

Helical Antenna. John D. Kraus. IRE Proc 37:262-272 Mar '49

Method of installing bipolar antenna. (Me todo para Instalacao de una Antena Bi-Polar) Radio J 1:8 Aug '49

ANTENNAS, Radar

See Radar, Antennas

ANTENNAS, Structures

Backward skywire. L. H. Thomas. Short Wave Mag 6:862-864 Feb '49

Building a fifty-footer. W. R. Joss. Short Wave Mag 7:199-200 May '49

Indoor beam for ten. R. W. Rogers. Short Wave Mag 7:506-508 Sep '49

Lower that beam. Curtis I. Anderson and Ivan H. Anderson. CQ 5:28-29+ June '49

Permanent rotary. Lawrence LeKashman. CQ 5: 13-17 Jan '49

"Plumber's delight" beam for 14 mc. More ideas on rotary-beam construction. William I. Orr. QST 33:18-22 Feb '49

Two-bit tower with million-dollar performance. W. C. Rippy, jr. QST 33:56-57 June '49

Vertical antenna for 75 meters. Stuart L. Dunkle. QST 33:29-30 Apr '49

ANTENNAS, TV

All you need to know about FM and TV antennae. J. F. Freidman. Radio & Ap Sales 5:31 July '49

Amphenol TV antenna for use with rotor. Amph Eng N 2:53-54 Jan '49

Antennas—a $50 million business for dealers. RTJ 66:16-17+ Mar '49

Antennas for television. Edward M. Noll and Matt Mandl. Radio-Electronics pt 1 20:26-27 Jan '49; pt 2 20:26-27 Feb '49; pt 3 20:54-55 Mar '49; pt 4 20:32-33 Apr '49; pt 5 20:30-31 May '49; pt 6 20: 26-27 June '49

Choosing the right antenna. FM-TV 9:27+ June '49

Choosing the right antenna is important. Martin Clifford. Radio Maint 5:16-18+ Oct '49

Evolution of a TV antenna. L. H. Finneburgh. Radio & TV N 42:56-58+ July '49

FM and TV antennas. George P. Kearse. FM-TV 9:23+ Apr '49

Hertzian dipole. (Zustandekommen der Hertzschen Dipolstrahlung) Flamm. Elektrotech und Maschinenb 66:155-159 June '49

High-gain directional array for marginal TV reception. Lyman E. Greenlee. Radio & TV N 42:28-29+ Aug '49

Locating and orienting antennas. R. Allison. FM-TV 9:13 Sep '49

Method of feeding turnstile antennas. Ralph E. Taylor. Electronics 22:164+ Feb '49

New all-channel TV antenna. Radio-Electronics 20:24 Aug '49

New television antenna for WCBS-TV. Tele-Tech 8:27 Aug '49

New TV antennas. Harry W. Secor. Radio-Electronics 20:60-61 Mar '49

Novel air-borne antenna expands TV reception to "impossible" areas. RTJ 66:16+ June '49

Power equalizing network for antennas. R. W. Masters. IRE Proc 37:735-738 July '49

Quadrature phased TV receiving antenna. Tele-Tech 8:36-37 Nov '49. Also in Radio & TV Ret 50:80+ Nov '49

Reversible-beam antenna for twelve channel television reception. O. M. Woodward, jr. RCA Rev 10:224-240 June '49

Reversible beam TV receiving antenna. Tele-Tech 8:27 July '49

Rhombic antennas for television. Woodrow Smith. Radio & TV N 42:61-63+ Oct '49

Safer antenna installations. Radio-Electronics 20: 28 Apr '49

Shared television aerials. Wireless World 55:287-288 Aug '49

Television antenna. Gardiner G. Greene. Radio & TV N 41:36-37+ June '49

Television antennas and transmission lines. John R. Meagher. Radio Serv N 14:2+ Jan-Feb '49

Television master antennas. Ira Kamen. Radio & TV N 41:31-34+ Apr '49

Television receiving antenna. B. V. K. French. Radio & TV N pt 1 42:53-56+ Aug '49; pt 2 42: 67-70+ Sep '49. Correction to pt 2: 42:191 Nov '49

Television reception. Techni-Talk pt 1 1:1-2 Feb-Mar '49; pt 2 1:1-2 Apr-May '49

Television's largest parabolic antenna. Harry R. Lubcke. Radio & TV N 41:38-39+ Mar '49

Triangular high-band TV loop antenna system. A. G. Kandoian and R. A. Felsenheld. Communications 29:16-18 Aug '49

TV antenna location-and-orientation indicator. Fred Marco. Radio & TV N 41:68-69+ May '49

TV antennas; many new types provide interesting solutions to specific problems. Radio & TV Ret 50:60 Aug '49

TV directivity patterns. Seymour D. Uslan. Suc Serv 10:1+ Mar '49

TV signal strength versus antenna height. Arnold B. Bailey. Suc Serv 10:1+ Dec '49

TV site testing and measurement techniques. E. S. Clammer. Communications 29:6-9 June '49

Unidirectional reversible-beam antenna for twelve channel reception of television signals. (Abstract) O. M. Woodward, jr. IRE Proc 37:169 Feb '49

ANTENNAS, TV–Cont'd.

Patents

Adjustable antenna, Joseph B. Walker, 2,476,469, 1 cl. Appl Apr 30, '45; granted July 19, '49

Antenna construction, John Wilson Shur, 2,462,229, 9 cl. Appl Dec 29, '44; granted Feb 22, '49

Antenna system, George P. Kearse, 2,474,480, 7 cl. Appl May 18, '48; granted June 28, '49

Radio antenna, Vern M. Wintermute, 2,471,256, 1 cl. Appl May 22, '48; granted May 24, '49

Television antenna, Marvin Kaplan, 2,492,529, 3 cl. Appl Apr 29, '49; granted Dec 27, '49

Television receiving antenna, Joseph Y. Resnick, 2,465,331, 4 cl. Appl Oct 11, '48; granted Mar 22, '49

Indoor

"Aspen": Philco's built-in TV antenna. John Pell. Radio Ser Deal 10:20-22+ Sep '49

Automatic built-in antenna for television receivers. K. Schlesinger. NEC Proc '49

Indoor and built-in antennas, their strong and weak points. I Kamen. Radio-Electronics 21:25-27 Nov '49

Indoor television aerial. N. M. Best and P. J. Duffell. Wireless World 55:255-258 July '49

Indoor television antennas. Edward M. Noll and Matthew Mandl. Radio-Electronics 21:29-31 Oct '49

Philco built-in TV antenna system. Service 18: 16-17+ Sep '49

Philco's new built-in aerial. Tele-Tech 8:37+ Oct '49

Tunable built-in TV antenna. Robert B. Albright. Electronics 22:134 Nov '49

Installation

Build your own TV tower. Lyman E. Greenlee. Radio & TV N 41:55+ July '49

High frequency antenna installation. Martin Clifford. Radio Maint 5:8-9+ Mar '49

Making and installing TV antennas. I. Queen. Radio-Electronics 20:51 Mar '49

Practical FM and TV antenna installation and adjustment. D. G. Brown. Radio & Ap Sales pt 1 5:37+ Apr '49; pt 2 5:22+ May '49

RCA TV antenna selection guide simplifies installation problems. Radio Serv N 14:2+ Nov-Dec '49

Rhombic TV antenna installation. I. Kamen. Service 18:14+ Aug '49

Self-supporting towers for TV antenna arrays. Lyman E. Greenlee. Radio & TV N 42:57+ Oct '49

TV antenna installation tricks of the trade. Ira Kamen. Service 18:12+ Feb '49

TV antenna tower installations. I. Kamen. Service 18:14-15+ July '49

Two new aids for TV antenna installation. Radio-Electronics 20:48 July '49

ANTENNAS, Wideband

End loaded and expanding axial mode helices as broadband circularly polarized radiators. P. W. Springer. NEC Proc '49

Experimental broad-band antennas. H. N. Cones. Nat Bur Stand Res J 43:71-78 July '49

Patents

Antenna reflector system, Trevor H. Clark, 2,492,-358, 2 cl. Appl Oct 12, '45; granted Dec 27, '49

Broad band antenna, Edward Cecil Cork, 2,485,482, 5 cl. Appl July 21, '45; granted Oct 18, '49

Broad band antenna, William W. Hansen, 2,472,106, 2 cl. Appl Sep 20, '43; granted June 7, '49

Broad band antenna, William W. Hansen, 2,482,767, 12 cl. Appl Sep 6, '43; granted Sep 27, '49

ARCTICIZATION

See Manufacturing Techniques, Weatherization

ASTRONOMICAL APPLICATIONS

Application of the National Accounting Machine to the calculation of apparent places of stars. H. W. Richards and D. H. Sadler. Roy Astr Soc Mon Not 108:154-161+ '48

Automatic scanning and recording photometer for night sky studies. D. Marlow and J. C. Pemberton. Rev Sci Instr 20:724-728 Oct '49

Diffraction of radio waves from meteor trails and the measurement of meteor velocities. J. G. Davies and C. D. Ellyett. Phil Mag 40:614-626 June '49

Electromagnetic solar radiation on 158 mcs. Y. Rocard. Rev Sci 86:348 Apr 1, '48

Exceptional solar radio emission during 8th May 1949. M. Laffineur and R. Servajean. Compt Rend Acad Sci 229:110-112 July 11, '49

Final relative sunspot-numbers for 1948. M. Waldmeier. Jour Geophys Res 54:187-189 June '49

Interstellar electrons. (Interstellare Elektronen) Elektron Wiss und Tech 3:61-64 Feb '49

Magnetic fields of heavenly bodies. (Magnetfelder der Himmelskoerper) Elektron Wiss und Tech 3:45-54 Feb '49

Meteor whistles. H. V. Griffiths and others. Nature 161:478+ Mar 27, '48

New data on radioemission of the sun and the galactic system. V. L. Ginzburg. Uspekhi Fiz Nauk 34:13-33 No 1 '48. In Russian

New intense source of radio-frequency radiation in the constellation of Cassiopeia. M. Ryle and F. G. Smith. Nature 162:462+ Sep 18, '48

Observations with electron-sensitive plates exposed to cosmic radiation. R. Brown and others. Nature pt 1 163:48+ Jan 8, '49; pt 2 163:82 Jan 15, '49

Origin of solar radio noise. Andrew V. Haeff. Phys Rev 75:1546 May 15, '49

Phenomenological theory of radar echoes from meteors. D. W. R. McKinley and Peter M. Millman. IRE Proc 37:364-375 Apr '49

Photoelectric measurement of solar corona. (Zur-lichtelektrischen Photometrie der Sonnenkorona) Wille. Naturwiss 36:25-26 '49

Probable behavior of the next sunspot cycle. W. Gleissberg. Astrophys J 110:90-92 July '49

Provisional sunspot-numbers for January to March 1949. M. Waldmeier. Jour Geophys Res 54:192 June '49

Radio astronomy. C. R. Burrows. Electronics 22: 75+ Feb '49. Also in Sci Mon 68:299-304 May '49

ASTRONOMICAL APPLICATIONS-Cont'd.

Radio astronomy. G. Reber. Sci Am 181:35-40 Sep '49

Radio astronomy. J. S. Hey. Nature 164:815-817 Nov 12, '49

Radio doppler investigation of meteoric heights and velocities. L. A. Manning and others. Jour Ap Phys 20:475+ May '49

Radio telescope taps sounds of invisible stars. Product Eng 19:142 Dec '48

Radioelectric emissions from the sun and from the Milky Way. (Le rayonnement du soleil et de la Voie Lactee) M. Laffineur. Onde Elec 29:402-407 Nov '49

Recent results of solar research. (Neuere Ergebnisse der Sonnenforschung) Elektron Wiss und Tech 3:55-61 Feb '49

Relation between decimetre-wave solar radiations and sunspots. J. F. Denisse. Compt Rend Acad Sci 228:1571-1572 May 16, '49

Shape of pulses of radio-frequency radiation from the sun. S. E. Williams. Nature 162:106+ July 17, '48

Significance of the observation of intense radio-frequency emission from the sun. M. Ryle. Phys Soc Proc section A 62:483-491 Aug '49

Television helps astronomy. William Rhodes. Radio-Electronics 20:24-25 June '49

Theory of radio detection of meteors. L. A. Manning. Jour Ap Phys 19:589-599 Aug '48

Time service equipment at the Dominion observatory. G. A. Eiby. N. Z. J Sci Tech 29;296-308 May '48

Patents

Radiant energy directional apparatus, Russell H. Varian, 2,462,925, 15 cl. Appl Dec 7, '46; granted Mar 1, '49

ATMOSPHERIC PHENOMENA and CHARACTERISTICS

Atmospheric currents at a height of 120 km. C. Hoffmeister. Zeit Met 1:33-41 Nov-Dec '46

Atmospheric noise recorders, research D. R. P. German Industry Rep. CIOS XXXI-1 Brit Govt Pub

Basic radio propagation predictions issued monthly three months in advance. CRPL Series D Nos 53-64 '49 U.S. Govt Pub Connections between an oxygen-atom zone, ionized layers and radiation due to the Mogel-Dellinger effect. E. Schroer. Zeit Met 1:110-113 Jan-Feb '47

Correlation of sporadic E occurrence with noise received on two metres. D. W. Heightman. RSGB Bul 25:68 Sep '49

Correlation of corona power liss and radio interference with atmospheric potential gradient. R. W. Johnson. Ph.D. thesis. Purdue U Feb '48

Effect of pulsations of the refractive index of the atmosphere on the propagation of ultra-short waves. V. A. Krasil'nikov. Akad Nauk Izvest 13:33-57 '49. In Russian

Effect of the atmosphere on microwaves. H. H. Klinger. Zeit Met 2:314-316 Oct '48

Influence of vertical ionic drift on a "Chapman region". C. B. Kirkpatrick. Aust J Sci Res series A 1:423-442 Dec '48

Investigation of atmospheric electricity I. Fair weather region and conservation of electricity. (Luftelektrische Forschung I. Schoenwetterfeld und Elektrizitaetshaushalt) Elektron Wiss und Tech 3:15-22 Jan '49

Ionic equilibrium in the lower atmosphere. J. Bricard. Jour Geophys Res 54:39-52 Mar '49. In French

Large-scale variation of the level of atmospherics during the Antarctic cruise of the Commandant Charcot. R. Bureau and M. Barre. Compt Rend Acad Sci 229:626-627 Sep '49

Magnetic storms and solar activity, 1948. H. W. Newton. Observatory 69:38-40 Feb '49

Normal and abnormal refraction of ultra-short waves in the atmosphere. H. H. Klinger. Zeit Met 2:86 Mar '48

Note on night-time phenomena in the F-region at Brisbane. G. de V. Gipps and others. Coun Sci Ind Res Aust J 21:215-221 Aug '48

Principal magnetic storms. (Jan-Mar 1949) Jour Geophys Res 54:193-195 June '49

Radio amateur and upper atmosphere research. Oliver P. Ferrell. CQ 5:25-27+ Feb '49

Recurrence features of the magnetic storm of 1949 January 24-26. Observatory 69:195-196 Oct '49

Scientific observations. D. W. Heightman. RSGB Bul 24:248-249 Apr '49

Space-wave absorption and large-scale weather conditions. G. Falckenberg and E. Lauter. Zeit Met 2:259-265 Sep '48

Study of radio reflections from meteor trails in research on the upper atmosphere. (Abstract) A. G. McNish. Jour Geophys Res 54:285 Sep '49

Patents

System for and method of utilizing microwave radiation from the sun, George C. Southworth, 2,458,654, 6 cl. Appl Dec 27, '43; granted Jan 11, '49

See also

Electromagnetic Theory, Propagation of Waves
Interference, Atmospheric & Solar
Meteorological Applications
Microwaves, Propagation

ATMOSPHERIC PHENOMENA and CHARACTERISTICS, Ionosphere

Absorption of short radio waves in the ionosphere and the electric field intensity at the point of reception. A. N. Kazantsev. Akad Sci Izvest No 9:1107-1136 Sep '47. In Russian

Analysis of ionospheric reflections. A. H. deVoogt. Tijdschr ned Radiogenoot pt 1 13:183-195 Nov '48; pt 2 14:73-85 May '49

Disturbances in the ionosphere and their effects on earth. (Ueber ionosphaerische Stoerungen und deren irdische Auswirkungen) Leithaeuser. Funk und Ton 3:127-143 Mar '49

Effect of the D-ionosphere layer on very low frequency radio waves. W. Pfister. Jour Geophys Res 54:315-337 Dec '49

Ionosphere over central Germany. (Die Ionosphaere ueber Mitteldeutschland) Fernmeldetech Zeit '49. Monthly feature

Ionosphere over mid-Germany in March 1949. Dieminger. Fernmeldetech Zeit 2:157 May '49

TMOSPHERIC PHENOMENA and CHARACTERISTICS, Ionosphere–Cont'd.

)nosphere over mid-Germany in April 1949. Dieminger. Fernmeldetech Zeit 2:172 June '49

)nosphere research in the U.S. Air Force. (Abstract) N. C. Gerson. Jour Geophys Res 54:286 Sep '49

)nosphere review: 1948. T. W. Bennington. Wireless World 55:56+ Feb '49

)nosphere virtual height measurements at 100 kilocycles. R. A. Helliwell. IRE Proc 37:887-894 Aug '49

onospheric effects of solar flares 1948: preliminary report No 1. O. E. H. Rydbeck and D. Stranz. Chalmers Tek Hog No 8:1-15 '49

onospheric sounding experiments in Germany. W. Dieminger. Research 2:571-576 Dec '49

ongitude effect of the F_2 ionospheric layer and ionosphere forecasting. F. Oboril and K. Rawer. Compt Rend Acad Sci 228:1962-1963 June 20, '49

ong-term forecasts of the critical frequencies of the ionosphere and of the occurrence of disturbances in it. G. M. Bartenev. Akad Nauk Izvest No 9:1139-1152 Sep '47. In Russian

unar tidal oscillations in the ionosphere. E. V. Appleton and W. J. G. Beynon. Nature 162:486 Sep 25, '48

Magnetic triple fission in the ionosphere. (Zur magnetischen Dreifach-Aufspaltung in der Ionosphaere) Dieminger and Moeller. Naturwiss 36: 56-57 May '49

Problem of ionospheric regions. (Le probleme des regions ionospheriques) Par M. Nicolet. Jour Geophys Res 54:373-381 Dec '49

Recent investigations of the ionosphere. (La ionosfera e le sue recenti indagini) R. Ruggieri. Elettronica, Turin 4:101-105 June '49. With abstracts in French and English

Reliability of ionospheric height determinations. Laurence A. Manning. IRE Proc 37:599-603 June '49

Reports covering ionosphere research, problems in Lufthansa radio operations, atmospheric disturbances and development and tests of aircraft antennas. 1943-1945 PB 84899

Simple Kerr modulator for ionospheric recording. Chalmers Tek Hog No 44:13 pp '45. In English

Some important results of the geometrical-optical properties of the ionosphere. K. Rawer. Rev Sci 86:481-485 May-June '48

Statistical analysis of fading of a single downcoming wave from the ionosphere. S. N. Mitra. IEE Proc pt III 96:505-508 Nov '49

See also

Meteorological Applications

ATMOSPHERIC PHENOMENA and CHARACTERISTICS, Troposphere

Charts of dielectric constant or refractive index of the troposphere. A. W. Friend. Am Met Soc Bul 29:500-509 Dec '48

Tropospheric effects in ionosphere-supported radio transmission. Greenleaf W. Pickard and Harlan T. Stetson. IRE Proc 37:596-599 June '49

Tropospheric measurements. P. Harbury. Electronics 22:126-128 Oct '49

ATOMIC MEASUREMENTS

Absolute calibration of the Li^7 (p,n) threshold voltage. W. E. Shoupp and others. Phys Rev 76: 502-505 Aug 15, '49

Absolute speed gauge for high voltage particles. W. Altar and M. Garbuny. Phys Rev 76:496-501 Aug 15, '49

Apparatus for measuring the energies of fission fragments obtained by slow and fast neutron bombardment. L. Simons and B. Grotenfelt. Soc Sci Fennica Commentationes Phys Math 13 No 9 9 pp '48

Behavior of the Philips ionization gauge in air. Aug '44 PB 96427

Calculations for use with the fast neutron meter. 4 pp '48 AECD 2173. Also PB 94875

Calorimeter for the determination of the intensity of a beam of accelerated particles. J. H. Sanders. Jour Sci Instr 26:36+ Feb '49

Construction and calibration of a cylindrical electrostatic analyzer. S. K. Allison and others. Rev Sci Instr 20:735-744 Oct '49

Cosmic ray studies; biennial report July 1, '47-June 20, '49. Princeton U Tech Rep No 2 NP 959 124 pp June 30, '49. AEC

Cosmic rays and methods of measuring them. (Hochenstrahlen und die Methoden ihrer Messung) Elektron Wiss und Tech 3:266-272 July '49

Determination of nonlinearity corrections of radioactivity measuring instruments by the method of proportional sources. Truman P. Kohman and Phillip Fineman. 11 pp Aug 18, '48. AECU 492

Electronics applied to atomic energy. (L'electronique au service de l'energie atomique) R. Wahl. Electronique 30:8-9 Apr '49

Electrostatic analysis of ionic beams. G. D. Yarnold and H. C. Bolton. Jour Sci Instr 26:38+ Feb '49

Experiments with the neher-harper circuit. 8 pp '46 MDDC 1750

Factors of merit for radiation detectors. R. Clark Jones. Opt Soc Am J 39:344+ May '49

High energy neutron detector. 4 pp '48 AECD 2168

Inexpensive arrangement for determining e/m by Busch's method. Rollin K. McCombs and William B. Pietenpol. Am J Phys 17:78-79 Feb '49

Integrating polonium meter. 6 pp '46 MDDC 341

Ionization measurement of He^3 (np) and N^{14} (np) and the neutron-hydrogen mass difference. (Letter) W. Franzen and others. Phys Rev 76:317-318 July 15, '49

Lead absorption of gamma radiations. Tracerlog No 3:3 Apr '47

Manual on the measurement of radioactivity. A. H. Jaffey and others. MDDC 388

Measurement of C^{14} activity. W. B. Leslie and C. J. Borkowski. MDDC 649

Measurement of radiation intensity. (Strahlungsdosimetrie) Radio Tech 25:485-488

Measurement of radioactivity and temperature in narrow boreholes, and the development of instruments for this purpose. R. Guelke and others. Jour Sci Instr 26:150+ May '49

Modern radiation-detection instruments for health protection. E. W. Molloy and A. O. Beckman. Mech Eng 71:649-652 Aug '49

ATOMIC MEASUREMENTS–Cont'd.

Modified Lauritsen electroscope for measurement of C^{14} activities. R. F. Hunter and W. B. Mann. NRC 1905

Neutron detection. B. T. Feld. Elec Eng 68:250 Mar '49

Neutron detector having uniform sensitivity from 10 kev to 3 kev. 6 pp '47 MDDC 972

New classification system for radiation detectors. R. Clark Jones. Opt Soc Am J 39:327+ May '49

New method of measuring the stopping power of several materials for alpha-particles. F. Emmett Hammer and Frank E. Hoecker. Rev Sci Instr 20:394-398 June '49

New universal radiationmeter, type USM/a. (Ein neue Universal-Strahlungs-Messgeraet Type USM/a) Reiter. Funk und Ton 3:74-85 Feb '49

Photoelectric alpha particle detector. 4 pp '44 MDDC 1296

Portable alpha-activity measuring instrument. 10 pp '45 AECD 2051. Also PB 95388

Portable alpha survey meter, mark 1, model 41A. 3 pp '47 MDDC 1157

Portable probe type ionization meter. 5 pp '45 MDDC 1057

Portable radiation monitor. D. G. Wyatt. Jour Sci Instr 26:13 Jan '49

Preliminary directional study of cosmic rays at high altitude. W. G. Stroud and others. Phys Rev 76:1005-1019 Oct 15, '49

Radiation detectors, atomic-age police force. P. A. Duffy. Westinghouse Eng 9:150-153 Sep '49

Radiation dosage measurement. Tracerlog No 8:8 Jan '48

Radiation dose integrator of high sensitivity. Sep '45 PB 94870

Radioactive principles pertinent to radioanalyses. Tracerlog pt 1 No 4:9-11 May '47; pt 2 No 5:13-14 Aug '47

Radioactive reference sources. Tracerlog No 5:10 Aug '47

Radioactive standards and methods of testing instruments used in the measurement of radioactivity. L. F. Curtiss. IRE Proc 37:913-922 Aug '49

Radioactivity measurement techniques. (Revised) 28 pp '47 AECD 2270

Radioassay procedures. Tracerlog No 7:5 Dec '47

Radio-electronics in the atomic energy program. Samuel Freedman. Radio & TV N 42:31-33+ Sep '49

Sensitivity and characteristics of radiation detectors. (Empfindlichkeit und Leistungsfaehigkeit von Strahlungsempfaengern) Funk und Ton 3:111-112 Feb '49

Simple method for recording changes of radioactivity. G. P. Burn and E. J. Harris. Jour Sci Instr 26:126+ Apr '49

Standardization program. Tracerlog No 7:10 Dec '47

Standardized radiation instruments for Army training use. C. De Vore. Instruments 22:902 Oct '49

Techniques for the use of absorbers. Wm. Karp. Tracerlog No 15:1-4 Jan '49

Use of absorbers. Tracerlog No 7:9 Dec '47

Use of cathode-ray oscilloscope in Hoag's e/m experiment. L. F. Connell, jr. Am J Phys 17:222 Apr '49

Patents

Electrical measuring apparatus, Ole G. Landsverk, 2,465,886, 8 cl. Appl Oct 21, '46; granted Mar 29, '49

Fast neutron meter, Ernest O. Wollan, 2,481,964, 9 cl. Appl Oct 12, '44; granted Sep 13, '49

Method and apparatus for radio-logical measurements, Eugene M. Brunner and Edwin S. Mardock, 2,476,810, 6 cl. Appl Apr 10, '45; granted July 19, '49

Neutron detector, Emilio G. Segre and Clyde E. Wiegand, 2,491,220, 6 cl. Appl Sep 4, '45; granted Dec 13, '49

Radiation detecting device, Gerhard Herzog, 2,489,-133, 9 cl. Appl Nov 10, '44; granted Nov 22, '49

Radiation detector, William R. Baker, 2,474,773, 3 cl. Appl Nov 6, '47; granted June 28, '49

Nuclear

Amplitude bridge for detection of nuclear resonance. H. A. Thomas and R. D. Huntoon. Rev Sci Instr 20:516-517 July '49

Detection and measurement of nuclear radiation. (Abstract) Howard L. Andrews. IRE Proc 37:168 Feb '49

Detection and measurement of nuclear radiation. (Detection et mesure des radiations nucleaires) Tech Mod 41:402-404 Dec '49

Determination of nuclear gyromagnetic ratios. I. J. R. Zimmerman and D. Williams. Phys Rev 76:350-357 Aug 1, '49

Magnetic moment of the proton. Nat Bur Stand Tech Bul 33:57-60 May '49

Measurement of nuclear magnetic moments. (Die Messung magnetischer Kernmomente) Elektron Wiss und Tech 3:226-231 June '49

Precise measurement of the gyromagnetic ratio of He^3. H. L. Anderson. Phys Rev 76:1460-1470 Nov 15, '49

Radio frequency circuit for the measurement of nuclear magnetic moments. M.S. thesis. Tien-Chuan Wang. Ohio State U Phys Dept Dec '48

Standard broadcast radios as nuclear indicators. Frank H. Rockett. Electronics 22:166+ Mar '49

ATOMIC MEASUREMENTS, Accessory Equipment and Circuits

Constant current regulator. Los Alamos. MDDC 1678

Design and construction of a test instrument for the model-356 "Zeuto." G. P. Apprill. AECD 2188

Electric time-switch for closing circuits at accurately regular intervals. J. A. Crawford and A. H. Jaffey. MDDC 1602

Electronic circuits-2. R. J. Watts. MDDC 739

Electronic circuits-3. R. J. Watts. MDDC 740

Electronic circuits-4. R. J. Watts. MDDC 741

Electronic circuits-5. R. J. Watts. MDDC 533

Experiments with the Neger-Harper circuit. R. W. Cole. MDDC 1750

High resistance bridge (range 10^5 to 10^{12} ohms). R. J. Smith. MDDC 1523

ATOMIC MEAS., Accessory Equip. and Circ.–Cont'd.

Investigation of the properties of high value resistors and methods of reducing surface leakage. Nancy F. Wook. AECD 2355

Quartz fiber microbalance. Argonne Nat Lab. MDDC 885

RC ohmmeter. H. G. Neil. AECD 1978

Recording type automatic Geiger tube calibrator. G. T. Crits and G. C. Newlin. AECD 2025

Simple recording system for small currents. G. W. Moak. AECD 2214

Some applications of electronics to precision DC measurements and control. H. T. Gittings. MDDC 1908

Step calibrator. H. Staub. MDDC 139

Test and calibration equipment. W. C. Elmore. AECD 2208F

Velocity analyzer. W. C. Meecham. MDDC 781

See also

Cathode Ray Tubes, Circuits
Instrumentation, Atomic
Measurements & Meters
Oscilloscopes & Oscillographs
Test Equipment
Time Base Circuits

Amplifiers

Amplifier, preamplifier. H. Staub. MDDC 135

Amplifier response. R. P. Feyman. MDDC 714

DC amplifier. R. L. Graham. AEC 8 pp May 15, '45 (Canadian) MX 141

Drawings, Los Alamos-amplifiers, analyzers, oscilloscopes, etc. Los Alamos Labs. MDDC 815

Fast amplifier circuit schematic. W. C. Elmore. MDDC 894

Fast linear amplifier (model B-3). Argonne Nat Lab. MDDC 1284

General purpose linear amplifier. W. H. Jordan and B. R. Bell. MDDC 718

Inverse feedback DC amplifier. F. J. M. Farley and H. E. Gove. 19 pp (Canadian-Chalk River) CRP 288. AEC

Linear amplifier for general laboratory use. W. H. Jordan and P. R. Bell. MDDC 810

Linear amplifier, model B-1, model B-4. Argonne Nat Lab. MDDC 1285

10 mc wide band amplifier and scope. W. C. Elmore. MDDC 101

Model 100 amplifier. M. Sands. MDDC 131

Model 100 preamp circuit schematic. M. Sands. MDDC 303

Model 500 amplifier. W. C. Elmore. MDDC 102

Model 501 amplifier. W. C. Elmore. MDDC 896

Model B-4 linear amplifier. Argonne Nat Lab. MDDC 1286

Noise in ionization chamber amplifiers. R. J. Cox. 34 pp May 1, '46 (Canadian) MTec 244. AEC

Pre-amplifier, model 500. W. C. Elmore. MDDC 102

Safety circuit with amplifier. R. J. Watts. MDDC 316

Section III voltage amplifiers. W. C. Elmore. AECD 2208C

Simple counter-tube amplifier. H. Goldstein. Zeit angew Phys 1:329-330 Mar '49

Transient response of damped linear net-works with particular regard to widespread amplifiers. W. C. Elmore. MDDC 770

Use of delay lines in counter pulse amplifiers. O. R. Frisch. MDDC 238

Video amplifier and scope. W. E. Titterton. MDDC 829

See also

Amplification & Amplifiers, Linear & others

Oscilloscopes and Circuits

Calibrated sweep generator. E. W. Titterton. MDDC 921

Double scope supply. H. Staub. MDDC 137

Dual sweep and marker generator. E. W. Titterton. MDDC 922

Fast sweep and scope. E. W. Titterton. MDDC 923

High voltage CRO. E. W. Titterton. MDDC 926

Laboratory oscilloscope. V. Fitch and E. W. Titterton. MDDC 1033

Model 4 sweep. E. W. Titterton. AECD 1796

Model six sweep. E. W. Titterton. MDDC 927

Model 260 sweep. M. Sands. MDDC 594

Model L.A.-100 CRO. Los Alamos Lab. MDDC 908

Multiple scope and power supply. E. W. Titterton. MDDC 928

Oscillograph circuit. M. Sands. MDDC 133

Oscillographs and associated equipment. W. C. Elmore. AECD 2208E

Oscilloscope sweep circuit and delay line for the study of transients. W. A. Higinbotham. MDDC 1212

Precision delayable sweep (modified). E. W. Titterton. MDDC 1109

Power Supplies

30 kv power supply. W. A. Hane. MDDC 900

Model 50 power supply. M. Sands. MDDC 593

Power supplies and control circuits. W. C. Elmore. AECD 2208G

Power supply. E. W. Titterton. MDDC 826

Regulated supply. H. S. Allen. MDDC 84

Regulator power supply + 450 v + 300 v, and — 150 for fast sweep chassis. E. W. Titterton. MDDC 929

RF coil for RF high voltage power supply (voltage doubler type). W. A. Hane. MDDC 109

RF high voltage power supply (voltage doubler type). W. A. Hane. MDDC 108

Test unit power supply. M. Sands. MDDC 915

160.1500 volt power supply. P. W. Howells. MDDC 778

1500 v RF power supply. W. A. Hane. MDDC 107

1500 volt RF power supply (coil data). W. A. Hane. MDDC 106

1500 volt supply-negative or positive. Argonne Nat Lab. MDDC 1290

See also

Power Supplies

ATOMIC MEAS., Accessory Equip. and Circ.–Cont'd.

Pulse Circuits

Battery operated field pulser. E. W. Titterton. MDDC 920

Discriminator-pulse generator. H. Staub. MDDC 136

Four channel line driver. E. W. Titterton. MDDC 925

1945 kicksorter. G. C. Hanna and C. H. Westcott. 67 pp Sep 24, '46 (Canadian) CRP 291. AEC

300 mc transmitter pulser (Mock-Up). E. W. Titterton. MDDC 920

1500 microsecond delay unit. E. W. Titterton. MDDC 924

Model 100 delay line shaper. W. E. Bradbury. MDDC 89

Model 100 precision pulser. M. Sands. MDDC 132

Model 200 pulse counter. W. A. Higinbotham and others. MDDC 773

New pulse amplitude-discriminator circuit. E. H. Cooke-Yarborough. Jour Sci Instr 26:96-97 Mar '49

Portable pulse generator. W. A. Titterton. MDDC 791

Pulse amplifier analyzer for nuclear research using pretreated pulses. C. H. Westcott and G. C. Hanna. Rev Sci Instr 20:181-188 Mar '49

Pulse unit, model 1. E. W. Titterton. MDDC 827

Pulse analyzer-1 channel. W. Higinbotham. MDDC 111

Ratio of 60 pulse generator, mark 21, model 3A. W. P. Jesse. MDDC 116

Saw tooth generator and discriminators. E. W. Titterton. MDDC 930

Three channel mixer. E. W. Titterton. MDDC 931

Triple pulse generator (with variable decay). Argonne Nat Lab. MDDC 1287

Use of delay lines in counter pulse amplifiers. O. R. Frisch. MDDC 238

See also

Pulse Circuits
Recording Instruments

ATOMIC MEASUREMENTS, Coincidence Circuits

Cathode-follower type of dual-coincidence circuit. A. Linz, jr. and others. Phys Rev 74:119 July 1, '48

Coincidence circuit of medium resolution. H. L. Shultz and E. Pollard. Rev Sci Instr 19:617-620 '48

Coincidence errors. Tracerlog No 3:4 Apr '47

Coincidence loss of mechanical registers. Tracerlog No 11:7 June '48

Coincidence measurement of neutron energy. D. C. Worth. Phys Rev 75:903 Mar 1, '49

Construction features of a circuit for coincidence measurements and applications of the circuit to nuclear problems. O. D. Moak. MDDC 1010. Also PB 96450

Contribution to the study of the disintegration scheme of Au^{198}, using the method of coincidences. G. A. Renard. Compt Rend Acad Sci 226:1269-1271 Apr 19, '48. In French

"Drawings"-coincidence analyzer. 65 pp '47 MDDC 815

Fast coincidence circuit with pulse height selection. P. R. Bell and others. MDDC 799

Fast coincidence circuit with pulse height selection. 5 pp MDDC 839

2-fold GM coincidence unit. 2 pp '47 MDDC 1288

General method for determining coincidence corrections of counting instruments. T. P. Kohman. MDDC 429

General method for determining coincidence corrections of counting instruments. T. P. Kohman. MDDC 439

General method for determining coincidence corrections of counting instruments. 18 pp '45 MDDC 905

General method for determining coincidence corrections of counting instruments. June '45 PB 95395

Group coincidence discrimination. S. W. Lichtman. Naval Res Lab Rep P 3477 16 pp June 1, '49. AEC

Investigations using a permanent-magnet double beta-ray spectrograph with coincidence counting 1 experiments with thorium active deposit. N. Feather and others. Phys Soc Proc 61:466-478 Nov '48

Measurement of the radioactive decay constant of ThC' using a coincidence method. F. W. Van Name, jr. Phys Rev 75:100-102 Jan 1, '49

Nuclear coincidence schemes and the coincidence method. C. E. Mandeville and M. V. Scherb. Nucleonics 2:2-12 Oct '48

Pulse height analyzer, model A. W. A. Higinbotham. MDDC 1173

Pulse transformer technique for application to coincidence counting. B. G. Farley. Phys Rev 73:1240 May 15, '48

Simple arrangement of high resolving power for the detection of coincidences or anticoincidences. E. F. Pooza and P. S. Farago. Jour Sci Instr 25:399 Nov '48

Simple combined coincidence and anti-coincidence circuits. E. H. Cooke-Yarborough. Jour Sci Instr 26:240-241 July '49

Some coincidence sets for the study of cosmic rays. G. Bernardini. Phys Soc Proc 1:125-127 '47

Ten channel pulse-height analyzer. E. W. Dexter. MDDC 2255

Threefold coincidence system based upon a 10-second resolution time. 13 pp '44 MDDC 802

Three fold G-M coincidence unit. Argonne Nat Lab. MDDC 1289

Two fold G-M coincidence unit. Argonne Nat Lab. MDDC 1288

ATOMIC MEASUREMENTS, Counters

Alpha and beta counters. 54 pp MDDC 967

Apha counters as used in radioassay of plutonium. 26 pp '46 MDDC 454

Alpha hand counter mark 10 model 10A. 2 pp MDDC 705

Aluminum window glass counter. Violet V. Kissee. 11 pp July 11, '49 AECU 570

Calibration of cadmium-covered gold foils in a graphite block. E. D. Klema. MDDC 239

ATOMIC MEAS., Counters–Cont'd.

Characteristics of halogen counters. S. H. Liebson. Rev Sci Instr 20:483-484 July '49

Color production in lithium flouride by radiation. R. A. Penneman. Mar '46 AECD 1859

Counter pulse shape. C. D. Thomas. Rev Sci Instr 20:147-150 Mar '49

Counting devices. German Industry Rep. FIAT 388 Brit Govt Pub

Counting rate meters versus scalers. Arthur G. Bousquet. Nucleonics 4:67+ Feb '49

Counting techniques. Matthew Sands. Electronics 22:195+ Feb '49

Counting tube for cosmic ray measurements. (Zaehlrohre fuer Hoehenstrahlungsmessungen) Elektron Wiss und Tech 3:300-304 Aug '49

Determination of radiophosphorus in plant material by solution counting. C. Mc Auliffe. Anal Chem 21:1059-1061 Sep '49

Discriminator for photographic analyzer. M. Sands. MDDC 558

Effect of external quenching on the life of argon-alcohol counters. H. Elliot. Phys Soc Proc section A 62: 369-373 June 1, '49

Efficiency of gas counters filled with carbon dioxide and carbon disulphide. R. C. Hawkings and others. Canada J Res 27B:555-564 June '49

Equations of the Neher-Harper circuit. 9 pp '46 MDDC 1749

Four-fold hand counter. 12 pp '44 MDDC 899

Geiger-Mueller tubes vs. ionization chambers in health survey meters. Tracerlog No 8:10 Jan '48

Instrument work in an atomic energy laboratory. H. U. Fisher. 26 pp MDDC 1059

Interim report on subminiature corona regulator tubes. H. P. Gauvin and H. Friedman. Naval Res Lab NP 878 12 pp May 12, '49. AEC

Ionisation in gases: the ionisation chamber and the Geiger counter. T. H. D. Attewell. Electronic Eng 21:450-456 Dec '49

Low pressure alpha counter. 211 '44 MDDC 1652

Measurement of weak neutron intensities by Szilard-Chalmers reaction in calcium permanganate solution. R. W. Dodson and others. MDDC 344

Methods for reducing insulator noise and leakage. F. M. Glass. Rev Sci Instr 20:239-244 Apr '49

Microwave gas discharge counter for the detection of ionizing radiation. Sanborn C. Brown and John J. McCarty. NP 440. AEC

Model C4T1C battery-operated alpha hand counter. 25 pp '48 AECD 2364

Model 200 pulse counter. Oct '46 PB 95799

Neutron-produced radioactivity in relation to the detection of high-energy neutrons: maximum sensitivity of a counter. N. Feather. BDDA 80

New count detectors. Vin Zeluff. Electronics 22: 156+ Apr '49

Polycathode glow tubes for counters and calculators. James J. Lamb and Joseph A. Brustman. Electronics 22:92-96 Nov '49

Portable alpha counter. Mark 1 model 41B. C. Wesenberg. 10 pp Mar 31, '49 AECU 349

Predetermined electronic counter. B. Gossick. 4 pp Y 3.At 7:22/AECU 16 U.S. Govt Pub

Pulse amplitude analyzer for nuclear research using pretreated pulses. C. H. Westcott and G. C. Hanna. Rev Sci Instr 20:181-189 Mar '49

Radioactive threshold detectors for neutrons. R. F. Taschek. MDDC 360

Sensitivity of a fast neutron counter for a near source. 7 pp BR 311A. AEC

Statistical errors for high counting rates. W. C. Peacock. Tracerlog No 1:8 Jan '47

Statistical errors involved in low counting rates. Tracerlog No 2:5 Mar '47

Statistical theory of the dead time losses of a counter. C. E. Clark. Rev Sci Instr 20:51-52 Jan '49

Subminiature counter. Electronics 22:118 July '49

Summary report on neutron work. 17 pp '43 MDDC 1704

Theory and properties of low voltage radiation counters. 45 pp '47 MDDC 870

Theory of neutron counters using proton recoils from paraffin. M. K. Case. MDDC 92

Thin window counter with special mica to glass seal. 10 pp '47 MDDC 877

Patents

Electron counter, Thomas Colson, 2,470,920, 7 cl. Appl Jan 30, '48; granted May 24, '49

Radiation counter tube, Frank E. Dudley, 2,489,627, 6 cl. Appl June 9, '48; granted Nov 29, '49

Radiation detector, Kenneth Carl Crumrine, 2,462,-471, 9 cl. Appl Nov 24, '43; granted Feb 22, '49

Radiation filter, Merton O. Bassett, 2,461,254, 4 cl. Appl Oct 18, '49

Beta and Gamma

Absolute beta counting. B. P. Burtt. Nucleonics 5:28-43 Aug '49

Absolute beta counting using end-window Geiger Muller counter tube. L. R. Zumwalt. 7 pp MDDC 1346

Absolute beta counting using end-window Geiger Muller counter tubes. L. R. Zumwalt. MDDC 1156

Absolute beta counting using end-window Geiger-Muller counters and experimental data on beta-particle scattering effects. L. R. Zumwalt. 120 pp Sep 14, '49 AECU 567

Applications of electronic methods to the measurement of x-ray and gamma-ray intensities. H. Friedman. Ind Radiography 6:9 '47

Barnaby, a transportable counting-rate meter for gamma measurements up to 200 feet distant means of a small probe. 5 pp '45 AECD 1997

Battery operated inverse feedback electrometer circuits and gamma radiation meter. 17 pp '48 AECD 2050

Changes in the thresholds of gas flow beta counters. 12 pp '46 MDDC 1475

Correction for self-weakening in beta-ray measurements. W. E. Grummitt and others. 18 pp Mar 17, '44 (Canadian) MC 46. AEC

Description of and instruction for operation and maintenance of a new model gamma ray pocket survey meter. 10 pp '45 MDDC 952

ATOMIC MEAS., Counters, Beta and Gamma-Cont'd.

Effect of absorber position on counting rate of collimated and uncollimated beta and gamma radiation. Francis Johnston and John E. Willard. Science 109:11+ Jan 7, '49

Efficiency of gamma-ray counters. N. Marty. Jour Phys & Rad 8:29 '47

Experiments on the possibility of increasing the efficiency of gamma-ray counters. H. Slatis. Ark Mat Astr Fys section A No 17:1-12 May 9, '49. Also in Rev Sci Instr 20:353-355

High intensity beta-gamma instrument, mark 2 model 10, "betty snoops." 1 p '47 MDDC 883

Instrument for energy determination of beta and gamma radiation. Ark Mat Astr Fys 36:24 pp May '49

Integration radiation meter for beta and gamma rays, sigmion mark 10, model 70. 2 pp MDDC 884

New models of integrating gamma ray and slow neutron pocket meters (dosimeters) and pocket chambers. 8 pp '45 MDDC 395

New tracerlab beta gauge. Instrumentation 4:18-20 July '49

Operating instructions for the gamma-beta ray survey meter. 5 pp '44 AECD 1935

"Poppy"—pulse type detector for alphas, betas, gammas, and neutrons. 20 pp '48 AECD 2410

Production of end window Geiger-Muller beta counters. R. C. Hawkins and others. NRC 1906

Radiochemical beta radiation measurements. N. Elliott and others. MDDC 641

Sensitivity of gamma-ray counters. G. J. Hine. Science 110:380-382 Oct 7, '49

Survey meter for the measurement of alpha, beta and gamma rays, fast and slow neutrons. 11 pp '46 MDDC 396

Thin window beta counters. F. C. Henriques, jr. Elec Eng 68:249 Mar '49

Transportable counting-rate meter for gamma measurements up to 200 feet distant by means of a small probe. Barnaby. Aug '45 PB 95385

Patents

Measurement of penetrative radiation, Gerhard Herzog, 2,486,946, 10 cl. Appl Aug 26, '44; granted Nov 1, '49

Portable battery-powered gamma-ray counting rate meter of high sensitivity, Herbert Cecil Spicer, 2,462,140, 6 cl. Appl Nov 21, '45; granted Feb 22, '49

Radiation detector, Donald G. C. Hare, 2,486,944, 2 cl. Appl Mar 14, '46; granted Nov 1, '49

ATOMIC MEASUREMENTS, Crystal Counters

Crystal counters. Robert Hofstadter. Elec Eng 68: 250 Mar '49. Also in Nucleonics 4:2+ Apr '49

Detection of X-ray quanta by a cadmium sulphide crystal counter. (Letter) S. G. Zisso and J. B. Platt. Phys Rev 76:704-705 Sep 1, '49

Diamonds used to detect atomic radiation. Nat Bur Stand. Metallurgia vol 39 Nov '48

Effects of space charge on the detection of high energy particles by means of silver chloride crystal counters. L. F. Wouters and R. S. Christian. 2 pp July 28, '47 MDDC 1324

Germanium counter. K. G. McKay. Phys Rev 76:1537 Nov 15, '49

Personnel dosimeters-coloration of crystals by X-ray and nuclear radiation. I. Karle and H. Friedman. Optics Division, Naval Res Lab NP 513 6 pp June 4, '47. AEC

Removal of space-charge in diamond crystal counters. (Letter) A. G. Chynoweth. Phys Rev 76: 310 July 15, '49

Two new methods for counting neutrons using cadmium sulphide crystals. I. Broser and others. Research 2:87+ Feb '49

ATOMIC MEASUREMENTS, Geiger-Muller Counters

Assembly of thin wall Geiger counter. 5 pp '47 MDDC 746

Build this Geiger counter. Fred Shunaman and Carl Kiehl. Radio-Electronics 20:24-26 Sep '49

Build your own Geiger counter. Walter B. Ford. Radio & TV N 42:34-36+ July '49

Construction of small boron chambers and Geiger-Muller counters. N. Veall and M. Wilson. 19 pp Y 3 at 7:8/MP 60 U.S. Govt Pub

Construction of small boron chambers and Geiger-Muller counters used in Montreal Laboratory May 1943-May 1944. NRC 1570

Counting with Geiger counters. H. E. Newell, jr. and E. C. Pressly. Rev Sci Instr 20:568-572 Aug '49

Design and performance of a multicellular Geiger counter for gamma-radiation. David A. Lind. Rev Sci Instr. 20:233-236 Apr '49

Design of a G-M counter tube for high counting rates. (Abstract) W. W. Managan. IRE Proc 37:168 Feb '49

Electron mobilities in Geiger-Muller counters. H. Den Hartog and others. Physica 15:581-587 July '49

Elliott low absorber counter. W. H. Sullivan 1 p MDDC 1170

Further experiments with an adjustable Geiger-Muller counter. A. G. Fenton and E. W. Fuller. Phys Soc Proc series A 62:32+ Jan 1, '49

Geiger counter—how does it work? Eric Leslie. Radio-Electronics 20:22-23 Sep '49

Geiger counter radiation meter. 6 pp '43 MDDC 902

Geiger counter tubes. H. Friedman. IRE Proc 37: 791-808 July '49

Geiger counter used to detect lead in air. H. Aughey. Heating-Piping 20:90 Dec '48

Geiger counters. H. Friedman. Elec Eng 68:249 Mar '49

Geiger counters for soft X-rays. Ark Mat Astr Fys 36:10 pp May '49

Geiger-Muller counters with external cathode. D. Blanc and M. Scherer. Compt Rend Acad Sci 228: 2018-2020 June 27, '49

Geiger-Muller tube window data. Tracerlog No 1:4 Jan '47

Ion mobilities in Geiger-Muller counters. H. D. Hartog and F. A. Muller. Physica 15:789-800 Sep '49

Low absorber counter. N. Elliott and others. MDDC 1344

ATOMIC MEAS., G-M Counters–Cont'd.

Low absorption counter of improved design. W. H. Sullivan and others. 10 pp Feb 25, '44 MDDC 1171

Low operating potential ion counters. J. A. Simpson, jr. MDDC 1021

Manufacturing specifications for the portable G-M tube survey meter. 6 pp '44 MDDC 805

Mica window counter drawings, 1A-6A. H. Staub 6 pp MDDC 138

Portable Geiger counter for drill holes. Arthur Roberts. Radio & TV N 42:16-17+ Sep '49

Pressure regulated thin window Geiger-Muller counter. Michel Ter-Pegossian and others. Rev Sci Instr 20:289 Apr '49

Rosenblum spark counter: new counter for the detection of fast ionizing particles. Ronald M. Payne. Jour Sci Instr 26:321-324 Oct '49

Self-sufficient apparatus for Geiger-Muller counters. L. Simons and B. Grotenfelt. Soc Sci Fennica Commentationes Phys Math 13 No 17 '49

Simplified design for the Ames windowless counter. W. H. Sullivan. MDDC 1172

Spherical Geiger-Muller counter. G. Salvini. Ricerca Sci 17:914-916 '47

Patents

Geiger counter, Ladislas Goldstein, 2,485,586, 6 cl. Appl Feb 1, '47; granted Oct 25, '49

Thin-walled Geiger-Muller counter, Roman Smoluchowski, 2,465,821, 3 cl. Appl May 31, '46; granted Mar 29, '49

Analysis and Testing

Adapter for visual monitoring with portable Geiger-Muller equipment. H. T. Blinn and others. Science 110:382-383 Oct 7, '49

Circuit for the study of the operation of the Geiger-Muller counter. M. A. Guimaraes and P. A. Sampaio. Rev Sci Instr 20:485-488 July '49

Delays in rectangular Geiger counters. G. E. Gradley and M. L. Wiedenbeck. Rev Sci Instr 20:841-842 Nov '49

Electronic instrument for rapidly tracing the plateaux of G-M counters. G. H. Vaze. Rev Sci Instr 20:746-747 Oct '49

Electronic instrument tests Geiger counters. Nat Bur Stand Tech Bul 33:78-79 July '49

Equations for the pulse from a G-M counter. R. W. Cole. MDDC 1768

Optical method of determining thickness of Geiger tube windows. Problem assignment 8P12 Final report Mar '48 PB 92825

Oscillograph viewing of G-M tube pulses. Tracerlog No. 13:6 Oct '48

Performance characteristics of Geiger tubes. Alexander Thomas. Tracerlog No 18:5-9 Apr '49

Recording type automatic Geiger tube calibrator. 7 pp '48 AECD 2025

Counter Rate Meters

B-3 beta counter. H. S. Neil. MDDC 1466

Barnaby. R. J. Smith. AECD 1997

Beta gamma hand and foot counters. W. H. Bradley. MDDC 800

Clinton walkie-talkie and scale of two. W. H. Rav. MDDC 1502

Construction of a hand-contamination counter and radiation monitor. R. J. Watts. MDDC 1639

Control chart applied to errors in radioactive counting. W. C. Schlecht. MDDC 695

Counting rate meter based on a design by MIT. R. L. Sternberg. MDDC 766

Counting rate meter-model 100. 1 p MDDC 129

Counting rate meter, model 100 (LADC 83). M. Sands. MDDC 192

Counting rate meter, model 200 (LADC 97). M. Sands. MDDC 128

Geiger counter radiation meter. W. H. Hinch. MDDC 902

Manufacturing specifications for the portable G-M tube survey meter. J. Dorsey. MDDC 805

Model 100 counting rate meter. M. Sands. MDDC 1297

Process monitor, mark 10, model 20. U. P. Jesse. MDDC 194

Radiation meter model "A". R. Watts. MDDC 1692

Role of instruments in the atomic bomb project. W. P. Jesse. MDDC 289

Use of standard broadcast receivers as radioactive indicators. William D. Schafer. AECD 2310

See also

Recording Instruments

Metal, Liquid, and Gas Types

All-metal fast Geiger counters for cosmic-ray research. Victor H. Rigener. Rev Sci Instr 18:267 May '47

Construction of metallic G-M counters. (Sur la construction des compteurs G-M du type metallique) M. Lesage and others. Jour Phys & Rad 10:212-214 June '49. In French

Demountable Geiger-Muller counter using filling gases at atmospheric pressure. J. F. Tait. Jour Sci Instr 26:269-271 Aug '49

Discharge formation in alcohol-filled counter tubes. F. Alder and others. Helv Phys Acta 20:73 '47

Tetramethyl lead filled Geiger counters. H. A. Glassford and R. L. Macklin. 10 pp July '44 AECD 2003. Also PB 95754

Patents

Geiger counter structure, Herbert Friedman, 2,475,603, 1 cl. Appl Mar 5, '46; granted July 12, '49

Quenching Characteristics

Accurate determination of the deadtime and recovery characteristics of Geiger-Muller counters. L. Costrell. Nat Bur Stand Res J 42:241-249 Mar '49

Dead time measurements on selfquenching Geiger tubes. Tracerlog No 6:5 Oct '47

Geiger-Mueller counting unit and external quenching equipment for the estimation of C^{14} in carbon dioxide. W. B. Mann and G. B. Parkinson. Rev Sci Instr 20:41-47 Jan '49

Geiger tube quenching circuit for a negative high voltage supply. R. J. Watts. Rev Sci Instr 20:699 Sep '49

Improved quench circuit for Geiger counters. E. H. Cooke-Yarborough and others. Jour Sci Instr 26:124+ Apr '49

ATOMIC MEAS., G-M Counters, Quenching Characteristics–Cont'd.

Life tests on self-quenching Geiger-Mueller tubes with halogen and polyatomic gases as quenching agents. F. W. Brown, III and P. J. Harris. Naval Radiological Defense Lab Interim Rep 13 pp Apr 6, '49. AEC

Multivibrator quenching of Geiger-Mueller tubes. B. J. Thamer and A. F. Voight. AECD 2064

Reduction of dead times in Geiger-Muller counters. B. Collinge. Nature 162:853+ Nov 27, '48

Self-quenching Geiger-Mueller counters of low efficiency. M. I. Daion. Akad Nauk Dok vol 64 No 3:305-308 '49. In Russian

Speed of operation of Geiger-Muller counters. H. den Hartog. Nucleonics 5:33-47 Sep '49

Temperature dependence of counter characteristics in self-quenching G-M counters. (Letter) Om Parkash. Phys Rev 76:568 Aug 15, '49

Scalers

Cold-cathode thyratron scalers. C. Sewell, jr. LADC 591. AEC

Columbia scaling circuits. H. A. Glassford and J. R. Dunning. MDDC 1661

Efficiency of counting systems. M. Blackman and J. L. Michels. Phys Soc Proc 60:549-561 June '48

Electronic circuit VI. M. Sands and others. MDDC 914

Electronic counters. W. C. Elmore. AECD 2208D

Higinbotham scale of 64, mark 5, model 3. W. Higinbotham. MDDC 26

Maintenance, experience and development of the California scaler. W. T. E. Elmendorf. MDDC 996

Manufacturing specifications for Higinbotham scaler. E. Wakefield. MDDC 831

New development in instruments for counting and detecting nuclear particles. W. H. Jordan. MDDC 811

New scale-of-ten recorder. (Letter) F. H. Wells and R. D. Lewde. Jour Sci Instr 25:221 June '48

Properties and measurement of C^{11}. A. F. Reid and others. MDDC 355

Quantitative estimation of the activity of beta particle emitters. A. Broido and others. MDDC 598

Report on the Columbia scaling circuit. B. Schloss and S. Robinson. MDDC 821

Scale of 64 and discriminator, model 200. W. Higinbotham. MDDC 112

Scale of 64 with RF power supply model 400. W. Higinbotham. MDDC 113

Scale unit circuit. W. Higinbotham. MDDC 114

Specifications for the type 961B scaler. E. Wakefield. MDDC 1179

Technical associates scaler. E. Wakefield. MDDC 834

Test results on bias setting for the Chicago scaler Offner models. W. H. Bradley and others. MDDC 801

Techniques

Counter apparatus for the measurement of cosmic rays. M. Miesowicz and L. Jurkiewicz. Acta Phys Polo 9:54+ '47

Detection of lead in air with the aid of a Geiger-Muller counter. O. G. Koppius. Opt Soc Am J 39:294 Apr '49

Geiger counter speeds analysis of alloy steels. Product Eng 20:154 Nov '49

Geiger counter technique. Herbert Friedman and H. F. Kaiser. Naval Res Lab Rep M 1800 74 pp Jan 1, '42. AEC

Geiger counter technique for high counting rates. C. O. Muehlhause and H. Friedman. Naval Res Lab Rep H 2758 23 pp Feb 11, '46. AEC

Geiger-Muller counter method of determining phosphorous in steels. (Abstract) F. A. Bryan and G. A. Nahstull. Metal Progress 56:554+ Oct '49

Measurement of irregular grid disturbances with the Geiger counter. (Ueber die inmittelbare messung unregelmaessiger Gitterstoerungen mit dem Geiger-Zaehlrohr) Fricke and Seitz. Naturwiss vol 36 No 5:156 '49

Spurious counts in Geiger counters and the pretreatment of the electrodes. (Letter) J. D. Louw and S. M. Naude. Phys Rev 76:571-572 Aug 14, '49

Use of Geiger counter for quantitative estimation of radioactive isotopes in histological sections. Geoffrey H. Bourne. Nature 163:923+ June 11, '49

X-ray powder diffraction analysis film and Geiger counter techniques. W. Parrish. Science 110: 368-370 Oct 7, '49

ATOMIC MEASUREMENTS, Ionization Chambers

Alpha chamber modified. MDDC 245

Apparatus and methods used for the calibration of Chalk River ion-chambers types, TPA, TPJ, and TPD. C. O. Peabody. 20 pp (Canadian) CRTec 282. AEC

Calculation of the current carried by the electrons in a cylindrical ionization chamber (LADC 131). D. Nicodemus. MDDC 470

Condenser dosimeter and its use in measuring radiation over a wide range of wave lengths. Am J. Roentgenology & Radium Therapy 20:505 '38

Counting of the alpha-particles emitted by "semi-thick" layers of Uranium: effect of the variation of stopping power with velocity. N. Feather BDDA 29

Counting volume of a cylindrical ionization chamber. N. M. Blachman. Rev Sci Instr 20:477-479 July '49. Also AECU 259

Description of purification and filling technique for BF_3 ionization chambers. 5 pp MDDC 1409

Design of the Chalk River ion-chambers, TPA, TPJ, TPD. H. Carmichael 22 pp July 30, '46 (Canadian) CRTec 276. AEC

Experience with ionization chamber technique with C^{11} activity. C. D. Janney and B. J. Moyer MDDC 621

Experimental techniques, ionization chambers and counters. B. Rossi and H. Staub. pt 1 12 pp MDDC 1016; pt 2 MDDC 1017

Ionization chamber and electronic equipment for the observation of the shape of one microsecond X-ray pulses. J. S. Allen and D. Hudson. 10 pp MDDC 447

Ionization chamber C^{11} measurements. C. J. Borkowski. 4 pp MDDC 1099

ATOMIC MEAS., Ionization Chambers–Cont'd.

onization chamber for alpha-ray measurements. 5 pp '45 MDDC 1517

onization chamber for carbon-14 measurements. June '47 PB 94871

ionization chamber studies of energy transfer from 100 mev neutrons to light nuclei. R. Loevinger. 84 pp Oct 21, '47 MDDC 1593

onization chamber techniques in measurement of C^{14}. W. P. Jesse and others. 7 pp '47 MDDC 622

onization chambers. John A. Victoreen. IRE Proc 37:189-198 Feb '49

ntegrating polonium meter. T. R. Cuykendall and L. T. Finlayson. 6 pp Mar 22, '46 MDDC 341

ow geometry alpha particle ionization chambers. C. J. Borkowski. MDDC 1495

Measurement of a flux of fast neutrons with a counting pressure-ionization chamber. K. W. Allen. BDDA 71

Measurement of impulses, created by cosmic rays in the stratosphere, by means of an ionization chamber. S. N. Vernov and others. Akad Nauk Dok 61:815-816 '48. In Russian

Negative feedback dosage rate meter using a very small ionization chamber. H. E. Johns and others. Am J Roentgenology & Radium Therapy 61:550-556 Apr '49

Note on the investigation of spatial asymmetry in fast neutron fission, using a double ionisation chamber and pulse analyser, and its possible bearing on the problem of large capture cross-sections at high energies. N. Feather. BDDA 56

Operational manual for Rochester ion meter and accessory chambers. 17 pp '48 AECD 1789

Pressure ionization chamber for the measurement of neutron fluxes at tolerance level in portable instruments. 12 pp '45 AECD 1856. Also PB 94882

Progress report low geometry alpha particle ionization chambers. 11 pp '47 MDDC 1495

Revised alpha chamber. MDDC 246

Sensitivity of proton-recoil ionization chambers. H. H. Barshall and H. A. Bethe. MDDC 87

Simplified ionization chamber. Isotopes Division Circular IDC 7 6 pp Apr 20, '49. AEC

Spiral fission chambers. W. C. Bright. 19 pp MDDC 91

Study of variations accompanying low current ionization chamber measurements. R. K. Swank and H. Palevsky. 17 pp June 15, '45 MDDC 1524

Theory of ion chambers. 8 pp '45 MDDC 475

"Thick-Film" method for the measurement of fast neutron flux. K. W. Allen and D. H. Wilkinson. Camb Phil Soc Proc 44:581-587 '48

Thimble chamber calibration on soft Roentgen rays. F. H. Day. Am J Roentgenology & Radium Therapy

Time of collection of electrons in ionization chambers. J. S. Allen and B. Rossi. 12 pp July 28, '44 MDDC 448

Use and calibration of 100% geometry ion chamber. J. W. Jones and R. T. Overman. AECD 2367

Use of grid chambers for alpha ray analysis. O. Bunemann and others. 32 pp May 1, '46 (Canadian) PD 285 CRT 247. AEC

Patents

Alpha particle counting, Casimir J. Borkowski, 2,472,365, 4 cl. Appl Feb 21, '46; granted June 7, '49

Bromine counter, Sidney H. Liebson, 2,474,851, 13 cl. Appl July 3, '47; granted July 5, '49

Ionization chamber, Casimir J. Borkowski, 2,479,600, 3 cl. Appl June 19, '45; granted Aug 23, '49

Ionization chamber, Harold D. Roop, 2,458,099, 10 cl. Appl Oct 19, '45; granted Jan 4, '49

Ionization chamber, J. Howard Parsons, 2,458,632, 4 cl. Appl Dec 11, '45; granted Jan 11, '49

Ionization chamber circuit, Francis R. Shonka, 2,479,271, 9 cl. Appl Nov 2, '46; granted Aug 16, '49

Multigrid ionization chamber, Robert Earl Fearon, 2,480,808, 3 cl. Appl May 18, '48; granted Aug 30, '49

Radiation detection apparatus, Albert Ghiorso and Carroll M. Gordon, 2,490,298, 16 cl. Appl May 13, '49; granted Dec 6, '49

Radiation measuring device, Francis R. Shonka, 2,465,938, 10 cl. Appl Nov 21, '46; granted Mar 29, '49

Radioactivity measurement, Robert E. Fearon, 2,469,460, 9 cl. Appl Apr 12, '45; granted May 10, '49

Cloud Chambers

Automatic regulation of Wilson chambers. (Reglage automatique des chambres de Wilson) Fay R. Richard. Jour Phys & Rad 9:311-312 Dec '48

Cloud chamber and magnet assembly with structural frame and heat exchange. 2 pp '46 MDDC 860

Cloud chamber camera lights assembly. 1 p MDDC 861

Cloud chamber coils. Martyn H. Foss. Carnegie Inst of Tech (Off of Naval Res Contract) Tech Rep No 2 M 4277 15 pp. AEC

Cloud chamber equipment for study of infrequent cosmic-ray processes. W. Y. Chang and J. R. Winckler. Rev Sci Instr 20:276-286 Apr '49

Cloud chamber, heat shielding, magnetic shielding (drawing). 1 p MDDC 862

Cloud chamber measurements of cadmium capture gamma rays. G. D. Moak and J. W. T. Dabbs. AECD 1804

Cloud chamber of light weight for balloon flights. R. P. Shutt and others. Rev Sci Instr 20:398-400 June '49. Also AECU 274

Cloud chamber study of the particles in the neutron beam of the "184." W. W. Powell 6 pp July 11, '47 MDDC 1090

Cloud chamber tank assembly. MDDC 980

Cloud chamber vacuum tank and valve seal assembly. MDDC 981

Cloud chambers. G. C. Baldwin. Elec Eng 58:251 Mar '49

Counter controllable high pressure cloud chamber. G. E. Valley and J. A. Vitale. Rev Sci Instr 20: 411-423 June '49

Fast recycling cloud chamber and pulsed magnetic field equipment for use with pulsed accelerators. E. R. Gaerttner and M. L. Yeater. Rev Sci Instr 20:588-595 Aug '49

ATOMIC MEAS., Ionization Chambers, Cloud Chambers–Cont'd.

22-inch Wilson cloud chamber in a magnetic field of 21,700 gauss. Wilson M. Powell. Rev Sci Instr 20:403-407 June '49. Also AECU 431

Large cloud chamber using rear illumination. E. W. Cowan. Rev Sci Instr 20:492-495 July '49

New methods of measuring deflection and scattering cloud chambers. (Neues varfahren zur Messung von Krummung und Streuwinkle in Nobelkammerbahnen) J. Ruling and H. Geri. Acta Phys Aust 2:335-347 '49. In German

"Positive tracks" on Wilson's photos. J. H. Spaa and G. J. Sizoo. Physica 15:316-326 May '49

Recovery of the Wilson cloud chamber working with constant final volume. P. M. Endt. Physica 14:97-103 Apr '48. In English

Simple controls by counters for Wilson chamber. (Dispositif simple de commande de chambre de Wilson par compteurs) R. Richard-Foy. Jour Phys & Rad 10:19-21 Jan '49. In French

Some cloud chamber photographs obtained with a high pressure cloud chamber. R. P. Shutt and others 1 p AECU 275

Count Rate Meters

Battery operated inverse feedback electrometer circuits and gamma radiation meter. C. S. Wu and L. J. Rainwater. AECD 2050

Calculations for use with the fast neutron meter. G. C. Gamertsfelder. AECD 2173

Chang and Eng-a portable instrument for the detection of fast neutrons in the presence of gamma radiation. P. W. Reinhardt. MDDC 819

Chang and Eng in use. W. H. Ray. AECD 2357

Cutie Pie, a portable radiation instrument. H. U. Fisher and C. O. Ballou. MDDC 997

Description of an instruction for operation and maintenance of a new model gamma ray pocket survey meter. O. G. Landsverk. MDDC 952

Design of dynamic condenser electrometers. H. Palvesky and others. MDDC 38

High intensity beta gamma instrument mark 2, model 10, Betty Snoops. Argonne Nat Lab. MDDC 883

Integrating polonium meter. T. R. Cuykendall. MDDC 341

Integration radiation meter for beta and gamma rays, Sigmion, mark 10, model 70. Argonne Nat Lab. MDDC 884

Investigation of the input grid current of the type 959 acorn tube used as an electrometer tube. C. S. Wu and L. J. Rainwater. AECD 2049

Ionization chamber for differential measurements of gamma rays. C. S. Wu and J. Rainwater. MDDC 1098

Method of assay for C^{11}. C. D. Jenney and B. J. Moyer. MDDC 1303

New models of integrating gamma ray and slow neutron pocket meters (dosimeters and pocket chambers) O. G. Landsverk. MDDC 395

Operating instructions for the gamma beta ray survey meter. O. G. Landsverk. AECD 1935

Operating manual for Rochester ion meter and accessory chambers. W. F. Bale. AECD 1789

Pocket radiation alarm. P. R. Bell. MDDC 1180

Portable dosimeters for one microsecond X-ray pulses. J. S. Allen and B. E. Hudson. AECD 2052

Portable micro-r-meter. G. Dessauer. MDDC 1484

Portable probe type ionization meter, Betty Snoops. G. R. Carlson. MDDC 1057

Quantitative estimation of the activity of beta particle emitters. A. Broido and others. MDDC 598

Radiation dose integrator of high sensitivity. G. Dessauer and others. AECD 1972

Radiation meter model "B". R. Watts. MDDC 1614

Recording ionization chamber for traces of radioactive gases. A. O. C. Nier and others. MDDC 63

Rochester ion meter construction and operating details. W. F. Bale. MDDC 1651

Ryerson electrometer. Argonne Nat Lab. MDDC 562

Safety circuit with DC amplifier. R. J. Watts. MDDC 316

Summary report on the development of electrometer radiation instruments. O. G. Landsverk and E. O. Wollan. AECD 1865

Survey instrument, mark 1, model 10, zeuto. W. P. Jesse. MDDC 117

Survey instrument, mark 1, model 21-A zeus. W. P. Jesse. MDDC 118

Survey meter for the measurement of alpha, beta and gamma rays, fast and slow neutrons. O. G. Landsverk. MDDC 396

See also

Recording instruments

Parallel Plate Counters

Alpha-particle group analysis using a parallel-plate ionization chamber; effect of variation of stopping power with velocity. N. Feather. BDDA 30

Distribution of pulse sizes in a parallel-plate ionization chamber containing a thick layer of hydrogen-rich material irradiated with a parallel beam of neutrons. N. Feather. BDDA 59

Distribution of pulse sizes in a parallel plate ionization chamber containing a thick layer of hydrogen-rich material irradiated with neutrons (11): effect of oblique incidence. N. Feather. BDDA 60

Operation and service notes on batteryless type A counting system using parallel plate or concentric cylinder chamber. 6 pp MDDC 1766

Operational manual for a parallel plate alpha counter (scale of 64). 24 pp '48 AECD 2535

Operations manual for a low count parallel plate alpha counter (scale of 8). 20 pp '48 AECD 2536

Parallel plate alpha chamber with side inserted sample carrier assembly. 28 pp '48 AECD 2542

Parallel-plate counters. J. Warren Keuffel. Rev Sci Instr 20:202-208 Mar '49

Study of electron collection in a parallel plate ionization chamber. R. Sherr and R. Peterson. MDDC 474

Scalers

Alpha counters as used in radioassay of plutonium. S. R. Chadwick. MDDC 454

Counting method of isotopic analysis of uranium. D. E. Hull and B. Cohen. MDDC 287

TOMIC MEAS., Ionization Chambers, Scalers–Cont'd.

evelopment and construction of alpha counting equipment. R. H. Firminhac. AECD 2208D

ethod of measuring the drift velocity of electrons in gases. Donald E. Hudson. MDDC 524

ulti-channel pulse analyzer. A. Ghiorso and others. MDDC 23 Operation and service notes on a batteryless type-A counting system using parallel plate on concentric cylinder chambers, mark 6, model 30 and mark 10, model 32. J. A. Schoke. MDDC 1766

arallel-plate alpha counting system mark 6, model 3A. H. D. Young. MDDC 233

ulse analyzer—1 channel. W. Higinbotham. MDDC 111

eports on investigation of the behavior of argon-hydrogen mixture and isobutane in a spherical chamber. H. Staub and D. Nicodemus. MDDC 311

pecific activity of radium. T. P. Kohman and others. MDDC 852

TOMIC MEASUREMENTS, Proportional Counters

ir proportional alpha hand counter. J. A. Simpson, jr. and J. Brewer. MDDC 1316

ir proportional counters for hand and bench monitoring. P. R. Tunnicliffe. 13 pp Feb 6, '47 (Canadian) CRTec 329. AEC

oron trifluoride neutron detector for low neutron intensities. 8 pp '44 MDDC 183

hanges in the threshold of gas flow beta counters. R. W. Cole. MDDC 1475

onstruction of small boron chambers and Geiger Muller counters. N. Veall and M. Wilson. 24 pp May '44 (Canadian) MP 60. AEC

onversion of air proportional counter alpha detection instruments (poppy) to detect C" contamination and soft beta radiation. 4 pp '47 MDDC 1531

ounting of neutrons using a thick layer of hydrogen-rich material and a 'proportional' counter. N. Feather. BDDA 5

ounting rates in BF_3 argon chambers. N. Miller. 8 pp Jan 17, '46 (Canadian) MC 217. AEC

fficiencies of neutron counters using recoils of protons in argon and xenon. J. D. Hirschfelder and J. L. Magee. MDDC 115

High efficiency fast neutron counters. W. M. Preston. AECD 1954

High sensitivity apparatus for fission counting. A. Ghierson and W. C. Bently. AECD 1847

Instrument work in an atomic energy laboratory. H. U. Fisher. MDDC 1059

Investigation of proportional counters. 22 pp '45 MDDC 282

Low absorption neutron proportional counter. J. A. Simpson, jr. MDDC 1317

Measurement of neutron fluxes in the region 30 to 500 kev with proportional counters (LADC 275). D. H. Firsch. MDDC 385

Neutron detector having uniform sensitivity from 10 kev to 3 mev. A. O. Hanson and J. L. McKibben. MDDC 972

Operation of proportional counters of pressures above atmospheric. 14 pp '44 MDDC 458

Paraffin thickness correction for neutron counters using recoil protons and deutrons (LADC 123). J. L. Magee. MDDC 122

Proportional alpha counter for atmospheric dust filters. P. R. Tunnicliffe. NRC 1619

Proportional-counter equipment for beta detection. (Abstract) William Bernstein. IRE Proc 37:168 Feb '49

Proportional counters. Sergi A. Korff. Elec Eng 68:250 Mar '49

Proportional counters and their use in the counting of neutrons and X-rays. M.S. thesis. Louis G. Creveling. Ohio State U Phys Dept June '49

Boron Preparation

Apparatus for rapid analysis of boron 10. J. J. McKibben. MDDC 854

Boron absorption of resonance activation. S. M. Dancoff and others. MDDC 639

Deposition of pure boron. A flow method for the deposition of boron on iron eylinders. H. L. Schlesinger and others. MDDC 1340

Deposition of pure boron. A flow method for the deposition of boron on wires. G. W. Schaeffer and others. MDDC 1339

Deposition of pure boron. A static method for the preparation of boron. H. I. Schlesinger and others. MDDC 1338

Laboratory production of enriched BF_3 from CaF_2 BF_3. R. E. Zedler and R. I. Luman. MDDC 1155

Preparation of boron by reduction of BCl_3 with H_2. C. R. Maxwell. MDDC 297

Preparation of boron triflouride for use in neutron counters. W. Hodges and others. AECD 2223

Preparation of thin boron films (LADC 193). R. W. Donson and H. Russell, jr. MDDC 384

Thermal diffusion with boron triflouride. W. W. Watson and others. MDDC 738

Thermal neutron velocity selector and its application to the measurements of the cross section of boron. 7 pp '47 MDDC 771

Count Rate Meters

Air proportional hand counter. J. A. Simpson and J. Brewer. MDDC 1316

Alpha hand counter, mark 10, model 10A. Argonne Nat Lab. MDDC 705

Conversion of air proportional counter alpha detection instruments (poppy) to detect C" contamination and soft beta radiation. R. H. Firminhac. MDDC 1531

Design and construction of the "Pee-Wee" portable proportional alpha survey meter. J. H. Larkins. AECD 2243

Low pressure alpha counter. W. B. Bennet. MDDC 1652

Model 100 counting rate meter. J. Gallagher and M. Sands. MDDC 1297

Parallel-plate alpha counting system mark 6, model 30A. Argonne Nat Lab. MDDC 233

Portable alpha survey meter, mark 1, model 41A. Argonne Nat Lab. MDDC 1157

Use of hearing-aid type tubes in portable counting rate meters and amplifiers. L. Nierman. MDDC 725

ATOMIC MEAS., Prop. Count., Count Rate Meters–Cont'd.

Walkie poppy-a portable battery operated proportional type alpha survey counter. R. A. Dandl. MDDC 1331

See also

Recording Instruments

Scalers

Alpha air monitoring system. Argonne Nat Lab. MDDC 882

High sensitivity apparatus for fission counting. A. Ghiorso and W. C. Bently. AECD 1847

Manual for the proportional alpha counter. J. A. Simpson, jr. MDDC 46

Methane proportional counter for beta counting. C. J. Borkowski and E. Fairstein. AECD 1790

Modified Simpson methane flow proportional alpha counter and fission counter. MDDC 1103

Note on back scattering of Pu^{239} alpha particles from platinum sample plates. J. H. Parsons. MDDC 1384

Precision alpha proportional counter. J. A. Simpson, jr. MDDC 80

Studies with the Ranger. D. L. Hill. AECD 1945

ATOMIC MEASUREMENTS, Scalers

AEP 908 scaler; provisional installation and operating instructions. W. D. Howell. NRC 2049

Comparison of the Lauritsen electroscope with electronic scalers in the counting of radioactive disintegration. C. P. Sonett. Naval Radiological Defense Lab Final Rep Ad 129(1) 11 pp June 10, '49. AEC

Discussion of decade scaling circuits. Tracerlog No 21:4-8 Sep '49

High resolution scale-of-four. Val Fitch. 10 pp Aug 25, '49. AECU 554

High speed scaler design. C. W. Johnstone. 4 pp AECU 364

Maintenance experience and development on the "California" scaler. 6 pp '44 MDDC 996

Modified decade scaler. Final report on project authorization number CMR 3-5. George N. Rupert. 13 pp June 9, '49 AECU 376

Preliminary report on the Higinbotham scaler. 5 pp '44 MDDC 832

Report on the columbia scaling circuit. 37 pp '43 MDDC 821

Scale of 64 with RF power supply model 400 (circuit diagram) MDDC 113

Specifications for the type 961A scaler. 10 pp '44 MDDC 833

Specifications for the type 961B scaler. 7 pp '44 MDDC 1179

Stable ten-light decade scaler. Richard Weissman. Electronics 22:84+ May '49

Technical associates scaler. 5 pp '44 MDDC 834

Working instruction manual for scaling unit type 200 and 200 A. Atomic Energy Research Estab, Gr Brit NP 838 47 pp. AEC

ATOMIC MEASUREMENTS, Scintillation Counters

Alpha scintillation counter for health physics and dust study applications. B. Cassen and others. 15 pp Mar 28, '49 AECU 193

Characteristics of metal type electron-multiplier tube. J. S. Allen. MDDC 275

Characteristics of some commercial photomultiplier tubes under pulse conditions. H. S. Bridge. MDDC 235

Coincidence scintillation counter. G. A. Morton and K. W. Robinson. Nucleonics 4:25+ Feb '49

Detection of neutrons with scintillation counters. Robert Hofstadter. 6 pp Nov 1, '48 AECU 285

Distant counting of scintillations. E. P. Blizard and S. DeBenedetti. AECD 2284

Electron multiplier as a particle counter. A. H. Snell and L. C. Miller. PB 95804

Electron multiplier counters. P. S. Johnson. Elec Eng 68:250 Mar '49

Low-rate alpha scintillation counter. B. Cassen and others. Nucleonics 5:55-59 Oct '49

Performance of 931-A type multiplier as a scintillation counter. G. A. Morton and J. A. Mitchell. Nucleonics 4:16+ Jan '49

Photoelectric alpha particle detector. S. C. Curran and W. R. Baker. MDDC 1296

Photoelectric alpha particle detector. Nov '44 PB 95697

Properties of the alpha-particle spark counter. R. D. Connor. Nature. 163:540+ Apr 2, '49

Scintillation counter. J. W. Coltman. IRE Proc 37:671-682 June '49

Scintillation counter, I, the existence of plateaus. L. B. Robinson and J. R. Arnold. Rev Sci Instr 20:549-553 Aug '49

Scintillation counter as a proportional device. Rosalie C. Hoyt. Rev Sci Instr 20:178-181 Mar '49

Scintillation counter for atomic particles. T. Kahan and others. Jour Phys & Rad 9:25-26 Jan '48. In French

Scintillation counter for laboratory counting of alpha-particles. J. D. Graves and J. Dyson. Rev Sci Instr 20:560-565 Aug '49

Scintillation counters. Louis Wouters. AECD 2203

Scintillation counters. W. H. Jordan and P. R. Bell. Nucleonics 5:30-41 Oct '49

Secondary electron multiplier as a particle counter: enlargement of entrance aperture and improvement in particle discrimination. A. H. Snell and L. C. Miller. AECD 1956

Self-delayed coincidences with scintillation counters. S. De Benedetti and others. AECD 1855

Self-delayed coincidences with scintillation counters. PB 96439

Solid counters: scintillation counters. June '48 PB 95361

Some properties of the parallel plate spark counter I. R. W. Pidd and Leon Madansky. Phys Rev 75:1175 Apr 15, '49

Wide range radiation instrument. L. Reiffel and G. Burgwald. Rev Sci Instr 20:711-715 Oct '49

TOMIC MEAS., Scintillation Counters–Cont'd.

Phosphors

ction of alpha radiation on the growth of luminescence of a AnS-Cu phosphor. F. Bandow. Zeit Naturforsch 3a:16-20 Jan '48. In German

ementary process of light excitation in phosphors by alpha particles, fast electrons, and gamma quanta 2. I. Brosser and H. Kallmann. Zeit Naturforsch 3a:642-650 Nov-Dec '47. In German

ementary process of light excitation of phosphors. 3 the excitation of napthalene (further experiments with the phosphor counter). I. Brosser and others. Zeit Naturforsch 3a:6-15 Jan '48. In German

nergy dependence of several organic and inorganic phosphors in scintillation counters. R. H. Davis and J. D. Graves. Naval Radiological Defense Lab Rep ADP 119 5 pp May 2, '49. AEC

rowth of photoluminescence of Zinc Sulphide under constant excitation. J. Soddy. Compt Rend Acad Sci 226:896-898 Mar 15, '48. In French

igh valence manganese as activator of luminescence. E. Makai. Electrochem Assoc Japan J 95:107-111 Mar '49

uminescent counters. H. Kallmann. Research 2: 62+ Feb '49

lethod of preparing anthracene crystals suitable for scintillation counters. J. C. Allen. AECU '49

bservation of napthalene scintillations due to tritium beta rays. R. F. Taschek and H. T. Gittings. AECD 2273

reparation of luminescence screens. M. Sadowsky. Electrochem Assoc Japan J 95:112-128 Mar '49

ulse characteristics of anthracene scintillation counters. L. F. Wouters. AECD 2048

elative sensitivities of some organic compounds for scintillation counter. R. F. Taschek. AECD 2353

cintillation counting with anthracene. P. R. Bell and R. C. Davis. AECD 1802

cintillation counting with anthracene. P. R. Bell and R. C. Davis. AECD 1880

cintillation counting with anthracene. P. R. Bell and R. C. Davis. AECD 1889

olid counters; scintillation counter. 10 pp '48 AECD 2203

emperature dependence of a scintillation counter using several organic and inorganic phosphors. J. D. Graves and G. E. Koch. Naval Radiological Defense Lab Rep ADP 84 23 pp Mar 22, '49. AEC

Use of anthracene as a scintillation counter. P. R. Bell. AECD 1854

Use of anthracene as a scintillation counter. PB 95784

Zinc Sulfide phosphor constitution and its effect on electron traps. G. F. Garlick and others. Jour Chem Physics 17:399-404 Apr '49

See also

Cathode Ray Tubes, Screens
Illumination & Photometry, Fluorescent, Phosphors

ATOMIC MEASUREMENTS, Spectroscopy and Spectrometry

Application of a magnetic lens spectrometer to the measurement of gamma-radiation from Zn^{65} and Co^{60}. Erling N. Jensen and others. Phys Rev 75: 458-465 Feb 1, '49

Beta and gamma ray spectroscopy II. Gerald J. Hine. Nucleonics 4:56+ Feb '49

Cathode-ray presentation for infrared spectrometer. John H. Jupe. Electronics 22:189 Nov '49

9-centimeter trochotron. 4 pp '47 AECD 1977. Also PB 95755

Combined shutter and projection device for the alignment of electrodes in spectrographic analysis. 4 pp MDDC 1052

Conditions for optimum luminosity and energy resolution in an axial β-ray spectrometer with homogeneous magnetic field. Jesse W. M. Du Mond. Rev Sci Instr 20:160-170 Mar '49

Dead-time and non-linearity characteristics of the Geiger-counter X-ray spectrometer. Leroy Alexander and others. Jour Ap Phys 20:735-740 Aug '49

Electron optical properties of the focal isolation beta-ray spectrometer. D. K. Butt. Phys Soc Proc section B 62:551-564 Sep '49

Gamma-ray measurements with a magnetic lens spectrometer. W. F. Hornyak and others. Phys Rev 76:731-739 Sep 15, '49

Geiger counter spectrometer for the measurement of Debye-Scherrer line shapes. W. H. Hall and others. Phys Soc Proc section A 62:631-638 Oct '49

Image orthicon in spectroscopy. R. E. Benn and others. Opt Soc Am J 39:529-532 July '49

Installation and use of a double-beam recording infra-red spectrometer. J. L. Hales. Jour Sci Instr 26:359-365 Nov '49

Magnetic thin lens electron spectrometer. M.S. thesis. Robert H. Bushnell. Ohio State U Phys Dept Sep '48

New source of radiation for infra-red spectrometers. L. W. Herscher. Rev Sci Instr 20:833 Nov '49

Power supply for an X-ray tube used in conjunction with a Geiger counter spectrometer. U. W. Arndt. Jour Sci Instr 26:45+ Feb '49

Recent progress in alpha-ray spectroscopy. S. Rosenblum. Nucleonics 4:38 Mar '49

Recording spectrometer for Raman spectroscopy. C. H. Miller and others. Phys Soc Proc section A 62:401-407 July '49

Reflection method of determining preferred orientation on the Geiger-counter spectrometer. Michael Field and M. E. Merchant. Jour Ap Phys 20: 741-745 Aug '49

Report of discussion on the application of electron-multipliers to spectroscopy. Jour Sci Instr 26: 53+ Feb '49

Spectrophotometer with a secondary electron multiplier for measuring ozone. S. F. Rodionov and A. L. Osherovich. Akad Nauk Dok vol 64 No 5: 665-668 '49. In Russian

Spectrophotometric equipment. H. G. W. Harding. Nature 163:924+ June 11, '49

Theoretical and practical sensitivity of the pneumatic infra-red detector. M. J. E. Golay. Rev Sci Instr 20:816-820 Nov '49

ATOMIC MEAS., Spectroscopy and Spectrometry–Cont'd.

Theory and applications of trochotrons. H. Alfven. Kungl Tekn Hogsk Handl No 22 '48. Also Acta Polyt No 34 '48

Theory of the solonoid beta-ray spectrometer. E. Persico. Rev Sci Instr 20:191-197 Mar '49

Trochotron design principles. 11 pp '48 AECD 2096. Also PB 95724

Patents

Magnetic stabilizer, Genville Cave-Browne-Cave, 2,479,309, 11 cl. Appl June 28, '47; granted Aug 16, '49

Mass

AC operated mass spectrograph of the Mattauch type. 19 pp '46 MDDC 409

Adjustable electrode arrangement for a spark source mass spectrograph. 3 pp '46 MDDC 1106

Conditions for optimum luminosity and energy resolution in an axial β-ray spectrometer with homogeneous magnetic field. J. W. M. Du Mond. Rev Sci Instr 20:160-169 Mar '49

Design of the high frequency spark source for the mass spectrograph. 3 pp '46 MDDC 1107

Homogeneous circular magnetic field. Applications to mass spectrography. (Champ magnetique homogene a limites circulaires. Application a la spectrographie de masse) M. Spriegel. Jour Phys & Rad 10:207-211 June '49

Large mass spectrometer employing crossed electric and magnetic fields. Thomas Mariner and Walker Bleakney. Rev Sci Instr 20:297-304 Apr '49

Mass spectrograph for radioactive isotopes. Lloyd G. Lewis and R. J. Hayden. 12 pp Sep '47 MDDC 1556 .

Mass spectrometer for analysis of hydrocarbons. (Spectrometre de masse pour analyse d'hydrocarbures) F. Bertein and J. Vastel. Ann Radioelec 4:269-278 Oct '49

Mass spectrometer for leak detection. 10 pp '48 MDDC 1670

Mass spectrometric study of fission element 43. Mark G. Inghram and others. 2 pp Sep '44 MDDC 1460

Mass spectrometry. H. G. Thode and R. B. Shields. Phys Progr Rep 12:1-20 '49

Mass spectroscope for analysis in the low mass region. 12 pp '47 MDDC 788

Mass spectroscope for rapid analysis in low mass range. William Siri 2 pp Jan '47 MDDC 789

Preliminary investigation of the Westinghouse leak detector as a mass analyzer. J. Kramer and G. W. Keilholtz. 16 pp Aug '49 AECD 2721

Radio frequency mass spectrometry—a promising new analytical method. W. H. Bennett. Instruments 22:38+ Jan '49

Simplified emission regulator for mass-spectrometer ion sources. E. B. Winn and A. O. Nier. Rev Sci Instr 773-774 Nov '49

Spectrometer measures mass of chemical ions. Jerry S. Adams. Radio-Electronics 20:32-33 Aug '49

Theory of the solenoid beta-ray spectrometer. E. Persico. Rev Sci Instr 20:191-196 Mar '49

Trochotron—a crossed-field type mass spectrometer 10 pp '47 MDDC 1162

Voltage supplies for the mass spectrograph. 2 pp '46 MDDC 1108

Patents

Mass spectrometer, Carleton H. Schlesman, 2,470,745, 11 cl. Appl May 15, '45; granted May 17, '4

Mass spectrometer tube ion source assembly, Alfred O. C. Nier, 2,490,278, 3 cl. Appl Oct 31, '4 granted Dec 6, '49

Mass spectrometry, Harold W. Washburn, 2,472,87 7 cl. Appl Nov 21, '44; granted June 14, '49

Mass spectrometry, Harold W. Washburn, 2,489,34 12 cl. Appl July 16, '45; granted Nov 29, '49

Mass spectrometry, Harold W. Washburn an Clifford E. Berry, 2,486,452, 5 cl. Appl Apr 3 '45; granted Nov 1, '49

Mass spectrometry, Robert V. Langmuir, 2,463,54 5 cl. Orig appl Apr 30, '43; divided and this ap Oct 7, '46; granted Mar 8, '49

Mass spectrometry, Robert V. Langmuir, 2,463,54 5 cl. Orig appl Apr 30, '43; divided and this ap Oct 7, '46; granted Mar 8, '49

Microwave

10 cm mechanically swept spectrometer. I Andrews. IEE Proc pt III 96:254+ May '49

DeMornay-Budd standard microwave equipmen 85 pp Y 3. At 7:2D39 U.S. Govt Print Off

High frequency spectroscopy. (Hochfrequenzspek troskopie) Braunbek. Naturwiss 36:98-104 Ap '49

Microwave methods in physics. C. Kikuchi and F D. Spence. Am J Phys pt 1 Microwave spec troscopy. 17:288-297 May '49

Microwave research. Quarterly progress repor May 1, '49-Aug 1, '49. Walter Gordy. Duke U NP 1037 32 pp. AEC

Microwave spectroscopy at Y-12. A. L. Souther and G. W. Kielholtz. 10 pp May 12, '49 AECU 355

Microwave spectroscopy in the region of three t five millimeters. Alex G. Smith and others Phys Rev 75:260-263 Jan 15, '49

Molecular spectroscopy with microwaves. (Molekuel-Spektroskopie mit Mikrowellen) Elektron Wiss und Tech 3:442-444 Nov '49

New field of microwave spectroscopy. Samuel Freedman. Radio & TV N 42:27-29+ July '49

Stark-effect microwave spectrograph of high sensitivity. K. B. McAfee, jr. and others. Rev Sc Instr 20:821-826 Nov '49

Thermistor bolometer and amplifier for infrared spectrometers. June '44 PB 97110

See also

Microwaves

Neutron

Diffraction of neutrons by a single crystal. H. W Zinn. MDDC 629

Neutron beam spectrometer studies of boron, cadmium and the energy distribution from paraffin James Rainwater and W. W. Havens, jr. MDDC 4

Neutron spectrometer circuits (23 drawings). '45 MDDC 557

ATOMIC MEAS., Spectroscopy and Spectrometry, Neutron–Cont'd.

Neutron spectroscopy. J. R. Dunning. MDDC 210

Neutron temperature measurement in graphite and in uranium-graphite reactor. G. M. Branch. MDDC 747

Proposed neutron spectrometer in the 10-1000 kev range (LADC 6). B. T. Feld. MDDC 22

Recently improved slow neutron velocity spectrometer with some of the results obtained. W. W. Havens, jr. and others. AECD 1869

Slow neutron cross-section of indium, silver, gold, antimony, lithium and mercury as measured with a neutron beam spectrometer. W. W. Havens, jr. and J. Rainwater. MDDC 3

Slowing down of neutrons. G. Breit. MDDC 748

ATOMIC PHYSICS

Bremsstrahlung in high energy nucleon-nucleon collisions. J. Ashkin and R. E. Marshak. Phys Rev 76:58-60 July 1, '49

Cerenkov radiation. (Die Cerenkov-Strahlung) Eder. Funk und Ton 3:67-73 Feb '49. In German

Charge density and magnetic moments of the nucleons. Murray Slotnick and Walter Heitler. Phys Rev 75:1645 June 1, '49

Classical radiation of accelerated electrons. Julian Schwinger. Phys Rev 75:1912-1925 June 15, '49

Classical radioactivity, 1940-1949. N. Feather. Nucleonics 5:22-41 July '49

Current ideas about mesons. C. W. Snyder. Nucleonics 5:42-52 July '49

Electromagnetic interactions of a vector meson with a scalar excited state. Marshall N. Rosenbluth. Phys Rev 76:951-957 Oct 1, '49

Electromagnetic properties of nucleons. Sidney Borowitz and Walter Kohn. Phys Rev 76:818-827 Sep 15, '49

Electromagnetic shift of energy levels. J. B. French and V. F. Weisskopf. Phys Rev 75:1240 Apr 15, '49

Electron as an elemental magnet. (Das Elektron als Elementar-magnet) Elektron Wiss und Tech 3: 262-266 July '49

Electron collisions. (Elektronenstossvorgaenge) Elektron Wiss und Tech 3:1-6 Jan '49

Electrons and light quanta. (Elektronen und Lichtquanten) Elektron Wiss und Tech 3:113-118 Mar '49

Expressions for the energy and impulses of the electromagnetic field of a moving electron. (Les expressions de l'energie et de l'impulsion du champ electromagnetique propre de l'electron en movement) B. Kwal. Jour Phys & Rad 10:103 Mar '49

Fundamental particles. (Abstract) Donald J. Hughes. IRE Proc 37:168 Feb '49

Generalization of the lambda-limiting process and the non-uniqueness in the removal of divergence difficulties in the quantum theory of elementary particles. I. Pomeranchuk. Phys Rev 76:298 July 15, '49

Generalizing boson field theories. Alex E. S. Green Phys Rev 75:1926-1929 June 15, '49

High current ion source. R. B. Setlow. Rev Sci Instr 20:558-560 Aug '49

Inelastic scattering of low speed electrons from a copper single crystal. Paul P. Reichertz and H. E. Farnsworth. Phys Rev 75:1902-1908 June 15, '49

Interaction between elementary particles. A. Lande. Phys Rev pt 1 76:1176-1179 Oct 15, '49

Interaction of mesons with the electromagnetic field. (Letter) W. H. Furry and M. Neuman. Phys Rev 76:432 Aug 1, '49

Interpretation of the wave function projected into the past. V. A. Fok. Zh Eksp Teor Fiz 18:737-740 Aug '48. In Russian

Kramers' formula for the frequency distribution of the radiation emitted by an electron in a parabolic orbit. K. C. Westfold. Phil Mag 40:698-703 July '49

Localized states for elementary systems. T. D. Newton and E. P. Wigner. Rev Mod Phys 21: 400-406 July '49

Meson fields and conformal transformations. J. A. Schouten. Rev Mod Phys 21:421-424 July '49

Meson fields and the equation of motion of a spinning particle. R. C. Majumdar and S. Gupta. Phys Rev 75:1788-1793 June 15, '49

Models and methods in the meson theory. Hideki Yukawa. Rev Mod Phys 21:474-479 July '49

New content of the problem of multiple particles. A. A. Vlasov. Zh Eksp Teor Fiz 18:840-856 Sep '48. In Russian

New value for e/m. John Markus. Electronics 22: 120+ June '49

Postulational basis of the theory of elementary particles. H. J. Bhabha. Rev Mod Phys 21:451-465 July '49

Radiation accompanying meson creation. L. I. Schiff. Phys Rev 76:89-93 July 1, '49

Radius of the elementary particle. (Letter) Hideki Yukawa. Phys Rev 76:300 July 15, '49

Recent developments in the theory of the electron. Victor F. Weisskopf. Rev Mod Phys 21:305+ Apr '49

Reciprocity theory of elementary particles. Max Born. Rev Mod Phys 21:463-473 July '49

Relativistic properties of self-energies. A. Pais and S. T. Epstein. Rev Mod phys 21:445-446 July '49

Some cut-off methods for the electron self-energy. J. Rzewuski. Phys Soc Proc section A 62:386-391 June 1, '49

Stopping of fast charged particles in metallic conductors. R. Dronig. Physica 15:667-670 Aug '49

Straggling of electrons near the critical energy. L. Eyges. Phys Rev 76:264-269 July 15, '49

Symmetrical meson theory of nuclear forces. Ta-You Wu and H. M. Foley. Phys Rev 75:1681 June 1, '49

Theory of positrons. R. P. Feynman. Phys Rev 76:749-759 Sep 15, '49

Unitary quantum electron dynamics. H. J. Groenewold. Konin Ned Akad Proc pt 1 52:133-144 Feb '49; pt 2 52:226-239 Mar '49

Wave equations in the de Sitter space. Satosi Watanabe. Phys Rev 76:296-297 July 15, '49

Wave equations of the corpuscular h/2 π spin, and their generalizations. (Sur les equations d'ondes de la theorie corpuscule de spin h/2 π et leurs generalizations) G. Petiau. Jour Phys & Rad 10:215 June '49

ATOMIC PHYSICS–Cont'd.

See also

Accelerators
Atomic Measurements, Various Listings
E-M Theory, Relativistic & Quantum Mechanical Corrections

ATTENUATION and ATTENUATORS

Bridged T and H pads; nomograph. Tele-Tech 8: 32 Aug '49

Calibrated piston attenuator. A. C. Gordon-Smith Wireless Eng 26:322-324 Oct '49

Determination of feed-back attenuation and stability of amplifier lines. (Bestimmung der Rueckflussdaempfung und der Pfeifsicherheit von Vertsaerkerleitungen) Bugdahn. Fernmeldetech 359-367 Nov '49

Piston attenuator in a waveguide below cutoff. Wheeler Mono No 8 Apr-Sep '48

Precision attenuator having a wide frequency range. H. W. Lamson. Gen Rad Exp 24:1-4 Dec '49

Resistive four-terminal networks as attenuators. (Widerstands-Vierpole als Daempfungsglieder) Taeger. Funk und Ton 3:475-487 Sep '49

"T" and "H" pads; nomograph. Tele-Tech 8:21 Oct '49

"T" and "O" pads; nomograph. Tele-Tech 8:53 Sep '49

Patents

Attenuating line for ultra-high frequencies, Chester B. Watts, jr., 2,459,857, 2 cl. Appl Aug 17, '42; granted Jan 25, '49

Attenuator, Carl P. Carlson, 2,491,644, 13 cl. Appl Aug 24, '45; granted Dec 20, '49

Attenuator, Edward W. Houghton, 2,491,662, 10 cl. Appl Mar 30, '45; granted Dec 20, '49

Attenuator, John M. van Beuren, 2,474,794, 5 cl. Appl Jan 17, '44; granted June 28, '49

Attenuator for high-frequency pickup devices, John M. van Beuren, 2,474,795, 6 cl. Orig appl Jan 17, '44; divided and this appl Dec 19, '45; granted June 28, '49

Controllable output circuit, Edwin C. Vestal, jr., 2,457,854, 11 cl. Appl Oct 8, '46; granted Jan 18, '49

Initial attenuator control, Darwin S. Renner, 2,462,-552, 1 cl. Appl Jan 25, '43; granted Feb 22, '49

Radio wave absorption device, John W. Tilery, 2,464,006, 7 cl. Appl Apr 28, '44; granted Mar 8, '49

Ultra high frequency attenuator, Harry R. Larson, 2,491,669, 2 cl. Appl Apr 16, '45; granted Dec 20, '49

See also

Equalizers & Compensators
Filters
Microwaves
Waveguides

ATTENUATION of WAVES

See Electromagnetic Theory, Attenuation

AUTOMATIC FREQUENCY and VOLUME CONTROLS

See Reception and Receivers, Controls

B

BAFFLES

See Loudspeakers

BATTERIES

Accumulator manufacture in Germany. German Industry Rep. BIOS 767 Brit Govt Pub

Aircraft batteries (lead and alkaline—the accumulatoren. A. G.) Hagen-Hanover Plants. German Industry Rep BIOS Misc 46 Brit Govt Pub

Apparatus for determining the effect of centrifugal force on the potentials of galvanic cells. B. Roger Ray and D. A. MacInnes. Rev Sci Instr 20:52-58 Jan '49

Battery box, soft rubber liners. German Industry Rep. CIOS XXXII-81 Brit Govt Pub

Battery boxes from Dynal laminated paper. German Industry Rep. BIOS 161 Brit Govt Pub

Battery research and development conference. Electrochem Soc J 96:34C-35C

Battery troubles. APCO Bul 15:11 May '49

Battery (vehicle), details of. German Industry Rep. BIOS 384 Brit Govt Pub

Depolarization of electrodes. (Die Depolarisation in Primaerelementch) Drotschmann. Funk und Ton 3:93-103 Feb '49

Dutch report on visit to the German battery industry. Sep '47 PB 95431

Emergency battery chamber. J. B. Mullen. Electronics 22:156+ June '49

German accumulator industry. German Industry Rep. BIOS 1129 Brit Govt Pub

German alkaline accumulator industry and miner's lamps using alkaline accumulators. German Industry Rep. BIOS 1620 Brit Govt Pub

Internal resistance and electrolyte of galvanic cells. (Der innere Widerstand und die Elektrolyte der galvanischen Elemente) Drotschmann. Funk und Ton pt 1 3:506-524 Sep '49; pt 2 3:594-600 Nov-Dec '49

Investigations of galvanic cells with solid and molten electrolytes. W. J. Hammer and J. P. Schordt. Am Chem Soc J 71:2347-2352 July '49

Lead-acid storage batteries used by the Japanese Navy. Japanese Industry Rep. BIOS/JAP/PR/ 749 Brit Govt Pub

Magnesium batteries. Metal Ind 73:286+ Oct 8, '48

Magnesium battery introduced at Fort Monmouth. Chem & Eng N 27:1936 July 4, '49

Miscellaneous electrical factories in the British and American zones. German Industry Rep. BIOS 411 Brit Govt Pub

Neon blinker saves batteries. Ralph W. Hallows. Radio-Electronics 21:46-47 Oct '49

New grid casting improves battery life. E. Willhnganz. Iron Age 163:62-64 June 9, '49

BATTERIES–Cont'd.

New grid design and casting process lengthen battery life. Automotive Ind 101:35+ Oct 1, '49

Nickel cadmium batteries. C. Berg. Iron & Steel Eng 26:133-136 Sep '49

Nickel cadmium storage batteries in Germany. German Industry Rep. FIAT 800 Brit Govt Pub

Problems in manufacture of battery equipment. (Probleme beim Bau von Batteriegeraeten) Radio Tech 25:371-374 June '49

Patents

Battery charger, William H. Lee, 2,463,702, 9 cl. Appl Oct 29, '45; granted Mar 8, '49

Cell testing circuit, Alexander C. Wall, 2,480,063, 3 cl. Appl Oct 6, '45; granted Aug 23, '49

Electric accumulator with tubular electrodes, Moises Malki, Boris Matzkin, and Aron Luis Goldman, 2,469,508, 5 cl. Appl Feb 27, '46; granted May 10, '49

Electrical accumulation, Monroe E. Miller, 2,486,964, 15 cl. Appl May 23, '49; granted Nov 1, '49

Filling and venting structure for storage batteries, Lester E. Lighton, 2,472,852, 7 cl. Appl Nov 14, '45; granted June 14, '49

High-current battery-charging system, Charles Cross, 2,448,711, 14 cl. Appl June 1, '48; granted Nov 22, '49

Inductor tuning system, Frederick N. Jacob, 2,477,-759, 6 cl. Appl Apr 4, '46; granted Aug 2, '49

Method of making battery separators, Roscoe H. Gerke, 2,487,233, 3 cl. Appl Feb 28, '47; granted Nov 8, '49

Salt-water battery, John T. Beechlyn, 2,474,716, 4 cl. Appl Sep 18, '44; granted June 28, '49

Spirally wound storage cell, Edmond F. Webb, 2,487,499, 1 cl. Appl Nov 5, '47; granted Nov 8, '49

BATTERIES, Primary

Batteries (primary) manufacture; low and heavy discharge; low temperature. German Industry Rep. BIOS 362 Brit Govt Pub

Batteries (primary), research on. German Industry Rep. BIOS 557 Brit Govt Pub

Dry battery characteristics and applications. N. M. Potter. Brit IRE J 9:61+ Feb '49

Magnesium dry cells. R. C. Kirk and A. B. Fry Electrochem Soc J 94:277-289 Dec '48

Potassium cell, a new drycell. (Das Kalium-Element, eine neue Trockenbattery) Funk und Ton vol 3 June '49

Primary cells by Prof. A. Schmid. German Industry Rep. BIOS 413 Brit Govt Pub

Weston miniature standard cell. Engineer 188:355 Sep 23, '49

Patents

Alkiline primary cell, Samuel Ruben, 2,473,546, 16 cl. Appl Jan 23, '43; granted June 21, '49

Flat dry cell battery unit, Arthur F. Rock, 2,475,-152, 11 cl. Appl Dec 13, '45; granted July 5, '49

Method of making a dry cell battery unit of flat cells, Arthur F. Rock, 2,475,153, 7 cl. Appl Dec 13, '45; granted July 5, '49

Sealing device for dry cells, Grenville B. Ellis, 2,457,810, 4 cl. Appl May 10, '45; granted Jan 4, '49

BATTERIES, Secondary

Batteries, lead acid types and alkaline types. German Industry Rep. BIOS 307 Brit Govt Pub

Batteries (secondary): alkaline accumulator manufacture. German Industry Rep. BIOS 708 Brit Govt Pub

Battery (secondary) production; lead, nickel-iron, alkaline. German Industry Rep. BIOS 467 Brit Govt Pub

Battery (storage) industry. German Industry Rep. BIOS 384 Brit Govt Pub

Battery storage (new type with mercury cathode). German Industry Rep. FIAT 670 Brit Govt Pub

Behavior of electrical accumulators at high altitudes. Viehmann. PB 96183

BETATRON

Azimuthal variations of the betatron field. W. B. Lasich and others. Jour Sci Instr 26:91+ Mar '49

Betatron. J. Dosse. Rev Sci 86:357-367 Apr 1, '48

Betatron building and installation at the University of Saskatchewan. (Letter) E. L. Harrington and others. Science 110:283-285 Sep 16, '49

Betatron starting in high energy electron synchrotrons. J. J. Wilkins. Atomic Energy Res Estab Rep. EL/R 331 24 pp May 3, '49. AEC

Betatrons at CHF Muller A.G. German Industry Rep. BIOS 201 Brit Govt Pub

Betatrons, project for 200 mev Brown Boveri. German Industry Rep. BIOS 148 Brit Govt Pub

Betatrons, research, design and construction, Brown Boveri. German Industry Rep. BIOS 148 Brit Govt Pub

Betatrons with and without iron yoke. A. Bierman and H. A. Oele. Philips Tech Rev 11:65-78 Sep '49

Development of a porcelain vacuum tube. R. K. Hursh. Am Cer Soc J 32:75-80 Mar '49

Discussion on "a 20 mev betatron." IEE Proc 96: 85+ Mar '49

Electron gun emission and X-ray output for three betatrons. (Letter) W. F. Westendorp and F. R. Elder. Phys Rev 76:445 Aug 1, '49

German betatrons. BIOS 148 Brit Govt Pub

High-current betatron conditions. R. Latham and M. J. Pentz. Nature 164:485-486 Sep 17, '49

Measurement of betatron guiding fields during electron ejection. E. C. Gregg, jr. Rev Sci Instr 20: 841 Nov '49

16 mev betatron. K. J. R. Wilkinson and others. Nature 161:472+ Mar 27, '48

16-mev betatron at the Clarendon Laboratory, Oxford. Engineering p 55 Jan 21, '49

New type of betatron without an iron yoke. A. Bierman. Nature 163:649+ Apr 23, '49

Patents

Stereoscopic X-ray pictures with betatron, Donald W. Kerst, 2,473,956, 6 cl. Appl May 29, '46; granted June 21, '49

See also

Accelerators

BRIDGES

AC Bridges. Cap 14:3-7 Feb '49

Automatic bridge for component testing. Electronics 22:88+ Apr '49

Capacitance-resistance bridge. Techni-Talk 1:3 June-July '49

Description of a universal R-L-C bridge. (Etude et realisation d'un pont universel d'impedances) P. Freulon. Toute la Radio pt 1 No 134:124-130 Mar-Apr '49; pt 2 No 135:144-147 May '49

Double-ratio AC bridges with inductively-coupled ratio arms. H. A. M. Clark and P. B. Vanderlyn. IEE Proc pt 1 pt 3 96:189+ May '49; pt 2 pt 2 96: 365-378 June '49

Magnetic sorting bridge. Philips Tech Comm No 1:7-8 '49

Maxwell bridge at low frequencies. Vinton A. Brown and B. P. Ramsay. Rev Sci Instr 20:236-239 Apr '49

Measurement of impedance, capacitance, inductance and frequency by the method of proportional currents. A. I. Furstenberg. Akad Nauk Izvest 51: 277-280 Feb 10, '46

New visual null indicator. E. H. W. Banner. Electronic Eng 21:248 July '49

Primary high-frequency voltage standard. Nat Bur Stand Tech Bul 33:43-44 Apr '49

Serviceman's RCL bridge. Cap 14:3-10 Nov '49

Simple bridges for RC measurements. (Semplici ponti di misura per RC) R. Zambrano. Elettronica 4:72-74 May '49. In Italian; with abstracts in French and English

Simplified measurement of L and k. V. A. Sheridan. Electronics 22:146+ Aug '49

Wide range capacitance-conductance bridge. Robert H. Cole and Paul M. Gross, jr. Rev Sci Instr 20:252-260 Apr '49

Patents

Electrical bridge measuring system, Andre Willem Storm, 2,490,167, 5 cl. Appl Oct 11, '45; granted Dec 6, '49

High-speed precision limit bridge arrangement and method, Arthur L. Rossoff, 2,474,692, 3 cl. Appl June 26, '45; granted June 28, '49

Unbalanced bridge compensation, Joseph Razek, 2,476,384, 1 cl. Appl May 3, '44; granted July 19, '49

See also

Capacitance, Measurements
Impedance, Measurements
Inductance, Measurements
Measurement & Meters

BROADCASTING (AM & FM)

AD HOC committee report. R. Lewis. Communications 29:6-9+ July '49

AM and FM broadcast station measurements. T. Downey. Electronics 22:89-93 July '49

American broadcasting. J. H. Battison. Brit IRE J 9:258-267 July '49

Broadcasting of orchestras. F. W. Alexander. BBC Quart 4:118-128 July '49

Broadcasting systems (synchronized) in upper Austria. German Industry Rep. JIOA 59 Brit Govt Pub

Broadcasting technique abroad. (Rundfunktechnik in Auslande) ETZ 70:49 Feb '49

Broadcasting techniques and economics. Engineering 168:483 Nov 4, '49

Case of the elusive blip. J. W. Essex. Radio-Electronics 21:35-36 Nov '49

European broadcast convention at Copenhagen. (Europaeische Rundfunktagung Kopenhagen 1948) Fernmeldetech 193-196 July '49. Also in Brit Govt Pub (7774) Sep 5, '48

Experimental ultra-high-frequency multiplex broadcasting system. A. G. Kandoian and A. M. Levine. IRE Proc 37:694-701 June '49

Financial and operating data relative to standard broadcast stations and networks, year ended Dec 31, '47. CC 1.35/a:F 49/947 U.S. Govt Printing Off

FM and shortwave broadcasts. (Ueber die Anwendbarkeit der Frequenzmodulation auf den Kurzwellenfunk) Griese. Fernmeldetech Zeit 141-146 May '49

FM at Beloit College. David Mason. FM-TV 9: 14+ May '49

German radio in 25 years. (25 Jahre deutsche Rundfunktechnik) Heilmann. Fernmeldetech Zeit 2:129-134 May '49

International high frequency broadcasting conference at Mexico City. Rev Telegr No 436:41-45 Jan '49. In Spanish

15 kc carrier program channel. G. H. Huber. Bell Lab Rec 17:251-254 July '49

KSBR presents new approach to FM broadcasting. Tele-Tech 8:32+ Feb '49

North American broadcasting. Robert H. Tanner. Wireless World 55:339-340 Sep '49

Placing microphone for orchestras. (Mikrofonophaengning og Cafe-Musikken) Radio Ekko 10: 182 Sep '47

Synchronized broadcasting systems in upper Austria. Principle of operation. German Industry Rep. JIOA 59 Brit Govt Pub

Telephone lines in broadcasting. Leigh L. Kimball. Radio-Electronics pt 1 20:36-37 Apr '49; pt 2 20: 42-43 May '49

Theoretical and real fidelity in broadcasting. H. A. D'Auria c. Rev Telegr pt 1 No 441:321-324+ June '49; pt 2 No 442:368-371+ July '49; pt 3 No 443: 427-429 Aug '49; pt 4 No 445:621-623 Oct '49; pt 5 No 446:667-668+ Nov '49. In Spanish

Transfer of broadcasting to very short wavelengths. (Rundfunkuebertragung auf ultrakurzen Wellen) Elektron Wiss und Tech 3:406-410 Oct '49

WMOR'S supersonic tone selects receivers. David B. Pivan. Radio & TV N 42:61+ Nov '49

25 years broadcasting in Austria. W. Fuchsel. Radio Tech 25:576-580 Oct '49

Patents

Synchronous frequency broadcasting, Raymond M. Wilmotte, 2,458,124, 11 cl. Appl Nov 14, '44; granted Jan 4, '49

BROADCASTING, Control Equipment

Adding an aural system to a studio modulation monitor. William J. Kiewel. Communications 29:16 Jan '49

Audio console controls sound. Richard H. Dorf. Radio-Electronics 20:34-35 Feb '49

Branching networks. H. Reed. Tele-Tech 8:43 Nov '49

Custom-built gain set. A. Kelley. Communications 29:8-9 Dec '49

Frequency modulation—equipment for remote pick-ups. Frederick T. Budelman FM-TV 9:13+ June '49

Lightweight field amplifier and microphone. Broadcast Eng J 16:8+ Mar '49

Monitoring rectifier for AM stations. Robert D. Lambert, jr. Communications 29:13 Mar '49

Remote broadcast-PA portable console. E. D. Full. Communications 29:10-11+ Oct '49

Signal-light relay unit. H. G. Eidson, jr. Communications 29:18-19 Oct '49

Simplified remote amplifier. W. Marsh. Communications 29:22+ Nov '49

Sound broadcasting systems. Electrician 143:1390 Oct 28, '49

System of remotely controlled program-circuit switching. J. A. Green and R. D. Essig. Communications 29:10-12+ July '49

"Time" on "tone" generating circuit. H. Rosenthal. Tele-Tech 8:59+ Sep '49

WMGM master control equipment design. M. E. Gunn. Audio Eng 33:24-28+ Mar '49

Patents

Sound system which compensates for variable noise levels, Frank A. Morris, 2,462,532, 7 cl. Appl June 13, '47; granted Feb 22, '49

BROADCASTING, Stations and Studios

Acoustics of D.R.P. broadcasting studios, Munich. German Industry Rep. BIOS 407 Brit Govt Pub

AM and FM broadcast station measurements. T. Downey. Electronics 22:89-93 July '49

Audio frequency installation of the Rome radio station of the "Radio Italiana." (Kmpianto bassa frequenza della sede di Roma della Radio Italiana) Giovan Battista Colli. Elettronica 4: 309-313 Nov '49. In Italian; with abstracts in French and English

Broadcasting station at Osnabrueck. (Der neue Rundfunksender Osnabrueck) Rehberg. Fernmeldetech Zeit 24-25 Jan '49

Broadcasting station on wheels. Radio & TV N 41:53 May '49

Broadcasting studio pickup technique. H. M. Guerin. Broadcast N No 53:58 Feb '49

Building to the acoustical optimum new Mutual-Don Lee broadcasting studios. W. W. Carruthers and D. P. Loye. Acoust Soc Am J 21:428-434 July '49

Building with a special purpose: radio station KAGH. Am Bld 70:105 Nov '49

CMQ—Havana's key station. Broadcast N No 53: 54+ Feb '49

Clues for broadcasters, practical ways of improving station operation and efficiency. Tele-Tech 8:34-35 Dec '49

Development of German broadcast stations during the war. (Die Entwicklung der deutschen Grossrundfunksenderanlagen waehrend des Kriegs) Wolf. Tech Mitt Schweiz pt 1 27:24-33 Feb '49; pt 2 27:85-94 Apr '49

Don Lee's new $3,000,000 studios. Walter W. Carruthers. Radio & TV N 41:35-37+ May '49

Economics in a sound broadcasting system. Engineer 188:636-640 Dec 2, '49

FM station design for one man operation. Max Alth. Communications 29:28-29 May '49

Hidden headaches in building a broadcast station. Tele-Tech 8:28-29+ July '49

Installation of WSJS-FM. William E. East. Communications 29:21+ Feb '49

KCRG-KRCK installation keynotes flexibility. K. M. Caldwell and R. D. Essig. Tele-Tech 8:28-31 Aug '49

KWKC, small FM radio station in Abilene, Texas. Arch Record 105:141 June '49

Mid-ocean radio stations. Radio-Electronics 21: 22-23 Dec '49

Mobile studio for WDTV. Willis I. McCord. FM-TV 9:20+ Mar '49

Moving studio equipment while on the air. F. E. Bartlett. Communications 29:18+ Jan '49

New developments in studio design in Europe. (Abstract) Leo L. Beranek. IRE Proc 37:163 Feb '49

New transmitter building erected for station WCC. Radio Age 8:19+ Jan '49

Putting a station on the air is often quite a job. Quintin V. Prochaska. Communications 29:6-7+ Jan '49

Radio and television buildings. Arch Record 105: 121-122 June '49

Recent developments in radio studio construction. (Ueber die neuere Entwicklung im Bau von Rundfunkstudioeinrichtungen) Radio Tech 25: 611-612 Oct '49

Reconstruction of the Berlin radio broadcasting station (formerly Berlin-Tegel). (Der Wiederaufbau des Rundfunfsenders Berlin ehem. Berlin-Tegel) Elektrotechnik 3:219 July '49

RV stations in the Alps. (RV-Stationen im Hochgebirge) Radio Tech 25:690-692 Dec '49

Studio control room design. Robert V. Kenney. Audio Eng 33:21-23+ Jan '49

Studio-transmitter links. (Radio enlace estudio-transmisor) F. Harris. Rev Telegr No 446:669-673 Nov '49

Super power FM (546 kw erp) at WBRC-FM. Communications 29:18+ Feb '49

WBRC-FM world's most powerful FM station. G. P. Hamann. Broadcast N No 53:26 Feb '49

WBZ radio and television center. Arch Record 105: 134-135 June '49

WGPA, 250 W AM—3 kw FM. Arthur McCracken. Broadcast N No 53:44 Feb '49

WHAM, the radio city of Rochester, N.Y. Arch Record 105:140 June '49

Where should an FM station be located in Vienna? (Wo soll ein FM-Sender in Wien Stehen?) Radio Tech 25:454-455 Aug '49

BROADCASTING, Stations and Studios–Cont'd.

WMPS Memphis' 10 kw AM. Broadcast N No 53: 46+ Feb '49

WTMJ-FM world's first "super-power" FM. Phillip B. Laeser. Broadcast N No 53:20 Feb '49

See also

Acoustics & Sound, Auditoriums, Rooms & Studios

BROADCASTING, Transmission

See Transmission & Transmitters, Broadcast

C

CABINETS, RADIO and TELEVISION

Admiral licks TV costs with big plastic molding. Business W. 78-80 May 14, '49

Design and construction of a custom cabinet. C. Stubbs. Service 18:32-36 June '49

Large size moldings for big production ideas. Bak Rev 21:3-7 July '49

New approach to TV cabinet design. RTJ 66:30 Aug '49

One-piece cabinet weighs 35 pounds. Mod Plastics 26:74-75 July '49

Phenolic television cabinet. Mod Plastics 26:74-75 Feb '49

Radio dial does vanishing act. Mod Plastics 26: 84-85 Aug '49

Patents

Combination television receiver and picture projector, Norman H. Young, jr., 2,474,297, 4 cl. Appl Jan 16, '46; granted June 28, '49

Image projection and viewing apparatus, Horace R. Jones and Edward W. Wilby, 2,476,494, 4 cl. Appl Feb 22, '45; granted July 19, '49

Loudspeaker cabinet with plural partitions forming labyrinth, James J. Wenzel, 2,476,572, 1 cl. Appl May 1, '46; granted July 19, '49

Portable radio cover, Louis Goldstein, 2,467,471, 2 cl. Appl Jan 13, '47; granted Apr 19, '49

Radio receiving set, Malcolm Hay, 2,471,569, 4 cl. Appl Feb 7, '46; granted May 31, '49

Sectional radio cabinet, Joseph J. Bauman, 2,468,-727, 14 cl. Appl June 14, '44; granted May 3, '49

Shield for radio receiver dial lamps, Frank Michael Shea, 2,488,244, 2 cl. Appl May 14, '49; granted Nov 15, '49

Television receiver cabinet and cathode-ray tube mounting, Vernon A. Kamin, 2,458,368, 9 cl. Appl Jan 10, '48; granted Jan 4, '49

Unitary closure and mask for cathode-ray tubes, Donald Jackson, 2,470,620, 2 cl. Appl Nov 15, '46; granted May 17, '49

CABLES

See Transmission Lines

CAPACITANCE and CAPACITORS

Application of semiconducting liquids in impregnating paper condensers. V. T. Renne. Zh Tekn Fiz 19:218-224 Feb '49. In Russian

Capacitance. J. T. Frye. Radio-Electronics pt 1 20:50 May '49; pt 2 20:44-45 July '49; pt 3 20:55-58 Aug '49. Also in Radio Times pt 1 4:14-15 Sep 1, '49; pt 2 4:14 Sep 16, '49; pt 3 4:14-15+ Oct 1, '49

Capacitive reactance chart for UHF. (Abaque de calcul de la capacitance aux frequences tres elevees) L. Liot. Electronique 37:14-17 Nov '49

Capacitor condensers, production. German Industry Rep. BIOS 60 Brit Govt Pub

Capacitor-discharge recorder applications. Ronald I. Ives. Electronics 22:104+ Feb '49

Capacitors and capacitance. F. A. Annett. Power 93:107-109+ Jan '49

Capacitors, ceramic developments, Lutz & Co. Lauf Pegnitz. German Industry Rep. CIOS XXIX-31 Brit Govt Pub

Capacitors, manufacture of metallized paper condensers. Robert Bosch. German Industry Rep. CIOS XXVII-44 Brit Govt Pub

Capacitors, metallized paper, production. German Industry Rep. CIOS XXXI-38 Brit Govt Pub

Ceramic capacitors. W. G. Roberts. Brit IRE J 9: 184-199 May '49

Ceramic capacitors. Service 18:44+ Mar '49

Ceramic transmitter capacitors. A. J. Bauer. Electronics 22:97+ Mar '49

Choosing capacitors. Kathleen A. Gough. Wireless World 55:S5-S8 June '49

Choosing capacitors properties and uses of various types. K. A. Gough. Radio Times 4:10-12 July 16, '49

Climatisation of the electrolytic condenser. H. E. Miquelis. Radio Tech Dig 3:77-82 Apr '49. In French

Compensated cylindrical capacitor. (Kondensator aus Zylindern mit verschiedenen Waermeausdehnungskoeffizientenzur Compensation der Abhaengigkeit der Kapazitaet von der Temperatur) Rohrmann. Funk und Ton 3:230-233 Apr '49

Condensers in combination with magnetic coils. A. Buckley. Intl Proj 24:23-24+ Feb '49

Coupling capacitors can be troublemakers. John T. Bailey. Radio-Electronics 20:43 May '49

Development, design, and construction of electrical condensers. William Dubilier. Franklin Inst J 248:193-204 Sep '49

Easy calculation of variable condensers. (Facil calculo de los condensadores variables) Fidelco Tec Bol 1:16-17 Apr '49

Electrolytic capacitors dry out! (Elektrolytblokke torrer ud!) Radio Ekko 11:92+ May '48

Fundamentals of Radio Servicing; capacitance. John T. Frye. Radio-Electronics 20:50-51 May '49

Impregnants used in German paper capacitors. German Industry Rep. BIOS 893 Brit Govt Pub

Manufacture of metallized paper capacitor units. German Industry Rep. CIOS XXVII-44 Brit Govt Pub

Metallized paper capacitors. German Industry Rep. BIOS 226 Brit Govt Pub

Metallized paper capacitors. Wireless World 55: S10-S12 Dec '49

Metallizing paper for capacitors. H. G. Wehe. Bell Lab Rec 17:317-321 Sep '49

CAPACITANCE and CAPACITORS–Cont'd.

Multiple components. Wireless World 55:S15 June '49

New applications of a four-terminal capacitor. (Abstract) Adriano A. Pascucci. IRE Proc 37:167 Feb '49

New research on condensers. V. T. Renne. SDLC reel 0037, No 475,622:77. In Russian

New use for blocking condenser. (En Spareblok i en ny Anvendelse) Radio Ekko 11:96 May '48

Non-linear capacitor. (Der nichtlineare Kondensator) Funk und Ton 3:543-546 Sep '49

Plastic film capacitors. J. H. Cozens. Wireless World 55:S11 June '49

Reducing the effect of capacitance in screened cable. V. H. Atree. Electronic Eng 21:100 Mar '49. Corresp. D. G. Lampard and D. W. Lampard. 21:351-352 Sep '49

Resistors and fixed capacitors produced in Germany. German Industry Rep. BIOS 567 Brit Govt Pub

Rotating condenser for synchro-cyclotron. Martyn Foss. Carnegie Inst. of Tech Synchro-Cyclotron Tech Rep No 5 NP 1101 13 pp Aug 30, '49. AEC

Silvered mica and ceramic capacitors. W. G. Roberts. Radio Times pt 1 4:11+ June 16, '49; pt 2 4:9+ July 1, '49; pt 3 4:9+ Aug 1, '49

Styroflex dielectric capacitors. German Industry Rep. FIAT 911 Brit Govt Pub

Transmitter condensers types RKBS/100, RKBS/50. (Torotor Sender-Kondensatorer Type RKBS/100, RKBS/50) Radio Ekko 11:200-201 Oct '48

Voltage stabilization by means of barium titanate capacitors. G. I. Skanavi and M. D. Neuman. Eng Digest 10:427-429 Dec '49

When you apply capacitors to induction motors. Z. Neri. Factory Management 107:110-112 Mar '49

Wide-range variable capacitor. , G. W. Bowdler. Jour Sci Instr 26:117+ Apr '49

Patents

Capacitor, George T. Kodama and George M. Ehlers, 2,475,144, 13 cl. Appl May 31, '46; granted July 5, '49

Capacitor with grounded plates mounted on cooling pipes, Herman C. Dustman, 2,486,131, 1 cl. Appl Dec 21, '45; granted Oct 25, '49

Condenser charging system, Hans Klemperer, 2,464,-238, 10 cl. Appl Aug 6, '45; granted Mar 15, '49

Condenser construction, John J. Nagy, 2,470,045, 1 cl. Appl Nov 7, '45; granted May 10, '49

Dynamic condenser, Harry Palevsky and Robert K. Swank, 2,483,981, 10 cl. Appl Sep 20, '46; granted Oct 4, '49

Electric capacitor, Frank M. Clark and Goldner F. Lipsey, 2,486,116, 7 cl. Appl Oct 5, '45; granted Oct 25, '49

Electric capacitor and dielectric material therefor, Frank M. Clark, 2,475,592, 6 cl. Appl Oct 17, '46; granted July 12, '49

Electric condenser, Joseph T. Osterman, 2,485,913, 3 cl. Appl Feb 2, '45; granted Oct 25, '49

Electrical capacitor and method of making it, Richard J. Roush, 2,476,455, 3 cl. Appl Nov 16, '45; granted July 19, '49

Electrical condenser, Claude Langdon Richards, 2,460,534, 4 cl. Appl Nov 16, '44; granted Feb 1, '49

Electrical variable capacitance device with auxiliary, Surrius Rector Montcalm, 2,478,120, 3 cl. Appl Feb 7, '45; granted Aug 2, '49

Fixed capacitor, William McMahon, 2,470,826, 5 cl. Appl Nov 6, '47; granted May 24, '49

Heat-resisting capacitor, Frank M. Clark, 2,473,242, 4 cl. Appl Apr 26, '45; granted June 14, '49

High-frequency capacitor, Charles V. Fields, 2,462,-173, 9 cl. Appl June 19, '47; granted Feb 22, '49

High-frequency electric capacitor, Frank M. Clark, 2,475,310, 2 cl. Appl Sep 1, '44; granted July 5, '49

Inverter, Hans Klemperer, 2,462,872, 6 cl. Appl Feb 27, '46; granted Mar 1, '49

Manufacture of electrical apparatus, Lawson Egerton, 2,463,756, 9 cl. Appl Mar 22, '44; granted Mar 8, '49

Manufacture of electrical condensers, Richard Alfred Grouse and Frederick Leonard George Bettridge, 2,463,765, 6 cl. Appl Nov 6, '44; granted Mar 8, '49

Method for making capacitors, Felix Weiss, 2,464,-627, 6 cl. Orig appl Aug 2, '40; divided and this appl June 30, '44; granted Mar 15, '49

Method of producing electrical condensers, Philip Dubilier and Jacob Katzman, 2,478,754, 2 cl. Appl Nov 13, '44; granted Aug 9, '49

Mixer tracking capacitor, Leon J. Lader, 2,488,545, 4 cl. Appl Feb 1, '46; granted Nov 22, '49

Parallel plate capacitor, John F. Byrne, 2,473,240, 1 cl. Appl Oct 1, '46; granted June 14, '49

Protection of parallel-connected condensers, James M. Wallace, and James B. Owens, 2,488,454, 3 cl. Appl May 10, '46; granted Nov 15, '49

Radio-frequency bypass capacitor, Irvin Isadore Grasheim, 2,492,742, 2 cl. Appl Apr 13, '46; granted Dec 27, '49

Split stator, Grover F. Behringer, 2,474,646, 1 cl. Appl May 30, '44; granted June 28, '49

Trimmer capacitor, Donald B. Keim, 2,464,582, 3 cl. Appl Mar 30, '48; granted Mar 15, '49

Trimmer condenser, Jan Dirk Repko, 2,476,385, 3 cl. Appl Apr 15, '46; granted July 19, '49

Variable condenser, Willard M. Towle, 2,476,930, 3 cl. Appl Aug 19, '46; granted July 19, '49

Variable condenser with trimmer, Surrius Rector Montcalm, 2,458,187, 2 cl. Appl Jan 25, '45; granted Jan 4, '49

Variable electronic capacitance device, Edouard Labin and Andres Levialdi, 2,463,632, 3 cl. Appl Aug 11, '44; granted Mar 8, '49

Variable reactor, Otto H. Schmitt, 2,471,705, 6 cl. Appl Aug 13, '46; granted May 31, '49

CAPACITANCE and CAPACITORS, Measurements

Accurate determination of the absolute capacity of condensers. J. Clay. Physica 15:484-488 July '49

Capacitance bridges. William R. Wellman. Radio Ser Deal 10:13-15 Aug '49

Capacitance measurement bridge with mechanical rectifier and mirror galvanometer. Elimination of harmonic errors. (Kapacitaet smessbruecke mit mechanischem Gleichrichter und Spiegelgalvanometer. Ausschaltung der Fehler durch Oberwellen) Koppelmann. Frequenz 3:259-264 Sep '49

CAPACITANCE and CAPACITORS, Meas.–Cont'd.

Capacitance measurement with an AC voltmeter. I. Soudek. Electronic Eng 21:416 Nov '49

Design factors in a capacity bridge of high accuracy. C. A. Parry. Comm Rev 1:27-41 Sep '48

Direct voltage performance test for capacitor paper. H. A. Sauer and D. A. McLean. IRE Proc 37: 927-931 Aug '49

Equipment to measure the temperature coefficient of capacity. Jan '49 PB 97203

Improved RF capacitometer. (Abstract) E. F. Travis and T. M. Wilson. IRE Proc 37:174 Feb '49

Infrared checks capacitor leakage. Vin Zeluff. Electronics 22:159+ Apr '49

Measurement of the apparent capacitance and the loss angle of electrolytic capacitance by the three-ammeter method. V. Aschoff. Arch Elek 39: 414-419 Apr '49

Measurements on electrolytic capacitors. (Die Messung der Scheinkapazitaet und des Verlustwinkels von Elektrolytkondensatoren mit Hilfe der Dreistrommessermethods) Aschoff. Arch Elek 39:414-419 Apr '49

Method of measurement of the internal series resistance of a capacitor under surge conditions. Ben. S. Melton. IRE Proc 37:690-693 June '49

Servicing helps, capacitor checker design and application. P. M. Randolph. Service 18:25+ Apr '49

Simple bridges for RC measurements. (Semplici ponti di misura per RC) R. Zambrano. Elettronica 4:72-74 May '49

Simple measuring instrument for electrolytic capacitors. (Ein einfaches Geraet zur Messung der Kapazitaet von Elektrolytkondensatoren) Schmitz. Funk und Ton 3:311-314 June '49

Standard of small capacitance. Chester Snow. Nat Bur Stand Res J 42:287-308 Mar '49

Standards for low values of direct capacitance. Charles Moon and C. M. Sparks. RP 1935 GPO Nat Bur Stand

Two capacitor testers. R. L. Parmenter. Radio-Electronics 20:44-45 Feb '49

See also

Bridges

CATHODES

See Vacuum Tubes, Cathodes

CATHODE FOLLOWERS

Cathode follower. (Katodenkobling) Radio Ekko 9:107-109 May '46

Cathode-follower bandwidth. Melvin B. Kline. Electronics 22:114+ June '49

Cathode follower for the VFO. J. Hum. Short Wave Mag 7:376-377 July '49

Cathode follower matches audio line. Leon G. Wilde. Radio & TV N 42:44 Dec '49

Developments in cathode followers. C. J. LeBel. Audio Eng 33:11-13 Aug '49

Graphical and analytical study of cathode follower problems. (Studio grafice e analitico dei problemi relativi al trasferitore catodico) S. Malatesta. Alta Frequenza 18:134-147 July-Aug '49. With abstracts in French, English and German

Input impedance of cathode followers. (L'admission dans les amplificateurs a charge cathodiques) W. Mazel. Toute la Radio No 134:107-109 Mar-Apr '49

Practical cathode follower audio amplifier. W. E. Gilson and Russell Pavlat. Audio Eng 33:9-10+ May '49

Some aspects of cathode follower design at radio frequencies. F. D. Clapp. IRE Proc 37:932-937 Aug '49

Transient response of cathode followers in video circuits. B. Y. Mills. IRE Proc 37:631-633 June '49

Use of tube characteristics in cathode follower design. E. M. Mall. Tele-Tech 8:44+ Apr '49

CATHODE-RAY TUBES

Cathode-ray tube and typical applications. Allen B. DuMont Labs. IRE Proc 36:1269 Oct '48

Cathode-ray-tube applications in photography and optics. C. Berkley and R. Feldt. Soc Motion Picture Eng J 53:64-85 July '49

Cathode ray tube; construction of, tests on, shock tests. German Industry Rep. BIOS 501 Brit Govt Pub

Cathode ray tubes for radar and television. German Industry Rep. CIOS XXXII-95 Brit Govt Pub

Cathode ray tubes may become indispensable to analyst. R. H. Muller. Anal Chem 21:17A-18A July '49

Cathode ray tubes, research and developments. German Industry Rep. CIOS XXI-37 Brit Govt Pub

C. R. limitations. (Letter) E. W. Royston. Wireless World 55:501 Dec '49

Design and application features of 3RPI three-inch CRT. L. M. Allen. Service 18:34+ Sep '49

Glass face place can take 415-ton pressure. Product Eng 20:172 June '49

High-power cathode-ray tubes. Hilary Moss. Wireless Eng 26:293-296 Sep '49

Improvements in CR tubes. (Un perfectionnement des tubes a rayons cathodiques) Electronique 36: 8-10 Oct '49

Large diameter cathode-ray tubes. Telev Franc No 47:8-9+ May '49. In French

Letter-printing CR tube. John Markus. Electronics 22:160 June '49

Maintenance instructions for the LO39 portable transmitter; and principles of cathode ray tubes (Air Force manual). PB 92660

Manufacture of CR tubes. (Fabrication des tubes d'oscillographes) A. Leborgne. Electronique 34: 15-16 Aug '49

Messages printed by cathode-ray-tube. Radio-Electronics 20:87 Dec '49

New cathode ray tubes. (Neuartige Katodenstrahlroehren) Felgel-Farnholz. Funk und Ton 3:107-111 Feb '49

Polar vector indicator. E. A. Walker and others. Elec Eng 68:489 June '49

Replacing 10BP4 tubes with aluminum-backed 10FP4. Matthew Mandl. Radio & TV N 42:60 Aug '49

CATHODE-RAY TUBES–Cont'd.

Telefunken cathode ray tube laboratories and leuchtstoffe phosphor manufacture. German Industry Rep. CIOS XXXII-95 Brit Govt Pub

Tube engineering news. K. A. Hoagland. Communications 29:12 May '49

Patents

Cathode beam tube, Lee de Forest, 2,457,981, 3 cl. Appl Nov 24, '44; granted Jan 4, '49

Cathode-ray device, Hugh S. Wertz, 2,481,458, 6 cl. Appl Oct 12, '43; granted Sep 6, '49

Cathode-ray oscillographic apparatus, Edward H. Higham, 2,483,140, 4 cl. Appl Nov 2, '48; granted Sep 27, '49

Cathode-ray tube, Arthur Henry Ashford Wynn and Ronald Alfred Hill, 2,473,320, 8 cl. Appl Mar 7, '47; granted June 14, '49

Cathode-ray tube, Constantin S. Szegho, 2,460,608, 14 cl. Appl Jan 12, '45; granted Feb 1, '49

Cathode-ray tube, Edward Eric Shelton, 2,458,962, 8 cl. Appl Feb 12, '46; granted Jan 11, '49

Cathode-ray tube, Gordon Burroughs, 2,485,561, 2 cl. Appl Mar 29, '46; granted Oct 25, '49

Cathode-ray tube, Johannes de Gier and Josephus Antonius Maria Smelt, 2,477,329, 8 cl. Appl July 17, '48; granted July 26, '49

Cathode-ray tube, Leonard Albert, 2,472,766, 5 cl. Appl Dec 21, '45; granted June 7, '49

Cathode-ray tube, Rudolf Feldt and Irving Edmund Lempert, 2,483,457, 3 cl. Appl Apr 5, '45; granted Oct 4, '49

Cathode-ray tube amplifier, Paul J. Selgin, 2,472,779, 3 cl. Appl Feb 17, '47; granted June 7, '49

Cathode-ray tube signal comparator, David E. Sunstein, 2,480,978, 6 cl. Appl Feb 26, '47; granted Sep 6, '49

Discharge tube, Gesinus Diemer, 2,464,562, 3 cl. Appl Nov 22, '46; granted Mar 15, '49

Electrode gun such as is used in cathode-ray tubes, Hilary Moss, 2,484,721, 8 cl. Appl Jan 26, '48; granted Oct 11, '49

Electron beam control apparatus, Elmer D. Goodale and Otto H. Schade, 2,490,731, 12 cl. Appl Feb 19, '47; granted Dec 6, '49

Electron gun structure, Hilary Moss, 2,476,060, 9 cl. Appl Mar 7, '46; granted July 12, '49

Electron-ray tube, Johannes de Gier, 2,464,076, 2 cl. Appl July 8, '46; granted Mar 8, '49

Electrooptical projection apparatus, Reynolds D. Brown, jr., 2,467,462, 3 cl. Appl Oct 22, '47; granted Apr 19, '49

Focusing arrangement for cathode-ray tubes, Richard B. Gethmann, 2,483,133, 3 cl. Appl Feb 13, '48; granted Sep 27, '49

Focusing electrode, Warren G. Taylor, 2,468,136, 3 cl. Appl Oct 3, '45; granted Apr 26, '49

Image receiving cathodic tube, Rene Barthelemy, 2,479,458, 2 cl. Appl Mar 1, '46; granted Aug 16, '49

Image tube, Frederick H. Nicoll, 2,490,740, 3 cl. Appl Sep 6, '46; granted Dec 6, '49

Indicating cathode-ray tube, Henri G. Busignies, 2,459,790, 6 cl. Appl Sep 5, '45; granted Jan 25, '49

Indicating device, Donald W. Peterson, 2,458,634, 7 cl. Appl Apr 16, '47; granted Jan 11, '49

Indicating tube system, Henri G. Busignies, 2,471,409, 4 cl. Appl Sep 13, '45; granted May 31, '49

Method of and apparatus for compensating for residual magnetization in cathode-ray apparatus, Francis T. Coughlin, 2,485,569, 1 cl. Appl Mar 15, '45; granted Oct 25, '49

Oscillographic method of and system for spectrographic analysis, Gerhard H. Dieke, 2,480,636, 13 cl. Appl Feb 18, '47; granted Aug 30, '49

Power conservation system, Charles Edward Torsch, 2,477,557, 9 cl. Appl Aug 11, '45; granted July 26, '49

Supporting device for cathode-ray tubes, Donald B. Keim, 2,471,154, 3 cl. Appl May 21, '48; granted May 24, '49

Time base circuit for cathode-ray tubes, Roy Hilton, 2,476,978, 8 cl. Appl Feb 19, '45; granted July 26, '49

See also

Oscilloscopes & Oscillographs

Television

Built-in picture tube filter. V. Zeluff. Electronics 22:122 Oct '49

Cathode-ray tube in TV receivers. (Il tubo catodico nei ricevitori televisivi) M. S. Kiver. Tel Ital 1:59-60 Oct '49

Cathode-ray tubes for television. Hilary Moss. Wireless World pt 1 55:202-205 June '49; pt 2 55: 261-263 July '49

Design factors, processes, and materials for the envelope of a metal kinescope. (Abstract) R. D. Faulkner and C. J. Turnbull. IRE Proc 37:171 Feb '49

Electronic image tube. (Der Elektronenspiegel-Bildwandler) Elektron Wiss und Tech 3:152-155 Apr '49

Increased contrast with new picture tubes. Tele-Tech 8:60+ Sep '49

Krawinkel image-storing cathode ray tube. German Industry Rep. FIAT 1027 Brit Govt Pub

Measurement method for picture tubes. M. W. Baldwin. Electronics 22:104-105 Nov '49

Metal TV picture tube. (Fernseh-Bildroehre mit Metallkolben) Tetzner. Funk und Ton 3:454-459 Aug '49

Metal-wall picture tube. John Markus. Electronics 22:170+ Apr '49

Minimizing internal reflections in TV tube. Tele-Tech 8:39+ July '49

New short 16-inch picture tube. Standardization 9: 9 Oct '49

Picture storage tube. L. Pensak. Electronics 22: 84-88 July '49

Picture tube damage. Sylvan N 16:4 Apr '49

Praises 16-inch metal kinescope. Radio Age 8:8+ Apr '49

Progress in the construction of metal CR tubes. (Progres de la construction des tubes cathodiques metalliques) Telev Franc 54:25-26 Dec '49

RCA 16" metal picture-tube receiver. Service 18:16 July '49

Television CR Tubes. Milton S. Kiver. Radio-Electronics 20:46-47 Mar '49

C-R TUBES, Television–Cont'd.

Television tube with image projection. (Eine Fernsehroehre mit Bildprojektion) Funk und Ton 3: 415-416 July '49

Television tubes are not dangerous if properly handled. Sylvan N 16:4 Apr '49

Tube news. L. M. Allen. Service 18:19+ Dec '49

TV screen offers greater contrast. U. A. Sanabria. Radio & TV N 42:37+ July '49

What's new in picture tubes? Isidor I. Gross. Radio Maint 5:14-15+ Oct '49

Patents

Cathode-ray tube focusing circuit, Homer G. Boyle, 2,458,891, 6 cl. Appl Jan 11, '47; granted Jan 11, '49

Electrical system, William E. Bradley, 2,459,732, 15 cl. Appl Mar 26, '46; granted Jan 18, '49

Electron discharge device, George Hecht, 2,463,535, 20 cl. Appl Dec 13, '46; granted Mar 8, '49

Semitransparent reflecting filter for cathode-ray tubes, Joseph Kaplan, Michael L. Kaplan and Samuel Williams, 2,492,224, 3 cl. Appl Mar 9, '48; granted Dec 27, '49

Storage type cathode-ray tube, Richard L. Snyder, jr., 2,464,420, 10 cl. Appl Dec 31, '43; granted Mar 15, '49

Television receiving tube with storage properties, George C. Sziklai, 2,462,569, 4 cl. Appl Sep 11, '46; granted Feb 22, '49

See also

Servicing, Television, Cathode-Ray Tubes
Television, Cameras & Pickup Equipment

CATHODE-RAY TUBES, Circuits

Miller transitron-integrator. R. Lemas. Telev Franc No 51:7-9 Sep '49. In French

Positioning and astigmatism controls for C-R tubes. Albert H. Taylor. Radio & TV N 41:13+ Apr '49

Projective three dimensional displays. D. M. MacKay. Electronic Eng pt 1 21:249-254 July '49; pt 2 21:281-286 Aug '49

Patents

Apparatus for adjusting capacitor potential devices, Ferber R. Schleif, 2,480,881, 1 cl. Appl Feb 6, '46; granted Sep 6, '49

Automatic focus control for cathode-ray tubes, Arthur H. Mankin, 2,472,165, 13 cl. Appl Apr 29, '47; granted June 7, '49

Beam deflection control for cathode-ray devices, Antony Wright, 2,460,112, 16 cl. Appl Sep 26, '46; granted Jan 25, '49

Cathode-ray beam deflection system, Earl H. Schoenfeld and William Milwitt, 2,487,602, 8 cl. Appl May 28, '47; granted Nov 8, '49

Cathode-ray circuit, William M. Hall, 2,472,209, 10 cl. Appl Sep 6, '44; granted June 7, '49

Cathode-ray indicator system, Humboldt W. Leverenz, 2,468,452, 12 cl. Appl Mar 29, '46; granted Apr 26, '49

Cathode-ray tube circuits, Arthur Henry Ashford, 2,492,674, 4 cl. Appl Dec 14, '46; granted Dec 27, '49

Centering means for cathode-ray deflecting circuits, Paul F. G. Holst and Loren Robert Kirkwood, 2,487,550, 3 cl. Appl Oct 28, '44; granted Nov 8, '49

Circuit arrangement for deflecting the cathode-ray beams in cathode-ray tubes, Adrianus Johannes Wilhelmus Marie van Overbeek, 2,488,452, 8 cl. Appl Nov 25, '47; granted Nov 15, '49

Deflection circuit, Robert C. Eddy, 2,488,386, 6 cl. Appl Mar 24, '47; granted Nov 15, '49

Deflection circuit for cathode-ray tubes, Kurt Schlesinger, 2,459,187, 28 cl. Appl Oct 1, '46; granted Jan 18, '49

Deviation correction for cathode-ray beams, Allen C. Munster, 2,457,911, 8 cl. Appl Nov 23, '46; granted Jan 4, '49

Deviation correction for cathode-ray beams, Allen C. Munster, 2,458,291, 8 cl. Appl Nov 23, '46; granted Jan 4, '49

Electrical system, David E. Sunstein, 2,461,667, 23 cl. Appl Oct 3, '46; granted Feb 15, '49

High-voltage generator, George C. Sziklai, 2,490,743, 9 cl. Appl Apr 10, '48; granted Dec 6, '49

Radial beam tube assembly, Paul M. Erlandson, 2,476,966, 13 cl. Appl Oct 25, '45; granted July 26, '49

Split channel direct-current insertion network, Alda V. Bedford, 2,463,735, 3 cl. Appl Mar 17, '45; granted Mar 8, '49

Stabilization of cathode beam tubes, Larned A. Meacham, 2,473,691, 13 cl. Appl Aug 5, '47; granted June 21, '49

Translating system, Maurice Arditi and Irwin H. Franzel and Joseph Feinstein, 2,474,811, 15 cl. Appl Oct 5, '46; granted July 5, '49

Translator, Maurice Arditi and Irwin H. Franzel and Joseph Feinstein, 2,492,346, 12 cl. Appl Oct 5, '46; granted Dec 27, '49

See also

Time Base Circuits

CATHODE-RAY TUBES, Electrostatic Deflection

Cathode-ray tubes with post-deflection acceleration. W. G. White. Electronic Eng 21:75-79 Mar '49

Dynamic focus for electrostatic CRT. W. F. Schreiber. Sylvan Tech 2:16-18 Apr '49

Patents

Astatic cathode-ray tube, Paul J. Selgin, 2,459,724, 7 cl. Appl Nov 27, '46; granted Jan 18, '49

Automatic positioning circuit for cathode-ray tubes, William Todd, 2,464,274, 4 cl. Appl Apr 15, '46; granted Mar 15, '49

Cathode-ray deflection circuit, George D. Hulst, jr., 2,463,969, 9 cl. Appl Mar 17, '45; granted Mar 8, '49

Deflection modulation tube, Paul J. Selgin, 2,489,329, 7 cl. Appl Jan 20, '47; granted Nov 29, '49

Electron beam influencing apparatus, Otto H. Schade, 2,463,720, 11 cl. Appl Feb 19, '47; granted Mar 8, '49

High frequency generator, Angelo Montani, 2,463,-710, 3 cl. Appl Sep 24, '45; granted Mar 8, '49

Multiple deflection cathode-ray tube, Paul J. Selgin, 2,489,331, 12 cl. Appl Feb 1, '47; granted Nov 29, '49

:-R TUBES, Electrostatic Deflect., *Patents*–Cont'd.

Neutralized cathode-ray deflection tube, Paul J. Selgin, 2,489,330, 12 cl. Appl Jan 20, '47; granted Nov 29, '49

Oscillograph circuit to modulate a signal, Meyer Maron, 2,484,107, 3 cl. Appl Sep 21, '46; granted Oct 11, '49

Voltage control system for cathode-ray tubes, Alfred W. Comins, 2,473,330, 4 cl. Appl May 28, '47; granted June 14, '49

See also

Electron Optics, Electrostatic Focusing
Time Base Circuits

CATHODE-RAY TUBES, Magnetic Deflection

Anastigmatic yoke for television deflection. (Abstract) Kurt Schlesinger. IRE Proc 37:172 Feb '49

Magnetic-deflection circuits for cathode-ray tubes. O. H. Schade. RCA Rev 8:506-538 Sep '47

Patents

Cathode-ray beam deflecting circuit, Otto H. Schade, 2,466,784, 10 cl. Appl Jan 13, '45; granted Apr 12, '49

Cathode-ray beam deflection circuit, Gordon F. Rogers, 2,469,895, 4 cl. Appl Feb 12, '47; granted May 10, '49

Cathode-ray tube circuit, Kurt Schlesinger, 2,458,532, 11 cl. Appl Aug 7, '46; granted Jan 11, '49

Cathode-ray tube deflecting system, Donald Leopold Plaistowe and Roger Prowse Shipway, 2,469,051, 6 cl. Appl May 11, '48; granted May 3, '49

Cathode-ray tube deflecting system, Otto H. Schade, 2,460,601, 4 cl. Appl Jan 18, '45; granted Feb 1, '49

Circuit arrangement for generating a sawtooth-shaped current in a coil, Bernardus Willem van Ingen Schenau, 2,476,164, 3 cl. Appl Mar 26, '48; granted July 12, '49

Circuit arrangement for producing a saw-tooth current in the deflection coil of a cathode-ray tube and for producing a direct voltage for this tube, Johan Haantjes and Bernardus Willem van Ingen Schenau, 2,474,666, 1 cl. Appl Mar 26, '48; granted June 28, '49

Circuit for stabilizing focus of magnetically focused cathode-ray tubes, Lynn J. Ulman, 2,459,602, 3 cl. Appl Dec 24, '46; granted Jan 18, '49

Control circuit, Hubert Rice Shaw, 2,460,540, 9 cl. Appl Feb 26, '46; granted Feb 1, '49

Deflection circuit, Menno Wolf, 2,473,983, 3 cl. Appl Mar 24, '43; granted June 21, '49

Deflection circuits, Waldemar J. Poch, 2,479,081, 4 cl. Appl Sep 7, '44; granted Aug 16, '49

Device for converting a saw-tooth-shaped voltage of a comparatively low frequency into a saw-tooth-shaped current, Johan Haantjes, 2,459,278, 3 cl. Appl July 16, '46; granted Jan 18, '49

Electromagnetic deflection generator, George C. Sziklai, 2,478,606, 12 cl. Appl Mar 14, '45; granted Aug 9, '49

Electron beam deflection control system, Charles Edward Torsch, 2,470,197, 7 cl. Appl Sep 25, '46; granted May 17, '49

Power recovery circuit for cathode-ray apparatus deflection systems, Albert W. Friend, 2,474,474, 7 cl. Appl Feb 25, '47; granted June 28, '49

Power recovery system, Edwin L. Clark, 2,478,744, 10 cl. Appl Dec 26, '46; granted Aug 9, '49

Sawtooth current linearizing system, Carlo V. Bocciarelli, 2,482,150, 6 cl. Appl June 2, '48; granted Sep 20, '49

See also

Electron Optics, Magnetic Focusing
Time Base Circuits

CATHODE-RAY TUBES, Screens

Asymptotic behavior of spontaneous and forced decay. F. Urbach and others. Opt Soc Am J 39:675-680 Aug '49

Binders for fluorescent screens. (Letter) Electronic Eng 21:431 Nov '49

Bismuth as activator in fluorescent solids. F. A. Kr...ger and others. Electrochem Soc J 95:132-141 Sep '49

Cathode ray tubes, phosphors for. German Industry Rep. CIOS XXXII-95 Brit Govt Pub

Correlation between cathodoluminescence efficiency and decay as a function of temperature. R. H. Bube. Opt Soc Am J 39:681-684 Aug '49

Decay of cathodophosphors. A. V. Moskvin. Akad Nauk Izvest 13:129-134 Jan-Feb '49. In Russian

Dependence of the luminescence intensity of ZnO and ZnS:Zn on the intensity of excitation. F. I. Vergunas and F. F. Gavrilov. Zh Eksp Teor Fiz 18:873-877 Oct '48. In Russian

Decay of the luminescence of colored alkali halide crystals. M. L. Kats. Zh Eksp Teor Fiz 18:944-950 Oct '48. In Russian

Dependence of the luminescence yield of crystal phosphor on the wavelength of the exciting light. M. N. Alentsev. Akad Nauk Dok 64:479-482 Apr '49. In Russian

Dielectric changes in phosphors containing more than one activator. G. F. J. Garlick and A. F. Gibson. Phys Soc Proc section A 62:731-736 Nov '49

Electron traps and infrared stimulation of phosphors. G. F. J. Garlick and D. E. Mason. Electrochem Soc J 95:90-113 Aug '49

Further remarks on a new method for the application of luminescent screens to glass surfaces. W. H. Kohl. Electrochem Soc J 96:123-131 Sep '49

Growth of the luminescence of ZnS:Cu, Co. E. S. Krylova. Akad Nauk Dok 64:495-498 Apr '49

Influence of fluxes on the cathodoluminescence of zinc sulfide phosphors. A. L. Smith. Electrochem Soc J 96:75-84 Aug '49

Influence of temperature on the efficiencies of zinc sulfide phosphors containing silver and cobalt. C. G. Hill and H. A. Klasens. Electrochem Soc J 96:275-286 Nov '49

Influence of temperature on the spectral energy distribution of some luminescent solids. Chr. C. Vlam. Physica 15:609-621 Aug '49

Intrinsic efficiency of the cathodoluminescence process. R. L. Longini. Opt Soc Am J 39: 877-887 Oct '49

C-R TUBES, Screens–Cont'd.

Luminescence and conduction in solid solutions of cerium sulfide in strontium sulfide. E. Banks and R. Ward. Electrochem Soc J 96:297-303 Nov '49

Luminescence characteristics of tin activated zinc sulphide phosphors. G. F. J. Garlick and D. E. Mason. Phys Soc Proc section A 62:817-822 Dec '49

Luminescence of NaCl-Ni, NaCl-Cu, and NaCl-Ag phosphors excited with X-rays. I. A. Parfianovich. Zh Eksp Teor Fiz 19:605-614 July '49. In Russian

Luminescence of photo-conducting phosphors. G. F. J. Garlick and A. F. Gibson. Opt Soc Am J 39:935-941 Nov '49

Luminescence of zinc sulfide activated by lead. N. W. Smit and F. A. Kroeger. Opt Soc Am J 39:661-663 Aug '49

Luminescent screens for cathode-ray oscillography. R. Feldt. Oscillographer 11:3-11 Apr-June '49

Manganese-activated zinc beryllium germanate phosphors. J. S. Schulman and others. Electrochem Soc J 96:57-74 Aug '49

Measurement of the absolute yield of luminescence of powderlike phosphors. V. V. Antonov-Romanovski and M. I. Epshtein. Akad Nauk Dok 64: 483-486 Apr '49. In Russian

New method for the application of luminescent screens to glass surfaces. W. H. Kohl. Electrochem Soc J 96:123-131 Sep '49

New method of studying the process of excitation and decay of luminescence. N. A. Tolstoi and P. P. Feofilov. Akad Nauk Izvest 13:211-217 Mar-Apr '49. In Russian

New observations on superlinear luminescence. N. R. Nail and others. Opt Soc Am J 39:690-694 Aug '49

New zinc sulfide phosphors activated by phosphors. A. H. McKeag and P. W. Ranby. Electrochem Soc J 96:85-89 Aug '49

Optical properties of calcium silicate phosphors. F. J. Studer and G. R. Fonda. Opt Soc Am J 39: 655-660 Aug '49

Phosphorescence decay of halophosphates and other doubly activated phosphors. F. J. Studer and A. Rosenbaum. Opt Soc Am J 39:685-689 Aug '49

Phosphorescent response to sinusoidal excitation. D. T. Wilber. Opt Soc Am J 39:673-674 Aug '49

Phosphors and phosphorescence. G. F. J. Garlick. Phys Progr Rep 12:34-53 '49

Physics of cathode ray tube screens. G. F. J. Garlick. Electronic Eng 21:287-291 Aug '49

Polarized luminescence. P. P. Feofilov. Uspekhi Fiz Nauk 36:417-455 Dec '48. In Russian

Preparation and characteristics of solid luminescent materials. (Abstract) G. R. Fonda and F. Seitz. Am Cer Soc J 32:121 Apr '49

Preparation of luminescent screens. M. Sadowsky. Electrochem Soc J 95:112-128 Mar '49

Proof of the associated-pair theory for sensitized luminophors. F. A. Kroeger. Physica 15:801-806 Sep '49

Quenching of the luminescence of certain ZnA-Cu and CaS-Bi phosphors. F. Bandow. Ann Phys Lpz 1:399-404 Oct 1, '47

Report on the second conference on luminescence (held in Moscow, 12th-22nd May 1948). Uspekhi Fiz Nauk 36:557-566 Dec '48. In Russian

Research reports covering crystal oscillators, germanium rectifiers, dielectric materials, infrared phosphors, etc. 1939-1945 PB 84913

Review of the interpretations of luminescence phenomena. F. E. Williams. Opt Soc Am J 39: 648-654 Aug '49

Saturation of fluorescence with cathode-ray excitation. A. Bril. Physica 15:361-379 May '49

Silicate phosphors for cathode ray tube. P. N. Campbell. Soc Chem Ind J 66:191-194 '47

Simplified Lenard phosphors. D. Pearlman and others. Opt Soc Am J 39:695-698 Aug '49

Sodium and lithium as activators of fluorescence in zinc sulfide. F. A. Kroeger. Opt Soc Am J 39: 670-672 Aug '49

Some new complex silicate phosphors containing calcium, magnesium and beryllium. A. L. Smith. Electrochem Soc J 96:287-296 Nov '49

Spectral power distribution of cathode-ray phosphors. R. M. Bowie and A. E. Martin. IRE Proc 36:1023 Aug '48

Survey of methods used to determine the optical properties of phosphors. W. B. Nottingham. MIT Res Lab of Electronics Tech Rep No 110 NP 952, 14 pp May 10, '49. AEC

Survey of present methods used to determine the optical properties of phosphors. W. B. Nottingham. Opt Soc Am J 39:641-647 Aug '49

Temperature-dependent structure of the emission spectra of two crystalline forms of the zinc silicate: Mn phosphor. R. E. Shrader. Opt Soc Am J 39:699-701 Aug '49

Temperature luminescence of titanium dioxide and zinc sulfide in the visible region of the spectrum. G. I. Sinyapkina. Zh Eksp Teor Fiz 19:581-583 July '49. In Russian

Temperature quenching of photoluminescence of the sublimed phosphor KI + T1. K. V. Shalimova. Zh Eksp Teor Fiz 18:1045-1048 Nov '48. In Russian

Theory of the decay of luminescence of organic phosphors. B. Ya. Sveshnikov. Zh Eksp Teor Fiz 18:878-885 Oct '48. In Russian

Visibility on cathode-ray tube screens: signals on a P-7 screen exposed for different intervals. N. R. Bartlett and A. L. Sweet. Opt Soc Am J 39:470-473 June '49

Visibility on cathode-ray tube screens. The effect of size and shape of pip. N. R. Bartlett and others. Opt Soc Am J 39:463-470 June '49

Visibility on cathode-ray tube screens: viewing angle. S. B. Williams. Opt Soc Am J 39:782-785 Sep '49

Patents

Barium halosphosphate phosphor, Robert Stirling Wells, 2,482,450, 5 cl. Appl Jan 10, '47; granted Sep 20, '49

Barium strontium lead silicate phosphor, Keith H. Butler, 2,486,112, 4 cl. Appl Mar 13, '48; granted Oct 25, '49

Cathode-ray tube with photo-di-chroic ionic crystal light modulating screen, Adolph H. Rosenthal, 2,481,622, 8 cl. Appl June 6, '45; granted Sep 13, '49

(R TUBES, Screens, *Patents*–Cont'd.

lectrical protection of cathode-ray tube screens, Karl R. Wendt, 2,476,167, 10 cl. Appl May 1, '48; granted July 12, '49

lter for fluorescent screens, Robert Aronstein, 2,461,464, 2 cl. Appl Nov 14, '47; granted Feb 8, '49

lgh efficiency blue-emitting zinc cadmium sulfoselenide phosphor, Humboldt W. Leverenz, 2,477,070, 5 cl. Appl June 29, '46; granted July 26, '49

luminescent screen, Gustave Levy, 2,475,330, 5 cl. Appl Apr 12, '46; granted July 5, '49

ethod and apparatus for measuring persistence screen characteristics, Otto Heinrich Schade, 2,460,471, 17 cl. Appl Dec 7, '45; granted Feb 1, '49

ethod of manufacture of luminescent materials, Humboldt W. Leverenz, 2,462,517, 3 cl. Appl Sep 29, '42; granted Feb 22, '49

See also

onic Measurements, Scintillation Counters, Phosphors

umination & Photometry, Fluorescent, Phosphors

AVITY RESONATORS

nalogies between the vibrations of elastic membranes and the EM field in guides and cavities. E. C. Cherry. IEE Proc pt III 96:346-360 July '49

nnular circuits for high-power multiple-tube generators at VHF and UHF. (Abstract) Donald H. Preist. IRE Proc 37:170 Feb '49

avity resonators and vibrating capacitors. (Hohlraumresonatoren und Schwingtoepfen) Elektron Wiss und Tech 3:119-123 Mar '49

avity resonators in mobile communications. H. Magnuski. Communications 29:8-11 Aug '49

oupling between two degenerate cavity modes through slots cut in the cavity walls. H. C. Hu. NEC Proc '49

oupling to modes in a cylindrical cavity resonator. M. S. thesis. Stuart R. Hennies. U of Calif Eng Dept June '48

esign data and equivalent circuits for cavity systems. Dec '48 PB 96874

mission of vibrations of polar volume through an aperture as an analogue of the tunnel effect. P. E. Krasnushkin and E. R. Mustel. Zh Tekn Fiz 18:1378-93 Nov '48. In Russian

xcitation and coupling of cavity resonators. J. Bernier. Ann Radioelec 4:1-11 Jan '49. In French

xcitation of a hollow spherical resonator by a dipole placed at its centre. S. M. Rytov. Acad Nauk Izvest 51:111-114 Jan 20, '46. In English

lethod for approximate calculation of natural wavelengths of cavity resonators of irregular shapes. G. V. Kisun'ko. Radiotekhnika 3:24+ Sep-Oct '48

lethods of driving a high Q cavity with many self-excited oscillators. 3 pp '46 MDDC 1323

odal planes in a perturbed cavity resonator. K. F. Niessen. Appl Sci Res pt 1 B1:187-194 '48; pt 2 B1:251-260 '49; pt 3 B1:284-298 '49

esearch reports covering cavity resonators, cyclotrons, crystal vibration, feedback, microwaves, etc., 1942-1944. PB 84893. In German

Study of modes in a high-Q cavity resonator. M.S. thesis. Frederic C. Jacob. U of Calif Eng Dept Jan '48

Patents

Apparatus for amplitude modulating high-frequency oscillations, Cabot Seaton Bull, 2,464,115, 5 cl. Appl Sep 30, '47; granted Mar 8, '49

Beam type electron discharge device, Paul Georges Chevigny, 2,459,792, 7 cl. Appl July 8, '44; granted Jan 25, '49

Cavity resonator, David E. Branson, 2,477,232, 3 cl. Appl Mar 28, '45; granted July 26, '49

Cavity resonator, Henry M. Bach, 2,463,472, 3 cl. Appl Mar 16, '45; granted Mar 1, '49

Cavity resonator, William A. Edson, 2,465,639, 4 cl. Appl Jan 31, '45; granted Mar 29, '49

Cavity resonator apparatus including frequency control means, Sigurd F. Varian, 2,468,145, 5 cl. Appl Nov 25, '43; granted Apr 26, '49

Cavity resonator electron tube, John Henry Owen Harries, 2,468,441, 19 cl. Appl Oct 12, '46; granted Apr 26, '49

Concentric line cavity resonator device, Daniel Alpert, 2,482,452, 8 cl. Appl Aug 19, '43; granted Sep 20, '49

Conformal grating resonant cavity, Arthur Gardner Fox, 2,476,034, 2 cl. Appl July 16, '45; granted July 12, '49

Electrical apparatus, Julius Halpern, 2,473,426, 3 cl. Appl Sep 6, '45; granted June 14, '49

Electrical cavity resonator, George L. Usselman, 2,487,619, 3 cl. Appl Nov 16, '43; granted Nov 8, '49

Electrical cavity resonator, Thaddeus C. Campbell, 2,475,778, 7 cl. Appl Oct 17, '46; granted July 12, '49

Electrical discharge device having cavity resonators, Caperton B. Horsley, 2,458,167, 10 cl. Appl Apr 27, '44; granted Jan 4, '49

Electrode, William E. Good, 2,489,157, 7 cl. Appl July 2, '45; granted Nov 22, '49

Electron discharge device, Charles V. Litton, 2,462,877, 14 cl. Appl Nov 23, '42; granted Mar 1, '49

Electron discharge device, Donald M. Powers, 2,481,151, 15 cl. Appl Apr 13, '44; granted Sep 6, '49

Electron discharge device, Erich Nevin Kather, 2,462,869, 8 cl. Appl Feb 23, '46; granted Mar 1, '49

Electron discharge device, Howard R. Hegbar, 2,475,960, 13 cl. Appl Aug 25, '43; granted July 12, '49

Electron discharge device, Michael Bowman-Manifold, 2,460,332, 4 cl. Appl May 29, '44; granted Feb 1, '49

Electron discharge device, Palmer P. Derby, 2,468,183, 8 cl. Appl May 21, '45; granted Apr 26, '49

Electron discharge device, Percy L. Spencer, 2,466,060, 10 cl. Appl Mar 31, '45; granted Apr 5, '49

Electron discharge device, Percy L. Spencer, 2,468,243, 14 cl. Appl May 7, '45; granted Apr 26, '49

Electron discharge device, Percy L. Spencer, 2,481,171, 7 cl. Appl Aug 20, '45; granted Sep 6, '49

Electron discharge device, Robert M. Bowie, 2,492,618, 5 cl. Appl Mar 16, '45; granted Dec 27, '49

Electron discharge device, William C. Brown, 2,485,084, 4 cl. Appl Apr 11, '45; granted Oct 18, '49

CAVITY RESONATORS, *Patents*–Cont'd.

Electron discharge device, William D. Stratton, 2,466,062, 8 cl. Appl June 28, '46; granted Apr 5, '49

Electron discharge device, William V. Smith, 2,462,-137, 6 cl. Appl Feb 26, '46; granted Feb 22, '49

Electron discharge device and associated circuit, Nathaniel I. Korman, 2,462,510, 5 cl. Appl Sep 17, '45; granted Feb 22, '49

Electron discharge device employing cavity resonators, Dwight O. North, 2,488,320, 11 cl. Orig appl June 30, '43; divided and this appl Feb 28, '46; granted Nov 15, '49

Electron discharge device employing cavity resonator circuits, Leon S. Nergaard, 2,472,921, 13 cl. Appl Mar 16, '45; granted June 7, '49

Electron discharge device of the cavity resonator type, Erich Nevin Kather, 2,478,534, 13 cl. Appl Dec 13, '44; granted Aug 9, '49

Electron discharge device of the cavity resonator type, Howard R. Hegbar, 2,489,131, 9 cl. Appl Nov 17, '43; granted Nov 22, '49

Electron discharge device of the cavity resonator type, Percy L. Spencer, 2,473,827, 13 cl. Appl Oct 4, '43; granted June 21, '49

Electron discharge employing cavity resonators, Russell R. Law, 2,471,037, 18 cl. Appl June 29, '44; granted May 24, '49

Electron discharge device utilizing cavity resonators, Leon S. Nergaard, 2,461,125, 23 cl. Appl Dec 31, '43; granted Feb 8, '49

Electronic high-voltage generator discharge device, Arthur L. Samuel, 2,464,349, 6 cl. Appl May 27, '43; granted Mar 15, '49

Electronic valve, Delbert A. Deisinger, 2,459,152, 4 cl. Appl June 19, '43; granted Jan 18, '49

Feed-back system for electronic tubes comprising hollow body resonators, David H. Sloan, 2,459,593, 2 cl. Appl Mar 17, '44; granted Jan 18, '49

Frequency selective apparatus, Walter F. Kannenberg, 2,460,090, 3 cl. Appl Nov 26, '45; granted Jan 25, '49

High-frequency apparatus, Arthur E. Harrison, 2,464,230, 31 cl. Appl May 20, '44; granted Mar 15, '49

High-frequency apparatus, Arthur E. Harrison, 2,482,769, 13 cl. Appl Dec 28, '44; granted Sep 27, '49

High-frequency apparatus, Leland E. Thompson, 2,476,162, 4 cl. Orig appl Feb 6, '45; divided and this appl Mar 15, '46; granted July 12, '49

High-frequency apparatus, Lloyd F. Sorg, 2,466,058, 21 cl. Appl May 2, '45; granted Apr 5, '49

High-frequency cavity resonator apparatus, Lloyd F. Sorg, 2,490,845, 19 cl. Appl Jan 20, '45; granted Dec 13, '49

High-power high-frequency electron discharge apparatus, Russell H. Varian, 2,466,063, 10 cl. Appl Feb 3, '43; granted Apr 5, '49

Hollow resonator discharge device, Albert F. Pearce, 2,469,240, 4 cl. Appl Sep 25, '45; granted May 3, '49

Linear frequency modulation system, John R. Pierce, 2,476,765, 6 cl. Appl May 7, '43; granted July 19, '49

Oscillation generator of the velocity modulation type, Richard Greville, 2,485,661, 8 cl. Appl Nov 20, '43; granted Oct 25, '49

Resonant circuit and radiator, Nathan W. Aram 2,465,416, 6 cl. Appl Oct 2, '43; granted Mar 29 '49

Switching and modulation system, Abbott S Maeder, 2,473,535, 4 cl. Orig appl Apr 4, '41 granted June 21, '49

Test circuit, Homer D. Hagstrum, 2,482,173, 4 c Appl Nov 8, '44; granted Sep 20, '49

Tube, David H. Sloan, 2,487,078, 16 cl. Appl Ma 17, '45; granted Nov 8, '49

Tunable cavity resonator, Frank A. Record, 2,463, 423, 5 cl. Appl Dec 17, '45; granted Mar 1, '4

Tunable resonant cavity with adjustable walls William A. Edson and Walter F. Kannenberg 2,471,419, 5 cl. Appl July 7, '44; granted May 31 '49

Ultra high frequency apparatus of the cavity res onator type, John R. Woodyard, 2,468,152, 23 c Appl Feb 9, '43; granted Apr 26, '49

Ultra-short-wave signal-translating device, Harol A. Wheeler, 2,474,608, 3 cl. Appl Nov 30, '44 granted June 28, '49

See also

Klystrons
Magnetrons
Microwaves, Tubes

CHOKES

Calculation of the effective permeability of magnetically polarised choke cores. (Aus der ganschen Funktionhergeleitetes Verfahren zur Berechnung der wirksamen Permeabilitaet vor vormagnetisierten Drosselkernen) Weiss. Funk und Ton 3:438-448 Aug '49

Choke coil or resistance? (Drosselspole eller Mod stand?) Radio Ekko 11:152-153 Aug '48

Choke coils for sound control. (Drosselspoler ti Tonekontrol) Radio Ekko 10:120-121 June '47

Chokes with air gap. (Hvorfor Luftspalte) Radi Ekko 9:110-111 May '46

Design and calculation of saturation choke coils S. M. Osovets. Reel 0046, No 475,772:22-32 SDLC In Russian

Diagrams for calculations of choke coils with bia magnetisation and M-cores. (Diagramme zu Berechnung vormagnetisierter Drosselspulen mi M-Kernen) Pavel. Funk und Ton 3:214-22 Apr '49

Frequency dependence of the voltage distortion fo coils with ordinary commercial laminated-iro cores. H. Kammerer. Fernmeldetech Zeit 2:201 206 July '49

Graphic determination of the effective core permeability of polarised choke coils. (Zur Konstruktion der wirksamen Kernpermeabilitaet vo vormagnetisierten Drosselspulen) Kammerlohe Fund und Ton 3:491-496 Sep '49

High-frequency RF chokes. GE Ham N vol 4 Jan Feb '49

Use of saturation choke coils in modern engineering. L. A. Bessonov. Reel 0046 No 475,772:7-2 SDLC. In Russian

Patents

Choke coil, Franklin Clark, 2,482,902, 3 cl. Appl Jan 24, '46; granted Sep 27, '49

CHOKES, *Patents*–Cont'd.

Electrical choke, Herman Potts Miller, jr., 2,462,884, 4 cl. Appl July 16, '45; granted Mar 1, '49

See also

Inductance and Inductors

CHRONOMETERS

See Industrial Controls, Timing Measurements & Meters, Time

CIRCUIT ANALYSIS

Active networks and the general complex curve (Nyquist) criterion for stability. (Aktive Netzwerke und das allgemeine Ortskurvenkriterium fuer die Stabilitaet) Felix Strecker. Frequenz 3:78-84 Mar '49

Analytical conditions for damping in an electric network of "n" independent meshes. Notes on the Hurwith polynomial appearing in the form of a determinant. (Conditions analtyiques d'un resau electrique a "n" mailles independentes. Note sur des Polynomes d'Hurwith se presentant sous la forme de determinants) M. Parodi and F. Raymond. Ann Telecomm 4:231 June '49

Application of matrices to vacuum tube circuits. (Letter) W. Buchholz and others. IRE Proc 37: 403-404 Apr '49

Basic AC circuit theory. G. W. Stubbings. Electrician 143:1151-1152 Oct 7, '49

Circuit duality and polarity conventions. Wilbur R. LePage. Elec Eng 68:62-63 Jan '49

Concepts of impedance and admittance in lumped-circuit theory. C. R. G. Reed. Electrician 141: 1873-1877 Dec 24, '48

Coupling between circuits in telephone cables. (Étude des couplages entre circuits de cables telephoniques) F. Lahaut and E. Symen. HF pt 1 No 3:63-70 July '49; pt 2 No 4:109-115 Oct '49

Definition and characteristics of superposed circuits. (Definition et caracteristiques des circuits superposes) L. Collet. Ann Telecomm 4:42-56 Feb '49

Design of a circuit to approximate a prescribed amplitude and phase. R. M. Redheffer. Jour Math Phys 28:140-147 July '49

Designing your own crossover network. James R. Langham. Radio-Electronics 20:40-41 July '49

Dividing networks. Harold Renne. Radio & TV N 42:64-65 Dec '49

Duality between interlinked electric and magnetic circuits and the formation of transformer equivalent circuits. E. Colin Cherry. Phys Soc Proc series B 62:101+ Feb 1, '49

Effective and circuit band widths. W. J. Kessler. Elec Eng 68:590 July '49

Electrolytic tank for the measurement of steady-state response, transient response and allied properties of networks. A. R. Boothroyd and others. IEE Proc pt II 96:790-792 Oct '49

Frequency analysis of variable networks. Ph.D. thesis. L. A. Zadeh. Columbia U EE Dept '49

General ladder networks classified according to their image transfer constants. (Structures generales des demi-cellules de filtres en echelle classees selon la valeur de l'exposant de transfer sur images) E. Colin. Cables et Trans pt 1 3: 229-247 July '49; pt 2 3:281-293 Oct '49

Generalized graphs. Wireless World 55:349-353 Sep '49

Gyrator, a new electric network element. (Der Gyrator, ein neues Schaltungssymbol) Feigs. Funk und Ton 3:459-465 Aug '49

History of operational calculus in electric circuit analysis. Thomas J. Higgins. Elec Eng 68:42-46 Jan '49

Impedance network analysis. W. M. MacKay. Elec Rev 144:812-814 May 13, '49

Improved AC network analyzer. W. A. Morgan and others. AIEE Proc section 9164:1-5 July '49

Mathematical aids in radio frequency calculations. (Mathematische Hilfsmittel in der Hochfrequenztechnik) Radio Tech 25:261-263 Apr '49

Method of synthesizing the resistor-capacitor lattice structure. (Abstract) J. L. Bower and others. IRE Proc 37:164 Feb '49

Modern developments in the topology of networks. (Abstract) Ronald M. Foster. IRE Proc 37:162 Feb '49

Network approximation in the time domain. (Abstract) W. H. Huggins. IRE Proc 37:164 Feb '49

Network synthesis. Ph.D. Thesis John Fleck. Yale U Elec Eng Dept. '49

Network theorem. (Letter) E. R. Wigan. Wireless Eng 26:409 Dec '49

Network theory comes of age. R. L. Dietzold. Elec Eng 67:895 Sep '48

Network transformations. G. W. Stubbings. Electrician 141:1651-1652 Dec 3, '48

Note on Thevenin's theorem. Electrician 143:1473-1474 Nov 4, '49

Notes on Thevenin's theorem. G. W. Stubbings. Electrician 143:201-202 July 15, '49

Numerical solution of networks by matrices. P. F. Soper. Beama J pt 1 56:83-87 Mar '49; pt 2 56: 133-136 Apr '49

Polar vector indicator. E. A. Walker and others. Elec Eng 68:489 June '49. Corresp. G. H. Lyle 68:923 Oct '49

Quarter wave networks. E. Green. Marconi Rev 12:157-171 Oct-Dec '49

Reactive ladder networks. (Reseaux reactifs en echelle) J. Ville. Cables & Trans 3:159-176 Apr '49

Recent developments in broad-band active networks. (Abstract) John G. Linvill. IRE Proc 37:162 Feb '49

Reduction of complex circuits to the simplest equivalent systems. A. A. Gorev. Reel 0016 No 475,279: 40-43 SDLC. In Russian

Selectivity calculations. H. J. Peake. Electronics 22:112+ Aug '49

Series capacitance used as a voltage drop in network. E. O. T. Electrician 143:1899-1900 Dec 9, '49

Star-connected circuits. G. W. Stubbings. Electrician 143:645-646 Aug 26, '49

Structure of electrical circuits according to their frequency characteristics fixed in the form of rational fractions (bi-polars.) V. A. Taft. Akad Nauk Izvest No 3:367-383 '49. In Russian

Symmetrical components. K. W. Wardrop. Electrician pt 1 143:809-813 Sep 9, '49; pt 2 143:897-904 Sep 16, '49

CIRCUIT ANALYSIS–Cont'd.

Three terminal zero circuit. A. di Marco. Rev Telegr No 437:79-82 Feb '49. In Spanish

Use of a mechanical harmonic synthesizer in electrical network analysis. S. Leroy Brown and Chester M. McKinney. Jour Ap Phys 20:316+ Apr '49

Use of the elliptic function sn for the calculation of filters and networks. (Anwendung der elliptischen funktion sn fuer die Berechnung von Filtern und Weichen Steffenhagen) Funk und Ton 3:44-47 Jan '49

Patents

Method and device for studying electrical networks, Roger Jacques Robert, 2,488,740, 24 cl. Appl Mar 16, '45; granted Nov 22, '49

CIRCUIT ANALYSIS, Linear Networks

Effect of pole and zero locations on the transient response of linear dynamic systems. Ph.D. thesis. J. H. Mulligan, jr. Columbia U EE Dept '48

New harmonic method for studying the stability of linear systems. M. Demontvignier and P. Lefevre. Revue Gen Elec 58:263-279 July '49

RC twin-T circuits. (Le circuit resistances-capacitance en double T) L. Gerardin. Rev Tech Comp Franc Thomson-Houston 12:5-16 May '49

Survey on the status of linear network theory. (Abstract) E. A. Guillemin. IRE Proc 37:162 Feb '49

CIRCUIT ANALYSIS, Nonlinear Networks

Application of power series to be solution of nonlinear circuit problems. A. W. Gillis. IEE Proc pt III 96:453-475 Nov '49

Eigen vibrations in a conservative nonlinear circuit. L. A. Tseitlin. Zh Tekn Fiz 18:757-764 June '48. In Russian

General review of linear varying-parameter and nonlinear circuit analysis. (Abstract) W. R. Bennett. IRE Proc 37:162 Feb '49

Graphical method of computation for two-terminal networks with nonlinear resistances. G. I. Nikonov. Avtomatika i Telemekhanika 10:149-156 Mar-Apr '49. In Russian

Nonlinear systems with changing parameters. I. T. Turbovich. Akad Nauk Izvest No 2:203-208 Feb '48. In Russian

Operational approach to non-linear circuit analysis. Gerald H. Cohen. Franklin Inst J 247:573-581 June '49

CIRCUIT ANALYSIS, 2 Pole Network

Impedance curves for two-terminal networks. (Abstract) E. L. Michaels. IRE Proc 37:167 Feb '49

Realization of linear two-pole networks with prescribed frequency dependence, taking account of losses in coils and capacitors. Nai-Ta Ming. Arch Elek 39:359-387 Apr '49

Synthesis of passive two-poles by means of networks containing gyrators. B. D. H. Tellegen. Philips Res Rep 4:31-37 Feb '49

Synthesis of two terminal switching circuits. Claude E. Shannon. Bell System Tech J 28:59+ Jan '49

CIRCUIT ANALYSIS, 4 Pole Network

Adjustment of quadrature networks. Sidney Wald Radio & TV N 42:9+ Nov '49

Complementary note on the synthesis of passive resistanceless four-poles. B. D. H. Tellegen Philips Res Rep 4:366-369 Oct '49

Matrix analysis of linear networks, including active four-terminal networks. (Sull'analisi matricial delle reti lineari comprendenti quadripoli attivi A. Pinciroli and A. Taraboletti. Alta Frequenz 18:73-82 Apr '49. Abstracts in French, English and German

Reactance four-terminal network with given blocking points and given unipolar no-load or short circuit resistance. H. Piloty. Arch Elek 1:59-7 July-Aug '47

Realisation of linear four terminal networks with equal losses. (Verwirklichung von linearen Vierpolschaltungen vorgeschriebener Frequenzabhaengigkeit unter Beruecksichtigugng gleicher Spulenverluste und gleicher kondersatorenverluste) Nai-Ta Ming. Arch Elek vol 39 No 8:496-507 '49

Realization of linear four-pole networks with prescribed frequency dependence, taking account of corresponding losses in all coils and capacitors Nai-Ta Ming. Arch Elek vol 39 No 7:452-471 '4

CIRCUIT ANALYSIS, Resonant Circuits

Analysis of triple-tuned coupled circuits. (Abstract) N. W. Mather. IRE Proc 37:167 Feb '49

Bridged reactance-resistance networks. G. B Harris. IRE Proc 37:882-887 Aug '49

Chart for resonant-circuit calculations. H. L. Krau and P. F. Ordung. Communications 29:8-9+ Nov '49

Detuned resonant circuits. H. Elger. Wireless Eng 26:360-364 Nov '49

Graphical analysis of tuned coupled circuits. A. E Harrison and N. W. Mather. IRE Proc 37:1016-1020 Sep '49

Iterative impedance and resonance curve of symmetrical homogeneous circuit. P. Kalantarov and L. Zeitlin. Akad Nauk Izvest 51:281-284 Feb 10 '46

Resonance phenomena in homogeneous symmetrical recurrent circuits. P. L. Kalantarov and L. A Zeitlin. Akad Nauk Izvest 51:357-360 Feb 20, '4

Resonance phenomena in oscillatory circuits. E. de Gruyter. Schweiz Elektrotech Ver Bul 39:791-801 Nov 27, '48

Resonant circuits. J. T. Frye. Radio Times 4:14-15+ Nov 16, '49

Synthesis of RC-networks. E. A. Guillemin. Jour Math Phys 28:22-42 Apr '49

CIRCUIT ANALYSIS, Transient Response

Applications of network theorems in transient analysis. Y. P. Yu. Franklin Inst J 248:381-39 Nov '49

Effect of pole and zero locations on the transient response of linear dynamic systems. J. H. Mulligan, jr. IRE Proc 37:516-529 May '49

CIRCUIT ANALYSIS, Transient Response–Cont'd.

Electrolytic tank for the measurement of steady-state response, transient response, and allied properties of networks. A. R. Boothroyd and others. IEE Proc 96:163+ May '49

Optimum response of a circuit with limited pass band to a Heaviside pulse. J. LaPlume. Compt Rend Acad Sci 229:351-352 Aug '49

Synthesis of electric networks according to prescribed transient conditions. Morton Nadler. IRE Proc 37:627-630 June '49

Synthesis of n-reactance networks for desired transient response. P. R. Aigrain and E. M. Williams. Jour Ap Phys 20:597-600 June '49

Transient-response equalization through steady-state methods. William J. Kessler. IRE Proc 37: 447-450 Apr '49

CIRCUIT INTERRUPTERS and BREAKERS

Better use of phenolics basis of breaker redesign. Product Eng 20:104 Nov '49

Circuit breakers (electric), design, construction and operation. German Industry Rep. FIAT 95 Brit Govt Pub

Circuit breakers in electricity supply system. German Industry Rep. BIOS 314 Brit Govt Pub

Circuit breakers out and indoor types, for transmission lines. German Industry Rep. BIOS 38 Brit Govt Pub

Erosion of electrical contacts on make. L. H. Germer and F. E. Haworth. Jour Ap Phys 20: 1085-1109 Nov '49

Fuse or circuit breaker to protect 400 v induction motor? E. O. T. Electrician 143:819-820 Sep 9, '49. Corresp. S. Spence 143:1160 Oct 7, '49

Physical properties of arcs in circuit breakers. Emil Alm. Kungl Tekn Hogsk Handl May 25, '49

Preferred ratings for power circuit breakers are revised. G. Sutherland. Standardization 20:121 May '49

Patents

Circuit breaker, Edward V. Sundt, 2,474,762, 8 cl. Appl May 26, '45; granted June 28, '49

Circuit breaker, Frank Short, 2,472,233, 3 cl. Appl Nov 17, '43; granted June 7, '49

Circuit breaker mounting means, William M. Scott, jr., 2,472,961, 8 cl. Appl Apr 4, '45; granted June 14, '49

Combined thermal-magnetic circuit breaker, Kurt Dannenberg, 2,473,196, 13 cl. Appl Nov 13, '43; granted June 14, '49

Current interrupting circuit, Adrianus Cornelis van Dorsten, 2,490,562, 4 cl. Appl July 16, '46; granted Dec 6, '49

Electric switch, Karl Bollmann and Hans Meier, 2,472,275, 8 cl. Appl Mar 28, '45; granted June 7, '49

Electrical contact protection network, Robert C. Mathes, 2,470,825, 2 cl. Appl Apr 10, '45; granted May 24, '49

Electromagnetic trip circuit breaker, Ture Lindstrom and George G. Grissinge, 2,486,300, 10 cl. Appl June 29, '44; granted Oct 25, '49

Electronic circuit breaker, Americo Volpigno, 2,460,860, 3 cl. Appl Oct 25, '45; granted Feb 8, '49

Mercury contact device, Charles E. Pollard, jr., 2,473,693, 6 cl. Appl Sep 19, '47; granted June 21, '49

Overload protective device, William E. Stilwell, jr., 2,484,863, 2 cl. Appl Aug 12, '43; granted Oct 18, '49

Push button operated circuit interrupter, Lawrence Pierce, 2,473,901, 8 cl. Appl July 31, '47; granted June 21, '49

Reclosing circuit interrupter, James M. Wallace, 2,468,851, 19 cl. Appl Jan 7, '44; granted May 3, '49

Safety starter circuit and unit, Irwin S. Jacobsen, 2,492,575, 10 cl. Appl June 21, '47; granted Dec 27, '49

Time-delay electronic device, Carl Thumim, 2,468,-418, 6 cl. Appl Oct 24, '45; granted Apr 26, '49

Tripping device, Donald I. Bohn, 2,474,029, 5 cl. Appl Oct 11, '44; granted June 21, '49

COAXIAL CABLE

See Transmission Lines, Coaxial

COILS

See

Chokes
Inductance and Inductors

COMMUNICATION

Application of statistical theory in communications. J. B. Wisener. NEC Proc '49

Automatic telephone switching, carrier telephony and teleprinters at Siemens and Halske, Berlin. Feb '47 PB 95899

B-1 alarm and control system for remote control of coaxial cable stations. R. B. Hearn and Laurence A. Weber. AIEE Proc section 9155:1-5 July '49

Band width transmission performance. C. B. Feldman and W. R. Feldman. Bell System Tech J 28: 490-595 July '49

Beamed transalpine communications. (Liaison transalpine par faisceaux hertziens) Gerber. Tech Mitt Schweiz 27:231-235 Oct '49

Channel input corrected for frequency. (Frekvenskorrigeret Kanalindgang) Radio Ekko 11:154-155 Aug '48

Channel islands communications. J. Rhodes. P O Elec Eng J 42:141-143 Oct '49

Citizens band opened to public for regular use. Julian P. Freret. Radio-Electronics 20:36-37 Sept '49

Citizens radio report. Electronics 22:78+ June '49

Codes and translations. Oscar Myers. AIEE Proc section 9149:1-6 July '49

Commercial systems of radiocommunication. H. D. B. Kirby. Electronic Eng 21:275-278 Aug '49

Communication theory. Thomas Roddam. Wireless World 55:162+ May '49

Considerations of moon-relay communication. D. D. Grieg and others. IRE Proc (Australia) 10: 327-338 Dec '49

Design and operation of telegraph apparatus and teleprinter switching systems in Germany. BIOS 583 Brit Govt Pub

COMMUNICATION–Cont'd.

Design in nature as exploited by the communication engineer. (Abstract) L. A. de Rosa. IRE Proc 37: 177 Feb '49

Detection of a signal by several observers. Jan '49 PB 97137

Development in communications. (Entwicklungstendenzen in der Nachrichtenuebertragung) Hoelzler. Fernmeldetech Zeit pp 1-8 Jan '49

Equipment for interference-free long distance electrical communications. F. Schroter. Arch Elek Ubertragung 1:2-13 July-Aug '47

Experimental determination of correlation functions and the application of these functions in the statistical theory of communications. (Abstract) T. P. Cheatham, jr. IRE Proc 37:177 Feb '49

French telecommunications networks before 1924. (Les resaux francais de telecommunications: lignes et resaux avant 1924) J. Gasterbois and R. Dumazet. Cables & Trans 3:326-339 Oct '49

Future of the French telecommunication network. (L'avenir du reseau francais) P. Marzin. Cables & Trans 3:134-136 Jan '49

German wireless communication mainly with reference to Cm, Dm and pulse technique. BIOS 551 Brit Govt Pub

Hamburg-Hanover coaxial cable scheme. J. Forrest. P O Elec Eng J 42:130-132 Oct '49

High-frequency, communications, and remote supervisory control engineering. Brown Boveri Rev 36:71077 Jan-Feb '49

Interchangeability charts: radio, radar, and wire communications equipment. May '48 PB 94992

Mathematics of communication. W. Weaver. Sci AM 181:11-15 July '49

Miscellaneous German radio and communication targets. BIOS 153 Brit Govt Pub

Modern tendencies in commercial long-distance radio communications. A. Niutta. Poste e Telecommunicazioni 16:241-251 June-July '48

New parts for design engineers. Tele-Tech 8:42 July '49

Note on the theory of communication. J. D. Weston. Phil Mag 40:449-453 Apr '49

Operating data from monthly reports of large telegraph, cable and radiotelegraph carriers, Feb '48 and '47-Aug '48 and '47. 2 pp CC 1.13:948/2-8 U.S. Govt Pub

Recent telecommunication developments. Elec Comm 26:179-180 June '49

Remote control of marine and aviation transmission. J. Marique. HF 3:71-80 June '49. In French

RF developments in 1948. (Fortschritte der Hochfrequenztechnik im Jahr 1948) Felgentreu. Fernmeldetech Zeit 265-270 Sep '49

Rhine radio conference at The Hague. (Rheinrundfunkkonferenz in Den Haag) Pressler. Fernmeldetech Zeit 279-280 Sep '49

Short wave broadcasting stations of the world, according to frequency. Sep 1, '49 103 pp Y 3.N 21/17:102 B 78/948 U.S. Govt Pub

Signal communication targets in Brussels. German Industry Rep. CIOS II-7 Brit Govt Pub

Some development work in connection with USW multichannel communications in Switzerland. G. Guanella. Schweiz Elektrotech Ver Bul 39:678-688 Oct 2, '48

Telecommunications at high frequency. A. Latreille and M. Zweguintzow. Revue Gen Elec 58:349-356 Sep '49

Telegraph, telephone, and radio in Switzerland. (Telegraph, Telephon und Radio vor den eidg) Raeten. Tech Mitt Schweiz 27:297-309 Dec '49

Telegraphy, telephone, radio and television practice. PB 96323

Theoretical limitations on the rate of transmission of information. William G. Tuller. IRE Proc 37: 468-478 May '49

Theory of radio communication. (Sobre la teoria de la radio-communicacion) Rev Telecom 10-19 June '49

TV, sound, and communications components. Tele-Tech 8:46 July '49

Wireless communication (Verfahren der drahtlosen Nachtrichtenuebertragung) Elektron Wiss und Tech 3:457-466 Dec '49

Works of the commission for the modernization of telecommunications of the Monnet Plan. (Les travaux de la commission de modernization des telecommunications du plan Monnet) E. Giboin. Ann Telecomm 4:363-365 Oct '49

Patents

Calling and warning apparatus for communication systems, Herbert Selinger, 2,489,202, 13 cl. Appl Jan 17, '46; granted Nov 22, '49

Carrier shift keyer, Howard W. Johnson, 2,482,112, 3 cl. Appl Jan 25, '46; granted Sep 20, '49

Centercasting network system, Alfred N. Goldsmith, 2,465,976, 8 cl. Appl Dec 24, '42; granted Mar 29, '49

Communication relay station, Robert M. Sparague, George G. Bruck and Philip E. Volz, 2,477,428, 15 cl. Appl Nov 6, '46; granted July 26, '49

Directional radio receiver system, William P. Lear, 2,469,970, 16 cl. Orig appl Nov 27, '39; divided and this appl Aug 28, '43; granted May 10, '49

Electrical translating device, George C. Southworth, 2,460,109, 13 cl. Appl Mar 25, '41; granted Jan 25, '49

Frequency shift keying, William A. Miller, 2,491,-387, 7 cl. Appl May 3, '45; granted Dec 13, '49

Frequency shift signaling system, Hallan E. Goldstine, 2,492,795, 11 cl. Appl Jan 29, '46; granted Dec 27, '49

High-frequency electrical communication system utilizing damped oscillations, William Arnold Beatty, 2,462,061, 10 cl. Appl Jan 24, '41; granted Feb 22, '49

Light signaling means, Burton G. Lake, 2,484,837, 1 cl. Appl July 27, '38; granted Oct 18, '49

Line finder control circuit for communication systems, Paul R. Adams and David H. Ransom, 2,492,344, 8 cl. Appl Nov 14, '45; granted Dec 27, '49

Multichannel carrier communication system, Kenneth George Hodgson and Frank Fairley, 2,474,-249, 2 cl. Appl May 23, '47; granted June 28, '49

Multichannel carrier wave system employing multiple modulation, Gerardus Henricus Bast, 2,489,-361, 5 cl. Appl July 31, '46; granted Nov 29, '49

Multiplex signaling system, Chester Pelmulder, 2,479,020, 9 cl. Appl Sep 2, '47; granted Aug 16, '49

COMMUNICATION, *Patents*–Cont'd.

Multisignal recording system with signal identification, Walter L. Andre, 2,489,253, 3 cl. Appl June 18, '46; granted Nov 29, '49

Phase selective signal transmission system, Charles B. Aiken, 2,483,718, 14 cl. Appl Feb 28, '46; granted Oct 4, '49

Power line carrier wave communication system, Robert C. Edson and John W. Emling, 2,481,915, 8 cl. Appl Mar 9, '46; granted Sep 13, '49

Radio transmitting system, Walter H. Grosselfinger, 2,462,181, 1 cl. Appl Sep 28, '44; granted Feb 22, '49

Ringing arrangement for electronic switching systems, David H. Ransom, 2,492,179, 7 cl. Appl Feb 19, '46; granted Dec 27, '49

Ringing arrangement for electronic switching systems, David H. Ransom, 2,492,180, 12 cl. Appl Apr 26, '47; granted Dec 27, '49

Selective radio communication system for a plurality of stations, Forest B. Hitchcock, 2,469,555, 16 cl. Appl June 19, '45; granted May 10, '49

Selective signaling apparatus and system, Wilton T. Rea, 2,458,030, 15 cl. Appl Aug 29, '44; granted Jan 4, '49

Signal distributing system, Pierre Marie Gabriel Toulon, 2,471,253, 8 cl. Appl June 11, '38; granted May 24, '49

Signal receiving and transmitting apparatus, Harry W. Becker, 2,491,244, 18 cl. Appl Apr 27, '46; granted Dec 13, '49

Signaling system, Michel C. Poylo, 2,480,160, 4 cl. Appl June 27, '45; granted Aug 30, '49

Synchronization of time division multiplex communication system, James O. Edson, 2,457,986, 15 cl. Appl Dec 11, '45; granted Jan 4, '49

Telautograph system, Leo Rosen, 2,462,904, 4 cl. Appl Nov 19, '43; granted Mar 1, '49

Transmitter and/or receiver circuits, Edward L. Ginzton, 2,462,856, 24 cl. Appl May 19, '42; granted Mar 1, '49

Voice-controlled two-way communication system, Otto Tschumi, 2,477,275, 7 cl. Appl Jan 20, '45; granted July 26, '49

See also

Broadcasting (AM & FM)
Facsimile
Federal Communications Commission
Microwaves, Communication
Pulse Circuits, Communication
Reception & Receivers
Television
Transmission & Transmitters

COMMUNICATION, Aircraft

Air radio. Wireless World 55:373-374 Oct '49

Airborne communications development and experimental equipment. PB 85286

Airborne communications equipment. PB 85285

Aircraft radio facilities systems and ground communications development. PB 85301

Airline radio. Robert Hertzberg. Radio & TV N 41: 35-37+ Mar '49

Airline test techniques. Joseph Albin. Electronics 22:72+ Apr '49

Airlines communications systems, Deutsche Lufthansa. German Industry Rep. CIOS XXXII-24 Brit Govt Pub

Descriptive notes on radio systems for use in civil aviation. July-Aug '45 PB 95443

ESL instruction manual for radio set AN/CRD-2 (XO-1). Nov '45 PB 95433

Interpretation of amendment 41-1 on flight radio operators issued. CAA J 10:58 May '49

Modern aircraft radio equipment as fitted to Convair liner. J. H. Gerrand. IRE Proc (Australia) 10:306-310 Nov '49

Modern civil aircraft radio station. S. C. Wallace. Marconi Rev 12:152-156 Oct-Dec '49

Radio for aviation. Wireless World 55:S15-S18 Sep '49

Radio technical commission for aeronautics—its program and influence. (Abstract) J. H. Dellinger IRE Proc 37:161 Feb '49

Reports covering radio receivers, band filters, voltmeters, antennas, transformers, etc. 1942-1945 PB 84926

Reports on airborne transceivers, antiaircraft directors, airborne radar equipment, etc. 1943-1945 PB 84910

Revision 2 of Federal airways manual of operations (airway air-ground communications) Sep 1, '48 4 pp G 31.116/2:v.2/chap B/pt 5/948/ rev pages 2 U.S. Govt Pub

Set: measurement, mechanical, equipment, airborne communications. Feb '47 PB 85279

Set: stockroom, central, equipment, airborne communications. Feb '47 PB 85278

Servicing of airborne equipment. T. R. W. Bushby. IRE Proc (Australia) 10:190-195 July '49

Technical manuals dealing with aircraft radio and radar equipment 1942-1945 PB 84887

Theoretical aspects of nonsynchronous multiplex systems. (Abstract) Warren D. White. IRE Proc 37:175 Feb '49

50-watt radio transmitter for aircraft communication. Engineering 167:534+ June 10, '49

Patents

Communication and posting system, Edwin L. Schmidt, 2,474,438, 19 cl. Appl Feb 6, '45; granted June 28, '49

Emergency radio signal for airplanes, Charles J. Camp, 2,473,050, 12 cl. Appl Jan 13, '47; granted June 14, '49

Radio-wire communication system, Evan A. Jensen and Kenneth J. Rheak, 2,490,061, 26 cl. Appl July 31, '47; granted Dec 6, '49

See also

Antennas, Aircraft
Navigational Aids, Aircraft

COMMUNICATION, Amateur

80 and 40 on wheels. Richard M. Smith. QST 33: 18-23+ Jan '49

6AS7 vacuum tube keyer. E. H. Marriner. CQ 5: 40-41 May '49

Austrian amateur problems. (Probleme des oesterreichschen Kurzwellenamateurs 1949) Radiowelt pt 1 4:30-32 Mar '49; pt 2 4:47-48 May '49

COMMUNICATION, Amateur–Cont'd.

Beginning amateur. Robert Hertzberg. Radio & TV N pt 1 41:35-38+ Feb '49

Briefcase ham portable. E. Campaine and M. F. Judkins. Radio & TV N 41:54-55+ May '49

Broadcasting conditions on 2 meter band. (Lidt om udbredelsesforholdene paa 2 m) Radio Ekko 12: 223+ Dec '49

DX with one tube. (DX med eet Ror) Radio Ekko 12:40 Feb '49

Earthquake in Ecuador. J. M. Reed. QST 33:26-28 Oct '49

Eighty-metre phone DX. J. H. Ferguson. Short Wave Mag 7:763-764 Dec '49

French VHF activity. RSGB Bul 24:283 May '49

HIFAM: high fidelity amplitude modulation. (HIFAM) Radio Ekko 11:261 Dec '48

Hints and kinks for the experimenter. Monthly column on amateur radio. QST

How to become a ham. George W. Shuart. Radio-Electronics pt 1 21:42-45 Oct '49; pt 2 21:33-34 Nov '49; pt 3 21:40-41 Dec '49

Is the S-meter superfluous? (ER S-Metret overflodigt) Radio Ekko 12:120-121 June '49

Listening on 2 meter band. (Wir hoeren zwei Meter) Radio Tech 25:439-440 July '49

Liverpool amateur radio exhibition. RSGB Bul 24:310 June '49

Making the higher frequencies pay off. Calvin F. Hadlock. QST 33:25-28 Jan '49

2 meter band-great expectations. (2 Meter-das Band der grossen Erwartungen) Radio Tech 25: 378-381 June '49

Military amateur radio system. QST 33:52 Nov '49

Miniature phone CW transmitter for portable or mobile use. Hal Bumbaugh. Radio & TV N 41: 61+ June '49

New band control. (Vagabundus' nye Baandbegraenser) Radio Ekko 12:215-216 Nov '49

New life in short wave movements. (Nyt Liv i KB-Bevaegelsen) Radio Ekko pt 1 12:76-77 Apr '49; pt 2 12:102-103 May '49; pt 3 12:118-119 June '49

New national traffic plan. G. Hart. QST 33:50-51 Sep '49

Operating news. Monthly column on amateur communication. QST

Painless prediction of two-meter band openings. W. F. Hoisington. QST 33:22-25 Oct '49

Planning the two metre band. W. H. Allen. RSGB Bul 25:75-77 Sep '49

Presumable audibility of DX stations on ultra short waves. (Die mutmasslichen Hoerbarkeitsmoeglichkeiten von DX-Stations auf Ultrakaurzwellen) Radio Tech 25:437-438 July '49

R. S. G. B. QSL bureau. RSGB Bul 25:23 July '49

Signal strength reporting standards. (Letter) D. W. Heightman. RSGB Bul 24:256 Apr '49

Simple gear for the 420 mc beginner. Edward P. Tilton. QST 33:11-14+ May '49

Stop-and-go circuits. QST 33:46-47+ Oct '49

Troop 510 B.S.A. starts ham program. Radio & TV N 42:58+ Aug '49

Unity returns to ham radio. Ray Frank. Radio & TV N 42:54-55+ Dec '49

World above 50 mc. Monthly column on amateur communication. E. P. Tilton. QST

See also

Antennas, Amateur
Reception & Receivers, Communications, Amateur
Transmission & Transmitters, Amateur

COMMUNICATION, Carrier Current

Carrier communication level regulator. W. S. Chaskin. Electronics 22:104+ Apr '49

Carrier communications on "REA" power lines. P. M. Ohlinger. Radio & TV N 42:23-25+ Aug '49

Carrier current protection. German Industry Rep. BIOS 183 Brit Govt Pub

Carrier current transmitter. (Trasmettitore ad onde convogliate) Gioacchino Beradi. Elettronica Jan '49

Characteristic impedance of power cables at carrier current frequencies. Elec Eng 68:339 Apr '49

Communications, carrier wave, line traps for. German Industry Rep. BIOS 38 Brit Govt Pub

Interchangeability charts: radio, radar, and wire communications equipment. May '48 PB 94992

Line tuning equipment used with coaxial cable for carrier current installation on power lines. Howard J. Sutton. AIEE Proc section 96:1-6 Apr '49

Loss measurements made on underground-cable overhead-conductor 132-kv transmission line at carrier current frequencies. H. A. Cornelius and B. Wade Storer. AIEE Proc section 9150:1-5 July '49

Music circuits on the phantoms of 12-and 24-circuit carrier cables. H. J. Marchant and L. R. N. Mills. P O Elec Eng J 42:124-129 Oct '49

New equipment for RF wire transmission. (Neue Einrichtungen fuer den HF-Drahtfunk) Deutsh. Fernmeldtech Zeit pp 15-20 Jan '49

New single sideband carrier system for power lines. B. E. Lenehan. AIEE Trans 66:826-830 '47

Open wire carrier-current systems. (Les courants porteurs sur lignes aeriennes) R. Sueur. Cables & Trans 3:96-105 Jan. '49

Operative of power line carrier channels. H. W. Lensner. AIEE Trans 66:888-894 '47

Power line carrier for relaying joint usage. G. W. Hampe and B. Wade Storer. AIEE Proc pt 1 section 9151:1-10 July '49

Single sideband power line carrier equipment. F. S. Beale. Tele-Tech 8:32+ June '49

Steel plant communications. W. P. Place. Iron & Steel Eng 25:94-97 Nov '48

Study of the general characteristics of the French 12-channel overhead line carrier current system. (Caracteristiques generales du systems L.T.T. a courants porteurs 12 voies sur lignes aeriennes) H. Pech. Cables & Trans 3:177-193 Apr '49

Tests on power cables at carrier current frequencies. C. S. Murray. Elec Eng 68:338 Apr '49

Tests prove adequacy of protection scheme for open-wire signaling lines. W. A. Derr and others. Elec World 132:71-73 Nov 5, '49

Wave filters protect carrier signals from shunting effect of capacitors. W. A. Ringger, jr. Elec World 132:106-108 Nov 19, '49

COMMUNICATION, Carrier Current–Cont'd.

Patents

Carrier frequency shift selecting system, Christopher Buff, 2,486,920, 6 cl. Appl Mar 13, '46; granted Nov 1, '49

COMMUNICATION, Intercom Systems

Blanketing intercom system puts zip into plant operations. D. W. Gratz. Elec World 132:83-84 Dec 17, '49

DC intercommunication system. (Interkom-samtale Anlaeg for Jaensstromsnet) Radio Ekko 10:222 Nov '47

FM communications for underground mining. B. E. Parker and G. W. Thompson. Communications 29:20-21 Aug '49

Installation of interphone equipment in carriage, motor, 105-mm howitzer, M37. 8 pp M 101.18:11-2761 U.S. Govt Pub

Intercom for the home: R. G. Finkbeiner. Radio & TV N 42:49-51+ Nov '49

Inter-com system "ITR-139". (L'interphone ITR-139) B. Morisse. Toute la Radio No 139:282-285 Oct '49

Interoffice transfers of alarms in No 5 crossbar. C. E. Germantown. Bell Lab Rec 17:322-326 Sep '49

New markets for intercoms. Arie Liberman. Radio & TV N 42:45+ Dec '49

Office television system. Radio-Electronics 20:67 Mar '49

Voice-controlled intercom system. J. R. Cooney. Electronics 22:118+ Sep '49

Patents

Communication system, William M. Hall, 2,466,701, 3 cl. Cont of appl Sep 24, '45; this appl Dec 23, '47; granted Apr 12, '49

Control device for interoffice communication systems, Thomas E. Essig, 2,484,082, 5 cl. Appl Jan 8, '47; granted Oct 11, '49

Loud-speaking communication system, Paul E. Demers, 2,484,691, 11 cl. Appl Feb 14, '46; granted Oct 11, '49

Multioffice telephone system, Fernand P. Gohorel, 2,468,057, 2 cl. Appl Oct 23, '43; granted Apr 26, '49

Thermionic vacuum tube circuit for intercommunication systems, Sol J. Klapman, 2,473,652, 17 cl. Appl Jan 11, '47; granted June 21, '49

COMMUNICATION, Marine

Automatic station call selector. W. W. McGoffin and H. R. Schulz. Electronics 22:75-77 Aug '49

European marine radio conference, Copenhagen 1948. (Deutsche Seefunkkonferenz Kopenhagen 1948) Mohr. Fernmeldtech Zeit 277-278 Sep '49

Marine servicing. C. C. Erhardt. Radio Maint pt 1 5:10-11+ Mar '49; pt 2 5:30-31+ Apr '49

Maritime radio service, European convention for the. Copenhagen, Sep 17, '48. Cmd. 7773 Brit Govt Pub

Radio and radar for merchant ships, a performance specification for the climatic and durability testing of marine radio and radar equipment. 1948 PB 95513

Radio communications with Rhine River vessels. Munz. Tech Mitt Schweiz 27:293-296 Dec '49. In French and German

Radio for merchant ships. Performance specifications for compulsorily fitted and voluntarily fitted radiotelephone equipment. 43-163 Brit Govt Pub

R.M.S. Caronia radio and electronic installation. Elec Comm 26:107-128 June '49

Patents

Repeated submarine signaling cable, William Kirby Weston, 2,471,468, 3 cl. Appl Oct 22, '46; granted May 31, '49

Repeater for submarine electric cables, Marc van Hasselt, 2,471,465, 1 cl. Appl Jan 14, '47; granted May 31, '49

COMMUNICATION, Microwave

See Microwaves, Communication

COMMUNICATION, Military

Army standardizes FM equipment. G. Devore. Tele-Tech 8:20-23+ Aug '49

Drawings BXX-31682: B-151591 radio telephone equipment, schematic diagram, for use in maintenance of receiver-transmitter portion of surplus AN/ARC-1. PB 95597

How to sell to Uncle Sam, U. S. Armed Forces. Tele-Tech 8:14-16 Oct '49

Interrogations regarding high-frequency communication systems for army use, X-ray apparatus, etc. German Industry Rep. FIAT 272 Brit Govt Pub

Maintenance instructions for the L039 portable transmitter; and principles of cathode ray tubes—Air Force manual. PB 92660

Military teletypewriter systems. F. J. Singer. Elec Eng 68:39 Jan '49

North American: installation of radio set AN/ARC-3 and interphone system AN/AIC-2-AT-6D and AT-6F. Mar '48 PB 80453s2

North American: replacement of radio sets SCR-274-N and SCR-522-( ) with radio set AN/ARC-3-B-25J. Apr '48 PB 80509s2

Set: development, systems, navigation, radio and radar long range, ground communications. Feb '47 PB 87735

Patents

Secret signaling system, Carl Edward Atkins, 2,490,-022, 13 cl. Appl Sep 8, '43; granted Dec 6, '49

COMMUNICATION, Police

Allocations problems. V. J. Doyle. APCO Bul 15:11+ Dec '49

County cooperative; a practical cost agreement. APCO Bul 15:11 Nov '49

Disaster in the "tube." APCO Bul 15:7 June '49

37-50 mc; geographical assignment plans. Z. Audritsh. APCO Bul 15:7 Dec '49

New approach. APCO Bul 15:7+ May '49

New 2-way radio equipment for metropolitan police. Donald P. Whitacre, sr. Radio & TV N 41:64-65+ Jan '49

Police radio for balmy Bahamas. R. E. Knowles. APCO Bul 15:5 Jan '49

COMMUNICATION, Police–Cont'd.

Police radio in Switzerland. George S. Maxey. APCO Bul 15:5+ Mar '49

Public safety radio services. APCO Bul 15:9+ Nov '49

Rockford's modern plant. Lloyd S. Ward. APCO Bul 15:5+ Apr '49

South Australian police FM network. R. W. Goss. Communications 29:14-16 Sep '49

COMMUNICATION, Pulse

See Pulse Circuits, Communication

COMMUNICATION, Radiotelegraphy

Auto CQ sender. Short Wave Mag 7:289-291 June '49

Automatic bug. Radio-Electronics 20:77 May '49

Clickless keying. W. Vinicombe. Short Wave Mag 6:818-819 Jan '49

CW on telephone band. (CW paa Fonebaandene) Radio Ekko 12:231 Dec '49

Development of radio telegraphy in the last decade. (Entwicklung der Funktelegraphie im letzten Jahrzent) Elektrotechnik 3:145-147 May '49

Eddystone semi-automatic key. RSGB Bul 24:247 Apr '49

LF selectivity in telegraphic receivers. (LF-Selektivitet i Telegragimodtagere) Radio Ekko 12:38 Feb '49

London traffic control. Wireless World 55:s8-s9 Dec '49

New radio relay system speeds WU telegrams. Elec World 130:12 Nov 27, '48

Reducing key clicks. Owen M. Carter. QST 33: 30+ Mar '49

Simple break-in systems. J. P. Hawker. RSGB Bul 25:107-109 Oct '49

TOR—a new radio telegraph system. (TOR—Telex over Radio) Radio Tech 25:635-636 Nov '49

Patents

Code communication system, Nelson B. Coley, 2,487,102, 15 cl. Appl May 2, '47; granted Nov 8, '49

Control circuits, John E. Young, 2,462,799, 5 cl. Appl Mar 21, '45; granted Feb 22, '49

Frequency shift carrier system, George J. Maki, 2,463,403, 9 cl. Appl July 30, '46; granted Mar 1, '49

Frequency shift keyer, De Witt Rugg Goddard, 2,476,141, 9 cl. Appl Aug 21, '46; granted July 12, '49

Frequency shift keying, George L. Usselman, 2,461,-456, 15 cl. Appl Feb 11, '44; granted Feb 8, '49

Frequency shift telegraphy, James L. Finch, 2,492,-791, 4 cl. Appl Apr 24, '46; granted Dec 27, '49

Message information storage device, Louis M. Potts, 2,467,566, 14 cl. Orig appl Jan 2, '41; divided and this appl Sep 20, '43; granted Apr 19, '49

Method of transmitting telegraphic signals, Herman Bernard Rudolf Boosman, 2,464,567, 20 cl. Appl July 15, '46; granted Mar 15, '49

Phase reversal telegraph system, Robert Pierre Leroy, 2,471,333, 1 cl. Appl Nov 6, '45; granted May 24, '49

Printing telegraph system, John B. Moore, 2,471,076, 9 cl. Appl May 23, '45; granted May 24, '49

Pulse type telegraph receiver, Warren H. Bliss, 2,457,974, 20 cl. Appl June 17, '43; granted Jan 4, '49

Sending and receiving signaling system, Brownlee B. Gauld, 2,475,609, 5 cl. Appl Jan 16, '45; granted July 12, '49

Telegraph system, Maurus T. Goetz, 2,482,264, 12 cl. Appl July 14, '45; granted Sep 20, '49

COMMUNICATION, Radiotelephony

B4 radio control terminal. V. J. Hawks. Bell Lab Rec 27:210-214 June '49

Citizens radio service. Aerovox Res W 19:1-3 Nov '49

Cross-talk considerations in time-division multiplex. (Abstract) S. Moskowitz and others. IRE Proc 37:161 Feb '49

DC 80 meter radio telephone. (30 Meter Telefonisender til Jaevnstromsdrift) Radio Ekko 10:242-243+ Dec '47

Great Lakes radiotelephone systems. R. H. Herrick. Elec Eng 68:152-157 Feb '49

Inductive prompting system. B. H. Denney and R. J. Carr. Electronics 22:66-69 Nov '49

Port Elizabeth—uitenhage time-sharing-modulation radio link. Elec Comm 26:269-271 Dec '49

Proposal for telephony transmitter with control grid and suppressor grid modulation. (Telefonisenderens Indstilling ved Styre-og Fanggitter-Modulation) Radio Ekko 12:90-92 May '49

Radio communications for pipe-line systems. W. T. Bulla. Oil & Gas J 48:292-294 Oct 6, '49

Radio transmission maintenance. R. H. Miller. Elec West 103:66-67 Dec '49

Radio-telephony at Whitemoor marshalling yard. Engineer 188:326 Mar 25, '49

Receiving system at Cooling radio station. C. F. Booth. P O Elec Eng J 42:84-89 July '49

Relative sky-wave signal strengths required for intelligible reception of various types of radio communication service. PB 19798r

Review of the applications of VHF radio communications. E. W. Northrop. GEC Jour 16:184-196 Oct '49

Super-modulated low-power phone transmitter. Rufus P. Turner. Radio & TV N 41:50+ June '49

Swedish communication equipment. Elec Rev 144: 492 Mar 25, '49

Systems of USW multichannel telephony. W. Klein. Schweiz Elektrotech Ver Bul 39:571-573 Aug 21, '48

Time division multiplexing system. W. P. Boathroyd and E. M. Creamer, jr. Elec Eng 68:588 July '49

Time-sharing system of multiplex. H. D. B. Kirby. Electronic Eng 21:360-365 Oct '49

Tiny transceiver for citizens radio. Sylvan N 16: G3 Jan '49

Two-way radio expedites concrete deliveries. D. Mocine. Rock Prod 52:101-102 Sep '49

Two way radios link fields with office in processing plant. Food Ind 20:1584-1585 Nov '48

VHF radio equipment for railways and heavy industries. Engineer 188:502 Oct 28, '49

COMMUNICATION, Radiotelephony Cont'd.

VHF telephone link for isolated communities. E. H. B. Bartelink and E. A. Slusser. Electronics 22:78+ Apr '49

Patents

Means for limiting the modulation of the output of transmitters of communication systems. Andrew J. Sorensen, 2,491,590, 5 cl. Appl Sep 4, '47; granted Dec 20, '49

Signaling system. James B. Rudd, 2,479,025, 4 cl. Appl Dec 18, '45; granted Aug 16, '49

Signaling system. Robert C. Ferrar and Gerald Menhennett, 2,485,580, 9 cl. Appl Sep 18, '46; granted Oct 25, '49

Single channel radio communication system affording break-in operation. William D. Hailes, 2,472,585, 17 cl. Appl Apr 4, '45; granted June 7, '49

Transmitting system. Thomas I. Ress, 2,479,701, 16 cl. Appl Feb 7, '44; granted Aug 23, '49

Mobile

Adjacent-channel operation of mobile equipment. D. E. Noble. Electronics 22:90+ June '49

Better mobile radio service. Jeremiah Courtney. FM-TV 9:13+ May '49

Directory of mobile radio systems. FM-TV 9:27-30 July '49

Mobile radio systems available and developments in recent years. F. Budleman. Edison Elec Inst Bul 17:75-76+ Mar '49

Mobile telephone problem. W. Henry. Pub Util 42:844-849 Dec 16, '48

New national network for mobile radio systems. Tele-Tech 8:39-40 Sep '49

Portable transmitter and receiver. Arthur O. Milne. RSGB Bul 25:181-183 Dec '49

Privacy for mobile phones. J. K. Kulansky. FM-TV 9:9-12 Dec '49

Six-channel urban mobile system with 60 kc spacing. (Abstract) R. C. Shaw and others. IRE Proc 37:175 Feb '49

Telephone company mobile radiotelephone for power utility use. R. Kulo. Edison Elec Inst Bul 17:73-74+ Mar '49

Two "Walkie-Talkie" circuits at UHF. (Deux emetteurs-recepteurs UHF "Walkie-Talkie") C. Guilbert. Toute la Radio No 140:332-337 Nov '49

Two-way bus radio is ready for use in intercity field. T. R. Warner. Bus Transportation 28:46-48 Aug '49

Two-way radio for tractor maintenance. Vin Zeluff. Electronics 22:124+ Mar '49

VHF mobile communications systems. A. J. Campbell. IRE Proc (Australia) 10:73+ Mar '49

VHF radio equipment for mobile services. D. H. Hughes. Brit IRE J 9:30+ Jan '49

Vibrating reed selective signaling system for mobile telephone use. Harold M. Pruden and Daniel F. Hoth. AIEE Proc section 9100:1-5 Apr '49

Vibrating reed selectors for mobile radio use. A. C. Keller and L. G. Bostwick. Elec Eng 68:787 Sep '49

Patents

Mobile telephone system. Lance R. Jacobsen, 2,481,516, 5 cl. Appl Mar 22, '46; granted Sep 13, '49

See also

Federal Communications Commission
Transceivers

COMMUNICATION, Railway

Applications of radio links to railways. J. Walter. Franc Elec Soc Bul 9:273-281 June '49

B & O yard speeds freight—cuts cost—at Chicago. Ry Age 126.62(782)-66(786) Apr 16, '49

Coast line installs train communication. Ry Age 127:50(1008)-52(1010) Dec 3, '49

Communications modernized on Baltimore & Ohio. Ry Age 126:38(188)-40(190) Jan 15, '49

Communications speed 'em up. Ry Age 126:184(1052)-185(1053) May 21, '49

Communications systems expedite belt line operation. Ry Age 126:38(906)-41(909) May 7, '49

Electrical interlocking of railway signals at Doncaster. Engineering 167:41+ Jan 14, '49

End-to-end communication pays off on the "Q". Ry Age 126:90(552)-91(553) Mar 12, '49

Excellent year in communications. M. Peacock. Ry Age 126:178(82)-179(83) Jan 8, '49

Frequency correction equipment for railway signalling supplies. Engineer 187:184+ Feb 18, '49

Frequency-correction equipment for railway-signalling circuits. Engineering 167:331-332 Apr 8, '49

Loudspeakers reduce yard costs. Ry Age 127:42(596)-43(597) Oct 1, '49

Microwaves for railroad control. Vin Zeluff. Electronics 22:150+ Jan '49

Radio control of marshalling-yard traffic. Engineering 167:306+ Apr 1, '49

Railroad radio. W. D. Hailes. Elec Eng 68:1-6 Jan '49

Railway signalling developments: 1923-1948. O. S. Nock. Engineer pt 1 187:518 May 13, '49; pt 2 187:546 May 20, '49; pt 3 187:574+ May 27, '49; pt 4 187:602 June 3, '49

Radio freed from wire-line linkage. P. J. Corporon. Ry Age 126:52(1202)-54(1204) June 18, '49

Twelve-volt caboose power; Boston and Maine space-radio communication. Ry Mech Eng 123:574-577 Oct '49

Walkie-talkies used by surveyors. Roads & Streets 92:60 Jan '49

Patents

Line circuit communication system. Frederick W. Brixner, 2,459,494, 6 cl. Appl Jan 26, '48; granted Jan 18, '49

Railway train communication and alarm system using modulated carrier currents. Paul N. Bossart, 2,484,680, 19 cl. Appl Jan 30, '45; granted Oct 11, '49

Railway train communication system. William L. Konrad, 2,460,354, 5 cl. Appl Dec 12, '44; granted Feb 1, '49

Traffic signaling system. William S. Halstead, 2,459,105, 4 cl. Appl Apr 12, '41; granted Jan 11, '49

COMMUNICATION, Secrecy Systems

Communication theory of secrecy systems. C. E. Shannon. Bell System Tech J 28:656-715 Oct '49

Patents

Automatic keyer for code transmitters, William Walter McGoffin, 2,481,607, 2 cl. Appl Nov 1, '45; granted Sep 13, '49

Electronic synchronous signal regenerator, Sydney Rattner, 2,470,722, 4 cl. Appl Feb 15, '49; granted May 17, '49

Inverter and distorter for secret communications, Leonide E. Gabrilovitch, 2,479,338, 15 cl. Appl Jan 13, '45; granted Aug 16, '49

Means for reducing code distortion in coded signaling systems, Andrew Hufnagel, 2,479,684, 8 cl. Appl Aug 20, '47; granted Aug 23, '49

Method and system of secret communication, Carl E. Atkins, 2,463,502, 19 cl. Appl May 21, '42; granted Mar 8, '49

Receiving system for code signals, Benjamin S. Vilkomerson, 2,479,652, 5 cl. Appl Jan 11, '45; granted Aug 23, '49

Secret communication employing signal sequence switching, Louis A. Thompson, 2,482,039, 6 cl. Appl Sep 6, '45; granted Sep 13, '49

Secret radio communication, Russell H. Varian, 2,476,337, 5 cl. Appl Jan 22, '43; granted July 19, '49

Secret radio communication system, Carl E. Atkins, 2,463,504, 15 cl. Appl Feb 18, '43; granted Mar 8, '49

Secret signaling system, Carl Edward Atkins, 2,463,-503, 14 cl. Appl Dec 9, '42; granted Mar 8, '49

Secret signaling system, Carl Edward Atkins and Alexander V. Mitchell, 2,463,505, 19 cl. Appl July 27, '43; granted Mar 8, '49

Synchronous regenerator, Warren August Anderson, 2,470,677, 6 cl. Appl June 18, '47; granted May 17, '49

COMMUNICATION, Single Sideband

"Basic" phone exciter. Byron Goodman. QST 33: 11-17 Jan '49

Condition of double diversity for single sideband radio-telephony reception. A. Sev. Ann Radioelec 4:261-264 July '49. In French

Filter design for the single-sideband transmitter. Fred M. Berry. QST 33:29-35 June '49

Inexpensive sideband filter. David O. Mann. QST 33:21-26+ Mar '49

Method for distortionless demodulation of single-sideband oscillations. E. Meinel. Arch Elek Ubertragung 3:37-46 Feb '49

New development of single side band reception. (Neue Entwicklung des Einseitenbandempfanges) Radio Tech 25:404-406 July '49

Single sideband radio-telephony. H. D. B. Kirby. Wireless World 55:90+ Mar '49

Single sideband telephony. (Telefoni med enkelt Sidebaand) Radio Ekko 11:94 May '48

Single-sider. Clayton F. Bane. CQ 5:13-18+ May '49

Versatile single-sideband exciter. Donald E. Norgaard. CQ pt 1 5:34-40 Mar '49; pt 2 5:28-32 Apr '49

See also

Filters
Reception & Receivers, Communication, Amateur

COMMUNICATION, Telegraphy

40AC1 carrier telegraph system. A. L. Matte. Bell Lab Rec 17:327-332 Sep '49

Automatic Morse key. J. P. Bromley. Short Wave Mag 7:765-766 Dec '49

12-channel long-distance voice-frequency telegraph system. German Industry Rep. JIOA 57 Brit Govt Pub

Distance function of telegraphy. (Entfernungsfunction der Telegraphie) K. Winkelmann. Frequenz 3:108-110 Apr '49

Effects of filters on telegraphic distortion. (L'influence de filtrage sur la distortion telegraphique) H. Gardere. Cables & Trans 3:248-261 July '49

Electronic regenerative repeater for 7½-unit start-stop telegraph signals. R. O. Carter and others. P O Elec Eng J 41:222-227 Jan '49

Fire alarm telegraph for small communities. A. Heden and E. Lindgren. Ericsson Rev No 1:24-27 '49

History of AC telegraphy. (Geschichtlicher Werdegang der Wechselstromtelegraphie) Wedler. Fernmeldetech Zeit 121-124 Apr '49

Key clicks. (Tastklicks) Radio Tech 25:555-557 Sep '49

Modern telegraphic receiver. (Een moderne Telegrafieontvanger) Tijdschr ned Radiogenoot 14: 27-40 Mar '49

Non-linear distortion in AC telegraphy. (Die Nichtlinearen Verzerrungen in der Wechselstrom-telegraphie) Wisspeintner and Bergmann. Frequenz 3:174-178 June '49

Planned networks for telegraphy. (Netaplanung der Telegraphie) A. Jipp. Frequenz 3:101-108 Apr '49

Push button switching in telegraph systems. R. F. Blanchard and W. B. Blanton. Elec Eng 68:225 Mar '49

Repeater station equipment. (Le materiel des stations de repeteurs) J. Malezieux and R. Sueur. Cables & Trans 3:66-82 Jan '49

Slightly damped low frequency telegraphy transmitters. (Roehrenbelastung und Zeichenform schwach gedaempfter Langwellen-Telegraphiesender) Ruhrmann. Fernmeldetech Zeit 147-152 May '49

Study of an electronic Morse code translator. M.S. thesis. Jacques I. Pantchechnikoff. U of Calif Eng Dept Aug '48

Telegraphy by frequency displacement. C. P. Perez. Rev Telegr No 444:522-524 Sep '49. In Spanish

Telegraphy, pony express to beam radio. G. C. Hillis. 3924:191-205 SI 1.1/a:T235 U.S. Govt Pub

Telephonic code transmission. (La transmission telephonique par code) Tech Mod 41:101-102 Mar '49

Patents

Antikickoff device for telegraph repeaters, Richard B. Hearn and Carleton B. Sutliff, 2,467,310, 2 cl. Orig appl July 1, '44; divided and this appl July 31, '46; granted Apr 12, '49

COMMUNICATION, Telegraphy, *Patents*–Cont'd.

Automatic gain control, Frederick Percival Mason, 2,476,990, 7 cl. Appl Dec 15, '44; granted July 26, '49

Automatic multiple stage telegraph system, Howard D. Colman, 2,472,885, 174 cl. Appl July 19, '40; granted June 14, '49

Channel and transmitter control for telegraph systems, Walter M. Bacon, 2,486,699, 36 cl. Appl Nov 17, '45; granted Nov 1, '49

Code converter and error detector, James A. Spencer and Lewis A. Thomas, 2,471,126, 6 cl. Appl Oct 24, '46; granted May 24, '49

Control circuit for switching telegraph facilities, George Ruemont Pigman, 2,460,767, 3 cl. Appl Sep 1, '44; granted Feb 1, '49

Divided channel telegraph system, Louis M. Potts, 2,487,178, 15 cl. Appl June 4, '47; granted Nov 8, '49

Double-current audio-frequency telegraphic transmission system, Robert Pierre Leroy, 2,486,041, 3 cl. Appl Nov 6, '45; granted Oct 25, '49

Electrical signal transmission system, Charles de Vriendt and Lucien A. B. Cabes, 2,474,234, 12 cl. Appl Apr 1, '43; granted June 28, '49

Frequency shift keyer, Joseph M. Brian, 2,480,705, 17 cl. Appl Oct 31, '45; granted Aug 30, '49

High-speed telegraphy signal recorder, Clarence W. Hansell, 2,474,049, 7 cl. Appl Mar 26, '45; granted June 21, '49

Keying control system, Reynold S. Chapin, 2,460,-061, 1 cl. Appl July 8, '46; granted Jan 25, '49

Means and method for switching of telegraph messages, Joseph W. Milnor, 2,472,608, 3 cl. Appl Jan 12, '45; granted June 7, '49

Modulator, Edgar S. Grimes, 2,462,093, 22 cl. Appl Sep 22, '45; granted Feb 22, '49

Multifrequency signaling system, Charles Clos, 2,470,145, 10 cl. Appl Sep 25, '47; granted May 17, '49

Multiplex radio system, Forrest A. Bartlett, 2,459,-485, 6 cl. Appl Aug 30, '44; granted Jan 18, '49

Photoelectric controlled carrier modulator, Hugh C. Ressler, 2,465,265, 4 cl. Appl May 29, '45; granted Mar 22, '49

Plural transmitter telegraph system with number transmitter, Reginald G. Schuler, 2,487,186, 9 cl. Appl Jan 23, '46; granted Nov 8, '49

Pulse code-signaling system, Claud E. Cleeton, 2,471,413, 14 cl. Appl May 15, '40; granted May 31, '49

Pulse receiving circuit, Lucien A. B. Cabes, 2,474,-220, 10 cl. Appl Jan 22, '43; granted June 28, '49

Radio control system, Henry H. Abbott, Henry M. Bascom and Preston B. Fairlamb, 2,469,539, 5 cl. Appl Feb 23, '46; granted May 10, '49

Regenerative Repeater, Jean Louis Hurault, 2,468,-556, 5 cl. Appl Dec 2, '46; granted Apr 26, '49

Regenerative telegraph repeater one or more code combinations per start-stop cycle, Walter M. Bacon, 2,484,066, 9 cl. Appl Oct 24, '45; granted Oct 11, '49

Regenerative telegraph repeater utilizing an impulse generator, Wilton T. Rea, 2,487,181, 9 cl. Cont of abandoned appl July 20, '44; this appl June 3, '47; granted Nov 8, '49

Secret telegraph system, Joseph W. Dehn, 2,466,390, 2 cl. Appl Mar 3, '44; granted Apr 5, 49

Secret telegraph system, Samuel I. Cory, 2,463,248, 11 cl. Appl Mar 8, '46; granted Mar 1, '49

Secret telegraph system, Walter M. Bacon, 2,463,-236, 6 cl. Appl Mar 9, '46; granted Mar 1, '49

Selective control of printer motors at outlying telegraph stations, Clarence J. Russnak, 2,468,574, 6 cl. Appl Mar 23, '45; granted Apr 26, '49

Selective telegraph station calling system, John L. Maxwell, 2,477,309, 16 cl. Appl Oct 29, '48; granted July 26, '49

Signal controlled selector, Herbert Angel, 2,485,551, 17 cl. Appl Aug 29, '44; granted Oct 25, '49

Signaling circuit, Robert C. Mathes, 2,483,732, 3 cl. Appl Dec 18, '47; granted Oct 4, '49

Signaling system, Ralph H. Halvorsen, 2,487,130, 6 cl. Appl June 20, '46; granted Nov 8, '49

Start-stop regenerative repeater, Pierre Pelle, 2,474,490, 10 cl. Appl May 9, '45; granted June 28, '49

Submarine cable repeater, Esmond W. Smith and Richard W. Presswell, 2,471,046, 1 cl. Appl Jan 21, '47; granted May 24, '49

Supervisory signal system, Ian N. McBain, 2,486,-360, 4 cl. Appl Nov 8, '45; granted Oct 25, '49

Synchronizing system for telegraphy, Eugene R. Shenk, 2,483,786, 8 cl. Appl Aug 25, '45; granted Oct 4, '49

Telegraph exchange system, George G. Light and William B. Blanton, 2,484,838, 20 cl. Appl Aug 3, '40; granted Oct 18, '49

Telegraph key, Charles M. Hayman, 2,459,027, 17 cl. Appl June 7, '45; granted Jan 11, '49

Telegraph key, Frank E. Schaeffer, 2,475,257, 4 cl. Appl Mar 23, '48; granted July 5, '49

Telegraph keyboard transmitter, Jean Estoup, 2,487,118, 8 cl. Appl Feb 3, '47; granted Nov 8, '49

Telegraph repeater, Richard B. Hearn and Joseph A. Krecek, 2,476,864, 18 cl. Appl Sep 29, '44; granted July 19, '49

Telegraph service equipment, Raleigh J. Wise and Garvice H. Ridings, 2,478,218, 13 cl. Appl Apr 21, '45; granted Aug 9, '49

Telegraph signal code translator, Edward F. Watson, 2,459,904, 13 cl. Appl Dec 9, '43; granted Jan 25, '49

Telegraph signal distortion measuring apparatus and system, Wilton T. Rea, 2,480,878, 12 cl. Appl Dec 20, '43; granted Sep 6, '49

Telegraph storage system, George A. Locke, 2,486,-302, 3 cl. Appl June 28, '46; granted Oct 25, '49

Telegraph switching system, Orlando Blyholder, 2,464,371, 9 cl. Appl Aug 14, '44; granted Mar 15, '49

Telegraph switching system, Orlando Blyholder, 2,490,666, 3 cl. Orig appl Aug 14, '44; divided and this appl Aug 24, '45; granted Dec 6, '49

Telegraph system, George Clifford Hartley and William John Reynolds, 2,468,065, 10 cl. Orig appl Mar 10, '43; divided and this appl Apr 6, '46; granted Apr 26, '49

Telegraph system, George G. Light, 2,462,112, 5 cl. Appl Mar 10, '45; granted Feb 22, '49

COMMUNICATION, Telegraphy, *Patents*–Cont'd.

Telegraph system with code conversion and error detection, Harry Vernon Higgitt, 2,473,202, 9 cl. Appl Sep 21, '48; granted June 14, '49

Telegraph transmitter control mechanism, Wilton T. Rea, 2,468,462, 8 cl. Appl July 4, '45; granted Apr 26, '49

Telegraphic communication system with automatic answer back and alarm signals, Edward E. Kleinschmidt, 2,474,257, 36 cl. Appl Dec 24, '43; granted June 28, '49

Telegraphic instrument, Lawrence L. Dow, 2,481,091, 1 cl. Appl Dec 14, '48; granted Sep 6, '49

Telegraphic receiving apparatus, Leif Christian Olsen, 2,466,471, 13 cl. Appl June 15, '45; granted Apr 5, '49

Telegraphy receiver with automatic frequency control, Murray G. Crosby, 2,462,470, 18 cl. Appl June 17, '43; granted Feb 22, '49

Two-tone keyer, Eugene R. Shenk, 2,459,462, 9 cl. Appl Mar 16, '46; granted Jan 18, '49

Universal telegraph repeater, Richard B. Hearn, 2,466,891, 20 cl. Appl July 4, '45; granted Apr 12, '49

COMMUNICATION, Telephony

Alarm system for No 5 crossbar. C. E. Germantown. Bell Lab Rec 17:294-298 Aug '49

Alternative routing of junction traffic. N. Rodenburg. Philips Comm N 10:30-32 Jan '49

Analysis-synthesis telephony with special reference to the vocoder. IEE Proc pt III 96:497+ Nov '49

Application of multifrequency pulsing in switching. C. A. Dahlbom and others. AIEE Proc section 9101:1-5 Apr '49

Automatic installations for 12 or 24 channel cables. (Installations automatiques pour cables a paires pour 12 ou 24 voies) A. Romanet. Cables & Trans 3:208-223 Apr '49

Carrier current pulsing over toll telephone circuits. I. Molnar. IRE Proc 37:814-821 July '49

48-channel carrier telephone system. G. H. Bast and others. Philips Tech Rev pt 1 9:161-170 Dec '47; pt 2 10:353-362 June '49

Conversion of carrier routes from 12 to 24 circuits working. F. W. G. Dye. P. O. Elec Eng J 42:26-32 Apr '49

Design of German line telecommunications transmission systems. BIOS 687 Brit Govt Pub

Group-start method of subscriber's line identification. F. H. Bray and others. Elec Comm 26:209-221 Sep '49

Harmonic generator for audible ringing. M. S. Burgess. Bell Lab Rec 17:261-265 July '49

Influence of signal imitation on reception of voice-frequency signals. T. H. Flowers and D. A. Weir. Elec Comm 26:319-337 Dec '49

Interconnection of channel groups between coaxial cables. A. Fromageot and M. A. Lalande. Elec Comm 26:158+ June '49

John A. Barrett: pioneer in telephone research. R. B. Hill. Bell Lab Rec 17:255-260 July '49

K2 carrier system. F. A. Brooks. Bell Lab Rec 27:141-145 Apr '49

Motor uniselector and the technique of its application in telecommunication. W. H. Grinsted. IEE Proc pt III 96:403-421 Sep '49

Multifrequency pulsing in switching. C. A. Dahlbom and others. Elec Eng 68:505-510 June '49

New control system safeguards service along coaxial route. Bell Lab Rec 27:136 Apr '49

Noise level in FM radio relay links for multichannel carrier telephone-systems. A. van Weel. Philips Comm N 10:83-86 Oct '49

Overall systems planned for multi-channel telephone carriers. Howard B. Smith. Tele-Tech 8 34+ Feb '49

555 PBX. G. F. Sohnle. Bell Lab Rec 27:125-12 Apr '49

Phonogram automatic distribution. H. E. Wilcockson and H. Walker. P O Elec Eng J 42:149-15 Oct '49

Pulse-less signal transmission in telephone circuits (Stosfreie Zeichenuebertragung in Fernsprechstromkreisen) Fuehrer. Fernmeldetech Zeit 135 140 May '49

Rectifier modulators with frequency-selective terminations. D. G. Tucker. IEE Proc pt III 96 422-428 Sep '49

Seignette crystals in telephony. (Der Seignettsalzkristall in der Telephonie) Senegewitz. Fern meldetech Zeit 219-222 July '49

Some aspects of electrical contacting materials and phenomena associated with the design of electromechanical devices used in German telecommunication equipment. BIOS 1276 Brit Govt Pub

Storage and translation in automatic trunk calls (Speicherung und Umrechnung im Waehlerfernverkehr) Langer. Frequenz 3:249-250 Aug '49

Tape-to-page translator. A. E. Frost. Elec Eng 68 332 Apr '49

Telecommunications in the petroleum industry. J. Friedberg. Inst Pet J 34:309-330 May '48

Telephone accessories. (Les dispositifs accessoires et leur admission) Pfisterer. Tech Mitt Schwei 27:287-292 Dec '49

Telephone statistics of the world. Elec Comm 26 153-157 June '49

Transmission efficiency and its applications to telephone systems. (La efficienza di trasmissione e il suo apprezzamento nei sistemi telefonici) F Sozzani. Elettrotecnica 36:60-70 Feb '49

Twelve-channel carrier telephone systems in South Africa. N. J. Paola and others. S Afr IEE Tran 39:277-312 Oct '48

Variations of telephone traffic. F. W. Rabe. Elec Comm 26:243-248

Vibrating reed selective signaling system. Harold M. Pruden and Daniel F. Hoth. Elec Eng 68:92 Nov '49

Patents

Acoustical telephone connector for sound recorders Scott B. Berkeley, 2,479,806, 6 cl. Appl July 14 '48; granted Aug 23, '49

All electronic line finder and selector system, David Hiram Ransom, 2,490,833, 24 cl. Appl Apr 26, '47 granted Dec 13, '49

Amplitude modulated time modulated pulse system, Donald D. Grieg, 2,474,244, 12 cl. Appl May 19, '44; granted June 28, '49

Antisinging gain controlled repeater, Roswell H Herrick, 2,472,211, 12 cl. Appl Dec 13, '45; granted June 7, '49

COMMUNICATION, Telephony, *Patents*–Cont'd.

Apparatus for testing the speed of calling dials, Owen C. From, 2,489,282, 8 cl. Appl Aug 19, '47; granted Nov 29, '49

Automatic by-pass for repeaters, Roswell H. Herrick, 2,478,395, 21 cl. Appl Apr 17, '47; granted Aug 9, '49

Automatic telephone system, Martin E. Maloney and Frank F. Shipley, 2,468,300, 14 cl. Appl Aug 14, '45; granted Apr 26, '49

Broadcast system for producing simultaneous alarm signals in a plurality of telephone stations, Frederick L. Wolf, 2,465,826, 14 cl. Appl Feb 17, '47; granted Mar 29, '49

Dictation recording system, Langford J. Browne, 2,489,396, 1 cl. Appl June 24, '47; granted Nov 29, '49

Dual control and lockout means for telephone stations, George G. Bradley, 2,458,557, 8 cl. Appl June 26, '46; granted Jan 11, '49

Echo suppressor, Charles Gillings and Percy Edward Alexander Cowley, 2,472,894, 3 cl. Appl Sep 15, '43; granted June 14, '49

Electrical signaling system, Willie Saville, 2,484,188, 4 cl. Appl Oct 8, '45; granted Oct 11, '49

Electromagnetic sound powered telephone, Glenn L. Dimmick, 2,474,197, 5 cl. Appl May 31, '40; granted June 21, '49

Electronic telephone exchange, Edmond M. Deloraine and David H. Ransom, 2,492,136, 19 cl. Appl Mar 14, '46; granted Dec 27, '49

High-frequency transmission system, Lloyd Espenschied, 2,467,299, 13 cl. Appl Nov 12, '42; granted Apr 12, '49

Impulse correcting repeater, Charles Gillings and Charles Edmund Beale, 2,475,546, 9 cl. Appl Dec 8, '44; granted July 5, '49

Indicator for telephone switchboards, Carl Lomholt, 2,485,615, 1 cl. Appl Oct 11, '47; granted Oct 25, '49

Interoffice connection, Karl L. Burgener, 2,483,179, 24 cl. Appl Sep 15, '45; granted Sep 27, '49

Line finder synchronizer, David H. Ransom, 2,462,-896, 10 cl. Appl Nov 14, '45; granted Mar 1, '49

Loud-speaking telephone set with low acoustic coupling, Edward S. Peterson, 2,483,231, 8 cl. Appl Aug 17, '46; granted Sep 27, '49

Means for recording telephonic messages, Benjamin Silvermaster, 2,476,327, 15 cl. Appl Dec 18, '45; granted July 19, '49

Modulator, Paul Glass, 2,460,690, 3 cl. Appl Nov 14, '46; granted Feb 1, '49

Multiple modulation carrier frequency telephone system, Jean Louis Hurault, 2,468,555, 5 cl. Appl Nov 6, '45; granted Apr 26, '49

Observation apparatus without wire changeovers, Barney J. Kucera, 2,485,748, 12 cl. Orig appl July 15, '42; divided and this appl Jan 15, '45; granted Oct 25, '49

Portable telephone extension, Jay D. Wiener, 2,488,-153, 2 cl. Appl Mar 4, '47; granted Nov 15, '49

Power line carrier frequency telephone system, John W. Emling, 2,484,211, 6 cl. Appl Oct 11, '46; granted Oct 11, '49

Private automatic telephone exchanges employing nonnumerical switches for interconnecting local lines and trunk lines, John H. Voss, 2,486,231, 27 cl. Appl June 29, '45; granted Oct 25, '49

Radiotelephone equipment, George G. Bradley, 2,458,558, 17 cl. Appl July 26, '46; granted Jan 11, '49

Remote-controlled automatic telephone for loud traffic, Otto Tschumi, 2,470,590, 4 cl. Appl May 12, '44; granted May 17, '49

Ringing system for voice current repeaters, Roswell H. Herrick, 2,491,263, 12 cl. Appl Nov 1, '46; granted Dec 13, '49

Selective message register system, Joseph W. Dehn and Wiley Whitney, 2,468,429, 5 cl. Appl July 1, '47; granted Apr 26, '49

Selector system, Alvin H. Varnard and Arnold M. Skudre, 2,480,624, 4 cl. Appl Jan 2, '47; granted Aug 30, '49

Self-biased electric translating device, Harold L. Barney, 2,486,776, 13 cl. Appl Apr 21, '48; granted Nov 1, '49

Signaling system, Norman A. Newell, 2,468,305, 5 cl. Appl Nov 1, '46; granted Apr 26, '49

Supervisory signaling in telephone systems, Lindley A. Kille and Theodore D. Robb, 2,481,932, 3 cl. Appl Dec 27, '46; granted Sep 13, '49

Telephone alarm system, Oscar A. Shann, 2,461,241, 3 cl. Appl Apr 9, '46; granted Feb 8, '49

Telephone call recording system, James C. Pond, 2,479,252, 9 cl. Appl Mar 10, '47; granted Aug 16, '49

Telephone calling line identification system, Gerald Deakin, William Hatton and Lucien A. B. Cabes, 2,471,415, 25 cl. Appl Apr 30, '43; granted May 31, '49

Telephone circuit, Arnold Lesti, 2,487,455, 9 cl. Appl Jan 29, '45; granted Nov 8, '49

Telephone handset, Gerald Deakin, 2,485,574, 3 cl. Appl Apr 6, '45; granted Oct 25, '49

Telephone ringing current generator, Henry M. Huge, 2,461,547, 14 cl. Appl Oct 13, '47; granted Feb 15, '49

Telephone switchboard attachment, Eugene E. Roberts, 2,486,325, 3 cl. Appl May 17, '48; granted Oct 25, '49

Telephone system, Bernard C. Groh, 2,465,372, 2 cl. Appl Aug 10, '45; granted Mar 29, '49

Telephone system, Eigil Cohrt, 2,468,040, 11 cl. Appl Apr 13, '43; granted Apr 26, '49

Telephone system arranged for voice frequency signaling, Burton McKim and Josiah L. Merrill, jr., 2,484,234, 3 cl. Appl Dec 27, '46; granted Oct 11, '49

Time division carrier multiplex telephone system, John H. Homrighous, 2,472,705, 14 cl. Appl July 17, '44; granted June 7, '49

Transmitter system, David Talley, 2,483,445, 6 cl. Appl Dec 13, '46; granted Oct 4, '49

Voice frequency signaling circuits for telephone systems, Charles Edmund Beale and Horace Edward Hopley, 2,486,100, 11 cl. Appl Mar 24, '45; granted Oct 25, '49

Voice operated control circuit, Roswell H. Herrick, 2,468,553, 6 cl. Appl Mar 17, '45; granted Apr 26, '49

Voice operated control circuit for two-way signal transmission systems, Roswell H. Herrick, 2,468,-552, 8 cl. Appl Apr 28, '44; granted Apr 26, '49

Wire recording system, Edward S. Peterson, 2,472,-435, 14 cl. Appl Oct 9, '46; granted June 7, '49

COMMUNICATION, Telephony–Cont'd.

Repeaters

Amplifiers (line) for telephones and television. German Industry Rep. BIOS 687 Brit Govt Pub

Fifty years of telephone repeaters. C. A. Smith. Bell Lab Rec 27:5+ Jan '49

Testing repeaters with circulated pulses. A. C. Beck. Bell Lab Rec 27:96+ Mar '49

Transmission features of the V3 repeater. R. L. Case. Bell Lab Rec 27:94+ Mar '49

V3 repeater. F. A. Minks. Bell Lab Rec 27:45+ Feb '49

Patents

Circuit means for telephone repeaters, William E. Harding, 2,463,379, 7 cl. Appl Feb 12, '45; granted Mar 1, '49

COMMUNICATION, Teletype

Automatic teletype bulletin alarm. George Inge. Communications 29:1416 Feb '49

"Electrontype" speeds communication. Tele-Tech 8:47+ Mar '49

Lightweight air-to-ground teletype unit. Aviation W 51:22 Aug 29, '49

Rural telephone service, dial switching for teletypewriter systems and miscellaneous items. German Industry Rep. FIAT 288 Brit Govt Pub

Teletype reception with make-break keying. Dana A. Griffin. QST 33:24+ June '49

Patents

Code translator, Kimmel A. Sylvester, 2,466,920, 8 cl. Appl June 15, '44; granted Apr 12, '49

Control system, John S. Maidlow, jr. and James M. Reynolds, 2,476,313, 5 cl. Appl Oct 16, '43; granted July 19, '49

Intercommunicating teletypewriter system, Walter M. Bacon, 2,465,507, 20 cl. Appl Jan 16, '45; granted Mar 29, '49

Intercommunication teletypewriter system. Walter M. Bacon and Charles R. Walker, 2,471,712, 8 cl. Appl June 15, '45; granted May 31, '49

Photoelectric multiplex system, Louis M. Potts, 2,477,821, 4 cl. Appl Nov 12, '46; granted Aug 2, '49

Radio teletype system, Florian J. Werthmann and Gleneth F. Collar, 2,464,837, 3 cl. Appl May 2, '46; granted Mar 15, '49

Teletypewriter exchange system, Kenneth W. Richards, 2,473,346, 4 cl. Appl Dec 1, '44; granted June 14, '49

Teletypewriter permutation code signal combination counter, Frank Harold Hanley, 2,481,112, 4 cl. Appl Sep 13, '46; granted Sep 6, '49

Teletypewriter switching system, Charles W. Lucek, 2,489,916, 30 cl. Appl Aug 27, '47; granted Nov 29, '49

COMMUNICATION, Two-Way

See Transceivers

COMPUTERS and CALCULATORS

Application of the national accounting machine to the solution of first-order differential equations Quart J Mech Ap Math 1:433-441 '48

Bell computer, model VI. E. G. Andrews. Elec Eng 68:741-756 Sep '49

Brain as a computing machine. Warren S. McCulloch. Elec Eng 68:492-497 June '49

Calculating machines. Nature 161:712+ May 8, '48

Commercial electronic computer. Mech Eng 71:2 Jan '49

Comparison of various computing machines used in the reduction of Doppler observations. Dorri Hoffleit. Math Tables 3:373-377 Jan '49

Computers at Oak Ridge. A. S. Householder. Science 109:640 June '49

Coordinate tubes for use with electrostatic storage tubes. R. S. Julian and A. L. Samuel. NEC Pro '49

Correlation of calculating devices as models with non-replaced objects as a method of investigating the dynamic behavior of complex systems G. L. Polisar. Akad Nauk Dok 61:641-644 Apr '48

Counting computers. (Abstract) G. R. Stibitz. IRE Proc 37:166 Feb '49

Differentiation in calculating machines. I. M. Rapoport. Akad Nauk Izvest 1521-1542 Nov '47. In Russian

Dynamically regenerated memory tube. (Abstract) J. P. Eckert and others. IRE Proc 37:165 Feb '49

Electrical logic machine. Benjamin Burack. Science 109:610+ June 17, '49

Electro-mechanical device for solving non-linear differential equations. C. A. Ludeke. Jour Ap Phys. 20:600-607 June '49

Electronic brain. W. R. Ashby. Radio-Electronic 20:77 Mar '49

Electronic calculating-analytical machine. M. L Bykhovski. Akad Nauk Izvest OTN 1329-135 Aug '48. In Russian

Electronic calculating-machine development in Cambridge. M. V. Wilkes. Nature 164:557-55 Oct 1, '49

Electronic classifying, cataloging, and counting systems. J. Howard Parsons. IRE Proc 37:564-56 May '49. Also PB 96413

Electronic computer applications. David Fidelman Radio & TV N pt 1 41:3-6+ Mar '49; pt 2 41:6- Apr '49

Electronic computers. (Electronenroehren-Zaehlketten) Radio Tech 25:399-403 July '49

Electron computers for division, multiplication squaring, etc. H. S. Sack and others. Nat Defense Res Committee Rep 14-435 56pp Aug 7 '44. AEC

Electronic differential analyzer. (Abstract) Alan B. Macnee. IRE Proc 37:165 Feb '49

Electric integrator for solution of simple linear differential equations with constant coefficients N. V. Korol'kov and G. K. Kuz'minov. Akad Nauk Izvest No 4:517-532 Apr '49. In Russian

Electronic method for solving simultaneous equations. A. C. Hardy and E. C. Dench. Math Tables 3:447 Apr '49

Electronic minimum computer. I. S. Bruk. Akad Nauk Dok 62:481-484 '48. In Russian

COMPUTERS and CALCULATORS–Cont'd.

Electronic slide rule. John Markus. Electronics 22:126+ May '49

Electrostatic cathode-ray memory for computers. John Markus. Electronics 22:128+ Apr '49

Harvard University automatic calculating-analysis machine. M. L. Bykhovski. Akad Nauk Izvest No 11:1561-1575 Nov '47. In Russian

IBM type 604 electronic calculator. (Abstract) Ralph Palmer. IRE Proc 37:166 Feb '49

Instrument for the automatic tracking of curves of functions. Aug '44 PB 36473t

Largest electronic computer. (Die groesste electronische Rechenmaschine) Radio Tech 25:456 Aug '49

Magnetic recording for electronic computers. M.S. thesis. C. B. Forrest. U of Calif Eng Dept Sep '48

Magnetic storage methods for electronic computation. M.S. thesis. A. S. Hoagland. U of Calif Eng Dept Sep '48

Mark III computer. (Abstract) H. H. Aiken. IRE Proc 37:166 Feb '49

Mathematical tables on perforated cards. Functions of one variable. I. Ya. Akushinski. Akad Nauk Izvest No 11:1405-1454 Nov '47. In Russian

Mathematical machines. H. M. Davis. Sci Am 180:29-38 Apr '49

Mathematical wizards now at industry's service. Mod Ind 18:43-47 Nov 15, '49

Modern computing. R. D. Richtmyer and N. C. Metropolis. Phys Today 2:8-15 Oct '49

More differential analyzer applications. A. C. Cook and F. J. Maginniss. Gen Elec Rev 52:14-20 Aug '49

New general method for finding roots of polynomial equations. E. F. Moore. Math Tables 3:486-488 July '49

Octal system automatic computer. J. P. Eckert, jr. and others. Elec Eng 68:335 Apr '49

Optimal two-membered tabulation of functions. L. Y. Neishuler. Akad Nauk Izvest OTN 1169-1191 Aug '48. In Russian

Parametric electronic computer. (Abstract) Charles J. Hirsch. IRE Proc 37:165 Feb '49

Physical realization of an electronic computing instrument. J. H. Bigelow and others. Math Tables 3:440 Apr '49

Piecewise polynomial approximation for large-scale digital calculators. J. O. Harrison, jr. Math Tables 3:400-407 Apr '49

Precision of electric calculating machine circuits. M. L. Bykhovski. Akad Nauk Izvest OTN 1239-1278 Aug '48. In Russian

Preliminary discussion of the logical design of an electronic computing instrument. A. W. Burks and others. PB 96703

Programme design for a high-speed automatic calculating machine. M. V. Wilkes. Jour Sci Instr 26:217-220 June '49

Programming a computer for playing chess. (Abstract) Claude E. Shannon. IRE Proc 37:166 Feb '49

Progress in high-speed calculating machine design. M. V. Wilkes. Nature 164:341-343 Aug 27, '49

Some new methods of calculating sums of products on a tabulator. I. Y. Akushski. Akad Nauk Izvest OTN 1193-1228 Aug '48. In Russian

Stabilization of simultaneous equation solvers. G. A. Korn. IRE Proc 37:1000-1002 Sep '49

Subminiature tube application. W. W. Snyder. Elec Eng 68:345 Apr '49

Tabulation of functions of four and multiple variables. L. Ya. Neishuler. Akad Nauk Izvest No 11:1543-1560 Nov '47. In Russian

Work of the seminar on precise mechanics and calculating technique. O. N. Korsakov. Akad Nauk Izvest OTN 1351-1357 Aug '48. In Russian

Patents

Admissions indicator, Stanley S. Miller, 2,487,463, 1 cl. Appl Feb 3, '48; granted Nov 8, '49

Biquinary system calculator, George R. Stibitz, 2,486,809, 40 cl. Appl Sep 29, '45; granted Nov 1, '49

Calculating machine, John R. Bowman and Ralph T. Steinback, 2,469,628, 3 cl. Appl Apr 27, '45; granted May 10, '49

Carry device, Ralph L. Palmer and Byron E. Phelps, 2,484,115, 6 cl. Orig appl Dec 27, '44; granted Oct 11, '49

Communication system, Joseph R. Desch, 2,462,613, 14 cl. Orig appl Sep 16, '42; divided and this appl Feb 19, '44; granted Feb 22, '49

Computer, Doule E. Wilcox, 2,468,150, 6 cl. Appl Nov 6, '45; granted Apr 26, '49

Computer, Maurice L. Greenough, 2,470,303, 14 cl. Appl Mar 30, '44; granted May 17, '49

Computer apparatus, George Agins, 2,467,646, 7 cl. Orig appl July 18, '40; divided and this appl Dec 6, '46; granted Apr 19, '49

Computing apparatus, Arthur C. Hardy, 2,459,106, 8 cl. Appl Aug 6, '46; granted Jan 11, '49

Computing circuits, Igor E. Grosdoff, 2,485,825, 7 cl. Appl Jan 18, '44; granted Oct 25, '49

Computing system, Jan A. Rajchman, 2,473,444, 2 cl. Appl Feb 29, '44; granted June 14, '49

Counting apparatus, Martin L. Nelson, 2,487,265, 10 cl. Appl June 9, '43; granted Nov 8, '49

Electrical computer, Ellsworth R. Fenske, 2,458,697, 2 cl. Appl Nov 10, '47; granted Jan 11, '49.

Electrical computing system, Clarence A. Lovell, 2,476,747, 4 cl. Appl Apr 25, '42; granted July 19, '49

Electrical item comparing system, Arthur H. Dickinson, 2,484,081, 19 cl. Appl Apr 17, '43; granted Oct 11, '49

Electrical storage device, John C. Cook, 2,461,144, 4 cl. Appl Apr 30, '46; granted Feb 8, '49

Electronic computer, Richard L. Snyder, jr. and Jan A. Rajchman, 2,471,788, 5 cl. Orig appl Mar 31, '42; divided and this appl Feb 15, '47; granted May 31, '49

Electronic computing device, William H. Boghosian, 2,458,553, 6 cl. Appl Feb 23, '44; granted Jan 11, '49

Electronic counter circuit, Arthur E. Canfora, 2,469,-031, 1 cl. Appl Sep 6, '45; granted May 3, '49

Impulse sender, Harold J. McCreary, 2,463,708, 6 cl. Appl Mar 10, '45; granted Mar 8, '49

COMPUTERS and CALCULATORS, *Patents*–Cont'd.

Multiplying apparatus, Arthur C. Hardy, 2,461,895, 10 cl. Orig appl July 8, '44; divided and this appl Dec 3, '46; granted Feb 15, '49

Rate smoothing and matching mechanism for computing apparatus, Charles C. Bell and Richard M. Elliott, 2,487,211, 10 cl. Appl Aug 4, '43; granted Nov 8, '49

See also

Recording Instruments

COMPUTERS and CALCULATORS, Analog

Analogue computer for the solution of linear simultaneous equations. (Abstract) Robert M. Walker. IRE Proc 37:165 Feb '49

Application of electro-analog computers to heat-transfer and fluid-flow problems. G. D. McCann, jr. and C. H. Wilts. Jour Ap Mech 16:247-258 Sep '49

Application of the California Institute of Technology electric analog computer to nonlinear mechanics and servomechanisms. G. D. McCann and others. AIEE Proc section 9165:1-9 July '49

California Institute of Technology electric analog computer. G. D. McCann. Math Tables 3:501-411 Oct '49

Comparison of long-time and short-time analog computers. Victor Paschkis. AIEE Proc section 913:1-4 Apr '49

Electrical analogs of linear systems. J. P. Corbett. Elec Eng 68:1075 Dec '49

Electronic analog computer. H. R. Hegbar. Electronics 22:168+ Mar '49

Electronic analogue computers. David Fidelman. Radio & TV N 41:16-19+ Jan '49

Electronic isograph for a rapid analogue solution of algebraic equations. (Abstract) Byron O. Marshall, jr. IRE Proc 37:165 Feb '49

Electronic method for multiplication in analog computers. M.S. thesis. Israel Paul. Ohio State U EE Dept Mar '49

Electronic techniques applied to analogue methods of computation. G. D. McCann and others. IRE Proc 37:954-961 Aug '49

Enumeration of Fourier phase permutations using electronic analog machines. A. D. Booth. Jour Ap Phys 20:388+ Apr '49

Improved electronic analog computing circuit. (Abstract) W. A. McCool. Math Tables 3:542 Oct '49

Linear electronic analog computer design. C. A. Meneley and O. D. Morrill. NEC Proc '49

Multiplication and division by electronic-analogue methods. E. M. Deeley and D. M. MacKay. Nature 163:650+ Apr 23, '49

Note on analog computer design. J. A. Bronzp and H. G. Cohen. Rev Sci Instr 20:101-102 Feb '49

Operation of the electronic analog computer, model GN 184-LI. Goodyear Aircraft Corp Rep No GER 1927 NP 797 58 pp Oct 11, '48. AEC

Photoformer in anacom calculations. H. W. Schultz and others. NEC Proc '49

Patents

Calculating machine for solving simultaneous equation, John R. Bowman, 2,469,627, 2 cl. Appl Mar 19, '43; granted May 10, '49

Computer device for solving trigonometric problems, George Agins, 2,465,624, 5 cl. Cont appl July 18, '40; this appl Dec 6, '46; granted Mar 29, '49

Device for solving equations, Walter C. Johnson, 2,461,738, 12 cl. Appl June 10, '46; granted Feb 15, '49

Membrane type electron tube analogue device, John W. Clark, 2,477,115, 20 cl. Appl Mar 17, '48; granted July 26, '49

COMPUTERS and CALCULATORS, Binary

Binary quantizer. Kay H. Barney. Elec Eng 68:962-967 Nov '49

Conversion of numbers from decimal to binary form in the EDVAC. F. Koons and S. Lubkin. Math Tables 3:427-431 Apr '49

EDSAC. V. Zeluff. Electronics 22:124 Oct '49

EDSAC—an electronic calculating machine. M. V. Wilkes. Jour Sci Instr 26:385-391 Dec '49

EDVAC, a preliminary report on logic and design. G. W. Patterson and others. Math Tables 3:489-490 July '49

EDVAC test instrumentation. R. L. Snyder. Elec Eng 68:335 Apr '49

Electrostatic memory for a binary computer. (Abstract) F. C. Williams. IRE Proc 37:166 Feb '49

Expected performance of the EDVAC on some astronomical problems. J. B. Irwin. Math Tables 3:440-441 Apr '49

Results of tests on the binac. (Abstract) J. W. Mauchly. IRE Proc 37:166 Feb '49

Patents

Electronic computer, George A. Morton, 2,462,275, 6 cl. Appl Nov 2, '42; granted Feb 22, '49

COMPUTERS and CALCULATORS, Digital

Digital computers called brains. W. S. McCulloch and J. Pfeiffer. Sci Mon 69:368-376 Dec '49

Electronic digital computers. F. C. Williams and T. Kilburn. Nature 162:487+ Sep 25, '48

Electronic digital counters. Warren H. Bliss. Elec Eng 68:309-314 Apr '49

High-speed digital electronic computer. K. G. MacLeish and others. Math Tables 3:441-442 Apr '49

Logical design of an arithmetic unit for an electronic digital computer. M.S. thesis. D. L. Gerlough. U of Calif Eng Dept Sep '48

Magnetic digital storage system. A. D. Booth. Electronic Eng 21:234-238 July '49

Manual word coder for an electronic digital computer. M.S. thesis. E. E. Bolles. U of Calif Eng Dept Feb '49

Memory and input circuits for an electronic digital computer. M.S. thesis. A. S. Zukin. U of Calif Eng Dept Sep '48

Photographic digital reader-recorder. R. D. O'Neal and A. W. Tyler. Math Tables 3:444-445 Apr '49

Proceedings of a symposium on large-scale digital calculating machinery. Math Tables 3:432-440 Apr '49

Report of saturable-core reactors as digital computer elements. J. G. Miles. PB 98367

Status of high-speed digital computing systems. H. D. Huskey. Mech Eng 70:975-978 Dec '48

COMPUTERS and CALCULATORS, Digital–Cont'd.

Storage system for use with binary-digital computing machines. F. C. Williams and T. Kilburn. IEE Proc pt 3 96:81+ Mar '49. Also in pt 2 96: 183+ Apr '49

Theory and techniques for design of electronic digital computers. J. W. Mauchly and others. PB 98678

Theory and techniques for design of electronic digital computers. R. J. Slutz and C. H. Page. Math Tables 3:442-443 Apr '49

Theory and techniques for design of electronic digital computers. vol 3 lectures 22-23 June '48 PB 95645; vol 4 lectures 34-48 June '48 PB 95646

University of Manchester universal high-speed digital computing machine. T. Kilburn. Nature 164:684-687 Oct 22, '49

COMPUTERS and CALCULATORS, Mechanisms

Choice of a reference system, and independent errors of a geared mechanism. B. A. Taits. Akad Nauk Izvest OTN 1313-1328 Aug '48. In Russian

Computing mechanisms and linkages. A. Svoboda. Math Tables 3:447-448 Apr '49

Dislocation errors in mechanisms with straight-tooth cylindrical gears. O. N. Korsakov. Akad Nauk Izvest OTN 1297-1312 Aug '48. In Russian

Mechanical computing mechanisms. R. R. Reid and D. E. Stromback. Product Eng pt 1 20:131-135 Aug '49; pt 2 20:119-123 Sep '49; pt 3 20:126-130 Oct '49; pt 4 20:121-124 Nov '49

Position errors and blacklash of mechanisms with straight-toothed cylindrical wheels. O. N. Korsakov. Akad Nauk Izvest No 11:1513-1519 Nov '47. In Russian

Precision of mechanisms, the positions of whose members are described by differential equations. M. L. Byknovski. Akad Nauk Izvest No 11:1455-1512 Nov '47. In Russian

Works of seminar in precision mechanics and calculating technique, directed by the Academician N. G. Bruevich. Akad Nauk Izvest No 11:1576-1578 Nov '47. In Russian

COMPUTERS and CALCULATORS, Network Analysers

Computer for solving secular equations. J. F. Storm. NEC Proc '49

Electrical network analyzers for the solution of electromagnetic field problems. K. Spangenberg and others. IRE Proc pt 1 37:724-729 July '49; pt 2 37:866-872 Aug '49

Electronic analogue for heating system analysis. R. T. Squier and others. NEC Proc '49

Improved AC network analyzer. W. A. Morgan and others. AIEE Proc section 9164:1-5 July '49

Machines for the solution of linear simultaneous equations. (Machines pour la resolution d'equations lineaires simultanees) Tech Mod 41:241-243 July '49

Potentiometric and bridge schemes for calculations. E. I. Dmitriev. Akad Nauk Izvest OTN 1279-1296 Aug '48. In Russian

Precise solution of partial differential equations by resistance networks. G. Liebmann. Nature 164: 149-150 July 23, '49

Patents

Electric computer, Harold A. Peterson, 2,489,106, 3 cl. Appl Oct 3, '47; granted Nov 22, '49

Network analyzer, Waldo E. Enns, 2,491,095, 9 cl. Appl Nov 20, '44; granted Dec 13, '49

COMPUTERS and CALCULATORS, Operating Instructions

Coding of a Laplace boundary value problem for the UNIVAC. F. E. Snyder and H. M. Livingston. Math Tables 3:341-350 Jan '49

Electro-mechanical and electronic calculating devices. R. Davis-Berry. S Afr IEE Trans 40:55-75 Mar '49

Method of plotting on standard IBM equipment. Gilbert W. King. Math Tables 3:352-355 Jan '49

New alternating current calculating machine. (Une nouvelle table a calcul a courant alternatif) Tech Mod 41:270-272 Aug '49

Planning and coding of problems for an electronic computing instrument. (Review) H. H. Boldstine and J. von Neumann. Math Tables 3:541-542 Oct '49

Procedure for the machine or numerical solution of ordinary linear differential equations for two-point linear boundary values. J. L. Meriam. Math Tables 3:532-539 Oct '49

Solution of simultaneous linear equations with the aid of the 602 calculating punch. F. M. Verzuh. Math Tables 3:453-462 July '49

CONDENSERS

See Capacitance & Capacitors

CONDUCTION and CONDUCTORS

Aluminum characteristics for bus application. L. T. Guess. Elec World 131:90-91 Apr 23, '49

Automatic level control for condensate. S. Martinez, jr. Power 93:114 July '49

Calculation of the changes in the conductivity of metals produced by cold-work. J. S. Koehler. Phys Rev 75:106-117 Jan 1, '49

Conduction of electricity in metals. R. Eisenschitz. Nature 163:621 Apr 23, '49

Conduction processes in thin deposits of antimony. Louis Harris and Lloyd H. Shaffer. Phys Rev 76: 943-945 Oct 1, '49

Conductive plastic materials. (Abstract) Myron A. Coler. IRE Proc 37:168 Feb '49

Conductivity and thermo-electric in cuprous oxide. N. N. Greenwood and J. S. Anderson. Nature 164:346-347 Aug 27, '49

Conductivity induced by electron bombardment in thin insulating films. L. Pensak. Phys Rev. 75: 472-478 Feb 1, '49

Developments in electric cable and dielectric research. Engineering 168:386-387 Oct 14, '49

Effective conductivity of wires at microwave frequencies. A. C. Beck and R. W. Dawson. Elec Eng 68:253 Mar '49

Electrical properties of cold worked iron carbon alloys. A. B. Bhatia. Phys Soc Proc series B 62: 229+ Apr 1, '49

CONDUCTION and CONDUCTORS-Cont'd.

Electrical properties of water. J. A. Saxton. Wireless Eng 26:288-292 Sep '49

Electrically conductive glass is useful for heating applications. Materials & Methods 30:70-71 Aug '49

Electrolytic iron. (Fer electrolytique) Tschappat. Schweiz Arch 15:225-241 Aug '49

Electron gas in metals. (Das Elektronengas im Metall) Elektron Wiss und Tech 3:430-434 Nov '49

Hy-therm copper — an improved overhead-line conductor. L. F. Hickernell and others. AIEE Proc section 93:1-9 Apr '49

Influence of magnetic field on recrystallization. R. Smoluchowski and R. W. Turner. Jour Ap Phys 20:745-746 Aug '49

Magnet study of stainless-steel wires. P. T. Hobson and others. Iron & Steel Inst J 159:145-157 June '48. Discussion: 162:424-427 Aug '49

Observations of the electrical behavior of silicon carbide contacts. E. W. J. Mitchell and R. W. Sillars. Phys Soc Proc section B 62:509-522 Aug '49

Polythene-insulated cables sheathed with polyvinyl chloride (P.V.C.) or lead alloy. BS 1557 '49 Brit Stand Inst

Reversible effects of the adsorption of gases on the electrical conductivity of very thin metallic layers. N. Mostovetch. Compt Rend Acad Sci 228:1702-1704 May 30, '49

Summary of 29 German research reports on electrical contacting phenomena and associated engineering problems. BIOS 1277 (51-2275-77) Brit Govt Pub

Theory of electrical conductivity of univalent metals. F. G. Serova. Zh Eksp Teor Fiz 19:126-134 Feb '49. In Russian

Tungsten and molybdenum wire. Manufacture, for use in lamps and radio tubes. German Industry Rep. FIAT 413 Brit Govt Pub

Patents

Electric conductor, Melville F. Peters, 2,462,993, 2 cl. Appl Mar 21, '45; granted Mar 1, '49

Electric conductor, Stanley A. Duvall, 2,464,124, 5 cl. Appl July 24, '44; granted Mar 8, '49

Electrical conductor, Lester A. Brooks, 2,473,985, 7 cl. Appl Feb 18, '44; granted June 21, '49

Electrically conductive fabric, William Watson, 2,473,183, 10 cl. Appl July 16, '47; granted June 14, '49

Electricity conductor unit, Joseph F. O'Brien, 2,457,-831, 1 cl. Appl June 9, '43; granted Jan 4, '49

Support for electric conductors, Arthur Harry Stevens and Geoffrey Arthur Stevens, 2,473,264, 1 cl. Appl May 15, '46; granted June 14, '49

CONDUCTION and CONDUCTORS, Measurement

Conductivity measurements. John D. Goodell and Curtis W. Fritze. Radio & TV N 42:18-20+ Sep '49

Measurement of the electrical conductivity of metals and alloys in a rotating magnetic field. A. R. Regel'. Zh Tekn Fiz 18:1511-1520 Dec '48. In Russian

Measuring conductor resistance and reactance. E. H. Salter. Elec Eng 68:144 Feb '49

Soil conductance measurements. (Ueber Bodenleitfaehigkeitsmessungen in Schleswig-Holstein) Grosskopf. Fernmeldetech Zeit 211-218 July '49

CONDUCTION & CONDUCTORS, Semiconductors

Application of semi-conductivity measurements in the study of catalysis on copper oxide. T. J. Gray Roy Soc Proc series A 197:314-320 June 22, '49

Barium titanates as circuit elements. A. I. Dranetz and others. Tele-Tech pt 1 8:29+ Apr '49; pt 2 8:28+ May '49; pt 3 8:36+ June '49

Bombardment of semi-conductors with neutrons. J. Markus. Electronics 22:156+ July '49

Conductivity in semiconductors. K. Lark-Horovitz. Elec Eng 68:1047-1056 Dec '49

Editorial note regarding semiconductors. Bell System Tech J 28:335-343 July '49

Effect of surface states on the temperature variation of the work function of semiconductors. J. J. Markham and P. H. Miller, jr. Phys Rev 75: 959-967 Mar 15, '49

Electrical properties of germanium and silicon. (Abstract) K. Lark-Horovitz. IRE Proc 37:176 Feb '49

German developments in semi-conducting materials. German Ind Rep. JIOA 54 Brit Govt Pub

German research on rectifiers and semi-conductors. BIOS 725 Brit Govt Pub

Germanium-important new semiconductor. W. Crawford, jr. Gen Elec Rev 52:9+ Feb '49

Hall effect in metal-semiconductor point contacts. (Letter) Phys Rev 76:150-151 July 1, '49

Hole injection in germanium-quantitative studies and filmamentary transistors. W. Shockley and others. Bell System Tech J 28:344-366 July '49

Industrial semi-conductor resistances. E. Weise. PB 97061

Infrared semiconductors. B. Gudden. PB 96901

Interrogation of Erwin Weise. Research and development of semi-conducting materials. Practical applications for ultra-sensitive temperature measuring equipment and automatic control and stabilizing problems. German Industry Rep. BIOS 1658 Brit Govt Pub

Investigation of the structure of the intermediate state of a sphere made from a semiconductor. A. Meshkovski. Zh Eksp Teor Fiz 19:54-62 Jan '49. In Russian

Ionization of atoms and neutralization of ions on the surface of the semi-conductor cathode. N. D. Morgulis. Zh Tekn Fiz* 18:567-572 '48

Metallurgy of germanium and silicon semiconductors. (Abstract) J. H. Scaff. IRE Proc 37:176 Feb '49

Neutron irradiated semiconductors. (Letter) W. E. Johnson and K. Lark-Horovitz. Phys Rev 76: 442-443 Aug 1, '49

New dielectric and semi-conducting materials. R. W. Sillars. Engineering 168:267-268 Sep 9, '49

New dielectric materials. Electrician 143:735-736 Sep 2, '49

CONDUCTION and CONDUCTORS, Semi-Conductors–Cont'd.

New material for high frequency work-barium titanate. (Ein neuer Werkstoff der Hochfrequenz-technik-Barium-Titanat) Radio Tech 25:95-96 Feb '49

Preparation of semi-conductors and development of crystal rectifiers. PB 98415

Properties of liquid semi-conductors. (Etude des demis-conducteurs liquides) J. L. Eck. Ann der Phys 4:12-61 Jan-Feb '49

Properties of poorly conducting layers between a metal and a semiconductor. V. E. Lashkarev. Zh Tekn Fiz 18:1347-1355 Nov '48. In Russian

Rectification at the boundary of two semiconductors. A. V. Ioffe. Zh Tekn Fiz 18:1498-1510 Dec '48. In Russian

Semiconductor rectifiers. Elec Eng 68:865-872 Oct '49

Semi-conductors. (Les Semi-conducteurs) B. Kwal. Toute la Radio No 132:34-37 Jan '49

Semi-conductors and dial lights. Marthe Couriau. Toute la Radio No 136:193-194 June '49. In French

Semi-conductors and rectifiers. N. F. Mott. Engineering 168:510+ June 3, '49

Spontaneous current fluctuations in semiconductors. J. H. Gisolf. Physica 15:825-832 Sep '49

Structure and electrical properties of surfaces of semiconductors. Silicon carbide. T. K. Jones and others. Phys Soc Proc section A 62:333-343 June 1, '49

Temperature dependence of the resistance of semiconductors. J. H. Gisolf. Ann Phys Lpz 1:3-26 Jan 3, '47

Temperature dependence of the work function of semiconductors. A. H. Smith. Phys Rev 75:953-958 Mar 15, '49

Temperature variation of the electrical properties of nickel oxide. R. W. Wright and J. P. Andrews. Phys Soc Proc section A 62:446-455 July '49

Theory of electronic semiconductors and of their complex derivatives. S. Teszner. Franc Elec Soc Bul 95:401-432 Aug '49

Theory of p-n junctions in semiconductors and p-n junction transistors. W. Shockley. Bell System Tech J 28:435-489 July '49

Theory of transient phenomena in the transport of holes in an excess semiconductor. Conyers Herring. Bell System Tech J 28:401-427 July '49

Variation with oxygen pressure of the thermoelectric power of cadmium oxide. C. A. Hogarth and J. P. Andrews. Phil Mag 40:273-282 Mar '49

Patents

Asymmetrical conductor, George O. Smith, 2,484,252, 5 cl. Appl Nov 7, '44; granted Oct 11, '49

See also

Physics, Solid State
Rectifiers, Crystal

Photoelectric Properties

Condenser method of investigating photocharge. S. M. Ryvkin. Zh Tekn Fiz 18:1521-1542 Dec '48. In Russian

Experiments on the external photo effect of semiconductors. A. N. Arsen'eva-Geil. Akad Nauk Dok 61:47-50 '48. In Russian

Optical properties of semiconductors. K. Lark-Horovitz and others. Phys Rev 76:1530-1531 Nov 15, '49

Photoeffects in pure silicon. P. H. Miller, jr. and M. H. Greenblatt. PB 2647

Photoelectric determination of the Fermi level at amorphous arsenic surfaces. E. Taft and L. Apker. Phys Rev 75:1181 Apr 15, '49

Photosensitization of the inner photoeffect of the zinc oxide and other semiconductors by adsorbed dyes. E. K. Putseiko. Phys Chem J (USSR) 23: 676-688 June '49. In Russian

Production of photoelectromotive force in semiconductors. V. E. Lashkarev. Zh Eksp Teor Fiz 18:917-926 Oct '48. In Russian

Theory of photoconductivity of layers of semiconducting substances. (Letter) E. Schwarz. Phys Soc Proc section A 62:530-532 Aug '49

CONDUCTION and CONDUCTORS, Superconductors

Casimir method of studying penetration depths in superconductors. D. Schoenberg. Physica 15: 71-75 Apr '49

Change in the superconducting properties of tantalum on saturating it with hydrogen. V. R. Golik and others. Zh Eksp Teor Fiz 19:202-206 Mar '49. In Russian

Critical field measurements on superconducting tin foils. E. R. Andrew. Phys Soc Proc series A 62: 80+ Feb 1, '49

Destruction of superconductivity by current. Russell B. Scott. RP 1940 GPO. Nat Bur Stand

Effect of alpha-particles on a superconductor. (Letter) D. H. Andrews and others. Phys Rev 76:154-155 July 1, '49

Electromagnetic induction in a superconductor. (Letter) A. Wexler and W. S. Corak. Phys Rev 76:432-433 Aug 1, '49

Electromagnetic induction in a superconductor. (Letter) W. V. Houston and C. F. Squire. Phys Rev 76:685-686 Sep 1, '49

Electromagnetic induction in a superconductor. W. V. Houston and C. F. Squire. Science 109:439 Apr 29, '49

Equation of the magnetic threshold curve of a superconductor. (Letter) G. Preston Burns. Phys Rev 76:999-1000 Oct 1, '49

Experiments on the superconductive transition. D. K. C. MacDonald and K. Mendelssohn. Roy Soc Proc series A 200:66-83 Dec 22, '49

High frequency resistance of superconductors. A. B. Pippard. Physica 15:40-44 Apr '49

Investigation of the attractive forces between the persistent currents in a superconductor and the lattice. (Letter) E. U. Condon and E. Maxwell. Phys Rev 76:578 Aug 15, '49

Investigation of the depth of penetration of the magnetic field in a massive superconductor. A. I. Shal'nikov and Yu. V. Sharvin. Akad Nauk Izvest 12:195-215 May-June '48. In Russian

Magnetic effects of a rotating superconductor. (Letter) W. F. Love and others. Phys Rev 76: 305 July 15, '49

CONDUCTION and CONDUCTORS, Superconductors–Cont'd.

Magnetic moments and eddy current damping spherical superconductors. (Letter) J. J. Fritz and others. Phys Rev 76:580-581 Aug 15, '49

Note on the resistivity of gold at low temperatures. (Letter) C. T. Lane. Phys Rev 76:304-305 July 15, '49

Phenomenological theory of superconductors. (Letter) A. R. Miller. Phys Rev 76:1001-1002 Oct 1, '49

Pressure dependence of the critical temperature of superconducting bismuth alloys. N. E. Alekseevski. Zh Eksp Teor Fiz 19:358-360 Apr '49. In Russian

Some details of superconductivity transition. A. A. Galkin and B. G. Lazarev. Akad Nauk Dok 61: 1017-1018 '48. In Russian

Some optical investigations of super conductors. B. I. Verkin and B. G. Lazarev. Akad Nauk Izvest 12:598-600 Sep-Oct '48. In Rusisan

Some peculiarities of superconductivity of tantalum. B. G. Lazarev and V. I. Khotkevich. Zh Eksp Teor Fiz 18:807-811 Sep '48. In Russian

Some properties of superconductors below 1° K. J. G. Daunt and C. V. Heer. Phys Rev pt 1 Titanium. 76:715-717 Sep 15, '49; pt 2 Aluminum and Zinc. 76:1324-1328 Nov 1, '49

Superconducting torus. (Letter) R. L. Dolecek and J. De Launay. Phys Rev 76:445-446 Aug 1, '49

Superconductivity. C. J. Gorter. Physica 15:55-64 Apr '49

Superconductivity and the Bohr magneton. E. U. Condon. Nat Acad Sci Proc 35:488-490 Aug '49

Superconductivity research program. J. Markus. Electronics 22:122+ July '49

Superconductors in alternating magnetic fields. Robert T. Webber and others. Phys Rev 76:293-295 July 15, '49

Taking of an oscillogram of the curve of the destruction of superconductivity by currents of acoustical frequencies. A. A. Galkin and B. G. Lazarev. Zh Eksp Teor Fiz 18:833-836 Sep '48. In Russian

Theorem of Bloch concerning possible causes of superconductivity. D. Bohm. Phys Rev 75:502-504 Feb 1, '49

Theory of superconductivity. Max Born and Sheng Kai-Shia. Akad Nauk Dok 62:313-318 '48. In Russian. Also in Nature 161:968+ June 19, '48

See also

Physics, Solid State
Resistance & Resisitors, Low Temperature

CONNECTORS

Arcing phenomena at electrical contacts as used in communication engineering. F. L. Jones IEE Proc pt I 96:305-312 Nov '49

Coaxial connectors. FM-TV 9:27+ May '49

Contact bridge erosion and its prevention. W. G. Pfann. Elec Eng 68:197 Mar '49

Electric connectors for firewalls. Don A. Davis and Leslie Baird. Aero Digest 58:62-63+ Apr '49

Electrical contacts: effect of atmospheric corrosion. U. R. Evans. Metal Ind 73:10+ July 2, '48

Proper application of solderless terminals can be assured. Ry Mech Eng 123:521-523 Sep '49

Theory of the Thomson effect in electrical contacts. P. M. Davidson. IEE Proc pt I 96:293-295 Nov '49

Patents

Conduit connector, William H. Taylor, 2,475,574, 11 cl. Appl Jan 10, '47; granted July 5, '49

Connector, Robert M. Silliman, 2,485,930, 4 cl. Appl Sep 6, '45; granted Oct 25, '49

Cord protector and strain reliever for use with electrical connectors, Emil E. Reder, jr., 2,472,986, 4 cl. Appl May 23, '46; granted June 14, '49

Crystal contact, Francis Hugh Brittain, 2,475,940, 3 cl. Appl Feb 11, '47; granted July 12, '49

Electric connector, Edward Eldridge Norris, 2,484,-525, 13 cl. Appl Oct 2, '46; granted Oct 11, '49

Electric terminal, Ralph T. Cusato, 2,475,448, 4 cl. Appl Dec 28, '46; granted July 5, '49

Electric wire connection, Frank A. Chiuchiolo, 2,486,115, 1 cl. Appl Aug 3, '46; granted Oct 25, '49

Electrical connection means, Charles S. Penfold, 2,485,097, 8 cl. Orig appl Apr 1, '40; divided and this appl Feb 24, '43; granted Jan 4, '49

Electrical connector, Francis N. Ervin, 2,486,013, 3 cl. Appl Feb 7, '47; granted Oct 25, '49

Electrical connector, Hallan E. Goldstine and Oswin F. Voigt, 2,474,310, 3 cl. Appl Mar 22, '44; granted June 28, '49

Electrical contact member, William M. Hurst, 2,486,-285, 11 cl. Appl June 16, '48; granted Oct 25, '49

Electrical plug, Ralph L. Avery, 2,474,454, 2 cl. Appl Feb 1, '47; granted June 28, '49

High-frequency leakage suppressing connection, Ernest A. Tubbs, 2,480,523, 3 cl. Appl Dec 6, '44; granted Aug 30, '49

Method of making electrical connectors, Vernon W. Carlson and Thomas C. Freedom, 2,468,169, 3 cl. Orig appl Sep 25, '42; divided and this appl May 9, '45; granted Apr 26, '49

Multiwire connector, John H. Munsey, 2,486,195, 6 cl. Appl Oct 18, '45; granted Oct 25, '49

Power outlet receptacle, Walt W. Bundy, 2,474,817, 1 cl. Appl Nov 28, '45; granted July 5, '49

Socket connector plug, Louis J. Irrgang, 2,475,243, 6 cl. Appl Nov 10, '44; granted July 5, '49

CONTROL SYSTEMS

See Industrial Controls, Industrial Applications

CONVERTERS

See Frequency Changers

CRYSTAL TUBES

Crystal detectors. (Kristalldetektoren) Elektrotechnik 3:167-175 June '49

Crystal tetrode mixer. (Kristalltetrodenmischer) Radio Tech 25:689 Dec '49

Crystal tetrode mixer. R. W. Haegle. Sylvan Tech 2:2-4 July '49. Also in IRE Proc 10:342-344 Dec '49. Corresp. Sylvan Tech 2:19 Oct '49

Crystal valves. "Physicist." Elec Rev 144:507-508 Mar 25, '49

RYSTAL TUBES–Cont'd.

xperimental crystal amplifier. Electronic Eng 21: 448-449 Dec '49

ermanium detectors for amateurs. (Les detecteurs au germanium chez les amateurs-emetteurs) C. Guilbert. Toute la Radio No 141:25-28 Dec '49

mplified analysis of reactance tube. (Letter) B. B. Drisko. IRE Proc 37:60 Jan '49

echnical data and reports covering the "Medde". "Seetakt" and "Eisvogel" radar equipment as well as crystal detectors and rectifiers, 1942-1944. PB 84912. In German

heoretical and experimental studies of silicon crystal detectors. (Etude theorique et experimentale de la detection par les crystaux au silicium) P. Lapostolle. Onde Elec 29:429-446 Dec '49

See also

onductors, Semi-Conductors
hysics, Solid State

RYSTAL TUBES, Diodes

ackground noise of crystal diodes. H. F. Matare. Onde Elec 29:231-240 June '49

rystal diodes available in France. (Redresseurs a crystal disponibles en France) A. V. J. Martin. Electronique 38:25-27 Dec '49

ermanium crystal diode and triode developments. Stuart T. Martin and Harold Heins. Radio Club Am Proc 26:3-8 Jan 15, '49

herent noise of crystal diodes. H. F. Matare. Onde Elec 29:231-240 June '49. In French

ylvania's crystal diode 1N34. (Sylvanias Krystaldiode 1N34) Radio Ekko 12:175 Sep '49

RYSTAL TUBES, Transistors

uild a transistor. Rufus P. Turner. Radio-Electronics 20:38-39 May '49

haracteristics of three transistor circuits. John Markus. Electronics 22:120+ Aug '49

larification of germanium triode characteristics. S. Y. White. Audio Eng 32:19+ Dec '48

oaxial transistor. Bell Lab Rec 27:129 Apr '49

oaxial transistor. (Der Koaxialtransistor) Radio Tech pt 1 25:375-376 June '49; pt 2 25:426 July '49

oaxial transistor. Frank H. Rockett. Electronics 22:128+ Mar '49

oaxial transistor. Winston E. Kock and R. L. Wallace, jr. Elec Eng 68:222-223 Mar '49

xperimental crystal amplifier. Electronic Eng 21: 448-449 Dec '49

ow frequency noise in transistors. H. T. Mooers. NEC Proc '49

lagnetically biased transistors. C. B. Brown 76: 1736-1737 Dec 1, '49

hysical principles involved in transistor action. J. Bardeen and W. H. Brattain. Bell System Tech J 28:239-276 Apr '49. Also in Phys Rev 75:1208-1225 Apr 15, '49

ome circuit aspects of the transistor. R. M. Ryder and R. J. Kircher. Bell System Tech J 28:367-400 July '49

ome novel circuits for the three-terminal semiconductor amplifier. W. M. Webster and others. RCA Rev 10:5+ Mar '49

Testing transistors. K. Lehovec. Electronics 22: 88+ June '49

Theory of p-n junctions in semiconductors and p-n junction transistors. W. Shockley. Bell System Tech J 28:435-489 July '49

Three electrode crystal (transistor). (Der Dreielektroden-Kristall [Transistor]). Elektron Wiss und Tech 3:255-261 July '49

Transistor. Electrician 143:893-894 Sep 16, '49

Transistor — a new semiconductor amplifier. J. A. Becker and J. N. Shive. Elec Eng 68:215-221 Mar '49. Corresp. H. G. Posthumus. 68:643 July '49

Transistor — an amplifying crystal. Aerovox Res W 19:1-3 Feb '49

Transistor characteristics. Frank H. Rockett. Electronics 22:132+ Jan '49

Transistor; crystal semi-conductor amplifier and oscillator. (Le transistor, cristal semi-conducteur amplificateur et oscillateur) Tech Mod 41:99-101 Mar '49

Transistor, or the return of the crystal. L. Chretien. TSF pour Tous 24:260+ Oct '48

Transistor type "PTT 601." (Le transistron triode type PTT 601) R. Sueur. Onde Elec 29:389-397 Nov '49. In French

Transistors and the serviceman. Rufus P. Turner. Radio Ser Deal 10:25-26 May '49

Transistron = transitor + ? E. Aisberg. Toute la Radio No 137:218-220 July-Aug '49. In French

Type-A transistor. R. M. Ryder. Bell Lab Rec 27: 89-93 Mar '49

See also

Conductors, Semi-conductors
Physics, Solid State

CRYSTALS

Axial length-oscillations of a straight rod of crystalline material. R. Bechmann and V. Petrzilka. Zeit f. Phys 122:589-599 '44

Ceramic piezo-electric devices. Radio Ser Deal 10: 20+ Aug '49

Coercive field and crystal dimensions. F. Bertaut. Compt Rend Acad Sci 229:417-419 Aug '49

Corrected crystal frequency. (Korrigeret Krystalfrekvens) Radio Ekko 12:100+ May '49

Crystals. N. Rochester. PB 3751

Crystal chemical relations in inorganic piezoelectric materials. S. Zerfoss and L. F. Johnson. Am Mineral 34:61-67 '49

Crystal control at 100 megacycles for aerial navigation. S. H. Dodington. Elec Comm 26:272-278 Dec '49

Crystals. H. Jaffe. Phys Today 2:14-19 Sep '49

Crystals and electricity. W. G. Cady. Wireless Eng 181:46-51 Dec '49

Crystals for electrical filters. R. Taylor and others. Research 2:414-417 Sep '49

Crystals for optical and electrical use; piezo-electric crystals. German Industry Rep. BIOS 552 Brit Govt Pub

Crystals in electronics. (Le quartz en electronique) Electronique 33:12-13 July '49

Crystals in radio work. (Kristalle in der Radiotechnik) Radio Tech 25:683-686 Dec '49

CRYSTALS–Cont'd.

Crystals, piezo-electric and optical. German Industry Rep. CIOS XXV-13 Brit Govt Pub

Crystals (very large), synthetic at I. G. Oppau-Ludwigshafen. German Industry Rep. BIOS 468 Brit Govt Pub

Domain structure and dielectric response of barium titanite single crystals. B. Matthias and A. Von Hippel. MIT Tech Rep No 9 NP 929 24 pp Feb '48. AEC

Elastic natural oscillations of a rectangular quartz parallelepiped. R. Bechmann. Zeit f. Phys 122: 510-526 '44

Electrical conductivity of germanium. E. H. Putley. Phys Soc Proc series A 62:284+ May 1, '49

Frequency-temperature relationship of some low frequency quartz plates. D. Fairweather. Marconi Rev 12:68-80 Apr-June '49

Generation of harmonics by silicon and germanium crystals. D. D. Montgomery. PB 2758

Importance and application of piezoelectric minerals. H. H. Waesch. Mining Eng section 3 1:12-16 '49

Low loss crystal systems. William J. Fry. Acoust Soc Am J 21:29-34 Jan '49

New ferroelectric crystals. (Abstract) B. T. Matheas. Chem & Eng N 27:1928 July 4, '49

Observation of the ferro-electric Barkhausen effect in barium titanate. R. R. Newton and others. Phys Rev 75:103-105 Jan 1, '49

Piezo effect of barium titanate. A. V. Rzhanov. Zh Eksp Teor Fiz 19:502-506 June '49. In Russian

Piezo-electric materials. J. C. B. Missel. Philips Tech Rev 11:145-150 Nov '49

Piezo-electric resonator of ethylene diamine tartrate with zero temperature coefficient of frequency. R. Bechmann. Nature 164:190-191 July 30, '49

Pin connections of piezo-electric quartz crystals mounted in B7G valve-type envelopes. Radio Ind Coun Spec No RIC/271/A:1-2 issue 1 June '49

Quartzcrystal as raw material for high frequency work. (Der Quarzkristall als Rohstoff fuer die Hochfrequenztechnik) Elektrotechnik 3:318-322 Oct '49

Research reports covering cavity resonators, cyclotrons, crystal vibration, feedback, microwaves, etc., 1942-1944. PB 84893. In German

Small DC-9 crystals. PB 2433

Some aspects of the performance of mixed crystal. (Abstract) P. D. Strum. IRE Proc 37:173 Feb '49

Theory of barium titanate. A. F. Devonshire. Phil Mag 20:1040-1063 Oct '49

Theory of the crystal transducer for plane waves. Walter G. Cady. Acoust Soc Am J 21:65+ Mar '49

Vibration of crystals. N. Chako. Am Cer Soc J 32: 156 June '49

Wave propagation in piezoelectric crystals. Joseph J. Kyame. Acoust Soc Am J 21:159 May '49

Patents

Combined coaxial and crystal holder, Paul Rosenberg, 2,479,264, 1 cl. Appl July 9, '45; granted Aug 16, '49

Crystal, Wesley S. Erwin, 2,485,722, 3 cl. Appl Jan 31, '45; granted Oct 25, '49

Crystal electrode, Auguste E. Miller, 2,487,165, 16 cl. Appl Oct 10, '46; granted Nov 8, '49

Crystal polarity marker, Rudolph A. Bushcott, 2,466,002, 6 cl. Appl Feb 7, '46; granted Apr 5, '49

Electronic control device, Stanley D. Eilenberger, 2,488,811, 3 cl. Appl Sep 20, '43; granted Nov 22 '49

Holder for piezoelectric crystals and the like, Henry M. Bach, 2,486,547, 1 cl. Appl Sep 2, '44; granted Nov 1, '49

Means for the interchange of electrical and acoustical energy, Edwin E. Turner, jr., 2,473,835, 5 cl. Orig appl Aug 6, '42; divided and this appl Mar 17, '48; granted June 21, '49

Mounting for piezoelectric elements, 2,482,828, 5 cl. Appl Apr 3, '45; granted Sep 27, '49

Multiple crystal holder, Robert J. Bitner, 2,470,133, 6 cl. Appl Dec 16, '46; granted May 17, '49

Piezoelectric apparatus, Gesinus Diemer, 2,488,586, 6 cl. Appl Nov 22, '46; granted Nov 22, '49

Piezoelectric apparatus, Jay J. Cress, 2,471,143, 7 cl Appl Feb 8, '45; granted May 24, '49

Piezoelectric crystal, Hans Jaffe, 2,490,216, 6 cl Appl June 17, '47; granted Dec 6, '49

Piezoelectric crystal, Virgil E. Bottom, 2,486,916, 6 cl. Appl Dec 22, '47; granted Nov 1, '49

Piezoelectric crystal, William C. Elmore and John F. Marshall, 2,470,609, 8 cl. Appl Dec 10, '45; granted May 17, '49

Piezoelectric crystal apparatus, John M. Wolfskill, 2,467,353, 28 cl. Appl Feb 16, '39; granted Apr 12, '49

Piezoelectric crystal apparatus, Walter L. Bond. 2,472,691, 11 cl. Appl Aug 16, '46; granted June 7, '49

Piezoelectric crystal apparatus, Warren P. Mason, 2,458,615, 20 cl. Appl Mar 28, '46; granted Jan 11, '49

Piezoelectric crystal apparatus, Warren P. Mason, 2,460,520, 20 cl. Appl Feb 9, '46; granted Feb 1, '49

Piezoelectric crystal apparatus, Warren P. Mason, 2,460,703, 13 cl. Appl Apr 5, '46; granted Feb 1, '49

Piezoelectric crystal apparatus, Warren P. Mason. 2,460,704, 13 cl. Appl Apr 5, '46; granted Feb 1 '49

Piezoelectric crystal apparatus, Warren P. Mason. 2,472,715, 17 cl. Appl Jan 21, '47; granted June 7, '49

Piezoelectric crystal apparatus, Warren P. Mason, 2,472,753, 11 cl. Appl Aug 16, '46; granted June 7, '49

Piezoelectric crystal apparatus, Warren P. Mason, 2,484,635, 9 cl. Orig appl Aug 9, '43; granted Oct 11, '49

Piezoelectric crystal apparatus, Warren P. Mason. 2,486,187, 14 cl. Appl Apr 9, '47; granted Oct 25, '49

Piezoelectric crystal element, Hans Jaffe, 2,483,640, 6 cl. Appl Feb 16, '48; granted Oct 4, '49

Piezoelectric crystal element, Hans Jaffe, 2,483,641, 4 cl. Appl Feb 16, '48; granted Oct 4, '49

Piezoelectric crystal holder, Charles D. Moriarty, 2,458,288, 7 cl. Appl Dec 24, '46; granted Jan 4, '49

RYSTALS, *Patents*–Cont'd.

iezoelectric crystal holder, James B. Adams, jr., 2,482,451, 4 cl. Appl June 7, '45; granted Sep 20, '49

iezoelectric crystal holder, John M. Wolfskill, 2,481,806, 32 cl. Appl Aug 7, '47; granted Sep 13, '49

iezoelectric crystal mounting, Melvin L. Smith, 2,484,428, 3 cl. Appl July 15, '47; granted Oct 11, '49

iezoelectric crystal plate, Hans G. Baerwald, 2,485,-129, 3 cl. Appl Mar 19, '45; granted Oct 18, '49

iezoelectric crystal plate, Hans G. Baerwald, 2,485,-130, 4 cl. Orig appl Mar 19, '45; divided and this appl Apr 10, '48; granted Oct 18, '49

iezoelectric crystal plate, Hans G. Baerwald, 2,485,-131, 3 cl. Orig appl Mar 19, '45; divided and this appl Apr 10, '48; granted Oct 18, '49

iezoelectric crystal plate, Hans G. Baerwald, 2,485,-132, 3 cl. Orig appl Mar 19, '45; divided and this appl Apr 10, '48; granted Oct 18, '49

iezoelectric crystal structure, Kenton Kitch Garrison, 2,474,241, 10 cl. Appl June 29, '45; granted June 28, '49

iezoelectric crystal unit, Hal F. Fruth, 2,458,987, 13 cl. Appl July 18, '45; granted Jan 11, '49

iezoelectric device, Raymond W. Tibbetts, 2,472,179, 2 cl. Appl June 11, '47; granted June 7, '49

iezoelectric element of p-type crystal, Hans Jaffe, 2,463,109, 3 cl. Appl June 8, '44; granted Mar 1, '49

lurality of piezoelectric crystals having mirror surfaces for scanning, Frederick Henry Martin, 2,465,989, 12 cl. Appl Apr 1, '47; granted Mar 29, '49

emperature controlled crystal holder, Stanley B. Eaton, 2,462,850, 7 cl. Appl Feb 9, '45; granted Mar 1, '49

See also

onductors, Semi-conductors
rystal Tubes
ielectrics
ilters, Crystal
scillation & Oscillators, Crystal
hysics, Solid State
ectifiers, Crystal

CRYSTALS, Growth and Manufacture

hecking sense of cut in quartz crystals. D. M. Ruggles. Bell Lab Rec 27:399-401 Nov '49

rystal grinding simplified. E. W. Johnson. CQ 5: 37-40+ Jan '49

Crystal growth in the solid state; recrystallization. W. G. Burgers. Physica 15:92-106 Apr '49

Fundamental techniques in the frequency adjustment of quartz crystals. L. T. Sogn and C. Barclay. Nat Bur Stand Circ 480:1-9 '49

Fused quartz manufacture in Germany. German Industry Rep. FIAT 536 Brit Govt Pub

Growing quartz crystals. E. Buehler and A. C. Walker. Radio & TV N (Eng Ed) 42:14-16+ Dec '49

Mechanical development of EDT crystals. A. W. Ziegler. Bell Lab Rec 17:245-250 July '49

Mechanical production of very thin oscillator plates. L. T. Sogn and W. J. Howard. Nat Bur Stand Res J 43:459-464 Nov '49

New quartz crystal cut with zero temperature coefficient. (Een nieuwe kristalsnede voor kwarts met temperatuurcoefficient nul) Tijdsch Ned Radiogenoot 14:147-157 Sep '49

New synthetic piezoelectric material. (Neues synthetisches piezoelektrisches Material) Frequenz 3:84-85 Mar '49

Principles of designing a crystal holder for piezoquartz stabilizers. M. M. Venkov. Electro-Ind Bul (USSR)* No 6 '35

Production of large artificial quartz crystals. I. Franke and M. H. de Longchamp. Compt Rend Acad Sci 228:1136-1137 Mar 28, '49

Report deals chiefly with production of piezo electric crystals for frequency control. German Industry Rep. CIOS XXV-13 Brit Govt Pub

Salvaging electrically twined quartz. J. L. Rycroft and L. A. Thomas. Electronic Eng 21:410-415 Nov '49

Some aspects of the growth of quartz crystals. A. C. Swinnerton and others. Far Soc Dis No 5: 172-180 '49

Suggestions concerning intercrystalline junction processes during recrystallization. G. A. Homes and M. Maquestiau. Physica 15:107-110 Apr '49

Thin crystal problem solved. Aviation W Dec 26, '49

Thinner crystal oscillator plates for VHF applications. Tele-Tech 8:38+ Dec '49

Patents

Effective contouring of piezoelectric crystal elements, Warren P. Mason, 2,468,301, 19 cl. Appl Oct 31, '45; granted Apr 26, '49

Method and means of finishing piezoelectric crystals, Henry M. Bach, 2,470,737, 5 cl. Appl Aug 29, '44; granted May 17, '49

Piezoelectric crystal holder, Roman Smoluchowski, 2,460,153, 10 cl. Appl July 30, '46; granted Jan 25, '49

Piezoelectric transducer and method for producing the same, Charles K. Gravley, 2,486,150, 14 cl. Appl Dec 31, '47; granted Oct 25, '49

Temperature controlled oven for dual quartz crystals, Robert J. Bitner, 2,470,134, 6 cl. Appl Dec 16, '46; granted May 17, '49

CRYSTALS, Measurement and Testing

Application of multiple-beam interferometry to the study of oscillating quartz crystals. S. Tolansky and W. Bardsley. Nature 161:925+ June 12, '48

Arrangement for indicating piezo-electricity of crystals. W. G. Perdok and H. van Suchtelen. Philips Tech Rev 11:151-155 Nov '49

Crystal mode indicator. J. K. Clapp. Gen Rad Exp vol 23 Feb '49

Investigation of vibrations in piezoelectric quartz plates by the method of light interference. M. L. Kotlyarevski and E. Y. Pumper. Zh Tekn Fiz* 11:843-853 '41

Investigations of the mechanical and piezoelectric properties of crystals of silver chloride. S. O. Tsobkallo. Zh Tekn Fiz 19:507-517 Apr '49. In Russian

CRYSTALS, Measurement and Testing–Cont'd.

Measurement of the electrical characteristics of quartz crystal units by use of a bridge tee null network. Charles H. Rothauge. Elec Eng 68:236 Mar '49

Measuring crystal inductance at high frequencies. G. F. Critchlow. Bell Lab Rec 27:138-140 Apr '49

Oscillographic crystal mode analyzer. Oscillographer 11:13-15 Jan-Mar '49

Patents

Apparatus for determining resonant frequency of piezoelectric quartz crystal blanks, Richard K. Blackburn, 2,476,954, 4 cl. Appl Oct 23, '45; granted July 26, '49

Test circuit for piezoelectric crystals, Charles W. Harrison, 2,463,616, 8 cl. Appl Feb 7, '45; granted Mar 8, '49

See also

Physics, Solid State

CYCLOTRONS

Acceleration of stripped light nuclei in the 60-inch cyclotron. May '46 PB 95393

Big tools machine massive cyclotron. Am Mach 93:98-99 Nov 17, '49

Character of the radiation field and shielding at the 184-inch cyclotron. 6 pp '47 AECD 2149. Also PB 95380

Construction report; 130-in. Rochester cyclotron; July '46-July '49. S. W. Barnes and others. U of Rochester Office of Naval Res Contract NP 979 95 pp July '49. AEC

184-inch cyclotron data. C. W. Park 17 pp Apr 1, '49 AECU 351

184″ cyclotron oscillator capacitance measurements '47 MDDC 964

184″ cyclotron-radiation measurement of breech load probe head. 3 pp MDDC 982

184″ cyclotron synchroscope beam pictures on two probes. 4 pp '47 MDDC 987

184-inch cyclotron vertical beam oscillations in the region of 82-inch radius. 8 pp '47 MDDC 984

184″ cyclotron vertical DC electrostatic deflector. 2 pp '47 MDDC 1051

Design of cyclotron vacuum system. David Rose. Carnegie Inst Tech Rep No 4 NP 883 43 pp. AEC

Design of the radiofrequency system for the 184 inch cyclotron. K. R. MacKenzie and others. Rev Sci Instr 20:126-133 Feb '49. Also AECD 2071

Development of the cyclotron process. (Die Entwicklung des Cyklotronverfahrens) Elektron Wiss und Tech 3:395-401 Oct '49

Efficiency of frequency modulated cyclotron. L. L. Feldy and D. Bohm. PB 95758

Electromagnetic deflector for the beam of the 184-inch cyclotron. 12 pp '47 MDDC 1560. Also PB 95808

Electron cyclotron. W. J. Henderson and P. A. Redhead. Nucleonics 5:60-67 Oct '49

Frequency modulated cyclotron characteristics. B. T. Wright and J. R. Richardson. PB 31874s2

Functional description of the 184-inch cyclotron pulsed arc system and maintenance instructions. 14 pp '48 AECD 1849. Also PB 96453

High intensity cyclotron. E. J. Lofgren. 1 p AECU 389

Instruction notes for 184-inch cyclotron deflector high voltage pulse generator model IV (2L7044) trigger amplifier (2L6952), deflector regulator (2L6974), regulator delay (2L6932), and deflector power supply (3Z1574). R. F. Edwards and H M. Owren. 19 pp June 14, '49 AECU 350

Magnetic deflector for mesons produced in the 184-inch cyclotron. Wolfgang K. H. Panofsky and Ernest A. Martinelli. Rev Sci Instr 20:286-28 Apr '49

Operating phenomena associated with the 184 inch cyclotron. 5 pp '47 MDDC 1092

Operation of ¼ model bevatron. E. J. Lofgren. 1 pp June 13, '49 AECU 372

Operation of the ¼ scale model bevatron. E. J Lofgren. 16 pp July 13, '49 AECU 435

Operation of the ¼ scale model bevatron. E. J Lofgren. 11 pp Aug 1, '49 AECU 450

Operation of the 184″ cyclotron. L. R. Henrich and others. 46 pp May 17, '49 AECU 354

Photographs of the 184-inch cyclotron, numbers 584 488, 591, 593, 205, 262, and 263. 7 pp '47 MDDC 623

Physical considerations concerning the design of the bevatron. 14 pp '48 AECD 2200. Also PB 96460

Production of mesons by the 184-inch Berkeley cyclotron. pt 1 Experimental arrangement. 1 pp '48 AECD 1931; pt 2 Mass determination. 3 pp '48 AECD 1936. Also PB 96464

Research reports covering cavity resonators, cyclotrons, crystal vibration, feedback, microwaves etc., 1942-1944. PB 84893. In German

Special oil cools Carnegie cyclotron. Refrig Eng 57:963 Oct '49

Patents

Cyclotron oscillator system, Winfield W. Salisbury 2,492,324, 9 cl. Appl Dec 24, '47; granted Dec 27 '49

See also

Accelerators
Betatrons

CYCLOTRONS, Synchrotrons

Betatron injection into synchrotrons. F. K. Goward Phys Soc Proc section A 62:617-631 Oct '49

Description of a frequency modulated cyclotron and a discussion of deflector problem. 3 pp '46 MDDC 155

Dynamics of a synchrotron with straight sections N. M. Blachman and E. D. Courant. Rev Sci Inst 20:596-601 Apr '49. Also AECU 322

Efficiency of frequency modulated cyclotron. 11 pp '46 MDDC 148

First large synchrotron placed in operation. W. W Salsig, jr. 5 pp AECU 219

Frequency modulated cyclotron characteristics. pp '46 MDDC 986

Frequency modulation for Berkeley 37″ cyclotron 8 pp MDDC 157

Homopolar generator to excite synchro-cyclotron a Carnegie Tech. Power Pl Eng 53:70-71+ Nov '4

Magnetic field and injection for a 10 mev synchrotron. M.S. thesis. Donivan L. Hall. Ohio State U EE Dept Dec '48

CYCLOTRONS, Synchrotons–Cont'd.

Magnetic fields due to dee structures in a synchrotron. 4 pp '46 MDDC 147

70 mev synchrotron. F. R. Elder and others. Gen Elec Res Lab NP 1012 37 pp. AEC

70-million volt synchrotron for medical use. Nature 164:726-728 Oct 29, '49

Orbital stability in a proton synchrotron. R. Q. Twiss and N. H. Frank. Rev Sci Instr 20:1-16 Jan '49

Pulsed deflector for 184" frequency modulated cyclotron. 14 pp '47 MDDC 1032

Quarter-wavelength coaxial-line resonators for betatron-started synchrotrons. F. D. Goward and others. IEE Proc pt III 96:508-517 Nov '49

Radio frequency accelerating system for the 200-mev synchrotron. Craig S. Nunam. 121 pp Mar 26, '49 AECU 341

Radiofrequency system of the Berkeley synchrotron. Mitchell H. Dazey and others. 18 pp Aug 4, '49 AECU 5718

Resonance effect in the synchrotron. E. D. Courant. Jour Ap Phys 20:611-616 June '49

RF system for frequency modulated cyclotron. 11 pp '46 MDDC 1045

RF system for the university of Rochester 130 inch synchrocyclotron. (Abstract) Winfield W. Salisbury. IRE Proc 37:168 Feb '49

Synchrotron accelerator — its potentialities as a generator of X-rays and electrons of 10-50 mev energies for medical use. D. W. Fry. Brit J Radiol 22:462-472 Aug '49

Synchrotron radio frequency system. 5 pp '46 MDDC 151. Also PB 95394

Theory of synchro-cyclotron. 18 pp '47 MDDC 933

Three dimensional design of synchrotron polefaces. C. Robinson. Phys Soc Proc section A 62:592-597 Sep '49

University of California proton synchrotron (Bevatron). George M. Farly. 2 pp AECU 326

D

DETECTORS

See

Frequency Modulation, Detectors
Microwaves, Detectors
Reception and Receivers, Detectors

DIELECTRICS

Anamalous dielectric properties of polycrystalline titanates of the perovskite type. J. R. Partington and others. Phil Mag 40:157-174 Feb '49

Ceramic dielectric for condensers. German Industry Rep. FIAT 892 Brit Govt Pub

Ceramic materials with a high dielectric constant. E. J. W. Verwey and R. D. Bugel. Philips Tech Rev 10:231-238 Feb '49

Ceramics and their manufacture. R. A. Ijdens. Philips Tech Rev 10:205-213 Jan '49

Conduction in dielectric liquids in strong electric fields. F. Ruhle. PB 94840. In German

Conductivity changes in dielectrics during 2.5-mev X-radiation. (Letter) F. C. Armistead and others. Phys Rev 76:860 Sep 15, '49

Contribution to the theory of the dielectric constant of polar liquids. Th. G. Scholte. Physica 15: 437-449 July '49

Developments in electric cable and dielectric research. Engineering 168:386-387 Oct 14, '49

Developments of RF ceramics. (Ueberlick ueber neuere entwicklungen auf dem Gebiet der HF-Keramik) Schreck. Fernmeldetech Zeit 285-296 Sep '49

Dielectric constant of silica. S. K. K. Jatkar and B. R. Y. Iyengar. Indian J Phys 23:145-152 Apr '49

Dielectric constants and polarizabilities of ions in simple crystals and barium titanate. S. Roberts. Phys Rev 76:1215-1220 Oct 15, '49

Dielectric constants of solid dielectrics at high temperatures. M. S. Kosman and N. N. Sozina. Zh Eksp Teor Fiz 17:472-475 '47

Dielectric loss in swollen rubber. A. Schallamach and P. Thirion. Far Soc Trans 50:605-611 July '49

Dielectric loss with changing temperature. J. B. Whitehead and W. Rueggeberg. Elec Eng 68:874 Oct '49

Dielectric losses in impregnated paper for small gradients. M. G. Gertsenshteyn. reel 0037 No 475,622:54-56 SDLC. In Russian

Dielectric properties of a gas discharge. E. E. Saltpeter and R. E. B. Makinson. Phys Soc Proc series B 62:180+ Mar 1, '49

Dielectric properties of barium tetratitanate and other dielectrics of the system TiO_2-BaO. G. E. Skanavi. Akad Nauk Dok* Rep 59:41-43 '48

Dielectric properties of barium titanate at low temperatures. R. F. Blunt and W. F. Love. Phys Rev 76:1202-1204 Oct 15, '49

Dielectrics; fundamental research at Swarsenfeld. German Industry Rep. BIOS 73 Brit Govt Pub

Directional effects in dielectric properties of molded rubber. A. H. Scott. Nat Bur Stand Res J 43: 355-364 Oct '49

Electric and optical behavior of $BaTiO_3$ single-domain crystals. W. J. Merz. Phys Rev 76:1221-1225 Oct 15, '49

Electric strength of some synthetic polymers. W. G. Oakes. IEE Proc pt I 96:37+ Jan '49

Electric surface conductivity of dielectrics. N. N. Semenov and N. M. Chirkov. Adak Nauk Izvest 51:37-40 '46

Electrical aspects of Buna, with some notes on other dielectrics. German Industry Rep. BIOS 1714 Brit Govt Pub

Electrical properties of plastics. A. J. Warner. Elec Comm 26:33+ Mar '49

Electrical testing of capacitor paper. Harold S. Endicott. Gen Elec Rev 52:28-35 Sep '49

Ferro-electricity of titanates. G. H. Jonker and J. H. Van Santen. Philips Tech Rev 11:183-192 Dec '49

German electro-technical ceramics. BIOS 1762 Brit Govt Pub

Influence of local electronic states on dielectric constants of crystal phosphors. E. I. Adirovich. Akad Nauk Dok 66:601-604 Apr '49. In Russian

Low-voltage AC testing. I. G. Easton. Elec Eng 68:337 Apr '49

DIELECTRICS–Cont'd.

Magnetic susceptibility of mica. J. T. Kendall and D. Yeo. Nature 163:476+ Mar 27, '48

Monthly report, No 2. M. U. Cohen. PB 98810

New dielectric materials. Electrician 143:735-736 Sep 2, '49

New form of dielectric polarization and losses in polycrystalline dielectrics. G. I. Skanavi and A. I. Demeshna. Zh Eksp Teor Fiz vol 19 No 1:3-17 Jan '49. In Russian

Note on crystallite size and intrinsic electric strength of polythene. D. W. Bird and H. Pelzer. IEE Proc pt I 96:44+ Jan '49

Plastics and their application in the electrotechnical industry. J. C. Derksen and M. Stel. Philips Tech Rev 11:33-41 Aug '49

Polarisability and dielectric constant of ionic crystals. B. Szigeti. Far Soc Trans 45:155 Feb '49

Properties of calcium-barium titanate dielectrics. E. N. Bunting and others. Nat Bur Stand Res J 43:237-244 Sep '49

Research reports covering crystal oscillators, germanium rectifiers, dielectric materials, infrared phosphors, etc., 1939-1945. PB 84913

Statistical method of determining the breakdown potential of dielectrics. A. S. Zingerman. Zh Tekn Fiz 18:1029-1043 Aug '48. In Russian

Study of high dielectric constant films for high temperature operation. M. U. Cohen and L. Balamuth. PB 98799

Summarized proceedings of conference on substances of high permittivity—London, 1948. Jour Sci Instr 26:134+ Apr '49

Supercalendering of condenser paper. German Industry Rep. FIAT 1208 Brit Govt Pub

Surface conductivity of solid dielectrics. N. Chirkov. Phys Chem J (USSR)* 21:1303-1306 '47

Symmetry changes in barium titanate at low temperatures and their relation to its ferroelectric properties. H. F. Kay and P. Vousden. Phil Mag 40:1019-1039 Oct '49

Table of the function (thz)/z for the study of dielectrics at hyperfrequencies. (Abaque de la fonction (thz)/z pour l'etude des dielectriques en hyperfrequence) J. Benoit. Ann Telecomm 4: 27-31 Jan '49

Tables of dielectric materials. vol 3 MIT Lab for Insulation Res Tech Rep No X Office of Naval Res Contract NP 906 62 pp June '48. AEC

Variable temperature dielectric cell of wide frequency range for solids and liquids. E. B. Baker. Rev Sci Instr 20:716-723 Oct '49

Patents

Continuous process for forming high dielectric ceramic plates, Glenn N. Howatt, 2,486,410, 7 cl. Appl July 26, '45; granted Nov 1, '49

Dielectric composition and method of making same, Eugene Wainer and Allen N. Salomon, 2,469,584, 16 cl. Appl Sep 11, '45; granted May 10, '49

Dielectric sheet and method of manufacture, Robert G. Quinn and Joseph C. Harkness, 2,485,458, 8 cl. Appl Mar 28, '44; granted Oct 18, '49

High dielectric material and method of making same, Eugene Wainer, 2,467,169, 3 cl. Appl Nov 12, '42; granted Apr 12, '49

See also

Capacitance & Capacitors
Crystals
Industrial Heating, Dielectric
Insulation & Insulators
Materials

DIELECTRICS, Measurements

Conductivity changes in dielectrics during 2.5 mev X-radiation. 3 pp '49 AECD 2641

Construction of an apparatus to measure the dielectric constant of liquids with high accuracy. (Construction d'un appareil pour la mesure tres precise de la constante dielectrique des liquides) Mouradoff-Fouquet. Ann Phys 4:310-367 May-June '49

Dielectric-loss-measuring equipment for field and works testing. E. A. Livingston and J. Porteous. IEE Proc pt II 96:73+ Feb '49

Dielectric measurement techniques in the very-high-frequency region. W. B. Westphal. Elec Eng 68:256+ Mar '49

Guarded circuit bridge. (Letter) S. I. Reynolds. Science 110:693 Dec 23, '49

Method of determining the dielectric constant and power factor of ceramics at 100 megacycles as a function of temperature. H. J. Evans. Am Cer Soc J 32:262-266 Aug 1, '49

Measurement of dielectric loss at high frequencies and under changing temperature. J. B. Whitehead and W. Rueggeberg. AIEE Proc section 9130:1-5 July '49

Measurement of the dielectric properties of high-permittivity materials at centimetre wavelengths. J. G. Powles and Willis Jackson. IEE Proc pt III 96:383-389 Sep '49

New method of determining the temperature of the start of sintering of powder dielectrics. P. P. Budinkov and V. M. Barro. Akad Nauk Dok 67: 113-115 Jan '49. In Russian

Optical method of measuring the dielectric permeability and the dielectric loss of solid dielectrics in the centimeter range. L. I. Odynets. Zh Tekn Fiz 19:120-125 Jan '49. In Russian

Patents

Dielectric measuring apparatus and method, George R. Leef, 2,474,260, 2 cl. Appl Jan 11, '47; granted June 28, '49

Dielectric strength test for capacitors, Alden J. Deyrup, 2,474,415, 3 cl. Appl Sep 18, '45; granted June 28, '49

Testing dielectric materials, Myron A. Elliott, 2,472,-814, 8 cl. Appl July 13, '45; granted June 14, '49

DIRECTION FINDERS

Aural-null and twin-channel cathode-ray direction-finders. S. de Walden and J. C. Swallow. IEE Proc pt III 96:307-320 July '49

Automatic direction-finder. J. R. Steinhoff. Electronics 22:97+ Feb '49

Control of resonance effects on the radio bearings of an aircraft high-frequency direction finder. (Abstract) M. K. Goldstein. IRE Proc 37:179. Feb '49

Direction-finding site errors at very high frequencies. H. G. Hopkins and F. Horner. IEE Proc pt III 96:321-332 July '49

Goniometer circuit to suppress jamming of azimuth readings. (Eine Geoniometeranordnung zur Unterdrueckung von Stoersendern bei Winkelmessung mit gebuendelten Antennensystemen) Fricke. Fernmeldetech Zeit 249-254 Aug '49

IF transmitter for D. F. measurements. B. G. Pressey. Wireless Eng 26:124+ Apr '49

Iron cored DF loops and manufacture of iron dust. German Industry Rep. BIOS 1203 Brit Govt Pub

Medium frequency crossed-loop radio direction finder with instantaneous unidirectional visual presentation. L. J. Giacoletto and S. Stiber. IRE Proc 37:1082-1088 Sep '49

Miscellaneous reports on German radio and radar equipment, 1941-1944. PB 84885

Model DZ-2: aircraft radio direction finder equipment; 24 volt direct-current operation. May '42 PB 95593

Polarization errors in Adcock-type direction-finders. W. Ross. IEE Proc pt III 96:269-277 July '49

Radio direction-finding by the cyclical differential measurement of phase. C. W. Earp and R. M. Godfrey. Elec Comm 26:52+ Mar '49

Radio direction finding developments at 2nd Naval Res Lab, Japan. BIOS/JAP/PR/1223 Brit Govt Pub

Rotating antenna for automatic radiogoniometry. (Aerien tournant pour radiogoniometrie) P. Bodez. Ann Telecomm 4:341-346 Oct '49

Rotating H-adcock direction finder. B. G. Pressey. Wireless Eng 26:85+ Mar '49

Scattering of radio waves by metal wires and sheets. F. Horner. IEE Proc pt III 96:333-345 July '49

Some relations between speed of indication, bandwidth, and signal-to-random-noise ratio in radio navigation and direction finding. H. Busignies and M. Dishal. IRE Proc 37:478-488 May '49

Technical data, reports and wiring diagrams covering radio direction finding methods and equipment, 1935-1944. PB 84907

VHF direction finder for light planes. Gunnar Wennerberg. Electronics 22:118+ Aug '49

Voltage discriminator, its application to direction finding. (Un discriminateur de tension, son application a la discrimination de direction) J. Loeb and others. Ann Telecomm 4:57-63 Feb '49

Patents

Apparatus for direction finding, Thomas O. McCarthy and Arthur P. Davis, 2,475,975, 2 cl. Appl Apr 15, '46; granted July 12, '49

Cathode-ray direction finder, Edward G. Gage, 2,480,234, 31 cl. Appl May 3, '46; granted Aug 30, '49

Cathode-ray indicator, Avery G. Richardson, 2,468,-110, 7 cl. Appl Dec 7, '45; granted Apr 26, '49

Compass stabilized direction finder, Edward C. Streeter, jr., 2,484,862, 14 cl. Appl Feb 18, '48; granted Oct 18, '49

Dipole antenna direction finder, Henri G. Busignies, 2,492,354, 15 cl. Appl Apr 9, '45; granted Dec 27, '49

Direct reading direction finder, Gustav Guanella, 2,479,489, 12 cl. Appl Sep 3, '47; granted Aug 16, '49

Direction and distance system, Henri G. Busignies, 2,468,032, 4 cl. Appl Feb 28, '41; granted Apr 26, '49

Direction finder, Avery G. Richardson and Arbor G. Everhart, 2,468,109, 8 cl. Appl Mar 19, '45; granted Apr 26, '49

Direction finder, Carl G. Sontheimer, 2,458,310, 3 cl. Appl Sep 3, '45; granted Jan 4, '49

Direction finder, Edward B. Moore, 2,485,627, 11 cl. Appl Nov 16, '46; granted Oct 25, '49

Direction finder, Frank J. Lundburg, 2,465,382, 5 cl. Appl May 28, '45; granted Mar 29, '49

Direction finder, Frank O. Chesus and Frank G. Thomas, 2,480,117, 19 cl. Appl June 27, '45; granted Aug 30, '49

Direction finder, Gordon S. Burroughs, 2,465,350, 14 cl. Appl May 21, '45; granted Mar 29, '49

Direction finder, Henri G. Busignies, 2,463,475, 6 cl. Appl Sep 5, '45; granted Mar 1, '49

Direction finder, Henri G. Busignies, 2,489,263, 10 cl. Appl Aug 6, '45; granted Nov 29, '49

Direction finder, Herbert G. Carter, 2,460,806, 5 cl. Appl Aug 10, '45; granted Feb 8, '49

Direction finder, Louis John Heaton-Armstrong, 2,489,290, 2 cl. Appl Nov 15, '45; granted Nov 29, '49

Direction finder, Martin J. Schaeffer, 2,468,116, 6 cl. Appl Mar 6, '45; granted Apr 26, '49

Direction finder, Maxwell K. Goldstein, 2,485,585, 2 cl. Appl June 13, '45; granted Oct 25, '49

Direction finder, Nathan Marchand and Frank O. Chesus, 2,489,304, 10 cl. Appl June 27, '45; granted Nov 29, '49

Direction finder, Trevor H. Clark, 2,480,118, 8 cl. Appl Dec 19, '46; granted Aug 30, '49

Direction finding apparatus, Willy Steinmann, 2,461,-187, 30 cl. Appl May 4, '45; granted Feb 8, '49

Direction finding device, Klaas Posthumus, 2,473,-491, 4 cl. Appl Feb 8, '47; granted June 14, '49

Direction finding system, Avery G. Richardson, 2,462,898, 6 cl. Orig appl Feb 6, '43; divided and this appl Aug 29, '45; granted Mar 1, '49

Direction finding system, Carl Finzer, 2,489,479, 6 cl. Appl Aug 4, '44; granted Nov 29, '49

Direction finding system, Eugene Cole, 2,489,270, 10 cl. Appl Jan 4, '47; granted Nov 29, '49

Direction finding system, Paul G. Hansel, 2,475,612, 8 cl. Appl June 27, '45; granted July 12, '49

Direction-responsive receiver, Edouard Martini, 2,485,619, 11 cl. Appl Aug 17, '46; granted Oct 25, '49

Directional radio receiver, Gordon S. Burroughs, 2,477,577, 6 cl. Appl Jan 8, '46; granted Aug 2, '49

Directional radio system, Vernon B. Bagnall, 2,466,-354, 8 cl. Appl June 28, '44; granted Apr 5, '49

Distance and direction finder radio beacon system, Leo Mackta, 2,485,618, 3 cl. Appl Nov 8, '44; granted Oct 25, '49

Electromagnetic wave direction indicator, Rene Hardy, 2,468,063, 9 cl. Appl May 28, '43; granted Apr 26, '49

Equisignal radio beacon system, William J. O'Brien, 2,471,648, 9 cl. Orig appl Mar 2, '42; divided and this appl Nov 8, '43; granted May 31, '49

Fluid inspection apparatus, Myron A. Elliott, 2,485,-579, 1 cl. Appl Mar 1, '46; granted Oct 25, '49

DIRECTION FINDERS, *Patents*–Cont'd.

Frequency controlled direction finder, Trevor H. Clark, 2,471,412, 1 cl. Appl Oct 10, '45; granted May 31, '49

Frequency operative azimuth indicator, Alexander Frum, 2,462,853, 8 cl. Appl Sep 13, '45; granted Mar 1, '49

Goniometer, Frank O. Chesus, 2,465,353, 6 cl. Appl Nov 1, '45; granted Mar 29, '49

Indicator system, Herwil M. Bryant, Benjamin H. Dennison and Roger E. White, 2,490,777, 7 cl. Appl May 22, '45; granted Dec 13, '49

Method and apparatus for testing direction finders, Samuel D. Browning, 2,468,028, 19 cl. Appl May 12, '45; granted Apr 26, '49

Method of direction finding by means of rotating radio beacons, Frank de Fremery, 2,485,365, 7 cl. Appl Feb 11, '47; granted Oct 18, '49

Octantal error calculator, Gilbert Swift and Charles B. Moore, 2,474,288, 10 cl. Appl July 7, '45; granted June 28, '49

Optical sound bearing system, Robert M. Sherwood and Robert J. Urick, 2,470,114, 10 cl. Appl July 12, '46; granted May 17, '49

Position indicating system, Joseph T. Webber, 2,479,-531, 18 cl. Appl Jan 24, '45; granted Aug 16, '49

Position indicating system, Mark Mandel, 2,480,152, 2 cl. Appl July 2, '46; granted Aug 30, '49

Radio beacon, Edward Stanko, 2,483,790, 4 cl. Appl Nov 27, '45; granted Oct 4, '49

Radio beacon system, Emile Labin and Donald D. Grieg, 2,485,612, 14 cl. Appl Mar 10, '45; granted Oct 25, '49

Radio beacon system, James Matthew Henry, 2,472,-158, 9 cl. Appl July 26, '40; granted June 7, '49

Radio beacon system, William J. O'Brien, 2,483,557, 4 cl. Appl Aug 27, '45; granted Oct 4, '49

Radio direction finder, Emile Torcheux, 2,475,412, 4 cl. Appl Nov 19, '45; granted July 5, '49

Radio direction finder, Gordon S. Burroughs, 2,483,-399, 5 cl. Appl Apr 9, '46; granted Oct 4, '49

Radio direction finder, Helge Fabian Rost, Karl Harry Thunell, Sten Kaniel, and Per Harry Elias Claesson, 2,484,651, 3 cl. Appl May 11, '45; granted Oct 11, '49

Radio direction finder, Herman Bernard Rudolf Boosman and Christiaan Jan de Lussanet de la Sabloniere, 2,485,353, 3 cl. Appl May 1, '46; granted Oct 18, '49

Radio direction finder, John M. Fairall, 2,489,276, 4 cl. Appl Feb 19, '46; granted Nov 29, '49

Radio direction finder, Joseph Aicardi, 2,479,892, 8 cl. Appl July 3, '45; granted Aug 23, '49

Radio direction finder, Joseph G. Speer, 2,490,660, 14 cl. Appl Nov 4, '46; granted Dec 6, '49

Radio direction finder, Lucien Levy, 2,475,190, 3 cl. Appl May 6, '39; granted July 5, '49

Radio direction finder, Nils E. Lindenblad, 2,458,280, 7 cl. Appl July 1, '46; granted Jan 4, '49

Radio direction finder, Paul G. Hansel, 2,476,977, 30 cl. Appl June 24, '44; granted July 26, '49

Radio direction finder, Roswell H. Herrick, 2,462,-188, 21 cl. Appl Oct 4, '43; granted Feb 22, '49

Radio direction finder, Thomas O. McCarthy, 2,460,-798, 13 cl. Orig appl May 13, '44; divided and this appl Mar 12, '46; granted Feb 8, '49

Radio direction finding, Edward D. Blodgett, 2,474,004, 8 cl. Appl Mar 22, '47; granted July 5, '4

Radio direction finding, Walter H. Wirkler, 2,477,434, 14 cl. Appl Dec 9, '47; granted July 26, '4

Radio direction finding equipment, Martin L. Nelson, 2,468,269, 15 cl. Appl Nov 3, '43; granted Ap 26, '49

Radio direction finding method and apparatus, Pa G. Hansel, 2,484,824, 16 cl. Appl Sep 12, '4 granted Oct 18, '49

Radio direction finding system, Frederick A. Kolster, 2,463,286, 11 cl. Appl Apr 1, '44; grante Mar 1, '49

Radio direction-finding system, Louis N. Ridenou 2,473,175, 17 cl. Appl Dec 30, '43; granted Jun 14, '49

Radio direction indicator, Carlton A. Mizen, 2,478 300, 3 cl. Appl Apr 2, '46; granted Aug 9, '49

Radio ground position indicating device, James Anast, 2,489,251, 12 cl. Appl Nov 19, '47; grante Nov 29, '49

Radio guiding system, Alfred N. Goldsmith, 2,481 410, 30 cl. Appl Dec 29, '42; granted Sep 6, '

Radio navigation system, Thomas M. Ferrill, j 2,484,819, 17 cl. Appl Oct 29, '46; granted Oct 1 '49

Radio position indicator, Raymond A. Heisin 2,478,759, 4 cl. Appl Mar 7, '42; granted Aug '49

Radioelectric finding and telemetering system, Rer Hardy, 2,490,051, 6 cl. Appl May 28, '43; grante Dec 6, '49

Radiogoniometer, Rene Hardy, 2,468,064, 8 cl. Ap May 28, '43; granted Apr 26, '49

Sector adcock system, Nathan Marchand, 2,465,38 8 cl. Appl Nov 21, '45; granted Mar 29, '49

System for determining the position or path of a object in space, Paul W. Nosker, 2,470,787, 2 c Appl May 4, '44; granted May 24, '49

See also

Antennas, Directional
Navigational Aids
Radar
Sonar

DISTORTION

Analysis by the two frequency intermodulatio method of tracing distortion encountered in phc nograph reproduction. H. E. Roys. RCA Rev 1(254-269 June '49

Analysis of distortion resulting from two-pat propagation. (Abstract) Irvin H. Gerks. IR Proc 37:172 Feb '49

Audio transient distortion. Glen Southworth Radio & TV N pt 1 41:38-39+ Apr '49; pt 2 4 46-47+ June '49. Correction to pt 1: 41:149 Jun '49

Balancing of hum voltage. (Udbalancering Brumspaendinger) Radio Ekko 10:60-62 Mar '4

Connection between amplitude and phase distortio K. W. Wagner. Arch Elek 1:17-28 July-Aug '47

Criteria for the permissible non-linear distortio of amplifiers. V. F. Schut and C. W. Koste Appl Sci Res Bl:261-267 '49

ISTORTION–Cont'd.

etermination of distortion factors. (Ein einfaches Verfahren zur bestimmung von Verzerrungsfaktoren) Enkel. Fernmeldetech Zeit 2:153-154 May '49

istortion: does it matter? Wireless World 55: 11+ Jan '49

ffect of frequency on distortion factor of coils with commercial cores. (Die Frequenzabhaengigkeit des Spannungsklirrfaktors bei Spulen mit handel sueblichen Eisenblechkernen) Kaemmerer. Fernmeldetech Zeit 2:201-206 July '49

armonic suppression in class C amplifiers. Frederick Q. Gemmill. QST 33:28-33 Feb '49

imple method for determining distortion factors. F. Enkel. Fernmeldetech Zeit 2:153-154 May '49

racing distortion in phonograph records. Murlan S. Corrington. RCA Rev 10:241-253 June '49

See also
mplification & Amplifiers
nterference
oise
Vaveform Analysis

ISTORTION, Measurement

istortion and noise meter. Royden R. Freeland. Electronics 22:86+ Jan '49

istortion, its meaning and measurement. Cap 14: 3+ Jan '49

istortion measurement in the broadcasting station. Frank D. Lewis. Gen Rad Exp vol 24 June '49

easuring distortion and AF response in FM transmitters. Harold Reed. Radio & TV N 41:18-19+ May '49

ew distortion and noise analyzer. C. W. Clapp. Gen Elec Rev 52:31-32 Aug '49

imple distortion analyzer. Michael Wolfe. Radio & TV N 42:44-45+ Nov '49

Simple method of measuring small swings and modulation indices of frequency-or phase-modulated hum and noise. W. W. Boelens and F. L. H. M. Stumpers. Philips Comm N 10:15-19 Jan '49

See also
Noise, Measurement
Waveform Analysis

DYNAMOTORS

See Motors

E

ELECTROMAGNETIC THEORY

Analogies between the vibrations of elastic membranes and the EM field in guides and cavities. E. C. Cherry. IEE Proc pt III 96:346-360 July '49

Analogy between angle-of-incidence and frequency problems. L. Cremer. Arch Elek Ubertragung 1:28-47 July-Aug '47

Audio-frequency magnetic fluctuations. H. F. Willis. Nature 161:887+ June 5, '48

Calculation of the electromagnetic fields of endovibrators having the forms of bodies of revolution. V. L. Patrushev. Akad Nauk Izvest 12:684-691 Nov-Dec '48. In Russian

Classical electrodynamics in terms of direct interparticle action. John A. Wheeler and Richard P. Feynman. Rev Mod Phys 21:425-433 July '49

Confinement of slow charged particles to a toroidal tube. J. W. Gardner. Phys Soc Proc section B 62:300-306 May 1, '49

Contact OEMsr-262. J. A. Stratton and A. G. Hill. 4:483 PB 50830

Dielectric hysteresis in rotating electric fields. (Isteresi dielettrica in campi elettrici rotanti) B. Lavagnino. Alta Frequenza 18:103-113 July-Aug '49; abstracts in French, English and German

Electromagnetic eddy-current fields of spiral form. P. Jacottet. Arch Elek 39:8-26 June '48

Electromagnetic induction. G. I. Cohn. Elec Eng 68:441-447 May '49. Corresp. N. Savage 68:645 July '49

Electron optical mapping of electromagnetic fields. L. Marton and S. H. Lachenbruch. Jour Ap Phys 20:1171-1182 Dec '49

Electronic contour mapping. R. C. Raymond. NEC Proc '49

Frequency spectra of periodic and non-periodic phenomena. (Eine anschauliche Darstellung der spektralen Zerlegung periodischer und nichtperiodischer Vorgaenge) Fischer. Fernmeldetech Zeit p 21-23 Jan '49

Fringe fields of ferromagnetic domains. L. Marton and others. Jour Ap Phys 20:1258 Dec '49

Fundamentals of a theory of cosmic radiation in the region of the Hertzian waves. (Ueber die Grundzuege einer Theorie der kosmischen Strahlung in Gebiet der Hertzschen Wellen) Klinger. Funk und Ton 3:42-44 Jan '49

Geometry of electromagnetic systems. A. A. Bulgakov. Akad Nauk Dok 66:63-65 '49. In Russian

Law of action between moving electric charges, theory and applications. F. Guery. Franc Elec Soc Bul 9:262-272 June '49

Magnetic and electric fields studied with "electron probe". Product Eng 20:159 Oct '49

Non-radiating Maxwell waves. (Letter) Granville A. Perkins. Phys Rev 75:1947 June 15 '49

Operational method applied to the electrodynamic equations in a limited three-dimensional region. E. A. Meerovich. Akad Nauk Izvest 168-173 Feb '49. In Russian

Powerful pulsed magnetic fields. (Realisation des champs magnetiques intenses par impulsion) G. Raoult. Ann Phys 4:369-421 July-Aug '49

Production of a uniform H.F. field for measurement purposes. E. Roeschen. Funk und Ton 3:18+ Jan '49

Relatively-moving charge and coil. Wireless Eng 26:215-218 July '49

Rotating electric fields for electronic applications. (Campo elettrico rotante per scopi elettronici) A. Pinciroli. Alta Frequenza 18:114-124 July-Aug '49; abstracts in French, English and German

Spiral-phase fields. E. K. Sandeman. Wireless Eng 26:96+ Mar '49

ELECTROMAGNETIC THEORY–Cont'd.

Theory of the anomalous eddy currents. (Zur Theorie der Wirbelstrom-Anomalie) Feldtkeller. Frequenz 3:229-237 Aug '49

Torque and angular momentum of centimetre electromagnetic waves. N. Carrara. Nature 164:882-884 Nov 19 '49

Theory of electron discharge. (Zur Theorie des Funken ueberschlages) Elektrotechnik 3:291-293 Sep '49

Ultimate sensitivity and practical performance of radiation detectors. P. B. Fellgett. Opt Soc Am J 39:970-976 Nov '49

Velocity of electromagnetic waves. C. I. Aslakson. Nature 164:711-712 Oct 22 '49

See also

Atomic Measurements
Atomic Physics
Measurements & Meters, Field Strength
Microwaves, Propagation

ELECTROMAGNETIC THEORY, Attenuation of Waves

Attenuation in a dielectric circular rod. W. M. Elsasser. Jour Ap Phys 20:1193-1196 Dec '49

Attenuation of plane waves by obstacles of arbitrary size and form. H. C. van de Hulst. Physica 15:740-746 Sep '49

Damping theory and the propagation of radiation. J. Hamilton. Phys Soc Proc series A 62:12+ Jan 1, '49

Fading of radio waves of medium and high frequencies. R. W. E. McNicol. IEE Proc pt III 96:517-524 Nov '49

Fading of short waves. (ueber das Fading von Kurzwellen) Menzel. Fernmeldetech Zeit 2:243-244 Aug '49

Magnetic dispersion at microwave frequencies. G. F. Hodsman and others. Phys Soc Proc section B 62:377-390 June 1, '49

Relation of backscattering to self-absorption. Jan '48. PB 96375

Some problems of wave-diffraction in the ionosphere. (Abstract) J. A. Ratcliffe. Jour Geophys Res 54:288 Sep '49

Absorption

Abnormal dispersion and absorption of short electric waves. (Anormale Dispersion und Absorption kurzer electrischer Wellen) Elektron Wiss und Tech 3:37-39 Jan '49

Absorption of radio waves reflected at vertical incidence as a function of the sun's zenith angle. Eloise W. Taylor. RP 1939 GPO Nat Bur Stand

Absorption of short radio waves in the ionosphere and the tension of the electric field at the place of reception. A. N. Kazantsen. Akad Nauk Izvest pp 1107-1136 Sep '47

Absorption phenomena in liquids and solids at high frequencies. (Phenomenes d'absorption dans les liquides et les solides traverses par des courants de haute frequence) Revue Gen Elec 58:290-291 July '49

Anomalous effects in ionospheric absorption. E. V. Appleton and others. Nature 161:967+ June 19 '48

Depth of penetration of magnetic fields in super conductors and metal absorption. (Eindringtie Magnetischer Felder in Supraleiter und Metallal sorption) Moeglich & Rompe. Ann der Ph series 6 4:335-351 No 6 '49

Effect of the Lorentz polarization term on the ver tical incidence absorption in a deviating ion sphere layer. (Abstract) J. M. Kelso. Jou Geophys Res 54:284 Sep '49

Ground absorption. R. E. Burgess. Wireless En 26:133+ Apr '49

High-frequency absorption phenomena in liqui and solids. Willis Jackson and J. A. Saxto IEE Proc pt III 96:77+ Mar '49

ELECTROMAGNETIC THEORY, Corona

Calculation of spark breakdown voltages in air a atmospheric pressure. A. Pederson. Appl S Res Bl:299-305 '49

Condensation of moisture on leads undergoin corona discharge. N. B. Bogdanova and A. Vorob'ev. Zh Tekn Fiz 18:1185-1188 Sep '48

Corona investigations for extra-high tension line H. Bocker and others. PB 93335

Effects on corona of the diameter and shape of ope wire lines at high voltages. (Influence sur l'eff de couronne du diametre et du profil des cabl des lignes aeriennes a tres haute tension) Cahen and R. Pelissier. Revue Gen Elec 58:27 289 July '49

Point-to-plane impulse corona. Donald B. Moo and William N. English. Jour Ap Phys 20:370 Apr '49

Radio influence from high-voltage corona. Gordo R. Slemon. AIEE Proc section 960:1-8 Apr '

Theory of bipolar corona on conductors. V. Popov. Akad Nauk Izvest pp 433-448 Apr '49

ELECTROMAGNETIC THEORY, Diffraction of Waves

Contribution to the theory of diffraction of electro magnetic waves by spherical particles. Ark M Astr Fys Vol 36 May '49

Diffraction and perturbation in a waveguide due t an electromagnetic wave. T. Kahan. Jour Ph & Rad 6:300-301 Nov '45

Diffraction from the ionosphere and the fading radio waves. J. A. Ratcliffe. Nature 162:9+ Jul 3 '48

Diffraction of a spherical electromagnetic wav about a round disc. R. G. Mirimanov. Aka Nauk Dok 61:617-620 '48

Diffraction of a spherical electromagnetic wave at thin spherical segment. R. G. Mirimanov. Aka Nauk Dok 67:61-64 '49

Diffraction of electromagnetic waves at a wire gri R. Honerjager. Ann Phys Lpz 4:25-45 Sep '48

Diffraction of electromagnetic waves by a perfectl conducting plane screen. J. P. Vasseur. Comp Rend Acad Sci 229:179-181 July 18, '49

Diffraction of spherical electromagnetic waves fro a paraboloid of rotation of limited dimension with a distribution of the stimulating dipole fiel along the axis of paraboloid symmetry. R. G Mirimanov. Akad Nauk Dok 67:835-838 '49

LECTROMAGNETIC THEORY, Diffraction of Waves–Cont'd.

ield of diffraction of electromagnetic waves in the problem of a point emitter. L. M. Brekhovskish. Akad Nauk Izvest 12:322-334 May-June '49

ew solution of the problem of the diffraction of electromagnetic waves by a plane perfectly conducting screen. J. P. Vasseur. Compt Rend Acad Sci 229:586-587 Sep 19 '49

mall angle diffraction of neutrons and similar wave phenomena. O. Halpern and E. Gerjuoy. Phys Rev 76:1117-1129 Oct 15 '49

heory of diffraction by an aperture in an infinite plane screen. H. Levine and J. Schwinger. Phys Rev 75:1423-1432 May 1 '49

ransmission of electric waves through wire grids. W. Franz. Zeit angew Phys 1:416-423 June '49

nification of the formulae representing the principle of Huyghens for electromagnetic waves. F. Croze and G. Darmois. Compt Rend Acad Sci 28:824-826 Mar 7 '49

ariation principles for limiting (diffractional) problems of electrodynamics. G. V. Kisun'ko. Akad Nauk Dok 66:863-866 '49

LECTROMAGNETIC THEORY, Electrostatics

ircraft, electrostatics, research and developments. German Industry Rep. CIOS XXXI-37 Brit Govt Pub

utomatic equipment and techniques for field mapping. J. K. Mickelsen. Gen Elec Rev 52:19-23 Nov '49

ritical electrostatic forces in gaseous media. (Forces electrostatiques critiques dans quelques milieux gazeux) J. Jolivet. Revue Gen Elec 58:383-387 Sep '49

esign and performance characteristics of "electrets". Edward D. Padgett. Tele-Tech 8:36+ Mar '49

lectret behavior. Edward D. Padgett. Radio-Electronics 20:32-34 May '49

lectrets. Andrew Gemant. Phys Today 2:8+ Mar '49

lectrolytic tank for exploring potential field distributions. R. Makar and others. Nature 161: 845+ May 29 '48

Electron-optical shadow method. Nat Bur Stand Tech Bul 33:106-108 Sep '49

Exact calculations of the self potential surface-pressed rods of circular cross section. (Genaue Berechnung der Eigenspannungen in oberflachenyedruckten Staben von kreisformigem Querschniff) O. Foppl. Schweiz Arch 15:242-247 Aug '49

Field of a slot of arbitrary shape in an infinte circular cylinder. Report. S. Silver. U of Cal Eng Dept Jan 3 '49

Free electrical charge on thunderstorm rain and its relation to droplet size. Ross Gunn. Jour Geophys Res 54:57-63 Mar '49

Improved electrets. E. D. Padgett. Radio-Electronics 20:20-23 Apr '49

Mechanical forces in dielectrics. W. B. Smith-White. Phil Mag 40:466-478 Apr '49

Plastic electrets are nearing industrial application. T. A. Dickinson. Elec Mfg 42:101-103 Aug '48

Point charges. (Ueber streng punktfoermige Elementarladungen. Eine Bemerkung zur klassischen Elektronentheory) Kretschmann. Ann der Phys series 6 4:331-334 '49

Potential problems and capacitance for a conductor bounded by two intersecting spheres. C. Snow. Nat Bur Stand Res J 43:377-407 Oct '49

Preliminary tests on electric potential flow apparatus. F. Cheers and others. PB 97138

Space charge theory exploded. J. Slepian. Elec Eng 68:29 Corresp. R. R. Bennett and others. 68:747 Aug '49

ELECTROMAGNETIC THEORY, Magnetostatics

Arrangement for maintaining a constant magnetic field. H. Naumann. Zeit angew Phys 1:260-264 Jan '49

Automatic equipment and techniques for field mapping. J. K. Mickelsen. Gen Elec Rev 52:19-23 Nov '49

Axial field of a helix. G. W. O. Howe. Wireless Eng 26:349-350 Nov '49

Calculation of flux distributions with saturation. H. Poritsky. Elec Eng 68:328 Apr '49

Curvilinear squares for plotting magnetic fields. E. O. T. Electrician 143:1643-1644 Nov 18, '49

Dependence of energy constant of the magnetic anistrophy and the intensity of the magnetic field. L. V. Kirenski. Akad Nauk Dok* 12:121-125 '48

Dirac's theory of magnetic poles. W. T. Payne. Am J Phys 17:343-345 Sep '49

Electromagnetic induction in a rotating sphere. E. C. Bullard. Roy Soc Proc series A 199:413-443 Dec 7 '49

Electron optical observation of magnetic fields. L. Marton and S. H. Lachenbruch. Nat Bur Stand Res J 43:409-428 Oct '49

Electron-optical shadow method. Nat Bur Stand Tech Bul 33:106-108 Sep '49

Experimental basis of electromagnetism. N. R. Campbell and L. Hartshorn. Phys Soc Proc section A 62:422-445 July '49

Ferromagnetic domains. R. M. Bozorth. Physica 15:207-219 Apr '49

Formulas and tables for the calculation of the magnetic field components of circular filaments and solenoids. Frederick W. Grover. AIEE Proc section 9167:1-11 July '49; also in AIEE Trans 68: 665-675 '49

Lines of magnetic force made visible. Radio Tech 25:259-260 Apr '49

Magnetic field of massive rotating bodies. P. M. S. Blackett. Phil Mag 40:125-150 Feb '49

Magnetic susceptibility of Zinc at liquid hydrogen temperatures. J. A. Marcus. Phys Rev 76:413-416 Aug 1 '49

Magnetization in perpendicularly superimposed direct and alternating fields. Ph.D. thesis. Joseph M. Kelly. Yale U Elec Eng Dept '49

Making magnetic lines of force visible. (Magnetische Kraftliniensichtbar gemacht) Radio Tech 25:259-260 Apr '49

Motion of an electrified particle in the magnetic field of a current. A. Brunel. Rev Sci 86:345-347 Apr 1 '48

Motion of an ion in an approximately uniform magnetic field. 4 pp '43 AECD-2067

E-M THEORY, Magnetostatics–Cont'd.

Movement of small metal particles having six degrees of freedom in air around a wire carrying a constant electric current. J. A. Schedling. Phys Rev 76:843-845 Sep 15 '49

New coil systems for the production of uniform magnetic fields. J. R. Barker. Jour Sci Instr 26:273-275 Aug '49

On the theory of ferromagnetic resonance. D. Polder. Phil Mag 40:99-115 Feb '49

Penetration of magnetic field into superconductors. Part 2 measurements by the Casimir method. E. Laurmann and D. Shoeberg. Roy Soc Proc series A 198:560-580 Sep 7 '49

Physical theory of ferromagnetic domains. C. Kittel. Rev Mod Phys 21:541-583 Oct '49

Present status of the theory of ferromagnetism. J. H. Van Vleck. Physica 15:197-206 Apr '49

Quantitative examination of recent ideas on domain structure. L. F. Bates and F. E. Neale. Physica 15:220-224 Apr '49

Small field measurement by electron-optical shadows. Tele-Tech 8:29 Oct '49

Some effects of tension on magnetization processes. K. H. Stewart. Physica 15:235-240 Apr '49

Tank model for magnetic problems of axial symmetry. R. E. Peierls and T. H. R. Skyrme. Phil Mag 40:269-273 Mar '49

Temperature dependence of susceptibility of zinc, cadmium and gamma-brass. J. A. Marcus. Phys Rev 76:621-623 Sep 1 '49

Theory of magnetism of electron gas. Yu. B. Rumer. Zh Eksp Teor Fiz 18:1081-1095 Dec '48

ELECTROMAGNETIC THEORY, Mathematics

Application of conformal representation to wave fields. H. H. Meinke. Zeit angew Phys 1:245-252 Jan '49

Application of non-integral Legendre functions to potential problems. R. N. Hall. Jour Ap Phys 20:925-931 Oct '49

Application of singular integral equations to the problem of the distribution of electricity in thin closed surfaces. N. N. Lebedev. Zh Tekn Fiz 18:775-784 June '48

Applied mathematics, Part 1. 1948. PB 85024

Decomposition of tensors by contraction. Giulio Racah. Rev Mod Phys 21:494-496 July '49

Graphic-arithmetic for the simple analysis processes involved in electron movements. NP-920 32 pp Mar '44 AEC

Harmonic and bi-harmonic problems of a region bounded by a circle and two parallel lines. '48. PB 95867

Integral and series representations, in rotation-paraboloid coordinates, for the different types of wave mathematical physics. H. B. Buchholz. Zeit f Phys 124:196-218 Nos 3-6 '48

Langrangian multiplier and Riemannian spaces. Cornelius Lanczos. Rev Mod Phys 21:497-502 July '49

Linear transformation of coordinates in the theory of electrical machines and matrix calculations. V. I. Gorushkin. Akad Nauk Izvest pp 533-544 Apr '48

Meter-kilogram-second (MKS) system of units (Giorgi) Koenig and others. Tech Mit Schweiz 27:257-279 Dec '49

Minimum integrals in field theory. C. W. Kilmister and B. H. Chirgwin. Phil Mag 40:226-232 Feb '49

Notes on the establishment of a universal and highly accurate table of Blondel. (Note sur l'etablissment d'un abaque de Blondel universal et de haute precision) F. Cordelle. Ann Telecomm 4:34-41 Feb '49

Proposals and recommendations concerning the definitions and units of electromagnetic quantities. P. Cornelius. Philips Res Rep 4:232-237 June '49

Rationalized Giorgi system and its consequences. P. Cornelius and H. C. Hamaker. Philips Res Rep 4:123-142 Apr '49

Rationalized Giorgi system in the theory of electricity. P. Cornelius. Tijdschr ned Radiogenoot 14:1+ Jan '49

Sommerfeld's "radiation condition." F. V. Atkinson. Phil Mag 40:645-651 June '49

Symbolic nomenclature for sinusoids. W. R. Le Page. Elec Eng 68:561-565 July '49

Tables of Green's functions, Fourier series, and impulse functions for rectangular coordinate systems. J. J. Smith. Elec Eng 68:328 Apr '49

Use of universal alternating current computation table for tabulating rates of modified Bessel functions. P. I. Zubkov. Akad Nauk Izvest 4:489-498 Apr '48

ELECTROMAGNETIC THEORY, Polarization of Waves

New solution to the problem of vertical angle-of-arrival of radio waves. E. W. Hamlin and others. Jour Ap Phys 20:248+ Mar '49

Polarization modulation of electromagnetic waves. M.S. thesis. William J. McBride, jr. U Cal Eng Dept Sep '47

Remarks on the classical and quantum-mechanical treatment of partial polarization. U. Fano. Opt Soc Am J 39:859-863 Oct '49

VHF—horizontal vs vertical. Oliver P. Ferrell. CQ 5:35 Apr '49

ELECTROMAGNETIC THEORY, Propagation of Waves

Approximate formula for night field strength curve. (Beitrag su einer Naeherungsformel fuer die Nachteldstaerkenkurve des CCIR) Glinz. Tech Mit Schweiz 27:178-182 Aug '49

Basic radio propagation predictions for Oct '48—Oct '49. 16 pp C 13.31:47-52 U.S. Govt Pub

Conditions of propagation of the Ho wave and applications. J. Ortusi. Ann Radioelec 4:95-116 Apr '49

Determination of the maximum utilizable frequencies for radio communications. Telev Franc No 52:33 Oct '49

Diffraction of an electromagnetic wave through a plane screen. J. W. Miles. Jour Ap Phys 20:760-771 Aug '49

)M THEORY, Propagation of Waves–Cont't.

:perimental demonstration of a theorem of Lord Rayleigh, regarding the generation of plane waves. (Demonstration experimentale d'un theoreme de Lord Rayleigh, relatif a la production d'ondes planes) J. Grunenwaldt. Ann Telecomm 4:203-209 June '49

:ploring the ether. (Explorando el eter) Rev Telecom 20:29 June '49

eldstrength formulae. (Feldstaerkeformeln) Funk und Ton Vol 3:a monthly feature '49

:at propagated as sound. Elec Eng 68:580 July '49

portant formula in the theory of the propagation of radio waves. M. I. Ponomarev. Akad Nauk Izvest 9:1191-1192 Sep '47

vitation to Danish amateurs to take part in study of propagation of radio waves. (Opfordring til Danske Amatorer om Deltagelse i Studiet af Radiobolgers Udbredelse) Radio Ekko 11:190-194 Oct '48

blique incidence propagation of the central radio propagation laboratory. (Abstract) Richard Silberstein. Jour Geophys Res 54:288 Sep '49

ne important formula in the theory of radio wave diffusion propagation. M. I. Ponomarev. Akud Nauk Izvest 9:1191-1192 Sep '47

ermeability of a wire grid to electromagnetic waves. (Die Durchlaessigkeit eines drahtgitters fuer elektromagnetische Wellen) Funk und Ton 3:180-182 Mar '49

lane waves in an ionized gas with static electric and magnetic fields present. V. A. Bailey. Aust J Sci Res series A 1:351-359 Dec '48

ropagation of a flat electromagnetic wave in an alternating layered medium. M. L. Levin. Zh Tekn Fiz 18:1399-1404 Nov '48

ropagation of electromagnetic waves in a layered medium under the influence of a magnetic field, for oblique incidence. K. Forsterling. Arch Elek Ubertragung 3:115-120 July '49

'ropagation of electromagnetic waves in a stratified medium. (Sur la propagation des ondes electromagnetiques dans un milieu stratifie) G. Eckart. Ann Telecom pt 1 4:142-154 May '49; pt 2 4:223-230 June '49

'ropagation of electromagnetic waves through a stratified medium and its W.K.B. approximation for oblique incidence. H. Bremmer. Physica 15:593-608 Aug '49

'ropagation of short waves over polar regions. (Kurzwellenausbreitung ueber Polargebieten) Elektron Wiss und Tech 3:218-226 June '49

'ropagation of waves along an infinite spiral. S. K. Kogan. Akad Nauk Dok 66:867-870 No 5 '49

Radiation and propagation of short electromagnetic waves. (Strahlung und Ausbreitung Kurzer elektromagnetischer Wellen) Funk und Ton 3:416-418 July '49

Radio propagation at frequencies above 30 megacycles. K. Bullington. IRE Proc 35:1122-1136 Oct '47

Radio wave propagation. (Radiobolgernes Udbredelse) Radio Ekko 10:117-119 June '47

Range of VHF. M. V. Callendar. Wireless World 55:107+ Mar '49

Reports on wave propagation, instrument flying, airborne radar equipment, principles of Y-radar technique, sonar, and reports and drawings covering "Erika" radar, 1938-1945. PB 84908. In German

Research reports covering wave propagation and magnetrons, 1941-1945. PB 84902. In German

Research reports on wave propagation. 1940-1945. PB 84897

Symposium of long wave propagation. Summary. A. H. Waynick. Jour Geophys Res 54:290-294 Sep '49

Technical manuals and research reports covering transmitters, wave propagation, antennas, magnetrons, VHF tubes, frequency and voltage measurement, and radar method, 1941-1944. PB 84986. In German

Tensor field equations in a region of variable refractive index. P. D. P. Smith. Jour AP Phys 20:633 June '49

Works of Soviet scholars in the field of high frequency radio wave propagation. A. G. Arenberg. Akad Nauk Izvest OTN 835-854 June '48. In Russian

Patents

Apparatus and method for studying wave propagation, Ross Gunn, 2,461,543, 11 cl. Appl Feb 1, '41; granted Feb 15 '49

See also

Microwaves, Propagation

Atmosphere

AD HOC Committee studies tropospheric propagation. Tele-Tech 8:46+ Mar '49

Analysis of ionospheric reflections. Tijdschr ned Radiogenoot 14:73-85 May '49

Application of the magneto-ionic theory to radio waves incident obliquely upon a horizontally-stratified ionosphere. H. G. Booker. Jour Geophys Res 54:243-274 Sep '49

Calculation of sky-wave field intensities, maximum usable frequencies and lowest useful high frequencies. PB 94002r

Characteristics of radio-frequency radiation in an ionized gas, with applications to the transfer of radiation in the solar atmosphere. S. F. Smerd and K. C. Westfold. Phil Mag 40:831-848 Aug '49

Effect of the D-ionospheric layer on very low frequency radio waves. W. Pfister. Jour Geophys Res 54:315-337 Dec '49

Experiments in gyrointeraction in the ionosphere with vertically incident waves. (Esperienze di girointerazione con onde incident verticalmente) M. Cutolo. Alta Frequenza 18:169-170 July-Aug '49; abstracts in French, English and German

Investigation of high-frequency echoes. H. A. Hess. IRE Proc pt II 37:986-989 Sep '49

Ionosphere and the propagation of radio waves. J. A. Ratcliffe. Nature 164:511-513 Sep 24 '49

Ionospheric absorption and the calculation of distant fields. A. Haubert. Onde Elect pt 1 29:152-159 Apr; pt 2 29:216-226 May '49. In French

Magnetic dipole in a stratified atmosphere. G. Eckart. Onde Elect 29:378-381 Oct '49. In French

Measurement of the maximum usable frequency on ionospheric paths. E. Harnischmacher. Compt Rend Acad Sci 228:1936-1937 June 20, '49

E-M THEORY, Prop. of Waves, Atmosphere–Cont'd.

Round-the-world signals at very low frequency. Jack N. Brown. Jour Geophys Res 54:367-372 Dec '49

Some remarks on the ionospheric double refraction. H. Bremmer. Philips Res Rep pt 1 4:1-19 Feb '49; pt 2 4:189-205 June '49

Theory of the double refraction of electromagnetic waves in an ionized gas under the influence of a constant magnetic field (ionosphere). H. Lassen. Ann Phys Lpz 1: 415-428 Oct 1, '47

Trajectory of rays in a magnetically active ionized medium, the ionosphere. Ya. L. Al'pert. Akad Nauk Izvest 12:241-266 May-June '48. In Russian.

Transformation of the polarization type and triple splitting on the propagation of a signal in the ionosphere. M. B. Vinagradova. Akad Nauk Izvest 12:288-292 May-June '48. In Russian

Tropospheric effects in short and medium radio wave propagation. W. J. G. Beynon. Nature 164: 711 Oct 22 '49

See also

Atmospheric Phenomena & Characteristics

Land—Sea

Calculation of ground-wave field strength over a composite land and sea path. H. L. Kirke. IRE Proc 37:489-496 May '49

Electromagnetic surface wave of Sommerfeld. T. Kahan and G. Eckart. Phys Rev 76:406-410 Aug 1, '49

Ground-wave field intensities. PB 19799r

Ground-wave propagation across a land/sea boundary. N. Elson. Nature 164:114-116 July 16 '49

Propagation of electromagnetic waves over the ground. Solution of the ground wave problem. (La propagation des ondes electromagnetiques au-dessus du sol. Solution du probleme de l'onde de surface) T. Kahan and G. Eckart. Jour Phys & Rad 10:165 May '49

Propagation of high frequency electromagnetic waves over the sea. G. de Burlet. HF 2:53-60 Apr '49. In French

Radio superrefraction in the coastal regions of Australia. F. J. Kerr. Aust J Sci Res series A 1:443-463 Dec '48

Temperature variations of ground-wave signal intensity at standard broadcast frequencies. Frederick R. Gracely. IRE Proc 37:360-363 Apr '49

ELECTROMAGNETIC THEORY, Reflection and Scattering of Waves

Application of ionospheric data to radio communication. E. Appleton and W. J. G. Beynon. PB 96951

Fresnel's reflection formula for long waves. (Die Fresnelsche Reflexionsformel im Bereich langer Wellen.) Roeschen. Funk und Ton 3:525-528 Sep '49

Internal reflection of electromagnetic waves in a stratified medium. Application to the troposphere. G. Eckart and T. Kahan. Compt Rend Acad Sci 228:1373-1374 Apr 25, '49

New method of solving problems of reflection of electromagnetic waves from thin, nonclosed surfaces of finite curvature. R. G. Mirimanov. Akad Nauk Dok 66:641-644 Apr '49. In Russian

Note on the maximum height of reflection of a radio wave in a curved ionosphere layer. J. M. Kelso. Jour Ap Phys 20:632-633 June '49

Propagation of long and very-long waves. (Abstract) J. A. Ratcliffe. Jour Geophys Res 54: 281-282 Sep '49

Reflection and transmission of electromagnetic waves by a spherical shell. Herbert B. Keller and Joseph B. Keller. Jour Ap Phys 20:393+ Apr '49

Reflection coefficient of a linearly graded layer. G. Millington. Marconi Rev 12:140-151 Oct-Dec '49

Reflection factor of the ionosphere, dispersion of ground wave energy, conversion of sky wave energy. (Zur Diskussion ueber den Reflexionsfaktor der Ionosphaere, Zertreuung der Bodenwellenenergie und Umwandlung in Raumwellenenergie) Glinz. Tech Mit Schweiz 27:279-283 Dec '49

Reflection of electromagnetic waves at an inhomogeneous layer. W. Kofink. Ann Phys Lpz 1:119-132 Jan 3 '47

Reflection of spherical waves. H. Ott. Ann Phys Lpz 4:432-440 June 25 '49

Reflections of waves from a rough absolutely-reflecting surface. M. L. Antokol'ski. Akad Nauk Dok 62:203-206 '49. In Russian

Scattering by an inhomogeneous solid. P. Debye and A. M. Bueche. Jour Ap Phys 20:518-525 June '49

Scattering cross section of spheres for electromagnetic waves. L. Brilouin. Jour Ap Phys 20:1110-1125 Nov '49

Scattering of radio waves by metal wires and sheets. F. Horner. IEE Proc pt III 96:333-345 July '49

Theoretical study of electromagnetic waves scattered from shaped metal surfaces. W. W. Hansen and L. I. Schiff. Stanford U Quart Rep No 4 NP-916 25 pp Sep 30 '48 AEC

Theoretical study of electromagnetic waves scattered from shaped metal surfaces. William W. Hansen and Leonard I. Schiff. Stanford U Quart Rep No 4 NP-1065 24 pp Sep 30 '48 AEC

ELECTROMAGNETIC THEORY, Relativity and Quantum Mechanics

Action as a coordinate of space. Yu. B. Rumer. Zh Eksp Teor Fiz pt 1 19:86-94 Jan '49; pt 2 19:207-214 Mar '49. In Russian

Applications of the Peirle-McManus classical finite electron theory. J. Irving. Phys Soc Proc section A 62:780-790 Dec '49

Bosons in an electromagnetic field. R. G. Moorhouse. Phys Rev 76:1691-1696 Dec 1 '49

Charge covariance for general relativistically invariant equations. I. M. Gel'fand and A. M. Yaglom. Zh Eksp Teor Fiz 18:1105-1111 Dec '48. In Russian

Concept of motion in relativistic quantum theory. Y. I. Frenkel. Akad Nauk Dok 64:507-509 No 4 '49. In Russian

Electrodynamics in a rotating frame of reference. M. G. Trocheris. Phil Mag 40:1143-1154 Nov '49

Equations of Codazzi and the relations between electromagnetism and gravitation. Antonio Giao. Phys Rev 76:764-768 Sep 15 '49

·M THEORY, Relativity & Quant. Mech.-Cont'd.

ıraday effect in relativistic electron gas. F. G. Serova. Zh Eksp Teor Fiz 18:780-784 Sep '48. In Russian

nite relativistic charge-current distributions. (Letter) D. Bohm and others. Phys Rev 76:867 Sep 15, '49

ɔrmation of pairs by photons and the decelerating radiations in the field of the electron. P. E. Hemirovski. Zh Eksp Teor Fiz 18:893-902 Oct '48. In Russian

ɔrms of relativistic dynamics. P. A. M. Dirac. Rev Mod Phys 21:392-399 July '49

eneral relativistic invariant equations and representations of infinite measure of the Lorentz group. I. M. Gel'fand and A. M. Yaglom. Zh Eksp Teor Fiz 18:703-733 Aug '48. In Russian

ıdefinite relativistic particle matrices. W. Wessel. Phys Rev 76:1512-1519 Nov 15 '49

ıtegrals of the motions of the center of inertia of systems of finite masses in the general theory of relativity. I. G. Fikhtengol'ts. Akad Nauk Dok 64:325-327 No 3 '49. In Russian

ıteractions of mesons with the electromagnetic field. M. Neuman and W. H. Furry. Phys Rev 76:1677-1690 Dec 1 '49

ıvariant regularization in relativistic quantum theory. W. Pauli and F. Villars. Rev Mod Phys 21:434-444 July '49

ɔinetics of diamagnetism of free electrons. I. V. Girenshtein. Zh Eksp Teor Fiz vol 19 Feb '49. In Russian

Iagnetic interaction between neutrons and electrons. H. Ekstein. Phys Rev 76:1328-1331 Nov 1, '49

Iotion in a constant magnetic field. M. H. Johnson and B. A. Lippman. Phys Rev 76:828-832 Sep 15 '49

Iotion of test particles in general relativity. L. Infeld and A. Schild. Rev Mod Phys 21:408-413 July '49

Iew conception of the interaction between charges and electromagnetic field. (Letter) Louis de Broglie. Phys Rev 76:862-863 Sep 15, '49

ɔonlinear theories of the electromagnetic field. F. Bertein. Rev Sci 86:349-356 Apr 1 '48

Ion-linear field theories. P. G. Bergmann. Phys Rev 75:680-685 Feb 15 '49

Ion-linear field theories II. Canonical equations and quantization. Peter G. Bergmann and Johanna H. M. Brunings. Rev Mod Phys 21:480-487 July '49

Ion-symmetric stress-energy-momentum tensor and spin-density. A. Papapetrou. Phil Mag 40: 937-946 Sep '49

?art played by scalar and longitudinal photons in ordinary electromagnetic fields. Frederick J. Belinfante. Phys Rev 76:226-233 July 15 '49

?articular case in Einstein's generalized theory of gravitation. (Letter) V. V. Narlikar and Ramj Tiwari. Phys Rev 76:868-869 Sep 15 '49

Pauli theorem for general relativity of invariant equations. I. M. Gel'fand and A. M. Yaglom. Zh Eksp Teor Fiz 18:1096-1104 Dec '48. In Russian

Phenomenological quantum electrodynamics. Pt 3 dispersion. K. M. Watson and J. M. Jauch. Phys Rev 75:1249-1261 Apr 15, '49

Postulate versus observation in the special theory of relativity. H. P. Robertson. Rev Mod Phys 21:378-382 July '49

Proper energy of a moving charge. M. A. Markov. Zh Eksp Teor Fiz 18:1130-1133 Dec '48. In Russian

Quantization of a unitary field theory. R. J. Finkelstein. Phys Rev 75:1079-1087 Apr 1, '49

Quantum electrodynamics. J. Schwinger. Phys Rev. Pt 2. Vacuum polarization and self-energy. 75:651-679 Feb 15, '49; pt 3. Electromagnetic properties of the electron-radioactive corrections to scattering. 76:790-817 Sep 15, '49

Quantum theory of radiation damping for discrete states. W. Heitler and S. T. Ma. Roy Irish Acad Proc 52:109-125 Feb '49

Quantum theory of space-time. V. L. Averbakh and B. V. Medvedev. Akad Nauk Dok 64:41-44 No 1 '49. In Russian

Quantum-theory restrictions on the general theory of relativity. M. F. M. Osborne. Phys Rev 75: 1579-1584 May 15, '49

Radially symmetric distributions of matter. Max Wyman. Phys Rev 75:1930-1936 June 15, '49

Radiation from a uniformly accelerated charge. D. L. Drukey. Phys Rev 76:543-544 Aug 15, '49

Radiation theories of Tomonaga, Schwinger, and Feynman. F. J. Dyson. Phys Rev 75:486-502 Feb 1, '49

Radiative corrections for Dirac's equation. A. D. Galanin. Zh Eksp Teor Fiz 19:521-534 June '49. In Russian

Radiative reaction and damping in scattering. J. Hamilton. Phys Soc Proc section A 62:749-762 Dec '49

Realistic field theories and the polarization of the vacuum. D. Feldman. Phys Rev 76:1369-1375 Nov 1, '49

Regraduation in spherically symmetric space-times of general relativity. T. J. Willmore. Phil Mag 40:428-434 Apr '49

Relativistic field theories. T. S. Chang. Phys Rev 75:967-971 Mar 15, '49

Relativistic interaction of point particles. W. Heitler. Roy Irish Acad Proc 52:95-108 Jan '49

Rest mass of electromagnetic radiation. Y. P. Terletski. Akad Nauk Dok 63:519-522 No 5 '48. In Russian

S matrix in quantum electrodynamics. Phys Rev 75:1736 June 1, '49

Some results in Einstein's unified field theory. E. G. Straus. Rev Mod Phys 21:414-420 July '49

Space-time approach to quantum electrodynamics. R. P. Feynman. Phys Rev 76:769-789 Sep 15, '49

Special method for solving the Dirac equations. A. H. Taub. Rev Mod Phys 21:388-392 July '49

Theory of the relations between gravitation and electromagnetism and their astrophysical and geophysical applications. A. Giao. Jour Phys & Rad 10:240-249 July-Sep '49

Treatment of quantum electrodynamics without eliminating the longitudinal field. Ning Hu. Phys Rev 76:391-396 Aug 1, '49

Vacuum polarization in the position theory. S. T. Ma. Phil Mag 40:1112-1128 Nov '49

See also

Atomic Physics

ELECTROMAGNETIC THEORY, Skin Effect

Anomalous skin impedance as a function of the field strength. K. F. Niessen. Philips Res Rep 4:143-154 Apr '49

Calculation of the magnetic skin effect in leaf steel, with a calculation of the dependence of the magnetic intensity of the magnetic field. Zh Tekn Fiz 18:1306-1316 Oct '48. In Russian

High frequency surface resistivity of tin in the normal and superconducting states. W. M. Fairbank. Phys Rev 76:1106-1111 Oct 15, '49

Penetration of an alternating magnetic field into solid iron with permeability dependent in the field strength. Arch Elek 39:301-318 Feb '49

Relaxation in the anomalous skin effect. K. F. Niessen. Philips Res Rep 4:38-48 Feb '49

Significant skin effect in a system of rectangular busbars. G. V. Der'Shvarts. Zh Tekn Fiz 18: 1405-1415 Nov '48. In Russian

Skin effect. C. Vazaca. Radio Tech Dig pt 1 3: 175-184 June; pt 2 3:223-233 Aug; pt 3 3:307-316 Oct '49. In French

Skin effect in conductors and in insulators with conducting surface-layer. W. Dallenbach. Schweiz Elektrotech Ver Bul 39:439-446 July 10, '48

Surface impedance of normal and superconductors at 24,000 megacycles per second. E. Maxwell and others. Phys Rev 76:1332-1347 Nov 1, '49

ELECTROMAGNETIC THEORY, Steady Currents

Currents simultaneously normal to the potential and temperature gradients. Albert Perrier. Physica 15:76-79 Apr '49

Electron flow in curved paths under space-charge conditions. B. Meltzer. Phys Soc Proc section B 62:431-437 July '49

Electron flow in curved paths under space-charge conditions. B. Meltzer. Phys Soc Proc section B 62:813-817 Dec '49

Field of a point source of current distribution on the surface of the earth under an inclined stratum. Zh Tekn Fiz 18:1242-1254 Oct '48. In Russian

ELECTROMAGNETIC THEORY, Transients

Adaptation of the network analyzer for use as a transient analyzer. Ph.D. thesis. D. G. Mark. Purdue U June '48

Contribution to the study of transient phenomena by means of time series. M. Cueonod. Tech Suisse Romande Bul 75:201-209 July 30, '49

Laplace transform, and the study of transients. (La transformation de Laplace et l'etude des phenomenes transitoires) S. Colombo. Ann Telecomm pt 1 4:210-222 June '49; pt 2 4:233-249 July '49; pt 3 4:306-307 Aug-Sep '49; pt 4 4:358-362 Oct '49

Spectrum analysis of transient — response curves. (Abstract) H. A. Samulon. IRE Proc 37:167 Feb '49

ELECTROMETERS

Application of an FP54 electrometer tube current amplifier with AC power supply to some physical problems. M.S. thesis. Marion Hollingsworth, jr. Ohio State U Phys Dept Sep '48

Contact modulated amplifier and some of its laboratory uses. J. F. Lash. Science 110:374-375 Oct 7, '49

Direct-reading dynamic electrometer. J. van Hengel and W. J. Oosterkamp. Philips Tech Rev 10:338-346 May '49

Electrometer amplifier. V. J. Caldecourt. Rev Sci Instr 20:748 Oct '49

Electrometer as bridge indicator. (Das Elektrometer als Brueckenindikator) Gast. Frequenz 3:264-270 Sep '49

Electrometer tubes and circuits. (Abstract) IRE Proc 37:168 Feb '49

Electrometer tubes for the measurement of small currents. John A. Victoreen. IRE Proc 37:432-441 Apr '49

Empirical balancing procedure for FP-54. F. C. Armistead. Rev Sci Instr 20:747-748 Oct '49

High-impedance voltage measurements with the direct reading dynamic electrometer. (Hochohmige Spannungsmessung mit dem direkt anzeigenden dynamischen Elektrometer.) Funk und Ton 3:538-540 Sep '49

Investigation of the input grid current of the type 959 acorn tube used as an electrometer tube. 8 pp '44 AECD-2049; also Dec '44 PB 94873

New subminiature electrometer tube. H. F. Starke. NEC Proc 4:200-208 '48

Pentodes in electrometer circuits. (Verstaerkerroehren in Elektrometer Schaltungen) Crawford. Frequenz 3:184-185 June '49

Precision automatic electrometer. N. T. Seaton. Rev Sci Instr 20:500-503 July '49

Rocket applications of electrostatic generating voltmeters. J. F. Clark, jr. Instruments 22:1007-1009 Nov '49

Ryerson electrometer. 1 pp '46 MDDC-562

Self-balancing electrostatic potentiometer for pocket chambers. T. A. Rich. 20 pp Mar 9, '49 AECU 307

"Shielded contact" grounding key for electrometers. 2 pp MDDC-1420

Summary report on the development of the electrometer radiation instruments. O. G. Landsverk and E. O. Wollan. AECD 1865

Use of multigrid tubes as electrometers. J. R. Prescott. Rev Sci Instr 20:553-557 Aug '49

See also
Recording Instruments

ELECTRON EMISSION

Electrode ionization processes and spark initiation. F. Llewellyn Jones. Phys Soc Proc section B 62: 366-376 June 1, '49

Electron emission of crystalline metal surfaces and its relation to the law of crystal structure. German Industry Rep. FIAT 1030 and 1031 Brit Govt Pub

Measurements on total-emission conductance at 35 cm and 15 cm wavelength. G. Diemer and K. S. Knol. Philips Res Rep 4:321-333 Oct '49

New emission microscope for oxide cathodes. L. Jacob. Jour Sci Instr 20:262-266 Aug '49

Theory of photo and secondary electron emission from effective semiconducting emittors. I. M. Dykman. Zh Tekn Fiz 18:1426-1442 Nov '48. In Russian

ELECTRON EMISSION–Cont'd.

Theory of reflectivity and emissivity. D. J. Price. Phys Soc Proc series A 62:278+ May '49

Thermionic and photoelectric emission with moderate applied electric fields, employing a two-step potential barrier. Thomas H. Jacobi. Phys Rev 75:1599 May 15, '49

Work function of copper. P. A. Anderson. Phys Rev 76:388-390 Aug 1, '49

Work-function of metals. L. N. Dobretsov. Zh Tekn Fiz 18:727-752 June '48. In Russian

See also

Electron Optics, Electron & Ion Guns
Photoelectric Tubes
Vacuum Tubes, Cathodes

ELECTRON EMISSION, Photoelectric

See Photoelectric Tubes

ELECTRON EMISSION, Secondary

Distribution of the energy of secondary electrons emitted by a composite cesium cathode. A. I. Pnatnitski. Zh Tekn Fiz* 8:1014-1022 '38

Energy structure of a cesium antimonate cathode. N. S. Khlebnikov. Akad Nauk Izvest 63:649-651 No 6 '48. In Russian

Exposure of secondary-electron-emitting surfaces to the evaporation from oxide cathodes. (Abstract) C. W. Mueller. IRE Proc 37:174 Feb '49

History of secondary emission. H. L. Heydt. MIT Servo-mechanisms Lab Rep R-135 NP-974 87 pp Mar 30, '48. AEC

Photoelectrons for space-charge neutralization. 25 pp '45 MDDC-1476

Photoelectrons for space charge neutralization. 11 pp '45 MDDC-1477

Secondary electron emission. (Sekundaerelktromen-emission) Fernmeldetch Zeit 2:161-165 June '49

Secondary electron emission of tungsten, copper, and iron at high tension. V. I. Rakov and V. A. Antonov. Zh Tekn Fiz* 9:870-875 '39

Secondary emission in output valves. J. L. H. Jonker. Philips Tech Rev 10:346-351 May '49

Secondary emission of cesium antimonate cathodes. B. I. Dyatlovitskaya. Akad Nauk Dok 63:641-644 No 6 '48. In Russian

Secondary emission of electrons by high energy electrons. J. G. Trump and R. J. Van de Graaff. Phys Rev 75:44-45 Jan 1, '49

See also

Photoelectric Tubes, Multipliers

ELECTRON EMISSION, Thermionic

Abnormal change of thermoelectromotive force in the magnetic field of Ni-Mn alloys. R. G. Annaev. Akad Nauk Dok 63:639-640 No 6 '48. In Russian

Measurements on total-emission conductance at 35 cm and 15 cm wavelength. G. Diemer and K. S. Knol. Physica 15:459-462 July '49

Thermionic electron emission from carbon. (Letter) H. F. Ivey. Phys Rev 76:567 Aug 15, '49

Thermionic emission. Conyers Herring and M. H. Nichols. Rev Mod Phys 21:185+ Apr '49

Thermionic emission from carbon. G. Glockler and J. W. Sausville. Electrochem Soc J 95:292-294 May '49

Thermionic emission from oxide coated cathodes. D. A. Wright. Phys Soc Proc series B 62:188+ Mar '49

Thermionic emission from sintered cathode of thoria and tungsten mixture. H. Y. Fan. Jour Ap Phys 20:682-690 July '49

Thermionic emitting properties of two refractories. R. E. Haddad and others. Jour Ap Phys 20:1130 Nov '49

See also

Vacuum Tubes, Cathodes

ELECTRON GUNS

See

Cathode-ray Tubes
Electron Optics

ELECTRON MICROSCOPES

Adjustable aperture for electron microscope, RCA type EMU. Apr '48 PB 95890

Conference on electron microscopy, Delft. V. E. Cosslett. Nature 164:481-483 Sep 17, '49

Design and construction of a new electron microscope. IEE Proc pt I 96:303-403 Nov '49

Electromagnetic focusing device for electron microscope. H. T. Meryman and H. M. Sipe. 2 pp M 203.8 NM 000 002 rp,4 U.S. Govt Pub

Electron microscope. (Il microscopio Elettronica) A. Pinciroli. Elettronica 4:261-264 Oct '49. Abstracts in French and English

Electron microscope. A. D. Merriman. Metallurgia 39:139-143 Jan '49

Electron microscope. Herbert Friedman and LaVerne S. Birds. Naval Res Lab Rep H-2012 Mar 16, '43. AEC

Electron microscope. (Abstract) J. W. Sharpe. Chem & Ind p 699 Oct '48

Electron microscope. R. McLoughlin. Rev Telegr pt 1 No 439:210-214+ Apr '49; pt 2 No 441:257-266 May '49. In Spanish

Electron microscope goniometry. A. F. Kirkpatrick and E. G. Davis. Anal Chem 20:965-968 '48

Electron microscope has special lens system. Product Eng 20:175 June '49

Electron microscopes, manufacture and research. German Industry Rep. BIOS 485 Brit Govt Pub

Electron microscopy. C. J. Burton. Anal Chem 21:36-40 Jan '49

Electron microscopy conference. V. E. Cosslett. Nature 163:32+ Jan 1, '49

Electron microscopy in Germany. BIOS 1671 Brit Govt Pub

Electron microscopy, infrared and other branches of applied physics. C. W. Hansell and others. 4: 195 PB 48435

Electron-optical shadow method for plotting and measuring microscopic fields. Instruments 22: 808-809 Sep '49

Emission microscopy. (Emissions-Mikroskopie) Elektron Wiss und Tech 3:107-113 Mar '49

Illuminating system of the electron microscope. James Hillier and S. G. Ellis. Jour Ap Phys 20: 700-706 July '49

ELECTRON MICROSCOPES–Cont'd.

Illumination of objects in the electron microscope. K. Yanchevski. Akad Nauk Dok 63:127-130 '48. In Russian

Infrared microscope. W. C. McCrone and E. L. Perrine. Frontier 12:10-13 June '49

Magnetic beam-splitting focusing device for the electron microscope. F. W. Bishop. Rev Sci Instr 20:532-533 July '49

Method of measuring spherical aberration of an electron microscope objective. C. E. Hall. Jour Ap Phys 20:631-632 June '49

Microscopy by reconstructed wave-fronts. D. Gabor. Roy Soc Proc series A 197:454-486 July 7, '49

New fluorescent screen for the electron microscope. K. B. Merling. Nature 163:541+ Apr 2, '49

Oxide films as aluminum as carriers of electron-microscope images. S. L. Pupko. Akad Nauk Dok 63:259-260 '48. In Russian

Phase contrast in electron microscope images. E. G. Ramberg. Jour Ap Phys 20:441+ May '49

Proton microscope. Claude Magnan. Nucleonics 4:52 Apr '49

Radiation survey of X-ray output of an electron microscope from personnel hazard viewpoint. L. B. Silverman and others. Science 110:376-377 Oct 7, '49

Scanning principle in ultramicroscopy. (Das Abtastprinzip in der Uebermikroskopie) H. Mahl. Elektron Wiss und Tech 3:350-354 Sep '49

Selection of material for pole shoes in the electron microscope. Sh. M. Rakhimov and N. G. Sushkin. Zh Tekn Fiz 18:1166-1172 Sep '48. In Russian

Summarized proceedings of conference on electron microscopy, Cambridge Sep '48. Jour Sci Instr 26:163+ May '49

Theoretical resolution limit of the electron microscope. O. Scherzer. Jour Ap Phys 20:20+ Jan '49

Use of the electron microscope in the optical industry. J. Robillard. Rev d'Optique 28:129-145 Mar '49

Patents

Art of focusing electron microscopes, etc., James Hillier, 2,464,396, 8 cl. Appl Jan 30, '48; granted Mar 15, '49

Electron microscope, Jan Bart Le Poole, 2,485,754, 13 cl. Appl Jan 16, '48; granted Oct 25, '49

Electron microscope and other electronic apparatus employing electron lenses, Gerhard Liebmann, 2,468,403, 20 cl. Appl Feb 10, '48; granted Apr 26, '49

ELECTRON MICROSCOPY, Industrial Applications

Aluminum-beryllium alloy for substrate and replica preparations in electron microscopy. W. Kaye. Jour Ap Phys 20:1209-1214 Dec '49

Comparative electron and light microscopic investigations of tactoid structures in V_2O_5-sols. John H. L. Watson and others. Science 109:274+ Mar 18, '49

Device to deposit automatically the proper thickness of metals used in shadow-casting in electron microscopy. F. W. Bishop. Rev Sci Instr 20:527-529 July '49

Electron diffraction unit has industrial applications. Materials & Methods. 29:132 Jan '49

Electron "lenses" used to measure magnetic fields. Elec Eng 68:833 Oct '49

Electron micrographic observations of tobacco mosaic virus in crude, undiluted plant juice. Robley C. Williams and Russell L. Steere. Science 109:308+ Mar 25, '49

Electron microscope and diffraction study of metal crystal textures by means of thin sections. R. D. Heidreich. Jour Ap Phys 20:993-1010 Oct '49

Electron microscope and its application to materials problems. J. I. Wittebort. PB 97957

Electron microscope identifies bacteria. Eng N 143:34 Dec 22, '49

Electron microscope in industry. Paul A. Greenmeyer. Radio Age 8:9+ Apr '49

Electron microscope study of quenched and tempered steel. J. Trotter and D. McLean. Iron and Steel Inst J 163:9-13 Sep '49

Electron microscope study of structure of steel. N. N. Buinov and R. M. Lerinman. Akad Nauk Dok 62:629-632 '48. In Russian

Emission microscopy. (Emissions-mikroskopie) Elektron Wiss und Tech 3:107-113 Mar '49

Electron microscopy of alkali soaps. Gopal S. Harriangdi and Max Swerdlow. Nat Bur Stand Res J 42:343-347 Apr '49

Metallurgical achievements of electron microscope. G. A. Geach. Metallurgia 40:319-324 Oct '49

Method of studying the microstructure of photocathodes with help of an electron microscope. A. I. Frumer and I. G. Sinitskaya. Akad Nauk Dok 66:49-51 '49. In Russian

Modification of silica replica technique for study of biological membranes and application of rotary condensation in electron microscopy. F. Heinmets. Jour Ap Phys 20:384+ Apr '49

Some experiments in the application of the electron microscope to the study of steels. F. W. Cuckow and J. Trotter. Phys Soc Proc series B 62:360-365 June 1, '49

ELECTRON OPTICS

Aberration correction with electron mirrors. E. G. Ramberg. Jour Ap Phys 20:183+ Feb '49

Electron focusing in a demountable X-ray tube. J. S. Thorp. Jour Sci Instr 26:201-204 June '49

Electron lenses used to measure magnetic fields. Elec Eng 68:833 Oct '49. Also in Elec World 132:128 Oct '49; Machine Design 21:103-104 Oct '49; Product Eng 20:159 Oct '49

Electron optical observation of magnetic fields. L. Marton and S. H. Lachenbruch. Nat Bur Stand Res J 43:409-428 Oct '49

Electron optical properties of the focal isolation β-ray spectrometer. D. K. Butt. Phys Soc Proc section B 62:551-564 Sep '49

Electron optical studies of the 2K33 tube. G. H. Vineyard. 1:1004 PB 13263

Electron optics. (Optique electronique) J. Bouchard. Electronique 32:10-13 June '49

Electron optics. M. Knoll and E. Kinder. NP 918 pp 66 Mar '48. AEC

Electron optics of high frequency tubes. D. Charles. Ann Radioelec 4:33-47 Jan '49. In French

ELECTRON OPTICS–Cont'd.

Electron-optics of the image converter. W. Veith. Rev Sci, Paris 86:76 Jan 15, '48

Elementary laws of electron-optics. A. Buckley. Intl Proj 24:5-8 May '49

Improved method of numerical ray tracing through electron lenses. G. Liebmann. Phys Soc Proc section B 62:753-772 Dec '49

Measured properties of strong "unipotential" electron lenses. G. Liebmann. Phys Soc Proc section B 62:213+ Apr 1, '49

New method aids study of electrostatic and magnetic fields. Elec World 132:128 Oct 8, '49

Refractive index in electron optics and principles of dynamics. W. Ehrenberg and R. E. Siday. Phys Soc Proc section B 62:8+ Jan 1, '49

Patents

Apparatus for and method of electrooptically scanning and reproducing recorded oscillations, Giles Hoist and Roelof Vermeulen, 2,485,829, 23 cl. Appl May 3, '46; granted Oct 25, '49

Correction device for electron lenses, James Hillier, 2,469,165, 5 cl. Appl Oct 29, '46; granted May 3, '49

Detector, Lowell E. Norton, 2,465,743, 3 cl. Orig appl June 11, '45; divided and this appl Mar 29, '46; granted Mar 29, '49

Electron beam influencing apparatus, Otto H. Schade, 2,463,720, 11 cl. Appl Feb 19, '47; granted Mar 8, '49

Electron lens system, Otto Ernst Heinrich Klemperer, 2,490,308, 9 cl. Appl Feb 15, '47; granted Dec 6, '49

Electron optical instrument, Alexander M. Rennie, 2,472,316, 6 cl. Appl Nov 28, '47; granted June 7, '49

Method of and apparatus for selectively achieving electronic darkfield and bright field illumination, Perry C. Smith, 2,464,419, 7 cl. Appl Dec 26, '47; granted Mar 15, '49

Reducing specimen contamination in electron optical instruments, James Hillier, 2,467,225, 6 cl. Appl May 22, '48; granted Apr 12, '49

Specimen holder for electron optical instruments, Edmund G. Dornfeld, 2,464,382, 4 cl. Appl Dec 30, '47; granted Mar 15, '49

See also

Accelerators
Cathode Ray Tubes
Electromagnetic Theory, Magnetostatics
Microwaves, Optics

ELECTRON OPTICS, Beams

Application of a variation method to the theory of the electric and magnetic deflection of electron beams. W. Glaser. Ann Phys Lpz 4:389-408 May 6, '49

Beam extraction for the electron centrifuge. K. Gund and H. Reich. Zeit f Phys 126:383-398 May 27, '49

Deflection of beams by the operational method. William T. Thomson. Franklin Inst J 247:557+ June '49

Electric and magnetic deflection of electron beams. (Ueber die theorie der elektrischen und magnetischen ablenkung von elektronenstrahlbuendeln und ein ihr angepasstes stoerungsverfahren) Glaser. Ann der Phys series 6 4:389-408 '49

Electron beams in axial symmetric magnetic and electric fields. IRE Proc 37:176 Feb '49

Electron beams of high density in electrostatic fields. (Elektronenstrahlen hoher stromdichte in elektrostatischen feldern) Huber and Kleen. Arch Elek 39:394-413 Apr '49

Focussing of electron beams by means of ions. J. J. Verschuur. 9:419 PB 88296

High current density electron beams. R. G. E. Hutter and S. W. Harrison. Sylvan Tech 2:2-6 Jan '49

Production of electron beams of high current density. R. Hechtel. 5:484 PB 67621

Some properties of tubular electron beams. Nelson Wax. Jour Ap Phys 20:242+ Mar '49

Patents

Electron beam controlling system, Hans W. W. Salinger, 2,489,328, 20 cl. Appl Oct 7, '46; granted Nov 29, '49

See also

Cathode Ray Tubes, Electrostatic Deflection
Cathode Ray Tubes, Magnetic Deflection

ELECTRON OPTICS, Electron and Ion Guns

Electron guns for an 80-mev synchrotron. J. M. Lafferty and H. C. Pollock. 23 pp Aug '49 AECU 547

Formation of focussed space-charge limited electron and ion beams. Pt 2 Design of electrodes. 46 pp '44 MDDC 586

Magnetic ion source. Carl Bailey and others. Rev Sci Instr 20:189 Mar '49

Report on British ion sources. Albert M. Stone. Off Naval Res London Branch Rep 48-47 NP 707 17 pp Dec 10, '47. AEC

Patents

Electron gun, Phillip A. Snell, 2,467,506, 2 cl. Appl Aug 4, '44; granted Apr 12, '49

Electron tube, Paul Georges Chevigny, 2,474,223, 16 cl. Appl Jan 26, '46; granted June 28, '49

Electron tube, Walter Soller, 2,475,644, 6 cl. Appl Aug 19, '43; granted July 12, '49

Electronic oscillator-detector, William W. Hansen, Sigurd F. Varian, and Russell H. Varian, 2,468,928, 46 cl. Orig appl July 8, '38; divided and this appl Oct 24, '42; granted May 3, '49

See also

Cathode Ray Tubes
Vacuum Tubes, Cathodes

ELECTRON OPTICS, Electrostatic Focusing

Aperture errors of electrostatic electron lenses. H. Mahl and A. Recknagel. Zeit f Phys 122:660-679 '44

Computation of electrode systems in which the grids are lined up. J. L. H. Jonker. Philips Res Rep 4:357-365 Oct '49

Diffraction of electrons flying consecutively. L. Biberman and others. Akad Nauk Dok 66:185-186 No 2 '49. In Russian

ELECTRON OPTICS, Elcctrostatic Focusing–Cont'd.

Electron diffraction. (Elektronenbeugung) Elektron Wiss und Tech 3:156-164 Apr '49

Field asymmetry due to voltage feeders for electrostatic lenses. F. Bertein. Compt Rend Acad Sci Paris 229:291-293 July '49

High temperature furnace for electron diffraction studies of thin films. Eileen I. Alessandrini. Jour Ap Phys 20:691-693 July '49

Jet-engine research aided by electron diffraction. Instruments 22:525+ June '49

Operational features of a new electron diffraction unit. R. G. Picard and others. Rev Sci Instr 20: 601-611 Aug '49

Use of marginal rays in study of the asymmetry of electrostatic lenses. F. Bertein and E. Regenstreif. Compt Rend Acad Sci Paris 228:1854-1856 June 13, '49

See also

Cathode Ray Tubes, Electrostatic Deflection

ELECTRON OPTICS, Magnetic Focusing

Focusing properties and separating power of a magnetic field bounded by parallel planes. R. Vauthier. Compt Rend Acad Sci Paris 229:181-183 July 18, 49

Further improvements in magnetic focusing. Larkin Kerwin and Claude Geoffrion. Rev Sci Instr 20:381-384 June '49

Improved magnetic focusing of charged particles. H. Hintenberger. Rev Sci Instr 20:748-750 Oct '49

Improved magnetic focusing of charged particles. Larkin Kerwin. Rev Sci Instr 20:36-40 Jan '49

Magnetic focusing of a density modulated beam. (Focalisation magnetique dans un faisceau de revolution module en densite) R. Berterottiere. Ann Radioelec 4:289-294 Oct '49

Magnetic focusing of cylindrical electronic beams. (Étude de la focalisation magnetique de faisceaux electroniques cylindriques) G. Convert. Ann Radioelec 4:279-288 Oct '49

See also

Cathode Ray Tubes, Magnetic Deflection

ELECTROSTATIC GENERATORS

Berkeley electrostatic generator. S. M. Turner and others. 34 pp June 16, '49 AECU 369

Control equipment for 2.5 Mev Van de Graaff giving an ion beam constant to 1.5 kev. 5 pp MDDC 222

Design and construction of an electrostatic analyzer for Van de Graaff generator. M.S. thesis. Ralph James Roode. Ohio State U Phys Dept Dec '48

Electrostatic high voltage generators. German Industry Rep. FIAT 894 Brit Govt Pub

High power electrostatic machines. (Machines electrostatiques puissantes) N. J. Felici. Jour Phys & Rad 10:137 Apr '49

High voltage electrostatic generator at atomic energy research establishment. R. L. Fortescue and P. D. Hall. IEE Proc 96:77+ Mar '49

Ohio State Van de Graaff generator. John N. Cooper. Ohio State U Res Foundation Tech Rep 1 (Office of Naval Research Contract) NP 924 33 pp June 30, '49. AEC

Plan of 12 mev electrostatic accelerator under construction at Los Alamos. 9 pp '48 AECD 2038. Also PB 96412

Van de Graaff generator. V. W. Lown. Electronic Eng 21:45-47 Feb '49

Van de Graaff ion source with axial magnetic field. 3 pp '47 MDDC 782

Patents

Electrostatic generating and driving machine, Noel Felici, 2,486,170, 18 cl. Appl Feb 11, '46; granted Oct 25, '49

See also

Accelerators

ELECTROTHERAPY

See Medical & Biological Applications

ENGINEERING

Advances in electronics. T. E. Allibone. Nature 163:893+ June 11, '49

Applied electronics. (L'electronique appliquee) M. U. Zelbstein. Electronique 28:11-15 Jan-Feb '49

Are our engineering schools turning out well-rounded graduates? G. E. Hilbert. 9 pp A 77.104/2 AIC 247 U.S. Govt Pub

Can engineers be synchronized? J. F. Fairman. Elec Eng 68:749-750 Sep '49

Electrical engineering for atomic energy. D. W. Cardwell. PB 96989. Also 8 pp '48 AECD 2335

Electronics in heavy engineering. W. Wilson. Brit IRE J 9:278-305 Aug '49

Electronics in war and peace. A. L. Whiteley. Engineering 168:350-352 Sep 30, '49

Electronics, including fundamental emission phenomena. G. Goubau and J. Zenneck. Pt 1 PB 85017; pt 2 PB 85034

Electronics — past, present and future. W. C. White. Franklin Inst J 248:367-380 Nov '49

1949 Employment programs for engineering graduates. Elec Eng 68:565-568 July '49

Engineering organization. J. F. Fairman. Elec Eng 68:693-694 Aug '49

Engineer's role in progress of science. V. K. Zworkin. Elec Eng 68:670-672 Aug '49

Evolution of electronics. (L'evolution de la radiotechnique) Tech Mod 41:404-405 Dec '49

Impacts of electronics on engineering education. W. G. Dow. Elec Eng 68:58-61 Jan '49

Industry presents. Monthly column of new electronic equipment. Radio Maint '49

New concept of communication engineering. Norbert Wiener. Electronics 22:74+ Jan '49

Power electronics as an educational medium. C. H. Willis. Elec Eng 68:647-649 Aug '49

Problems in connection with sale of commercial electronic equipment. Walter A. Knoop, jr. IRE Proc 37:71 Jan '49

Professional development of the engineer in industry. J. C. McKeon and G. Kleis. Elec Eng 68:575 July '49

Registered professional engineers. R. W. Sorensen and A. H. Lovell. Elec Eng 68:659-662 Aug '49

Southern Bell applies electronics. John D. Askew. Elec Eng 68:64 Jan '49

ENGINEERING-Cont'd.

Survey of new techniques. Frank H. Rockett. Electronics 22:189+ Mar '49

Trend of affairs. Tech Rev 51:211-214 Feb '49

Trends in electronic engineering. D. G. Fink. AIEE Trans pt 1 67:835-840 '48

Vladimir Kosma Zworkin, Lamme medalist for 1948 N. S. Hibsham and D. Sarnoff. Elec Eng 68:668-670 Aug '49

What do engineers receive for inventions? S. Gerstin. Tele-Tech 8:26-27 Sep '49

See also

Research & Laboratories

EQUALIZERS

Adventure in equalization or getting out the bumps. James R. Langham. Radio-Electronics 20:36-37 Feb '49

Application of frequency selective negative feedback. J. Edwards and T. J. Parker. Tele-Tech 8:30-33 Dec '49

Delay equalization of eight-kilocycle carrier program circuits. C. H. Dagnall and P. W. Rounds. Bell System Tech J 28:781+ Apr '49

Design of reactive equalizers. A. P. Broglo, jr. Bell System Tech J 28:716-750 Oct '49

Equalizer for phono amplifier. Zygmunt Hof. Radio & TV N 41:62+ Feb '49

Low and high frequency equalizers with RC elements for audio frequencies. (Ueber tiefen-und hochenentzerrer mit R-C-gliedern fuer niederfrequenz) Daudt. Funk und Ton pt 1 3:33-42 Jan '49; pt 2 3:86-92 Feb '49

Phase and amplitude equalizer for television use. E. Dudley Goodale and Ralph C. Kennedy. RCA Rev 10:35+ Mar '49

Transfer functions. E. W. Tschudi. Electronics 22: 116+ May '49

Patents

Balancing of ring cutoff circuit for long and short lines, Karl L. Burgener, 2,486,111, 11 cl. Appl Dec 12, '46; granted Oct 25, '49

See also

Amplification & Amplifiers, Audio

F

FACSIMILE

British post office phototelegraph service to Europe. A. Wilcock. P O Elec Eng J 41:189+ Jan '49

Considerations on facsimile transmission speed. Henry F. Burkhard. AIEE Proc 9108:1-6 Apr '49

Developments in picture telegraphy. Nature 163: 145+ Jan 22, '49

Experimental transmitting and receiving equipment for high-speed facsimile transmission. M. van Tol and others. Philips Tech Rev pt 1 10:189-195 Jan '49; pt 2 details of the transmitter 10:257-264 Mar '49; pt 3 details of the receiver 10:265-272 Mar '49; pt 4 transmission of signals 10:289-298 Apr '49; pt 5 synchronization of transmitter and receiver 10: 325-333 May '49. Also in Elettronica 4:323-327 Nov '49. In Italian

Experimental transmitting and receiving station for rapid facsimile transmission. (Eine experimentelle sende- und empfangsanlage fuer schnelle faksimile-uebertragung) Elektron Wiss und Tech 3:485-486 Dec '49

Facsimile transceiver for pickup and delivery of telegrams. G. H. Ridings. Elec Comm 26:129-137 June '49

Facsimile transmission. D. D. Mansion. Rev Telgr No 444:532-539 Sep '49. In Spanish

Facsimile transmission of newspapers. Fred Grossman. Radio & TV N 41:62+ Mar '49

Facsimile transmission speed. H. F. Burkhard. Elec Eng 68:766 Sep '49

Factors involved in design of an improved frequency-shift receiving system. Colin C. Rae. IRE Proc 37:161 Feb '49

New methods of rapid phototelegraphy. F. Schroter. Schweiz Elektrotech Ver Bul 39:819-827 Dec 11, '48

Post office phototelegraph service to Europe. A. Wolcock. P O Elec Eng J 41:189-192 Jan '49

Television technique speeds up facsimile. Radio-Electronics 20:25 Feb '49

Ultrafax. D. S. Bond and V. J. Duke. RCA Rev 10:99+ Mar '49. Also in Brit IRE J 9:146+ Apr '49

Ultrafax. Electronics 22:77+ Jan '49

Ultrafax. (Ultrafax) Radio Tech 25:230 Apr '49

Ultrafax: new communications marvel. Intl Proj 24:15-16 Jan '49

We can write at a distance using the oscillograph. A. Ingster. Toute la Radio No 132:58-59 Jan '49

Patents

Apparatus for receiving facsimile signals, Charles J. Young, 2,486,511, 9 cl. Appl Oct 31, '45; granted Nov 1, '49

Electrolytic recording, Harold G. Greig, 2,459,521, 12 cl. Appl Oct 14, '44; granted Jan 18, '49

Electrolytic recording, Harold G. Greig, 2,461,892, 16 cl. Appl Aug 16, '46; granted Feb 15, '49

Facsimile communication system, Joseph Bion, 2,485,556, 5 cl. Appl May 15, '43; granted Oct 25, '49

Facsimile receiving system, Louis A. Thompson, 2,467,950, 3 cl. Appl Sep 21, '43; granted Apr 19, '49

Facsimile recorder, William H. Tribble, 2,485,678, 3 cl. Appl Aug 21, '47; granted Oct 25, '49

Facsimile recording stylus, William G. H. Finch, 2,464,970, 2 cl. Orig appl Sep 22, '42; divided and this appl Mar 29, '45; granted Mar 22, '49

Facsimile synchronizing control, John R. Shonnard and George W. Kaye, 2,464,618, 9 cl. Appl Sep 7, '45; granted Mar 15, '49

Facsimile synchronizing device, Austin G. Cooley, 2,492,621, 7 cl. Appl Mar 12, '48; granted Dec 27, '49

Facsimile synchronizing device, Richard C. Curtis, 2,474,829, 8 cl. Appl Apr 12, '47; granted July 5, '49

Facsimile transmission system, Raleigh J. Wise, Garvice H. Ridings, and Robert D. Parott, 2,483,-449, 36 cl. Orig appl Apr 18, '41; divided and this appl Dec 9, '44; granted Oct 4, '49

FACSIMILE, *Patents*–Cont'd.

High-speed facsimile synchronizing system, William G. H. Finch, 2,466,221, 2 cl. Appl Sep 28, '45; granted Apr 5, '49

Page separation signal and pulse generator, John W. Smith and Frank A. Hester, 2,483,442, 8 cl. Appl July 21, '47; granted Oct 4, '49

System for enciphering facsimiles, William F. Friedman, 2,465,367, 7 cl. Appl Mar 12, '43; granted Mar 29, '49

Telefacsimile phasing arrangement for multiple reception, Boris F. Grib, 2,490,126, 9 cl. Appl Apr 5, '47; granted Dec 6, '49

FEDERAL COMMUNICATIONS COMMISSION

FCC releases. APCO Bul 5:13+ Oct '49

Frequency modulation-radio communications services, pt I New FCC rules and allocations. FM-TV 9:17+ June '49

Geometrical study for the number of channels to be used in TV. (Etude geometrique du nombre de canaux a adopter en television) Payen. Onde Elect 29:398-401 Nov '49

Highlights of FCC color-TV demonstrations. F. Loomis. Tele-Tech 8:18-19+ Dec '49

Mobile radio stations thinned out. Elec World 132:5 Aug 6 '49

National committee urges cooperation in radio frequencies. Gas Age 104:22-23 Aug 4, '49

New TV very high-ultra high channel proposals. L. Winner. Communications 29:5 July '49

Plan calls for controlled occupancy of frequencies for mobile radio. Am Gas J 171:19-20 Aug '49

Public safety radio service. APCO Bul 15:5+ May '49

Radio communications services. pt 3 rules and allocations for the industrial services. FM-TV 9:21+ Sep '49

Report on FCC color TV demonstrations at Washington. Tele-Tech 8:24-26 Nov '49

RMA makes TV recommendations. Sylvan N. 16: G-10 Mar '49

Utilities part in the mobile radio hearings. Edison Elec Inst Bul 16:373-378 Nov '48

See also

Frequency Monitors & Standards

FEDERAL COMMUNICATIONS COMMISSION, Allocations

Allocation delays. APCO Bul 15:5 Feb '49

Allocations problems. V. J. Doyle. APCO Bul 15: 11+ Dec '49

DuMont's TV allocation plan. Tele-Tech 8:41 Oct '49

FCC allocates 42 short-wave radio channels for utilities use. Elec World 131:57 May 7 '49

FCC allocation of frequencies for theater television. Soc Motion Picture Eng J 53:351-353 Oct '49

Frequencies for the aeronautical services. A. T. Cosentino. Rev Telegr No 440:237 May '49. In Spanish

Frequency allocation for five channels and recommendations for receivers for asymmetric sideband reception. Electronic Eng 21:163-164 May '49

Frequency allocations and radio treaty matters, general rules and regulations, revised to Apr 27, '49 effective July 1, '49. 30 pp CC 1.7:pt 2 U.S. Govt Pub

Frequency allocations to the aeronautical services above 400 Mc. V. I. Weihe. IRE Proc 37:169 Feb '49

International table of frequencies. F. Dellamula. Rev Telegr pt 1 No 437:94-98 Feb '49

National allocations plan for utilities radio. Tele-Tech 8:22-23 Oct '49

New frequency assignments for mobile-radio systems. G. H. Underhill. Elec Eng 68:951-955 Nov '49

Radio communications services; FCC allocations. FM-TV pt 1 9:17-19 June '49; pt 2 9:18-21+ July '49; pt 3 9:21-23 Sep '49; pt 4 9:21-23 Oct '49

FEDERAL COMMUNICATIONS COMMISSION, Rules

Digest of radio regulations and instructions for restricted radiotelephone operators. 8 pp CC 1.6:R 11/2/949 U.S. Govt Pub

Miscellaneous rules relating to common carriers. 9 pp CC 1.7:pt 64 U.S. Govt Pub

New FCC rules mean more mobile radio. J. Courtney. Electronics 22:66-69 Aug '49

Operator license requirements. FM-TV 9:17+ July '49

Reports of communication common carriers and their affiliates, effective Aug 11, '39, (revised to July 21, '48). 10 pp CC 1.7:pt 43 U.S. Govt Pub

Rules and regulations governing citizens radio service, (effective June 1, '49). 4 pp CC 1.7:pt 19 U.S. Govt Pub

Rules governing commercial radio operators, (revised to Mar 30, '49). 5 pp CC 1.7:pt 13 U.S. Govt Pub

Rules governing industrial radio services, revised to Apr 27, '49, effective July 1, '49. 14 pp CC 1.7: pt 11 U.S. Govt Pub

Rules governing land transportation radio services, revised to Apr 27, '49, effective July 1, '49. 13 pp CC 1.7:pt 16 U.S. Govt Pub

Rules governing public radiocommunications services (other than maritime mobile), revised to Apr 27, '49, effective Jan '49. 13 pp CC 1.7:pt 6 U.S. Govt Pub

Rules governing public safety radio services, revised to Apr 27, '48, effective July 1, '49. 16 pp CC 1.7: pt 10 U.S. Govt Pub

Rules governing radio broadcast services: revised to Jan 6, '49. 39 pp CC 1.7:pt 3 U.S. Govt Pub

Rules relating to practice and procedure (revised to Jan 26, '49). 30 pp CC 1.7:pt 1 U.S. Govt Pub

Study guide and reference material for commercial radio operator examinations. 98 pp CC 1.2:R 11/4/948 U.S. Govt Pub

FILAMENTS, Vacuum Tubes

See Vacuum Tubes, Cathodes, Filaments

FILTERS

Application of some elliptic functions to the calculation of filters. K. Steffenhagen. Funk und Ton 3:44+ Jan '49

Bridged paralleled-tee network for suppressed-carrier servo systems. (Abstract) C. F. White. IRE Proc 37:167 Feb '49

CW filter. G. L. Countryman. Radio & TV N 42: 42-43 Nov '49

Choke-input filter chart. R. Lee. Electronics 22: 112+ Sep '49

Continuously-adjustable electronic filter networks. Ph.D. thesis. Glenn E. Tisdale. Yale U E.E. Dept '49

Elements in the design of conventional filters. Vitold Belevitch. Elec Comm 26:84+ Mar '49. Addendum 26:180 June '49

Filtering of upper harmonics. Z. I. Model and S. V. Person. Electro-Ind Bul (USSR)* No 12:1-22 '35

General forms of ladder-filter half-sections classed according to the value of the image-impedance transfer index. J. E. Colin. Cables & Trans 3: 229-247 July '49

Generalized transformer concepts for feedback amplifiers and filter networks. Wheeler Mono No 5:1 Apr-Sep '48

Graphical calculations of ladder type filters. (Methodes graphiques de calcul des filtres en echelle) M. Kadosh. Electronique pt 1 30:18-21 Apr '49; pt 2 31:9-11 May '49

Half-wave filters. QST 33:36-38 Dec '49

High-pass filters for TVI reduction. QST 33:46+ May '49

MK Sig filter. (MK Sig-zifter) Radio Bul 18:277-279 Aug '49

Microwave filter theory and design. J. Hessel and others. IRE Proc 37:990-1000 Sep '49

New methods of filter design by means of frequency transformations. '47 PB 94780

Paralleled-resonator filters. J. R. Pierce. IRE Proc 37:152-154 Feb '49

RC filter networks. A. Sabbatini. Poste e Telecom 16:83-88 Mar '48

Rectifier filter chart. (Abstract) Reuben Lee. IRE Proc 37:173 Feb '49

Resonance curve from the table of functions and several simplifications of the theory of electric filter circuits. (Die Resonanzkurve aus der Funktionentafel und einige Vereinfachungen in der Theorie der elektrischen Siebschaltungen) Nitz. Frequenz 3:237-244 Aug '48

Significance and application of frequency filters in U. S. W. mechanical systems. F. Staub. Schweiz Elektrotech Ver Bul 39:627-635 Sep 18, '48

Single circuit and optimum coupled bandpass filter for amplifiers. (Einzelkreis und optimal gekoppeltes Bandfilter im Verstaerker) Lennartz. Funk und Ton 3:265-270 May '49

Smoothing circuits. Wireless World pt 1 55:389-393 Oct '49; pt 2 55:418-422 Nov '49

Stop-and-go circuits. QST 33:46-47+ Oct '49

Use of a mechanical harmonic synthesizer in electric wave filter analysis. S. L. Brown and J. M. Sharp. Jour Ap Phys 20:578-582 June '49

Using the reactance chart for filter design problems. H. B. Davis. Audio Eng 33:12-13 Dec '49

Vestigial sideband filter design. E. Bradburd and others. Tele-Tech pt 1 8:38-40+ Oct '49; pt 2 8: 44-45+ Nov '49

Patents

Combined filter network and electromechanical transducer, Gerrit Schenkel, 2,480,052, 7 cl. Appl July 16, '46; granted Aug 23, '49

Composite sequence filter for current circuits, William K. Sonnemann, 2,459,596, 4 cl. Appl Apr 4, '47; granted Jan 18, '49

Device magnetically trapping metal particles, Robert E. Willard, 2,464,628, 2 cl. Appl Oct 20, '45; granted Mar 15, '49

Electronic pulse filtering system, Emile Labin and Donald D. Grieg, 2,489,297, 16 cl. Appl May 24, '43; granted Nov 29, '49

Multiple frequency filter, Gilbert R. Clark, 2,489,-567, 11 cl. Appl Feb 20, '46; granted Oct 25, '49

Multiple reactor filter section, Montford Morrison, 2,475,909, 5 cl. Appl Aug 18, '43; granted July 12, '49

Pi type resistance capacitance filter unit, Monte Cohen, 2,464,376, 7 cl. Orig appl June 20, '46; divided and this appl Mar 20, '48; granted Mar 15, '49

Pi type resistance capacitance filter unit, Monte Cohen, 2,464,377, 10 cl. Appl June 20, '46; granted Mar 15, '49

Receiver input circuit, Henri Blok, 2,470,882, 2 cl. Appl July 2, '46; granted May 24, '49

Smoothing network, Hendrik W. Bode, 2,492,351, 3 cl. Appl Feb 23, '44; granted Dec 27, '49

Super high frequency filter, Ernest G. Linder, 2,479,687, 4 cl. Appl May 17, '43; granted Aug 23, '49

See also

Chokes
Power Supplies, Filters

FILTERS, Band Pass

Analysis of a wide-band waveguide filter. Seymour B. Cohn. IRE Proc 37:651-656 June '49

Band-pass circuit design for very-narrow-band, very-long-range direction-finder receivers to minimize bearing error due to receiver mistuning. (Abstract) Milton Dishal and Homer Morrow. IRE Proc 37:175 Feb '49

Bandpass circuits in a multiband transmitter. C. Vernon Chambers. QST 33:21-26 May '49

Band pass filter, band elimination filter and phase simulating network for carrier program systems. F. S. Farkas and others. Bell Sys Tech J 28:196+ Apr '49

Calculation of band-pass filters using piezoelectric crystals in lattice structures. A. Fromageot and M. A. Lalande. Elec Comm 26:305-318 Dec '49

Comparison of the LC toroidal filter with the parallel-tee feedback-amplifier filter. (Abstract) A. J. Stecca. IRE Proc 37:173 Feb '49

Design of dissipative band-pass filters producing desired exact amplitude frequency characteristics. Milton Dishal. IRE Proc 37:1050-1069 Sep '49

Exact design of bandpass networks using n coupled finite Q resonant circuits (n 3 and 4). (Abstract) M. Dishal. IRE Proc 37:164 Feb '49

FILTERS, Band Pass–Cont'd.

Inexpensive sideband filter. David O. Mann. QST 33:21-26+ Mar '49

Mechanical filters for radio frequencies. W. van B. Roberts and L. L. Burns, jr. RCA Rev 10:348-365 Sep '49

Reports covering radio receivers, band filters, voltmeters, antennas, transformers, etc., 1942-1945. PB 84926

Resonant-section band-pass filters. S. Frankel. Elec Comm 26:76+ Mar '49

Transient response of filters. M. S. Corrington. NEC Proc '49

Patents

Circuit arrangements for use with widely separated frequency bands, John Douglas Holland, 2,474,978, 4 cl. Appl Aug 18, '45; granted July 5, '49

FILTERS, Crystals

Application of crystal filters in receivers. (Toepassing van kristalfilters in ontvangers) Tijdschr ned Radiogenoot 14:41-46 Mar '49

Crystal filter of variable selectivity with stable resonant frequency and constant gain. W. Kautter. Rev Telegr No 438:137-142 Mar '49. In Spanish

Crystals for electrical filters. R. Taylor and others. Research 2:414-417 Sep '49

Notes on crystal filters. Phineas J. Icenbice. CQ 5:26-27+ Apr '49

Patents

Crystal filter system, Palmer H. Craig, 2,463,249, 8 cl. Appl June 14, '46; granted Mar 1, '49

Frequency response circuits, Robert W. Beckwith, 2,461,956, 4 cl. Appl Oct 10, '46; granted Feb 15, '49

Means and method of altering the frequency of piezoelectric crystals, Harold R. Moulton, 2,486,968, 22 cl. Appl Nov 22, '43; granted Nov 1, '49

See also

Crystals

FILTERS, Low Pass and Audio

Audio filters for eliminating QRM. R. R. Bennett. QST 33:51-54 July '49

Continuously adjustable low and high-pass filters for audio frequencies. A. Peterson. NEC Proc '49

Designing LC audio filters. Richard H. Dorf. Radio-Electronics 20:32-33 Jan '49

Designing of low-pass filters. M. Seybold. QST 33:18-24 Dec '49

Inexpensive low-pass filter for record reproduction. Harry D. Zink. Radio & TV N 41:77 Mar '49

Input impedance of some low pass filters with resitance terminations, with reference to class "B" modulator applications. H. R. Cantelo. Marconi Rev 12:41-56 Apr-June '49

Low frequency L-C filters. (Abaque pour le calcul des filtres b.f. a self-induction et capacite) R. Besson. Toute la Radio No 135:134-135 May '49

L-section low-pass filter design. P. G. Sulzer. Communications 29:22-25+ July '49

More on audio filters. W. A. Sparks. Short Wave Mag 7:42-44 Mar '49

Transference nomographs for low-pass iterative filters. E. W. Tschudi. Electronics 22:112-11[8] Dec '49

Transient response of filters. M. S. Corrinton RCA Rev 10:397-429 Sep '49

Transient response of linear networks with amplitude distortion. (Abstract) M. J. DiToro. IRE Proc 37:167 Feb '49

Transients in the low-pass filter. G. Newstead and D. L. H. Gibbings. IEE Proc 96:264-268 July '4[9]

Valve assisted filter for audio frequencies. J. D Storer. Brit IRE J 9:268-275 July '49

Patents

Low-pass filter system, Gordon L. Fredendall, 2,472,798, 13 cl. Appl Nov 29, '43; granted June 14, '4[9]

FILTERS, Power Supply

See Power Supplies, Filters

FREQUENCY ALLOCATION

See Federal Communications Commission

FREQUENCY CHANGERS, CONVERTERS and MIXERS

Ampliconversor. J. E. Poledo. Rev Telegr 444:525-529+ Sep '49. In Spanish

Ferro-resonance. B. Drake. Electronic Eng 21 135-139 Apr '49

Heterodyne Eliminator. J. L. A. McLaughlin Electronics 22:83+ Mar '49

New life for old receivers. B. Goodman. Rev Telegr No 437:83-86 Feb '49. In Spanish

Philips model 681A. Wireless World 55:289-29 Aug '49

Silver 805 sharpens signal; cuts noise. Radiogram 14:1+ Mar '49

Stable time and frequency standard. Electronic 22:82+ Apr '49

Three channel mixer. MDDC-931

Transmission efficiency of linear networks and frequency changers. Wheeler Mono No 10 Apr-Se '48

Use of ferrite-cored coils as converters, amplifier and oscillators. V. D. Landon. RCA Rev 10:387-396 Sep '49

Patents

Alternating current synchronizing apparatus, Maurice Toussaint, 2,482,444, 6 cl. Appl Aug 31, '4[7] granted Sep 20, '49

Circuit arrangement for changing the frequency of electrical oscillations, Maximiliaan Julius Otto Strutt and Aldert van der Ziel, 2,486,076, 4 cl. Appl Sep 18, '46; granted Oct 25, '49

Electromechanical control system, Christopher Edmund Gervase Bailey, 2,490,190, 8 cl. Appl De[c] 1, '44; granted Dec 6, '49

Frequency changer, Joseph R. Schoenbaum, 2,466,560, 2 cl. Appl May 12, '45; granted Apr 5, '4[9]

Frequency control system, John R. Boykin, 2,473,853, 8 cl. Appl Jan 22, '46; granted June 21, '49

EQUENCY CHANGERS, CONVERTERS, and MIXERS, *Patents*–Cont'd.

ase comparator circuit, John A. Buckbee, 2,489,-262, 5 cl. Appl Feb 1, '47; granted Nov 29, '49

See also

mmunications, Amateur
equency Dividers
equency Multipliers
ception & Receivers, Communication, Amateur

Converters

ginners' converter for 6, 10 and 11 meters. George H. Floyd. CQ 5:22-27+ Jan '49

oad band converter for the BC-312. K. Bunston. Short Wave Mag 7:270-272 June '49

scode converter for 144 mc. H. H. Cross. QST 33:11-13 Oct '49

mpact converter for 6 and 10. C. Vernon Chambers. QST 33:23-26 Feb '49

mpact 10 meter converter. Robert Bain. Radio & TV N 41:45+ Feb '49

nverter for 14 kc with 2 tuned HF stages. (Superforsats til 14MHZ med 2 afstemte HF-Trin) Radio Ekko 10:215-216 Nov '47

nverter for the two metre band. W. H. Allen. RSGB Bul 24:190-193 Feb '49

rystal-controlled plug-in converter for the Q5-er. J. L. Stewart. QST 33:29-31 Oct '49

rystal converter for 20, 40, and 80 m. (Krystalstyret Superforsats) Radio Ekko 10:217-218 Nov '47

ixed-tuned plug-in converter. J. Aletto, jr. QST 33:62-63+ July '49

requency conversion by phase variation. G. Diemer and K. S. Knol. Philips Res Rep 4:161-167 June '49

requency conversion of metric waves. L. Liot. Telev Franc No 46:6-8 Apr '49. In French

ow-noise converter. John E. Stacy. CQ 5:13-18+ Mar '49

)-20 m converter diagram. (Diagram for en 10-20m Converter) Radio Ekko 12:8-9 Jan '49

20 mc converter from the surplus R-1/ARR-1. Leroy W. May, jr. Radio & TV N 41:46-48+ Jan '49

3 mc superhet converter. Stanley W. Riler. RSGB Bul 24:278 May '49

leasuring the efficiency of a superheterodyne converter the input impedance circle diagram. Wheeler Mono No 9 Apr-Sep '48

0 meter vacation converter. P. F. Egerton, jr. Radio-Electronics 20:54 Apr '49

hort wave converter with double triodes. (En Kortbolge - Converter med Dobbelt - Trioder) Radio Ekko 13:14 Jan '50

imple converter for 160. Gerald W. Loomis and Charles E. Lillie. CQ 5:37-38+ May '49

ingle-control two-metre converter. W. R. Joss. Short Wave Mag 6:802-807 Jan '49

N16 Modified for two; surplus converter unit adapted for 145 mc. Short Wave Mag 7:607-609 Oct '49

riode converter for two. W. J. Crawley. Short Wave Mag 7:442-446 Aug '49

wo meter converter. (Ein Zwei-Meter-Konverter) Radio Tech 25:495-496 Aug '49

Two-meter CC converter. M. D. Mason. Short Wave Mag 6:881-886 Feb '49

Two-metre converter. J. St. C. T. Ruddock. RSGB Bul 25:12-14 July '49

Ultimate in converters. J. E. Stacy. CQ pt 1 5:13-20+ Sep; pt 2 5:22 Nov '49

Wide-range VHF converter. C. O. Bishop. CQ 5:16-17+ Nov '49

Patents

Crystal rectifier converter, John B. Atwood and Bertram Trevor, 2,469,222, 10 cl. Appl Dec 1, '43; granted May 3, '49

Frequency converter, Marcel A. Lissman, 2,480,659, 4 cl. Appl May 9, '46; granted Aug 30, '49

Frequency converter, Marcel A. Lissman, 2,481,132, 3 cl. Appl Apr 25, '46; granted Sep 6, '49

Hall effect converter, Albert Hansen, jr., 2,464,807, 7 cl. Appl Aug 16, '47; granted Mar 22, '49

Radio-frequency converting circuits, Sven H. M. Dodington, 2,489,273, 11 cl. Appl Oct 16, '45; granted Nov 29, '49

See also

Reception & Receivers, Communication, Amateur

Mixers

Contour analysis of mixer valves. N. E. Goddard. Wireless Eng 26:350-356 Nov '49

Correct mixing circuit. (Blandingskobling paa den rigtige Maner) Radio Ekko 11:131 July '48

Crystal tetrode mixer. R. W. Haegele. Sylvan Tech 2:2-4 July '49; also in Electronics 22:80-81 Oct '49; also in IRE Proc (Australia) 10:342-344 Dec '49; letter Sylvan Tech 2:19 Oct '49

Phase distortion in mixers. F. J. Blatt. PB 98054

Some modern mixing circuits. (Nogle moderne Blandings-koblinger) Radio Ekko 11:35 Feb '48

VHF mixer circuits. E. J. Williams. Short Wave Mag 7:203-205 May '49

Patents

Mixer circuit using cathode follower feed-in stages, Ralph B. Reade and Donald D. Grieg, 2,471,449, 1 cl. Appl Dec 8, '45; granted May 31, '49

Mixer for microwave receivers, Cyril E. McClellan, 2,476,885, 5 cl. Appl July 28, '43; granted July 19, '49

Mixing circuit, James E. Shepherd, 2,485,665, 4 cl. Appl July 16, '43; granted Oct 25, '49

Ultra high frequency mixer circuit, Adelbert van Weel, 2,475,064, 7 cl. Appl Feb 12, '47; granted July 5 '49

See also

Reception & Receivers, Communication, Amateur

FREQUENCY DIVIDERS

Fractional frequency division by feedback. Frank H. Rockett. Electronics 22:171+ Jan '49

High-ratio multivibrator frequency divider. Martin Silver. Radio & TV N 42:7-9 July '49; also in IRE Proc (Australia) 10:256-258 Sep '49

Patents

Counter frequency divider without time delay, Harold Lifschutz, 2,489,303, 4 cl. Appl Apr 6, '42; granted Nov 29, '49

FREQUENCY DIVIDERS, *Patents*–Cont'd.

Double diode variable frequency divider, Newland F. Smith, jr., 2,487,191, 2 cl. Appl Jan 24, '45; granted Nov 8, '49

Frequency divider, Charles J. Hirsch, 2,462,265, 5 cl. Appl Aug 16, '44; granted Feb 22, '49

Frequency divider, Ernst Norrman, 2,479,180, 8 cl. Appl Oct 8, '45; granted Aug 16, '49

Frequency divider, Kingsbury H. Davis, 2,484,611, 12 cl. Appl Dec 19, '46; granted Oct 11, '49

Frequency divider circuit, Clyde E. Hallmark, 2,467,476, 7 cl. Appl Oct 17, '45; granted Apr 19, '49

Frequency divider circuit, Kingsbury H. Davis, 2,477,047, 5 cl. Appl Sep 21, '46; granted July 26, '49

Frequency generating system, Marc A. Lalande, 2,459,822, 9 cl. Appl July 25, '47; granted Jan 25, '49

Frequency reducer, Henry M. Huge, 2,462,322, 15 cl. Appl Apr 8, '47; granted Feb 22, '49

Frequency reducer, Henry M. Huge, 2,463,540, 15 cl. Appl Apr 15, '46; granted Mar 1, '49

Magnetic frequency reducer, Harold J. McCreary, 2,461,992, 16 cl. Appl June 4, '45; granted Feb 15, '49

Square wave generator with impulse counter timing control for frequency division, Eugene R. Shenk, 2,489,824, 8 cl. Appl Dec 24, '43; granted Nov 29, '49

FREQUENCY MODULATION

Advantages and disadvantages of frequency and phase modulation in the light of the special requirements demanded by aviation, as well as its application to wireless navigation. Germany Industry Rep. BIOS/MISC 83 Brit Govt Pub; also PB 96033 and PB 95429

Application of coupled system with distributed constants to frequency modulation in the ultra-high-frequency range. V. A. Tolstikov. Radiotekhnika 4:69-74 Mar-Apr '49. In Russian

Application of frequency modulation in short-wave radio technique. H. J. Griese. Fernmeldetech Zeit 2:141-146 May '49

Application of negative feedback to frequency-modulation systems. P. F. Panter and W. Dite. Elec Comm 26:173-178 June '49

Army standardizes FM equipment. C. Devore. Tele-Tech 8:20-23+ Aug '49

Cylindrical and Bessel functions. (Funzioni cilindriche o di Bessel) G. D. Elettronica 4:305-308 Nov '49; with abstracts in French and English

Determination by calculus of the bandwidth of a sinusoidally frequency modulated wave. (Determination par le calcul de la largeur de bande occupee par une emission sinusoidale, modulee en frequence par une tension sinusoidale) L. Robin. Ann Telecomm 4:19-26 Jan '49

Distortion in FM. Thomas Roddam. Wireless World 55:218-220 June '49

FM difficulties. (FM vanskeligheder) Radio Ekko 11:141 '48

FM for buses. D. G. Beachler. FM-TV pt 1 9:15+ Mar; pt 2 9:15+ Apr '49

FM in Europe. (FM in Europa) Radio Tech 25: 343-346 June '49

Frequency modulation. (Lidt om Freqvensmodulation) Radio Ekko 11:210-211 Oct '48

Frequency modulation design trends. G. G. Young Elec Eng 68:116 Feb '49

Genuine FM performance. G. E. Gustafson. FM TV 9:13+ Apr '49

High-frequency FM relay system. I. Queen Radio-Electronics 20:29-31 Feb '49

How to make FM proof-of-performance measurements. F. E. Talmage. Broadcast N No 53:36 Fe '49

Mobile FM communications equipment for Australian conditions. R. A. Ratcliffe and R. S Zucker. IRE Proc (Australia) 10:101+ Apr '49

New system of frequency modulation; Phasitron (Das Phasitron) Kautter. Funk und Ton 3:384 387 July '49

Portable FM equipment. Howard V. Carlson. FM TV 9:14-16 July '49

Rural FM radio network. Radio-Electronics 20:2 Jan '49

Single side band systems for FM? (Beitrag zu Frage der Anwendbarkeit des Einseitenbandverfahrens fuer frequenzmodulierte Schwingungen Lutsch. Fernmeldetech Zeit 2:347-351 Nov '49

Single-valve frequency-modulated oscillators. F C. Johnson. Wireless World 55:168+ May '49

Some developments in frequency-modulation techniques. D. A. Bell. Strowger J 6:159-165 Apr '4

Theoretical and experimental investigations c tuned circuit distortion in frequency modulatio systems. Ph.D. thesis. D. L. Jaffe. Columbi U E.E. Dept '40

Trends and technics in European communication J. H. Battison. Tele-Tech 8:16-17+ July '49

What is FM? (Que es la FM) Fidelco Tec Bol 1 26-30 May '49

Why FM? (Hvorfor egenlig F.M.) Radio Ekk 9:154 July '46

Wide-band VHF radio-relay system. W. S. Mc Guire. IRE Proc (Australia) pp 160-165 June '4

Wide range frequency modulation 2pp '47 AECD 1817; also PB 95806

Patents

Circuit arrangement for stabilizing a frequenc modulated oscillator, Gerard Hepp, 2,491,922, 2 c Appl Feb 7 '48; granted Dec 20, '49

Circuit for determining carrier frequencies of frequency modulated signals, Marshall C. Pease 2,478,311, 2 cl. Appl Mar 4, '46; granted Aug 9, '4

Discrimination circuit, William K. Ergen, 2,476,84 26 cl. Cont of appl Aug 30, '43; this appl Dec 1 '47; granted July 19, '49

Electrical communication system, Paul Curry, 2,470, 760, 12 cl. Appl Nov 2, '46; granted May 24, '4

Frequency discriminator for carrier shift signaling systems and the like, Reynold S. Chapin, 2,477,963 4 cl. Appl Feb 6, '46; granted Aug 2, '49

Frequency modulating device, Lee De Forest, 2,462, 367, 7 cl. Appl Jan 25, '45; granted Feb 22, '49

Frequency modulation discriminator, Louis W Parker, 2,489,313, 9 cl. Appl Mar 8, '47; granted Nov 29, '49

Frequency modulation system, George T. Royden 2,483,438, 7 cl. Appl June 9, '45; granted Oct 4 '49

REQUENCY MODULATION, *Patents*–Cont'd.

adio receiving system, John D. Reid and Charles E. Kilgour, 2,477,391, 3 cl. Appl Nov 24, '44; granted July 26, '49

adio relay system, Russell A. Berg, 2,477,570, 5 cl. Appl Jan 5, '45; granted Aug 2, '49

ignal seeking receiver for frequency modulated signals, Madison G. Nicholson, jr., 2,478,977, 8 cl. Appl Nov 13, '44; granted Aug 16, '49

tabilizing circuit for frequency-modulated oscillators, Gerard Hepp, 2,491,921, 8 cl. Appl Apr 26, '46; granted Dec 20, '49

'one unit, Otho D. Grandstaff, 2,482,478, 6 cl. Appl Mar 29, '47; granted Sep 20, '49

See also
ıntennas, FM & VHF
lroadcasting, AM & FM
'requency Monitors & Standards
)scillation & Oscillators, FM

'REQUENCY MODULATION, Detectors

BN6 gated beam tube. R. Adler and A. P. Haase. NEC Proc '49

)emodulation of a frequency-modulated carrier and random noise by a discriminator. Nelson M. Blachman. Jour Ap Phys 20:967-983 Oct '49; also in IRE Proc 37:895 Aug '49; and PB 98332

)emodulation of an FM carrier and random noise by a limiter and discriminator. Nelson M. Blachman. Jour Ap Phys 20:38+ Jan '49

)emodulation of frequency modulated transmissions. (Die Demodulation frequenzmodulierter Sendungen) Radio Tech 25:295-298 May '49; pt 2 25:349-354 June '49; pt 3 25:407-412 July '49

)etecting frequency modulated oscillations. V. N. Milshtein. Zh Tekn Fiz* 9:1199-1212 '39

)iscriminator adjustment. Comm from E.M.I. Ltd. Electronic Eng 21:449 Dec '49

'Discriminator circuit. (Die Diskriminatorschaltung) Elektron Wiss und Tech 3:360-362 Sep '49

Experimental tube for FM detection. L. J. Giacoletto. Electronics 22:87-89 Nov '49

FM and PM demodulator. Frank H. Rockett. Electronics 22:165+ Jan '49

FM detector. (Einstufiger Empfangsgleichrichter fuer frequenzmodulierte Wellen) Radio Tech 25: 43-45 Jan '49

Frequency modulation discriminator for the R.1147B. B. W. St. Leger Montague. RSGB Bul 24:217-218 Mar '49

Harmonic distortion in frequency-modulation off-resonance discriminator. A. R. Vallarino and Marilyn S. Buyer. Elec Comm 26:167+ June '49

Limiter discriminator versus ratio detector. H. K. Milward and R. W. Hallows. Radio-Electronics 21:20-22 Nov '49

Low-frequency discriminator. Harry M. Crain. Electronics 22:96+ June '49

New FM detector. (En ny FM-Detektor) Radio Ekko 10:50-51 Mar '47

"P-detector", a detector valve for frequency modulation. J. L. H. Jonker and A. J. W. M. van Overbeek. Philips Tech Rev 11:1-11 July '49

Phase-detector a new valve for FM receivers. J. L. H. Jonker and A. J. W. M. van Overbeek. Philips Tech Comm Aust No 5:3-11 '49

Phase discriminator for FM reception. F. G. Newall and J. G. Spencer. Electronic Eng 21:25-26 Jan '49

Philips type EQ-40 phase and frequency modulation detector. (Il rivelatore di fase Philips EQ-40) Giuseppe Dilda. Elettronica pt 1 4:227-231 Sep '49; pt 2 4:315-316 Nov '49; abstracts in French and English

Simple frequency discriminator for AM-FM receivers. Philips Tech Comm Aust 3:17-22 '49

Patents

Angle modulated carrier wave detector, George C. Sziklai, 2,470,731, 7 cl. Appl July 14, '44; granted May 17, '49

Demodulator for frequency modulated signals, Thomas G. Custin, 2,484,556, 1 cl. Appl Nov 12, '46; granted Oct 11, '49

Discriminator circuits, Kurt Schlesinger, 2,475,991, 11 cl. Appl Sep 21, '44; granted July 12, '49

Electric discharge tube, Adrianus Johannes W. M. van Overbeek, 2,467,711, 6 cl. Appl Apr 10, '46; granted Apr 19, '49

Frequency and phase modulation detector, Harold Goldberg, 2,483,195, 11 cl. Appl Apr 28, '47; granted Sep 27, '49

Frequency discriminator, Clyde K. Huxtable, 2,467,-035, 3 cl. Appl Oct 3, '45; granted Apr 12, '49

FREQUENCY MODULATION, Reception and Receivers

Audio systems in FM. J. Richard Johnson. Radio Maint 5:12-13+ Jan '49

Audio systems in FM receivers. J. Richard Johnson. Radio Maint 5:16-19+ Feb '49

"Back porch" booster brings up FM signals. James C. Drake. Radio-Electronics 20:74-77 Apr '49

Booster for your FM receiver. Peter G. Sulzer. Radio & TV N 41:40-41+ May '49

Cheaper, but unwise, American FM sets. (Billigere, men ogsaa daarligere amerikanske FM Modtagere) Radio Ekko 11:76 Apr '48

Demonstration of experimental FM broadcast transmitting and receiving equipment. W. W. Honnor. IRE Proc (Australia) 10:3 Feb '49

Fixed-frequency FM tuners. F. A. Spindell. FM-TV 9:16+ Apr '49

F.M. receiver. (Recepteur experimental pour la modulation de frequence) R. Gondry and M. Guillaume. Toute la Radio No 141:7-10 Dec '49

F-M receiver alignment. J. Richard Johnson. Radio Maint pt 1 5:12-13+ June '49; pt 2 5:20-21+ July '49

FM receiver design problems. E. C. Freeland. Electronics 22:104+ Jan '49

FM set installed in car. Max Alth. Radio-Electronics 20:68-69 May '49

FM tuner design. John B. Ledbetter. Service 18:10 Jan '49

High quality tuner analysis. T. L. Harkwell. Radio Ser Deal 10:14-16+ July '49

Results of transient analysis of impulse noise in FM receivers. T. P. Cheatham, jr. and W. G. Tuller. PB 98667

Signal frequency and oscillator circuits for AM-FM receivers. E. G. Beard. Philips Tech Comm Aust 3:23-27 '49

FM, Reception and Receivers–Cont'd.

Sky-wave F-M receiver. L. B. Arguimbau and J. Granlund. Electronics 22:101-103 Dec '49

Use of a superregenerator in the nonlinear mode for the reception of F.M. signals. G. B. Ol'derogge. Radiotekhnika 3:76+ Nov-Dec '48

Patents

Apparatus for receiving frequency-modulated waves, Claudius T. McCoy, 2,462,759, 17 cl. Cont of appl June 13, '42; this appl Mar 31, '44; granted Feb 22, '49

Frequency modulated amplitude modulated receiver, Winfield R. Koch, 2,472,301, 4 cl. Orig appl Feb 5, '44; divided and this appl Mar 2, '45; granted June 7, '49

Frequency-modulated carrier signal receiver, Harold A. Wheeler, 2,488,359, 9 cl. Appl Mar 11, '40; granted Nov 15, '49

Frequency modulation receiver, Everhard H. B. Bartelink, 2,465,782, 7 cl. Appl Jan 30, '43; granted Mar 29, '49

Frequency modulation receiver, Murlan S. Corrington, 2,488,585, 6 cl. Appl May 29, '45; granted Nov 22, '49

Frequency modulation receiver, William F. Sands, 2,488,606, 2 cl. Appl May 2, '45; granted Nov 22, '49

Frequency modulation reception, Harry Tunick, 2,488,612, 2 cl. Appl Mar 9, '40; granted Nov 22, '49

Noise reducing radio receiver, Charles J. B. Rheams, 2,462,224, 1 cl. Appl Sep 2, '44; granted Feb 22, '49

Receiver for frequency-modulated waves, Ernest H. Plump, 2,491,331, 7 cl. Appl Mar 20, '40; granted Dec 13, '49

Superheterodyne receiver, Folkert A. de Groot, 2,483,315, 10 cl. Appl Apr 12, '46; granted Sep 27, '49

Superheterodyne receiver comprising automatic frequency control, Folkert A. de Groot, 2,483,314, 3 cl. Appl Apr 12, '46; granted Sep 27, '49

Wave length modulated signalling, Clarence W. Hansell, 2,465,448, 1 cl. Orig Appl Nov 27, '36; divided and this appl Oct 4, '39; granted Mar 29, '49

See also

Servicing, FM

Television, Reception & Receivers, Front End

Controls

FM receivers with supersonic control. F. M. Berry. Communications 29:12-14 Aug '49

FM tone controls and booster circuits. J. Richard Johnson. Radio Maint 5:16-18+ Mar '49

Straight FM tuner with afc. I. Greene. FM-TV 9:18-19+ Dec '49

Patents

Tuning control system for signal seeking receivers, Madison G. Nicholson, jr., 2,472,957, 11 cl. Appl Oct 4, '44; granted June 14, '49

Noise Characteristics

Demodulation of a frequency-modulated carrier and random noise by an FM receiver. N. M. Blachman. PB 98332

Results of transient analysis of impulse noise in FM receivers. T. P. Cheatham, jr. and W. G. Tuller. PB 98667

Theoretical signal-to-noise ratios in FM receiver PB 98666

Theoretical signal-to-noise ratios in FM receivers; a comparison with amplitude modulation. David Middleton. Jour Ap Phys 20:334+ Apr '49

FREQUENCY MODULATION, Servicing

See Servicing, FM

FREQUENCY MODULATION, Transmission and Transmitters

BTF-50A, 50kw FM Transmitter. C. J. Starner. Broadcast N No 53 Feb '49

Coaxial 50 kw FM broadcast amplifier. D. I. Balthis. Electronics 22:68+ May '49

Demonstration of experimental FM broadcast transmitting and receiving equipment. W. W. Honnor. IRE Proc (Australia) 10:35+ Feb '49

Diverse views on "diversity". Wireless World 55: 329-330 Sep '49

Earthed-grid power amplifiers. VHF sound and vision transmitters. P. A. T. Bevan. Wireless Eng 26:235-242 July '49

Experimental frequency-modulated broadcast transmitter. J. B. Rudd and others. AWA Tech Rev 8:97-123 '49

FM broadcast monitor. Martin Silver. Communications 29:12-14+ Jan '49

FM overall performance tests. B. E. Parker. Communications 29:20-21+ June '49

FM proof-of-performance measurement techniques. F. E. Talmage. Communications pt 1 29:22-23 Mar; pt 2 29:22-23+ Apr '49

Frequency modulated 250 watt transmitter. (Ein frequenzmodulierter 250 W-Sender) ETZ 70:338-343 Sep 1 '49

Frequency modulation: transmission and reception. (La modulation en frequence: reception et transmission) M. Matricon and E. P. Courtillot. Rev Tech Comp Franc Thomson-Houston Document No 638

High-power FM transmitter. Vin Zeluff. Electronics 22:126+ Feb '49

Instantaneous deviation control. M. R. Winkler. Electronics 22:97-99 Sep '49

Measuring AM and FM noise in FM transmitters. Harold Reed. Radio & TV N 41:14-15 Apr '49

NBFM adaptor unit. Short Wave Mag 7:342-34 July '49

Permissible mutual interference of two FM transmitters. (Toelaatbare onderlinge storing van twee in frequentie gemoduleerde omroepzenders) Tijdsch ned Radiogenoot 14:61-72 May '49

Ratio of frequency swing to phase swing in phase and frequency modulation systems transmitting speech. D. K. Gannett and W. R. Young. IRE Proc 37:258 Mar '49

RCA type BTF-50A FM transmitter. Broadcast Eng J 16:3+ Feb '49

Series of modern tubes for FM and TV broadcasting. J. Becquemont. Onde Elect 29:145-151 Apr '49. In French

M, Transmission and Transmitters–Cont'd.

rmmetrical amplifiers for FM or TV broadcasting; Symmetron. Westinghouse Eng 9:155-156 Sep '49

lerable mutual interference of two FM broadcasting transmitters. T. J. Weijers. Tijdschr ned Radiogenoot 14:61-72 May '49

Patents

ystal controlled frequency modulation system, Walther M. A. Andersen, 2,458,760, 4 cl. Appl Aug 17, '45; granted Jan 11, '49

ectronic frequency modulator, Amedeo D. Zappacosta, 2,461,364, 7 cl. Appl Jan 31, '46; granted Feb 8, '49

equency-modulated picture transmitter, Louis A. Thompson, 2,488,517, 2 cl. Appl Apr 22, '44; granted Nov 15, '49

equency modulation, George L. Usselman, 2,463,-661, 4 cl. Appl Apr 3, '46; granted Mar 8, '49

equency modulation radio transmitter, John C. Geist, 2,489,284, 6 cl. Appl Nov 13, '45; granted Nov 29, '49

equency modulation stabilization system, Andre G. Clavier, 2,468,038, 4 cl. Appl Mar 20, '47; granted Apr 26, '49

requency modulation system, Sidney Frankel, 2,462,852, 11 cl. Appl Jan 23, '45; granted Mar 1, '49

requency modulation transmitter, Frederick W. Frink, 2,483,271, 13 cl. Appl Nov 30, '46; granted Sep 27, '49

igh-frequency circuits, John E. Young, 2,474,769, 7 cl. Appl Oct 16, '45; granted June 28, '49

lodulating system, John J. Antalek, 2,461,307, 5 cl. Appl Nov 13, '44; granted Feb 8, '49

tabilized frequency modulator, Gerard Hepp, 2,470,892, 6 cl. Appl July 2, '46; granted May 24, '49

tabilized oscillator generator, Charles J. Young, 2,490,500, 14 cl. Appl Dec 28, '46; granted Dec 6, '49

Coverage

ield intensity survey of an FM station. Harold Reed. Radio & TV N (Eng Ed) 42:10-13+ Nov '49

ield strength measurement of an FM transmitter at 93 MC. (Ausbreitungsmessungen an einem frequenzmodulierten Versuchs-Rundfunksender auf 93 MHz in Der Umgebung von Genf) Ebert. Tech Mit Schweiz 27:209-223 Oct '49

V-FM field intensity measurements. George P. Adair. Communications 29:14-16+ May '49

V-FM site testing with balloon-supported antennas. R. W. Hodgkins. Communications 29: 6-7+ Oct '49

Modulators

ertain aspects of triode reactance-tube performance for frequency modulation at ultra-high frequencies. C. L. Cuccia. RCA Rev 10:74+ Mar '49

esign equations for reactance tube circuits. J. D. Young and H. M. Beck. IRE Proc 37:1078-1082 Sep '49

requency sliding in variable reactance tubes. R. Lepretre. Onde Elec pt 1 29:130-136 Mar '49; pt 2 29:167-174 Apr '49. In French

Reactance tube circuits. W. Conley Smith. Tele-Tech 8:44+ Mar '49

"Serrasoid", a new modulator for FM. ("Serrasoid" ein neuer Modulator fuer FM) Funk und Ton 3:240-243 Apr '49

Serrasoid FM modulator. James R. Day. Radio Club Am Proc 26:3-13 Sep 23, '49

Simplified modulator for FM. James R. Day. FM-TV 9:16+ Jan '49

Patents

Automatic frequency control system, Charles Travis, 2,467,345, 1 cl. Orig appl May 3, '35; divided and this appl Mar 27, '44; granted Apr 12, '49

Frequency changer, Stanley A. Lott, 2,490,448, 4 cl. Appl Nov 9, '45; granted Dec 6, '49

Frequency modulated system, Conrad R. Muller, 2,489,311, 5 cl. Appl Aug 11, '45; granted Nov 29, '49

Phase or frequency modulation, Donald Weighton, 2,473,318, 10 cl. Appl Aug 7, '47; granted June 14, '49

Wave length modulator and control means, Murray G. Crosby, 2,475,779, 3 cl. Orig appl May 14, '41; divided and this appl Oct 20, '43; granted July 12, '49

See also

Antennas, FM and VHF
Frequency Monitors and Standards
Oscillation and Oscillators, FM

FREQUENCY MONITORS and STANDARDS

AM broadcast station monitor. (Abstract) H. R. Summerhayes, jr. IRE Proc 37:170 Feb '49

Cathode-ray tube frequency comparator for 1 kc sub-standard tones. F. J. M. Laver. P.O. Elec Eng J 42:61-64 July '49

Crystal calibration marker unit for ten. M. D. Mason. Short Wave Mag 7:605-606 Oct '49

Crystal control at 1,000 mc for aerial navigation. (Abstract) S. H. Dodington. IRE Proc 37:175 Feb '49

Dense standard frequency spectra. (Beitraege zur Technik dichter Normalfrequenzspektren) Griese. Fernmeldetech Zeit pp 179-187 June '49

Economics in a sound broadcasting system. Engineer 188:636-640 Dec 2, '49

Experimental standard frequency transmitting station, WWVH. G. H. Lester. Communications 29: 21-23+ Sep '49

Frequency-control units. (Abstract) August E. Miller. IRE Proc 37:167 Feb '49

Frequency monitoring device for interval timers. Nat Bur Stand Tech Bul 33:99-100 Aug '49

Frequency monitoring system for interval timers. Elec World 132:96 Aug 27, '49

Frequency standard. GE Ham N 4:1-5 May-June '49

Frequency standard features high accuracy. Product Eng 20:186 Dec '49

Frequency standard from C.F.I. unit. A. W. Horst. CQ 5:18-21 Jan '49

Frequency standards broadcast. Elec Eng 68:575 July '49

Industrial oscillator frequency control. Jack Lower. Electronics 22:84-86 Dec '49

FREQ. MONITORS and STANDARDS–Cont'd.

Interconnected system load-frequency control. H. M. Dimond and G. S. Lunge. Elec Eng 68:162 Feb '49

Long distance synchronizing at standard frequency. (Fernsynchronisierung mit Normalfrequenz) Rhode and Leonhardt. Fernmeldetech Zeit 2:85-90 Mar '49

Microwave frequency standard for radar applications. R. R. Reed and M. S. Wheeler. Tele-Tech 8:26-28+ Dec '49

Microwave spectroscopic frequency and time standards. Harold Lyons. Elec Eng 68:251 Mar '49

New frequency standard and time interval generator. B. Bauer. HP Jour 1:1-4 Oct '49

Nomograms for ionosphere control points. J. C. W. Scott. IRE Proc 37:821-824 July '49

Proposed frequency band designations. AIEE committee report. Elec Eng 68:672 Aug '49

Spectrographic monitoring equipment for radio stations. German Industry Rep. JIOA 58 Brit Govt Pub

Theory of synchronization by control of phase. Edouard Labin. Philips Res Rep 4:291-315 Aug '49

TV station monitor. C. A. Cady. FM-TV 9:22 Mar '49

Patents

Frequency control system, Vincent R. Learned, 2,464,818, 16 cl. Appl May 27, '43; granted Mar 22, '49

Frequency-modulation monitoring, Charles L. Race, 2,484,586, 9 cl. Appl Sep 28, '46; granted Oct 11, '49

Frequency monitoring system, Harry R. Summerhayes, jr. and Paul W. Howells, 2,478,023, 5 cl. Appl Mar 22, '46; granted Aug 2, '49

Frequency-stabilizing system, George G. Bruck and Philip E. Volz, 2,486,001, 11 cl. Appl Feb 12, '46; granted Oct 25, '49

See also

Measurements & Meters, Frequency

FREQUENCY MULTIPLIERS

Application of VHF beam power amplifier as frequency multiplier up to 175 mc. Communications 29:20-21 Oct '49

Frequency doublers with low-Q tank circuits. R. W. Buchheim. Communications. 29:13+ July '49

Frequency multiplication with vacuum tubes. (Ueber die Frequenzumsetzung technischen Wechselstromes auf Hochfrequenz mittels Elektronenroehren) Prokott. Fernmeldetech Zeit 2: 301-308 Oct '49

Using the RCA-5763 for frequency multiplication. Robert M. Cohen. Ham Tips 9:1+ Sep-Oct '49

Patents

Apparatus for frequency multiplication of alternating electric currents, Alec Hervey Bennett Walker, 2,461,861, 1 cl. Appl May 2, '45; granted Feb 15, '49

Frequency multiplier, James F. Gordon, 2,482,973, 9 cl. Appl Apr 30, '46; granted Sep 27, '49

Frequency multiplier, Russell H. Varian, 2,466,754 13 cl. Appl Mar 23, '40; divided and this app Oct 24, '44; granted Apr 12, '49

Frequency multiplier and stabilization cavity resonator apparatus, William W. Hansen, 2,487,800, 9 cl. Appl Jan 22, '43; granted Nov 15, '49

Frequency multiplier apparatus, Arthur E. Harrison, 2,466,704, 12 cl. Appl Aug 30, '45; granted Apr 12, '49

Frequency multiplier having an output of pulse groups, James F. Gordon, 2,482,974, 4 cl. Orig appl Apr 30, '46; divided and this appl July 3 '47; granted Sep 27, '49

Magnetic frequency multiplier, Henry M. Huge 2,463,539, 9 cl. Appl May 5, '45; granted May 8 '49

Static frequency changer, Roy W. Jones, 2,473,999 3 cl. Appl June 26, '47; granted June 21, '49

System of producing harmonics, Jean Louis Hurault 2,460,112, 4 cl. Appl Oct 25, '45; granted Jan 25 '49

Wide band multiplier, Michael E. Hiehle, 2,478,629 5 cl. Appl Oct 16, '48; granted Aug 9, '49

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GAS TUBES

See

Gas Tube Phenomena
Rectifiers, Gaseous
Thyratrons

GAS TUBE PHENOMENA

Application of gas discharge for pulse technique. L. N. Korablev. Akad Nauk Dok 62:215-218 '48. In Russian

Application of gas-filled tubes for storage and sending. F. H. Bray, D. S. Ridler, and W. A. G. Walsh. Elec Comm 26:28+ Mar '49

Behavior of the cathode spot on an undisturbed mercury surface. K. D. Froome. Phys Soc Proc section B 62:805-812 Dec '49

Breakdown probability of a low pressure gas discharge. R. A. Wijsman. Phys Rev 75:833-838 Mar 1, '49

Current densities in the cathode spots of transient arcs. (Letter) J. M. Somerville and W. R. Blevin. Phys Rev 76:982 Oct 1, '49

Decrease of an electrical discharge by external radiation R. Parshad and S. Karim. Jour Chem Phys 17:667-668 July '49

Determination of the electron energy distribution in gases from Townsend's ionization coefficient. H. D. Deas and K. G. Emeleus. Phil Mag 40:460-465 Apr '49

Dielectric properties of a gas discharge. E. E. Salpeter and R. E. B. Makinson. Phys Soc Proc series B 62:180+ Mar 1, '49

Drops in potential at electrodes in discharges of inert gases. N. A. Karelina and B. N. Klyarfel'd. Zh Tekn Fiz 18:1235-1241 Oct '48. In Russian

Electrical discharge in gases. (Der elektrische durchbruch in gasen) Elektron Wiss und Tech 3:419-422 Nov '49

Electronic circuitry. J. McG. Sowerby. Wireless World 55:260 July '49

'AS TUBE PHENOMENA–Cont'd.

)ectronic interaction in electrical discharges in gases. Julius H. Cahn. Phys Rev 75:293-300 Jan 15, '49

'ectronics; cold cathode tubes (Siemens), design and characteristics. German Industry Rep. CIOS XXXI-50 Brit Govt Pub

:citation of plasma oscillations. 2 pp '46 MDDC 143

:periment on the high frequency discharge. M. S. Thesis. Pao-Hsien Fang. Ohio State U Phys Dept Sep '48

:perimental investigations of the electrical and optical phenomena in spark breakdown in gases. E. Funfer. Zeit angew Phys 1:295-304 Mar '49

'lium disappearance in arc discharge tubes. Nat Bur Stand Tech Bul 33:41-42 Apr '49

easuring the angles of the ignition and extinction of control valves. A. L. Goflin. Akad Nauk Izvest pp 479-488 Apr '48. In Russian

)rmal cathode fall in neon. F. M. Penning and J. H. A. Moubis. Physica 15:721-732 Sep '49

)int-to-plane corona onsets. William N. English and Leonard B. Loeb. Jour Ap Phys 20:707-711 July '49

)sitive streamer mechanism of spark breakdown. W. Hopwood. Phys Soc Proc section B 62:657-664 Oct '49

:ocess of ionization in active nitrogen. K. T. Chao and H. P. Chang. Phys Rev 76:970-971 Oct 1, '49

)le of the cathode in discharge instability. Leonard B. Loeb. Phys Rev 76:255-259 July 15, '49

:udy of vanishing gases. J. Markus. Electronics 22:160-162 July '49

heory of the high pressure helium discharge. V. J. Francis. Phil Mag 40:1063-1072 Oct '49

heory of the high pressure mercury vapour and cadmium vapour discharges. V. J. Francis. Phil Mag 40:435-448 Apr '49

ransport phenomena in a completely ionized gas in the presence of a magnetic field. Rolf Landshoff. Phys Rev 76:904-909 Oct 1, '49. Also AECD 2590

ube breakdown. (Der Stossdurchschlag) Elektron Wiss und Tech 3:467-472 Dec '49

'aporization of the cathode in the electric arc. Ragner Holm. Jour Ap Phys 20:715-716 July '49

See also

ectifiers, Gaseous
hyratrons

'AS TUBE PHENOMENA, Glow Discharge

'athode sputtering in the abnormal glow discharge. (Letter) R. Hanan. Phys Rev 76:153-154 July 1, '49

'ffects of various barium compounds with respect to cold-cathode behavior as a function of life in a glow discharge. (Abstract) Harold Jacobs and Armand P. LaRocque. IRE Proc 37:174 Feb '49

'as absorbtion permeability of cathode surfaces in a glow discharge. PB 94853. In German

'olycathode glow tubes for counters and calculators. James J. Lamb and Joseph A. Brustman. Electronics 22:92-96 Nov '49

'robe measurements in a cold cathode argon glow discharge. Chalmers Tek Hog No 65 18 pp '48

Some aspects of the glow discharge between coaxial cylinders in the presence of a non-homogeneous axial magnetic field. J. M. Somerville and others. Aust J Sci Res series A 1:400-411 Dec '48

Stabilization of breakdown voltage and measurement of some critical currents in a glow discharge tube. A. B. Pal. Jour Ap Phys 20:451+ May '49

Variations in the characteristics of some glow discharge voltage-regulator tubes. F. A. Benson and others. Jour Sci Inst 26:399-401 Dec '49

Patents

Electric discharge device of the indicator type, Charles H. Bachman, 2,486,814, 12 cl. Appl Oct 7, '44; granted Nov 1, '49

Gaseous tube flasher circuit, Robert R. Goshorn, 2,467,472, 5 cl. Appl Feb 26, '47; granted Apr 19, '49

Neon-type sign, William J. Browner, 2,488,169, 8 cl. Appl Feb 20, '46; granted Nov 15, '49

See also

Regulation, Voltage

GAS TUBE PHENOMENA, High Frequency Discharge

Admittance of high frequency gas discharges. Edgar Everhart and Sanborn C. Brown. Phys Rev 76:839-842 Sep 15, '49

Breakdown and maintenance of microwave discharges in argon. S. Krasik, D. Alpert, and A. O. McCoubrey. Phys Rev 76:722-730 Sep 15, '49

Breakdown of a gas at microwave frequencies. M. A. Herlin and S. C. Brown. PB 97708

Discharges excited by microwaves. J. K. Robertson and others. Nature. 164:100-101 July 16, '49

Electron velocity distribution function in high frequency alternating fields including electronic interactions. Julius H. Cahn. Phys Rev 75:838-841 Mar 1, '49

Factors determining the intensity of oscillations in the plasma of a gas discharge. A. A. Slutskin and A. T. Maidanov. Zh Tekn Fiz * 14:99-107 '44

Generation of high frequency oscillations by hot cathode discharge tubes containing gas at low pressure. E. B. Armstrong and K. G. Emeleus. IEE Proc pt III 96:390-394 Sep '49

Generation of power electrical oscillations in low pressure discharge. V. L. Granovski and T. A. Suetin. Zh Tekn Fiz * 16:1021-1030 '46

High frequency gas discharge breakdown in helium. A. D. MacDonald and Sanborn C. Brown. Phys Rev 75:411-418 Feb 1, '49

High frequency gas discharge breakdown in hydrogen. A. D. MacDonald and S. C. Brown. Phys Rev 76:1634-1639 Dec 1, '49

Limits for the diffusion theory of high frequency gas discharge breakdown. S. C. Brown and A. D. MacDonald. Phys Rev 76:1629-1633 Dec 1, '49

Measurement of the complex conductivity of an ionized gas at microwave frequencies. F. P. Adler. Jour Ap Phys 20:1125-1129 Nov '49

Radio Frequency gas discharge phenomenon and its application to mechanical measurements. (Abstract) Kurt S. Lion and John W. Sheetz. IRE Proc 37:174 Feb '49

Theory of plasma oscillations. D. Bohm and E. P. Gross. Phys Rev 75:1851-1876 June 15, '49

GEIGER COUNTERS

See Atomic Measurements, G-M Counters

GENERATOR CONTROLS

Commutator-type alternating current generator with frequency regulation independent of the speed of rotation. M. P. Kostenko. reel 0015 No 475278:7-27 SDLC. In Russian

Dynamic equilibrium of the magnetic state of electrical machines in the Leonard system. V. P. Nikitin and N. P. Kinitski. Akad Nauk Izvest pp 623-636 May '48. In Russian

Dynamics of regulation of the voltage generator and of the current excitation of the motor in a Ward-Leonard system with amplitude regulation. V. P. Nikitin and others. Akad Nauk Dok 61:837-840 '48. In Russian

Electric (ac) generator, compensated; constant frequency generator. German Industry Rep. BIOS 414 Brit Govt Pub

Frequency correction equipment. Elec Rev 144: 277-279 Feb 18, '49

Generator regulation by saturable reactors. T. A. Benham. Electronics 22:150+ July '49

High-speed regulator confines variable load to local generators. A. G. Darling. Power 93:88-91 Aug '49

Precision of amplitude regulation of the potential of a generator. V. P. Nikitin and N. P. Kinitski. Akad Nauk Dok 61:645-647 Apr '48. In Russian

Transient behavior of the two-stage rototrol main exciter voltage regulating system as determined by electrical analogy. James T. Carleton. AIEE Proc 98:1-5 Apr '49

Patents

Alternator control system, Otto Krauer and Arthur W. Forsberg, 2,472,538, 11 cl. Appl Mar 5, '46; granted June 7, '49

Alternator system, Jerome G. Abbott, 2,486,377, 2 cl. Appl Feb 5, '46; granted Nov 1, '49

Electronic governing apparatus for electric machinery, Ralph L. Jaeschke and Donald V. Edwards, 2,489,184, 15 cl. Appl May 10, '48; granted Nov 22, '49

Excitation limiting system, Jack E. Reilly and Robert M. Jolly, 2,476,911, 9 cl. Appl Jan 9, '47; granted July 19, '49

Permanent magnet generator system, Hendrik A. W. Klinkhamer, 2,486,656, 1 cl. Appl Apr 25, '46; granted Nov 1, '49

Regulating system, Donald F. Aldrich, 2,473,838, 10 cl. Appl Mar 24, '48; granted June 21, '49

Regulating system, Edwin L. Harder and Carroll E. Valentine, 2,473,882, 7 cl. Appl Nov 29, '45; granted June 21, '49

Regulating system, Samuel B. Griscom and Raymond L. Witzke, 2,459,640, 7 cl. Appl June 2, '47; granted Jan 18, '49

Regulating system, Schuyler LeRoy Bradley, 2,473,-854, 2 cl. · Appl Nov 20, '47; granted June 21, '49

Regulating system, Selden B. Crary, 2,472,571, 11 cl. Appl Aug 1, '46; granted June 7, '49

Regulator circuit, Frederick E. Crever, 2,461,964, 6 cl. Appl May 11, '46; granted Feb 15, '49

Regulator for synchronous dynamo-electric machines, Selden B. Crary and Melville E. Hartman, 2,478,623, 8 cl. Appl May 6, '47; granted Aug 9, '49

Regulator system, Selden B. Crary, 2,478,622, 14 cl. Appl June 1, '46; granted Aug 9, '49

See also

Industrial Controls
Motors, Controls

GENERATORS, Electrostatic

See Electrostatic Generators

GEOPHYSICAL APPLICATIONS

Counters for prospectors. Richard H. Dorf. Radio-Electronics 21:37-39 Oct '49

Developments in geophysical prospecting in Germany during the war. German Industry Rep. BIOS 334 Brit Govt Pub

Gamma-ray well logging. Robert E. Fearon. Nucleonics 4:67+ Apr '49

Interpretation of earth current measurements. (Abstract) H. P. Schmitz. Jour Geophys Res 54:69-70 Mar '49

Investigation of meteoric radio reflections. L. A. Manning and O. G. Villard, jr. (Abstract) Jour Geophys Res 54:77 Mar '49

Mineralogical analysis of clays by X-rays. D. M. C. MacEwan. Research 2:459-466 Oct '49

Physics in the oil industry. F. Morgan. Phys Today 2:6-13 June '49

Portable counter for geological research. O. J. Russell. Electronic Eng 21:173-174 May '49

Prerequisites for use of radio prospecting methods. V. Fritsch. Radio Tech 24:429+ Sep '48

Prospecting for uranium. Robert F. Scott. Radio-Electronics 20:20-21 Sep '49

Prospecting for uranium ore using G-M counters. Samuel Freedman. Radio-Electronics 20:36-38 July '49

Radiolocation in oil prospecting. E. A. Slusser. Electronics 22:70-74 Aug '49

Subsurface road conditions revealed by geophysical methods. F. W. Cron and R. Woodward Moore. Eng N 143:40-44 Oct 13, '49

Technological survey, water supply, electrical prospecting equipment for exploring geological formations and natural resources. Japanese Industry Rep. BIOS/Jap/PR/779 Brit Govt Pub ·

Underground prospecting with radio waves. J. Markus. Electronics 22:120+ July '49

Patents

Apparatus and method for detecting and measuring radiant energy for locating subterranean petroleum deposits, Walter Armstrong, 2,461,801, 9 cl. Orig appl Mar 6, '45; divided and this appl May 26, '47; granted Feb 15, '49

Apparatus and method for detecting and measuring radiant energy for locating subterranean petroleum deposits, Walter Armstrong, 2,461,802, 6 cl. Orig appl Mar 6, '45; divided and this appl Sep 20, '45; granted Feb 15, '49

GEOPHYSICAL APPLICATIONS, Patents–Cont'd.

Apparatus and method for detecting and measuring radiant energy for locating subterranean petroleum deposits, Walter Armstrong, 2,461,803, 6 cl. Orig appl Mar 6, '45; divided and this appl Sep 20, '45; granted Feb 15, '49

Apparatus for detecting and measuring radiant energy for locating subterranean petroleum deposits, Walter Armstrong, 2,461,800, 4 cl. Appl Mar 6, '45; granted Feb 15, '49

Apparatus for seismic prospecting, Raymond U. McKinney, 2,490,461, 10 cl. Appl Apr 12, '46; granted Dec 6, '49

Automatic volume control for seismic systems, Charles H. Fay and Thorwald J. Tvedt, 2,489,126, 5 cl. Appl Jan 27, '48; granted Nov 22, '49

Electrical logging method and apparatus, William H. Stewart, 2,459,196, 9 cl. Appl Dec 22, '38; granted Jan 18, '49

Feedback automatic volume control circuit for seismic amplifiers, Clarence B. Scott, 2,475,258, 1 cl. Appl Apr 4, '46; granted July 5, '49

Gamma-ray logging, William L. Russell, 2,469,461, 8 cl. Appl Jan 4, '46; granted May 10, '49

Geophone, Raymond G. Piety, 2,487,029, 4 cl. Appl Mar 7, '45; granted Nov 1, '49

Intensity, intensity ratio, and phase difference measuring system for geophysical prospecting, Bjarni S. Bjarnason, 2,481,492, 12 cl. Appl June 7, '45; granted Sep 13, '49

Measuring system for borehole radioactivity, Shelley Krasnow and Leon F. Curtiss, 2,487,058, 3 cl. Orig appl Oct 24, '39; divided and this appl Mar 28, '44; granted Nov 8, '49

Method and apparatus for analyzing seismographic records, James E. Hawkins, 2,463,534, 11 cl. Appl Jan 11, '47; granted Mar 8, '49

Method and apparatus for minimizing the horizontally travelling components of seismic waves, Cornelius G. Dahm, 2,473,469, 4 cl. Appl Apr 10, '48; granted June 14, '49

Method and means for surveying geological formations, LeRoy C. Paslay, 2,465,696, 13 cl. Appl Oct 11, '47; granted Mar 29, '49

Method for geophysical prospecting, Leicester F. Kitto, 2,460,297, 6 cl. Appl Jan 31, '45; granted Feb 1, '49

Method of and apparatus for geophysical exploration, Glen Peterson, 2,479,772, 19 cl. Appl July 29, '48; granted Aug 23, '49

Method of detecting and measuring radiant energy for locating subterranean petroleum deposits, Walter Armstrong, 2,461,799, 6 cl. Appl Aug 3, '44; granted Feb 15, '49

Neutron logging of wells, William L. Russell, 2,469,463, 3 cl. Appl Jan 18, '46; granted May 10, '49

Neutron well logging, William L. Russell, 2,469,462, 6 cl. Appl Jan 18, '46; granted May 10, '49

Radioactivity well logging method, Gerhard Herzog, 2,458,596, 6 cl. Appl Dec 10, '46; granted Jan 11, '49

Radiological well logging, Gerhard Herzog, 2,475,137, 11 cl. Appl Mar 21, '45; granted July 5, '49

Seismic detector, Alfred C. Winterhalter, 2,478,517, 5 cl. Appl Mar 25, '47; granted Aug 9, '49

Seismic exploration with control of directional sensitivity, Alexander Wolf, 2,477,844, 3 cl. Orig appl Apr 20, '43; divided and this appl Apr 25, '47; granted Aug 2, '49

Seismic surveying, Josephus O. Parr, jr., 2,461,173, 7 cl. Appl Aug 27, '45; granted Feb 8, '49

Seismic surveying, Paul J. Rudolph, 2,462,430, 7 cl. Appl Jan 9, '45; granted Mar 1, '49

Signal transmission circuit for seismographs, George B. Loper, 2,467,624, 3 cl. Appl Mar 20, '46; granted Apr 19, '49

Teleseismic detecting, signaling, and recording, Roger L. Arringdale, 2,482,233, 6 cl. Appl Mar 28, '46; granted Sep 20, '49

Well logging, Lynn G. Howell, 2,474,581, 2 cl. Appl Apr 19, '45; granted June 28, '49

Well logging equipment, Henri-Georges Doll, 2,475,354, 5 cl. Orig appl June 13, '42; divided and this appl Oct 8, '47; granted July 5, '49

Well logging null recorder, Robert F. Davis, 2,488,491, 1 cl. Appl July 19, '46; granted Nov 15, '49

Well surveying apparatus, Henri-Georges Doll, 2,475,353, 3 cl. Orig appl June 13, '42; divided and this appl Oct 8, '47; granted July 5, '49

See also
Atomic Measurements, Geiger-Muller Counters
Industrial Applications, Petroleum

H

HARMONICS

See Waveform Analysis

HEARING AIDS and HEARING

Calculation of the function of acoustic sensation. G. G. Sacerdote. Eng Digest 10:346-348 Oct '49

Getting the best from your batteries. R. E. Renkel. Volta Rev 51:215+ May '49

Hearing-aid servicing. C. W. Carlson. Service 18:27+ June '49

Hearing aids and audiometers. Aug '47 PB 92705

Hearing aids and young deaf children. G. Lassman and H. Montague. Volta Rev pt 1 51:447-449+ Sep '49; pt 2 51:518-520+ Oct '49

Hearing aids for Newark children. R. G. Brill. Volta Rev 51:211+ May '49

Home tests of hearing aids. E. Lofchie. Volta Rev 51:339+ July '49

How we hear. F. M. Wiener. Phys Today 2:8-14 Dec '49

I surface my hearing aid. D. K. Brintnall. Volta Rev 51:170+ Apr '49

If not clinics, what? R. H. Crutchett. Volta Rev 51:337-338 July '49

Modern hearing aid. (Ein modernes Schwerhoerigengeraet) Radio Tech 25:613-615 Oct '49

New views on the hearing process. (Neuere Ansichten ueber den Hoervorgang) Funk und Ton 3:119-121 Feb '49

Parents talk it over; hearing aid for a small child. Volta Rev 51:457-459 Sep '49

HEARING AIDS and HEARING–Cont'd.

Quality control makes good in a hearing aid plant. A. B. Mundel. Standardization 20:141-143 June '49

Sound and the human ear. S. Benson. Westinghouse Eng 9:60-64 Mar '49

Speech communication under conditions of deafness or loud noise. IEE Proc pt I 96:312-313 Nov '49

Structure of the middle ear and the hearing of one's own voice by cone conduction. George V. Bekesy. Acoust Soc Am J 21:217+ May '49

Patents

Adjustable earpiece support, George H. White, 2,474,135, 9 cl. Appl June 5, '47; granted June 21, '49

Amplifier hearing aid, Morris E. Rose, 2,484,052, 6 cl. Appl Aug 3, '46; granted Oct 11, '49

Bone conduction hearing aid, Henry Koch, 23,125, 10 cl. Appl for reissue June 28, '47; granted June 21, '49

Microphone mounting for hearing aids, George W. Little, 2,477,698, 2 cl. Appl Apr 5, '48; granted Aug 2, '49

See also

Acoustics & Sound

HEATING, R.F.

See Industrial Heating

I

ILLUMINATION and PHOTOMETRY

Basic principles for the formulation of illumination standards. A. A. Kruithof and A. M. Kruithof. Philips Tech Rev 10:214-220 Jan '49

Case history of the standards on electric discharge lamps. G. L. Diggles. Standardization 20:182-183 July '49

Changes in the spectral sensitivity of the eye in cases of great brightness. S. G. Yurov. Akad Nauk Dok 67:271-273 Feb '49. In Russian

Colour and lighting. G. T. Winch. GEC Jour 16:197-203 Oct '49

Development of a gaseous tube directional taxiway marker light. M. S. Gilbert. Illum Eng 44:603-605 Oct '49

Electric lighting of schools — a study of the fundamentals of vision and light explains how to conserve children's eyesight and school building funds. Howard M. Sharp. Arch Forum 91:147-151 Oct '49

Flash-discharge lamps. A. H. Willoughby. Elec Rev 145:141-143 July 22, '49

Forcing tulips with artificial light. R. van der Veen. Philips Tech Rev 10:282-285 Mar '49

German glass manufacture as applied to illumination with particular reference to aviation lighting. German Industry Rep. BIOS 317 Brit Govt Pub

Glare-free lighting methods studied by M.I.T. H. L. Beckwith and others. Arch Record 105:145-147 June '49

High-pressure rare-gas discharges. W. Elenbaas. Philips Res Rep 4:221-231 June '49

How do you light a room for television? E. W. Commery. Arch Record 106:145-148 Nov '49

Hygienic evaluation and questions of standardization of luminescent lighting. Y. A. Neishtadt. Akad Nauk Izvest 13:302-307 Mar-Apr '49. In Russian

Ideas in lighting. Elec West 103:78-83 Sep '49

IES coordinates lighting activities. Standardization 20:9 Jan '49

Illumination of coal mines and the attendant risk of explosions. G. D. Rieck. Philips Tech Rev 10:334-337 May '49

Illumination of traffic tunnels. A. M. Kruithof. Philips Tech Rev 10:299-305 Apr '49

Improved lighting at the IEE. Electrician 143:203 July 15, '49

Influence of light upon plants. R. van der Veen. Philips Tech Rev 11:43-49 Aug '49

Light and colour in industry. Electrician 143:27 July 1, '49

Lighting and electronics. Westinghouse Eng 9:11-15 Jan '49

Lighting notes, decorative lighting. Electrician 143:746 Sep 2, '49

Lighting requirements for instrument panels studied. Product Eng 20:170 June '49

Louver ceiling lighting used throughout large department store. Elec World 132:92-93 Sep 10, '49

Lumens and electrons. W. W. Lozier and F. T. Bowditch. Intl Proj 24:20-22 Jan '49

Modern trends in room lighting. H. L. Beckwith and others. Elec Eng 68:577-580 July '49

More light on the subject. Standardization 20:8 Jan '49

Office lighting complaint — too much glare. C. W. Macy. Elec West 103:72-78 Nov '49

Planned lighting maintenance. Elec World 131:117-124 Mar 12, '49

Promote uniformity in incandescent lamps. P. S. Millar. Standardization 20:149 June '49

Report on illumination. German Industry Rep. FIAT 274 Brit Govt Pub

Revolutionary development in incandescent lamps. Marvin Pipkin. Gen Elec Rev 52:14+ Mar '49

Storing seed potatoes in artificially-lighted cellars. R. van der Veen. Philips Tech Rev 10:318-322 Apr '49

Television viewing habits revealed by survey. M. E. Dodds. Illum Eng 44:544-545 Sep '49

Visual and lighting problems of television. E. W. Commery. Illum Eng 44:541-542 Sep '49

What's ahead in plant lighting. J. C. Forbes. Factory Management 107:110-113 Feb '49

Why have illumination design data? James H. McCulloch. Elec West 103:70-74 Sep '49

Patents

Arc lamp and its low-tension ignition, David Reichinstein, 2,474,403, 3 cl. Appl Mar 18, '44; granted June 28, '49

Automatic arc lighting apparatus and the like, Ralph W. Gooch, 2,488,861, 6 cl. Appl Oct 25, '47; granted Nov 22, '49

ILLUMINATION and PHOTOMETRY, Patents-Cont'd.

Ballast lamp, William C. Ellis, Louis H. La Forge, jr., and Addison H. White, 2,474,473, 6 cl. Appl Jan 29, '47; granted June 28, '49

Decorative illuminated device and method, Abraham Abrahamson, 2,468,283, 2 cl. Appl June 9, '45; granted Apr 26, '49

Electric lamp of double spiral convolution, Alfred Greiner, 2,473,878, 3 cl. Appl Nov 25, '47; granted June 21, '49

Electric light-flash-producing system, Harold E. Edgerton, 2,478,908, 5 cl. Appl Feb 11, '46; granted Aug 16, '49

Electric lighting fixture, Vincent J. Marchese, 2,474,-484, 5 cl. Appl Apr 13, '48; granted June 28, '49

Electric system, Harold E. Edgerton, 2,478,901, 105 cl. Appl Aug 16, '33; granted Aug 16, '49

Electric system, Harold E. Edgerton, 2,478,905, 12 cl. Orig appl Aug 16, '33; divided and this appl Feb 16, '44; granted Aug 16, '49

Electric system, including a vapor-electric discharge device, Harold E. Edgerton, 2,478,902, 9 cl. Orig appl Aug 16, '33; divided and this appl Aug 5, '46; granted Aug 16, '49

Electrical discharge tube, Exio Thomas Casellini and Howard B. Sloan, 2,492,619, 5 cl. Appl Jan 2, '48; granted Dec 27, '49

Flash-producing device, Harold E. Edgerton, 2,478,-907, 83 cl. Appl July 29, '35; granted Aug 16, '49

Flickerless operation of electric lighting elements, Lester F. Bird, 2,487,092, 7 cl. Appl July 23, '47; granted Nov 8, '49

High-intensity electron flash tube circuits, Richard U. Clark, 2,485,037, 9 cl. Appl Jan 18, '47; granted Oct 18, '49

Lead-in wire for electric lamps and similar devices, Paul B. Jordan and Marvin Pipkin, 2,473,888, 3 cl. Appl June 10, '47; granted June 21, '49

Light-flash-producing system, Harold E. Edgerton, 2,478,904, 16 cl. Appl Dec 30, '39; granted Aug 16, '49

Luminaire and transformer housing, Charles W. Flood, jr., 2,464,971, 7 cl. Appl Apr 26, '46; granted Mar 22, '49

Method and apparatus for assembling incandescent lamp mounts, Melvin L. Stone, 2,473,919, 10 cl. Appl Aug 14, '47; granted June 21, '49

Photophone, Chester L. Brown, 2,466,000, 5 cl. Appl June 12, '45; granted Apr 5, '49

Progressive illuminating means, Leonard E. Ludvigsen, 2,487,714, 10 cl. Appl June 23, '47; granted Nov 8, '49

Progressive illuminating means, Leonard E. Ludvigsen, 2,487,715, 18 cl. Appl June 23, '47; granted Nov 8, '49

Progressive illuminating means, Richard H. Seaman, 2,487,734, 7 cl. Appl May 24, '47; granted Nov 8, '49

ILLUMINATION and PHOTOMETRY, Control Devices

Patents

Control apparatus for periodically energizing gaseous discharge devices, Homer A. Engle, 2,462,-371, 10 cl. Appl Mar 19, '47; granted Feb 22, '49

Control for vapor discharge tubes and electric arcs, Eugene H. Haug, 2,474,525, 5 cl. Appl Apr 3, '44; granted June 28, '49

Dimmer device for indicating lamps, Harold R. Kirkland, 2,474,677, 6 cl. Appl Apr 18, '44; granted June 28, '49

Light control, Kenneth L. Berninger and Chauncey H. Lowrey, 2,472,741, 12 cl. Appl Apr 16, '47; granted June 7, '49

Light intensity regulation, Gilbert J. Perlow and Glenn A. Johnson, 2,477,646, 4 cl. Appl May 3, '45; granted Aug 2, '49

Lighting control circuits, George C. Izenour, 2,463,-463, 31 cl. Appl Aug 28, '47; granted Mar 1, '49

Fluorescent

Compensated magnetic-leakage type transformer, William Foerste, 2,474,624, 4 cl. Appl Jan 14, '46; granted June 28, '49

Control switch for discharge lamps, Leonard W. Cook, 2,462,306, 6 cl. Appl Sep 17, '45; granted Feb 22, '49

Glow starting relay for fluorescent lamps, Charles H. Godgkins, 2,464,748, 4 cl. Appl June 14, '45; granted Mar 15, '49

Lighting transformer, Paul Berger, 2,472,140, 4 cl. Appl Aug 31, '45; granted June 7, '49

Means for controlling the operation of a plurality of gaseous discharge lamps, William Foerste, 2,460,-979, 7 cl. Appl July 30, '45; granted Feb 8, '49

Pulse starting circuit for electric discharge devices, John H. Campbell, 2,465,059, 5 cl. Appl Aug 13, '47; granted Mar 22, '49

Starting and operating circuit for electric discharge devices, William F. Hodge, 2,462,320, 5 cl. Appl Dec 7, '45; granted Feb 22, '49

Starting and operating circuits for electric discharge devices, Robert Victor Mills, 2,462,328, 7 cl. Appl June 9, '47; granted Feb 22, '49

Transformer, Ernest H. Freeman, 2,473,420, 5 cl. Appl Jan 26, '46; granted June 14, '49

Transformer, Ernest H. Freeman, 2,473,746, 1 cl. Appl June 24, '46; granted June 21, '49

Transformer, Paul Berger, 2,461,957, 8 cl. Appl Jan 26, '46; granted Feb 15, '49

Transformer, Paul Berger, 2,472,882, 7 cl. Appl Jan 26, '46; granted June 14, '49

ILLUMINATION and PHOTOMETRY, Fluorescent Lighting

Comparison of argon and krypton as a filling gas in fluorescent lamps. C. G. Found and W. J. Winninghoff. Illum Eng 44:161-166 Mar '49

Developments in fluorescent lighting. Diggelmann. Tech Mitt Schweiz 27:122-136 June '49. In French and German

Economics of fluorescent lighting. Richard G. Slauer. Elec Eng 68:330 Apr '49

Economics of fluorescent lighting. R. G. Slauer. Sylvan Tech 2:8-13 Apr '49

Fluorescent lamps. Electrician 143:1970-1971 Dec 16, '49

Fluorescent tubes for illumination. (I tubi fluorescenti per illuminazione) M. De Leva. Elettronica 4:143-147 July '49. Abstracts in French and English

ILLUMINATION and PHOTOMETRY, Fluorescent Lighting–Cont'd.

German fluorescent lamp industry and phospor chemical manufacture. German Industry Rep. BIOS 395 Brit Govt Pub

IES guide for life performance testing of fluorescent lamp, 1948. Illum Eng 44:411-413 July '49

How to dispose of fluorescent lamps safely. W. E. Rossnagel. Factory Management 107:93-94 June '49

Lighting and electronics. Westinghouse Eng 9:11-27 Jan '49

Low-mounted fluorescent sources for highway lighting. R. G. Slauer. Illum Eng 44:527-528 Sep '49

Luminescent tubes. (Les Tubes luminescents) S. Charpentier. Tech Mod pt 1 41:184-188 June '49; pt 2 41:215-219 July '49

Methods of application of luminescent lamps in illuminating equipment. E. B. Sheftel. Akad Nauk Izvest 13:287-293 Mar-Apr '49. In Russian

Notes on fluorescent lamps. R. G. Slauer. Elec World 131:94 June 4, '49

Practical aspects of cold cathode high-voltage lamps in decorative and general lighting. C. D. Brown and K. S. Morris. GEC Jour 15:88-103 July '48

Some factors affecting the life and lumen maintenance of fluorescent lamps. E. F. Lowry and E. L. Mager. Illum Eng 44:98-105 Feb '49

Spectral and color characteristics of radiation of luminescent lamps and methods of their control. D. A. Shklover. Akad Nauk Izvest 13:275-286 Mar-Apr '49. In Russian

Sunlight from electricity. Richard S. Sheetz. Westinghouse Eng 9:170-173 Nov '49

Temperature quenching and decay of fluorescence in zinc and zinc-beryllium silicates activated with manganese. F. A. Kroeger and W. Hoogenstraaten. Physica 15:557-568 July '49

Trends in fluorescent lamps. W. C. Brown. Elec Eng 68:857-860 Oct '49

Patents

Electric discharge device and method of operation. Harold Robert Ruff, 2,462,336, 6 cl. Appl Apr 10, '46; granted Feb 22, '49

Fluorescent lamp circuit. Lester J. Nevills, 2,483,225, 11 cl. Appl Oct 16, '47; granted Sep 27, '49

Fluorescent lamp fed by direct current. Joseph Maximus Pestarini, 2,484,246, 7 cl. Appl Nov 20, '46; granted Oct 11, '49

Fluorescent lamp socket, Harry Yale Mageoch and Andrew J. Shaback. 2,472,977, 3 cl. Appl Oct 25, '47; granted June 14, '49

Fluorescent light screen. August Adolph Behnke, 2,485,133, 8 cl. Appl Feb 4, '46; granted Oct 18, '49

Fluorescent tube lighting system, Max Nathanson, 2,465,031, 2 cl. Orig appl Aug 8, '46; divided and this appl Aug 23, '47; granted Mar 22, '49

Lighting fixture, Louis Gilman, 2,475,233, 9 cl. Appl Sep 13, '47; granted July 5, '49

Low-pressure electric discharge device. Clifton G. Found and Wilford J. Winninghoff, 2,473,642, 8 cl. Appl Jan 9, '48; granted June 21, '49

Luminescent tube system and apparatus, Charles Philippe Boucher, 2,461,029m 6 cl. Orig appl July 14, '41; divided and this appl Apr 12, '43; granted Feb 8, '49

Surface attached fluorescent lighting luminaire, Vearl S. Wince, 2,474,341, 13 cl. Appl Nov 29, '46; granted June 28, '49

Surface attached lighting equipment, Kurt Franck and Vearl S. Wince, 2,474,308, 10 cl. Appl Nov 29, '46; granted June 28, '49

Phosphors

Alkaline earth halophosphates and related phosphors. H. G. Jenkins and others. Electrochem Soc J 96:1-12 July '49

Calcium halophosphate phosphors. R. Nagy and others. Electrochem Soc J 95:187-193 Apr '49

Constitution of zinc beryllium silicate phosphors and its effect on their luminous properties. G. R. Fonda. Electrochem Soc J 95:304-315 June '49

Design of fluorescent lamp phosphors. K. H. Butler. Illum Eng 44:267-277 May '49

Double and triple activated magnesium pyrophosphate phosphors. H. C. Froelich. Electrochem Soc J 95:254-266 May '49

IES guide for electrical measurements of fluorescent lamps, 1948. Illum Eng 44:410-411 July '49

Intensity dependence of the efficiency of fluorescence of Willemite phosphors. W. Hoogenstraaten and F. A. Kroger. Physica 15:541-556 July '49

Long-term deterioration in certain phosphors exposed to the low pressure mercury arc. E. F. Lowry. Electrochem Soc J 95:242-253 May '49

Two new "red" phosphors. J. T. Anderson and R. S. Wells. Electrochem Soc J 95:299-303 June '49

Patents

Calcium silicate phosphor, James H. Schulman, 2,474,193, 5 cl. Appl Aug 29, '45; granted June 21, '49

Fluorescent products and methods of preparation thereof, Bennett S. Ellefson, 2,461,726, 8 cl. Appl Dec 8, '42; granted Feb 15, '49

See also

Atomic Measurements, Scintillation Counters, Phosphors

Cathode Ray Tubes, Screens

ILLUMINATION and PHOTOMETRY, Photometry

Measurement of light and colour. G. T. Winch. IEE Proc pt II 96:452-470 June '49

Measurement of radiation falling on a flat surface. E. R. Cooper. Jour Sci Instr 26:348-350 Oct '49

Measuring the green line of the night sky light by means of a photometer with a secondary electron multiplier. S. F. Rodionov and others. Akad Nauk Dok 66:55-57 '49. In Russian

Modern photometry of street lighting luminaires. G. A. Horton. Illum Eng 43:989-1014 Nov '48. Discussion 43:1270-1274 Dec '48

Measuring shadow and diffusion with the photoelectric meter. K. Norden. Illum Eng 44:607-611 Oct '49

Photoelectric photometry of small light fluxes. A. L. Osherovich and others. Zh Tekn Fiz 19:184-204 Feb '49. In Russian

Spectroradiometry. F. J. Studer and W. R. Jacobson. Gen Elec Rev 52:34-39 Oct '49

Television photometry and optical background. R. L. Kuehn. Tele-Tech 8:24-26+ July '49

ILLUMINATION and PHOTOMETRY, Photometry–Cont'd.

Meters

Accurate, simple recording microphotometer. (Letter) P. Rosenblum and A. DeBretteville, jr. Rev Sci Instr 20:321-323 Apr '49

Build this sensitive photometer. Glen Southworth. Radio & TV N 42:39-101+ Dec '49

Darkroom light meter. Stewart Becker. Electronics 22:91 Nov '49

Integrating photometer. Elec Rev 144:479 Mar 25, '49

Photoelectric brightness meter. Y. G. Hurd. Illum Eng 44:555-557 Sep '49

Provisional standard observer for low level photometry. K. S. Weaver. Opt Soc Am J 39:278+ Apr '49

Pulfrich-photometer (spectrophotometer and associate equipment). C. Zeiss. PB 98816

Patents

Combined ohmmeter and illumination meter, John H. Miller, 2,471,001, 5 cl. Appl Oct 2, '44; granted May 24, '49

Logarithmic photometer, Monroe Hamilton Sweet, 2,478,163, 8 cl. Appl Dec 30, '44; granted Aug 2, '49

Photoelectric measuring apparatus having a photocell on a permanent magnet, Anthony H. Lamb, 2,465,970, 8 cl. Appl Apr 2, '45; granted Mar 29, '49

Photometer, John H. Cornwall, 2,478,745, 15 cl. Appl Feb 4, '47; granted Aug 9, '49

Photometer lamp circuits providing a standard voltage, Robert William Gainer Hunt, 2,478,399, 1 cl. Appl Feb 12, '47; granted Aug 9, '49

Photometric apparatus and spectrophotometer using polarized light and an optically active plate, Edwin I. Stearns, jr. and George L. Buc, 2,471,248, 20 cl. Appl Mar 17, '48; granted May 24, '49

Photometric apparatus and spectrophotometer using polarized light and a multiple retardation plate, Edwin I. Stearns, jr. and George L. Buc, 2,471,249, 20 cl. Appl Dec 27, '47; granted May 24, '49

Photometric measurement of light values using automatic gain control in photomultiplier tubes, Glenn L. Dimmick, 2,474,098, 3 cl. Appl Mar 29, '46; granted June 21, '49

See also

Photoelectric Tubes

IMPEDANCE, Matching

Audio impedance matching. Walter Richter, Radio-Electronics pt 1 20:39-40 Feb '49; pt 2 20:41-42 Apr '49; pt 3 20:60-61 May '49

Broad-band dissipative matching structures for microwaves. Herbert J. Carlin. IRE Proc 37:644-650 June '49

Coaxial impedance matching links. F. E. Butterfield. Tele-Tech 8:29 Dec '49

Design of frequency-compensating matching sections. (Abstract) V. Rumsey. IRE Proc 37:164 Feb '49

Impedance matching. H. A. M. Clark. RSGB Proc 6:6-14 July '49

Impedance matching to improve images. (Scheinwiderstandsanpassung zur verbesserung der nachbildguete bei Anlagen mit Fernschraenken 36) Bayer. Fernmeldetech Zeit pp 41-43 Feb '49

Load match test. Heinz E. Kallmann. Electronics 22:142+ Apr '49

Matching a generator to its load. Arnold B. Bailey. Suc Serv 10:1+ Nov '49

Reducing standing waves. R. E. Grantham. Electronics 22:124+ Jan '49

Two-band antenna-matching networks. J. G. Marshall. QST pt 1 33:14-18 Oct '49; pt 2 33:48-51+ Nov '49

Patents

Electrical impedance matching apparatus, Bertram M. Harrison, 2,463,533, 7 cl. Appl Oct 14, '44; granted Mar 8, '49

Preassembled impedance unit, Donald H. Mitchell, 2,472,021, 2 cl. Orig appl Feb 20, '42; divided and this appl Feb 21, '45; granted May 31, '49

See also

Cathode Followers
Circuit Analysis
Transmission Lines
Waveguides

IMPEDANCE, Measurement

Automatic impedance meter. '47 PB 94784

Convenient method of measuring the losses in iron-cored coils. E. H. Frost-Smith. Jour Sci Instr 26:242-244 July '49

Design and construction of a comparison impedance bridge for frequencies of 40-270 mcs. W. C. Weatherley. IEE Proc pt III 96:429-432 Sep '49

Determination of internal impedance using semi-graphical procedure. R. W. Buchheim. Communications 29:8-9+ Oct '49

Direct reading meter. N. H. Crowhurst. Electronic Eng 21:22-24 Jan '49

Direct reading vector impedance bridge. Tele-Tech 8:40+ June '49

Experimental method of determining the relationship between current and time in an inductive circuit. E. H. Frost-Smith. Jour Sci Instr 26:241-242 July '49

High-frequency impedance plotter. Richard C. Raymond and Carl E. Drumheller. Electronics 22:128+ Mar '49

Home constructed impedance bridge. Desmond P. C. Thackeray. RSGB Bul 25:69-71 Sep '49

Impedance-admittance chart. T. D. Owens. Elec World 132:102 Aug 27, '49

Impedance of composite conductors. A. Rosen. Wireless Eng 26:267-275 Aug '49

Impedance measurement in decimetre wave band. Bengt Josephson. Kungl Tekn Hogsk Handl No 23 '48. Also in Acta Polyt No 35 and Elec Eng vol 2 No 3 '49

Impedance measurements with directional couplers and supplementary voltage probe. B. Parzen. Elec Comm 26:338-343 Dec '49

Instrument for plotting impedance loci of circuits at AF. (Ein Geraet zur Aufzeichnung der Ortskurven von Scheinwiderstaenden im Tonfrequenzbereich) Meyer. Tech Mitt Schweiz 27:164-168 Aug '49

IMPEDANCE, Measurement–Cont'd.

Notes on precise radio-frequency conductance measurement by resonant circuit techniques. E. O. Weaver. PB 98815

New bridges for impedance measurements at frequencies between 50 kc and 5 mc. R. A. Soderman. Gen Rad Exp vol 23 Mar '49

Radio bridges. (Puentes de radio) Rev Telecom pp 2-9 June '49

Reactance, impedance and phase. John T. Frye. Radio-Electronics pt 1 20:43-45 Sep '49; pt 2 21: 48-51 Oct '49. Also in Radio Times pt 1 4:18+ Oct 16, '49; pt 2 4:20-21 Nov 1, '49

Wide-range impedance bridge. R. P. Turner. Radio Ser Deal 10:12-13+ Nov '49

Patents

Alternating current impedance meter, Raymond G. Piety, 2,470,412, 13 cl. Appl Dec 7, '43; granted May 17, '49

Electrical impedance testing bridge, Dana A. Griffin, 2,468,398, 4 cl. Appl Aug 3, '43; granted Apr 26, '49

Method of and means for measuring impedance, Fred A. Muller, 2,490,827, 2 cl. Appl Aug 14, '45; granted Dec 13, '49

Method of measuring characteristic impedance of fittings for coaxial connectors, Chandler Stewart, jr., 2,459,197, 3 cl. Appl Aug 11, '44; granted Jan 18, '49

Radio-frequency testing circuit, Charles E. Dennis, 2,472,096, 7 cl. Appl Mar 1, '46; granted June 7, '49

Radio-frequency testing device, Philip H. Greeley, 2,471,033, 3 cl. Appl Mar 26, '46; granted May 24, '49

Reactance measuring device, Robert Lee Ringer, jr., 2,481,617, 1 cl. Appl June 23, '44; granted Sep 13, '49

See also

Bridges
Capacitance & Capacitors, Measurements
Inductance & Inductors, Measurements
Microwaves, Measurement
Resistance, Measurements & Calculations

INDUCTANCE and INDUCTORS

Approximate formulas for calculating the inductance of circular coils. (Formules approchees pour le calcul de l'inductance des bobines circulaires) E. Lofgren. Revue Gen Elec 58:305-314 Aug '49

Calculation of the Q factor of single layer coils. (Berechnung des Gueteverhaeltnisses von einlagigen Zylinderspulen) Benz. Elektrotech und Machinenb 66:7-12 Jan '49

Calculation of windings for RF cores. (Beitrag zur Bemessung der Wicklung von HF-Massekernspulen) Nitsche. Funk und Ton 3:320-327 June '49

Change of frequency and voltage. J. L. Watts. Elec Rev 145:693-697 Oct 14, '49

Compass compensating coils. R. A. Robinson. Elec Eng 68:11 Jan '49

Condensers in combination with magnetic coils. A. Buckley. Intl Proj 24:23-24+ Feb '49

Corrosion in multiple layer wound coils. H. Orr. Communications pt 1 29:22-23+ Jan '49; pt 2 29: 18-19+ July '49; pt 3 29:22-23 Aug '49

Effect of premagnetization of the complex permeability of coil cores. R. Feldkeller and E. Stegmaier. Eng Digest 10:376-381 Nov '49

Formulas and tables for the calculation of the magnetic field components of circular filaments and solenoids. Frederick W. Grover. AIEE Proc section 9167:1-11 July '49

Inductive reactor. Lawrence R. Walsh. CQ 5:33-34+ Apr '49

Leakage inductance. N. H. Crowhurst. Electronic Eng 21:129-134 Apr '49. Corresp. F. Nielson. 21: 351 Sep '49

Magnetic coils. L. G. Coonrod and others. Rev Sci Instr 20:408-410 June '49

Method for constructing an RF coil resonant at a specified frequency in a given circuit. D. J. Crowley and J. D. Dillion. PB 98750

Multilayer coil inductive chart. S. Sabaroff. Communications 29:18 Dec '49

Note on the inductance of screened single-layer solenoids. F. M. Phillips. IEE Proc pt III 96: 138+ Mar '49

Q-factor of single-layer coils. G. W. O. Howe. Wireless Eng 26:179-181 June '49

RF coil design using charts. Peter G. Sulzer. Communications 29:10-11 May '49

Saturable reactor an important control device. R. H. Muller. Anal Chem 21:23A-24A Aug '49

Standardization of reactor ratings. F. H. Kierstead and J. L. Thomason. AIEE Proc section 9190:1-4 July '49

Universal coil-winding graph. D. Arany and M. Macomber. Communications 29:28-29 Oct '49

Universal curves for DC controllable reactors. Walter C. Johnson and others. AIEE Proc section 94:1-10 Apr '49. Also in Elec Eng 68:417+ May '49

Use of air-core reactors as fault limiting means on high interrupting capacity controllers. John D. Leitch. AIEE Proc section 9117:1-7 Apr '49

Use of Bessel functions for calculating the self-inductance of single-layer solenoids. E. B. Moullin. IEE Proc pt III 96:133+ Mar '49

Use of ferrite-cored coils as converters, amplifiers, and oscillators. V. D. Landon. RCA Rev 10:387-396 Sep '49

Winding capacitance. N. H. Crowhurst. Electronic Eng 21:417-421 Nov '49

Patents

Adjustable delay line, John H. Rubel, and Roy E. Troell, 2,467,857, 2 cl. Appl Aug 12, '43; granted Apr 19, '49

Apparatus for covering electrical coils, George L. Weiser and Don E. Key, 2,484,600, 8 cl. Appl Oct 2, '48; granted Oct 11, '49

Coil supporting means, Edmund F. Lapham, jr., 2,474,259, 5 cl. Appl Feb 12, '45; granted June 28, '49

Electric induction apparatus, Guglielmo Camilli and Aram Boyajian, 2,467,807, 13 cl. Appl Nov 30, '44; granted Apr 19, '49

INDUCTANCE and INDUCTORS, *Patents*–Cont'd.

Electromagnetic induction apparatus and method of forming same, Gareth G. Somerville, 2,477,350, 5 cl. Appl Sep 11, '44; granted July 26, '49

Ferromagnetic variable high-frequency inductor, Wladimir J. Polydoroff, 2,462,423, 8 cl. Appl Sep 27, '44; granted Feb 22, '49

High-power permeability core inductance, George J. Maki, 2,458,282, 10 cl. Appl Nov 16, '46; granted Jan 4, '49

Inductance coil, Eugene R. Crippa, 2,457,806, 2 cl. Appl June 11, '46; granted Jan 4, '49

Induction coil, Elmer Warnken, 2,459,605, 4 cl. Appl Dec 4, '45; granted Jan 18, '49

Mercurial column controlled inductance, Harold I. Ewen, 2,491,486, 3 cl. Appl Mar 4, '47; granted Dec 20, '49

Method for making electrical coils, Pat A. D'Orio, 2,489,867, 5 cl. Appl June 13, '46; granted Nov 29, '49

Method of making ultra high frequency inductors, John L. Reinartz, 2,471,777, 3 cl. Orig appl Mar 27, '46; divided and this appl Mar 27, '47; granted May 31, '49

Modified variometer, George W. Fyler, 2,484,561, 3 cl. Appl Mar 26, '48; granted Oct 11, '49

Pick-off device for electrical control systems, Orland E. Esval, 2,484,022, 10 cl. Appl Mar 27, '45; granted Oct 11, '49

Reactor, Per Harry Elias Claesson, 2,471,411, 6 cl. Appl Jan 16, '45; granted May 31, '49

Reactor, Ralph A. Geiselman, 2,488,393, 4 cl. Appl Oct 12, '46; granted Nov 15, '49

Saturable reactor regulator, Uno Lamm, 2,477,990, 5 cl. Appl Aug 21, '47; granted Aug 2, '49

See also

Chokes

INDUCTANCE and INDUCTORS, Measurements

Alternating current bridge measurements on iron-cored coils. J. Grieg. Jour Sci Instr 26:268-269 Aug '49

Areas of search coils. J. DePangher and others. 16 pp June 19, '43; AECD 2666

Measurement of four-terminal inductances by Astbury's method. L. H. Ford. Jour Sci Instr 26: 108+ Mar '49

Simple methods of measuring inductance of air-core and powdered-iron-core coils. Cap 14:3-8 Apr '49

Patents

Electrical measuring system, Frederick G. Kelly, 2,461,425, 18 cl. Appl Jan 25, '46; granted Feb 8, '49

See also

Bridges
Impedance, Measurements

INDUCTANCE and INDUCTORS, Variable

High-Q variable reactances. J. N. Van Scoyoc and J. L. Murphy. Electronics 22:118+ Jan '49

Pot; induction potentiometer. J. Bell. Muirhead Technique 3:7-8 Jan '49

New decade inductor. H. W. Lamson. Gen Rad Exp 24:1-7 July '49

Patents

Adjustable inductor, James F. Gordon, 2,458,071, 6 cl. Appl Aug 1, '44; granted Jan 4, '49

Balanced variable reactance device, Robert V. Langmuir and Philip H. Peters, jr., 2,471,155, 9 cl. Appl June 7, '46; granted May 24, '49

Circuit arrangement for varying the inductance of coils, William Wigger Boelens, Gerard Hepp, Jacob van Slooten, and Bernardus W. van Ingen Schenzu, 2,488,370, 3 cl. Appl Nov 22, '46; granted Nov 15, '49

Coil having a slidable core and method of establishing the ratio between the maximum and minimum inductance theory, Theodorus Antonius Spoor, 2,474,761, 3 cl. Appl Apr 22, '46; granted June 28, '49

High-frequency inductive coupling, Pieter Harm Fennema, 2,475,829, 3 cl. Appl July 16, '46; granted July 12, '49

Temperature sensitive variable inductance, Allen G. Stimson, 2,460,773, 1 cl. Appl Dec 8, '44; granted Feb 1, '49

Tuning device, Eric O. Peterson and Edward W. Forstrom, 2,475,636, 5 cl. Appl Sep 20, '46; granted July 12, '49

Variable impedance device, Alfred Hertz, 2,471,817, 13 cl. Appl Aug 19, '42; granted May 31, '49

Variable inductance, Frank Wood, 2,462,822, 1 cl. Appl Apr 19, '46; granted Feb 22, '49

Variable inductance device, Charles F. P. Rose, 2,480,340, 6 cl. Appl Jan 7, '47; granted Aug 30, '49

Variable inductance device, Eugene C. Pierce, 2,480,671, 11 cl. Appl Aug 10, '46; granted Aug 30, '49

Variable inductance device, Lambert H. Lynn, 2,460,138, 7 cl. Appl June 27, '45; granted Jan 25, '49

Variable inductance device, Leonard O. Vladimir, 2,489,114, 3 cl. Appl Oct 12, '45; granted Nov 22, '49

Variable inductance device, Lorin David Grignon and Hilbert Garrison Wilkes, 2,463,170, 6 cl. Appl Dec 9, '46; granted Nov 1, '49

Variable inductance device, Wilfrid L. Atwood, 2,461,804, 3 cl. Appl Sep 18, '45; granted Feb 15, '49

Variable inductance tuning system, Leonard O. Vladimir, 2,475,637, 5 cl. Appl Sep 20, '46; granted July 12, '49

Variable induction coil, Gustav Guanella, 2,477,693, 6 cl. Appl Nov 2, '46; granted Aug 2, '49

Variable inductor, James F. Gordon, 2,483,197, 8 cl. Appl Feb 27, '48; granted Sep 27, '49

Variable inductor, Reginald Charles Henniker, 2,463,105, 2 cl. Appl Nov 26, '46; granted Mar 1, '49

Variable inductor, Robert S. Durry, jr., 2,466,690, 11 cl. Appl July 19, '44; granted Apr 12, '49

INDUSTRIAL APPLICATIONS

Advancement in industrial radiography. 3 pp MDDC 1491

IMPEDANCE, Measurement–Cont'd.

Notes on precise radio-frequency conductance measurement by resonant circuit techniques. E. O. Weaver. PB 98815

New bridges for impedance measurements at frequencies between 50 kc and 5 mc. R. A. Soderman. Gen Rad Exp vol 23 Mar '49

Radio bridges. (Puentes de radio) Rev Telecom pp 2-9 June '49

Reactance, impedance and phase. John T. Frye. Radio-Electronics pt 1 20:43-45 Sep '49; pt 2 21: 48-51 Oct '49. Also in Radio Times pt 1 4:18+ Oct 16, '49; pt 2 4:20-21 Nov 1, '49

Wide-range impedance bridge. R. P. Turner. Radio Ser Deal 10:12-13+ Nov '49

Patents

Alternating current impedance meter, Raymond G. Piety, 2,470,412, 13 cl. Appl Dec 7, '43; granted May 17, '49

Electrical impedance testing bridge, Dana A. Griffin, 2,468,398, 4 cl. Appl Aug 3, '43; granted Apr 26, '49

Method of and means for measuring impedance, Fred A. Muller, 2,490,827, 2 cl. Appl Aug 14, '45; granted Dec 13, '49

Method of measuring characteristic impedance of fittings for coaxial connectors, Chandler Stewart, jr., 2,459,197, 3 cl. Appl Aug 11, '44; granted Jan 18, '49

Radio-frequency testing circuit, Charles E. Dennis, 2,472,096, 7 cl. Appl Mar 1, '46; granted June 7, '49

Radio-frequency testing device, Philip H. Greeley, 2,471,033, 3 cl. Appl Mar 26, '46; granted May 24, '49

Reactance measuring device, Robert Lee Ringer, jr., 2,481,617, 1 cl. Appl June 23, '44; granted Sep 13, '49

See also

Bridges
Capacitance & Capacitors, Measurements
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Resistance, Measurements & Calculations

INDUCTANCE and INDUCTORS

Approximate formulas for calculating the inductance of circular coils. (Formules approchees pour le calcul de l'inductance des bobines circulaires) E. Lofgren. Revue Gen Elec 58:305-314 Aug '49

Calculation of the Q factor of single layer coils. (Berechnung des Gueteverhaeltnisses von einlagigen Zylinderspulen) Benz. Elektrotech und Machinenb 66:7-12 Jan '49

Calculation of windings for RF cores. (Beitrag zur Bemessung der Wicklung von HF-Massekernspulen) Nitsche. Funk und Ton 3:320-327 June '49

Change of frequency and voltage. J. L. Watts. Elec Rev 145:693-697 Oct 14, '49

Compass compensating coils. R. A. Robinson. Elec Eng 68:11 Jan '49

Condensers in combination with magnetic coils. A. Buckley. Intl Proj 24:23-24+ Feb '49

Corrosion in multiple layer wound coils. H. Orr. Communications pt 1 29:22-23+ Jan '49; pt 2 29: 18-19+ July '49; pt 3 29:22-23 Aug '49

Effect of premagnetization of the complex permeability of coil cores. R. Feldkeller and E. Stegmaier. Eng Digest 10:376-381 Nov '49

Formulas and tables for the calculation of the magnetic field components of circular filaments and solenoids. Frederick W. Grover. AIEE Proc section 9167:1-11 July '49

Inductive reactor. Lawrence R. Walsh. CQ 5:33-34+ Apr '49

Leakage inductance. N. H. Crowhurst. Electronic Eng 21:129-134 Apr '49. Corresp. F. Nielson. 21: 351 Sep '49

Magnetic coils. L. G. Coonrod and others. Rev Sci Instr 20:408-410 June '49

Method for constructing an RF coil resonant at a specified frequency in a given circuit. D. J. Crowley and J. D. Dillion. PB 98750

Multilayer coil inductive chart. S. Sabaroff. Communications 29:18 Dec '49

Note on the inductance of screened single-layer solenoids. F. M. Phillips. IEE Proc pt III 96: 138+ Mar '49

Q-factor of single-layer coils. G. W. O. Howe. Wireless Eng 26:179-181 June '49

RF coil design using charts. Peter G. Sulzer. Communications 29:10-11 May '49

Saturable reactor an important control device. R. H. Muller. Anal Chem 21:23A-24A Aug '49

Standardization of reactor ratings. F. H. Kierstead and J. L. Thomason. AIEE Proc section 9190:1-4 July '49

Universal coil-winding graph. D. Arany and M. Macomber. Communications 29:28-29 Oct '49

Universal curves for DC controllable reactors. Walter C. Johnson and others. AIEE Proc section 94:1-10 Apr '49. Also in Elec Eng 68:417+ May '49

Use of air-core reactors as fault limiting means on high interrupting capacity controllers. John D. Leitch. AIEE Proc section 9117:1-7 Apr '49

Use of Bessel functions for calculating the self-inductance of single-layer solenoids. E. B. Moullin. IEE Proc pt III 96:133+ Mar '49

Use of ferrite-cored coils as converters, amplifiers, and oscillators. V. D. Landon. RCA Rev 10:387-396 Sep '49

Winding capacitance. N. H. Crowhurst. Electronic Eng 21:417-421 Nov '49

Patents

Adjustable delay line, John H. Rubel, and Roy E. Troell, 2,467,857, 2 cl. Appl Aug 12, '43; granted Apr 19, '49

Apparatus for covering electrical coils, George L. Weiser and Don E. Key, 2,484,600, 8 cl. Appl Oct 2, '48; granted Oct 11, '49

Coil supporting means, Edmund F. Lapham, jr., 2,474,259, 5 cl. Appl Feb 12, '45; granted June 28, '49

Electric induction apparatus, Guglielmo Camilli and Aram Boyajian, 2,467,807, 13 cl. Appl Nov 30, '44; granted Apr 19, '49

NDUCTANCE and INDUCTORS, *Patents*-Cont'd.

Electromagnetic induction apparatus and method of forming same, Gareth G. Somerville, 2,477,350, 5 cl. Appl Sep 11, '44; granted July 26, '49

Ferromagnetic variable high-frequency inductor, Wladimir J. Polydoroff, 2,462,423, 8 cl. Appl Sep 27, '44; granted Feb 22, '49

High-power permeability core inductance, George J. Maki, 2,458,282, 10 cl. Appl Nov 16, '46; granted Jan 4, '49

nductance coil, Eugene R. Crippa, 2,457,806, 2 cl. Appl June 11, '46; granted Jan 4, '49

nduction coil, Elmer Warnken, 2,459,605, 4 cl. Appl Dec 4, '45; granted Jan 18, '49

Mercurial column controlled inductance, Harold I. Ewen, 2,491,486, 3 cl. Appl Mar 4, '47; granted Dec 20, '49

Method for making electrical coils, Pat A. D'Orio, 2,489,867, 5 cl. Appl June 13, '46; granted Nov 29, '49

Method of making ultra high frequency inductors, John L. Reinartz, 2,471,777, 3 cl. Orig appl Mar 27, '46; divided and this appl Mar 27, '47; granted May 31, '49

Modified variometer, George W. Fyler, 2,484,561, 3 cl. Appl Mar 26, '48; granted Oct 11, '49

Pick-off device for electrical control systems, Orland E. Esval, 2,484,022, 10 cl. Appl Mar 27, '45; granted Oct 11, '49

Reactor, Per Harry Elias Claesson, 2,471,411, 6 cl. Appl Jan 16, '45; granted May 31, '49

Reactor, Ralph A. Geiselman, 2,488,393, 4 cl. Appl Oct 12, '46; granted Nov 15, '49

Saturable reactor regulator, Uno Lamm, 2,477,990, 5 cl. Appl Aug 21, '47; granted Aug 2, '49

See also

Chokes

NDUCTANCE and INDUCTORS, Measurements

Alternating current bridge measurements on iron-cored coils. J. Grieg. Jour Sci Instr 26:268-269 Aug '49

Areas of search coils. J. DePangher and others. 16 pp June 19, '43; AECD 2666

Measurement of four-terminal inductances by Astbury's method. L. H. Ford. Jour Sci Instr 26: 108+ Mar '49

Simple methods of measuring inductance of air-core and powdered-iron-core coils. Cap 14:3-8 Apr '49

Patents

Electrical measuring system, Frederick G. Kelly, 2,461,425, 18 cl. Appl Jan 25, '46; granted Feb 8, '49

See also

Bridges
mpedance, Measurements

NDUCTANCE and INDUCTORS, Variable

High-Q variable reactances. J. N. Van Scoyoc and J. L. Murphy. Electronics 22:118+ Jan '49

pot; induction potentiometer. J. Bell. Muirhead Technique 3:7-8 Jan '49

New decade inductor. H. W. Lamson. Gen Rad Exp 24:1-7 July '49

Patents

Adjustable inductor, James F. Gordon, 2,458,071, 6 cl. Appl Aug 1, '44; granted Jan 4, '49

Balanced variable reactance device, Robert V. Langmuir and Philip H. Peters, jr., 2,471,155, 9 cl. Appl June 7, '46; granted May 24, '49

Circuit arrangement for varying the inductance of coils, William Wigger Boelens, Gerard Hepp, Jacob van Slooten, and Bernardus W. van Ingen Schenzu, 2,488,370, 3 cl. Appl Nov 22, '46; granted Nov 15, '49

Coil having a slidable core and method of establishing the ratio between the maximum and minimum inductance theory, Theodorus Antonius Spoor, 2,474,761, 3 cl. Appl Apr 22, '46; granted June 28, '49

High-frequency inductive coupling, Pieter Harm Fennema, 2,475,829, 3 cl. Appl July 16, '46; granted July 12, '49

Temperature sensitive variable inductance, Allen G. Stimson, 2,460,773, 1 cl. Appl Dec 8, '44; granted Feb 1, '49

Tuning device, Eric O. Peterson and Edward W. Forstrom, 2,475,636, 5 cl. Appl Sep 20, '46; granted July 12, '49

Variable impedance device, Alfred Hertz, 2,471,817, 13 cl. Appl Aug 19, '42; granted May 31, '49

Variable inductance, Frank Wood, 2,462,822, 1 cl. Appl Apr 19, '46; granted Feb 22, '49

Variable inductance device, Charles F. P. Rose, 2,480,340, 6 cl. Appl Jan 7, '47; granted Aug 30, '49

Variable inductance device, Eugene C. Pierce, 2,480,671, 11 cl. Appl Aug 10, '46; granted Aug 30, '49

Variable inductance device, Lambert H. Lynn, 2,460,138, 7 cl. Appl June 27, '45; granted Jan 25, '49

Variable inductance device, Leonard O. Vladimir, 2,489,114, 3 cl. Appl Oct 12, '45; granted Nov 22, '49

Variable inductance device, Lorin David Grignon and Hilbert Garrison Wilkes, 2,463,170, 6 cl. Appl Dec 9, '46; granted Nov 1, '49

Variable inductance device, Wilfrid L. Atwood, 2,461,804, 3 cl. Appl Sep 18, '45; granted Feb 15, '49

Variable inductance tuning system, Leonard O. Vladimir, 2,475,637, 5 cl. Appl Sep 20, '46; granted July 12, '49

Variable induction coil, Gustav Guanella, 2,477,693, 6 cl. Appl Nov 2, '46; granted Aug 2, '49

Variable inductor, James F. Gordon, 2,483,197, 8 cl. Appl Feb 27, '48; granted Sep 27, '49

Variable inductor, Reginald Charles Henniker, 2,463,105, 2 cl. Appl Nov 26, '46; granted Mar 1, '49

Variable inductor, Robert S. Durry, jr., 2,466,690, 11 cl. Appl July 19, '44; granted Apr 12, '49

INDUSTRIAL APPLICATIONS

Advancement in industrial radiography. 3 pp MDDC 1491

INDUSTRIAL APPLICATIONS–Cont'd.

Application of electricity to signalling for road transport (Progress review). IEE Proc 96:178+ May '49

Application of nuclear radiation to industry. (Abstract) John R. Menke. IRE Proc 37:168 Feb '49

Control wood press. Vin Zeluff. Electronics 22: 146-148+ Sep '49

Cuts materials handling costs 15 Pct. E. L. Haase. Iron Age 163:82-84 May 26, '49

Discussion on "electrical aspects of overhead travelling cranes." IEE Proc pt 2 96:66+ Feb '49

Dynamical balance of rotating shafts by electronic means. (L'equilibrage des pieces tournantes au moyen d'un appareillage electronique) Genie Civil 126:262-265 July 15, '49

Electronic aids to industry: a survey prepared by the Technical Committee. Brit IRE J 9:446-464 Dec '49

Electronic printing. Wireless Eng 181:28-29 Nov '49

Electronic control for milk pasteurization. Vin Zeluff. Electronics 22:158 Jan '49

Electronics and its application in industry and research. B. Lovell. Uspekhi Fiz Nauk 34:457-458 '48. In Russian

Electronics in industry. Electrician 141:1593 Nov 26, '48

Electronics in heavy engineering. W. Wilson. Brit IRE J 9:278-305 Aug '49

Electro-fragmentation process. D. W. Rudorff. Eng Digest 10:306-308 Sep '49

Electronics in the rubber industry. R. Stoltz. Rubber Age 64:592-595 Feb '49

Electronics in the service of industry. Radio Tech Dig 3:105-113 Apr '49. In French

Electronics in war and peace. Electrician 143:814 Sep 9, '49

Electrostatic dry cleaning of coal for carbon electrode manufacture. German Industry Rep. CIOS XXXIII-6 Brit Govt Pub

Electronic units now control flow of blending ingredients in New York flour mill. Food Ind 21: 734-736 June '49

High frequency and infrared in food processing. (Hochfrequenz und Infrarot in der Lebensmittelverarbeitung) Elektron Wiss und Tech 3:279-284 July '49

Improving sewage treatment plant operation with new type electronic control. H. M. Fitch. Sewage Works J 21:896-900 Sep '49

Industrial applications of electronic techniques. IEE Proc pt I 96:323-324 Nov '49

Industrial electrical research in Germany. German Industry Rep. BIOS 1730 (51-7275-30) Brit Govt Pub

Industrial exploration and development. J. F. D. Smith. Elec Eng 68:777-781 Sep '49

Livestock weighed by electronic equipment. Vin Zeluff. Electronics 22:116-134 Nov '49

Make fullest use of electrical equipment; meters, instruments and communications equipment. G. A. Van Brunt. Factory Management 107:82-87 Aug '49

Method for determining the mercury content of air. H. van Suchtelen and others. Philips Tech Rev 11:91-97 Sep '49

Plastic electrets are nearing industrial application. T. A. Dickinson. Eng Digest 10:321-322 Sep '49

Positive feed permits high-speed packaging of small parts. Product Eng 20:104-105 Oct '49

Practical electronic circuits for industry. T. H. Flowers and J. R. Tillman. Nature 163:549+ Apr 9, '49

Protective atmospheres in industry. A. G. Hotchkiss and H. M. Webber. Gen Elec Rev pt 3 52:37-44 Feb '49; pt 4 52:25-30 Mar '49; pt 5 52:25-28 Apr '49; pt 6 52:30-37 May '49; pt 7 52:33-41 June '49; pt 8 52:32-40 July '49; pt 9 52:26-29 Aug '49; pt 10 52:38-43 Sep '49

Radio-directed trucks supplying aggregate stone to Mount Morris Dam. Roads & Streets 92:52-54 Oct '49

Railroad track inspection car. R. D. Walker, jr. Electronics 22:66-68 Oct '49

Sales operations facilitated; electronic addressing machine. H. H. Berry. Elec World 131:52-54 Jan 1, '49

Skytyping. William Eisner and Rolf K. Hansen. Electronics. 22:72-74 Dec '49

Some industrial applications of thyratrons. (Quelques applications industrielles des thyratrons) P. Maguer and R. Aschen. Electronique No 28: 2-5 Jan-Feb '49

Studies in the use of a high frequency oscillator in electrodeless electrotitrations. M.S. thesis. John R. Horsey. Ohio State U Ch.E. Dept Mar '49

Thermoelectric experiments with extreme-pressure lubricants. Robert Schnurmann. Jour Ap Phys 20:376+ Apr '49

Thread tension transducer. Mark T. Nadir. Oscillographer 11:12-14 July-Sep '49

Trend of affairs, graphic arts research. Tech Rev 52:17-22+ Nov '49

Truck control by radio. Factory Management 107: 73 Feb '49

Two-way radio expedites concrete deliveries. D. Mocine. Rock Prod 52:101-102 Sep '49

Use of radio by water departments: radio-wire service. F. E. Dolson. Am Water Works Ass J 41: 896-900 Oct '49

Use of radio by water departments: selecting FM equipment. A. Damiano. Am Water Works Ass J 41:893-896 Oct '49

Vacuum control of evacuated cans by vibration frequency measurements. (Le controle du vide dans une boite par mesure de la frequence propre des vibrations) Genie Civil 126:148-149 Apr 15 '49

Veneering machine. S. M. Milanowski. Electronics 22:136-138+ Sep '49

Washing clothes with sound waves. Vin Zeluff. Electronics 22:150-152 Sep '49

Patents

Cathodic protection system, Walter F. Bonner 2,483,397, 4 cl. Appl Aug 13, '45; granted Oct 2, '49

Continuous strip furnace, Albert N. Otis, 2,491,828 1 cl. Appl Mar 2, '49; granted Dec 20, '49

Electrical fence charging apparatus, William F. Fagen, 2,475,883, 5 cl. Appl July 29, '44; granted July 12, '49

Fence charging circuit, Lee A. Woolley, 2,471,993 2 cl. Appl Feb 7, '46; granted May 31, '49

NDUSTRIAL APPLICATIONS, *Patents*–Cont'd.

'rocess and apparatus for electronographic printing, William C. Huebner, 2,483,462, 23 cl. Appl May 3, '45; granted Oct 4, '49

'ropagation of radio waves through a tunnel, John P. Shanklin, 2,478,133, 1 cl. Appl July 31, '46; granted Aug 2, '49

'ail flaw detector mechanism, Harcourt C. Drake, 2,477,971, 8 cl. Appl Mar 8, '44; granted Aug 2, '49

'eference apparatus, Thomas M. Ferrill, jr., 2,479,-562, 12 cl. Appl Aug 2, '46; granted Aug 23, '49

'eperforator, James A. Spencer, Thomas J. Merson and Lewis A. Thomas, 2,492,504, 8 cl. Orig appl Feb 15, '47; divided and this appl Jan 24, '49; granted Dec 27, '49

table reference apparatus, Thomas M. Ferrill, jr., 2,479,563, 13 cl. Appl Aug 2, '46; granted Aug 23, '49

'raffic detecting apparatus, Paul N. Martin, 2,492,-388, 8 cl. Appl Nov 27, '45; granted Dec 27, '49

See also

ıdustrial Controls
ıdustrial Heating
Ianufacturing Techniques
'hotoelectric Tubes, Devices
'hotographic Applications
'elevision, Industrial Applications
'est Equipment
'-Rays, Applications

NDUSTRIAL APPLICATIONS, Automotive

'avity resonance measures volume changes. Product Eng 20:93 Jan '49

'lectrical equipment advances car road performance testing. W. A. McConnell. SAE Jour 57:27-30 July '49

elenium rectifiers in motor vehicle power systems. Glen Ramsey. AIEE Proc section 946:1-5 Apr '49

Patents

ıpproach alarm system, George F. Robinson, 2,492,-182, 7 cl. Appl Apr 12, '46; granted Dec 27, '49

'lectric control system for vehicle ride stabilizing equipment, George R. Purifoy, 2,473,903, 5 cl. Appl Apr 23, '48; granted June 21, '49

'lectrical apparatus, John V. McNulty, 2,472,671, 10 cl. Appl Mar 15, '45; granted June 7, '49

'lectrical control device, Royal V. O'Reilly, 2,464,-886, 7 cl. Appl Aug 8, '46; granted Mar 22, '49

gnition system, Brooks H. Short, 2,463,123, 2 cl. Appl Aug 18, '45; granted Mar 1, '49

gnition system, Brooks H. Short, 2,475,994, 1 cl. Appl May 14, '46; granted July 12, '49

gnition system, Brooks H. Short, 2,475,995, 4 cl. Appl Oct 11, '46; granted July 12, '49

gnition system, Brooks H. Short and Herman L. Hartzell, 2,474,550, 6 cl. Appl Sep 19, '47; granted June 28, '49

gnition system, Max Theodore Wintsch, 2,476,128, 7 cl. Appl Sep 11, '45; granted July 12, '49

gnition timer testing apparatus, Floyd J. Foust, Olven W. Dhildress, jr., and Rupert C. Whelchel, 2,484,560, 4 cl. Appl June 3, '48; granted Oct 11, '49

ndicating device, Jack D. McCullough, 2,471,968, 6 cl. Appl June 4, '45; granted May 31, '49

Means for detecting presence and movement of bodies, John L. Barker, 2,477,567, 22 cl. Appl Oct 7, '44; granted Aug 2, '49

Preignition detection and control, Vincent C. Davis, 2,467,732, 5 cl. Appl Aug 30, '44; granted Apr 19, '49

Resonant spark plug, Oran T. McIlvaine, 2,461,168, 19 cl. Appl July 11, '44; granted Feb 8, '49

See also

Interference, Ignition

INDUSTRIAL APPLICATIONS, Chemical

Application of feedback electronic control to automatic continuous titration. R. R. Austin and others. Instruments 22:588-589 July '49

Automatic chemical analyzer. Vin Zeluff. Electronics 22:116+ June '49

Cathode ray tubes may become indispensable to analyst. R. H. Muller. Anal Chem 21:17A-18A July '49

Circuit and constructional details of the precision electronic pH control system. J. E. Breeze. NRC 1889

Developing an indicator for H_2S equipment. R. T. Croft. Brit IRE J 9:75+ Feb '49

Employment of rectified radio-frequency currents for acid-base determinations. G. G. Blake. Chem & Ind p 741 Oct 22, '49

Micrometrics lab. Chem Ind 65:542-544 Oct '49

Precision electronic pH control. J. E. Breeze. NRC 1823

Processes completely automatized in new PPG chemical plant. Instruments 22:679 Aug '49

Reciprocator. W. C. White and H. W. Lord. Electronics 22:70-71 Nov '49

Some recent advances in radiochemistry. H. J. Emeleus. Nature 163:624 Apr 23, '49

Unusual power pack improves spectrochemical analysis. W. O. Everling. Elec World 132:83-84 July 30, '49

Where do we go from here? Electronics in electroplating. J. B. Kushner. Metal Finishing 47:48-51+ Sep '49

Patents

Apparatus for continuous analysis of fluid mixtures, Eugene J. Rosenbaum, 2,468,638, 5 cl. Appl Jan 17, '45; granted Apr 26, '49

Apparatus for electrically transforming materials, William J. Cotton, 2,468,174, 8 cl. Appl May 6, '43; granted Apr 26, '49

Apparatus for electrochemical transformation of materials, William J. Cotton, 2,468,175, 16 cl. Appl June 15, '43; granted Apr 26, '49

Apparatus for subjecting material to the action of split electrical discharges, Earl T. Denton, 2,468,-176, 5 cl. Appl Aug 6, '43; granted Apr 26, '49

Apparatus for the electrochemical transformation of materials, William J. Cotton, 2,468,173, 12 cl. Appl Apr 29, '43; granted Apr 26, '49

Automatic agitator for apparatus subjecting liquid to electrical potential between electrodes, 2,470,-741, 6 cl. Appl May 26, '45; granted May 17, '49

Automatic electric regulation of electroplating apparatus, William Few, 2,488,856, 2 cl. Appl Nov 24, '43; granted Nov 22, '49

INDUSTRIAL APPLICATIONS, Chemical, *Patents*–Cont'd.

Conductivity control, E. Craig Thomson, 2,468,791, 5 cl. Appl June 30, '45; granted May 3, '49

Control system for electrolytic processes, Glenn E. Stoltz and John R. Erbe, 2,473,918, 13 cl. Appl Dec 8, '42; granted June 21, '49

Electroplating control system, Martin A. Edwards, 2,463,254, 1 cl. Appl Dec 16, '43; granted Mar 1, '49

Measurement of electrochemical potentials, Frank George Paully, 2,483,299, 8 cl. Appl Aug 25, '45; granted Sep 27, '49

Method of and apparatus for effecting the electrochemical transformation of material in the presence of antenna electrodes, William J. Cotton, 2,468,177, 16 cl. Appl Aug 17, '43; granted Apr 26, '49

Method of coating electrical devices, Robert W. De Monte, 2,459,018, 4 cl. Appl Mar 22, '45; granted Jan 11, '49

See also

Batteries
Instrumentation, Chemical

INDUSTRIAL APPLICATIONS, Iron and Steel

Application of electronics in the iron and steel industry. W. M. McKee and D. A. Lamont. Iron & Steel Eng 26:59-67 Aug '49

Automatic and semi-automatic rolling systems. (Les systemes automatiques et semi-automatiques de serrage) Tech Mod 41:74-76 Mar '49

Extensometer continuously records percent of extension on new strip temper pass mill. Instruments 22:226+ Mar '49

Geiger counter finds a new use in analyzing steel. Iron Age 164:99 Sep 22, '49

Spectroscopy speeds routine stainless-steel analyses. Instruments 22:232-233 Mar '49

Steel plant communications. W. P. Place. Iron & Steel Eng 25:94-97 Nov '48

See also

Measurements & Meters, Temperature

INDUSTRIAL APPLICATIONS, Mining

Applicability of radio to emergency mine communications. E. W. Felegy and E. J. Coggeshall. U.S. Bur Mines Rep R.I. 4294 May '48 U.S. Govt Pub

Electronic control applied in automatic mine pumping. L. Hanson and W. B. Clark. Eng & Min J 149:94-96 Nov '48

How mining men are using electronics today. J. A. Setter. Eng & Min J pt 1 150:75-79 Apr '49; pt 2 150:72-75 June '49; pt 3 150:84-87 Sep '49

New communication systems for mines. (Neuartige Moeglichkeiten der Nachrichtenuebermittlung im Bergbau) Burgholz. Fernmeldetech Zeit pp 353-357 Nov '49

INDUSTRIAL APPLICATIONS, Petroleum

Application of magnetism to the purifying of lubricating oil. (Une interessante application du magnetisme les filtres a huile) Electronique 37: 21-25 Nov '49

Continuous electronic water-content measurements in oilfield emulsions. P. O. Engelder. Instruments 22:1063+ Nov '49

Microwave multichannel radio system for pipe lines. W. T. Bulla. Pet Eng 21:D16+ Mar '49

Oil industry leads the field in radio use. Oil & Gas J 48:47 Nov 17, '49

Pipe line telephone systems. W. E. Church. Pet Eng 21:D58+ Mar '49

Radar in pipe line surveying: system of aerial surveying with a camera working on the radar principle. World Oil 129:199 Oct '49

Radio communications for pipe line systems. W. T. Bulla. Oil & Gas J 48:292-294 Oct 6, '49

Well-drilling control. Vin Zeluff. Electronics 22: 162+ Mar '49

See also

Geophysical Applications

INDUSTRIAL APPLICATIONS, Precipitation

Dust precipitators (Lurgi electro.) German Industry Rep. BIOS 242 Brit Govt Pub

Dust removal from boiler flue gases. German Industry Rep. BIOS 336 Brit Govt Pub

Electrically charged dust in rooms. G. W. Penney and G. W. Hewitt. AIEE Proc section 974:1-5 Apr '49

Electro-filter (Lurgi) cold gas and hot-gas dust precipitators. German Industry Rep. BIOS 242 Brit Govt Pub

Electrostatic precipitation. (La precipitation electrostatique) M. Poittevin. Revue Gen Elec 58:255-260 July '49

Some notes on electro-precipitation in Germany. German Industry Rep. BIOS 1785 (51-7275-85) Brit Govt Pub

Patents

Electrical precipitator, Hans Klemperer, 2,469,231, 12 cl. Appl June 20, '46; granted May 3, '49

Electrical precipitator, Hans Klemperer, 2,489,786, 5 cl. Appl June 20, '46; granted Nov 29, '49

Electrostatic precipitator system, Morris Newman, 2,462,890, 14 cl. Appl Oct 30, '43; granted Mar 1, '49

INDUSTRIAL APPLICATIONS, Textile

Adequate instrumentation aids materially in production of high quality textiles. E. A. Bentley. Instrumentation 4:8-11 July '49

Capacitance method of measuring wear. Radio & TV N 42:11-20 July '49

Electronic instrument for measuring weight variations in slivers, rovings, and yarns. G. N. Boyd. Textile Inst J Trans 40:T407-T423 July '49

Electronic micrometer records yarn variations Textile World 99:146 July '49

Electrostatic air cleaning in the textile industry. C. H. McWhirter and R. P. Posey. Elec Eng 68: 783-786 Sep '49

Knots counted rapidly without yarn breakage Textile World 99:143 May '49

New instruments for textile measurements. Vin Zeluff. Electronics 22:126+ Jan '49

NDUSTRIAL APPLICATIONS, Textile-Cont'd.

lew method of measuring wear of textiles. Instruments 22:724-726 Aug '49

luperior control possible with electronics. K. Selden, jr. Textile World 99:137+ May '49

Patents

:ontrol for loom electronic systems, Victor F. Sepavich and John C. Manoog, 2,466,332, 2 cl. Appl July 26, '46; granted Apr 5, '49

:lectric control system for circular looms, Victor Marie Joseph Ancet, 2,465,829, 7 cl. Appl May 6, '47; granted Mar 29, '49

:lectric filling stop motion for looms, Victor F. Sepavich, 2,482,943, 10 cl. Appl June 15, '48; granted Sep 27, '49

:lectric weft detector for looms, John C. Manoog and Walter H. Wakefield, 2,462,326, 16 cl. Appl Sep 9, '46; granted Feb 22, '49

:lectrical seaming apparatus, Norman V. Christensen, 2,458,059, 9 cl. Appl Sep 15, '44; granted Jan 4, '49

leat-treating fabric, Wendell H. Shields, 2,485,072, 1 cl. Appl July 22, '46; granted Oct 18, '49

Motor-driven letoff for looms, Raymond F. Dion, 2,465,071, 4 cl. Appl July 26, '46; granted Mar 22, '49

Photoelectric weft straightener, George B. Dunn, 2,492,737, 6 cl. Appl Apr 8, '48; granted Dec 27, '49

NDUSTRIAL APPLICATIONS, Welding

Arc welding equipment and applications. German Industry Rep. FIAT 497 Brit Govt Pub

Branching of welding materials and network equilibrium. (Le branchement des materiels de soudage electrique et l'equilibrage des reseaux) A. Gaubert. Tech Mod pt 1 41:281-288 Sep '49; pt 2 41:323-327 Oct '49; pt 3 41:362-367 Nov '49

Butt-welding equipment and application. German Industry Rep. FIAT 497 Brit Govt Pub

Circuit analysis of frequency-changer welders. W. K. Birce. Welding J 28:946-956 Oct '49

German resistance welding equipment and developments. A. R. Harris and others. PB 97200

nstrumentation for the evaluation of the stability of the welding arc. Lauriston P. Winsor and L. McDonald Schetky. AIEE Proc section 9131:1-9 July '49

Instruments for studying the welding arc. L. P. Winsor and others. Elec Eng 68:873 Oct '49

Leak detector tests welded tanks. V. Zeluff. Electronics 22:122-124 Oct '49

Metal-arc welder is fully automatic. Product Eng 20:83 Oct '49

Novel developments in design and operation of AC welding plant. E. C. Davies. GEC Jour 15:111-122 July '48

Power analysis of AC welders. F. B. Mead. Westinghouse Eng 9:40-41 Mar '49

Progress in arc welding. C. P. Croco. Westinghouse Eng 9:34-39 Mar '49

Radio interference suppression of high frequency arc welder. S. L. Shive. PB 97469

Recent developments in welding equipment, controls announced. Materials & Methods 30:102-104 Sep '49

Remote control uses saturable reactor. S. Oestreicher. Elec World 131:90 June 4, '49

Significance of speed in automatic arc welding. J. H. Hruska. Iron Age 163:98-102 Mar 10, '49

Three-phase control improves weld. Materials & Methods 30:82+ Nov '49

X-ray examination of materials and application to shipyard welding. T. J. Heal. Research 2:119-126 Mar '49

Patents

Alternating current arc welding system, Emil F. Steinert and Charles H. Jennings, 2,473,917, 6 cl. Appl Feb 13, '48; granted June 21, '49

Apparatus for and method of percussive welding, Alfred B. White, 2,473,927, 16 cl. Appl May 7, '46; granted June 21, '49

Apparatus for controlling heat in electric welding, George E. Kentis, jr., 2,464,402, 1 cl. Appl June 29, '44; granted Mar 15, '49

Apparatus for electric welding, John W. Dawson, 2,480,635, 4 cl. Appl Aug 10, '45; granted Aug 30, '49

Apparatus for electromagnetically controlling welding arcs, George G. Landis and Norman J. Hoenie, 2,472,851, 4 cl. Appl Sep 23, '44; granted June 14, '49

Apparatus for resistance welding, Edward J. Zulinski and Robert Barley, 2,458,758, 4 cl. Appl Nov 6, '44; granted Jan 11, '49

Apparatus for stabilizing the electric welding arc, Glenn J. Gibson, 2,475,183, 3 cl. Appl June 9, '48; granted July 5, '49

Apparatus for welding, Alexander Rava, 2,464,528, 7 cl. Appl June 20, '46; granted Mar 15, '49

Arc welding apparatus, Kenneth N. Fromm, 2,482,-473, 9 cl. Appl Nov 3, '48; granted Sep 20, '49

Arc welding machine, James K. Nyburg, 2,468,570, 19 cl. Appl May 10, '46; granted Apr 26, '49

Arc welding system, Alfred B. White, 2,473,928, 6 cl. Appl Nov 30, '46; granted June 21, '49

Arc welding with controlled current pulses, Lester D. Drugmand, 2,484,155, 9 cl. Appl Mar 27, '48; granted Oct 11, '49

Argon-gas-blanketed alternating electric current arc welding aluminum and the alloys thereof with a tungsten electrode and superimposed high-frequency high-voltage electric current, Wilbur B. Miller, 2,475,357, 1 cl. Appl Dec 23, '44; granted July 5, '49

Automatic electric fusion welding apparatus and process, John A. Kratz, 2,460,990, 9 cl. Appl Feb 5, '46; granted Feb 8, '49

Condenser welding system, Hans Klemperer, 2,472,-110, 18 cl. Appl Feb 1, '40; granted June 7, '49

Condenser welding system, Hans Klemperer, 2,473,-799, 4 cl. Appl Jan 16, '47; granted June 21, '49

Condenser welding system, Hans Klemperer, 2,477,-622, 12 cl. Appl May 1, '45; granted Aug 2, '49

Condenser welding system, John W. Dawson, 2,483,-691, 17 cl. Appl Jan 6, '40; granted Oct 4, '49

Cyclic electric welder and the like, George J. Lexa, 2,476,882, 6 cl. Appl Apr 19, '47; granted July 19, '49

Electric arc welding, Joseph M. Tyrner, 2,458,658, 19 cl. Appl Apr 20, '44; granted Jan 11, '49

INDUSTRIAL APPLICATIONS, Chemical, *Patents*–Cont'd.

Conductivity control, E. Craig Thomson, 2,468,791, 5 cl. Appl June 30, '45; granted May 3, '49

Control system for electrolytic processes, Glenn E. Stoltz and John R. Erbe, 2,473,918, 13 cl. Appl Dec 8, '42; granted June 21, '49

Electroplating control system, Martin A. Edwards, 2,463,254, 1 cl. Appl Dec 16, '43; granted Mar 1, '49

Measurement of electrochemical potentials, Frank George Paully, 2,483,299, 8 cl. Appl Aug 25, '45; granted Sep 27, '49

Method of and apparatus for effecting the electrochemical transformation of material in the presence of antenna electrodes, William J. Cotton, 2,468,177, 16 cl. Appl Aug 17, '43; granted Apr 26, '49

Method of coating electrical devices, Robert W. De Monte, 2,459,018, 4 cl. Appl Mar 22, '45; granted Jan 11, '49

See also

Batteries
Instrumentation, Chemical

INDUSTRIAL APPLICATIONS, Iron and Steel

Application of electronics in the iron and steel industry. W. M. McKee and D. A. Lamont. Iron & Steel Eng 26:59-67 Aug '49

Automatic and semi-automatic rolling systems. (Les systemes automatiques et semi-automatiques de serrage) Tech Mod 41:74-76 Mar '49

Extensometer continuously records percent of extension on new strip temper pass mill. Instruments 22:226+ Mar '49

Geiger counter finds a new use in analyzing steel. Iron Age 164:99 Sep 22, '49

Spectroscopy speeds routine stainless-steel analyses. Instruments 22:232-233 Mar '49

Steel plant communications. W. P. Place. Iron & Steel Eng 25:94-97 Nov '48

See also

Measurements & Meters, Temperature

INDUSTRIAL APPLICATIONS, Mining

Applicability of radio to emergency mine communications. E. W. Felegy and E. J. Coggeshall. U.S. Bur Mines Rep R.I. 4294 May '48 U.S. Govt Pub

Electronic control applied in automatic mine pumping. L. Hanson and W. B. Clark. Eng & Min J 149:94-96 Nov '48

How mining men are using electronics today. J. A. Setter. Eng & Min J pt 1 150:75-79 Apr '49; pt 2 150:72-75 June '49; pt 3 150:84-87 Sep '49

New communication systems for mines. (Neuartige Moeglichkeiten der Nachrichtenuebermittlung im Bergbau) Burgholz. Fernmeldetech Zeit pp 353-357 Nov '49

INDUSTRIAL APPLICATIONS, Petroleum

Application of magnetism to the purifying of lubricating oil. (Une interessante application du magnetisme les filtres a huile) Electronique 37: 21-25 Nov '49

Continuous electronic water-content measurements in oilfield emulsions. P. O. Engelder. Instruments 22:1063+ Nov '49

Microwave multichannel radio system for pipe lines. W. T. Bulla. Pet Eng 21:D16+ Mar '49

Oil industry leads the field in radio use. Oil & Gas J 48:47 Nov 17, '49

Pipe line telephone systems. W. E. Church. Pet Eng 21:D58+ Mar '49

Radar in pipe line surveying: system of aerial surveying with a camera working on the radar principle. World Oil 129:199 Oct '49

Radio communications for pipe line systems. W. T. Bulla. Oil & Gas J 48:292-294 Oct 6, '49

Well-drilling control. Vin Zeluff. Electronics 22: 162+ Mar '49

See also

Geophysical Applications

INDUSTRIAL APPLICATIONS, Precipitation

Dust precipitators (Lurgi electro.) German Industry Rep. BIOS 242 Brit Govt Pub

Dust removal from boiler flue gases. German Industry Rep. BIOS 336 Brit Govt Pub

Electrically charged dust in rooms. G. W. Penney and G. W. Hewitt. AIEE Proc section 974:1-5 Apr '49

Electro-filter (Lurgi) cold gas and hot-gas dust precipitators. German Industry Rep. BIOS 242 Brit Govt Pub

Electrostatic precipitation. (La precipitation electrostatique) M. Poittevin. Revue Gen Elec 58:255-260 July '49

Some notes on electro-precipitation in Germany. German Industry Rep. BIOS 1785 (51-7275-85) Brit Govt Pub

Patents

Electrical precipitator, Hans Klemperer, 2,469,231, 12 cl. Appl June 20, '46; granted May 3, '49

Electrical precipitator, Hans Klemperer, 2,489,786, 5 cl. Appl June 20, '46; granted Nov 29, '49

Electrostatic precipitator system, Morris Newman, 2,462,890, 14 cl. Appl Oct 30, '43; granted Mar 1, '49

INDUSTRIAL APPLICATIONS, Textile

Adequate instrumentation aids materially in production of high quality textiles. E. A. Bentley. Instrumentation 4:8-11 July '49

Capacitance method of measuring wear. Radio & TV N 42:11-20 July '49

Electronic instrument for measuring weight variations in slivers, rovings, and yarns. G. N. Boyd. Textile Inst J Trans 40:T407-T423 July '49

Electronic micrometer records yarn variations Textile World 99:146 July '49

Electrostatic air cleaning in the textile industry. C. H. McWhirter and R. P. Posey. Elec Eng 68: 783-786 Sep '49

Knots counted rapidly without yarn breakage Textile World 99:143 May '49

New instruments for textile measurements. Vin Zeluff. Electronics 22:126+ Jan '49

NDUSTRIAL APPLICATIONS, Textile-Cont'd.

lew method of measuring wear of textiles. Instruments 22:724-726 Aug '49

Superior control possible with electronics. K. Selden, jr. Textile World 99:137 | May '49

Patents

Control for loom electronic systems, Victor F. Sepavich and John C. Manoog, 2,466,332, 2 cl. Appl July 26, '46; granted Apr 5, '49

Electric control system for circular looms, Victor Marie Joseph Ancel, 2,465,829, 7 cl. Appl May 6, '47; granted Mar 29, '49

Electric filling stop motion for looms, Victor F Sepavich, 2,482,943, 10 cl. Appl June 15, '48; granted Sep 27, '49

Electric weft detector for looms, John C. Manoog and Walter H. Wakefield, 2,462,326, 16 cl. Appl Sep 9, '46; granted Feb 22, '49

Electrical seaming apparatus, Norman V Christensen, 2,458,059, 9 cl. Appl Sep 15, '44; granted Jan 4, '49

Heat-treating fabric, Wendell H. Shields, 2,485,072, 1 cl. Appl July 22, '46; granted Oct 18, '49

Motor-driven letoff for looms, Raymond F Dion, 2,465,071, 4 cl. Appl July 26, '46; granted Mar 22, '49

Photoelectric weft straightener, George B. Dunn, 2,492,737, 6 cl. Appl Apr 8, '48; granted Dec 27, '49

NDUSTRIAL APPLICATIONS, Welding

Arc welding equipment and applications. German Industry Rep. FIAT 497 Brit Govt Pub

Branching of welding materials and network equilibrium. (Le branchement des materiels de soudage electrique et l'equilibrage des reseaux) A. Gaubert. Tech Mod pt 1 41:281-288 Sep '49; pt 2 41:323-327 Oct '49; pt 3 41:362-367 Nov '49

Butt-welding equipment and application. German Industry Rep. FIAT 497 Brit Govt Pub

Circuit analysis of frequency-changer welders. W. K. Birce. Welding J 28:946-956 Oct '49

German resistance welding equipment and developments. A. R. Harris and others. PB 97200

nstrumentation for the evaluation of the stability of the welding arc. Lauriston P. Winsor and L. McDonald Schetky. AIEE Proc section 9131:1-9 July '49

Instruments for studying the welding arc. L. P. Winsor and others. Elec Eng 68:873 Oct '49

Leak detector tests welded tanks. V. Zeluff. Electronics 22:122-124 Oct '49

Metal-arc welder is fully automatic. Product Eng 20:83 Oct '49

Novel developments in design and operation of AC welding plant. E. C. Davies. GEC Jour 15:111-122 July '48

Power analysis of AC welders. F. B. Mead. Westinghouse Eng 9:40-41 Mar '49

Progress in arc welding. C. P. Croco. Westinghouse Eng 9:34-39 Mar '49

Radio interference suppression of high frequency arc welder. S. L. Shive. PB 97469

Recent developments in welding equipment, controls announced. Materials & Methods 30:102-104 Sep '49

Remote control uses saturable reactor. S. Oestreicher. Elec World 131:90 June 4, '49

Significance of speed in automatic arc welding. J. H. Hruska. Iron Age 163:98-102 Mar 10, '49

Three-phase control improves weld. Materials & Methods 30:824 Nov '49

X-ray examination of materials and application to shipyard welding. T. J. Heal. Research 2:119-126 Mar '49

Patents

Alternating current arc welding system, Emil F. Steinert and Charles H. Jennings, 2,473,917, 6 cl. Appl Feb 13, '48; granted June 21, '49

Apparatus for and method of percussive welding, Alfred B. White, 2,473,927, 16 cl. Appl May 7, '46; granted June 21, '49

Apparatus for controlling heat in electric welding, George E. Kentis, jr., 2,464,462, 1 cl. Appl June 29, '44; granted Mar 15, '49

Apparatus for electric welding, John W. Dawson, 2,480,635, 4 cl. Appl Aug 10, '45; granted Aug 30, '49

Apparatus for electromagnetically controlling welding arcs, George G. Landis and Norman J. Hoenie, 2,472,851, 4 cl. Appl Sep 23, '44; granted June 14, '49

Apparatus for resistance welding, Edward J. Zulinski and Robert Barley, 2,458,758, 4 cl. Appl Nov 6, '44; granted Jan 11, '49

Apparatus for stabilizing the electric welding arc, Glenn J. Gibson, 2,475,183, 3 cl. Appl June 9, '48; granted July 5, '49

Apparatus for welding, Alexander Rava, 2,464,528, 7 cl. Appl June 20, '46; granted Mar 15, '49

Arc welding apparatus, Kenneth N. Fromm, 2,482,-473, 9 cl. Appl Nov 3, '48; granted Sep 20, '49

Arc welding machine, James K. Nyburg, 2,468,570, 19 cl. Appl May 10, '46; granted Apr 26, '49

Arc welding system, Alfred B. White, 2,473,928, 6 cl. Appl Nov 30, '46; granted June 21, '49

Arc welding with controlled current pulses, Lester D. Drugmand, 2,484,155, 9 cl. Appl Mar 27, '48; granted Oct 11, '49

Argon-gas-blanketed alternating electric current arc welding aluminum and the alloys thereof with a tungsten electrode and superimposed high-frequency high-voltage electric current, Wilbur B. Miller, 2,475,357, 1 cl. Appl Dec 23, '44; granted July 5, '49

Automatic electric fusion welding apparatus and process, John A. Kratz, 2,460,990, 9 cl. Appl Feb 5, '46; granted Feb 8, '49

Condenser welding system, Hans Klemperer, 2,472,-110, 18 cl. Appl Feb 1, '40; granted June 7, '49

Condenser welding system, Hans Klemperer, 2,473,-799, 4 cl. Appl Jan 16, '47; granted June 21, '49

Condenser welding system, Hans Klemperer, 2,477,-622, 12 cl. Appl May 1, '45; granted Aug 2, '49

Condenser welding system, John W. Dawson, 2,483,-691, 17 cl. Appl Jan 6, '40; granted Oct 4, '49

Cyclic electric welder and the like, George J. Lexa, 2,476,882, 6 cl. Appl Apr 19, '47; granted July 19, '49

Electric arc welding, Joseph M. Tyrner, 2,458,658, 19 cl. Appl Apr 20, '44; granted Jan 11, '49

INDUSTRIAL APPL., Welding, *Patents*–Cont'd.

Electric welding apparatus, Albert C. Fletcher and Donald Lloyd, 2,464,679, 4 cl. Appl Oct 16, '45; granted Mar 15, '49

Electrical control system, Otis R. Carpenter and Frank W. Armstrong, jr., 2,458,503, 6 cl. Appl Nov 9, '46; granted Jan 11, '49

Electrical system, Hans Klemperer, 2,464,239, 3 cl. Appl Jan 25, '46; granted Mar 15, '49

Electrical welding control system, Chester F. Leathers, 2,464,935, 13 cl. Appl Feb 8, '45; granted Mar 22, '49

Electronic control for welding machines, Julius L. Solomon, 2,469,934, 6 cl. Appl Aug 26, '44; granted May 10, '49

Electronic control system utilizing automatic phase shift, Robert L. Ringer, jr., 2,458,644, 4 cl. Appl Aug 6, '43; granted Jan 11, '49

Heating and welding system, Joseph Slepian and Alfred B. White, 2,473,915, 27 cl. Appl June 21, '41; granted June 21, '49

Magnetic control system, Albert M. Candy, 2,460,-921, 15 cl. Appl Aug 17, '46; granted Feb 8, '49

Method and apparatus for electric welding, John W. Dawson, 2,459,795, 5 cl. Appl June 4, '45; granted Jan 25, '49

Method of and apparatus for electric welding, Chester F. Leathers and Louis M. Benkert, 2,464,-981, 11 cl. Appl June 15, '42; granted Mar 22, '49

Method of electric resistance seam welding bi-metallic element, George W. Crise, 2,481,087, 2 cl. Appl Dec 7, '44; granted Sep 6, '49

Method of welding by induction heating, Wesley M. Roberds, 2,478,640, 5 cl. Appl June 14, '46; granted Aug 9, '49

Process of welding can lock seams with high-frequency current, Alfred Vang, 2,484,973, 7 cl. Appl Oct 12, '43; granted Oct 18, '49

Protective system for three-phase single-phase machines, David Sciaky, 2,474,867, 8 cl. Appl Dec 20, '45; granted July 5, '49

Resistance welding system, John W. Dawson, 2,472,-095, 30 cl. Appl Sep 10, '40; granted June 7, '49

Resistance welding system, John W. Dawson, 2,473,-575, 25 cl. Appl Feb 21, '40; granted June 21, '49

Rheostat for welding, Paul S. Greider, 2,472,205, 2 cl. Appl Feb 14, '47; granted June 7, '49

Three-phase welding device, David Sciaky, 2,474,-866, 11 cl. Appl Oct 22, '45; granted July 5, '49

Weld control system, Henry Richard Davies, 2,472,-041, 14 cl. Appl Mar 31, '44; granted May 31, '49

Welding controller, George J. Lexa, 2,491,413, 8 cl. Appl July 25, '46; granted Dec 13, '49

Welding current indicator and lockout, Edwin M. Callender, Robert S. Phair and Herbert D. Van Sciver, 2,470,067, 5 cl. Appl Feb 24, '44; granted May 10, '49

Welding generator safety circuit, Harold J. Graham, 2,486,274, 9 cl. Appl May 1, '48; granted Oct 25, '49

Welding system, Alfred B. White, 2,470,668, 11 cl. Appl May 7, '46; granted May 17, '49

Welding system, Clyde E. Smith, 2,477,211, 5 cl. Appl Dec 16, '43; granted July 26, '49

Welding system, John H. England, 2,459,153, 7 cl. Appl May 28, '45; granted Jan 18, '49

Welding system, John H. England, 2,459,154, 13 cl. Appl May 28, '45; granted Jan 18, '49

Welding system, John W. Dawson, 2,459,796, 3 cl. Appl June 21, '45; granted Jan 25, '49

Welding system, John W. Dawson, 2,473,576, 6 cl. Appl June 2, '45; granted June 21, '49

Welding timer, Arnold M. Skudre, 2,480,678, 6 cl. Appl July 26, '47; granted Aug 30, '49

Welding transformer control system, Didier Journeaux, 2,486,165, Appl Apr 24, '46; granted Oct 25, '49

Welding transformer control system, Didier Journeaux, 2,486,166, 6 cl. Appl Apr 25, '46; granted Oct 25, '49

INDUSTRIAL CONTROLS

Automatic control of moisture. Ralph V. Coles. Electronics 22:82-86 Nov '49

Automatic lighting control of a vehicular tunnel. (Commande automatique de l'eclairage d'un tunnel routier) J. Raux. Tech Mod 41:372-373 Nov '49

By a flick of the finger. W. A. Derr. Westinghouse Eng 9:162-165 Nov '49

Control systems — electrical types. B. G. A. Skrotski. Power 93:93-106 Dec '49

Drimeter; automatic moister control equipment. Electronic Eng 21:10-12 Jan '49

Driving and controlling a modern strip pickling line. J. R. Erbe. Iron Age 163:46-50 Jan 13, '49

Electrical controls in thread-grinder design. E. V. Flanders. Mech Eng 71:381-388 May '49

Electrical controls with hydraulic coupling. (Commandes electrique avec accouplements hydrauliques) Tech Mod 41:103 Mar '49

Electromagnetic clutches simplify machine control. J. A. Mason and L. A. Leiffer. Machine Design 21:107-110 June '49

Electromagnetic controls in industry. (Les methodes de controle electromagnetique dans l'industrie) C. de Lafon. Electronique 36:1-5 Oct '49

Elementary wiring diagrams for machine analysis. M. Morgan. Product Eng 20:121-126 Aug '49

Fundamentals of automatic control. W. Oppelt. Eng Digest pt 1 10:184-189 June; pt 2 10:237-241 July; pt 3 10:317-321 Sep '49

Highly sensitive DC controlling and measuring device. German Industry Rep. FIAT 954 Brit Govt Pub

How to apply and maintain pilot devices. J. M. Harney. Factory Management 107:83-86 Apr '49

Humidistat control. Service 10:222 July '49

Industrial electronic control. German Industry Rep. BIOS 1198 Brit Govt Pub

Maintenance of electronic regulators. H. W. Gayek. Power Pl Eng 53:73-75+ Mar '49

Make fullest use of electrical equipment; electronic devices. G. A. Van Brunt. Factory Management 107:84-85 Aug '49

Mechanical aspects of electronic assemblies. L. Hillman. Product Eng 20:134-137 May '49

New Brown electronic relay for electrical proportional control. R. J. Ehret. Instrumentation 4:28-29 July '49

NDUSTRIAL CONTROLS–Cont'd.

Oscillator circuits as used in industry. Ed Bukstein. Radio-Electronics 20:27-28 Apr '49; also in Radiowelt 4:33-35 May '49. In German

Packaged electronic control unit. G. C. Wilson. Electronics 22:116+ June '49

Remote supervisory control of power distribution systems. A. Baker. GEC J 15:80-87 July '48

Study of nonlinear systems of autoregulation by the method of joining the tested objects to an electro-integrator. G. L. Polisar. Akad Nauk Izvest 3: 384-395 '49. In Russian

Voltage surges in relay control circuits. T. R. Halman and L. K. Harris. Elec Eng 68:327 Apr '49

Patents

Automatic shaft controlling apparatus, Richard W. May, 2,466,776, 15 cl. Appl Dec 14, '46; granted Apr 12, '49

Bridge circuit control system, William A. Ray, 2,491,906, 5 cl. Appl Dec 26, '44; granted Dec 20, '49

Circuit control apparatus, Owen L. Taylor, 2,486,343, 10 cl. Appl Nov 29, '47; granted Oct 25, '49

Compensating system, Irving R. Taylor and Lars Larssen, 2,485,675, 2 cl. Appl Aug 1, '45; granted Oct 25, '49

Condition control apparatus with automatic reset, 2,466,716, 13 cl. Appl Feb 10, '48; granted Apr 12, '49

Control apparatus, Robert J. Kutzler, 2,491,380, 3 cl. Appl July 15, '44; granted Dec 13, '49

Control circuit, John E. Young, 2,479,584, 5 cl. Appl Mar 15, '45; granted Aug 16, '49

Control circuit, Samuel C. Coroniti, 2,492,685, 4 cl. Orig appl July 28, '43; divided and this appl June 7, '44; granted Dec 27, '49

Control circuit, Thomas K. Collins, jr., 2,459,624, 6 cl. Appl Mar 29, '45; granted Jan 18, '49

Control circuits for alternating current transmission networks, Eugene O. Keizer, 2,488,410, 10 cl. Appl Jan 26, '45; granted Nov 15, '49

Control device, Allen R. Davidson, 2,490,679, 7 cl. Appl Mar 31, '45; granted Dec 6, '49

Control device, William D. Cockrell, 2,469,860, 5 cl. Appl Dec 8, '44; granted May 10, '49

Control mechanism for laundry marking machines, William John Keuper, 2,482,420, 17 cl. Appl July 7, '44; granted Sep 20, '49

Control of arcing electrodes, Wilson M. Brubaker, 2,476,808, 11 cl. Appl Feb 21, '48; granted July 19, '49

Control system, George H. Gordon, 2,472,157, 17 cl. Appl Nov 1, '45; granted June 7, '49

Control system, Ralph J. Dochenburger, 2,478,279, 2 cl. Appl July 7, '45; granted Aug 9, '49

Control system, Willard G. Cook, 2,476,839, 14 cl. Appl June 19, '49

Controller for electric motor-driven traveling devices, Elvind U. Lassen, 2,462,755, 20 cl. Sub for appl Aug 13, '43; this appl Aug 12, '44; granted Feb 22, '49

Controlling system for condition regulators, Walter Leslie Hunt, 2,471,872, 14 cl. Appl Sep 9, '43; granted May 31, '49

Cyclic control, George J. Lexa, 2,487,150, 7 cl. Appl Apr 29, '48; granted Nov 8, '49

Electric control circuit, Walther Richter, 2,489,155, 22 cl. Appl Dec 30, '44; granted Nov 22, '49

Electric control circuits, Edward M. Gardiner, 2,460,-127, 3 cl. Appl July 2, '46; granted Jan 25, '49

Electric control system, Cletus J. Collom, 2,480,000, 15 cl. Appl Dec 6, '46; granted Aug 23, '49

Electric controlling system, Fred B. Aubert, 2,459,-356, 2 cl. Appl June 19, '46; granted Jan 18, '49

Electric detection apparatus, William F. Wolfner, II, 2,483,450, 3 cl. Orig appl May 19, '41; divided and this appl Oct 3, '44; granted Oct 4, '49

Electric motor control proportioning system, Charles W. Klug, 2,474,679, 1 cl. Appl June 19, '44; granted June 28, '49

Electrical apparatus, Stanley Breen, 2,466,634, 19 cl. Appl Aug 13, '46; granted Apr 5, '49

Electrical control, Edward M. Sorensen, 2,462,913, 8 cl. Appl Aug 18, '43; granted Mar 1, '49

Electrical control system, Gustav E. Undy, 2,484,-767, 16 cl. Appl July 26, '43; granted Oct 11, '49

Electrical control system, Keith E. Barwick, 2,482,-892, 12 cl. Appl Oct 18, '46; granted Sep 27, '49

Electrical control system and method of operation, James W. Peeples, 2,462,546, 9 cl. Appl Sep 19, '45; granted Feb 22, '49

Electronic control, Elmer K. Wagner, 2,479,881, 24 cl. Appl Dec 22, '45; granted Aug 23, '49

Electronic control apparatus, Anthony Winther, 2,458,454, 1 cl. Orig appl May 4, '44; divided and this appl Apr 29, '46; granted Jan 4, '49

Electronic control device responsive to rate of change of a condition, John L. Lindesmith, 2,484,-005, 7 cl. Appl Nov 17, '43; granted Oct 18, '49

Electronic energy conversion and control system, James B. Reeves, 2,459,340, 25 cl. Appl Apr 14, '44; granted Jan 18, '49

Electronic tension control apparatus, Anthony Winther, 2,469,706, 18 cl. Appl May 4, '44; granted May 10, '49

Fuel-air ratio control system, Sherman M. Fairchild, 2,482,254, 5 cl. Appl Nov 8, '44; granted Sep 20, '49

Fuel-air ratio control system and elastic fluid-mass flow measuring system useful therein, David W. Moore, jr., 2,488,221, 13 cl. Appl Mar 16, '45; granted Nov 15, '49

Fuel pressure responsive burner controlling apparatus, Fred B. Aubert, 2,484,008, 25 cl. Appl Nov 1, '45; granted Oct 11, '49

Fully automatic desurfacing control system, Homer W. Jones and Edward Meincke, 2,479,624, 4 cl. Appl Oct 6, '45; granted Aug 23, '49

Half cycle detector for electronic controls, Edward C. Hartwig, 2,491,975, 11 cl. Appl May 12, '48; granted Dec 20, '49

High-speed sequence control, William B. Hills, 2,492,749, 10 cl. Appl Sep 8, '48; granted Dec 27, '49

Liquid level control, David M. Comb, 2,477,511, 7 cl. Appl June 4, '48; granted July 26, '49

Measurement or variation of physical states of materials, Maurice Kenyon Taylor, 2,460,199, 2 cl. Appl Oct 21, '46; granted Jan 25, '49

Measuring and controlling apparatus, Rudolf F. Wild, 2,490,010, 20 cl. Appl Feb 1, '47; granted Nov 29, '49

INDUSTRIAL CONTROLS, *Patents*–Cont'd.

Method and apparatus for the automatic control of machinery, Eric W. Leaver and George R. Mounce, 2,475,245, 19 cl. Appl May 1, '47; granted July 4, '49

Motion and position control device, Charles F. Kezer, 2,484,573, 5 cl. Appl Oct 16, '46; granted Oct 11, '49

Motion-picture projection arc monitor, Volney G. Mathison, 2,487,024, 7 cl. Appl Dec 3, '48; granted Nov 1, '49

Object controlling electric motor system, Orland E. Esval and Percy Halpert, 2,487,793, 22 cl. Appl Dec 18, '46; granted Nov 15, '49

Pattern controlled machine tool, Fred A. Parsons, 2,476,214, 15 cl. Appl Aug 18, '47; granted July 12, '49

Pin control for web folding machines, Nathaniel Bishop, 2,486,703, 9 cl. Appl Mar 13, '47; granted Nov 1, '49

Ratio control apparatus, Paul Glass, 2,491,725, 5 cl. Appl May 28, '46; granted Dec 20, '49

Remote indicating system, Charles Richard Paul Stonor, 2,479,704, 2 cl. Appl Aug 4, '45; granted Aug 23, '49

Safety control and ignition system for fuel burners, Charles K. Strobel, 2,486,340, 14 cl. Appl Dec 19, '46; granted Oct 25, '49

Supply system for liquids, Stanley J. Smith, 2,478,-671, 7 cl. Appl July 9, '47; granted Aug 9, '49

Tool induction elimination apparatus for electric control circuits, Edwin M. Callender, 2,486,552, 13 cl. Appl Dec 6, '47; granted Nov 1, '49

See also

Industrial Applications
Industrial Heating
Photoelectric Tubes, Devices
Remote Control
Servomechanisms
Test Equipment

INDUSTRIAL CONTROLS, Photoelectric

Automatic controller with photocell tap and differential amplifier. Gerner. PB 37156t

Barrier-type photo-cell amplifier. T. A. Ledward. Electrician 143:2036-2042 Dec 23, '49

Controlling cutting tip clearance. H. G. Hughey and R. B. Steele. Welding J 28:239-242 Mar '49

Electric eye controls trick traffic signals. Eng N 142:19 Mar 10, '49

Electronic smoke control for stairwells. Heat & Ven 46:130 Feb '49

Here are know-how rules for photoelectric-relay applications. E. Jellinek. Power 93:82-83 Feb '49

Lateral control of strip materials by photocells. Electronic Eng 21:318 Sep '49

Photocell device adjusts heat input to laboratory stillput. Pet Processing 4:185-186 Feb '49

Photocells measure and control gas. W. H. Schaeffer. Electronics 22:85-87 Sep '49

Photoelectric control. Am Dyestuff Rep 38:690 Sep 18, '49

Photo-electric control of furnace flames. Engineering 167:596 June 24, '49

Photoelectric control of furnaces. F. C. Todd. Electronics 22:80+ Feb '49

What you can do with photoelectric relays and how to do it. E. Jellinek. Power 93:76-78 Jan '49

Patents

Automatic light control, William D. Fleming, 2,472,-815, 1 cl. Appl Aug 23, '46; granted June 14, '49

Headlight dimming system, Ernest H. Schmidt, jr., 2,476,389, 7 cl. Appl May 23, '47; granted July 19, '49

Photoelectric control apparatus, Stephen L. Burgwin and Francis T. Bailey, 2,480,835, 10 cl. Appl Dec 10, '46; granted Sep 6, '49

Safety current supply for photo-electric light sources, Eliot A. Cranch, 2,464,074, 1 cl. Appl Apr 8, '47; granted Mar 8, '49

Two-dimensional photoelectric sorting, David C. Cox, 2,474,230, 11 cl. Appl Jan 23, '48; granted June 28, '49

See also

Photoelectric Tubes, Devices

INDUSTRIAL CONTROLS, Position

Patents

Angle measuring mechanism, Fred E. Harris, Andrew S. Hegeman, jr., Donald H. Mitchell, and Harry N. Snook, 2,473,682, 5 cl. Appl Apr 26, '46; granted June 21, '49

Control, Donald R. Putt, 2,474,861, 39 cl. Appl July 1, '40; granted July 5, '49

Electric remote-control system, Jean M. Roberts, 2,475,461, 7 cl. Appl Feb 12, '45; granted July 5, '49

Electromechanical position control apparatus, Ralph V. L. Hartley, 2,488,291, 9 cl. Cont of appl Feb 11, '44; this appl Nov 30, '46; granted Nov 15, '49

Gyro flux valve compass system, Caesar F. Fragola and Reginald V. Craddock, 2,473,516, 4 cl. Appl May 29, '43; granted June 14, '49

Method and means for imparting feel back to a manually-movable control element, Dwight Dee De Nise, 2,475,484, 10 cl. Appl May 14, '46; granted July 5, '49

Multispeed control apparatus, Michel N. Yardeny, 2,475,270, 9 cl. Appl Dec 4, '43; granted July 5, '49

Multispeed selector mechanism, Michel N. Yardeny, 2,475,271, 3 cl. Appl Dec 10, '43; granted July 5, '49

Position control system, Francis L. Moseley and William T. Cooke, 2,480,157, 21 cl. Appl Mar 16, '35; granted Aug 30, '49

Self-synchronous flux valve system, Reginald V. Craddock and Robert S. Curry, jr., 2,475,593, 13 cl. Appl Aug 28, '45; granted July 12, '49

Self-synchronous positioning control, George E. Sorensen, 2,477,012, 8 cl. Appl June 13, '46; granted July 26, '49

See also

Remote Control
Servomechanisms

INDUSTRIAL CONTROLS, Process

Circuit and constructional details of the precision electronic pH control system. J. E. Breeze. 12: 113 PB 97670

NDUSTRIAL CONTROLS, Process-Cont'd.

Electrical measuring and controlling instruments in the hydrogenntion plant. PB 95134. In German

Electronic controls remove processing guesswork. C. W. Bowden, jr. Textile World 99:124-125 Oct '49

How Sinclair plans tomorrow's processes today. D. M. Considine and C. E. Sharp. Instrumentation 4:3-7 July '49

Instrumentation and process control. R. W. Cermak. Chem Ind 65:530-533 Oct '49

Planning for automatic process control. Electronics 22:72-79 Oct '49

Process control by graphic panel. D. M. Boyd. Instruments 22:1054-1057 Nov '49

Some application factors affecting the regulation of pH in industry. A. L. Chaplin. Instruments 22: 1107+ Dec '49

Wide-angle spectrometer aids process control. Product Eng 20:84 Oct '49

Patents

Automatic system of process control by infrared spectrometry, Norman D. Coggeshall, 2,462,946, Appl Apr 11, '47; granted Mar 1, '49

Coiling machine controller, Douglas W. Fath, 2,474,-620, 7 cl. Appl Apr 12, '47; granted June 28, '49

Process control system, Otto F. Ritzmann, 2,462,995, 3 cl. Appl Apr 11, '47; granted Mar 1, '49

See also

Industrial Heating
Manufacturing Techniques
Test Equipment, Product Testing

INDUSTRIAL CONTROLS, Temperature

Automatic temperature regulator using an electronic relay. (Regulateur automatique utilisant un relais electronique) J. Raux. Tech Mod 41:308-309 Sep '49

Automatic temperature stabilizer. Robert Rudin. Electronics 22:144+ Feb '49

Effects of sulphur content and dewpoint of flue gases upon boiler operation. S. Juhasz. Eng Digest 10:192 June '49

Helium cryostat temperature control. I. Simon. Rev Sci Instr 20:832-833 Nov '49

Home-made temperature cabinet finds many uses. Elec World 131:106 Feb 12, '49

Thermistor continuous temperature control for biological research. C. J. Dickinson. Electronic Eng 21:408-409 Nov '49

Thermoid Company employs *Time-Pattern* in critical stage of processing. C. Murphy. Instrumentation 4:14-15 July '49

Vacuum tubes serve as refrigeration controls. D. M. Comb. Refrig Eng 56:508-510 Dec '48

What's inside temperature control. D. Fidelman. Am Mach pt 1 93:94-97 Mar 24, '49; pt 2 93:112-115 Apr 7, '49

Patents

Automatic control system, Ronald Reid, 2,473,905, 7 cl. Appl July 12, '46; granted June 21, '49

Automatic stoker motor control responsive to space and combustion temperature conditions, John M. Wilson, 2,482,739, 19 cl. Appl Apr 18, '45; granted Sep 20, '49

Control apparatus, George F. Jenkins, 2,487,556, 5 cl. Appl Oct 8, '45; granted Nov 8, '49

Control circuits, James E. Gannon, 2,467,084, 3 cl. Appl June 1, '46; granted Apr 12, '49

Control for electric blankets or the like, George C. Crowley and Philip Klein, 2,479,319, 4 cl. Appl July 12, '47; granted Aug 16, '49

Electric temperature control, Harry W. A. Chalberg, 2,475,309, 2 cl. Appl Feb 20, '47; granted July 5, '49

Electronic temperature control for warming blankets and the like, Alfred J. Huck, 2,490,965, 3 cl. Appl Dec 9, '47; granted Dec 13, '49

Heat regulating apparatus, Robert Amsler, 2,474,798, 3 cl. Appl Jan 18, '41; granted June 28, '49

High-frequency apparatus for automatically regulating temperature in tempering of magnetizable material, Bernard Michel, 2,464,336, 5 cl. Appl Aug 9, '46; granted Mar 15, '49

Regulating system, Clarence L. Mershon, 2,488,422, 7 cl. Appl Dec 30, '47; granted Nov 15, '49

Supercharger compression temperature control system, Hubert T. Sparrow, 2,474,018, 12 cl. Appl Apr 28, '45; granted June 21, '49

Temperature control system, Robert P. Burleigh, jr., 2,488,580, 4 cl. Appl Mar 7, '46; granted Nov 22, '49

Temperature regulating system, Clarence L. Mershon, 2,462,207, 5 cl. Appl May 28, '47; granted Feb 22, '49

Temperature regulating system, Clarence L. Mershon, 2,465,312, 5 cl. Appl Dec 30, '47; granted Mar 22, '49

Temperature system for Pasteurizers, John I. Hall, 2,465,532, 1 cl. Appl Oct 20, '47; granted Mar 29, '49

Thermoelectric apparatus, Robert H. Postal, 2,477,-348, 2 cl. Appl June 1, '45; granted July 26, '49

See also

Measurements & Meters, Temperature
Thermocouples

INDUSTRIAL CONTROLS, Timing

Controlling machines with electronic counters. E. B. Hitchcock. Machine Design 21:112-117 May '49

Electronic process timer. Engineer 188:264 Sep 2, '49

Electronic timing circuits. Norman L. Chalfin. Radio-Electronics 20:50-51 Feb '49

Frequency-monitoring system for interval timers. Instruments 22:1012 Nov '49

Homemade electronic time relay. (Elektronisk Tidsrelae til Selvbygning) Radio Ekko 11:112-114 June '48

How and where to apply electronic controls. F. H. Vedder. Machine Design 21:177-182 Apr '49

Industrial time controls. R. H. Mecklenborg. Product Eng pt 1 20:125-129 Feb; pt 2 20:118-123 Mar; pt 3 20:122-123 Apr '49

Patents

Control mechanism, Knud J. Helsing, 2,474,843, 4 cl. Appl Sep 21, '46; granted July 5, '49

Electric demand controller, Howard W. Harper, 2,469,645, 28 cl. Appl Mar 4, '44; granted May 10, '49

INDUSTRIAL CONTROLS, Timing, *Patents*–Cont'd.

Electric timer, Maurice E. Bivens, 2,473,237, 6 cl. Appl Feb 8, '48; granted June 14, '49

Electrical circuits, Donald P. Faulk, 2,473,640, 13 cl. Appl Nov 5, '47; granted June 21, '49

Electronic control circuit for performing a timing function, Harold W. Lord, 2,471,826, 5 cl. Appl July 4, '44; granted May 31, '49

Electronic timing and recording means, Walther Richter, 2,477,770, 10 cl. Appl Apr 3, '44; granted Aug 2, '49

Electronic timing and control means for relays, William A. Brown, 2,467,008, 9 cl. Appl Dec 2, '47; granted Apr 12, '49

Electronic timing device, Richard R. Harris, 2,478,-482, 3 cl. Appl Aug 1, '47; granted Aug 9, '49

Electronic timing system, Clarence B. Stadium and William E. Large, 2,492,015, 20 cl. Appl Jan 27, '47; granted Dec 20, '49

Electronic timing system, Donald P. Faulk, 2,460,-816, 19 cl. Appl Oct 15, '47; granted Feb 8, '49

Means for use in timing the ignition in internal-combustion engines, John H. Weaving and Frank W. Highfield, 2,492,247, 2 cl. Appl Feb 20, '48; granted Dec 27, '49

Timing circuit, George D. Hanchett, jr., 2,490,960, 10 cl. Appl Apr 30, '48; granted Dec 13, '49

Timing circuit, Harry M. Simons, 2,479,274, 2 cl. Appl Jan 4, '46; granted Aug 16, '49

Timing device, Godwin R. F. Gay, 2,461,266, 2 cl. Appl May 31, '46; granted Feb 8, '49

Timing mixer, Roy C. Fox, 2,479,335, 10 cl. Appl Oct 24, '46; granted Aug 16, '49

See also

Measurements & Meters, Time

INDUSTRIAL HEATING

High frequency heater. (Radio-Opvarmning-sanlaeg) Radio Ekko 12:101 May '49

High frequency heating. German Industry Rep. BIOS 866 Brit Govt Pub

Nomographic design for H.F. heating circuits. R. A. Whiteman. Radio & TV N 41:18+ June '49

Problem of electronic baking. Radio-Electronics 20:86 Jan '49

Problem of further introduction of high-frequency in industry. Reel 0037 No 475622:3-5 SDLC. In Russian

Progress in radio heating. C. E. Tibbs. Wireless World 55:s1-s3 Dec '49

Some possibilities of heating by centimetric power. R. Keitley. Brit IRE J 9:97+ Mar '49

Unification of high-frequency installations. D. B. Mondrus and others. Reel 0037 No 475622:18-25 SDLC. In Russian

Patents

Flexible electrode means for high-frequency heating, George T. Hart, 2,474,977, 6 cl. Appl Mar 4, '46; granted July 5, '49

High-frequency corona arc heating apparatus, Earl C. Hanson, 2,465,093, 3 cl. Appl July 3, '45; granted Mar 22, '49

High-frequency generating system, John E. Young, 2,467,285, 16 cl. Appl July 12, '44; granted Apr 12, '49

High-frequency heating apparatus, John Paul Jordan, 2,482,545, 11 cl. Appl July 24, '45; granted Sep 20, '49

High-frequency heating arrangement, Arthur Jack Pinkney, 2,485,843, 6 cl. Appl Dec 17, '47; granted Oct 25, '49

Manufacture of laminated articles, Marshall G. Whitfield, 2,481,962, 5 cl. Appl Feb 29, '44; granted Sep 13, '49

Means for and method of continuously matching and controlling power for high-frequency heating of reactive loads, Eugene Mittelmann, 2,470,443, 9 cl. Appl July 21, '44; granted May 17, '49

Means for high-frequency conduction heating of elongated metallic material, Arthur C. Goodnow, 2,479,346, 7 cl. Appl Oct 22, '46; granted Aug 16, '49

Microwave heating apparatus using circularly polarized horn, Karl J. Stiefel, 2,480,682, 8 cl. Appl Sep 21, '46; granted Aug 30, '49

Oscillation generator control circuit, Louis A. King, 2,482,493, 3 cl. Appl Oct 3, '45; granted Sep 20, '49

Radio-frequency heating, George H. Brown and Rudolph A. Bierwirth, 2,478,857, 4 cl. Orig appl July 31, '42; divided and this appl Dec 22, '45; granted Aug 9, '49

Radio-frequency heating apparatus, Joseph Everett Joy, 2,465,102, 4 cl. Appl Oct 4, '43; granted Mar 22, '49

Radio-frequency power heating apparatus and method, John W. Robertson, 2,485,658, 13 cl. Appl Nov 5, '45; granted Oct 25, '49

See also

Industrial Applications, Welding
Industrial Controls, Temperature

INDUSTRIAL HEATING, Dielectric

Core baking, 2 minutes v. 4 hours. V. E. Hillman. Iron Age 163:116-121 Feb 3, '49

HF dielectric heating. G. Greoretti. Elettroteenica 34:80-85 Mar 10-25, '47

HF gluing now accepted practice. E. S. Winlund. Elec West 103:72-73 Oct '49

HF heating of cheese samples for the determination of the humidity percentage. Philips Tech Comm Aust No 1:13 '49

High-frequency drying and treatment of wood. A. V. Netushil and B. A. Gol'dblatt. Reel 0037 No 475622:12-17 SDLC. In Russian

High-frequency heating of plastic masses. V. I. Kalitvyanskiy and V. M. Degtev. Reel 0037 No 475622:6-11 SDLC. In Russian

Nomogram for dielectric heating. C. P. Nachod. Product Eng 20:167 Sep '49

Physical fundamentals of dielectric heating of non-conductors. (Die physicalishen Grundlagen der dielektrischen Erhitzung elektrisch nicht leitender Stoffe) Walter. Frequenz 3:299-306 Oct '49

Problem of high frequency drying of lumber. A. V. Netushil. Reel 0015 No 475278:93 SDLC. In Russian

Radio frequency welding of plastics. L. Grinstead and H. P. Zade. Brit IRE J 9:322-338 Sep '49

Roasting of coffee by dielectric HF heating. Philips Tech Comm Aust No 1:9 '49

INDUSTRIAL HEATING, Dielectric–Cont'd.

Small heating apparatus for the determination of the humidity content of various materials. Philips Tech Comm Aust No 1:10-12 '49

Variables in high frequency preheating. A. J. Guzzetti. Mod Plastics 26:89-93+ Apr '49

Patents

Apparatus for heating dielectric materials electronically, George W. Klingaman, 2,464,403, 3 cl. Appl Aug 30, '45; granted Mar 15, '49

Apparatus for heating dielectric materials electronically, Henderson C. Gillespie, 2,464,404, 12 cl. Appl Sep 28, '45; granted Mar 15, '49

Apparatus for high frequency dielectric heating of condenser bushings, Carl J. Madsen, 2,458,012, 12 cl. Appl Apr 3, '46; granted Jan 4, '49

Apparatus for microwave heating of dielectric materials, Theodore P. Kinn, 2,466,853, 10 cl. Appl Oct 4, '46; granted Apr 12, '49

Dielectric heating, John W. Robertson, 2,485,659, 17 cl. Appl Nov 5, '45; granted Oct 25, '49

Dielectric heating means and control therefor, Philip R. Sears, 2,467,783, 5 cl. Appl Sep 20, '47; granted Apr 19, '49

Dielectric heating means with automatic compensation for capacitance variation, Albert Schuman, 2,467,782, 1 cl. Appl Sep 20, '47; granted Apr 19, '49

Electrode for high-frequency heating of insulation performs, Lester D. Drugmand, 2,472,370, 3 cl. Appl Jan 8, '45; granted June 7, '49

Electrostatic bonding machine, Joseph P. Graham and Robert D. Lowry, 2,473,143, 8 cl. Appl Feb 7, '45; granted June 14, '49

High-frequency dielectric heating, Albert M. Baker, 2,483,569, 10 cl. Appl Sep 28, '44; granted Oct 4, '49

High-frequency dielectric heating apparatus, Eugene T. Hsu, 2,473,251, 2 cl. Appl May 29, '45; granted June 14, '49

High-frequency dielectric heating apparatus, Loran B. Himmel, 2,474,420, 11 cl. Appl July 16, '45; granted June 28, '49

High-frequency dielectric heating apparatus, Loran B. Himmel and Ruth V. Bush, 2,489,135, 5 cl. Appl Oct 7, '46; granted Nov 22, '49

High-frequency dielectric heating apparatus, Richard H. Hagopian, 2,473,881, 4 cl. Appl June 25, '46; granted June 21, '49

High-frequency dielectric heating apparatus, Richard H. Hagopian, 2,479,351, 9 cl. Appl Aug 10, '45; granted Aug 16, '49

High-frequency electric field heating to produce uniform welds in a stack of organic thermoplastic films, Carroll R. Irons, 2,467,133, 2 cl. Appl Aug 31, '46; granted Apr 12, '49

High-frequency electrical bonding apparatus for bonding wide layers of dielectric materials, George H. Brown, 2,459,260, 5 cl. Appl Aug 23, '43; granted Jan 18, '49

High-frequency electronic apparatus for heating dielectric materials, Joseph E. Joy, 2,468,263, 8 cl. Appl Mar 31, '45; granted Apr 26, '49

High-frequency electrostatic field apparatus for egg pasteurization, Walter M. Urbain and Paul Schauert, 2,473,041, 2 cl. Appl Aug 9, '45; granted June 14, '49

Inductor for high-frequency induction heating apparatus, Robert J. Stanton, 2,459,971, 9 cl. Appl Aug 30, '45; granted Jan 25, '49

Means for feeding high-frequency electric currents to the electrodes of dielectric heating apparatus, Joshua Creer Quayle and Peter Jones, 2,469,990, 4 cl. Appl Oct 9, '46; granted May 10, '49

Method of controlling high-frequency heating of dielectric material, Willard H. Hickok, 2,459,225, 9 cl. Appl Mar 15, '46; granted Jan 18, '49

Progressive electronic bonding machine using stray fields, Merwin F. Ashley, 2,492,347, 4 cl. Appl June 22, '46; granted Dec 27, '49

Radio-frequency dielectric heater with constant heating rate control, Frederick G. Albin, 2,473,188, 5 cl. Appl June 17, '44; granted June 14, '49

Surface finishing of plastic sheets, Willard H. Hickok, 2,485,238, 6 cl. Appl Feb 25, '46; granted Oct 18, '49

Ultra high frequency dielectric heater, Henry Earl Revercomb, 2,467,230, 7 cl. Appl Aug 30, '47; granted Apr 12, '49

Ultra high frequency dielectric heater, Henry Earl Revercomb and Philip W. Morse, 2,483,933, 3 cl. Appl Oct 15, '47; granted Oct 4, '49

INDUSTRIAL HEATING, Induction

Automatic soldering machine uses induction heating coil. Materials & Methods 30:122-124 Dec '49

Coupling circuits for H.F. heating. R. A. Whiteman. Radio & TV N 42:8-11+ Oct '49

Heating by high-frequency fields. E. C. Witsenburg. Philips Tech Rev 11:165-175 Dec '49

Heating for hardening and forging with RF equipment. T. E. Lloyd. Iron Age 163:87-92 Feb 17, '49

Heating of materials of low conductivity by H.F. induction currents. G. Ribaud. Jour Phys & Rad 8:97-101 Apr '49

High frequency induction heating. Metallurgia 40: 332-334 Oct '49

Hot spot machining. S. Tout and L. S. Fletcher. Iron Age 164:78-89 July 21, '49

How induction heating can help save cold cash. Mod Ind 17:109-110 Feb 15, '49

How Oldsmobile uses induction heat for forging. W. L. Mautz. Iron Age 164:81-85 Nov 17, '49

Induction annealing of light steel stampings increases production, cuts costs. H. R. Clauser. Materials & Methods 29:51-53 June '49

Induction annealing simplifies metal forming. L. R. Mueller. Iron Age 164:69-71 Sep 1, '49

Induction brazing methods applied to permanent magnets. D. Hadfield. Metallurgia 40:165-166 July '49

Induction hardening automobile parts. W. J. Harris. Steel 124:90-91+ Feb 7, '49

Induction hardening mill rolls. Iron Age 163:71 Jan 27, '49

Induction hardening successfully applied to large steel bearing races. R. H. Lauderdale. Materials & Methods 30:57-60 July '49

Induction (high frequency) vacuum furnaces low frequency. German Industry Rep. BIOS 533 Brit Govt Pub

Magnetic coupling circuits, and their application in high frequency induction heating. F. P. Pietermaat. HF 2:35-44 Apr '49. In French

INDUSTRIAL HEATING, Induction–Cont'd.

Mercury arc converter for induction heating. S. R. Durand and J. B. Rice. Elec Eng 68:290 Apr '49

Model method of study of electromagnetic fields in systems of induction heating. G. I. Babat. Zh Tekn Fiz* 11:443 '41

New method for converting DC energy into high frequency AC energy with a high efficiency, specifically intended for high frequency induction heating. T. Douma. Philips Comm N pt 1 10: 52-68 June; pt 2 10:69-82 Oct '49

Production economics realized by proper use of induction heating. J. A. Evans. Materials & Methods 30:57-60 Nov '49

25-kw radio-frequency induction furnace. Engineering 168:653 Dec 16, '49

Regulation of temperature in the application of high frequency induction heating to thermodynamic measurements. Rudolph Speiser and others. Rev Sci Instr 20:385-388 June '49

RF brazing of radio components. R. A. Nielson. Electronics 22:111+ Jan '49

Some applications of the high frequency induction heating process. J. C. Howard. Metallurgia 40: 37-43 May '49

Tube-type high frequency unit has wide range of uses. Materials & Methods 29:124 Mar '49

Typewriter parts fixtured for induction brazing. Iron Age 163:87 Apr 28, '49

Vacuum heating, melting, and sintering furnace, its construction and maintenance. W. H. Titorchook and L. S. Foster. Watertown Arsenal Lab Rep 671/61 NP-866 36 pp Apr 15, '47. AEC

Westinghouse continuous radio-frequency selective hardening equipment. Machinery 55:186-187 Aug '49

Patents

Apparatus for and method of induction heating, William A. Black, 2,475,348, 6 cl. Appl Mar 31, '45; granted July 5, '49

Apparatus for equalizing induction heating of workpieces, Harold A. Strickland, jr., 2,490,104, 5 cl. Appl Apr 12, '45; granted Dec 6, '49

Apparatus for simultaneously inductive heating a plurality of articles, Alden O. Wood, 2,471,471, 7 cl. Appl Mar 9, '45; granted May 31, '49

Control apparatus for induction heating systems, Stephen L. Burgwin, 2,459,616, 1 cl. Appl July 28, '44; granted Jan 18, '49

Electric induction apparatus, Harold W. Lord, 2,462,651, 12 cl. Appl June 12, '44; granted Feb 22, '49

Electrical induction apparatus, Bertrand V. Biegerich and Carleton B. Ryder, 2,467,377, 1 cl. Appl Nov 15, '44; granted Apr 19, '49

Electromagnetic induction heat-treating apparatus, Howard E. Somes, 2,460,855, 17 cl. Appl Jan 11, '45; granted Feb 8, '49

Flexible conductor for induction heating, Harold A. Strickland, jr., 2,457,843, 4 cl. Appl Sep 2, '44; granted Jan 4, '49

High-frequency heating regulator, John Paul Jordan, 2,461,283, 6 cl. Appl May 7, '46; granted Feb 8, '49

High-frequency induction brazing apparatus, Joel R. Johnson, 2,477,129, 2 cl. Appl Nov 3, '45; granted July 26, '49

High-frequency induction heating apparatus, Rocco J. Detuno, 2,477,118, 5 cl. Appl Sep 28, '45; granted July 26, '49

High-frequency induction heating apparatus, Rocco J. Detuno, 2,484,613, 5 cl. Appl July 7, '45; granted Oct 11, '49

High-frequency induction heating coil, Richard D. Frazier, 2,467,201, 2 cl. Appl June 18, '45; granted Apr 12, '49

High-frequency induction heating device. Omer E. Bowlus, 2,481,071, 8 cl. Appl July 25, '45; granted Sep 6, '49

High-frequency induction heating system, Herbert F. Storm, 2,485,785, 9 cl. Appl June 7, '44; granted Oct 25, '49

Hood and coil arrangement for induction furnaces, Harold A. Strickland, jr., 2,490,107, 3 cl. Appl Feb 4, '46; granted Dec 6, '49

Induction brazing apparatus, Harold D. Ross, jr., 2,484,650, 3 cl. Appl June 25, '45; granted Oct 11, '49

Induction heater, Norbert E. Fuchs, 2,460,687, 3 cl. Appl Mar 31, '45; granted Feb 1, '49

Induction heater for use with pipe bending apparatus, Guenther H. Hille, 2,461,323, 6 cl. Appl July 27, '46; granted Feb 8, '49

Induction heating apparatus, Edward M. Wharff, 2,476,835, 2 cl. Appl June 25, '46; granted July 19, '49

Induction heating apparatus, Patrick F. Molloy, 2,484,238, 2 cl. Appl Sep 6, '45; granted Oct 11, '49

Induction heating apparatus, Richard A. Gehr and Herbert W. Secor, 2,479,341, 2 cl. Appl Mar 16, 48; granted Aug 16, '49

Induction heating apparatus, Robert J. Stanton, 2,479,980, 5 cl. Appl May 19, '45; granted Aug 23, '49

Induction heating apparatus for heat-treating the interior surface of elongated small-diameter tubular workpieces, Harold A. Strickland, jr., 2,457,845, 15 cl. Appl Jan 12, '45; granted Jan 4, '49

Induction heating coil provided with stress-relieving supports, Harold A. Strickland, jr., 2,457,844, 5 cl. Appl Oct 13, '44; granted Jan 4, '49

Induction heating coil providing distribution of heating effect, Theodore H. Story, 2,474,703, 2 cl. Appl Sep 28, '44; granted June 28, '49

Induction heating furnace construction, Harold A. Strickland, jr., 2,490,106, 11 cl. Appl July 4, '45; granted Dec 6, '49

Induction heating head, Harold A. Strickland, jr., and Emil B. Vos, 2,484,864, 7 cl. Appl July 17, '45; granted Oct 18, '49

Induction heating head and arbor therefor, Harold A. Strickland, jr., 2,483,444, 6 cl. Appl July 17, '45; granted Oct 4, '49

Induction heating system and method for progressively heating a series of objects, Samuel R. Durand, 2,465,306, 10 cl. Appl Aug 6, '45; granted Mar 22, '49

Means for inductively heating flanged articles, Alden O. Wood, 2,477,029, 6 cl. Appl Aug 26, '43; granted July 26, '49

Method of and apparatus for dual coil induction heating, Alden O. Wood and John T. Vaughan, 2,468,796, 6 cl. Appl June 17, '44; granted May 3, '49

INDUSTRIAL HEATING, Induction, *Patents*–Cont'd.

Method of soldering chain links, George Durst, 2,492,851, 4 cl. Appl Aug 21, '46; granted Dec 27, '49

Oscillator generator, Hugo Romander, 2,462,903, 10 cl. Appl May 7, '45; granted Mar 1, '49

Slide rail support for inductor furnace workpieces, Harold A. Strickland, jr., 2,457,846, 6 cl. Appl Apr 11, '46; granted Jan 4, '49

INSTRUMENTATION

AC system of remote indication. Howard D. Warshaw. Instruments 22:402+ May '49

Advances in technique of lightning measurements. Theodore Brownlee. AIEE Proc section 961:1-5 July '49

Differential transformer as applied to instrumentation. W. D. Macgeorge. Science 110:365-368 Oct 7, '49

Easily assembled console for rapid testing of electrical instruments. Frank D. Weaver. Instruments 22:396+ May '49

Electron and ion beam instruments. J. G. Hutton. Gen Elec Rev 52:11-20 Oct '49

Illumination of switch-board instrument scales. H. S. Edgerly and R. M. Rowell. Gen Elec Rev 52: 28-31 Oct '49

Improved synchronous detector. W. C. Michels and E. D. Redding. Rev Sci Instr 20:566-568 Aug '49

Instrument design. A. G. Peacock. Elec Rev 144: 751-754 May 6, '49

Instrument inaccuracies in feed-back control systems with particular reference to backlash. H. Tyler Marcy and others. AIEE Proc section 9197: 1-11 July '49

Instrumentation and cybernetics. J. D. Trimmer. Sci Mon 69:328-331 Nov '49

Instrument trouble shooters. H. K. Monk. Instruments 22:36+ Jan '49

Inverse derivative—a new mode of automatic control. C. B. Moore. Instruments 22:216-219 Mar '49

Is there a science of instrumentation? E. U. Condon. Science 110:339-342 Oct 7, '49

Magnetic fluids find new instrumentation uses. Instruments 22:809 Sep '49

Multiple channel cathode ray instrumentation of non-electrical quantities. J. N. van Scoyoc and G. F. Warnke. NEC Proc '49

Operational aspects of instrument design. C. Eisenhart. Science 110:343-346 Oct 7, '49

Principle instrumentation problems of deep-sea oceanographic exploration. C. O'D. Iselin. Instruments 22:898-901 Oct '49

Product integraph. J. C. Jaeger and J. D. Clarke. Jour Sci Instr 26:155 May '49

Rapid automatic method of computing infrared spectra for quantitative analyses. R. W. Foreman and W. Jackson, jr. Instruments 22:497+ June '49

Remote indicating pressure gage for aircraft. R. G. Jewell. ASME Trans 71:79-82 Jan '49

Square law power level recorder. W. R. Clark and others. Elec Eng 68:604 July '49

Use of the cathode ray oscillograph in the measurement of metal areas and the kinetics of electrode reactions. A. T. Hutcheon and C. A. Winkler. Canada J Res 27B:353-360 Apr '49

See also

Aircraft, Equipment
Measurements & Meters
Oscilloscopes & Oscillographs
Telemetering

INSTRUMENTATION, Atomic

Instrumentation for an atomic power plant. D. Cochran and C. A. Hansen, jr. 16 pp AECD 2656

Instrumentation for a nuclear reactor. D. Cochran and C. A. Hansen. Nucleonics 5:4-11 Aug '49 Discussion V. L. Parsegian. 5:76-78 Oct '49

Instrumentation for nuclear studies with externally focused deuteron beam from ten-mev cyclotron. B. R. Curtis and others. Rev Sci Instr 20:388-393 June '49

Instrumentation for nuclear studies with externally-focused deuteron beam from 10-mev cyclotron. 16 pp '49 AECD-2472

Instrumentation of the Hanford engineer works. 10 pp '46 MDDC-242

Introduction to nucleonics instrumentation. A. Dahl. Elec Eng 68:248 Mar '49

Ionization chamber instruments. J. R. Carlin. Radio & TV N 41:3-5+ June '49

Some instrumentation requirements in an atomic power plant. D. Cochran and C. A. Hansen, jr. Mech Eng 71:808-810 Oct '49

See also

Atomic Measurements, Accessory Equipment & Circuits

INSTRUMENTATION, Chemical

Automatic system assures proper treatment of waste pickle liquor. Instrumentation 4:13 July '49

Chemical laboratory instrumentation in Germany. German Industry Rep. BIOS 736 Brit Govt Pub

Chemical laboratory instrumentation in Germany. German Industry Rep. BIOS 1487 Brit Govt Pub

Control instruments in the German chemical industry. German Industry Rep. BIOS 1321 Brit Govt Pub

Electronic instrumentation for chemical laboratories. F. Gutmann. IRE Proc (Australia) 10:241-256 Sep '49

Instrumentation and control in the German chemical industry. German Industry Rep. BIOS 1007 Brit Govt Pub

Instruments and techniques used in radiochemistry. L. Yaffe. NRC-160

See also

Industrial Applications, Chemical

INSULATION and INSULATORS

Cable insulation research at I.G. Leverkusen. German Industry Rep. CIOS XXV-34 Brit Govt Pub

Cable lacquer from cellulose acetate/butyrate. German Industry Rep. FIAT 486 Brit Govt Pub

Ceramic insulating materials with high electrical coefficients. '45 PB 74162s

INSULATION and INSULATORS–Cont'd.

Developments in insulating materials. C. G. Garton. Elec Rev 145:93-96 July 15 '49

Dust-contaminated insulators in fog. Bradley Cozzens and T. M. Blakeslee. Elec Eng 68:226 Mar '49

Electrical insulation. Electrician 143:113-118 July 8, '49

Energy band structure of insulators. (Letter) G. H. Wannier. Phys Rev 76:438-439

Experiments for producing a synthetic laminated insulating material (synthetic mica). Reichmann. Reel B 285, Frames 25-88 FIAT Microfilm Sep '38 63 f. PB A 70369. Abstracted in Am Cer Soc J 32:195 Aug '49

German mica industry. German Industry Rep. BIOS 785 Brit Govt Pub

German radio ceramics. German Industry Rep. BIOS 1459 Brit Govt Pub

Glass fiber insulation for electrical machines with high thermal requirements. (Die glasfaser-Insulation fuer thermisch hochbeanspruchte elektrische maschinen) Oburger. Elektrotech und Maschinenb 66:191-195 July '49

High frequency technical ceramic materials of Germany. German Industry Rep. JIOA 78 Brit Govt Pub

Insulated coatings of electric motor coils developed by Vereingte Lackfabriken, Hamburg. German Industry Rep. BIOS MISC 42 Brit Govt Pub

Insulating coatings from bitumen. German Industry Rep. BIOS 510 Brit Govt Pub

Insulator surface contamination. H. A. Frey. Elec Eng 68:40 Jan '49

Manufacture of glass fabric impregnated fibre used as a substitute for mica insulation between commutator segments in motors and generators. German Industry Rep. CIOS XXVII-43 Brit Govt Rep

Methods for reducing insulator noise and leakage. F. M. Glass. Rev Sci Instr 20:239-244 Apr '49

Molded electrical insulating material for use at high temperatures. BS 1539 '49 Brit Stand Inst

Moulded electrical insulating materials for use at radio frequencies. BS 1540 '49 Brit Stand Inst

Polytetrafluorethylene. Wireless World 55:S10 June '49

Production of styroflex film. Oriental polystyrene film. Germany Industry Rep. FIAT 870 Brit Govt Pub

Production of synthetic mica. Reichmann and Middel. Reel B 228, Frames 1-52 FIAT Microfilm Mar '42 PB A 70371; abstracted in Am Cer Soc J 32:195 Aug '49

Resin-bonded fibres. Elec Eng 21:432 Nov '49

Rubber insulators for pole lines. H. H. Wheeler and W. F. Markley. AIEE Proc section 959:1-3 Apr '49

Small high-voltage bushing design for high altitudes. F. J. Vogel and H. A. Hart. AIEE Proc section 9194:1-4 July '49

Stabilized insulators. Electrician 143:894 Sep 19, '49

Synthetic-resin bonded-paper sheets for use at power frequencies. BS 1137 '49 Brit Stand Inst

Synthetic mica research. German Industry Rep. FIAT 746 Brit Govt Pub

Patents

Electrical insulation, Wallace Bentley MacKenzie, 2,464,455, 1 cl. Appl Jan 25, '46; granted Mar 15, '49

Hermetically sealed electric insulator, Prafulla Kumar Chatterjea and Stephen John Powers, 2,462,070, 6 cl. Appl Jan 1, '45; granted Feb 22, '49

Insulating and dielectric compositions, Frank M. Clark, 2,460,126, 3 cl. Appl Oct 23, '45; granted Jan 25, '49

Insulating coating having high dielectric strength, Howard E. Smith and Donald M. O'Halloran, 2,464,912, 13 cl. Appl Dec 22, '45; granted Mar 1, '49

Insulation for electrical apparatus, Newton C. Foster, Lawrence R. Hill, Robert H. Runk, and Earl L. Schulman, 2,477,791, 1 cl. Appl Apr 17, '43; granted Aug 2, '49

Insulation means for electrical apparatus, James M. England, 2,473,332, 7 cl. Appl May 26, '44; granted June 14, '49

Method of improving the adherence of insulating compounds to metals and products resulting therefrom, Alvin N. Gray, 2,484,705, 12 cl. Appl Sep 25, '45; granted Oct 11, '49

Method of making electrical insulations, Lawrence R. Hill and John A. Campbell, 2,479,357, 5 cl. Appl Jan 10, '45; granted Aug 16, '49

See also

Conduction & Conductors
Dielectrics
Manufacturing Techniques
Materials

INSULATION and INSULATORS, Testing

Automatic continuous check on the insulation of telephone cables. (Beschreibung eines Geraetes zur selbsttaetigen Ueberwachung des Isolationszustandes von Fernsprechkabeln) Boesenberg. Fernmeldetech Zeit 2:167-171 June '49

Effects of high temperatures of short duration on paper cotton insulation. A. V. Koritsky. Eng Digest 10:388 Nov '49

Electrical breakdown of solid insulators. K. W. Wagner. Arch Elek 39:215-233 Dec '48

High frequency insulator and vacuum gap breakdown tests. 15 pp MDDC-473

Insulation flashover tests in vacuum and under pressure. J. L. McKibben and R. K. Beauchamp. PB 95761. Also AECD-2039

Method of determining the dielectric constant and power factor of ceramics as a function of temperature. H. J. Evans. Am Cer Soc J 32:262-266 Aug '49

Methods for determining the effect of contaminants on electrical insulation. N. Mathes and others. AIEE Proc section 935:1-7 Apr '49

Thermal testing of large size insulators. (Les essaid termiques des isolateurs du grandes dimensions) P. Scheupp and L. Gion Revue Gen Elec 58:398-401 Oct '49

Thermal endurance of silicone motor insulation. G. L. Noses. Westinghouse Eng 9:168-169 Nov '49

Patents

Apparatus for testing insulated wire and cable, Harry B. Slade, 2,460,107, 3 cl. Appl Dec 29, '45; granted Jan 25, '49

INSULATION and INSULATORS, Testing, *Patents*–Cont'd.

Electrical insulation testing apparatus, Samuel G. Lutz, 2,460,835, 2 cl. Appl Nov 21, '45; granted Feb 8, '49

Insulated electric wire testing, James L. Entwistle, 2,485,871, 2 cl. Appl Mar 20, '45; granted Oct 25, '49

Insulation-testing apparatus, Harold A. Lines, 2,483,-915, 4 cl. Appl Feb 19, '46; granted Oct 4, '49

Test equipment for faulty electrical insulators, Andrew J. Sorensen, 2,475,680, 3 cl. Appl Mar 14, '46; granted July 12, '49

See also

Dielectrics, Measurement

INTERFERENCE

Channel selection. APCO Bul 15:8-9 July '49

Commutation of DC machines and its effects on radio influence voltage generation. D. P. Motter. AIEE Proc section 928:1-6 Apr '49

Effect of aircraft on the reception of transmissions in the 45 mcs band. R. A. Rowden and G. I. Ross. BBC Quart 3:251+ Jan '49

Effect of interference on superregenerative receivers. L. S. Gutkin. Radiotekhnika 4:62-76 Jan-Feb '49

Ham interference in amplifiers. Suc Serv 10:14 Feb '49

Harmoniker. GE Ham N 4:1-6 Nov-Dec '49

Integrating loop antenna for measuring radio interference. W. D. Nupp. PB 97413

Interference, diffraction and spectral resolution in optics and radio. G. S. Gorelik. Uspekhi Fiz Nauk No 3:407-415 Nov '49. In Russian

Interference in the region between FM transmitters operating on the same frequency. (Untersuchung der Stoererscheinung im Gebiet zwischen zwei Frequenzmodulierten Gleichwellensendern) Fricke and others. Frequenz 3:277-289 Oct '49

Intermediate frequency and the Copenhagen plan. G. H. Russell. Wireless World 55:322-325 Sep '49

Low tension magneto filter-radio interference, attenuation test of. H. J. Baine. PB 97414

New tools for communications. APCO Bul 15:12+ July '49

Parasitic oscillations. Wireless World 55:206-210 June '49

Radio influence from high-voltage corona. Gordon R. Slemon. AIEE Proc section 960:1-8 Apr '49. Also in Elec Eng 68:139-143 Feb '49

RF interference measurements. (Hochfrequenze Stoermessverfahren) Funk und Ton 3:245 Apr '49

Radio interference problems in welding. C. W. Frick. Elec Eng 68:165 Feb '49

Rural inductive co-ordination practices. M. W. Rothpletz and H. S. Williams. Elec Eng 68:148-150 Feb '49

Survey of ionospheric cross-modulation. (Wave interaction or Luxembourg effect). L. G. H. Huxley and J. A. Ratcliffe. IEE Proc pt III 96:433-440 Sep '49

Tolerable mutual interference of two FM broadcasting transmitters. T. J. Weijers. Tijdschr ned Radiogenoot 14:61-72 May '49

Tracing parasitics with the neodynamic analyser. M. Bonhomme. Toute la Radio No 139:288-290 Oct '49. In French

What causes interference on your radio. F. West. Radio Times 4:8-9 Sep 16, '49

Patents

Radio system, Otto F. A. Arnold and David A. Breister, 2,489,254, 5 cl. Appl Jan 4, '44; granted Nov 29, '49

Suppression

Abatement of radio interference from electro-medical and industrial radio-frequency equipment. BS:CP 1002 '47 Brit Stand Inst

Eliminating interference. Martin Clifford. Radio Maint 5:16-17+ Nov '49

Goniometer arrangement for the suppression of interfering transmissions by means of angle measurement with beam-aerial system. H. Fricke. Fernmeldetech Zeit 2:249-253 Aug '49

Household radio interference elimination. John W. Teegarden. Radio & TV N 42:34-35+ Sep '49. Also in Radio Times 4:10-11+ Nov 16, '49

Measurement and suppression of radio interference. J. H. Evans. Brit IRE J 9:46 Feb '49

New system eliminates radio interference with inert arc welding. Power Pl Eng 53:87-88 Feb '49

Noise reduction in mobile radio installations. Harry Harrison. CQ 5:30-32 Feb '49

Pointers in harmonic reduction. George Grammer. QST 33:14-22 Apr '49

Radio-interference suppression. Elec Rev 145:759-760 Oct 21, '49

Radio interference on an airplane and methods of combatting it. Moscow, editorial-publishing section of the air fleet, 1943. U.S.S.R. Peoples' commissariat for the aircraft industry. Transactions of the scientific research institute for aircraft equipment. '43 PB 89562

Radio interference suppression on marine installations. BS 1597 '49 Brit Stand Inst

Reduction of interference from radio-frequency heating equipment. G. W. Klingaman. AIEE Proc section 9182:1-7 July '49

Suppression of electrical interference to high-frequency apparatus in naval vessels. A. Hunter. IEE Proc pt III 96:159+ Mar '49

Suppressing impulse noise. D. C. Rogers. Wireless World 55:489-492 Dec '49

Suppression of radio interference. Electrician 143:1235 Oct 14, '49

Patents

Interference suppression system for radio receivers and the like, Alan John Henry Oxford, 2,480,599, 11 cl. Appl July 31, '47; granted Aug 30, '49

Suppression of radio-frequency noise voltages, Arthur E. Wilde, jr., 2,490,329, 1 cl. Appl Feb 1, '44; granted Dec 6, '49

See also

Astronomical Applications
Atmospheric Phenomena and Characteristics
Jamming
Radar, Interference

INTERFERENCE, Atmospheric and Solar

Atmospheric noise measurement. H. Reiche. Electronics 22:110+ Apr '49

Correlation of sporadic E region ionization over short distances and comparison with magnetic disturbances. V. B. Gerard. N.Z. J Sci Tech 30: 27-37 July '48

Electromagnetic noise of thunderclouds. Y. Rocard and J. L. Steinberg. Compt Rend Acad Sci 228: 1960-1962 June 20, '49

Fundamental problem of atmospheric electricity. T. Schlomka. Zeit f. Phys 125:733-738 Mar 15, '49

Origin of solar radio noise. (Abstract) Andrew V. Haeff. IRE Proc 37:172 Feb '49

Recording of atmospherics on board the Commandant Charcot. R. Bureau and M. Barre. Compt Rend Acad Sci 229:525-527 Sep '49

Reports covering ionosphere research, problems in Lufthansa radio operations, atmospheric disturbances and development and tests of aircraft antennas, 1943-1945. PB 84899

Some observations on solar noise. N.Z. J Sci Tech section B 29:140-141 Nov '47

Study of the wave-forms of atmospherics. S. R. Khastgir and R. Roy. Phil Mag 40:1129-1143 Nov '49

Wave form of atmospherics. PB 95668

See also

Astronomical Applications
Atmospheric Phenomena & Characteristics

INTERFERENCE, Ignition

Abatement of radio interference caused by motor vehicles and internal combustion engines. BS:CP 1001 '47 Brit Stand Inst

Balanced 2 wire method to reduce ignition interference. V. Welge. Communications 29:22-24+ May '49

Car-ignition interference. W. Nethercot. Wireless Eng 26:251-255 Aug '49

How to eliminate auto radio static. M. C. Anderson. Radio & TV N 21:38-39+ May '49

Interference limits: aircraft and vehicular engine radio. PB 95316

Motor car interference. B. M. Adkins. RSGB Bul 24:172-173+ Jan '49

Radiation from car ignition systems. B. G. Pressey and G. E. Ashwell. Wireless Eng 26:31+ Jan '49

Reduced ignition interference. V. Zeluff. Electronics 22:118+ July '49

Reducing parasitics in cars. (L'antiparasitage des automobiles) D. Leblais. Toute la Radio No 135:156-157 May '49

See also

Shielding

INTERFERENCE, TV

Amateur TVI. R. P. Turner. Radio Ser Deal 10:17-18 July '49

Design of low-pass filters. M. Seybold. QST 33: 18-24 Dec '49

HRO and TVI. Louis Varney. RSGB Bul 25:41-42 Aug '49

Ignition interference to FM and television. John B. Ledbetter. Radio-Electronics 20:30-31 June '49

Regenerative wavemeter. G. Grammer. QST 33: 29-31 Nov '49

Service technician and TV interference. Herbert S. Brier. Radio & TV N 42:32-33+ Aug '49

Subsidiary tank resonance at VHF. QST 33:55+ Oct '49

Television and FCC vs tropospheric interference. Tele-Tech 8:68+ Mar '49

Television brings change in car ignition behavior. P. J. Kent. SAE Jour 57:17-19 Mar '49

Television interference. H. B. Michaelson. Sylvan N 16:T33-T36 Oct '49

Television interference by aircraft. A. H. Cooper. Wireless World 55:142+ Apr '49

Television interference problems. Elec West 102: 76-77 Mar '49

Television receiver radiation. James N. Roe. RSGB Bul 25:144 Nov '49

Trap box. Wilfred M. Scherer. CQ 5:42-44 Mar '49

TVI-free rig for 10! Mack Seybold. CQ pt 1 5:11-14+ Oct '49; pt 2 5:23-26+ Nov '49

TVI on 160 meters? P. S. Rand. CQ 5:11-14 Dec '49

TVI patterns. G. G. QST 33:43-45 May '49

TVI tips. G. G. QST 33:44-45 June '49

Winning three falls from Gorgeous George. William I. Orr. CQ 5:29-30+ Sep '49

Suppression

Further advances in TVI suppression. Louis Varney. RSGB Bul 24:268-273 May '49

High pass filters for TVI reduction. QST 33:46+ May '49

Minimizing television interference. P. S. Rand. Electronics 22:70+ June '49

Reasons and remedies for TV interference. David Gnessin. Radio-Electronics 20:20-21 July '49

Shielding against TVI. P. S. Rand. Radio & TV N 42:57-60+ Sep '49

Shielding experiments and TVI. Mack Seybold. CQ 5:31-34+ June '49

Suppresses TV interference. Radio Age 8:29+ Apr '49

Suppression of TVI. F. T. Wilson. Short Wave Mag 7:740-745 Dec '49

Television antenna reduces interference. Radio Age 8:27+ Apr '49

Television interference suppression. Spenny. RSGB Bul 25:44 Aug '49

TV interference—causes and remedies. Cap 14:7-10 May '49

TV interference eliminator. Rufus P. Turner. Radio Maint 5:21 Apr '49

TVI reduction—western style. C. E. Murdock. QST 33:24-27+ Aug '49

See also

Television, Reception & Receivers

J

JAMMING

Cold war in the ether; the technique of radio jamming. D. Maclanachlan. Radio Times 4:8 Aug 1, '49

How VOA combats jamming. G. Q. Herrick. Electronics 22:82-84 Sep '49

See also

Interference
Radar

K

KLYSTRONS

Application of velocity-modulation tubes for reception at UHF and SHF. J. O. Strutt and A. van der Ziel. IRE Proc 37:896-900 Aug '49

Efficiency of reflex klystrons. W. G. Shepard. NEC Proc '49

Klystrons for FM. William Henderson. FM-TV 9:17+ May '49

Modern klystrons. (Moderne Triftroehren) Elektron Wiss und Tech 3:131-140 Apr '49

Synchrodyne phase modulation of klystrons. (Abstract) Vincent Learned. IRE Proc 37:174 Feb '49

Two-cavity klystron effect of space charge. B. Meltzer. Wireless Eng 26:365-369 Nov '49

Patents

Frequency modulation of klystrons, Norman Charles Barford, 2,464,549, 4 cl. Appl May 3, '44; granted Mar 15, '49

Velocity-modulated electron-discharge device, Bernard C. Gardner, 2,464,801, 6 cl. Appl Apr 23, '46; granted Mar 22, '49

See also

Cavity Resonators
Microwaves, Tubes

L

LIMITERS

See Regulation

LOUDSPEAKERS and BAFFLES

Concentric high and low range loudspeaker. (Konzentrischer Hoch- und Tieftonlautsprecher) Radio Tech 25:647 Nov '49

Folding speaker. (Foldehorn) Radio Ekko 11:10-11 Jan '48

Ground loudspeakers. D. Scott. Audio Eng 33:18-19 Oct '49

Harmonic distortion of loud-speakers, and its practical consequences in audiometry. (La distortion harmonique des ecouteurs et ses consequences pratiques en audiometrie) P. Chavasse and others. Ann Telecom 4:156-168 May '49

High fidelity, low cost speaker. Radio Maint 5:28 Dec '49

Horn-type loudspeakers. S. J. White. Audio Eng 32:25+ May '48

Horn-type transducer of minimum dimensions. R. Doby and G. Augspurger, jr. Radio & TV N 42:54-56+ Nov '49

Installation of auxiliary speakers. (Instalacion de bocinas auxiliares) M. C. Patterson. Fidelco Tec Bol 1:20-21 Apr '49

Installation of speaker cones. (Instalacion del cono de la bocina) Fidelco Tec Bol 1:8 May '49

Loudspeakers in FM receivers. J. Richard Johnson. Radio Maint 5:18-21 May '49

New corner speaker design. C. G. McProud. Audio Eng pt 1 33:14-17+ Jan '49; pt 2 33:13-16 Feb '49

New 15-inch duo-cone loudspeaker. H. F. Olson and others. Audio Eng 33:20-22+ Oct '49

New loudspeaker technique. M. Alixant. Radio Tech Dig 3:83-101 Apr '49. In French

New notes on corner speakers. Paul W. Klipsch. FM-TV 9:25-26+ Aug '49

Non-linear distortion in dynamic loudspeakers due to magnetic effects. W. J. Cunningham. Acoust Soc Am J 21:202+ May '49

Perfect reproduction? Wireless World 55:13 Dec '49

Physical measurements of loudspeaker performance. P. S. Veneklasen. Soc Motion Picture Eng J 52:641-656 June '49

Portable loud speaker system in the British Navy. (Transportable Hojttaleranlaeg i den britiske Marine) Radio Ekko 9:197-198 Sep '46

Practical construction of an exponential loudspeaker. (Den praktiske Fremstilling af et lige Exponentialhorn) Radio Ekko 11:44-45 Mar '48

Quality reproduction: the power labyrinth speaker. (Kvalitetsgengivelse: Effekt Foldehorn) Radio Ekko 11:28-29 Feb '48

Sound field of a piston membrane. A. Schoch. Akust Zeit 6:318-326 Nov '41

Special loudspeaker systems. John D. Goodell. Radio & TV N pt 1 41:16-18+ Apr '49; pt 2 41:12-14+ June '49; pt 3 42:11-13+ Aug '49

Theory of passive linear electroacoustic transducers with fixed velocity distributions. L. L. Foldy. Acoust Soc Am J 21:57 Jan '49

Third-class loudspeakers with low power consumption. P. V. Anan'ev. Radiotekhnika 4:18-27 July-Aug '49. In Russian

Three-dimensional reproducer system. Michael Wolfe. Radio & TV N 41:44+ June '49

Theatre loudspeaker design, performance and measurement. J. K. Hilliard. Soc Motion Picture Eng J 52:629-640 June '49

"Ticonal" magnets for dynamic loud speakers. (Ticonalmagnete fuer dynamische Lautsprecher) Radio Tech 25:195-196 Mar '49

Underground loudspeakers. J. Merhaut. Tesla Tech Rep pp 35-38 Mar '49

Universal loudspeaker. M. Verdier. Toute la Radio No 136:191-193 June '49. In French

Voigt permanent-magnet loudspeaker. Wireless World 55:103+ Mar '49

Wide band co-axial speaker. (Altoparlante bifonico a larga banda) G. Zanarini. Elettronica pt 1 4:217-220 Sep '49; pt 2 4:269-271 Oct '49. Abstracts in French and English

LOUDSPEAKERS and BAFFLES–Cont'd.

Patents

Arrangement for changing over the speaking direction in loudspeaker duplex systems, Otto Tschumi, 2,460,475, 1 cl. Appl May 12, '44; granted Feb 1, '49

Cellular support for loudspeakers, including acoustic chambers, Gabriel M. Giannini, 2,475,782, 2 cl. Appl Dec 3, '42; granted July 12, '49

Damping for dynamic loudspeakers, Ellsworth D. Cook, 2,489,862, 5 cl. Appl Jan 7, '43; granted Nov 29, '49

Electroacoustic translator including impedance matching, Frank Powell Best, 2,481,068, 10 cl. Appl Nov 27, '45; granted Sep 6, '49

Electrodynamic loud-speaker, Leonard Walter Murkham, 2,490,227, 4 cl. Appl June 19, '47; granted Dec 6, '49

Electropneumatic loud-speaker, Joseph L. Fodor, 2,485,269, 13 cl. Appl Jan 29, '46; granted Oct 18, '49

Loudspeaker diaphragm support comprising plural compliant members, Harry F. Olson and John Preston, 2,490,466, 11 cl. Appl July 19, '44; granted Dec 6, '49

Loud-speaker diaphragm support member, Hugh S. Knowles, 2,469,773, 7 cl. Orig appl June 4, '34; divided and this appl Aug 12, '42; granted May 10, '49

Magnetic assembly for permanent magnet type loudspeakers, Francis H. Goldsmith, 2,486,837, 2 cl. Appl Dec 11, '48; granted Nov 1, '49

Magnetically shielded electro-dynamic sound reproducer, Webster E. Gilman, 2,458,158, 5 cl. Appl Nov 25, '42; granted Jan 4, '49

Outdoor theatre loudspeaker support post, George M. Petersen, 2,473,173, 4 cl. Appl June 29, '45; granted June 14, '49

Reflex type loud-speaker cabinet, Stanley M. Kincart, 2,491,982, 6 cl. Appl Sep 12, '46; granted Dec 20, '49

Rotatable loud-speaker support with associated stationary baffle, Jerome Markowitz, 2,491,674, 13 cl. Appl Nov 12, '48; granted Dec 20, '49

Sealed-coil type vibratory magnet loudspeaker, John O. Angehrn, 2,492,255, 1 cl. Appl Dec 26, '44; granted Dec 27, '49

Support clamp for electrodynamic loud-speakers, James P. Quam, 2,475,516, 4 cl. Appl July 10, '44; granted July 5, '49

See also

Acoustics & Sound, Electroacoustical Systems
Public Address Systems

M

MAGNETRONS

Analysis and design of a tunable magnetron for millimeter wave length operation. M.S. thesis. James Michael Early. Ohio State U E.E. Dept Sep '48

Calculation of characteristics of the coupling circuits for a modulated magnetron. (Determination des caracteristiques des circuits d'adaptation d'un magnetron modulateur) J. Ortusi and P. Fechner. Ann Radioelec 4:295-314 Oct '49

Drawings for the 1050/SI transmitter modulator as well as reports on magnetron research and miscellaneous electronics research reports, 1939-1943. PB 84921. In German

Dynatron effect in multi-segment magnetrons. V. I. Kalinin and G. M. Gerstein. Akad Nauk Dok 51:275-276 '46

Frequency stability of magnetron oscillations of dynatron type. N. S. Zinchenko. Radiotekhnika 3:40 Mar-Apr '48

Grid controlled magnetron and some of its applications in the range of medium ultra-short and decimeter waves. S. Y. Braude and A. M. Ivanchenko. Zh Tekn Fiz 14:611-622 '44

Investigation of a stub-tuned magnetron. Ph.D. thesis. William L. Briscoe. Yale U E.E. Dept '49

Magnetron research in Japanese navy. Japanese Industry Rep. BIOS JAP PR 193 Brit Govt Pub

Magnetron transmitter with a high ordinal number n; high frequency oscillator. PB 92150. In German.

Magnetron with an internal volume contour in form of a cylindrical resonator. A. N. Sus. Akad Nauk Izvest 12:692-694 Nov-Dec '48. In Russian

Paralleling of S-band magnetrons. J. M. Weaver and D. W. Fry. Atomic Eng Res EL/R 341 10 pp. AEC

Problem of magnifying frequency by means of magnetrons. A. A. Slutskin. Zh Tekn Fiz 6:1814 '36

Pulser and water load for high power magnetrons. '48 PB 95405

Radar magnetrons developed and their use. German Industry Rep. CIOS XX:36 Brit Govt Pub

Research reports covering wave propagation and magnetrons, 1941-1945. PB 84902. In German

Rotating probe machine. George L. Stambach. Electronics 22:182+ Mar '49

Rotating space charge in a magnetron with a continuous anode. I, Static case. I. I. Vasserman Zh Tekn Fiz 18:785-792 June '48. In Russian

Space-charge effects and frequency characteristics of CW magnetrons relative to problem of frequency modulation. H. W. Welch, jr. 37:176 Feb '49 IRE Proc

Spiral-beam method for amplitude modulation of magnetrons. J. S. Donal, jr. and R. R. Bush. IRE Proc 37:375-382 Apr '49

Technical manuals and research reports covering transmitters, wave propagation antennas, magnetrons, VHF tubes, frequency and voltage measurement, and radar method, 1941-1944. PB 84896. In German

Wide-tuning-range low-power CW magnetron. L. R. Bloom and W. W. Cannon. 37:178 Feb '49 IRE Proc

Patents

Cavity resonator electron discharge device, Elmer J. Gorn, 2,474,938, 7 cl. Appl Sep 12, '44; granted July 5, '49

Electrical discharge device, Donald A. Wilbur, 2,462,698, 14 cl. Appl June 23, '45; granted Feb 22, '49

Electrical discharge device of the magnetron type, Percy L. Spencer, 2,478,644, 8 cl. Appl Oct 23 '43; granted Aug 9, '49

MAGNETRONS, *Patents*-Cont'd.

Electromagnetic resonator of the magnetron type, Raymond A. Heising, 2,474,898, 4 cl. Appl Apr 5, '44; granted July 5, '49

Electron discharge device, Nelson Wax, 2,466,922, 11 cl. Appl Feb 12, '46; granted Apr 12, '49

Electron discharge device, Palmer P. Derby, 2,463,-524, 8 cl. Appl Mar 10, '45; granted Mar 8, '49

Electron discharge device, Robert C. Schmidt, 2,473,-547, 4 cl. Appl Sep 28, '45; granted June 21, '49

Electron discharge device, William E. Shoupp, 2,467,-538, 7 cl. Appl May 10, '47; granted Apr 19, '49

Electron discharge device of the magnetron type, Carl W. Becker, 2,476,130, 1 cl. Appl Jan 11, '45; granted July 12, '49

Electron discharge device of the magnetron type, Percy L. Spencer, 2,473,399, 12 cl. Appl Mar 27, '45; granted June 14, '49

Electron discharge device of the magnetron type, Percy L. Spencer, 2,473,828, 4 cl. Appl Nov 15, '43; granted June 21, '49

Electron discharge device of the magnetron type, Percy L. Spencer, 2,475,526, 2 cl. Appl Sep 26, '47; granted July 5, '49

Electron discharge device of the magnetron type, Percy L. Spencer, 2,475,646, 13 cl. Appl Feb 22, '45; granted July 12, '49

Electron discharge device of the magnetron type, William C. Brown, 2,463,511, 18 cl. Appl Oct 16, '43; granted Mar 8, '49

Electron discharge device of the magnetron type, William C. Brown and Erich Nevin Kather, 2,480,-999, 3 cl. Appl July 23, '46; granted Sep 6, '49

Frequency controllable magnetron system, Philip H. Peters, jr., 2,490,007, 6 cl. Appl Mar 15, '47; granted Nov 29, '49

Frequency stabilizer for oscillators, William E. Bradley, 2,485,029, 11 cl. Appl Aug 30, '44; granted Oct 18, '49

High-frequency transmission system, William E. Bradley, 2,485,030, 12 cl. Orig appl Aug 30, '44; divided and this appl Aug 31, '44; granted Oct 18, '49

High-frequency transmission system, William E. Bradley, 2,485,031, 11 cl. Orig appl Aug 30, '44; divided and this appl Aug 31, '44; granted Oct 18, '49

Laminated magnetron, Percy L. Spencer, 2,466,059, 5 cl. Appl Sep 3, '43; granted Apr 5, '49

Magnetic core and clamp, Drew Halvorsen, 2,485,599, 3 cl. Appl Apr 9, '45; granted Oct 25, '49

Magnetron, Alfred H. Laidig, 2,482,495, 11 cl. Appl Nov 27, '43; granted Sep 20, '49

Magnetron, Elmer D. McArthur, 2,485,401, 7 cl. Appl June 4, '46; granted Oct 18, '49

Magnetron, Ernest C. Okress, 2,492,313, 3 cl. Appl Nov 2, '43; granted Dec 27, '49

Magnetron, John P. Blewett and Robert V. Langmuir, 2,460,119, 1 cl. Appl Sep 23, '44; granted Jan 25, '49

Magnetron inductive tuner employing variably spaced parallel plate transmission line, Paul L. Hartman, 2,466,765, 5 cl. Appl Sep 22, '44; granted Apr 12, '49

Magnetron oscillator, Warren P. Mason, 2,474,485, 6 cl. Appl Sep 14, '44; granted June 28, '49

Modulation system, William M. Hall, 2,473,794, 2 cl. Appl June 22, '45; granted June 21, '49

Oscillator, Foster F. Rieke, 2,473,448, 5 cl. Appl Apr 18, '45; granted June 14, '49

Protective means for electron discharge devices, Charles V. Litton, 2,477,633, 4 cl. Appl Nov 1, '45; granted Aug 2, '49

Single cavity multisegment magnetron, Carl I. Shulman, 2,490,008, 9 cl. Appl Jan 7, '47; granted Nov 29, '49

Transmit-receive system, Bruce B. Cork, 2,472,196, 4 cl. Appl May 17, '45; granted June 7, '49

Tunable magnetron, Herbert C. Jonas, 2,459,030, 5 cl. Appl Mar 7, '45; granted Jan 11, '49

Tunable magnetron, Howard W. Garbe, 2,480,462, 1 cl. Appl Jan 7, '44; granted Aug 30, '49

Variable frequency magnetron circuit, Edgar Everhart, 2,472,200, 9 cl. Appl Aug 8, '45; granted June 7, '49

See also

Cavity Resonators
Microwaves, Tubes

MAGNETRONS, Electrodes

Patents

Anode for strapped magnetrons, Arnold T. Nordstock, 2,463,416, 8 cl. Appl May 8, '46; granted Mar 1, '49

Cathode for magnetrons, Homer G. Anderson, 2,481,-061, 2 cl. Orig appl Nov 7, '44; divided and this appl Aug 20, '47; granted Sep 6, '49

Cathode structure for magnetrons, Peter W. Forsbergh, jr., 2,463,372, 8 cl. Appl Oct 3, '45; granted Mar 1, '49

Cathode structure for magnetrons, Polykarp Kusch, 2,463,398, 6 cl. Appl July 9, '45; granted Mar 1, '49

Contamination resisting hat for magnetrons, Franklin Hutchinson, 2,463,388, 3 cl. Appl Jan 3, '46; granted Mar 1, '49

MAGNETS and MAGNETIC MATERIALS

Elemental quanta and magnetism. (Elementarquanten und magnetismus) Elektron Wiss und Tech 3:387-390 Oct '49

Gyromagnetic effects. (Die kreiselmagnetischen effekte) Elektron Wiss und Tech 3:82-83 Feb '49

Influence of atomic order on magnetic properties. J. E. Goldman. Jour Ap Phys 20:1131-1136 Dec '49

Irreversible magnetic effects of stress. William Fuller Brown, jr. Phys Rev 75:147-154 Jan 1, '49

Magnet holds pivot while torch cuts circle. Nickel Topics 2:3 June '49

Magnetic internal conversion coefficient. S. D. Drell. Phys Rev 75:132-136 Jan 1, '49

Magnetic materials for electrical power plant. F. Brailsford. Engineering 168:293+ Sep 16, '49

Magnetic materials with a rectangular hysteresis loop. Sep '48 PB 96666

Magnetic properties at high operating temperatures. M. L. Manning. Elec Eng 68:336 Apr '49

Magnetism. F. Bitter. Phys Today 2:20-28 Nov '49

Magnetostriction and order-disorder. J. E. Goldman and R. Smoluchowski. Phys Rev 75:140-146 Jan 1 '49

MAGNETS & MAGNETIC MATERIALS-Cont'd.

Mechanism of magnetization. A. H. Cooke. Nature 163:305+ Feb 26, '49

Nonharmonic oscillations as caused by magnetic saturation. Reinhold Ruedenberg. AIEE Proc section 9170:1-10 July '49

Nonmetallic materials developed with improved magnetic properties. Materials and Methods 29: 54-55 June '49

Physics of metals. John C. Slater. Phys Today 2:6-13 Jan '49

Quantitative examination of recent ideas on domain structure. L. F. Bates and F. E. Neale. Physica 15:220-224 Apr '49

Recent development in soft magnetic materials. H. H. Scholefield. Jour Sci Instr 26:207-209 June '49

Rectangular hysteresis drag. (Rechteckige hysteresisschleifen) Elektron Wiss und Tech 3:102 Mar '49

Review of magnetic materials especially for communication systems. R. A. Chegundden. Metal Progress 54:705-714 Nov '48

Soft magnetic materials. E. A. Gaugler. Product Eng 20:84-98 July '49

Some effects of tension on magnetization processes. K. H. Stewart. Physica 15:235-240 Apr '49

Study of magnetic viscosity. R. Street and J. C. Wooley. Phys Soc Proc section A 62:562-572 Sep '49

Typical data sheet for magnetic materials. R. A. Chegundden. Metal Progress 54:704B Nov '48

Patents

Fixture for magnetic chucks, Gleason W. Starn, 2,485,220, 6 cl. Appl Nov 20, '47; granted Oct 18, '49

Magnetic fixture for holding work to be ground, Richard G. Nill, 2,474,800, 10 cl. Appl Jan 19, '46; granted June 28, '49

Magnetic sheet coatings, Paul L. Schmidt, 2,465,284, 1 cl. Appl June 8, '46; granted Mar 22, '49

Magnetic work holder, Walter J. Norlander, 2,475,456, 3 cl. Appl Aug 24, '44; granted July 5, '49

Measuring apparatus, Rudolf F. Wild, 2,476,267, 8 cl. Appl May 13, '47; granted July 12, '49

See also

Amplifiers, Magnetic
Electromagnetic Theory, Magnetostatics

MAGNETS & MAGNETIC MATERIALS, Alloys

Crystal orientation in magnetic alloys. Martin Littman. Elec Eng 68:977-979 Nov '49

Developments in iron and silicon-iron alloys. Electrician 143:737-738 Sep 2, '49

Frequency dependence of magnetic permeability of permalloy type. K. A. Goronina. Akad Nauk Dok 61:459-462 '48. In Russian

Improved silicon-irons for electrical equipment. W. Morrell. Metal Progress 54:675-678 Nov '48

Iron-cobalt alloys for high induction applications. J. K. Stanley. Elec Eng 68:333 Apr '49

Magnetic domain patterns on single crystals of silicon iron. H. J. Williams and others. Phys Rev 75:155-178 Jan 1, '49

Magnetic structure of highly coercive alloys. pt 1 Some peculiarities of magnetization curves and hysteresis loops of the highly coercive alloys alnico and vicalloy. L. A. Shubina and Y. S. Shur. pt 2 Influence of thermomagnetic treatment on the electrical resistance of the highly coercive alloy alnico. V. I. Drozhina and others. Zh Tekn Fiz 19:88-94+ Jan '49. In Russian

Magnetic studies on single crystals of Tungstenite (WS_2). A. K. Dutta and B. C. R. Chowdhury. Indian J. Phys 23:131-143 Mar '49

Magnetic susceptibility of the intermetallic compound Mg_2Sn. B. I. Boltaks. Akad Nauk Dok 64:487-490 '49. In Russian

Magnetism in copper alloys: the effect of iron as an impurity. (Abstract) Allison Butts and Paul L. Reiber, jr. Jour Geophys Res 54:303 Sep '49

Magnetostriction curves of the highly coercive alloys alnico and vicaloy. D. A. Shturkin and Y. S. Shur. Zh Tekn Fiz 19:250-270 Feb '49. In Russian

Magnetostriction of Fe-Pt alloys. N. S. Akulov and others. Akad Nauk Dok 65:815-818 '49. In Russian

New magnetic alloy. Wireless World 55:38+ Jan '49

See also

Materials

MAGNETS & MAGNETIC MATERIALS, Cores

Application of radiocrystallography to the study of core losses: case of the cupro-nickels obtained by the metallurgy of powders. N. Thien-Chi. Ann Radioelec 4:48-53 Jan '49. In French

Deltamax, a new magnetic core material. W. S. Spring. Iron Age 163:70-73 Mar 31, '49.

Effect of premagnetization on the complex permeability of coil cores. R. Feldkeller and E. Stegmaier. Eng Digest 10:376-381 Nov '49

German methods for manufacture of iron powder cores. FIAT 1101 Brit Govt Pub

Hysteresis and Eddy current in laminated cores at weak alternating fields. (Hysteresen und wirbelstroeme in spulenblechkernen bei schwachen wechselfeldern feldtkeler) Fernmeldetech Zeit 2: 9-14 Jan '49

Iron cores. (Lidt om jernkerner) Radio Ekko 11: 244-245 Dec '48

Magnetic core material permits mechanical rectification. Nickel Topics 2:8 Aug '49

Magnetic materials for R.F. coils. (Technologie du noyau magnetique H.F.) H. Besson. Toute la Radio No 136:187-190 June '49

Measurement of AC magnetic properties of core materials. D. E. Wiegand. Frontier 12:9-11 Sep '49

New short wave coil core. (Ny kortbolge-spole-central) Radio Ekko 11:115 June '48

Rise of flux due to impact excitation: Retardation by eddy currents in solid parts. IEE Proc 96:57+ Feb '49

Soft iron magnetic cores. German Industry Rep. BIOS Misc 10 Brit Govt Pub

Patents

Core for electromagnets, Charles Frank Miller, 2,482,860, 10 cl. Appl Dec 14, '45; granted Sep 27, '49

MAGNETS & MAGNETIC MATERIALS, Cores, *Patents*–Cont'd.

Electromagnetic induction apparatus and method of forming same, Gareth G. Somerville, 2,467,867, 12 cl. Appl Sep 11, '44; granted Apr 19, '49

Magnetic core, Ernest G. Walters, 2,467,101, 10 cl. Orig appl Mar 8, '41; divided and this appl Mar 7, '42; granted Apr 12, '49

Magnetic core, Gareth G. Somerville, 2,483,159, 1 cl. Appl Dec 26, '46; granted Sep 27, '49

Magnetic core, Gareth G. Somerville, 2,486,220, 7 cl. Appl Oct 18, '47; granted Oct 25, '49

Magnetic core, Jacob J. Vienneau, 2,478,029, 7 cl. Appl May 24, '45; granted Aug 2, '49

Magnetic core, John C. Granfield, 2,465,798, 1 cl. Appl Mar 29, '46; granted Mar 29, '49

Magnetic core, Thomas D. Gordy, 2,467,823, 2 cl. Appl Mar 17, '48; granted Apr 19, '49

Magnetic core with variable air gap, Albert M. Candy, 2,460,922, 6 cl. Appl Dec 22, '47; granted Feb 8, '49

Magnetic testing device, Walter B. Ellwood, 2,461,-202, 10 cl. Appl Mar 28, '45; granted Feb 8, '49

Means for binding magnetic core structures, Martin B. Grout, 2,460,639, 5 cl. Appl Sep 11, '44; granted Feb 1, '49

Method of electropolishing laminated magnetic cores, Ralph J. Bondley, 2,479,302, 1 cl. Appl Oct 11, '45; granted Aug 16, '49

Method of making magnetic cores, Gareth G. Somerville, 2,467,868, 3 cl. Orig appl Jan 18, '47; divided and this appl Nov 26, '47; granted Apr 19, '49

Method of making magnetic cores, Guglielmo Camilli, 2,488,961, 1 cl. Orig appl Nov 7, '45; granted Nov 22, '49

Variable reluctance core, Richard A. Pfuntner, 2,460,145, 1 cl. Appl Jan 23, '48; granted Jan 25, '49

See also

Materials

MAGNETS & MAGNETIC MATERIALS, Electromagnets

Design of an electromagnet with rectangular pole pieces. J. Kistmaker. Appl Sci Res B1:269-272 '49

Nomogram for determining length of wire on magnet coil. C. P. Nachod. Product Eng 20:149 Aug '49

Simply-constructed small electromagnet of high performance. R. P. Hudson. Jour Sci Instr 26: 401-404 Dec '49

Uppsala electromagnet. Olle Smellman. Jour Sci Instr 26:331-335 Oct '49

Patents

Backstop for electromagnetic devices, Maximilian C. Becker, 2,473,851, 7 cl. Appl Aug 6, '43; granted June 21, '49

Coil arrangement for electro-magnetic devices, Harold N. Wager, 2,460,556, 4 cl. Appl Nov 8, '47; granted Feb 1, '49

Electromagnet, Francois Jean Marie Theunissen, 2,472,553, 1 cl. Appl Apr 5, '46; granted June 7, '49

Electromagnetic device, Albert G. Thomas, 2,490,009, 5 cl. Appl Jan 17, '46; granted Nov 29, '49

Electromagnetic system, Alan S. Fitz Gerald, 2,459,-069, 4 cl. Appl Dec 14, '46; granted Jan 11, '49

Magnet coil, Ralph E. Ferris and John R. Shirley, 2,484,212, 2 cl. Appl July 20, '45; granted Oct 11, '49

Manufacture of imbricated electromagnetic elements, George William Rawlings, 2,487,180, 14 cl. Appl July 25, '47; granted Nov 18, '49

Method of making electromagnetic induction apparatus, Jacob J. Vienneau, 2,478,030, 4 cl. Orig appl May 24, '45; divided and this appl June 17, '46; granted Aug 2, '49

Polarized electromagnet, Winslow B. M. Clark, 2,473,939, 6 cl. Appl Oct 22, '45; granted June 21, '49

See also

Electromagnetic Theory, Magnefostatics

MAGNETS & MAGNETIC MATERIALS, Ferric

Advances in theory of ferromagnetism. R. M. Bozorth. Elec Eng 68:471-476 June '49

Carbonyl iron powders. George O. Altmann. FM-TV 9:29 - June '49

Domain structure of ferromagnetic bodies in presence of a magnetic field. L. Kholodenko. Zh Eksp Teor Fiz 17:698-707 '47

Eddy-current anomaly in ferromagnetic laminae at high rate of change of flux. L. R. Blake. IEE Proc pt II 96:705-718 Oct '49

Ferromagnetic domains. R. M. Bozorth. Physica 15:207-219 Apr '49

Ferromagnetic hysteresis. Charles Boulanger. Physica 15:266-271 Apr '49

Ferromagnetic materials. Elec Rev (London) 145: 964-967 Nov 18, '49

Ferromagnetic materials. Electrician 143:1565-1567 Nov 11, '49

Ferromagnetic resonance absorption magnetite. (Letter) L. R. Bickford, jr. Phys Rev 76:137-138 July 1, '49

Ferromagnetism at very high frequencies. Method of measurement and process of magnetization. M. H. Johnson and G. T. Rado. Naval Res Lab Rep R3359 38 pp Sep 22, '48. AEC

"Ferroxcube." Philips Tech Comm No 2-3:28-31 '49

Gorter normal field ferromagnetic resonance experiment. C. Kittel and others. Physica 15:256-257 Apr '49

Influence of even harmonics on the characteristics of ferromagnetic materials on simultaneous magnetization with direct and alternating magnetic fields. M. A. Rozenblat. Zh Tekn Fiz 18: 765-774 June '48. In Russian

Influence of stretching on the magnetization of ferromagnetics in the region of the para-process. K. P. Belov. Akad Nauk Dok 61:807-809 '48. In Russian

Interchange interaction and collective electron ferromagnetism. E. P. Wohlfarth. Phil Mag 40: 703-717 July '49

Magnetic properties of iron compacts in relation to sintering temperature. Robert Steinitz. Jour Ap Phys 20:712-714 July '49

MAGNETS & MAGNETIC MATERIALS, Ferric–Cont'd.

Magneto-thermal effects in ferromagnetics. E. C. Stoner and P. Rhodes. Phil Mag 40:481-521 May '49

Magnets from pure iron powder. R. Steinitz. Metal Progress 55:858-868 June '49

New developments in ferromagnetic materials. J. L. Snoek. Metal Ind 72:465+ June 4, '48

New ferromagnetic materials. K. Sixtus. Arch Elek 39:260-266 Dec '48

Optical constants of ferromagnetics. S. V. Vonsovski and A. V. Sokolov. Zh Eksp Teor Fiz 19: 615-620 July '49. In Russian

Present status of theory of ferromagnetism. J. H. Van Vleck. Physica 15:197-206 Apr '49

Principal work in ferromagnetism since about 1938. W. Sucksmith. Iron & Steel Inst J 163:51-60 Sep '49

Simple domain structure in an iron crystal showing a direct correlation with the magnetization. H. J. Williams and W. Shockley. Phys Rev 75:178-183 Jan 1, '49

Simple theory of powdered iron at all frequencies. Wheeler Mono 6:1 Apr-Sep '48

Sintering of iron powders. H. Berstorff. Metal Treat 54:85-89 summer '48

Soft iron for the electromagnet of a cyclotron. J. J. Went. Philips Tech Rev 10:246-254 Feb '49

Temperature dependence and temperature hysteresis of magnetic anistropy of meteorite iron. L. V. Kirenski. Akad Nauk Dok 64:191-194 '49. In Russian

Theory of ferromagnetic resonance. D. Polder. Physica 15:253-255 Apr '49

Time-effects in ferromagnetism. J. L. Snoek. Physica 15:244-251 Apr '49

See also

Materials

MAGNETS & MAGNETIC MATERIALS, Fluid

Magnetic fluid adaptable to many control devices. J. Rabinow. SAE Jour 57:28-29 June '49

Magnetic fluid clutch. K. E. Wakefield. Gen Elec Rev 52:39-43 Dec '49

Magnetic-fluid engaged clutch. Power 93:120 June '49

Magnetic fluid uses. John Markus. Electronics 22: 120-122 Sep '49

Magnetic molasses. Hydraulic clutches are only one application of fluids that solidify in a magnetic field. Chem Ind 65:345 Sep '49

New uses for magnetic fluids. Elec Eng 68:620 July '49

New uses for magnetic fluids. Nat Bur Stand Tech Bul 33:74-76 June '49

New uses for magnetized iron-oil mixtures. Product Eng 20:171-172 June '49

MAGNETS & MAGNETIC MATERIALS, Foreign

Beryllium industries of Germany and Italy (1939 to 1945). German Industry Rep. FIAT 522 Brit Govt Pub

Cobaltine alni-steel magnets. German Industry Rep. CIOS XXXI-4 Brit Govt Pub

German naval mining relays and moulded powder permanent magnets. German Industry Rep. BIOS 587 Brit Govt Pub

Investigation of Beryllium production in Germany and Italy including production and uses of oxides and alloys. German Industry Rep. BIOS 550 Brit Govt Pub

Japanese magnetostrictive materials. BIOS/JAP/PR/314 Brit Govt Pub

Magnetic development in Japan during World War II. BIOS/JAP/PR/1283 Brit Govt Pub

Magnetic materials and beryllium. German Industry Rep. BIOS 36 Brit Govt Pub

Manufacture and application of specialized magnetic materials generally (including notes on other alloys requiring manufacturing technique). German Industry Rep. BIOS 8 Brit Govt Pub

Manufacture of sintered magnets in the "Magnetfabrik Dortmund" of the Deutsche Edelstahlwerke. A. G. Krefeld. German Industry Rep. FIAT 1130 Brit Govt Pub

New high permeability magnetic material developed in Japan. BIOS/JAP/PR/241 Brit Govt Pub

Production of beryllia and beryllium at Degussa plants. German Industry Rep. BIOS 158, 319, and 945 Brit Govt Pub

MAGNETS & MAGNETIC MATERIALS, High Frequency

Complex magnetic susceptibility of paramagnetics at high frequencies. I. G. Shaposhnikov. Zh Eksp Teor Fiz 19:577-580 July '49. In Russian

Ferromagnetism at very high frequencies. Method of measurement and processes of magnetization. M. H. Johnson and G. T. Rado. Phys Rev 75: 841-864 Mar 1, '49

High-frequency permeability. J. Smidt. Appl Sci Res B1:127-134 '48

Magnetic behavior of ferromagnetics at high frequencies. H. J. Van Leeuwen. Physica 15:253-263 Apr '49

Magnetic ferrites for high-frequency uses. F. G. Brockman. Elec Eng 68:1077-1080 Dec '49

Magnetospin resonance in ferromagnetic substances on centimeter waves. E. K. Zavoiski. Zh Eksp Teor Fiz* 17:883-888 '47

Materials for high-frequency applications — magnetic ferrites. Frank G. Brockman. Elec Eng 68:336 Apr '49

Permeability and eddy currents in laminated cores at very high frequencies. (Permeabjlitaet und Wirbelstroeme in Blechkernen bei sehr hohen Frequenzen) R. Feldtkeller. Frequenz 3:111-116 Apr '49

Technology of HF magnetic cores. R. Besson. Toute la Radio No 136:187-190 June '49. In French

Thin-gauge iron-silicon alloys for high-frequency applications. D. C. Dieterly. Elec Eng 68:335 Apr '49

MAGNETS & MAGNETIC MATERIALS, Measurements

Airborne magnetometer for measuring the earth's magnetic vector. E. O. Schonstedt and H. R. Irons. Science 110:377-378 Oct 7, '49

MAGNETS & MAGNETIC MATERIALS, Measurements–Cont'd.

Airborne magnetometer in Canada. J. M. Bridgeman. Can Min J 69:65-68 Nov '48

Dynamic magnetic measurements on cosmotron magnet model. G. K. Green and others. 1 p AECU 263

Ferrometer: new magnetic measuring instrument for soft iron. PB 96176

German magnetic separator applications, particularly in concentration of minerals feebly magnetic. BIOS 1696 Brit Govt Pub

Indicating fluxmeter utilizing a germanium semiconductor. H. E. Walchli. 17 pp Apr 19, '49 AECU 289

Inductance apparatus for diamagnetic measurements. S. Broersma. Rev Sci Instr 20:660-663 Sep '49

Instruments for measuring and testing permanent magnets. (Mess- und Pruefgeraete fuer Dauermagnete) Radio Tech 25:255-258 Apr '49

Magnetic sorting bridge. Philips Tech Comm No 1:7-8 '49

Magnetics. "Thermoperm" and magnetic tachometers. German Industry Rep. BIOS 1259 Brit Govt Pub

Measurement of magnetic susceptibility at low temperature. F. W. Gauque and others. Am Chem Soc J 71:1657-1664 May '49

New sensitivity permanent magnetometer. Ellis A. Johnson and others. Rev Sci Instr 20:429-434 June '49

Owen bridge for testing magnetic materials. R. J. Stanley. Muirhead Technique 3:20-21+ July '49

Simple direct-reading fluxmeter. G. H. Briggs and W. H. Mitchell. Jour Sci Instr 26:40+ Feb '49

Patents

Apparatus for magnetic measurements, Wilson M. Powell, 2,479,699, 2 cl. Appl Aug 9, '46; granted Aug 23, '49

Combination magnetometer and gradiometer, Otto H. Schmitt, 2,485,847, 2 cl. Appl Sep 23, '44; granted Oct 25, '49

Detection system, Edwin P. Felch, jr., Francis G. Merrill, and Thaddeus Slonczewski, 2,488,389, 7 cl. Appl Sep 25, '45; granted Nov 15, '49

Detection system, Thaddeus Slonczewski, 2,488,341, 7 cl. Appl Sep 25, '45; granted Nov 15, '49

Fluxmeter, Theodore A. Rich, 2,484,587, 8 cl. Appl Sep 4, '48; granted Oct 11, '49

Fluxmeter, Valoran Russell, 2,459,341, 7 cl. Appl Aug 13, '45; granted Jan 18, '49

Magnetic detector, William E. Kahl, 2,477,337, 4 cl. Appl July 31, '44; granted July 26, '49

Magnetic testing with artificial standard, Theodore Zuschiag, 2,470,839, 10 cl. Appl Feb 5, '46; granted May 24, '49

Magnetometer, Jacob H. Rubenstein, 2,480,265, 8 cl. Appl Jan 23, '46; granted Aug 30, '49

Method and apparatus for detecting flaws, Walter C. Barnes, 2,461,252, 17 cl. Appl June 5, '44; granted Feb 8, '49

Permeability determination, Joseph A. Ashworth and Raymond A. Chegwidden, 2,468,154, 22 cl. Appl Oct 5, '43; granted Apr 26, '49

See also
Measurements & Meters, Field Strength

MAGNETS & MAGNETIC MATERIALS, Nickel Alloys

Alnico magnets, preparation by sintering. German Industry Rep. CIOS XXX-8 Brit Govt Pub

Influence of demagnetization by a variable field on the galvanoelastic effect in nickel. V. I. Zaitsev. Zh Eksp Teor Fiz 19:95-100 Jan '49. In Russian

Influence of nonstabilized magnetic texture on the hysteresis loop of the galvanomagnetic effect in nickel. V. I. Zaitsev. Zh Eksp Teor Fiz 19:101-104 Jan '49. In Russian

Influence of stresses on the Hall effect of iron-nickel alloys with positive constriction. G. P. Priporova. Zh Eksp Teor Fiz 18:1041-1044 Nov '48. In Russian

Longitudinal magnetostriction of the ferrites of nickel and magnesium. R. Vautier. Compt Rend Acad Sci 229:177-179 July 18, '49

Magnetic characteristics of an oriented 50 percent nickel-iron alloy. K. H. Crede and J. P. Martin. Jour Ap Phys 20:966-971 Oct '49

Magnetic properties of nickel-cobalt and related alloys. E. P. Wohlfarth. Phil Mag 40:1095-1111 Nov '49.

Magnetic viscosity of some iron-nickel alloys and delayed magnetization discontinuities. R. V. Telesnin. Zh Eksp Teor Fiz 18:970-975 Nov '48. In Russian

Metastable stages of nickel characterized by a high initial permeability. J. L. Snoek and J. F. Fast. Nature 161:887+ June 5, '48

Production of cast and sintered alnico magnets. German Industry Rep. BIOS 993 Brit Govt Pub

Temperature dependence of the energy constant of magnetic anisotropy of nickel. L. V. Kirenski. Akad Nauk Dok 64:53-56 '49. In Russian

MAGNETS & MAGNETIC MATERIALS, Permanent

Anisotropic permanent magnets. Philips Tech Comm No 1:6+ '49

Cause of anisotropy in permanent magnet alloys. K. Hoselitz and M. McCaig. Phys Soc Proc series B 62:163+ Mar 1, '49; also in Physica 15:241-243 Apr '49

Characteristics of permanent magnets. (Die Wirkungsweise von Dauermagneten) Radio Tech 25:60-63 Jan '49

Concerning the perfect magnet. E. Brylinski. Revue Gen Elec 58:315-320 Aug '49

Demagnetization curve of permanent magnets. (Magnetometrische Messung der entmagnetisierungskurve von Dauermagneten) Steingroever. Arch Elek 39:391-393 Apr '49

German permanent magnet industry. BIOS 717 Brit Govt Pub

Induction brazing methods applied to permanent magnets. D. Hadfield. Metallurgia 40:165-166 July '49

Magnetostriction of anisotropic permanent magnet alloys. M. McCaig. Phys Soc Proc section B 62: 652-656 Oct '49

MAGNETS & MAGNETIC MATERIALS, Permanent–Cont'd.

Magnets for radio. A. Edwards and F. Knight. Wireless World 55:S16-S19 June '49

Materials for permanent magnets. (Werkstoffe fuer Dauermagnete) Wintergerst. Funk und Ton 3: 48-50 Jan '49

Permanent magnet materials have high induction, coercive force. Materials & Methods 30:100 Nov '49

Permanent magnets. (Ueber Dauermagnete: Eigenschaften, Bemessung, Baustoffe) Fischer. Arch Elek 39:327-339 Feb '49

Permanent magnets. W. E. Burnand. Elec Rev 144:63 Jan 14, '49

Permanent magnets in drag devices and torque-transmitting couplings. R. J. Parker. Gen Elec Rev 52:16-20 Sep '49

Report on permanent magnet alloys produced in Japan. BIOS/JAP/PR/215-311 Brit Govt Pub

Stabilized permanent magnets. P. P. Cioffi. Elec Eng 68:302 Apr '49

Structure and properties of the permanent magnet alloys. Alfred H. Geisler. Elec Eng 68:336 Apr '49

Patents

Adjustable strength permanent magnet, Richard G. Jewell, 2,479,363, 2 cl. Orig appl Dec 12, '42; divided and this appl Jan 15, '46; granted Aug 16, '49

Electrical instrument, George H. Fritzinger, 2,460,-686, 8 cl. Appl Jan 4, '44; granted Feb 1, '49

Manufacture of permanent oxide magnets, Louis Neel, 2,463,413, 9 cl. Appl Apr 17, '45; granted Mar 1, '49

Permanent magnet field coupling, Samuel Karasick, 2,470,249, 9 cl. Orig appl Sep 6, '40; divided and this appl Apr 27, '45; granted May 17, '49

MAGNETS & MAGNETIC MATERIALS, Steels

How to reduce adverse effects of fabricating on magnetic properties of steels. J. E. Ryan. Materials & Methods 29:49-51 Mar '49

Losses due to eddy currents in magnetic skin effect in steel plate. S. D. Margolin. Akad Nauk Dok 65:665-667 '49. In Russian

Magnetic after effects on commercial silicon and nickel steel sheets. (Untersuchung der magnetischen Nachwirkung an handelsueblichen Silizium- und Nickel-Eisenblechen) Wilde. Frequenz 3:309-319 Nov '49

Magnetic anisotropy in cold-reduced electrical sheet steel. A. E. De Barr. IEE Proc pt II 96:719-728 Oct '49

Magnetic properties of stainless steel. W. A. Stein. Elec Eng 68:204 Mar '49

Magnetic study of stainless steel wires. P. T. Hobson. Iron & Steel Inst J 159:145-157 June '48. Discussion; 162:424-427 Aug '49

Magnetic susceptibility of austenite steel. Z. A. Sviridova and G. V. Estulin. Zh Tekn Fiz 18: 1207-1209 Sep '48. In Russian

Patents

Process for developing high magnetic permeability and low core loss in very thin silicon steel, Martin F. Littmann, 2,473,156, 6 cl. Appl Nov 16, '44; granted June 14, '49

MANUFACTURING TECHNIQUES

Cable developments and improvements in dielectrics. Electrician 143:120 July 8, '49

Choice of materials for radio and other electronic equipment and for components therein. Rad Ind Coun Spec No RIC/100/A:1-18 July '49

Components for electronic devices. G. E. Guellich. 1:1307 PB 15954

Electrical insulation. Electrician 143:113-118 July 8, '49

Fitness for purpose; how the receiver manufacturer selects his components. G. D. Reynolds. Radio Times 4:13+ Aug 1, '49

Gasket materials for electrical equipment. W. B. Atkinson. Product Eng 20:124-127 Dec '49

India's budding radio industry. Radio Times 4:12-13+ Nov 1, '49

Latest methods of lowering net costs in a tube factory. L. Thibieroz. Ann Radioelec 4:178-183 July '49. In French

Mass production of radio and television receivers. M. Alixant. Radio Tech Dig 3:197-213 Aug '49. In French

Materials, processes, and research. Westinghouse Eng 9:28-32 Jan '49

Meters and X-ray units. Elec Rev 144:951-952 June 3, '49

Modern electronics plant uses all power services to best advantage. Power 93:64-67 Jan '49

Modernization of radio components. M. E. Caye. Onde Elec pt 1 29:26-34 Jan '49; pt 2 29:79-86 Feb '49. In French

Needed: better parts for industrial controls. R. Russo. Electronics 22:66-67 July '49

New components. A. de Saint-Tony. Telev Franc No 46:17-19 Apr '49. In French

New components of the Mondial market. M. Alixant. Radio Tech Dig 3:21-47 Feb '49. In French

New orientation of the radioelectric industry. (Orientation nouvelle de la technique radioelectrique) M. Adam. Tech Mod 41:163-165 May '49

New quartz-metal seal. E. H. Nelson. Elec Rev 144:60+ Jan 14, '49

New realizations in radioelectric manufacturing. (Les nouvelles realisations de la construction radioelectrique) M. Adam. Tech Mod 41:227-230 July '49

Perfected assembly methods; cable connectors. Amph Eng N 2:90-91 Oct '49

Plastic electrets are nearing industrial application. T. A. Dickinson. Eng Digest 10:321-322 Sep '49

Pre-fab in radio. Radio Bul 18:357-361 Oct '49

Salon of broadcasting, television and electronics at the eighteenth Paris fair. Onde Elec 29:382-386 Oct '49. In French

Some examples of precision engineering. Electrician 143:1881-1885 Dec 9, '49

MANUFACTURING TECHNIQUES–Cont'd.

Specialty end of the electrical manufacturing field. Gordon Berry. Elec Eng 68:67 Jan '49

Supersonic tinning of aluminum wires. Machinery 74:546-547 Apr 28, '49

Technique of fusing glass. (Technologie der Glasverschmelzungen) Funk und Ton 3:172-177 Mar '49

Tungsten wire straightener. 2 pp '45 MDDC 1646

Visit to an instrument factory. Electrician 143: 1790-1794 Dec 2, '49

Waterproofing and shockmounting portable meters. 3 pp '44 MDDC 1519

Patents

Method of making electrical contacting elements, David G. Blattner, 2,458,552, 7 cl. Orig appl Dec 20, '43; divided and this appl Nov 9, '46; granted Jan 11, '49

See also

Cabinets, Radio & Television
Crystals, Growth & Manufacture
Industrial Applications
Printed Circuits & Miniaturization
Television, Manufacturing & Construction
Vacuum Tubes, Manufacturing

MANUFACTURING TECHNIQUES, German

Dutch report on manufacture of radio component parts in the American zone of Germany. PB 96355

Electric cable, wire insulating and braiding machine industry. German Industry Rep. BIOS 1341 Brit Govt Pub

Electronic equipment production, Paris area. German Industry Rep. CIOS XIII-5 Brit Govt Pub

German electrical equipment industry. PB 23360s

German laboratory instruments industry. German Industry Rep. BIOS 1562 Brit Govt Pub

German manufacture of wires and strips for electrical heating. German Industry Rep. BIOS 778 Brit Govt Pub

German radio component industry. German Industry Rep. BIOS 563 Brit Govt Pub

Industrial survey of plants, methods and products in German telephone industry. German Industry Rep. FIAT 526 Brit Govt Pub

Manufacture of condensers, high voltage, bushing insulators and laminated electrical insulation at "Dielektra" A.G., Porz-am Rhein. German Industry Rep. BIOS 1566 Brit Govt Pub

Some electrical factories in Berlin-British zone. German Industry Rep. BIOS 410 Brit Govt Pub

Study of industrial processing instrument industry in Germany. German Industry Rep. FIAT 523/586 Brit Govt Pub

MANUFACTURING TECHNIQUES, Planning

Cover sheet for technical memoranda — a technique in information exchange. R. C. Mathes. IRE Proc 37:912-913 Aug '49

Reducing costs in receiver manufacturing. S. A. Tucker. Electronics 22:86-93 Oct '49

Saving time in testing life. W. R. Purcell. Elec Eng 68:617-620 July '49

Why does it take so long? W. C. White. Electronics 22:66-69 Sep '49

MANUFACTURING TECHNIQUES, Quality Control and Inspection

Frequency-response control charts. A. B. Mundel. Elec Eng 68:862 Oct '49

Over-all inspection program. H. M. Wolfson. Elec Eng 68:591-594 July '49

Quality control in radio-tube manufacture. J. Alfred Davies. IRE Proc 37:548-556 May '49

Quality control makes good in a hearing aid plant. A. B. Mundel. Standardization 20:141-143 June '49

Statistical methods and engineering processes. B. P. Dudding and W. J. Jennett. GEC Jour 16:75-84 Apr '49

See also

Industrial Controls, Process
Test Equipment, Product Testing

MANUFACTURING TECHNIQUES, Standardization

ASESA — what it is and does. L. J. Tatom. Standardization 20:185-188 July '49

Definitions of physical constants and units. Funk und Ton 3:opp p 216+ Apr '49. In German

Fitness for purpose. G. D. Reynolds. Wireless World 55:s8-s9 June '49

Investment for the electrical industry. A. C. Monteith. Standardization 20:210-212 Aug '49

Normalization. Toute la Radio No 137:200-201 July-Aug '49. In French

Old and new electrical units. J. Fischer. Arch Elek 39:340-358 Feb '49

Standardization of RCA products. D. F. Schmit. Standardization 20:928-930+ Oct '49

Standardizing components. P. D. Canning. Wireless World 55:S19-S20 June '49

Universal language. Edward Bennett. Standardization 20:264-265 Oct '49

MANUFACTURING TECHNIQUES, Weatherization

Climatization of radio equipment. M. A. Radio Tech Dig 3:115-120 Apr '49. In French

Development and construction of telecommunication equipment for the colonies. C. Lawton and V. H. Winson. IEE Proc pt III 94:229-244 July '47

Electrical apparatus sealed for climate-proof equipment; metal-ceramic sealing; their manufacture, properties and applications. H. H. Hausner. Product Eng 16:849-853 Dec '45

Hermetically-sealed radio components; protection against humidity, sea-water and fungi. W. J. Leiss. Electronics 21:80-82 Nov '48

Influence of extreme climatic conditions on radio equipment and components. P. R. Coursey. Wireless Eng 21:412-420 Sep '44

Instruments hermetically sealed by glass-metal seals offer the maximum precision. O. G. MacAninch and L. F. Ferott. Gen Elec Rev 48:28-31 Nov '45

Investigations of the effect of moisture and fungi in the deterioration of low voltage radio hook-up wire. PB 98656

MFG. TECHNIQUES, Weatherization–Cont'd.

New silicone resins allow great variations in temperature. G. L. Moses. Westinghouse Eng 4: 138-141 Sep '44

Preventing molds and fungi. PB 6, 520, 1353, 1577, 1749, 1891, 2060, 2786, 3120, 3856-7, 6251, 6338, 11870, 13216, 13744, 17345, 23006, 31106, 31184-31190, 31216, and 32866

Protective packing. O. C. Rutledge. Gen Elec Rev 48:16-19 Dec '45

Utilization of silicones in the radio industry. C. Pass and T. A. Kauppi. IRE Proc 33:441-449 July '45

Water-tight sealing of transformers and coils used in telecommunication equipment. C. F. Bays and D. Slatter. IEE Proc pt III 94:347-357 Sep '47

Tropicalization

Choice of materials for tropicalised radio equipment. D. F. Livingstone and J. W. Whitehead. Brit IRE J 6:172-176 Sep-Nov '46

Conditions of climatic and durability tests for components for radio and other electronic equipments. Radio Ind Coun Spec No RIC/11:1-9 Jan '49

Corrosion in the tropics. K. G. Compton. Electrochem Soc Trans 91:629-638 '47

Deterioration of material in the tropics. W. G. Hutchinson. Sci Mon 49:165-177 Sep '46

Deterioration of radio equipment in very humid tropical climates and appropriate preventive measures. C. P. Healy. AWA Tech Rev 7:103-129 Dec '46

Deterioration of telecommunication equipment in the tropics. R. J. Collins and C. S. Gittoes. IRE Proc 33:3-8 Oct '45

Electrolytic corrosion; methods of evaluating insulating materials used in the tropics. B. H. Thompson and K. N. Mathes. Elec Eng 64:295-299 June '45

Electronic equipment for the tropics. R. Proskauer. Electronics 17:92-93 June '44

Insulation of conductors for tropical climates. W. J. Tucker and J. V. Wredden. Product Eng 16:632-633 Sep '45

Problems of electronics in the tropics. R. Allen. Elec Rev 141:933-934 Dec '47

Protection of equipment against molds and humidity. R. Proskauer and H. E. Smith. Electronics 18:119-123 May '45

Protection of telecommunication equipment destined for the tropics. J. Neuberger. Radio Franc 3: 33-36 '46. In French

Radio components resistant to tropical climates. R. C. Joyce. Electronic Eng 17:698+ Sep '45

Radio equipment resistant to humidity. E. C. Warrick. Electronics 18:212+ Apr '45

Radio equipment tested in tropical countries. W. J. Tucker. Electronic Eng pt 1 17:498-499 May '45; pt 2 17:538-540 June '45; pt 3 17:598-600 July '45

Tropical factors affecting electronic equipment. L. F. Dyrt. Radio N 32:32-34+ Dec '44

Tropical failures of electronic equipment. Electronics 17:198-222 Sep '44

Tropical humidity and molds; the problems they pose and their solution. E. S. McLarn and others. Elec Comm 22:303-313 '45

Tropical proofing of radio apparatus. (Letter) B. Evans. Radio Component Mfrs' Assn Tech Bul 1: 2-3 Aug '49

Tropicalisation. PB 5676, 7202, 9713, 11261, 11968, 11971, 23179, 26956, 31861-2, 32523, 33196, and 27690

Tropicalisation. G. Frankenstein and G. R. Hodge. PB 9713

Tropicalisation. H. A. Parker. Radio N 32:28-31+ Nov '44

Tropicalization and arcticization. Berti. Ind Plast Mod pp 507-509 Nov '48. In French

Tropicalisation of telecommunication equipment. J. Leutritz. Bell Lab Rec 23:105-107 Apr '45

Tropicalisation of transformers and coils. O. P. Scarff. Wireless World 52:312-313 Sep '46

Water-proofed military radio apparatus. R. C. Hildreth. Radio N 31:250-251 Feb '44

MATERIALS

Aluminum and the electrical industry. Donald M. White. Elec Eng 68:928-933 Nov '49

"Araldite." C. J. Moss. Electronic Eng 21:389-392 Oct '49

Dependence of dc resistance and power factor of paper on its dryness and temperature. (Die Abhaengigkeit des Gleichstromwiderstandes und des Verlustwinkels von Papier von dessen Trocknungszustand und Temperatur) Hans Veith. Frequenz pt 1 3:165-173 June '49; pt 2 3:216-222 July '49

Development of new materials. F. E. Robinson. Marconi Rev 12:108-116 July-Sep '49

Dielectric constant, power factor, and resistivity of marble. (Dielektrizitaetskonstante, Leistungsfaktor und Durchgangswiderstand von Marmor) Funk und Ton 3:362-364 June '49

Effects of molds and humidity on radio materials. C. P. Healy and J. C. Niven. IRE Proc 33:300-306 May '45

Electrical properties of the intermetallic compound Mg_2Sn. B. I. Boltaks. Akad Nauk Dok 64:653-656 '49. In Russian

Fluorinated — high temperature — low loss plastics used at Amphenol. Amph Eng N 3:69+ May '49

German radio ceramics. German Industry Rep. BIOS 1459 Brit Govt Pub

Influence of mechanical deformations on the change of electrical resistance in the longitudinal magnetic field (Thomson galvanomagnetic effect) of Ni_2Mn alloy. R. G. Annaev. Akad Nauk Dok 64:45-47 '49. In Russian

Materials for use in the tropics. C. D. Cook and C. Meritt. Materials & Methods 25:77-80 May '47

Metallurgy of powders. N. Thien-Chi. Ann Radioelec 4:233-248 July '49. In French

Methods of iron powder manufacture and their influence on powder properties. H. Bernstorff. Metal Treat 16:93-102 '49

New moisture-sealing compound. W. B. R. Agnew. Electronics 22:165-168 July '49

Physical properties of titanium. Emissivity and resistivity of the commercial metal. W. C. Michels and S. Wilford. Jour Ap Phys 20:1223-1226 Dec '49

ATERIALS–Cont'd.

)wder metallurgy. G. F. Lee. Electronic Eng 21: 87-90 Mar '49

'esent knowledge of the structure of the mineral glasses. A. Danzin. Ann Radioelec 4:249-256 July '49. In French

'operties of conductive plastics. Electronics 22: 96-99 Oct '49

:search in the non-ferrous field as carried out at the research laboratories of the General Electric Company, Ltd. I. Jenkins. Metal Treat 16:49-57 Spring '49

:view of new developments in H. F. ceramics. C. Schreck. Fernmeldetech Zeit 2:285-295 Sep '49. In German

licone. H. Gibello. Ind Plast Mod pt 1 pp 358-364 Dec '46; pt 2 pp 6-9 Jan '47. In French

licones. (Die Silikone) Radio Tech 25:179-181 Mar '49

)ecialized ceramic products — their use in German communication equipment. German Industry Rep. FIAT 278 Brit Govt Pub

rnthetics in high frequency work. (Kunststoffe in der Elektround Hochfrequenztechnik) Radio Tech 25:718-721 Dec '49

tanates with high dielectric constant. H. Sachse. Zeit angew Phys 1:473-484 Aug '49

See also

ielectrics
sulation & Insulators
agnets & Magnetic Materials

EASUREMENTS and METERS

bsolute electrical measurements. H. L. Curtis. Sci Mon 69:9-14 July '49

ll purpose measuring equipment. (Universalmessgeraet) Radio Tech 25:355-358 June '49

pplication of radio-isotopes in industry. H. Seligman. Chem & Ind pp 311-316 May 14, '49

)plications of electronics to precision DC measurements and control. 6 pp '48 AECD 1908

)nsiderations affecting the accuracy of measurements. J. B. Harris. RSGB Bul 25:112+ Oct '49

ectrical method of measuring water vapour pressure in a sealed-off discharge tube. B. N. Clack. Jour Sci Instr 26:58+ Feb '49

.ectronic apparatus for the determination of the physical properties of freely falling raindrops. Ross Gunn. Rev Sci Instr 20:291-297 Apr '49

.ectronic gauges. J. Schwartz. Microtecnic pt 1 2:199-206 Oct '48; pt 2 2:267-274 Dec '48; pt 3 3:10-18 Jan-Feb '49. In English

iectronic measuring apparatus. Philips Tech Comm No 2-3:40-42 '49

iectronic pressure-sensitive transducer. G. Day. Jour Sci Instr 26:327-329 Oct '49

:rors in second-order measuring instruments. Elliot T. Benedikt. Rev Sci Instr 20:229-233 Apr '49

F instruments and measuring techniques. German Industry Rep. BIOS 1228 Brit Govt Pub

omogeneous RF fields for measurements. (Herstellung eines homogenen Hochfrequenzfeldes fuer Messzwecke) Roeschen. Funk und Ton pt 1 3: 18-32 Jan '49; pt 2 3:341-346 June '49

Improving the pH meter, type D-303. A. Cooper. Muirhead Technique 3:28-29 Oct '49

Infrared atmospheric attenuation meter. M.S. thesis. Victor A. Miller. Ohio State U Phys Dept June '49

Infrared measuring instrument. German Industry Rep. BIOS 215 Brit Govt Pub

Infra-red measuring instrument, bolometer; brief note. German Industry Rep. BIOS 215 Brit Govt Pub

Instrument to measure cable length. Balsiger. Tech Mitt Schweiz 27:20-24 Feb '49. In French and German

Instruments, flow meters; strain gauges; indicators. German Industry Rep. BIOS 149 Brit Govt Pub

Interview with Prof. Dr. Rudolph Hase, Bismarck-Strasse, Gehrden: infra-red measuring instruments. German Industry Rep. BIOS 215 Brit Govt Pub

Ionization flame detectors. Hartwell F. Calcote. Rev Sci Instr 20:349-353 May '49

Light-time integrator. T. B. Davenport. Jour Sci Instr 26:305-306 Sep '49

List of uses for radioisotopes. Tracerlog pt 1 No 14:7-10 Dec '48; pt 2 No 15:7-9 Jan '49; pt 3 No 16:8-10 Feb '49; pt 4 No 19:9-10 May '49

Measurement apparatus at the 1949 Paris Fair. J. Rousseau. TSF pour Tous 25:265-266 July-Aug '49

Measurement and amplifications of small displacements by FM. (Mesure et amplification de faibles deplacements par modulation de frequence) P. Bricout and M. Boisvert. Revue Gen Elec 58:402-405 Oct '49

Measurements of dielectric constants of liquids by a frequency deviation method. W. L. G. Gent. Far Soc Trans 45:758-759 Aug '49

Measurements of erythemal energy. Hoyt S. Scott. AIEE Proc section 9186:1-5 July '49

Measuring circuit with optical indicator. (Eine Messleitung mit Sichtanzeige) Meinke. Fernmeldetech Zeit 2:233-242 Aug '49

Measuring dynamic pressure and displacement electronically. D. L. Elam. Radio & TV N 42:12-14+ Sep '49

Modern equipment for measuring weak magnetic fields. B. I. Filipovich. Reel 0046 No 475772:85-87 SDLC. In Russian

New magnetic method for measuring thickness of copper-nickel coatings. A. Brenner and E. Kellogg. Instruments 22:323+ Apr '49

New moisture meter. Cenco No 63:4+ Spring '49

Progress in time and radio frequency measurements at the PTR Heidelberg. German Industry Rep. FIAT 895 Brit Govt Pub

Review of methods for coating-thickness determination. R. S. Bennett. Jour Sci Instr 26:209-215 June '49

Technical manuals and research reports covering transmitters, wave propagation, antennas, magnetrons, VHF tubes, frequency and voltage measurement, and radar methods, 1941-1944. PB 84896. In German

Patents

Apparatus and method for measuring movement of a body, Marietta Blau and Irving Feuer, 2,487,-216, 6 cl. Appl Feb 27, '47; granted Nov 8, '49

MEASUREMENTS and METERS, *Patents*–Cont'd.

Arrangement for measuring duty cycle, Thomas C. Hana, 2,477,370, 11 cl. Appl Nov 22, '46; granted July 26, '49

Bender type electromechanical device with dielectric operating element, Hans Jaffe, 2,484,950, 6 cl. Appl Apr 9, '47; granted Oct 18, '49

Biased diode logarithmic compensating circuit for electrical instruments, Monroe H. Sweet, 2,492,-901, 4 cl. Appl May 7, '46; granted Dec 27, '49

Condenser, Benjamin S. Melton, 2,485,902, 3 cl. Appl Aug 20, '46; granted Oct 25, '49

Eccentric moving coil electrical meter, Frank Baranowski, jr., 2,465,053, 6 cl. Appl Jan 4, '47; granted Mar 22, '49

Elastic fluid-flow measuring system, David W. Moore, jr., 2,472,609, 6 cl. Appl Nov 8, '44; granted June 7, '49

Electric measuring device, Soren B. Osterlund, 2,486,972, 3 cl. Appl Dec 24, '46; granted Nov 1, '49

Electrical deflectometer, Charles E. Hastings and Harry H. Ricker, jr., 2,484,030, 11 cl. Appl Aug 12, '46; granted Oct 11, '49

Electrical device for effecting the multiplication or division of independent quantities, Mahmoud El Shishini and Mohamed Abdu Hasses El-Said, 2,486,068, 13 cl. Appl June 19, '46; granted Oct 25, '49

Electrical follow-up apparatus, Karl Rath, 2,458,-731, 3 cl. Appl Jan 20, '44; granted Jan 11, '49

Electrical instrument with electromagnetic feedback, Harold B. Rex, 2,485,657, 9 cl. Appl July 23, '48; granted Oct 25, '49

Electrical testing and indicating system, Edward Charles Pyatt and Kenneth Cedric Arthur King, 2,482,932, 8 cl. Appl July 29, '47; granted Sep 27, '49

Electromagnetic device, Harry R. Lubcke, 2,463,785, 16 cl. Appl Nov 23, '45; granted Mar 8, '49

Electronic detection system, Michael J. Poole, 2,491,-904, 5 cl. Appl June 25, '48; granted Dec 20, '49

Electronic gauge, William H. Fuss, 2,481,993, 4 cl. Appl May 19, '47; granted Sep 13, '49

Electronic measuring and control apparatus, George A. F. Machlet, 23,159, 29 cl. Orig appl Jan 27, '48; appl for reissue Mar 10, '49; granted Oct 25, '49

Electronic measuring apparatus, Roswell W. Gilbert, 2,459,104, 2 cl. Appl June 8, '45; granted Jan 11, '49

Electronic measuring system having residual potential compensation, Merle R. Ludwig, 2,488,420, 11 cl. Appl Apr 23, '45; granted Nov 15, '49

Following and recording, Walter J. Kinderman, 2,472,019, 35 cl. Appl Aug 29, '46; granted May 31, '49

Frequency controlled micrometer, Frank Rieber, 2,477,085, 11 cl. Appl May 19, '44; granted July 26, '49

High-frequency reactance testing apparatus, William T. Posey, 2,477,347, 2 cl. Appl Apr 30, '46; granted July 26, '49

Indicating instrument with magnetic drive, George E. Ford, 2,473,581, 9 cl. Appl Dec 4, '45; granted June 21, '49

Instantaneous tachometer method and apparatus, Ralph K. Boland and Boynton G. Hagaman, 2,492,-617, 17 cl. Appl Mar 19, '45; granted Dec 27, '49

Liquid level measuring device with oscillator, Clarence A. de Giers and Abraham Edelman, 2,472,249, 8 cl. Appl Sep 8, '45; granted June 7, '49

Magnetic field angular gradientometer, James H. Stein, 2,490,102, 6 cl. Appl May 10, '46; granted Dec 6, '49

Magnetic field responsive device, Robert G. Rowe, 2,474,693, 17 cl. Appl Jan 31, '45; granted June 28, '49

Magnetic wire footage meter, Charles J. Falk, Richard K. Fairley, and Thomas T. Short, 2,488,277, 7 cl. Appl June 15, '48; granted Nov 15, '49

Measuring and control apparatus, George A. F. Machlet, 23,160, 46 cl. Orig Jan 14, '47; appl for reissue Apr 13, '49; granted Oct 25, '49

Measuring and control apparatus, Roswell W. Gilbert, 2,486,641, 19 cl. Appl Oct 14, '44; granted Nov 1, '49

Measuring apparatus, Frederick Robert Boosey, 2,478,363, 1 cl. Appl Apr 10, '47; granted Aug 9, '49

Method and apparatus for measuring the dimensions of objects by the radiation differential between the object to be measured and a comparison object, Franklin Offner, 2,488,430, 9 cl. Appl Apr 15, '46; granted Nov 15, '49

Method of and apparatus for making electrical measurements, Marshall R. Chandler, 2,485,863, 14 cl. Appl Jan 5, '46; granted Oct 25, '49

Polarity indicating apparatus, Herbert Chester Otteson, 2,486,673, 7 cl. Appl Mar 18, '46; granted Nov 1, '49

Pressure measuring device, William R. Perret, 2,486,976, 10 cl. Appl Aug 15, '46; granted Nov 1, '49

Pressure responsive transducer, Clifford Frondel, 2,486,146, 7 cl. Appl Oct 1, '48; granted Oct 25, '49

Radio range system, Harry Wilkie and Francis L. Mosely, 2,471,470, 5 cl. Cont of appl Nov 23, '42; this appl Feb 1, '43; granted May 31, '49

Ratiometer, Lester Dubin and Ernest Pataki, 2,475,-577, 6 cl. Appl Apr 17, '45; granted Oct 25, '49

Receiver system, Alexander Frum, 2,485,582, 7 cl. Appl June 11, '45; granted Oct 25, '49

Self-balancing bridge arrangement, Alan Dower Blumlein, 2,462,599, 5 cl. Appl Sep 11, '43; granted Feb 22, '49

Static discharge and indicating device, Emery Meschter, 2,475,356, 6 cl. Appl July 22, '48; granted July 5, '49

Temperature compensator for electrical measuring systems, Alexander Constantine Denisoff, 2,483,757, 5 cl. Appl Apr 23, '46; granted Oct 4, '49

Meters

Audiometer (speech) manufacture (Atlas-Werke). German Industry Rep. BIOS 606 Brit Govt Pub

Combination instrument measures R, C, and L accurately. B. J. Cederqvist. Radio-Electronics 20:60 June '49

IEASUREMENTS and METERS, Meters–Cont'd.

quipment and appliances. Weekly column of new electrical and electronic equipment appearing on the British market. Electrician 143:39 July 1, '49; 143:211 July 15, '49; 143:297 July 22, '49; 143:373 July 29, '49; 143:431 Aug 5, '49; 143:515 Aug 12, '49; 143:581 Aug 19, '49; 143:739 Sep 2, '49; 143: 1077 Sep 30, '49; 143: 1163 Oct 7, '49; 143:1245 Oct 14, '49; 143:1323 Oct 21, '49; 143:1407 Oct 28, '49; 143:1481 Nov 4, '49; 143:1563 Nov 11, '49; 143:1645 Nov 18, '49; 143:1725 Nov 25, '49; 143:1818 Dec 2, '49; 143:1964 Dec 16, '49; 143:2047 Dec 23, '49

quipment for instrument calibration. E. A. Gilbert. Elec Eng 68:1065-1066 Dec '49

low meter stresses versatility. Aviation W 50:31 May 9, '49

eneral theory, and experimental confirmation, of the moving coil fluxometer. Thomas J. Higgins and Glenn Robertson. AIEE Proc section 9168:1-12 July '49

rid dip meter. J. N. Walker. Short Wave Mag 7:31-32 Mar '49

istrument production. Elec Rev 144:849-851 May 20, '49

lanufacture of electrical measuring instruments in Germany. German Industry Rep. BIOS 608 Brit Govt Pub

leter scales for transmission measurements. J. L. Merrill, jr. Bell Lab Rec 27:16+ Jan '49

leter testing centre. Elec Rev 144:189-191 Feb 4, '49

lore on the GDO. R. F. Stevens. Short Wave Mag 7:509-510 Sep '49

ew approach to electrical indicating instrument standards. J. H. Miller. Standardization 20:98-100 Apr '49

ew instrument mechanism. A. G. Stimson and others. Elec Eng 68:1058 Dec '49

erformance of portable electrical instruments in magnetic fields. Nat Bur Stand Tech Bul 33:48-50 Apr '49

ointer instruments. E. H. W. Banner. Wireless World 55:495-497 Dec '49

olarographic limiting currents. J. D. Taylor and others. Nat Bur Stand Res J 42:387-395 Apr '49

atio of electrical to friction torques in indicating instruments. George Szabo. Jour Sci Instr 26:301-304 Sep '49

ensitive S-meter. G. A. Day. Short Wave Mag 7:136 Apr '49

heory and application of electronic meters. R. G. Middleton. Radio Serv N 14:2+ Sep-Oct '49

See also

tomic Measurements
lumination & Photometry, Photometry, Meters
nstrumentation
licrowaves, Measurement
scilloscopes & Oscillographs
ervicing
elemetering
est Equipment

IEASUREMENTS and METERS, Bridges

See Bridges

MEASUREMENTS and METERS, Capacitance

See Capacitance, Measurements

MEASUREMENTS and METERS, Current

See Ammeters

MEASUREMENTS and METERS, Distance

Distance-measuring equipment for aircraft navigation. V. D. Burgmann. IEE Proc pt III 96:395-402 Sep '49

Electric gage for measuring the inside diameter of tubes. A. Brenner and E. Kellogg. RP 1986 Nat Bur Stand

Traffic handling capacity of paired-pulse coding for 100 channel distance measuring equipment, (DME). C. J. Hirsch. NEC Proc '49

Patents

Distance measuring device, Albert E. Anderson, 2,465,990, 6 cl. Appl July 8, '44; granted Apr 5, '49

Distance measuring device, William D. Hershberger, 2,461,213, 4 cl. Appl June 16, '39; granted Feb 8, '49

Light interference distance measuring device having photoelectric means, Richard L. Snyder, jr., 2,462,-292, 3 cl. Appl Aug 13, '43; granted Feb 22, '49

Light modulation distance indicator, Ray G. Shankweiler, 2,459,461, 3 cl. Appl June 23, '45; granted Jan 18, '49

Radio pulse echo system using Doppler effect, William D. Hershberger, 2,467,670, 6 cl. Appl July 28, '39; granted Apr 19, '49

Tracking device, Sidney Darlington and Clarence A. Lovell, 2,468,179, 4 cl. Appl July 17, '43; granted Apr 26, '49

See also

Radar

MEASUREMENTS and METERS, Field Strength

Field strength meter. I. I. Gross. Radio Maint 5:17+ July '49

Field strength meter. Radio-Electronics 20:130 Mar '49

Harmonic chaser. Wilfred M. Scherer. CQ 5:22-25+ Apr '49

Inductance coils as RF measurement standards at absolute field strength measurements. (Spulen als HF-Messonden bei absoluten Feldstaerkemessungen) Roeschen. Funk und Ton 3:167-172 Mar '49

Magnetic field strength meter using the proton magnetic moment. N. J. Hopkins. Rev Sci Instr 20:401-402 June '49

Measurement of electric field strength in a cavity resonant at 200 mc. 4 pp '46 MDDC 173

Method for measuring small changes in alternating magnetic fields. 3 pp '46 MDDC 174

Sensitive crystal-type field strength meter. Rufus P. Turner. QST 33:20+ Mar '49

TV-FM field intensity measurements. G. P. Adair. Communications 29:14-16+ May '49

MEASUREMENTS and METERS, Field Strength—Cont'd.

Patents

Apparatus for magnetic field investigation, Albert W. Hull, 2,468,554, 10 cl. Appl Mar 19, '43; granted Apr 26, '49

Calibrator for field intensity recorders, Charles V. Larrick, 2,489,908, 9 cl. Appl Oct 29, '46; granted Nov 29, '49

Magnetic field strength indicator, Edwin P. Felch, jr. and Thaddeus Slonczewski, 2,468,968, 12 cl. Appl Apr 20, '43; granted May 3, '49

Magnetic field strength indicator, Thaddeus Slonczewski, 2,485,931, 9 cl. Appl Apr 20, '43; granted Oct 25, '49

Measuring potential gradients in space, Francis W. Dunmore, 2,463,527, 7 cl. Appl Sep 21, '45; granted Mar 8, '49

See also

Electromagnetic Theory, Propagation of Waves
Magnets & Magnetic Materials, Measurement

MEASUREMENTS and METERS, Frequency

Accurate frequency measurement. Proposed method for use up to 12,000 mcs. W. F. Brown. Wireless Eng 26:218-229 July '49

Additive frequency meter. George Grammer. QST 33:32-37 May '49

AF-ultrasonic frequency meter. Radio-Electronics 21:45 Dec '49

Applications of the grid-dip oscillators. Wilfred M. Scherer. CG 5:30-34+ Jan '49

Circular time-base frequency comparator. T. W. R. East. Jour Sci Instr 26:236-239 July '49

Combined absorption and interference frequency meter. (Kombineret Absorption- og Interferens-Frekvensmaaler) Radio Ekko 13:10-11 Jan 50

Compact direct-reading audio-frequency meter. Electronics 22:108+ Apr '49

Crystal checked frequency meter. J. N. Walker. RSGB Bul 25:141-143 Nov '49

Dual-purpose frequency meter-VFO. G. L. Countryman. Radio & TV N 41:56-57+ May '49

Frequency bridge. J. A. B. Davidson. Muirhead Technique 3:22-23 July '49

Frequency bridge for audio. K. E. Forsberg. Radio-Electronics 20:44-45 Aug '49

Frequency meter (electronic). German Industry Rep. BIOS 564 Brit Govt Pub

Frequency pin-pointer. G. A. Kingsbury. Short Wave Mag 7:121-125 Apr '49

FVLCQ high frequency meter. (FVLCQ-Meter fra E-K) Radio Ekko 12:117 June '49

Handbook of maintenance instructions for Navy model LM-13 crystal calibrated frequency indicating equipment. Aug '43 PB 96650

Improved dipper. Wilfred M. Scherer. CQ 5:14-19+ Feb '49

Interpolation made easy. A. G. Dunn. RSGB Bul 24:222-223 Mar '49

RE frequency meter. (RE Frekvensmaaler) Radio Ekko 12:72-75 Apr '49

Resonance method of measuring the ratio of the specific heats of a gas, Cp/Cv, section B: the use of electronic counter circuits to measure low frequencies and a variable low frequency oscillator. L. Katz and others. Canada J Res 27A:32-38 May '49

Simple but reliable frequency meter. (En enkel, men paalidelig Frekvensmaaler) Radio Ekko 12:206-208 Nov '49

Stabilized power unit for the BC221. Martyn Booty. RSGB Bul 24:194-196 Feb '49

Survey of methods of measuring frequencies in the two ranges of 50 kc/SEC and below, and 10 mc/SEC to 500 mc/SEC. H. E. Hartig. PB 98038

Technical data, reports and specifications covering vacuum tubes, frequency meters, voltage dividers magnetic recorders, etc., 1940-1945. PB 84905. In German

Versatile RF meter for ham stations. Robert Lewis Radio & TV N 41:35+ Apr '49

"Zero-Beat" indicator for heterodyne measuring systems. K. Goldsmith. Electronic Eng 21:470-471 Dec '49

Patents

Apparatus for comparing the natural frequency o a mechanical oscillatory system with a standar frequency, Frederick William Meredith, 2,479,875 14 cl. Appl Feb 21, '44; granted Aug 23, '49

Device for measuring signal frequencies, Henry H Grimm, 2,491,494, 4 cl. Appl Aug 28, '45; grante Dec 20, '49

Electrical apparatus, George G. Edlen, 2,479,222, cl. Appl Sep 21, '45; granted Aug 16, '49

Frequency comparator, Lionel Kenneth Curran 2,479,817, 10 cl. Appl June 20, '47; granted Au 23, '49

Frequency measuring circuit, Jan A. Rajchman an Edwin A. Goldberg, 2,467,777, 2 cl. Appl Apr 1 '42; granted Apr 19, '49

Frequency measuring system, Alexander Frum 2,480,128, 7 cl. Appl Oct 3, '45; granted Aug 30, '4

Means for measuring difference in frequency o alternating currents, Dent Bulow Jacobsen, 2,474, 253, 23 cl. Appl Feb 24, '44; granted June 28, '4

Method and system for measuring frequency, Joh P. Kinzer, 2,469,829, 6 cl. Appl July 13, '46 granted May 10, '49

Null measuring bridge, Robert A. Hampshire, 2,474, 245, 10 cl. Appl Sep 14, '44; granted June 28, '4

Phase-sensitive self-balancing frequency mete Willis H. Gille, 2,462,630, 13 cl. Appl Feb 28, '45 granted Feb 22, '49

Precision frequency meter, Howard L. Clark, 2,476, 025, 7 cl. Appl June 9, '45; granted July 12, '4

Radio-frequency bridge, Halsey W. Kline, 2,461,28 5 cl. Appl June 10, '46; granted Feb 8, '49

Radio-frequency spectroscope, Everett R. McCoppin 2,485,620, 8 cl. Appl Nov 7, '45; granted Oct 25, '4

System for measuring frequency deviations, Renau Koechlin, 2,489,296, 5 cl. Appl June 22, '43 granted Nov 29, '49

Tunable Lecher circuit, Charles G. Reinschmidt 2,475,198, 1 cl. Appl Mar 30, '45; granted July 5 '49

Wave length meter, Russell G. White, 2,467,104, 7 cl Appl Mar 7, '44; granted Apr 12, '49

IEASUREMENTS and METERS, Frequency, *Patents*–Cont'd.

See also
Ieasurements & Meters, Wavemeters

IEASUREMENTS and METERS, Galvanometers

oil galvanometers with some novel features. G. Ising. Ark Mat Astr Fys section A 36:1-15 May 4, '49

irect-current meter. Aerovox Res Worker 19:1-3 Sep '49

alvanometer amplifier. B. Frankenhaeuser and D. K. C. MacDonald. Jour Sci Instr 26:145+ May '49

alvanometer sensitivity limits. (Sur la sensibilite limite des galvanometres) M. Surdin. Jour Phys & Rad 10:253-254 July-Sep '49

alve galvanometer with ordinary valves. J. Kreuzer. Zeit f Phys 125:707-714 Mar 15, '49

ibrationless galvanometer support (final rep.) D. L. Haas and others. 12 pp Mar 2, '49. AECU 348

Patents

irect-current measuring instrument, Stephen C. Hoare, 2,484,567, 5 cl. Appl Mar 2, '48; granted Oct 11, '49

alvanometer with resilient damper, Glenn L. Dimmick, 2,492,275, 10 cl. Appl Oct 4, '46; granted Dec 27, '49

scillograph, Claude M. Hathaway, 2,469,265, 1 cl. Appl Feb 24, '44; granted May 3, '49

hermomagnetic galvanometer, Harold T. Faus and Laurence F. Perotte, 2,478,625, 20 cl. Appl Aug 31, '48; granted Aug 9, '49

IEASUREMENTS and METERS, Impedance

See Impedance, Measurements

IEASUREMENTS and METERS, Inductance

See Inductance, Measurements

IEASUREMENTS and METERS, Microwave

See Microwaves, Measurement

IEASUREMENTS and METERS, Multimeters

lectronic volt-ohmmeter. Wilbur Flaherty. Radio & TV N 41:59-61+ Mar '49

ultimeter shows only desired scale. Radio-Electronics 20:86 Jan '49

ew aid to rapid servicing. D. H. Carpenter. Radio Ser Deal 10:15-16 Nov '49

ew Sylvania polymeter multi-purpose vacuum tube voltmeter designed for television, FM, AM and electronic circuits. R. R. Shields. Sylvan N 16:T-17+ May '49

adio multimeter for sightless operators. J. C. Swaile. NRC-1521

urvey of multitesters. R. P. Turner and R. F. Scott. Radio-Electronics 20:44-46 May '49

olt-ohm-milliammeters. William R. Wellman. Radio Ser Deal 10:18-20 Mar '49

Patents

Range attachment for multitesters, Donald F. Kleinschmidt, 2,468,449, 9 cl. Appl Apr 30, '48; granted Apr 26, '49

MEASUREMENTS and METERS, Noise

See Noise, Measurements

MEASUREMENTS and METERS, Phase

Accuracy of reactive metering. Electrician 143:421-422 Aug 5, '49

Discussion on "The measurement of phase angle of electric circuits". IEE Proc 96:80+ Feb '49

Electromechanical phase indicator. Sidney Wald. Radio & TV N 42:14-15 July '49

Electronic phasemeter. Edwin F. Florman and Andrew Tait. IRE Proc 37:207-209 Feb '49

Electronic phasemeter. (Sur un phasemetre a tubes electroniques) Helv Phys Acta 22:409-411 Aug 15, '49

Impedance-phase angle meter. G. E. Iddings. Ph.D. thesis. Purdue U June '48

Improved electronic phase meter. Radio & TV N 42:8+ Aug '49

Improved phase meter. John Markus. Electronics 22:162 June '49

Measuring of phase angles with an oscillograph. L. Hintzbergen. Microtecnic 3:61-67 Apr '49

Measuring phase angles in communication circuits. E. E. Brewer. Tele-Tech pt 1 8:38-40+ Nov '49; pt 2 8:36-37 Dec '49

Measuring phase at audio and ultrasonic frequencies. E. R. Kretzmer. Electronics 22:114-118 Oct '49

Measuring phase differences. (Phasenmesser fuer Labor und Prueffeld) Gruebel. Funk und Ton 3:315-319 June '49

New method of measuring phase angle. F. A. Benson and A. O. Carter. Jour Sci Instr 26:285-288 Aug '49

Phase meter for the frequency band 100 kc to 20 mc. W. T. Duerdoth. P.O. Elec Eng J 42:43-46 Apr '49

Precise direct reading phase and transmission measuring system for video frequencies. D. A. Alsberg and D. Leed. Elec Eng 68:255 Mar '49

Wide-band audio phasemeter. (Abstract) John R. Ragazzini and Lofti A. Zadeh. IRE Proc 37:173 Feb '49

Patents

Apparatus for determining the phase relation of sinusoidal electric signals, Paul Cohen, 2,490,899, 5 cl. Appl June 17, '46; granted Dec 13, '49

Electrical energy comparison system and method, Nathan Marchand, 2,468,093, 7 cl. Appl July 3, '45; granted Apr 26, '49

Phase angle meter, George W. Nagel and Mortimer A. Schultz, 2,462,213, 10 cl. Appl Oct 12, '46; granted Feb 22, '49

Phase comparator, John P. Blewett, 2,467,361, 9 cl. Appl Oct 28, '43; granted Apr 12, '49

Phase measuring device, Joseph C. Spindler, 2,462,-916, 8 cl. Appl Mar 25, '45; granted Mar 1, '49

MEASUREMENTS and METERS, Phase, *Patents*–Cont'd.

Radio-frequency in-phase indicator, Nathan Marchand, 2,474,268, 9 cl. Appl July 3, '45; granted June 28, '49

System for comparison of phase shift of electric quantities, Jean Ahier and Jacques Selz, 2,462,058, 4 cl. Appl Mar 27, '47; granted Feb 22, '49

MEASUREMENTS and METERS, Power

See Microwaves, Measurement, Wattmeters

MEASUREMENTS and METERS, Q

Improved accuracy with a Q-meter by the use of auxiliary components. A. C. Lynch. Electronic Eng 21:91-93 Mar '49

Q and L measurements. W. T. Cocking. Wireless World 55:449-453 Nov '49

Q and L measurements. (Letter) "Cathode Ray." Wireless World 55:502-503 Dec '49

Q measurements—two and four terminal networks. M. C. Pease. IRE Proc 37:573-577 May '49

Q-meter controversy. Wireless World 55:215-218 June '49

Q-meter methods of impedance measurement. A. J. Biggs and J. E. Houldin. IRE Proc 96:295-305 July '49

"Q" meters. H. G. M. Spratt. Wireless World 55: 7+ Jan '49

Record reproduction. (Letter) Richard W. Lowden. Wireless World 55:502 Dec '49

Patents

Q meter, George V. Eltgroth, 2,475,179, 7 cl. Appl May 3, '44; granted July 5, '49

MEASUREMENTS and METERS, Resistance

See Ohmmeters

MEASUREMENTS and METERS, Speed

Electrical measurement of acceleration. K. Meltzer. Eng Digest 10:167+ May '49

Electronic measurements of high-speed shafts. A. E. Gersch. Aero Digest 58:80 Apr '49

Electronic tachometer provides accurate speed measurement. W. Richter. Machine Design 21: 133-136 Nov '49

Electrical tachometers, small generators and indicators. German Industry Rep. BIOS 1537 Brit Govt Pub

"Maxwell" precision speed indicator. Engineer 188: 592 Nov 18 '49

Measurements of gas velocity by ionization techniques. Nat'l Research Corp (Office of Naval Research Contract). NP-881 11 pp Nov 30, '48. AEC

Novel recording accelerometer. Arthur S. Iberall. Rev Sci Instr 20:304-307 Apr '49

Research on the development and propagation of hydronamic noise. Progress report 2. Progress on the development of hot-wire methods for velocity measurements in water. M. S. Macovsky. PB 96913

Telefon und Normalzeit . . . Electric tachometer. German Industry Rep. BIOS E/R 178 Brit Govt Pub

Patents

Apparatus for measuring differential speed, George H. Rendel, 2,474,116, 2 cl. Appl May 12, '48; granted June 21, '49

Doppler effect speed and drift indicating system, Carl B. H. Feldman and James W. McRae, 2,476,-032, 3 cl. Appl Mar 8, '44; granted July 12, '49

Electric tachometer, La Verne R. Philpott, 2,473,542, 1 cl. Appl Feb 25, '44; granted June 21, '49

Electrical measuring instrument, Miles C. Kunz, 2,459,081, 9 cl. Appl Jan 31, '45; granted Jan 11, '49

Electromagnetic apparatus for measuring projectile velocity during penetration, Richard A. Beth, 2,479,808, 4 cl. Appl Mar 28, '47; granted Aug 23, '49

Radio speed and distance indicator, Carl-Georg Paul Aurell, 2,467,455, 2 cl. Appl May 11, '44; granted Apr 19, '49

Speed measuring device, William C. Grabau, 2,480,-646, 5 cl. Appl Jan 17, '45; granted Aug 30, '49

Tachometer generating apparatus, James H. Nilson, 2,460,999, 14 cl. Appl Aug 2, '47; granted Feb 8, '49

MEASUREMENTS and METERS, Temperature

Absolute noise thermometer for high temperatures and high pressures. J. B. Garrison and A. W. Lawson. Rev Sci Instr 20:785-794 Nov '49

Camera registers heat. Radio-Electronics 20:26 Sep '49

Circuits for minimizing transient effects on energy measurements in calorimetry. Harold J. Hoge. Rev Sci Instr 20:59-61 Jan '49

Determination of flame temperatures by infra-red radiation. Shirleigh Silverman. Opt Soc Am J 39:275+ Apr '49

Electronic measurement and control of heat. J. H. Jupe. Electronic Eng pt 1 21:13-16 Jan '49; pt 2 21:48-51 Feb '49; pt 3 21:94-97 Mar '49

Industrial high-speed infrared pyrometer. W. S. Gorrill. Electronics 22:112+ Mar '49

Installation and maintenance of pyrometers for the heat treatment shop. G. Oestereich. Eng Digest 10:433-434 Dec '49

Interrogation of Erwin Weise. Research and development of semi-conducting materials. Practical applications for ultra-sensitive temperature measuring equipment and automatic control and stabilizing problems. German Industry Rep. BIOS 1658 Brit Govt Pub

Low temperature radiation pyrometer in industry. J. C. Mouzon and C. A. Dyer. Opt Soc Am J 39: 203+ Mar '49

Modern instrumentation for measuring temperature gradients in continuous porcelain enameling furnaces. M. Bozsin and C. A. Vana. Am Cer Soc Bul 28:219-223 June 15 '49

New method of measuring the temperature of a thermionic cathode. P. Gandin and R. Champeix. Comp Rend Acad Sci 229:545-547 Sep 12, '49

IEASUREMENTS and METERS, Temp.–Cont'd.

'ortable precision resistance thermometer equipment for mains operations. J. A. Hall. Jour Sci Instr 26:392-396 Dec '49

'yrometer for molten steel. Vin Zeluff. Electronics 22:152 Feb '49

'hermal measuring instruments. German Industry Rep. BIOS 1728 Brit Govt Pub

'hermal measuring instruments. Thermostats and associated apparatus. German Industry Rep. BIOS 1672 Brit Govt Pub

'hermoelectric pyrometry. C. C. Roberts and C. A. Vogelsang. Paper Ind 31:459-460+ July '49

'se of semi-conducting ceramic glaze for the measurement of temperature. J. S. Forrest. Jour Sci Instr 26:254-255 July '49

Patents

lectronic curve plotting device, Carleton H. Schlesman, 2,474,192, 7 cl. Appl Apr 25, '44; granted June 21, '49

lectronic pilot light indicator for molten steel temperature, Michael Tinkham and Dayton G. Harris, 2,475,362, 6 cl. Appl May 18, '48; granted July 5, '49

eat testing apparatus, Arthur L. Christenson and Clarence E. Jackson, 2,478,895, 6 cl. Appl Oct 11, '44; granted Aug 16, '49

'hotoelectric cell color temperature measuring device, Horace Letellier Woodward, jr., 2,462,823, 3 cl. Appl May 31, '45; granted Feb 22, '49

'yrometer lamp for optical temperature measurements, Adolf Jagersberger, 2,469,115, 5 cl. Appl Feb 26, '48; granted May 3, '49

'arget tube for radiation pyrometers, Douglas M. Considine, 2,465,322, 8 cl. Appl June 23, '44; granted Mar 22, '49

Bolometers

olometer detection of line temperature rise. J. R. Leslie. Elec Eng 68:969-973 Nov '49

olometer for infra-red measurements. German Industry Rep. BIOS 215 Brit Govt Pub

ffect of current magnitude upon the behavior of a superconducting bolometer in its transition region. Nelson Fuson. Jour Ap Phys 20:59+ Jan '49

adiometer vacuum gauge of compensation type. A. Rostagni and I. Filosofo. Nuovo Cim 4:74-84 Feb '47. In Italian with English summary

See also

ndustrial Controls, Temperature
Microwaves, Measurement

IEASUREMENTS and METERS, Time

tomic clock. Radio & TV N 41:14+ Mar '49

tomic clock. (Die Atomuhr) Radio Tech 25:347-348 June '49

tomic clock. (L'horloge atomique) Toute la Radio No 133:69-71 Feb '49

tomic clock; an atomic standard of frequency and time. Nat Bur Stand Tech Bul 33:17-24 Feb '49

tomic clock—invariant standard of time and frequency. Harold Lyons. Instruments 22:133+ Feb '49

tomic clock runs. Radio-Electronics 20:70-74 Mar '49

Automatic time for radioactivity measurements. B. D. Corbett and A. J. Honour. Electronic Eng 21: 341-345 Sep '49

Checking of precision of quartz clocks with time signals. (Zur Ueberwachung der Ganggenauigkeit von Quarzuhren durch Zeitzeichen) Conrad. Frequenz 3:270-273 Sep '49

Darkroom timer. A. Stuart MacKay and Richard R. Soule. Electronics 22:101+ Jan '49

Direct reading electronic clock. A. E. Wolfe, jr., and F. G. Steele. Electronics 22:75-77 Dec '49

Direct reading time and clock. A. E. Wolfe, jr., and F. G. Steele. Radio & TV N (Eng Ed) 42:3-5+ Nov '49

Electronic metronome has neon-lamp time indicator. O. A. Coppens. Radio-Electronics 20:50 June '49

Electronic stopclock. K. J. Brimley. Electronic Eng 21:180-183 May '49

Electronic timer. (Minuterie electronique) F. Haas. Electronique 30:16-17 Apr '49

Electronic timing test set. M. E. Krom. Bell Lab Rec 27:176-180 May '49

Electrostatic measurement of short time intervals. (Elektrostatische Kurzzeitmessung) Schaaffs. Frequenz 3:295-299 Oct '49

How accurately can time be measured? Harry R. Meahl. Gen Elec Rev 52:46+ Feb '49

Measurements of small time-intervals occurring in contact-switching sequences. A. Freedman. Jour Sci Instr 26:344-348 Oct '49

New time measuring instrument with cathode ray tube. (Ein neues Zeitmessgaraet mit Braunscher Roehre) Funk und Ton 3:358-361 June '49

Theoretical limit to time difference measurements. D. Richman. NEC Proc '49

Timer for short intervals. (Letter) R. Stuart MacKay. Rev Sci Instr 20:318-319 Apr '49

Patents

Apparatus for testing the accuracy of movements, Carl Berkley, 2,473,700, 2 cl. Appl Oct 6, '44; granted June 27, '49

Interval measuring system, Eric J. Isbister, 2,484,034, 11 cl. Appl Apr 24, '45; granted Oct 11, '49

Tape time recorder with differentiated records, Harold E. Hobby, 2,460,576, 3 cl. Appl Oct 13, '45; granted Feb 1, '49

See also

Industrial Controls, Timing

MEASUREMENTS and METERS, Voltage

See Voltmeters

MEASUREMENTS and METERS, VTVM

See Voltmeters, VTVM

MEASUREMENTS and METERS, Wavemeter

Citizens radio wavemeter. W. B. Lurie. Electronics 22:88-91 Sep '49

New type of wavemeter for centimeter waves. N. N. Malov. Zh Tekn Fiz 18:793-798 June '48. In Russian

Regenerative wavemeter. G. Grammer. QST 33: 29-31 Nov '49

MEASUREMENTS and METERS, Wavemeter–Cont'd.

Wave-guide interferometers as differential wave meters. A. B. Pippard. Jour Sci Instr 26:296-298 Sep '49

Patents

Apparatus for measuring high-frequency energy. John W. Coltman, 2,488,378, 7 cl. Appl Aug 25, '44; granted Nov 15, '49

Bridge for measurement of radio-frequency power, Clarence M. Sorvaag, 2,463,436, 1 cl. Appl Feb 27, '45; granted Mar 1, '49

Compensated radio-frequency power measuring bridge, Willard H. Fenn, 2,463,480, 17 cl. Appl Aug 1, '45; granted Mar 1, '49

Probe for detecting and locating sources of electromagnetic energy, Marguerite P. Van Camp and Joseph L. McFarland, 2,468,143, 6 cl. Appl Nov 3, '44; granted Apr 26, '49

Radio-frequency power measuring bridge, Rudolph N. Griesheimer, 2,465,683, 6 cl. Appl July 9, '45; granted Mar 29, '49

Standing wave indicator, Walter T. Silver, 2,468,125, 5 cl. Appl July 14, '43; granted Apr 26, '49

Transmitter-receiver system, Emile Labin, 2,471,436, 1 cl. Appl Jan 4, '43; granted May 31, '49

Ultra high frequency measuring device, William E. Bradley, 2,483,802, 17 cl. Appl June 20, '44; granted Oct 4, '49

Wavemeter to calibrate panoramic receivers, Lewis F. Jaggi, 2,471,432, 14 cl. Appl Aug 11, '44; granted May 31, '49

See also

Measurements & Meters, Frequency

MEASUREMENTS and METERS, Weight

Electronic instrument for measuring weight variations in slevers, rovings and yarns. G. N. Boyd. Textile Inst J 40:T407-423 July '49

Livestock weighed by electronic equipment. Vin Zeluff. Electronics 22:116+ Nov '49

Patents

Weighing device, Michael Kniazuk and Fred R. Prediger, 2,489,899, 8 cl. Appl Aug 1, '47; granted Nov 29, '49

MEDICAL and BIOLOGICAL APPLICATIONS

Alpha scintillation counter for health physics and dust study applications. B. Cassen and others. 14 pp Mar 28, '49 AECU 193

Alternating current as a research tool in physiology. (Der Wechselstrom als Forschungsmittel in der Physiologie) Elektron Wiss und Tech 3:183-192 May '49

Atomic physics and medicine. (Atomphysik und Medizin) Radio Tech 25:320-322 May '49

Benefits from atomic energy. Nucleonics 5:4-15 Sep '49

Biological measurement of radiations. C. Packard. Am J Roentgenology & Radium Therapy 41:441-443 '49

Bone density computing machine. W. N. Brown, jr. NEC Proc '49

Cardiotachometer based on the plethysmogram. E. E. Suckling. Rev Sci Instr 20:518-519 July '49

Development of linear accelerators and synchrotrons for radiotherapy and for research in physics. J. Cockcroft. IEE Proc 96:296-303 Nov '49

Effect of diathermy (short wave and microwave) on bone growth in the albino rat. Charles S. Wise and others. Bone Joint Surg J 31A:487-500 July '49

Electroencephalograph. Charles H. Richards. Elec Eng 68:247 Mar '49. Also in Electronics 22:130 Feb '49

Electroencephalographic research. German Industry Rep. CIOS-1 Brit Govt Pub

Electronic rehabilitation. Warner Clements. Radio & TV N 41:3-6+ May '49

Electronics in medicine. E. J. Thompson. Radio-Electronics pt 5 20:32-33 Feb '49; pt 6 20:104-105 Mar '49; pt 7 20:35-37 May '49; pt 8 20:34-36 June '49; pt 9 20:34-35 July '49; pt 10 20:34-36 Aug '49; pt 11 20:28-29 Sep '49

Fast neutron detector. W. G. Moulton and C. W Sherwin. Rev Sci Instr 20:766-767 Nov '49

Geiger-Mueller counter for measuring beta-ray activity of liquids, and its application to medical tracer experiments. N. Veall. Brit J Radiol pp 347-351 July '48

German X-ray and electro medical industry. German Industry Rep. CIOS XXIII-22 Brit Govt Pub

Health protection instrumentation. F. R. Shonka Elec Eng 68:249-250 Mar '49

Hospital synchrotron. J. H. Martin. Elec Rev 145:277-279 Aug 12, '49

Hospital television. Wireless World 55:s16-s18 Dec '49

Instrumentation in the field of health physics. Karl Z. Morgan. IRE Proc 37:74-82 Jan '49

Instrument requirements in audiology. Aram Glorig. Elec Eng 68:246 Mar '49. Also in Electronics 22:130 Feb '49

250 kilovolt X-ray equipment for deep therapy. D H. Donaldson and D. Halliday. GEC Jour 16:175-183 Oct '49

Locating Gallstones. Eric A. Walker and others. Electronics 22:92+ Mar '49

Lupam: ultrasonic locator for medical applications. R. P. McLoughlin and G. N. Guastavino. Rev Telegr No 444:507-517+ Sep '49. In Spanish

Measurement of ionization chamber currents in instruments designed for health protection. E W. Molloy. Elec Eng 68:250 Mar '49

Measurement of the luminescense of fluoroscopic X-ray screens. R. H. Peckham. Opt Soc Am 39:714-717 Aug '49

Method for continuous graphic recording of radioactive tracer concentrations from various body regions simultaneously. M. Reiss and others Biochem J 44:255-256 '49

Midget X-ray apparatus for dentists. (Ein Miniatur-Roentgengeraet fuer Zahnaerzte) Funk und Ton 3:112-114 Feb '49

Miscellaneous recorders. Kendrick Hare. Electronics 22:172+ Feb '49

Mobile Geiger-Mueller tube counting system and some of its medical applications. R. C. Turner and W. K. Sinclair. Brit J Radiol 21:632-637 Dec '48

Negative ions may have health value. J. C. Beckett Elec West 103:70 Dec '49

MEDICAL and BIOLOGICAL APPL.—Cont'd.

ipette-type Geiger counter for small quantities of biological fluids. D. M. Maurice. Jour Phys & Rad 107:26 Sep 30, '48

ulsed stimulator aids medical research. L. A. Woodbury and others. Electronics 22:84-85 Aug '49

adioautography. Tom McClure. Tracerlog No 17:1-7 Mar '49

cientific, industrial and medical apparatus. Wireless World 55:443-444 Nov '49

echniques for application of the betatron to medical therapy. H. Quastler and others. Am J Roentgenology & Radium Therapy 61:591-625 May '49

emperature measurement inside the body using a thermistor. J. M. Benjamin, jr. and Steven M. Horvath. Science 109:592 June 10, '49

ravelling X-ray theatre and dark room. Engineering 168:96 July 22, '49

ltrasonic applicator. Arthur Roberts. Radio & TV N 12:3-5+ Jan '49

ltrasonic generator for clinics. Vin Zeluff. Electronics 22:144+ Aug '49

ltraviolet air sanitation. L. J. Buttolph. Arch Record 106:139-143+ July '49

Patents

reathing indicator, Cornelius A. Tobias, 2,473,922, 8 cl. Appl Oct 25, '45; granted June 21, '49

lectrical apparatus for use in obstetrics, Frederic Benoit, 2,470,970, 8 cl. Appl Aug 10, '45; granted May 24, '49

lectromagnetic mechanism for bone conduction receivers, etc., Samuel F. Lybarger, 2,463,786, 8 cl. Appl Feb 10, '47; granted Mar 8, '49

lectronic motor control apparatus, William K. Ergen, 2,475,132, 5 cl. Appl Aug 12, '43; granted July 5, '49

adiograph calculator, John W. Wilson, 2,484,366, 8 cl. Appl June 14, '47; granted Oct 11, '49

herapeutic and diagnostic machine, Irving Rehman, 2,477,084, 2 cl. Appl Oct 20, '45; granted July 26, '49

Biological Applications

nalysis of microcomposition of biological tissue by means of induced radioactivity. Cornelius A. Tobias and Rayburn W. Dunn. Science 109:109+ Feb 4, '49

pplications of strain gauges to biological phenomena. (Application des gauges d'effort aux mesures des phenomenes biologiques) B. Cieutat. Electronique 29:3-4 Mar '49

iological applications of microwaves. L. de Seguin. Onde Elec 29:368-377 Oct '49. In French

iological requirements in amplifiers. Harry Grundfest. Elec Eng 68:246 Mar '49. Also in Electronics 22:128 Feb '49

iologic properties of microwaves. (Les proprietes biologiques des microondes) L. de Seguin. Ann Radioelec 4:331-343 Oct '49

arrier type DC amplifier for biological research. C. R. Maduell, jr. and H. M. Owen. Electronics 22:128+ Oct '49

esign and construction of an amplifier for bioelectric recording. R. T. Jamieson. S Afr IEE Trans 40:204-212 Sep '49

Effect of high-voltage X-rays and cathode rays on vitamins. S. A. Goldblith and B. E. Proctor. Nucleonics 5:50-58 Aug '49

Effect of meter waves on plant growth. (Ueber die Wirkung von Meterwellen auf das Wachstum der Pflanzen) Kiepenheur and others. Naturwiss 36:27-28 '49

Effect of soft X-ray on vitamins. B. E. Proctor and S. E. Goldblith. Nucleonics 5:56-62 Sep '49

Effect of supervoltage cathode rays on the nonenzymatic Browning reaction of dried fruits and on chemical compounds pertaining thereto. Bernard E. Proctor and Samuel A. Goldblith. Science 109:519+ May 20, '49

Frequency analyzer for bioelectric potentials in the sub-audio range. C. Markey and others. Rev Sci Instr 20:612-616 Aug '49

High-frequency-heating characteristics of vegetable tissues determined from electrical-conductivity measurements. T. M. Shaw and J. A. Galvin. IRE Proc 37:83-86 Jan '49

Investigations on the biological effects of microwaves in view of their therapeutic applications. L. de Seguin and others. Rev Sci 86:335-344 Apr 1, '48

Present practice in biological amplifier design. John P. Hervey. Elec Eng 68:248 Mar '49. Also in Electronics 22:128 Feb '49

Thermistor continuous temperature control for biological research. C. J. Dickinson. Electronic Eng 21:408-409 Nov '49

Tissue stimulators utilizing radiofrequency coupling. Otto H. Schmitt and Donald R. Dubbert. Rev Sci Instr 20:170-173 Mar '49

Ultrasonics in biology and chemistry. (Gli ultrasuoni nella biologia e nella chimica) F. Fannucci and L. Bussi. Ricerca Sci 19:877-886 Aug '49

See also

Electron Microscopes
Training Aids, TV
X-Rays

MEDICAL and BIOLOGICAL APPLICATIONS, Electrocardiograms

Electrocardiograph. German Industry Rep. BIOS 213 Brit Govt Pub

Fourier analysis in relation to the electrocardiogram. W. E. Benham. Brit IRE J 9:170-183 May '49

Instrumental requirements for the electrocardiograph. John L. Nickerson. Elec Eng 68:247 Mar '49. Also in Electronics 22:130 Feb '49

Method of optically recording contractions and electrocardiograms from isolated frog hearts. F. D. McCrea and S. Ellis. Science 110:401 Oct 14, '49

MEDICAL and BIOLOGICAL APPLICATIONS, Electrotherapy

Application of crystal control to diathermy equipment. Eimac application bulletin. Rev Telegr No 443:445-446 Aug '49

Biological effects of electric shocks, and testing machine. (Les effets biologiques des impulsions electroniques, et la machine a diagnostic) Electronique 29:19-21 Mar '49

MEDICAL and BIOLOGICAL APPLICATIONS, Electrotherapy–Cont'd.

Diathermy apparatus (Siemens, Halske). German Industry Rep. BIOS 564 Brit Govt Pub

Diathermy generator. H. L. Bumbaugh. Radio-Electronics 20:29 Apr '49

Double pulse constant current stimulator. R. L. Schoenfeld. Rev Sci Instr 20:827-829 Nov '49

Electric excitation current and the significance of its curves. (Der elektrische Reizstrom und die Bedeutung seiner Kurvenform) Herbert Graf. Frequenz 3:141-151 May '49

Electrical impulse counter. James M. Garner, jr. and June P. Oakley. Franklin Inst J 247:183-189 Feb '49

Electromedical stimulators. O. B. Sneath and E. G. Mayer. Wireless World 55:129+ Apr '49

Electronic trigger circuit as an aid to neurophysiological research. H. W. Shipton. Brit IRE J 9: 374-383 Oct '49

Instruments for artificial excitation of human nerves. (Ueber Geraete zur Kuenstlichen Erregung der nerven in menschlichen Koerper) Kulp. Funk und Ton 3:144-150 Mar '49

Measuring dosage: electronic aids to radiotherapy. H. A. Hughes. Electronic Eng 21:80-86 Mar '49

Significance of decimeter and centimeter waves in electro-medicine. (Die elektro-medizinische Bedeuting der Dezimeter- und Zentimeterwellen) Elektrotechnik 3:3-10 Jan '49

Patents

Electric convulsive therapy, Wladimir Theodore Liberson, 2,473,378, 4 cl. Appl Mar 16, '46; granted June 14, '49

Electronic valve apparatus for electrotherapy, Pierre Denis Bernard, 2,465,838, 4 cl. Appl July 18, '45; granted Mar 29, '49

Electrotherapeutic apparatus, Thomas H. Moray, 2,460,707, 8 cl. Appl Apr 30, '43; granted Feb 1, '49

High-frequency diathermy applicator, Frederick Walter Wanzenberb, 2,476,645, 8 cl. Appl Nov 27, '46; granted July 19, '49

METEOROLOGICAL APPLICATIONS

Development of the meteorological office radar reflector. Md 11B. O. M. Ashford and H. J. Ferrer. Met Mag 77:224-227 Oct '48

Electronic device speeds flood forecasting. R. K. Linsley and others. Eng N 141:64-66 Dec 23, '48

Electronics in meteorology. Norman A. Abbott. Radio & TV N 42:3-7+ Aug '49

Experimental investigation of the so-called anisotrophy of the ionosphere. Ya. L. Al'pert. Akad Nauk Izvest 12:267-287 May-June '48. In Russian

Industrial radar for hurricane tracking. W. F. Gerdes and R. C. Jorgesen. Science 110:357-360 Oct 7, '49

Ionization anemometer. J. E. Lovelock and E. M. Wasilewska. Jour Sci Instr 26:367-370 Nov '49

Ionospheric prediction aided by use of antipodal points. Nat Bur Stand Tech Bul 33:44-45 Apr '49

Ionospheric sounding experiments in Germany. W. Dieminger. Research 2:571-576 Dec '49

Location of thunderstorms by radio. Nature 163: 75+ Jan 8, '49

Long-term prognoses of critical frequencies of the ionosphere and cases of its excitation. G. M. Bartenev. Akad Nauk Izvest 9:1139-1151 Sep '47

Measuring air velocity with a thermopile. C. E. Hastings. Elec Eng 68:582 July '49

Meteorological direction finder. C. Clarke. Wireless World 55:S12-S14 Sep '49

Meteorological equipment of the Hanford engineer works. 14 pp '47 MDDC-841

Meteorological instruments and techniques. German Industry Rep. CIOS XXXII-43 Brit Govt Pub

New equipment for the systemic recording of ionospheric echoes. A. Boelle. Ann Geofis 1:164-174 Apr '48

Operating instructions for the WSC low level atmospheric sounding equipment. July '44. PB 96944

Prognoses of the annual cycle of critical frequencies of the ionosphere and magnetic storms. G. M. Bartenev. Akad Nauk Izvest 9:1153-71 Sep '47. In Russian

Radar as an aid to the study of the atmosphere. F. E. Jones. Roy Aero Soc J pp 433-448 May '49

Radar keeps tab on tropical storms: Dow Chemical Co.'s installation for hurricane tracking. W. Gerdes and R. Jorgesen. Oil & Gas J 48:76+ Nov 17, '49

Radar observation of heavy rain. H. Whalley and G. J. Scoles. Nature 163:372+ Mar 5, '49

Radar turned to weather forecasting. Eng N 142:58-59 Feb 17, '49

Radio method of measuring winds in the ionosphere. S. N. Mitra. IEE Proc 96:441-446 Sep '49

Recording meter for auroral radiations. W. D. Penn and B. W. Currie. Canada J Res 27A:45-52 May '49

Sea breeze structure with particular reference to temperature and water vapour gradients and associated radio ducts. R. W. Hatcher and J. S. Sawyer. Quart Roy Met Soc Quart J 73:391-406 July-Oct '47

Shielded hot-wire anemometer for low speeds. L. F. G. Simmons. Jour Sci Instr 26:407-411 Dec '49

Single-band 0-20-mcs ionosphere recorder embodying some new techniques. T. L. Wadley. IEE Proc 96:483-486 Nov '49

Summary of German developments in meteorology during the war. German Industry Rep. CIOS XXX-78 Brit Govt Pub

Patents

Barometer, Frank Rieber, 2,473,610, 9 cl. Appl Jan 29, '44; granted June 21, '49

Dew-point indicator, Orman L. Graves, 2,459,810, 4 cl. Appl Mar 31, '45; granted Jan 25, '49

Electric resistance film hygrometer, Harry W. Cleveland, 2,458,348, 10 cl. Appl May 6, '44; granted Jan 4, '49

Hygrometry, David B. Smith, 2,468,691, 5 cl. Appl May 30, '44; granted Apr 26, '49

See also

Interference, Atmospheric & Solar

:ETEOROLOGICAL APPLICATIONS, Radiosonde

utomatic range-adjusting radiosonde recorder. George E. Beggs, jr. AIEE Proc section 9152:1-6 July '49

utch radiosonde. J. L. van Soest. Tijdschr ned Radiogenoot 8:305-313 Oct '40

xploring the ozonosphere. C. J. Brasefield. Sci Mon 68:395-399 June '49

ow-temperature performance of radiosonde electric hygrometer elements. A. Wexler. RP 2003. Nat Bur Stand

ew frequency modulated radio sonde. German Industry Rep. FIAT 1175. In German

erformance of radiosonde hygrometer. A. Wexler. Nat Bur Stand Res J 43:49-56 July '49

adiosondes AN/AMT-1 and AN/AMT-2 (with list of references and abbreviations). 59 pp M 101.18: 11-2430 U.S. Govt Pub

adio sonde transmitter. German Industry Rep. CIOS XXVIII-20 Brit Govt Pub

ange-adjusting radiosonde recorder. George E. Beggs, jr. Elec Eng 68:990 Nov '49

Patents

hronometric electronic radiosonde system, Clifford M. Hammel, 2,468,703, 10 cl. Appl Sep 26, '46; granted Apr 26, '49

:ETERS

See Measurements and Meters, Test Equipment

ICROPHONES

BC-Marconi ribbon microphone type AXBT. E. T. Wrathall. Marconi Rev 12:92-103 July-Sep '49

arbon microphones. G. D. Brewer. RSGB Bul 25:111 Oct '49

oncise data and theory on broadcast microphones. Broadcast Eng J 16:2-8 July '49

irectional microphone. H. F. Olsen and J. Preston. RCA Rev 10:339-347 Sep '49

utch (Ronette) microphones type R-510. (Ronette-Mikrofonen) Radio Ekko 10:198 Oct '47

quivalent electrical circuit for the piezoelectric sound-receiver. O. Schafer. Akust Zeit 6:326-328 Nov '41

eneral design methods for condenser microphones. (Metodo generale di progetto del microfono elettrostatico) S. Paolini. Alta Frequenza 18: 148-159 July-Aug '49. Abstracts in French, English, and German

erman universal condenser microphone. FIAT 1147 Brit Govt Pub

teractions between microphones, couplers, and earphones. Keron C. Morrical and others. Accoust Soc Am J 21:190+ May '49

ew Dutch crystal microphones. (Nye hollandske Kvalitets-Krystalmikrofoner) Radio Ekko 10: 134-135 July '47

ew dynamic microphone. W. Baer. Akust Zeit 8: 127-135 Aug '43

oise level of high grade microphones. W. Weber. Akust Zeit 8:121-127 Aug '43

mnidirectional microphone. John K. Hilliard. Audio Eng 33:20-21 Apr '49

Reciprocity free-field calibration of microphones. W. Wathen-Dunn. Accoust Soc Am J 21:542-546 Sep '49

R5 Mike. W. S. Rogers. CQ 5:27-28 Nov '49

Single-element unidirectional microphone. H. F. Olson and J. Preston. Soc Motion Picture Eng J 52:293-302 Mar '49

Stereophony. (Stereophonie) Tijdsch ned Radiogenoot 14:137-146 Sep '49

Substitution method of measuring the open circuit voltage generated by a microphone. M. S. Hawley. Accoust Soc Am J 21:183+ May '49

Patents

Carbon type microphone, Charles Laurent, 2,483,317, 5 cl. Appl Jan 7, '46; granted Sep 27, '49

Dipole microphone, Benjamin Olney, Frank H. Slaymaker, and Willard F. Meeker, 2,485,405, 17 cl. Appl Apr 21, '44; granted Oct 18, '49

Dual microphone system, Warren B. Bruene, 2,490,-943, 7 cl. Appl Feb 14, '48; granted Dec 13, '49

Electroacoustical transducer, Gabriel M. Giannini, 2,463,762, 16 cl. Appl Nov 14, '41; granted Mar 8, '49

Electromechanical transducer, John P. Arndt, jr., 2,487,962, 11 cl. Appl Aug 29, '47; granted Nov 15, '49

Frequency controlled transducer, Frank Rieber, 2,469,785, 13 cl. Appl Jan 29, '44; granted May 10, '49

Hand microphone and switch, Webster E. Gilman and Raymond C. Bierman, 2,485,278, 11 cl. Appl Mar 31, '45; granted Oct 18, '49

Magnetic equalization of sensitivity in ribbon microphone assemblies, Leslie J. Anderson, 2,476,396, 4 cl. Orig appl Dec 28, '39; divided and this appl Apr 29, '42; granted July 19, '49

Microphone holder, Roy L. Huff, 2,467,383, 2 cl. Appl Mar 5, '45; granted Apr 19, '49

Microphone pickup and volume control, Harry De Armond, 2,486,263, 4 cl. Appl Nov 18, '46; granted Oct 25, '49

Piezoelectric transducer, Harry B. Shaper, 2,490,236, 7 cl. Appl June 17, '47; granted Dec 6, '49

Testing system and method, Edward E. Mott, 2,465,-468, 1 cl. Appl Mar 14, '45; granted Mar 29, '49

Violin microphone, Harry De Armond, 2,486,264, 6 cl. Appl Sep 27, '47; granted Oct 25, '49

Volume compressor for carbon microphones, John C. O'Brien, 2,492,707, 7 cl. Appl July 16, '46; granted Dec 27, '49

MICROWAVES

Amplitude modulation of centimetre waves. P. O. Hawkins and C. C. Costain. Nature 164:356 Aug 27, '49

Balanced-to-unbalanced matching unit for high frequencies. J. W. Whitehead. Jour Sci Instr 26: 71+ Mar '49

Broad-band microwave noise source. W. W. Mumford. Bell System Tech J 28:608-618 Oct '49

Determination of improved microwave surfaces. W. H. Colner and H. T. Francis. PB 97677

Effect of surface roughness on eddy current losses at microwave frequencies. Samuel P. Morgan, jr. Jour Ap Phys 20:352+ Apr '48

MICROWAVES–Cont'd.

Electrical breakdown strength of air at ultra-high frequencies. J. A. Pim. IEE Proc 96:117+ Mar '49

Experimental determination of the phase characteristics of circuits used at UHF. (La determination experimentale des characteristiques de phase des circuits utilises en ondes centimetreques) M. Denis and P. Palluel. Ann Radioelec 4:315-330

Experiments on infra-red rays. (Einige demonstrationsversuche mit ultraroten Strahlen) Gast. Funk und Ton 3:529-533 Sep '49

Exposure to microwaves. W. W. Salisbury and others. Electronics 22:66+ May '49

High power attenuator for microwaves. D. Alpert. Rev Sci Instr 20:779-781 Nov '49

Inductive and reactive effects of leads at ultra-high frequencies. Cap 14:3-6 May '49

Microwave analog of a half-wave plate. Gene T. Pelsor. Am J Phys 17:223-224 Apr '49

Microwave attenuators. (Attenuatori per microonde) R. Malvano. Elettronica 4:221-226 Sep '49. Abstracts in French and English

Micro wave considerations. (Richtstrahl-Strategie) Gerber. Tech Mit Schweiz 27:1-3 Feb '49

Microwave developments in America. (Mikrowellen-Richtverbindungen in Amerika) Radio Tech 25:287-294 May '49

Microwave losses of conductors. M.S. thesis. Henry F. Cooke. Ohio State U Phys Dept Dec '48

Microwave metallized glass attenuators. J. W. E. Griemsmann. Elec Eng 68:253 Mar '49

Micro-wave modulation by variable circuit elements comprising wave guides or cavity resonators. A. N. Bhattacharyya. Indian J Phys 23:175-183 Apr '49

Microwave noise sources. I. Mirman and others. Elec Eng 68:257 Mar '49

Microwaves. C. W. Palmer. Radio-Electronics pt 1 20:24 Apr '49; pt 2 20:55 May '49; pt 3 20:37 June '49; pt 4 20:46-47 Aug '49; pt 5 20:38-39 Sep '49; pt 6 21:40-41 Oct '49; pt 7 21:31-32 Nov '49; pt 8 21:36-37 Dec '49

Miscellaneous material dealing with infrared rays, microwave research, etc., 1935-1945. PB 84923

Physical applications of microwaves. J. B. Birks. Brit IRE J 9:10+ Jan '49

Potential power of electronic microwaves. M. A. Levitskaya. Zh Tekn Fiz* 17:461-468 '47

Problem of voltage division for centimeter and millimeter waves. (Das Problem der Spannungsteilung bei Zentimeter- und Millimeterwellen) O. Macek. Frequenz 3:117-121 Apr '49

Progress in microwaves. A. Kiriloff. Telev Franc No 45:22-24 Mar '49. In French

Research reports covering cavity resonators, cyclotrons, crystal vibration, feedback, microwaves, etc., 1942-1944. PB 84893. In German

Some recent and original applications of the infrared. L. Manluc. Toute la Radio No 139:268-269 Oct '49. In French

Technique and applications of UHF. (Technique et applications des ondes ultra-courtes) J. Franeau. HF No 4:91-102 '49

Ultra short wave amplification by means of mirrors. Dec '38 PB 96226

Y-Fe_2O_3 at high frequencies. (Y-Fe_2O_3 bei Hochfrequenz) Wagenknecht. Naturwiss 36:57 '49

Patents

Beam tube receiver input, James R. Moore, 2,480,872, 3 cl. Appl Nov 28, '42; granted Sep 6, '49

High-frequency apparatus, Thomas James Boerner and John W. Sanborn, 2,485,856, 6 cl. Orig appl June 17, '43; divided and this appl Mar 28, '44; granted Oct 25, '49

Permeability tuned high-frequency coupling device, James Brydon Rudd and John Forbes Allen, 2,483,596, 5 cl. Appl Dec 18, '45; granted Oct 4, '49

Radiant energy receiver, Gregory V. Rylsky, 2,482,440, 12 cl. Appl Mar 13, '44; granted Sep 20, '49

Thermally actuated frequency control. Edwin T. Jaynes, 2,477,616, 17 cl. Appl Jan 24, '44; granted Aug 2, '49

Transmit-receive device, Bruce B. Cork and George R. Brewer, 2,478,245, 2 cl. Appl May 23, '45; granted Aug 9, '49

Ultra high frequency amplifying circuit, Maximiliaan Julius Otto Strutt and Aldert van der Ziel, 2,476,392, 7 cl. Appl Feb 14, '47; granted July 19, '49

Ultra short wave system, Charles H. Brown, 2,489,855, 5 cl. Appl Nov 1, '45; granted Nov 29, '49

Variable reactive microwave device, John Evans, 2,483,818, 5 cl. Orig appl Oct 31, '44; divided and this appl July 18, '47; granted Oct 4, '49

See also

Antennas
Pulse Circuits
Radar
Waveguides

MICROWAVES, Communication

AM and FM at UHF. (Zum vergleich zwischen Amplituden und Frequenzmodulation in Ultrakurzwellenrundfunk) Schwartz. Fernmeldetech Zeit 2:73-77 Mar '49

AM and narrow-band FM in UHF communications: pts 1 and pts 2. E. Toth. Electronics 22:84+ Feb-Mar '49

Beamed radio techniques. Electrician 143:1550-1552 Nov 11, '49

Development of microwave communication in France. (Richtverbindungstechnik in Frankreich) Radio Tech 25:193-195 Mar '49

Experimental multiplexing of functions in the 960-1660 mc frequency spectrum — its influence on weight and complexity of equipment. (Abstract) P. C. Sandretto and R. I. Colin. IRE Proc 37:169 Feb '49

Experimental ultra-high frequency multiplex broadcasting systems. A. G. Kandoian and A. M. Levine. Elec Comm 26:292-304 Dec '49

Experimental verification of various systems of multiplex transmission. (Abstract) D. R. Crosby. IRE Proc 37:161 Feb '49

Impairment of intelligibility by noise in decimetre-wave links. E. Dietrich. Fernmeldetech Zeit 2:173-178 June '49

Microwave communications systems. Elec West 103:64-65 Aug '49

Microwave multichannel radio system for pipe lines. W. T. Bulla. Pet Eng 21:D16+ Mar '49

MICROWAVES, Communication–Cont'd.

Microwaves supplement present channels; Bonneville Dam system. Richard F. Stevens. Elec World 131:39-42 Jan 1, '49

Principles and prospects of microwave communication. F. S. Mabry. Westinghouse Eng 9:74-77 May '49

UHF communication. (Ultrakurzwellenrundfunk) Radio Tech 25:31-34 Jan '49

Use of a mirror reflector and simple electromagnetic lenses on the France-Corsica experimental link on 23 cm. J. Hugon. Ann Radioelec 4:157-160 Apr '49. In French

Patents

Automatic frequency control, Leland E. Thompson, 2,462,294, 9 cl. Appl May 22, '46; granted Feb 22, '49

Communication system, Charles G. Smith, 2,473,613, 3 cl. Appl July 9, '42; granted June 21, '49

Radio communication system, George G. Bruck, Philip E. Bolz, Paul J. Pontecorvo, and Malcolm C. Vosburgh, 2,475,474, 4 cl. Appl Feb 27, '46; granted July 5, '49

Relays

Broad-band microwave relay system between New York and Boston. G. N. Thayer and others. IRE Proc 37:183-188 Feb '49

Design of micro wave relays. (Die zweckmaessige wahl von Hoehe, Entfernung und Wellenlaenge fuer die Planung von Dezimeterstrecken) Gruen. Fernmeldetech Zeit 2:69-72 Mar '49

High-quality microwave radio link. Martin Silver and Joseph Racker. Radio & TV N 42:3-6+ Sep '49

Microwave communication relay system. Wilson P. Boothroyd and Harold J. Churchill. AIEE Proc section 9158:1-5 July '49

Microwave relay. APCO Bul 15:9+ Dec '49

Micro wave relay tests in the Alps. (Richstrahl Uebertragungsversuche in den Alpen) Klein. Tech Mit Schweiz 27:49-69 Apr '49

Power supplies for microwave relay systems. H. H. Ward. AIEE Proc section 9157:1-6 July '49

See also

Pulse Circuits, Communication
Television, Relay Systems

MICROWAVES, Detection

Crystal detectors. W. R. Woodyard. PB 98397

Direct detection of microwaves. B. A. Lengyel. Naval Lab Rep R-3204 15 pp Nov 21, '47. AEC

Microwave discriminator. Electronic Eng 21:120 Apr '49

Microwave frequency discriminator. J. H. Tillotson. Ph.D. thesis. Purdue U Aug '47

Patents

Detection of high-frequency electric oscillations, James L. Lawson, 2,472,378, 8 cl. Appl Aug 27, '43; granted June 7, '49

Diode detector for hyperfrequencies, Peter A. Cole and James B. Horner Kuper, 2,468,655, 1 cl. Appl Aug 20, '45; granted Apr 26, '49

Frequency discriminator circuits, Eric Lawrence Casling White, 2,480,799, 4 cl. Orig appl Mar 3, '45; divided and this appl Nov 14, '45; granted Aug 30, '49

Limiting detector circuits, Murray G. Crosby, 2,470,-240, 17 cl. Appl July 13, '45; granted May 17, '49

Ultra high frequency discriminator and apparatus, Vincent R. Learned, 2,476,311, 26 cl. Appl Feb 1, '43; granted July 19, '49

See also

Pulse Circuits, Detectors

MICROWAVES, Measurement

Absolute method for measuring microwave power of low intensity. (Abstract) Harold Herman. IRE Proc 37:162 Feb '49

Absolute measurement of low power at 3,000 mcs. R. Street. IEE Proc pt II 96:391-396 June '49; pt III 96:237+ May '49

Analysis of the direct-current bolometer bridge. David M. Kerns. Nat Bur Stand Res J 43:581-589 Dec '49

Bolometric measurement of microwave power over broad frequency bands. Herbert J. Carlin. Elec Eng 68:253 Mar '49

Broadband bolometric measurement of microwave power. Herbert J. Carlin. Radio & TV N 42:16-19 July '49

Broad-band power measuring methods at microwave frequencies. F. E. Norton. IRE Proc 37:759-766 July '49

Conditions of maximum sensitivity of UHF radiometers. J. L. Steinberg. Onde Elec 29:160-166 Apr '49. In French

Determination of efficiency of microwave bolometer mounts from impedance data. D. M. Kerns. RP 1995 Nat Bur Stand

Detector voltmeter for centimeter waves. (Richtleiter-Spannungsmesser) Macek. Frequenz 3:223-226 July '49

Device for admittance measurements in the 50 to 500 mc range. W. R. Thurston. IRE Proc 37:173 Feb '49

Dielectric measurements at microwave frequencies. (Die Untersuchung von Dielektriken im Zentimeterwellen-Bereich) Funk und Ton 3:408-410 July '49

Dielectric properties of some animal tissues at meter and centimeter wave lengths. E. R. Laird and K. Ferguson. Canada J Res 27:218-230 Nov '49

Electrolytic-tank measurements for microwave delay-lens media. (Abstract) Seymour B. Cohn. IRE Proc 37:162 Feb '49

Four reports: (1) Determination of complex resistances and electrical constants in the decimeter range; (2) Measurement of complex resistances in the decimeter range, by resonance; (3) Resonance testing device for complex resistances in the decimeter range; (4) Influence of supporting lecher wire lines at their ends, on the distribution of voltage along same. Schwan. PB 97087. In German

Impedence measurement in decimetre wave band. Bengt Josephson. Kungl Tekn Hogsk Handl No 23 '48. Also in Act Polyt No 35 and Elec Eng Vol 2 '49

MICROWAVES, Measurement–Cont'd.

Interferometer for microwaves. John Markus. Electronics 22:164+ May '49

Investigation of RF probes. Y. N. Dowker and R. M. Redheffer. PB 97539

Measurement apparatus for decimetre waves. H. H. Meinke. Fernmeldetech Zeit 2:197-200 July '49

Measurement of artificial dielectrics for microwaves. Winston E. Kock. Elec Eng 68:256 Mar '49

Measurement of centimetre-wave power by means of bolometers. J. Broc. Comp Rend Acad Sci 228:1937-1938 June 20, '49

Measurement of the dielectric characteristics of soil and water at a wavelength of 3.2 cm. (Messungen der dielektrischen Eigenschaften von Boeden und Gewaessern bie 3.2 cm Wellenlaenge) Funk und Ton 3:243-244 Apr '49

Measurement of magnetic permeability at ultra-high frequency. J. Soutif-Guicherd and P. Grivet. Comp Rend Acad Sci 228:1796-1797 June 8, '49

Measurement of the complex conductivity of an ionized gas at microwave frequencies. F. P. Adler. Jour Ap Phys 20:1125-1129 Nov '49

Measurement of the velocity of propagation of centimetre radio waves as a function of height above the earth. The Measurement of the velocity of propagation over a path between ground and aircraft at 10,000, 20,000 and 30,000 feet. F. E. Jones and E. C. Cornford. IEE Proc 96:447-452 Sep '49

Measuring instruments for microwaves. (Messgeraete fuer Dezimeterwellen) Meinke. Fernmeldetech Zeit 2:197-200 July '49

Methods of measuring impedance and voltage standing-wave ratio at micro-wave frequencies. F. Klawsnik. Elec Eng 68:255 Mar '49

Method of measuring phase microwave frequencies. Sloan D. Robertson. Bell System Tech J 28:99+ Jan '49. Also digest in Elec Eng 68:256 Mar '49

Michelson-type interferometer for microwave measurements. (Abstract) Bela A. Lengyel. IRE Proc 37:162 Feb '49

Microwave bolometer mount efficiency. David M. Kerns. Nat Bur Stand Res J 42:579-585 June '49

Microwave calorimeter. Samuel Freedman. Radio & TV N 41:15-16+ June '49

Microwave impedance bridge. M. Chodorow and others. IRE Proc 37:634-639 June '49

Microwave measurement standards. Radio & TV N 41:3-5 Apr '49

Microwave methods in physics. C. Kikuchi and R. D. Spence. Am J Phys 17:288-297 May '49

Microwave phase front measurements for overwater paths of 12 and 32 miles. A. W. Straiton. IRE Proc 37:808-813 July '49

Microwave Q measurements in the presence of series losses. L. Malter and G. R. Brewer. Jour Ap Phys 20:918-925 Oct '49

Optical method of measuring the dielectric permeability and the dielectric loss of solid dielectrics in the centimeter range. L. I. Odynets. Zh Tekn Fiz 19:120-125 Jan '49. In Russian

Some problems posed by the precise measurement of microwave frequencies. M. Denis and B. Epstein. Ann Radioelec 4:12-25 Jan '49. In French

Sources of power for microwave measurements. Elec Eng 68:252 Mar '49

Superconducting resonant cavities — measurements of the surface impedance of normal and superconductors at low temperature and microwave frequencies. E. Maxwell. Elec Eng 68:252 Mar '49

Technique of measuring centimeter waves. (Zentimeterwellenmesstechnik) Elektron Wiss und Tech 3:482-484 Dec '49

Ten centimeter broadband bolometer cavity. T. Miller. Tele-Tech 8:28-31+ Sep '49

Patents

Apparatus for measuring field intensity in high-frequency electric fields, Edward Cecil Cork, 2,458,565, 4 cl. Appl Apr 18, '45; granted Jan 11, '49

Impedance matcher for radio-frequency bridges, Otto H. Schmitt, 2,468,688, 3 cl. Appl Nov 27, '45; granted Apr 26, '49

Infrared spectrophotometry, Robert B. Barnes, 2,458,973, 7 cl. Appl Sep 25, '43; granted Jan 11, '49

Measuring of high-frequency power, Clarence W. Hansell, 2,481,589, 5 cl. Orig appl Oct 10, '42; divided and this appl Apr 20, '44; granted Sep 13, '49

Meter for measurement of ultra-violet radiation, Augustus Hadley Taylor, 2,485,418, 1 cl. Appl May 28, '47; granted Oct 18, '49

Method of and means for measuring microwave power, William D. Hershberger, 2,471,744, 9 cl. Appl May 29, '44; granted May 31, '49

Microwave wattmeter, Hugh E. Webber, 2,473,495, 13 cl. Appl Dec 6, '43; granted June 14, '49

Pickup loop with thermocouple, Hugo Benioff, 2,473,779, 2 cl. Appl Mar 10, '45; granted June 21, '49

Radiant energy detector, William Sackville, 2,459,-185, 6 cl. Appl June 23, '38; granted Jan 18, '49

Selective wave guide energy meter, John W. Tiley, 2,479,650, 12 cl. Appl Nov 1, '44; granted Aug 23, '49

Thermometric wattmeter, Hugh E. Webber, 2,464,-277, 16 cl. Appl Dec 13, '43; granted Mar 15, '49

Ultra high frequency power measuring system, Ralph W. George, 2,457,997, 9 cl. Appl Mar 26, '43; granted Jan 4, '49

Ultraviolet ray intensity meter, Lester F. Bird, 2,490,011, 9 cl. Appl June 11, '47; granted Dec 6, '49

See also

Measurements & Meters, Frequency
Measurements & Meters, Wavemeters

MICROWAVES, Optics

Analysis of the metal-strip delay structure for microwave lenses. S. B. Cohn. Jour Ap Phys 20:257+ Mar '49

Focusing sound with microwave lenses. F. K. Harvey. Bell Lab Rec 17:349-354 Oct '49

Latest progress in metallic microwave lenses. (Les derniers progres des lentilles metalliques pour ondes ultracourtes) Tech Mod 41:102 Mar '49

Metallic lenses for microwaves. M. Schaffner. Radio Tech Dig 3:165-173 June '49. In French

MICROWAVES, Optics–Cont'd.

Microwave lenses. A general survey of the three main types. C. Sussking. Wireless World 55:370-372 Oct '49

Microwave polarimeter. Alfred E. Schwaneke and Zaboj V. Harvalik. Rev Sci Instr 20:337 May '49

New lenses for focusing microwaves. (Neue linsen zur Buendlung von Mikrowellen) Radio Tech 25: 231-232 Apr '49

Path-length microwave lenses. W. E. Kock. IRE Proc 37:852-855 Aug '49

Small surface microwave diffraction. A. Applebaum and P. C. Fritsch. NEC Proc '49

Wide-angle metal-plate optics. (Abstract) John Ruze. IRE Proc 37:163 Feb '49

See also

Electron Optics

MICROWAVES, Oscillators

Analysis of the sensing method of automatic frequency control for microwave oscillators. E. F. Grant. IRE Proc 37:943-951 Aug '49

Doorknob oscillator for 420 mc. Edward P. Tilton. QST 33:29-31 Jan '49

Frequency stabilization with microwave spectral lines. W. D. Hershberger. Elec Eng 68:251 Mar '49

100 mc oscillator with subminiature tube. Eugen A. Fattey. Electronics 22:122+ May '49

Harmonic generation of microwaves. (Generazione armonica di microonde) P. Lombardini. Alta Frequenza 18:4-16 Feb '49. Abstracts in French, English, and German

Low-power wide-tuning-range UHF oscillators. (Abstract) F. J. Kamphefner and J. M. Pettit. IRE Proc 37:178 Feb '49

Microwave frequency standard for radar applications. R. R. Reed and M. S. Wheeler. Tele-Tech 8:26-28+ Dec '49

Notes on the Pound microwave frequency stabilizer. F. P. Zaffarano and W. C. Galloway. PB 97850

Oscillators for centimeter waves using ordinary vacuum tubes. (Letter) (Sugli oscillatori per onde centimetriche attuati con tubi ordinari) S. Marmor. Alta Frequenza 18:168 July-Aug '49. Abstracts in French, English and German

Self-excitation of a three-electrode generator with a reverse coupling in the decimeter range. S. D. Gvozdover and V. A. Zore. Zh Tekn Fiz 18:1194-1206 Sep '48. In Russian

Simple crystal control on 420 mcs. G. Michael King. RSGB Bul 24:197 Feb '49

Stabilization of microwave oscillators. E. W. Fletcher. Elec Eng 68:252 Mar '49

Travelling wave tube as oscillators with wide bands of response. O. Doehler and others. Ann Radioelec 4:68-75 Jan '49. In French

Patents

Apparatus for treating gaseous media, Charles G. Smith, 2,463,569, 4 cl. Appl Nov 17, '43; granted Mar 8, '49

Automatic tuning control system, Edward L. Ginzton, 2,462,857, 25 cl. Orig appl May 19, '42; divided and this appl Sep 28, '44; granted Mar 1, '49

Circuit arrangement comprising a push-pull oscillatory circuit for very short waves, Maximiliaan Julius Otto Strutt and Johannes Marinus van Hofweegen, 2,463,440, 5 cl. Appl Jan 8, '46; granted Mar 1, '49

Coaxial line generator, Louis W. Schreiner and Eugene V. Leonard, 2,458,650, 5 cl. Appl Sep 20, '44; granted Jan 11, '49

Compensated oscillator system, Paul C. Gardiner, 2,484,562, 9 cl. Appl Dec 4, '45; granted Oct 11, '49

Concentric line oscillator, Clarence A. Boddie, 2,473,504, 15 cl. Appl June 18, '43; granted June 21, '49

Detector-oscillator circuit for ultra high frequency receivers, George W. Fyler, 2,479,537, 6 cl. Appl Dec 30, '42; granted Aug 16, '49

Device for generating ultra high-frequency oscillations by means of a discharge tube, Frana Michel Penning and Cornelis Verburg, 2,467,153, 15 cl. Appl May 9, '46; granted Apr 12, '49

Directed beam high-frequency oscillator, Adolph H. Rosenthal, 2,479,084, 24 cl. Appl Apr 28, '45; granted Aug 16, '49

Frequency stabilizing device, George G. Bruck, 2,468,029, 10 cl. Appl Apr 9, '46; granted Apr 26, '49

Frequency stabilizing system, William E. Bradley and Howard E. Tompkins, 2,475,074, 2 cl. Appl Aug 31, '44; granted July 5, '49

Grid-pulsed cavity oscillator, Charles E. Dolberg, 2,483,337, 7 cl. Appl Nov 27, '43; granted Sep 27, '49

High-frequency concentric line oscillator, Eugene Fubini, Hegar C. Kriegel, and John G. Stephenson, 2,472,204, 4 cl. Appl Mar 1, '46; granted June 7, '49

High-frequency generator, Carl A. Segerstrom, jr., 2,462,909, 27 cl. Appl June 26, '44; granted Mar 1, '49

High-frequency oscillator, William Hotine, 2,462,-866, 1 cl. Appl Nov 30, '42; granted Mar 1, '49

Oscillator, Charles G. Smith, 2,468,127, 11 cl. Appl Dec 24, '43; granted Apr 26, '49

Oscillator tube, Clarence A. Boddie, 2,472,088, 24 cl. Appl June 18, '43; granted June 7, '49

Oscillator tube and circuit, Gerard J. Lehmann, 2,462,876, 6 cl. Appl Oct 28, '44; granted Mar 1, '49

Positive grid oscillator, John W. McNall, 2,459,283, 8 cl. Appl Jan 8, '45; granted Jan 18, '49

Resonator, Arnold E Bowen, 2,492,680, 1 cl. Orig appl May 4, '43; divided and this appl Apr 13, '45; granted Dec 27, '49

Self-contained high-frequency oscillator, Alexander Senauke, 2,469,180, 5 cl. Appl May 10, '46; granted May 3, '49

Semireentrant line oscillator for ultra high frequency comprising an electron discharge device, Saymour Lobel, 2,464,984, 6 cl. Appl Oct 8, '45; granted Mar 22, '49

Temperature compensated microwave device, Ernest G. Linder, 2,475,035, 15 cl. Appl Nov 8, '44; granted July 5, '49

Tunable electrical circuits, Maximiliaan Julius Otto Strutt and Johannes Marinus van Hofweegen, 2,473,310, 3 cl. Appl Apr 14, '43; granted June 14, '49

9

ying subminiature
ed circuits. V. H.
'49

ncs. W. A. Scarr.

smission efficiency.
6:255-257 Aug '49

adio & TV N 42:

vers. M.S. thesis.
ng Dept Sep '48

o 2500 mcs. H. B.
an '49

nission to a mobile
Aikens and L. Y.
9

y receiver, Arthur
Appl Nov 23, '42;

ual receiving sys-
7 cl. Appl Nov 21,

electron guntaking account of the
of the beam. H. Huber. Ann Radio-
Jan '49. In French

ns in triodes and tetrodes for HF.
Doolittle. Communications 29:14-17+

er—a developmental tube for ampli-
tion and power control at ultra high
C. L. Cuccia. RCA Rev 10:270-303

nittance of parallel-plane electron
) megacycles. S. D. Robertson. Bell
J 28:619-646 Oct '49

ultra-high-frequency triodes. R. R.
Proc 37:273-274 Mar '49

al studies of the 2K33 tube. G. H.
.:1004 PB-13263

of high frequency tubes. D. Charles.
ec 4:33-47 Jan '49. In French

t in space-charge limited current be-
l cylinders. P. L. Copeland and D. N.
. Jour Ap Phys 20:1148-1154 Dec '49

admittance measurements at 3000
M.S. thesis. Ohio State U E.E. Dept

de ondas centimetricas) A. B. Laplerre. Rev Telegr No 447:723-729 Dec '49

Theory of electron beam high frequency generators. G. Ya. Myakishev. Zh Tekn Fiz 18:1063-1068 Aug '48. In Russian

Transit-time effects in UHF valves. Wireless Eng June '49. Corresp. A. H. Beck. Wireless Eng 26: 379 Nov '49

Transmitter and amplifier tubes for decimeter waves. (Sende- und Verstaerkerrochren fuer Dezimeterwellen) Funk und Ton 3:178-180 Mar '48

200-mc traveling wave chain amplifier. F. Kennedy and H. G. Rudenberg. Electronics. 22:106-109 Dec '49

Tube engineering news. Communications 29:18-19 Mar '49

Tubes for frequencies above 1000 mc. (Rochren fuer die Nachrichtenuebermittlung mit Frequenzen ueber 1000 MHz) Schnitger. Fernmeldetech Zeit 2:51-56 Feb '49

Two triodes for reception of decimetric waves. K. Rodenhuis. Philips Tech Rev 11:79-89 Sep '49

UHF receiving tubes and circuits. Aerovox Res Worker 19:1 Oct '49

MICROWAVES, Tubes–Cont'd.

Velocity-dependent characteristics of high frequency tubes. Julian K. Knipp. Jour Ap Phys 20:425+ May '49

Patents

Amplifier tube for high frequencies, Gerhard Liebmann, 2,474,584, 12 cl. Appl July 29, '46; granted June 28, '49

Cathode support, Charles V. Litton, 2,474,263, 8 cl. Appl Nov 1, '45; granted June 28, '49

Discharge tube with plated electrode, Frits Prakke, Willem Keeman, and Klaas Rodenhuis, 2,484,311, 2 cl. Appl Aug 8, '46; granted Oct 11, '49

Dual type electron discharge device, John J. Glauber, 2,477,594, 5 cl. Appl Mar 27, '46; granted Aug 2, '49

Electric discharge device, Elmer D. McArthur, 2,460,141, 1 cl. Appl June 4, '46; granted Jan 25, '49

Electric discharge device, William H. Teare, 2,468,576, 11 cl. Appl Dec 14, '44; granted Apr 26, '49

Electric discharge tube, Maximilian Julius Otto Strutt and Aldert van der Ziel, 2,478,986, 4 cl. Appl Apr 18, '46; granted Aug 16, '49

Electrical discharge device, Caperton B. Horsley, 2,482,275, 27 cl. Appl Nov 26, '45; granted Sep 20, '49

Electron discharge device, Edward W. Herold, 2,489,132, 2 cl. Orig appl Apr 24, '42; divided and this appl July 23, '48; granted Nov 22, '49

Electron discharge device, Ernest G. Linder, 2,476,611, 10 cl. Appl Feb 7, '45; granted July 19, '49

Electron discharge device, John Heaver Fremlin and Stanley Gordon Tomlin, 2,462,086, 2 cl. Appl Mar 26, '45; granted Feb 22, '49

Electron discharge device, John J. Glauber, 2,471,424, 17 cl. Appl Oct 9, '44; granted May 31, '49

Electron discharge device, William C. Brown, 2,463,512, 8 cl. Appl June 1, '45; granted Mar 8, '49

Electron discharge device for high frequencies, John S. Donal, jr., 2,465,211, 20 cl. Appl Mar 8, '44; granted Mar 22, '49

Electron discharge device of the beam deflection type, G. R. Kilgore, 2,487,656, 12 cl. Appl Nov 22, '43; granted Nov 8, '49

Electron discharge tube, Warren G. Taylor, 2,462,921, 10 cl. Appl May 3, '46; granted Mar 1, '49

Electron multiplier for ultra high frequencies, Christian C. Larson, 2,473,031, 6 cl. Appl Apr 14, '45; granted June 14, '49

Electron transit time tube, John R. Pierce, 2,469,843, 18 cl. Appl Nov 15, '46; granted May 10, '49

Electron tube, Donald Drieschman and Richard Chamberlin, 2,472,942, 4 cl. Appl Mar 18, '47; granted June 14, '49

Electron tube, John Henry Owen Harries, 2,468,440, 3 cl. Appl Dec 26, '45; granted Apr 26, '49

Electronic discharge device, Maurice Arditi, 2,465,342, 33 cl. Appl Apr 13, '43; granted Mar 29, '49

Electronic discharge device, William C. Brown, 2,473,567, 9 cl. Appl Mar 20, '45; granted June 21, '49

Feedback amplifier or oscillator, Sydney B. Ingram, 2,458,000, 6 cl. Appl Nov 6, '43; granted Jan 4, '49

Getter structure for electron discharge devices, Albert M. Skellett, 2,474,335, 10 cl. Appl May 13, '47; granted June 28, '49

High-frequency electrical apparatus, Robert N. Hall and Lewi Tonks, 2,482,541, 11 cl. Appl May 12, '45; granted Sep 20, '49

High-frequency electron discharge apparatus, Elmer D. McArthur, 2,485,400, 2 cl. Appl Apr 19, '45; granted Oct 18, '49

High-frequency electronic device, Liss C. Peterson, 2,484,643, 3 cl. Appl Mar 6, '45; granted Oct 11, '49

High-frequency tube structure, Sigurd F. Varian and Edward L. Ginzton, 2,475,652, 19 cl. Appl Aug 3, '42; granted July 12, '49

High-frequency tube structure, William T. Cooke, 2,463,519, 34 cl. Orig appl June 28, '40; divided and this appl Mar 15, '43; granted Mar 8, '49

High-frequency tube structure, William W. Hansen, 2,480,133, 13 cl. Orig appl Dec 22, '41; divided and this appl Jan 17, '45; granted Aug 30, '49

Ionic discharge device, Charles Depew, 2,471,263, 12 cl. Appl May 24, '46; granted May 24, '49

Method of and apparatus for bunching electrons, Lee de Forest, 2,457,980, 8 cl. Appl Sep 1, '44; granted Jan 4, '49

Mounting for electron discharge device of the high-frequency type, John B. Atwood and Bertram Trevor, 2,474,026, 7 cl. Appl Apr 6, '44; granted June 21, '49

Oscillator tube mounting, Frederick H. Drake, 2,462,370, 14 cl. Appl Oct 17, '46; granted Feb 22, '49

Thermionic vacuum tube and circuit, Russell H. Varian, 2,478,216, Orig appl Mar 8, '39; divided and appl Mar 24, '42; divided and appl Dec 30, '43; again divided and this appl Oct 2, '48; granted Aug 9, '49

Thermionic valve, John Foster, 2,452,082, 8 cl. Appl Oct 28, '42; granted Feb 22, '49

Ultra high frequency electron discharge device, John J. Glauber, 2,465,370, 19 cl. Appl June 26, '44; granted Mar 29, '49

Ultra high frequency electron discharge device, Nicholas E. Pryslak, 2,473,969, 9 cl. Appl Mar 28, '47; granted June 21, '49

Ultra high frequency electron discharge device having elongated electrodes, Russell R. Law and Louis Pensak, 2,481,026, 8 cl. Appl Aug 15, '44; granted Sep 6, '49

Travelling Wave

Amplification by direct electronic interaction in tubes without circuits. P. Guenard and others. Ann Radioelec 4:171-177 July '49. In French

Aspects of double-stream amplifiers. (Abstract) J. R. Pierce and others. IRE Proc 37:176 Feb '49

Circuits for traveling-wave tubes. J. R. Pierce. IRE Proc 37:510-515 May '49

Comparison of the measured values for the linear gain of the travelling wave tube with the values indicated by various theories. L. Bruck. Ann Radioelec 4:222-232 July '49. In French

Double-stream amplifier. A. V. Hollenberg. Bell Lab Rec 17:290-292 Aug '49

Double stream amplifier. John Markus. Electronics 22:120 Nov '49

MICROWAVES, Tubes, Travelling Wave–Cont'd.

Double-stream amplifiers. J. R. Pierce. IRE Proc 37:980-985 Sep '49

Electron gun design for a traveling wave tube. M.S. thesis. Shih-Chung Chiao. Ohio State U E.E. Dept June '49

Electron wave tube. A. V. Haeff. IRE Proc 37:777-778 July '49

Electron-wave tube. Andrew V. Haeff. IRE Proc 37:4-9 Jan '49

Experimental development of traveling wave tubes. Chalmers Tek Hog No 67:22 pp '48. Also PB 95404

Experimental observation of amplification by interaction between two electron streams. A. V. Hollenberg. Bell System Tech J 28:52+ Jan '49

General solution of the two-beam electron-wave-tube equation. (Abstract) A. V. Haeff and others. IRE Proc 37:176 Feb '49

Generation of electromagnetic oscillations in a spiral by an axial electron current. B. B. van Iperen. Philips Res Rep 4:20-30 Feb '49

High-voltage power supply for a neutron counter. M.S. thesis. Marshall Harris Cohen. Ohio State U E.E. Dept June '49

Increasing space-charge waves. J. R. Pierce. Jour Ap Phys 20:1060-1066 Nov '49

Influence of the transverse electric vector in the line of retardation of the travelling wave tube. O. Doehler and W. Kleen. Ann Radioelec pt 1 4:76-84 Jan '49; pt 2 4:117-130 Apr '49. In French

Interaction between an electron beam and travelling electromagnetic waves. W. Kleen. Elektron Wiss und Tech 3:341-349 Sep '49

Interaction between electron streams and advancing electromagnetic waves. (Ueber die Wechselwirkung zwischen Elektronenstroemungen und fortschreitenden elektromagnetischen Wellen) Elektron Wiss und Tech 3:341-349 Sep '49

Mode of operation of the travelling-wave valve. O. Doehler and W. Kleen. Arch Elek Ubertragung pt 1 3:54-63 Feb; pt 2 3:93-100 Mar '49

Note on filter-type travelling-wave amplifiers. J. R. Pierce and Nelson Wax. IRE Proc 37:622-625 June '49

Note on wave amplification by interaction with a stream of electrons. L. R. Walker. Phys Rev 76:1721-1722 Dec 1, '49

Output of the travelling wave tube. O. Doehler and W. Kleen. Ann Radioelec 4:216-221 July '49. In French

Progress report on development of the traveling wave tube as a power amplifier. S. E. Webber. NEC Proc '49

Self-excited oscillation in traveling-wage tubes. (Untersuchungen ueber selbsterregte Schwingungen in der Wanderfeldroehre) Schnitger and Weber. Frequenz 3:189-195 July '49

Some slow-wave structures for traveling-wave tubes. Lester M. Field. IRE Proc 37:34-40 Jan '49

Study of the propagation of an electromagnetic wave in the presence of two electron beams of neighbouring velocities. P. Lapostolle. Compt Rend Acad Sci 228:753-754 Feb 28, '49

Theory of axial symmetric electron beams in an axial magnetic field. (Abstract) A. L. Samuel. IRE Proc 37:161 Feb '49

Theory of the traveling wave tube. J. Laplume. Onde Elec 29:66-72 Feb '49. In French

Traveling-wave amplifier for 6 to 8 centimeters. D. C. Rogers. Elec Comm 26:144-152 June '49

Traveling wave amplifier tube demonstrated. Frank H. Rockett. Electronics 22:132+ Jan '49

Traveling wave tube. (Die Elektronenwellenroehre) Elektrotechnik 3:134 May '49

Traveling-wave valve. V. M. Lopukhin. Uspekhi Fiz Nauk 36:456-477 Dec '48. In Russian

Wave amplification by interaction with a stream of electrons. J. A. Roberts. Phys Rev 76:340-344 Aug 1, '49

Patents

Communications system, Robert Adler, 2,460,966, 19 cl. Orig appl Feb 5, '45; divided and this appl Mar 13, '46; granted Feb 8, '49

Electron discharge device, Edward W. Herold, 2,462,496, 17 cl. Appl Apr 24, '42; granted Feb 22, '49

Modulation control apparatus, Edward L. Ginzton, 2,460,498, 11 cl. Appl Mar 15, '43; granted Feb 1, '49

Velocity Modulated

Effects of space charge on velocity modulated tubes. (Ueber den Einfluss der Raumladung in der Laufzeitrohre) Doehler and Kleen. Funk und Ton 3:392-398 July '49

Efficiency of velocity modulated tubes. (Der Wirkungsgrad von Laufzeitroehren) Funk und Ton 3:182-185 Mar '49

Konstanz research in velocity-modulated oscillator tubes. M. Snowden and others. 1:14 PB 95

Linear theory of velocity modulated tubes. (Die Lineare Theorie der Laufzeitroehren) Grundlach. Fernmeldetech Zeit 2:319-328 Oct '49

Production of very short highly effective electromagnetic waves by velocity modulated electron beams. (Ueber die Erzeugung kuerzester electromagnetischer Wellen mit hohem Wirkungsgrad durch geschwindigkeits-modulierte Elektronenstrahlen) Elektron Wiss und Tech 3:23-31 Jan '49

Radial-beam velocity-modulated microwave tube. C. G. Lob and D. F. Holshouser. NEC Proc '49

Velocity modulated tube. (Triftroehren) Doering. Fernmeldetech Zeit 2:105-116 Apr '49

Patents

Electron discharge apparatus, Paul L. Hartman, 2,469,964, 11 cl. Appl May 3, '41; granted May 10, '49

Electron discharge apparatus of the velocity modulation type, John Heaver and Christopher Henry Foulkes, 2,476,971, 23 cl. Appl Feb 19, '43; granted July 26, '49

Electron discharge device, George C. Sziklai, 2,460,-402, 7 cl. Appl Sep 6, '45; granted Feb 1, '49

Electron discharge device, Polykarp Kusch, 2,470,-856, 12 cl. Appl Aug 20, '41; granted May 24, '49

Electron discharge device of the velocity modulation type, John Heaver Fremlin, 2,459,802, 3 cl. Appl Oct 14, '42; granted Jan 25, '49

Electron discharge device of the velocity modulation type, John Heaver Fremlin, 2,462,087, 14 cl. Appl Apr 12, '45; granted Feb 22, '49

MICROWAVES, Tubes, Velocity Modulated, *Patents*–Cont'd.

High-frequency apparatus, John R. Woodyard and William W. Hansen, 2,466,067, 6 cl. Appl Dec 7, '42; granted Apr 5, '49

High-frequency apparatus, William C. Hahn, 2,463,-267, 3 cl. Appl May 31, '43; granted Mar 1, '49

Oscillation generator of the reflex type, William W. Rigrod, 2,489,156, 7 cl. Appl Mar 9, '43; granted Nov 22, '49

Velocity-modulated electron-discharge device, Bernard C. Gardner, 2,488,906, 1 cl. Appl Oct 31, '45; granted Nov 22, '49

Velocity - modulated electron discharge device, John Heaver Fremlin and Christopher Henry Foulkes, 2,459,806, 3 cl. Appl Oct 28, '42; granted Jan 25, '49

Velocity modulation apparatus, Robert L. Wathen, 2,466,064, 16 cl. Appl June 28, '43; granted Apr 5, '49

Velocity modulation device and method, Eugene Feenberg, 2,486,398, 17 cl. Appl May 29, '43; granted Nov 1, '49

Velocity modulation electron discharge device, James M. Lafferty, 2,489,298, 3 cl. Appl Nov 16, '46; granted Nov 29, '49

See also
Cavity Resonators
Klystrons
Magnetrons

MILITARY EQUIPMENT

Applying the infrared image converter tube. R. D. Washburne. Electronics 22:150 Nov '49

Bombs; remote control for guiding. German Industry Rep. CIOS XXXII-88 Brit Govt Pub

Dovap—a method for surveying high-altitude trajectories. D. Hoffleit. Sci Mon 68:172-178 Mar '49

Electronics in air power. Donald A. Quarles. Aero Digest 59:40-41+ Sep '49

Fire control radar. German Industry Rep. CIOS XXXII-87 Brit Govt Pub

Fuse (radio control) German Industry Rep. BIOS 501 Brit Govt Pub

German infra-red driving and fire-control equipment. BIOS/MISC 66 Brit Govt Pub. Also PB 95030

Home-built snooperscope uses surplus tube. Harold Pallatz. Radio-Electronics 21:44-45 Oct '49

Measurement of the spin of a projectile in flight. H. D. Warshaw. Rev Sci Instr 20:507-509 July '49

Miscellaneous reports covering seismology, fire control equipment, airborne radar equipment, electronic research, etc., 1936-1944. 11:415 PB-84915

Process monitor, mark 10, model 20 (circuit diagram). MDDC-194

Radar and controlled missiles. German Industry Rep. CIOS I-1 Brit Govt Pub

Reports on airborne transceivers, anti-aircraft directors, airborne radar equipment, etc., '43-'45. PB 84910

Shipboard degaussing installations. Nicholas B. Michel. Elec Eng 68:15 Jan '49

Use of corner reflectors as IFF on ships, OSRD II-5-5860, operational research report 24, Australian ORS and CSIR-RL, Aug 30, '43. WDL

Patents

Automatic bomb release circuit details, Martin V. Kiebert, jr., 2,490,816, 7 cl. Appl Jan 19, '45; granted Dec 13, '49

Automatic electronic timing device, Samuel S. Hatfield, 2,474,841, 5 cl. Appl Aug 29, '45; granted July 5, '49

Bomb station distributor checker, Joseph A. Fahrner, 2,459,801, 3 cl. Appl Oct 25, '45; granted Jan 25, '49

Fire control, Gerbert K. Weiss, 2,460,863, 9 cl. Appl July 10, '43; granted Feb 8, '49

Method and apparatus for detecting permeable bodies, Ellis A. Johnson, 2,483,417, 19 cl. Appl Oct 23, '41; granted Oct 4, '49

Projectile timing, Henri G. Busignies and Louis A. De Rosa, 2,465,351, 10 cl. Appl Mar 26, '43; granted Mar 29, '49

Radio bomb release system, Daniel Blitz, 2,466,531, 4 cl. Appl Oct 18, '46; granted Apr 5, '49

Radio bomb release system, Royden C. Sanders, jr., 2,458,429, 5 cl. Appl July 16, '45; granted Jan 4, '49

Radio direction indicating apparatus, Wilmer L. Barrow, Daniel S. Pensyl, and Walter W. Micher, 2,480,829, 27 cl. Appl Jan 29, '42; granted Sep 6, '49

Torpedo exploding mechanism, Chester T. Minkler, 2,462,118, 22 cl. Appl Dec 6, '32; granted Feb 22, '49

See also
Aircraft, various listings
Communications, Military
Communications, Secrecy Systems
Direction Finders
Navigational Aids
Radar
Sonar
Training Aids, Aircraft

MILITARY EQUIPMENT, Computers

Computer: dead reckoning. Air force — Navy aeronautical standard. Sep 1948. PB 92457r

"Oboe" system: electronic bomb-sight. (Le systeme "Oboe") P. Besson. Onde Elec 29:414-426 Nov '49

Radar—fire control—radar mark 3/4. Fire control section. PB 85712

Radar trainer equation-solvers for the relative motion of two moving objects in space. R. L. Garman and others. PB-2733

Study and design of electronic artillery fire control equipment. R. Aubry and others. Onde Elec 29:311-329 Aug-Sep '49. In French

Patents

Aiming and fire control system, Rex S. Whitlock, 2,472,136, 1 cl. Appl Jan 3, '45; granted June 7, '49

Cathode-ray tube gunsight, Phillip Rood Wheeler, 2,459,206, 2 cl. Appl Dec 19, '45; granted Jan 18, '49

Computing circuit for determining bomb release course, Sidney Darlington, 2,479,909, 3 cl. Orig appl July 17, '43; divided and this appl Apr 27, '45; granted Aug 23, '49

MILITARY EQUIPMENT, Computers, *Patents*-Cont'd.

Computing circuit for determining bomb release points, Charles H. Townes and Dean E. Wooldridge, 2,488,448, 7 cl. Orig appl July 17, '43; divided and this appl Apr 27, '45; granted Nov 15, '49

Director for computing torpedo attack course, Earl E. Libman, 2,476,746, Appl Jan 15, '47, granted July 19, '49

Gun sight control, Larned A. Meacham, 2,471,278, 3 cl. Appl Dec 1, '43; granted May 24, '49

Instrument stabilizing mechanism, Edmund D Gittens, 2,463,687, 18 cl. Appl Oct 5, '45; granted Mar 8, '49

Slant range computing circuit, Stephen Dolva, jr., 2,465,879, 2 cl. Appl Mar 21, '44; granted Apr 12, '49

MILITARY EQUIPMENT, Guided Missiles

German missile accelerometers. Thomas M. Moore. Elec Eng 68:996-999 Nov '49

Guided-missile development. Clark B. Millikan Aero Digest 59:38-39 | Sep '49

Guided-missiles. German Industry Rep. CIOS XXXII-88 Brit Govt Pub

Motion pictures in the guided-missile program. H M. Corb. Soc Motion Picture Eng J 53:431-439 Nov '49

Radar and controlled missiles. German Industry Rep. CIOS I-1 Brit Govt Pub

Supersonic guided-missile progress. Ralph E Gibson. Aero Digest pt 1 Background and problems of guidance and control. 59:40-44 · July '49; pt 2 Propulsion systems. 59:48-50 · Aug '49

Supersonic guided-missiles. R. E. Gibson. Am Rocket Soc J 79:155-165 Dec '49

Patents

Guided missile control system, Charles J. Marshall, 2,480,868, 2 cl. Appl Aug 28, '45; granted Sep 6, '49

MIXERS

See Frequency Changers, Converters, & Mixers

MODULATION

"Auto-anode" modulation for radio broadcasting transmitters. N. G. Kruglov. Radiotekhnika 4: 7-24 Mar-Apr '49. In Russian

Case against the NBFM mode. P. F. Cundy. Short Wave Mag 7:430-431 Aug '49

Checking his modulation. H. F. Burtoft. Short Wave Mag 7:200-201 May '49

C. W. Modulation index, and algebraic distortion. (Nombres-indices d'une modulation telegraphique et distortion algebrique) R. Roquet. Ann Telecomm 4:273 July '49

Comparison of signal/noise ratios of modulation arrangements. W. Range. Arch Elek Uebertragung 3:155-159 Aug '49

Contribution to the general theory of modulation and demodulation for any type of characteristic. O. Heymann. Arch Elek Übertragung 3:73-79 Mar '49

Dielectric modulation. (Dielektrische Modulation) Funk und Ton 3:117-119 Feb '49

From amplitude modulation to frequency modulation. (Von der Amplitudenmodulation zur Frequenzmodulation) Radio Tech pt 1 25:25-30 Jan '49; pt 2 25:97-102 Feb '49

High voltage ring modulator. M. J. Tucker. Electronic Eng 21:239-242 July '49

Micro-wave modulation by variable circuit elements comprising wave guides or cavity resonators. A. N. Bhattacharyya. Indian J Phys 23:175-183 Apr '49

Modulation meter with S-scale and mixed peak and average value readings. (Ein Aussteuerungsmesser mit S-Skala und Gemischter Spitzen- und Mittelwertanzeige) Weber. Frequenz 3:179-181 June '49

New method of modulation with high frequency Electro-Ind Bul (USSR)* No. 1 '36

New system of modulation with high efficiency. A L. Mints and S. V. Person. Electro-Ind Bul (USSR)* No 10-2-12 '35

Plate modulation with high plate oscillating voltage. S. I. Evtyanov. Electro-Ind Proc (USSR)* No 6:1-13 '36

Simple modulation meter. Lorin Knight. RSGB Bul 24:193 Feb '49

Simple set-up for measuring degree of modulation. (Enkel Opstilling til Maaling af Modulationsgraden) Radio Ekko 12:141-144 July '49

Sound modulation with negative feedback. (Tonregulering ved Modkobling) Radio Ekko 12:116-117 June '49

Supermodulation. (Supermodulation) Radio Ekko 12:155 Aug '49

Suppressor grid modulation. (Lidt om Fanggittermodulation) Radio Ekko 12:230 Dec '49

Versatile crystal controlled source of angle modulation. J. F. Gordon. NEC Proc '49

Voice controlled carrier modulation. (LF-styret Baerebolge-Modulation) Radio Ekko 12:226-234 Dec '49

Patents

Circuit arrangement for modulating an electric signal, Gerard Hepp, 2,470,893, 8 cl. Appl May 3, '47; granted May 24, '49

High efficiency modulator, John F. Bell, 2,487,212, 10 cl. Appl June 19, '46; granted Nov 8, '49

Keystone modulation system, Irwin C. Abrahams and Donald E. Norgaard, 2,476,690, 6 cl. Appl Dec 4, '48; granted July 19, '49

Measuring system and saturable reactor for use therein, Carlton W. Miller and Nathaniel B. Nichols, 2,472,980, 4 cl. Appl Jan 4, '48; granted June 14, '49

Modulation, Roy Henderson, 2,463,275, 7 cl. Appl May 10, '45; granted Mar 1, '49

Modulation of radio-frequency oscillations, Theodore K. Riggen, 2,477,547, 1 cl. Appl Jan 3, '45; granted July 26, '49

Modulator, Thomas F. Marker, 2,492,168, 7 cl. Appl Apr 3, '48; granted Dec 27, '49

Modulator circuit, Donald E. Norgaard, 2,471,835, 3 cl. Appl July 1, '48; granted May 31, '49

Modulator system, Henry T. Winchel, 2,470,063, 4 cl. Appl Feb 21, '44; granted May 10, '49

MODULATION, *Patents*–Cont'd.

Multielectrode modulator, Alois J. Rack, 2,476,323, 7 cl. Appl May 19, '48; granted July 19, '49

Thermionic valve circuits, Zygmunt Konstanty Haas, 2,491,107, 11 cl. Appl Dec 31, '47; granted Dec 13, '49

Wave length modulation, George L. Usselman, 2,459,557, 5 cl. Appl Mar 11, '44; granted Jan 18, '49

See also

Oscillation & Oscillators, FM
Transmission & Transmitters, Modulators

MODULATION, Amplitude

Another modulation monitor. A. B. Wright. Short Wave Mag 6:892-896 Feb '49

Efficiency systems of amplitude modulation. L. M. Gunnell. RSGB Bul 24:167-171 Jan '49

Non-linear inductance and capacitance as modulators for amplitude-modulation systems. D. G. Tucker. P O Elec Eng J 42:156-159 Oct '49

Patents

Amplitude modulator, Eugene R. Shenk, 2,469,747, 5 cl. Appl July 9, '47; granted May 10, '49

Frequency-stabilized wave-signal apparatus, Albert E. Hayes, jr., 2,461,642, 5 cl. Appl July 5, '46; granted Feb 15, '49

Generation and modulation of alternating current signals, Edwin A. Goldberg, 2,469,264, 3 cl. Appl Nov 29, '44; granted May 3, '49

Modulated wave shaper, De Witt Rugg Goddard, 2,468,624, 8 cl. Appl Feb 28, '45; granted Apr 26, '49

Modulating system, Joseph C. Ferguson and Albert T. Mayle, jr., 2,470,023, 6 cl. Appl Nov 1, '44; granted May 10, '49

Modulation system, Clyde E. Hallmark, 2,459,698, 4 cl. Appl Nov 20, '44; granted Jan 18, '49

Modulator, Thomas M. Gluyas, jr., 2,490,428, 7 cl. Appl June 24, '47; granted Dec 6, '49

Signaling system, Luke H. Montgomery, 2,468,832, 20 cl. Appl Sep 9, '47; granted May 3, '49

See also

Pulse Circuits, Modulation
Transmission & Transmitters, Modulators

MODULATION, Frequency

See FM

MODULATION, Phase

Advantages and disadvantages of frequency and phase modulation in the light of the special requirements demanded by aviation, as well as its application to wireless navigation. German Industry Rep. BIOS/MISC 83 Brit Govt Pub

Neglected outphasing system of modulation. W. Herbert Hartman. CQ 5:18-26+ Oct '49

Radiodiffusion transmitters of Villebon, Rennes and Lille. H. Campet. Ann Radioelec 4:85-88 Jan '49. In French

Patents

Alternating-current signal transmission system, Henri Gardere, 2,471,319, 4 cl. Appl May 20, '46; granted May 24, '49

Angular velocity modulation, George L. Usselman, 2,459,556, 1 cl. Appl Oct 12, '43; granted Jan 18, '49

Circuit for phase modulation of electric oscillations, Gerard Hepp, 2,486,843, 8 cl. Appl July 16, '46; granted Nov 1, '49

Communication system, Robert Adler, 2,465,827, 20 cl. Appl Feb 5, '45; granted Mar 29, '49

Frequency-stabilizing system, George G. Bruck, 2,462,841, 14 cl. Appl Mar 18, '46; granted Mar 1, '49

Phase modulation system, Bernard J. Cosman, 2,483,262, 10 cl. Appl July 12, '45; granted Sep 27, '49

Phase modulation system, Lowell E. Norton, 2,462,417, 2 cl. Appl Sep 29, '45; granted Feb 22, '49

Phase modulation system, Robert Adler, 2,460,965, 4 cl. Appl Sep 10, '45; granted Feb 8, '49

Phase or frequency modulation system, Ernest G. Beard, 2,476,349, 6 cl. Appl Nov 7, '45; granted July 19, '49

Wave length modulation, Lowell E. Norton, 2,479,859, 14 cl. Appl Aug 25, '45; granted Aug 23, '49

Reactance tube circuit, Jean L. Delvaux, 2,469,194, 5 cl. Appl July 16, '47; granted May 3, '49

MODULATION, Pulse

See Pulse Modulation

MOTORS

Application of small motors. T. E. M. Carville. Westinghouse Eng 9:52-57 Mar '49

Armature iron losses in series motors. Sheldon S. L. Chang and J. H. Karr. AIEE Proc section 970: 1-4 Apr '49. Also in Elec Eng 68:757 Sep '49

Carbon-brush contact phenomena in electrical machinery. P. F. Soper. IEE Proc pt 2 96:645-651 Aug '49

Copper loss of a rotary converter. E. O. T. Electrician 143:505-506 Aug '49

Developments in a-c winding practice. L. L. Brinkworth. S Afr IEE Trans 40:99-123 May '49

Differential Leakage of the Different Patterns of a Fractional Slot Winding. (Digest) M. M. Liwschitz. Elec Eng 68:334 Apr '49

Dynamic equilibrium of the magnetic state of electrical machines in the Leonard system. V. P. Nikitin and N. P. Kunitski. Akad Nauk Izvest ONT pp 623-636 May '48. In Russian

Electric motors, notes on frames, slip rings, cores, and other parts. German Industry Rep. FIAT 498 Brit Govt Pub

Electric motors; not much German development during war. German Industry Rep. FIAT 498 Brit Govt Pub

Electric motors (submersible), for deep well pumps. German Industry Rep. FIAT 476 Brit Govt Pub

Electronic aids to production. Elec Rev 144:737-738 Apr '49

Field Fluxes of the shaded-pole motor. E. E. Kimberly. AIEE Proc section 972:1-5 Apr '49

MOTORS–Cont'd.

Fundamental theory of inherent-overheating protection under running overload conditions. C. G. Veinott and L. C. Schaefer. AIEE Proc section 971:1-7 Apr '49

German engine-generator sets. German Industry Rep. BIOS/MISC 75 Brit Govt Pub

Make fullest use of electrical equipment; motors. G. A. Van Brunt. Factory Management 107:74-79 Aug '49

Mathematical theory of shaded-pole motors. Erik Morath. Kungl Tekn Hogsk Handl No 26 '49

Model of a radio-frequency electric motor. B. N. Gorozhankin. Zh Tekn Fiz 18:1258-1264 Oct '48. In Russian

Motor manufacture. Elec Rev 145:739-742 Oct '49

Optimal form of the change in current of a shunted constant current motor on regulation of velocity greater than the basic one. V. P. Nikitin and N. P. Kunitski. Akad Nauk Izvest No 9:1403-1418 Sep '48. In Russian

Oscillographing commutation. M. J. Baldwin. AIEE Proc section 927:1-6 Apr '49

Rotating electrical machinery, transformers and electric traction. German Industry Rep. BIOS 1503 Brit Govt Pub

Sealed can boosts efficiency of dynamotors. Product Eng 20:87 Aug '49

Self-acting asynchronous electromagnetic coupling. Y. K. Mezin. Reel 0046 No 475772:66 SDLC. In Russian

Servicing motors. Electrician pt 1 143:1568 Nov '49; pt 2 143:1634 Nov '49; pt 3 143:1736 Nov '49; pt 4 143:1814 Dec '49

Specifications of the performance of a double-layer winding with unequally wound sections. V. V. Zivert. Reel 0046 No 475772:67-70 SDLC. In Russian

Stator-fed AC commutator machine with induction regulator control. B. Schwarz. IEE Proc pt 2 96: 755-767 Oct '49

Surge-Testing Motor Windings. Vin Zeluff. Electronics 22:140 Mar '49

Transitory process of a constant current electric drive during the weakening of the current of the driver. V. P. Nikitin and N. P. Kunitski. Akad Nauk Izvest OTN pp 823-834 June '48. In Russian

Patents

Commutator brazing fixture, Carroll F. Cobb, Joseph J. De Windt, and Stephen A. Weitlauf, 2,484,333, 2 cl. Appl Aug 10, '45; granted Oct 11, '49

Constant-speed electric motor, Conrad T. Altfather, 2,473,839, 8 cl. Appl Sep 27, '47; granted June 21, '49

Dynamoelectric machine having laminated armature with teeth slotted to reduce eddy currents, William L. Ringland, 2,473,302, 8 cl. Appl June 7, '46; granted June 14, '49

Electric motor, Edward Hart, 2,460,418, 10 cl. Appl Aug 18, '44; granted Feb 1, '49

Electric motor, William E. Bledsoe, jr., 2,473,049, 8 cl. Appl July 30, '48; granted June 14, '49

Electrical amplifying instrument, John J. Root, 2,492,537, 4 cl. Appl Aug 2, '45; granted Dec 27, '49

Electrical indicating system, Alfred F. Bischoff, 2,492,730, 3 cl. Appl Feb 24, '49; granted Dec 27, '49

Permanent magnet vibratory motor, Carl S. Weyandt, 2,458,545, 6 cl. Appl Dec 19, '46; granted Jan 11, '49

See also

Antennas, Auxiliary Equipment
Phonographs
Servomechanisms, Servomotors

MOTORS, Controls

Dynamic braking control of DC series motors—experimental study of speed-torque curves. G. W. Heumann. AIEE Proc section 9138:1-5 July '49

Dynamics of regulation of the voltage generator and of the current excitation of the motor in a Ward-Leonard system with amplitude regulation. V. P. Nikitin and N. P. Kunitski and V. K. Turkin. Acad Nauk Dok 61:837-840 '48. In Russian

Electronic control of machine tools. S. A. Ghalib. Engineering 168:173-174 Aug '49

Electronic motor control. Elec Rev 144:535-536 Apr '49

Good power plants can generate big savings. D. M. Myers. Factory Management 107:94 June '49

Limit switch circuits for electric motor drives. M. Morgan. Product Eng 20:124-128 Apr '49

Machine tool control gear. Elec Rev 145:1157-1158 Dec '49

Magnetic torque AC crane control. F. M. Blum and F. W. Wendelburg. Iron & Steel Eng 25:59-68 July '49

Motor control gear. Elec Rev 145:191-192 July '49

Principle and features of a new dynamic braking and motor control system for AC winders. E. Friedlander. GEC Jour 16:204-215 Oct '49

Vacuum tube automatic machine regulator with broad range of regulation. L. V. Karnyushkin and P. K. Kulikovskiy. Reel 0046 No 475772:71-72 SDLC. In Russian

Patents

Automatic electric motor control apparatus, Abraham Walter Jacobson, 2,466,591, 22 cl. Appl Mar 6, '46; granted Apr 5, '49

Automatic recalibrating motor control apparatus, Robert J. Ehret, 2,483,364, 2 cl. Appl June 4, '48; granted Sep 27, '49

Automatic reversing control for electric motors, Victor Weber, 2,459,350, 4 cl. Appl Aug 6, '43; granted Jan 18, '49

Combined primary and secondary control of polyphase motors, Edwin W. Seeger, 2,460,037, 6 cl. Appl Oct 8, '45; granted Jan 25, '49

Condition regulating apparatus, Wlado H. Kliever, 2,476,496, 20 cl. Appl July 14, '44; granted July 19, '49

Control system, William D. Cockrell, 2,468,545, 4 cl. Appl Aug 27, '47; granted Apr 26, '49

Control system for stator fed alternating-current commutator motors, Benno Schwarz, 2,480,054, 6 cl. Appl Feb 28, '48; granted Aug 23, '49

Controller for alternating current motors, Richard B. Hunter and Eric Pell, 2,459,320, 13 cl. Appl Dec 14, '45; granted Jan 18, '49

MOTORS, Controls, *Patents*–Cont'd.

Electric motor control apparatus, Rudolf F. Wild, 2,487,101, 18 cl. Appl Jan 17, '47; granted Nov 1, '49

Electric motor control apparatus with automatic "Z" effect, Robert Bernas, 2,460,276, 5 cl. Appl Oct 9, '45; granted Feb 1, '49

Electric motor control system, Fritz A. Gross and Robert R. Darden, jr., 2,486,151, 12 cl. Appl Oct 14, '47; granted Oct 25, '49

Electric motor control system, Manfred J. Johnson, 2,468,447, 13 cl. Appl May 29, '43; granted Apr 26, '49

Electric motor control system, Richard D. Gambrill, 2,479,920, 1 cl. Appl Jan 17, '46; granted Aug 23, '49

Electric motor control system and apparatus, William J. Herziger, 2,478,693, 4 cl. Appl Jan 19, '46; granted Aug 9, '49

Electric motor follow-up control system, Sidney Wald, 2,484,134, 6 cl. Appl July 1, '47; granted Oct 11, '49

Electric motor follow-up control system, William L. Dunn, 2,458,983, 14 cl. Appl Apr 29, '43; granted Jan 11, '49

Electric motor follow-up system, Henry E. Hartig, 2,484,790, 17 cl. Appl July 10, '43; granted Oct 11, '49

Electrical network motor control apparatus, Hubert T. Sparrow and Robert J. Kutzler, 2,466,282, 9 cl. Appl May 14, '43; granted Apr 5, '49

Electronic control system, Edward F. Nowak, 2,492,-812, 14 cl. Appl Aug 21, '48; granted Dec 27, '49

Electronic control system for direct-current motors, John G. Haneiko, 2,488,536, 7 cl. Appl May 5, '48; granted Nov 22, '49

Electronic motor control apparatus, John H. Bollman, 2,478,740, 6 cl. Appl Mar 28, '45; granted Aug 9, '49

Electronic motor control circuits, Paul Glass, 2,476,-657, 4 cl. Appl May 31, '43; granted July 19, '49

Frequency sensitive circuit, Leslie E. Matson, jr. and Robert N. Lesnick, 2,472,167, 8 cl. Appl Mar 13, '45; granted June 7, '49

Gaseous discharge tube motor circuit, William G. Gorton, 2,466,022, 2 cl. Appl Nov 20, '43; granted Apr 5, '49

Generator fed motor control system, John R. Erbe and Glenn A. Caldwell, 2,462,171, 9 cl. Appl July 17, '46; granted Feb 22, '49

Generator fed motor control system, Norman Harry Shaw, 2,484,250, 9 cl. Appl Apr 21, '48; granted Oct 11, '49

Hoist-lower control, George L. Danforth, 2,469,594, 6 cl. Appl July 26, '47; granted May 10, '49

Limit stop system for reversible electric motors, Walter Thomas White and Donald H. Courter, 2,468,149, 4 cl. Appl Aug 22, '44; granted Apr 26, '49

Means for maintaining motors in predetermined angular relation, Walter M. Jeffers, 2,476,873, 5 cl. Appl Aug 20, '45; granted July 19, '49

Motor control apparatus, Stanley R. Folsom, 2,476,-851, 17 cl. Appl Apr 21, '45; granted July 19, '49

Motor control circuit, Austen M. Curtis, 2,460,064, 16 cl. Appl May 16, '45; granted Jan 25, '49

Motor control circuit, Clarke M. Gilbert, 2,466,984, 10 cl. Appl Sep 9, '47; granted Apr 12, '49

Motor control circuit, Richard C. Davis and Robert H. Gumley, 2,476,844, 7 cl. Appl Apr 3, '46; granted July 19, '49

Motor control system, Glenn E. Stoltz, 2,462,233, 13 cl. Appl June 30, '47; granted Feb 22, '49

Motor control circuit, Clarke M. Gilbert, 2,466,984, 8 cl. Appl June 20, '47; granted Mar 22, '49

Motor control system, Robert O. Perrine, Walther Richter, and Edwin W. Seeger, 2,487,171, 7 cl. Appl May 24, '44; granted Nov 8, '49

Motor control system with latching relays, Victor Weber, 2,459,349, 15 cl. Appl May 31, '43; granted Jan 18, '49

Motor controlling apparatus, William J. Field, 2,480,-125, 12 cl. Appl Nov 6, '44; granted Aug 30, '49

Polarized control apparatus, Allan T. Johnston, 2,461,060, 7 cl. Appl July 31, '46; granted Feb 8, '49

Regulating motor for superchargers, Willis H. Gille, 2,487,049, 8 cl. Appl Mar 29, '46; granted Nov 8, '49

Regulating system, Clarence L. Mershon, 2,459,669, 8 cl. Appl Mar 8, '47; granted Jan 18, '49

Reversible direct-current motor system, Samuel Howard Dale, 2,480,225, 8 cl. Appl Mar 3, '47; granted Aug 30, '49

Reversing control for electric motors, Charles Z. Monroe and Victor G. Smith, 2,466,180, 6 cl. Appl June 17, '44; granted Apr 5, '49

Split-phase induction motor control, Stanley Ellis Hand, 2,489,637, 7 cl. Appl June 28, '46; granted Nov 29, '49

Standardized motor control system, Walter P. Wills and Leonard Stanton, 2,484,367, 18 cl. Appl Apr 26, '44; granted Oct 11, '49

System for regulating frequency and voltage of motor alternators, Evan Stine Smith, 2,492,540, 6 cl. Appl Jan 30, '47; granted Dec 27, '49

Tracer control system, Norman G. Branson, 2,492,-731, 13 cl. Appl Aug 14, '44; granted Dec 27, '49

Voltage controlled proportional positioning apparatus, Frank A. Fanta, jr., 2,486,935, 3 cl. Appl July 24, '46; granted Nov 1, '49

Speed

Amplidyne speed control system. D. D. Wilcox. Ph.D. thesis Purdue U Feb '48

Control unit assures constant speed under varying load on test engine. Pet Processing 4:1125-1126 Oct '49

Electronic motor control. (Commande electronique des moteurs) Electronique 37:18-20 Nov '49

Electronic motor speed regulator. (Le variateur electronique de vitesse et ses applications dans la fabrication des machines-outils) J. C. Berger and M. Matthey. Electronique 38:19-22 Dec '49

Electronic system improves control of fan speed. W. F. Nelson and E. W. James. Elec World 131:104 Apr '49

Four-quadrant chart for motor speed control. E. O. T. Electrician 143:1561-1562 Nov '49

High voltage motor control. R. C. Thompson. Power PI Eng 53:58-60 Aug '49

How to obtain constant speed motion below 10 Rpm. W. Hotine. Product Eng 20:118-121 Dec '49

MOTORS, Controls, Speed-Cont'd.

New High-speed rod mill utilizes electronic speed regulation. G. M. Harvey and D. M. Allison. Steel 123:134+ Dec '48

Precision speed control. A. L. Holcomb. Soc Motion Picture Eng J 52:561-570 May '49

Smaller variac speed control. W. N. Tuttle. Gen Rad Exp 24:1-5 Oct '49

Speed control for electrical devices. R. B. Immel. Product Eng 20:130-160 Jan '49

Speed control methods for electric motor drives. Ferris L. Reed. Machine Design 21:83-99 July '49

Speed control servo system. J. C. West. Elec Rev 144:937-941 June '49

Variac motor speed controls. W. N. Tuttle. Gen Rad Exp vol 23 Apr '49

Ward-Leonard speed control system with a three phase generator. E. O. T. Electrician 143:1233-1234 Oct '49

Patents

Adjustable speed drive, George E. King and Martin H. Fisher, 2,459,655, 9 cl. Appl Dec 15, '45, granted Jan 18, '49

Balanced variable frequency motor control system, Karl Rath, 2,467,335, 4 cl. Appl June 26, '47, granted Apr 12, '49

Control system for multispeed alternating-current motors, Walter Schaelchlin and Amos J. Winchester, jr., 2,459,589, 8 cl. Appl June 2, '47, granted Jan 18, '49

Electric motor control apparatus, William H. Wannamaker, jr., 2,473,494, 9 cl. Appl Dec 12, '45; granted June 14, '49

Electric motor control system, Eugene R. Ziegler, 2,462,249, 10 cl. Orig appl Mar 20, '47, divided and this appl Apr 30, '48; granted Feb 22, '49

Electrical circuit, Francis C. Todd, 2,461,131, 1 cl. Appl June 15, '46; granted Feb 8, '49

Electrical speed control system, Joseph R. Schoenbaum, 2,472,396, 2 cl. Appl Oct 6, '44; granted June 7, '49

Electronic impulse speed regulator, Georges Jacubowitz, 2,492,045, 5 cl. Appl Feb 27, '48; granted Dec 20, '49

Electronic synchronizer, Robert C. Treseder, 2,482,812, 6 cl. Appl Nov 17, '44; granted Sep 27, '49

Follow-up electric motor control apparatus, Eric C. Wahlberg, 2,475,066, 5 cl. Orig appl Aug 6, '43; divided and this appl Mar 6, '46; granted July 5, '49

Induction motor control system, John W. Dawson, 2,469,294, 6 cl. Appl Mar 1, '46; granted May 3, '49

Motor control system for core type reel drives, Walter R. Harris, 2,484,825, 9 cl. Appl Sep 9, '47; granted Oct 18, '49

Motor speed control, Harold E. Haynes, 2,484,089, 8 cl. Appl Dec 31, '46; granted Oct 11, '49

Motor speed control, Philip E. Volz, 2,471,916, 8 cl. Appl Mar 19, '47; granted May 31, '49

Motor speed control apparatus, Everett T. Burton, 2,488,373, 11 cl. Appl June 12, '45; granted Nov 15, '49

Position and speed control system, William F. Frost, 2,471,422, 11 cl. Appl July 9, '43; granted May 31, '49

Regulating system, Frederick E. Crever, 2,468,546, 12 cl. Appl Sep 28, '46; granted Apr 26, '49

Sequential control for electric motors, Archie McGillivray, 2,482,496, 4 cl. Appl May 21, '46; granted Sep 20, '49

Speed control apparatus, Michel N. Yardeny, 2,475,272, 1 cl. Appl Jan 1, '44; granted July 5, '49

Speed control for electric motors, William H. Elliot, 2,460,927, 9 cl. Appl Oct 26, '44; granted Feb 8, '49

Speed control for induction motors, Glenn Koehler, 2,462,751, 7 cl. Appl Jan 18, '46; granted Feb 22, '49

Speed control of phonograph motors, Frederick W. Roberts and John H. Trevitt, 2,490,693, 4 cl. Appl Feb 8, '44; granted Dec 6, '49

Speed control system for motors, Earl B. Ankenman and Clare E. Center, 2,484,006, 5 cl. Appl Sep 27, '47, granted Oct 11, '49

Speed controlling means for direct current motors, Georges Gabriel Mezzanni, 2,462,170, 6 cl. Appl Apr 11, '45, granted Feb 22, '49

Speed regulating system, Joseph F. Kovalsky, 2,462,203, 14 cl. Appl Oct 30, '47, granted Feb 22, '49

Speed responsive motor control system, Austin G. Corkran, 2,467,582, 3 cl. Appl Jan 25, '46; granted Apr 19, '49

Thyratron motor control system, Benjamin Cooper, 2,469,862, 3 cl. Appl Feb 6, '48; granted May 10, '49

Variable-speed apparatus, William D. Shannon, 2,490,234, 27 cl. Appl June 26, '47; granted Dec 6, '49

Starting

Motor control with vacuum-tube relays. Power 93:95-97 July '49

Reduced-voltage starting of squirrel-cage motors. Coal Age 53:98+ Dec '48

Patents

Control device for starting windings of split-phase induction motors, Howard W. Ecker, 2,477,120, 5 cl. Appl Nov 5, '47; granted July 26, '49

Control means, Joseph M. Stein, 2,462,232, 6 cl. Appl June 8, '46; granted Feb 22, '49

Split-phase motor reversing circuit, Clarence E. Weinland, 2,459,479, 4 cl. Appl Sep 27, '46; granted Jan 18, '49

Synchronization

Comparison of a variable frequency to a standard, and detection of the direction of the error. Application to motor synchronization. (Comparison d'une frequence variable a une frequence etalon avec distinction du sens de la difference. Application a la synchronisation des moteurs) Electronique 29:5-10 Mar '49

Patents

Impulse actuated engine synchronizing mechanism, Karl B. Britton, 2,480,707, 3 cl. Appl Jan 12, '46; granted Aug 30, '49

Phase and synchronism control system, Gerald Deakin, 2,490,034, 10 cl. Appl Oct 2, '44; granted Dec 6, '49

Self-synchronous motor system, Ralph E. Meagher and Maynard D. McFarlane, 2,482,020, 14 cl. Appl Sep 25, '44; granted Sep 13, '49

MOTORS, Controls, Synchronization, *Patents*–Cont'd.

Torque amplifier and revolution accumulator, Benjamin Cooper, 2,460,808, 12 cl. Appl Feb 14, '44; granted Feb 8, '49

See also

Generator Controls
Industrial Controls
Measurements & Meters, Speed
Remote Control
Servomechanisms

MOTORS, DC

Calculation of shunt rheostats for direct current motors based on the dynamics of the process. N. P. Kunitski. Akad Nauk Izvest No 3:396-406 '49. In Russian

Commutation of D-C machines and its effects on radio influence voltage generation. D. P. Motter AIEE Proc section 928:1-6 Apr '49

DC cup type motors by Siemens Schuckert Zaehlerwerk, Nurenberg. German Industry Rep. BIOS 409 Brit Govt Pub

DC series motor speed-torque curves. G. W. Heumann. Elec Eng 68:949 Nov '49

Design of DC Motors for Use in Automatic Control Systems. Paul Lebenbaum, jr. Elec Eng 68:329 Apr '49

Development of a Small DC Motor. Lanier Greer and J. A. Clark. Elec Eng 68:424 May '49

Effects of commutator surface film conditions on commutation. C. Lynn and H. M. Elsey. AIEE Proc section 929:1-7 Apr '49

Electric motors, small D.C. for servo-mechanisms. German Industry Rep. CIOS XXX-47 Brit Govt Pub

Limitations in Design of DC Adjustable-Speed Motors. L. G. Opel. Elec Eng 68:329 Apr '49

Motor armature maintenance. P. Zumki. Rock Prod 52:109+ Mar '49

Solid short circuit of D-C motors and generators. T. M. Linville and H. C. Ward, jr. AIEE Proc section 939:1-6 Apr '49

Stray load losses measured in DC motors. AIEE Proc section 963:1-7 Apr '49

Temperature rise values for D-C machines. AIEE Proc section 962:1-13 Apr '49. Also in Elec Eng 68:581 July '49

Voltage between commutator segments of a d.c. machine. E. O. T. Electrican 143:124 July '49

Patents

Dynamic braking arrangement for direct current motors, Gordon Francis Wellington Powell, 2,461,-919, 1 cl. Appl Sep 12, '45; granted Feb 15, '49

Electronic system for energizing direct-current motors from an alternating-current source, John Edwin Raymond, 2,492,007, 9 cl. Appl Oct 12, '48; granted Dec 20, '49

Motor control, Herbert C. Waterman, 2,472,736, 10 cl. Appl Apr 21, '45; granted June 7, '49

Speed control of dynamoelectric machines, Eric Alton Binney, 2,474,647, 15 cl. Appl Jan 29, '48; granted June 28, '49

MOTORS, Dynamotors

Patents

Dynamoelectric machine, Frank W. Merrill, 2,486,-861, 20 cl. Appl Nov 14, '47; granted Nov 1, '49

Dynamotor, Joseph Nader, 2,467,563, 10 cl. Appl May 16, '46; granted Apr 19, '49

Dynamotor, Kenneth H. Fox, 2,458,507, 21 cl. Appl June 28, '46; granted Jan 11, '49

Frequency and speed stabilizing system, Francis L. Moseley, 2,484,639, 5 cl. Appl Feb 28, '47; granted Oct 11, '49

Regulating system, Raymond L. Witzke, 2,459,607, 5 cl. Appl June 2, '47; granted Jan 18, '49

MOTORS, Fractional Horsepower

Application of small motors. T. E. M. Carville. Westinghouse Eng 9:52-7 Mar '49

Electric motors and generators (small), production. German Industry Rep. CIOS XXXI-38 Brit Govt Pub

German electrical industry. FHP motors, motor control gear, domestic appliances, domestic refrigerators. German Industry Rep. BIOS 994 Brit Govt Pub

Manufacture of small electric motors. Brown Boveri Rev 36:160-167 May-June '49

Which fractional horsepower motor? M. C. Lindsten. Machine Design 21:127-129+ June '49

MOTORS, Induction

Approximate calculation of the noise produced by squirrel-cage motors. L. Jordan. Eng Digest 10: 222-226 July '49

Automatic braking device for X-ray apparatus. J. M. Constable. Philips Tech Rev 11:50-52 Aug '49

Die-cast rotors for induction motors. L. C. Packer. AIEE Proc section 969:1-9 Apr '49. Also in Elec Eng 68:569 July '49

Equivalent circuits of induction motors. E. O. T. Electrician 143:1401-1402 Oct '49

Flux field in the shaded-pole motor. E. E. Kimberly. Elec Eng 68:776 Sep '49

Geometric loci of the synchronous tie. L. A. Finzi and L. C. Wellard. AIEE Proc section 951:1-4 Apr '49. Also in Elec Eng 68:622 July '49

Induction motors for synchronized drives. E. L. Schwarz-Kast. Elec Eng 68:856 Oct '49

Kron's non-Riemannian electrodynamics. Benesh Hoffmann. Rev Mod Phys 21:535-540 July '49

Multi-speed induction motors. T. Millar. Elec Rev 145:421-424 Sep '49

Single-phasing troubles. Electrician 143:1303-1307 Oct '49

Theory of induction-motor surface losses. IEE Proc pt 2 96:844-846 Dec '49

When you supply capacitors to induction motors. Z. Neri. Factory Management 107:110-112 Mar '49

Patents

Dual capacitor motor, Philip H. Trickey, 2,464,756, 8 cl. Appl Apr 23, '46; granted Mar 15, '49

Dual-voltage dual-speed capacitor motor, Philip H. Trickey, 2,474,195, 7 cl. Appl Feb 14, '46; granted June 21, '49

!OTORS, Induction, *Patents*–Cont'd.

ynamoelectric machine, Roger A. Fuller, 2,473,244, 6 cl. Appl Dec 28, '45; granted June 14, '49

iduction motor primary construction, Wayne J. Morrill, 2,485,628, 8 cl. Appl Aug 9, '47; granted Oct 25, '49

eversible induction motor, Carl G. Kronmiller, 2,465,325, 9 cl. Appl July 17, '47; granted Mar 22, '49

iaded pole motor, George V. Morris, 2,487,258, 2 cl. Appl Nov 29, '46; granted Nov 8, '49

iaded pole motor control, Maurice Leighton, 2,458,-701, 11 cl. Appl Nov 20, '45; granted Jan 11, '49

ngle-phase capacitor motor, Lloyd W. Buchanan, 2,476,811, 6 cl. Appl Nov 20, '47; granted July 19, '49

plit-phase induction motor, Edgar M. Smith, 2,458,436, 4 cl. Appl Sep 29, '44; granted Jan 4, '49

wo-valve capacitor motor, Philip H. Trickey, 2,476,073, 6 cl. Appl May 2, '47; granted July 12, '49

:OTORS, Polyphase

ecent developments in three-phase rotor-fed shunt commutator motors. Brown Boveri Rev 36:112-120 Mar-Apr '49

udies of a Schrage three-phase shunt commutator motor. H. P. Bhattacharyya. Indian J Phys 23: 93-96 Feb '49

:OTORS, Single Phase

haracteristics of a single-phase shunt commutator motor with an improved field phase-correction circuit. D. Morris. IEE Proc pt II 96:498-506 June '49

Patents

ual-voltage single-phase motor, Lloyd W. Buchanan, 2,459,615, 8 cl. Appl Nov 21, '46; granted Jan 18, '49

uiet single-phase motor, Clarence B. Hathaway and Richard F. Woll, 2,462,184, 19 cl. Appl Oct 12, '44; granted Feb 22, '49

'OTORS, Synchronous

ew equivalent circuits for salient-pole synchronous machines. V. M. Matyukhin. Acad Nauk Izvest No 4:499-508 Apr '48. In Russian

nchronous motors in paper mills. G. L. Oscarson. Paper Ind 30:1348-1350 Dec '48

Patents

epulsion synchronous motor, Henry E. Warren, 2,474,797, 13 cl. Appl Aug 15, '47; granted June 28, '49

'OTORS, Testing

igh-frequency bar-to-bar armature testing. Ry Mech Eng 123:151+ Mar '49

agnetic gromler used to locate leads in finished armature. R. Scott, jr. Steel 124:108 Apr '49

recision speed measurement of rotating equipment. Martin W. Hellar, jr. Gen Elec Rev 52:22-26 Oct '49

Preventative testing of the insulation of electrical machines. V. P. Rostovtseva and others. Reel 0046 No 475772:79-84 SDLC. In Russian

Stray load losses measured in DC motors. Elec Eng 68:512 June '49

Patents

Detonation meter for combustion motors, Sake Leendert de Bruin, 2,475,377, 5 cl. Appl Jan 20, '43; granted July 5, '49

See also

Measurements & Meters, Speed
Test Equipment, Stroboscopes

MULTIVIBRATORS

Asymmetrical multivibrators. R. Feinberg. Wireless Eng 26:325-330 Oct '49

Experiments with a multivibrator. D. D. Mansion. Rev Telegr No 443:424-426 Aug '49. In Spanish

Harmonics in multivibrators. (40,000 heterodynes ou un multivibrateur) J. Garcin. Toute la Radio No 139:270-272 Oct '49

High-ratio multivibrator frequency divider. M. Silver and A. Shadowitz. IRE Proc (Australia) 10:256-258 Sep '49

Improved multivibrator quenching circuit. C. V. Robinson. Rev Sci Instr 20:750-751 Oct '49

Sanatron and Phantastron (multivibrators). (Sanatron und Phantastron) Funk und Ton. 3:351-354 June '49

Studying the multivibrator with a CRO. (Voyage autour d'un multivibrateur a l'aide d'un oscillographe) F. Haas. Toute la Radio No 133:66-68 Feb '49

Symmetrical multivibrators. R. Feinberg. Wireless Eng 26:153+ May '49

Two new multivibrators. Chang Sing and Chang Chu-i. Electronic Eng 21:102-103 Mar '49

Undertone synchronization of the relaxing generator. G. A. Khavkin. Zh Tekn Fiz 18:1232-1233 Sep '48. In Russian

Patents

Electronic square wave signal generator, Lawrence H. Johnston, 2,473,432, 1 cl. Appl Aug 1, '45; granted June 14, '49

High-efficiency multivibrator circuits, Cyril E. McClellan, 2,465,249, 4 cl. Orig appl July 28, '43; divided and this appl Nov 2, '45; granted Mar 22, '49

Relaxation oscillator capacitance multivibrator, Harland A. Bass, 2,461,871, 2 cl. Appl Aug 1, '47; granted Feb 15, '49

Trigger circuit drive, Warren H. Bliss, 2,478,683, 3 cl. Appl Nov 23, '46; granted Aug 9, '49

See also

Cathode Ray Tubes, Circuits
Oscillation & Oscillators, Non-Sinusoidal
Signal Generators
Time Base Circuits

MUSICAL INSTRUMENTS

Automatic tempo indicator. B. H. Denney and G. Tallian. Soc Motion Picture Eng J 52:571-577 May '49

MUSICAL INSTRUMENTS–Cont'd.

Concert and orchestral electrical instruments. (Mehrstimmige und vollstimmige elektrische Musikinstrumente) Elektron Wiss und Tech 3: 211-217 June '49

Converts piano to organ. Vin Zeluff. Electronics 22:116-118 Aug '49

Design of a pipeless organ. J. D. Goodell and E. Swedien. Electronics 22:92-97 Aug '49

Electrical musical instruments. (Die elektrischen Musikinstrumente) Elektron Wiss und Tech 3: 193-200 May '49

Experimental and theoretical basis of Trautonium. (Experimentelle and theoretische Grunlagen des Trautoniums) Oskar Sala. Frequenz 3:13-19 Jan '49

Hammond spinet. A. Douglas. Electronic Eng 21: 461-463 Dec '49

Simple electronic musical instrument — the theremin. Ernest J. Schultz. Radio & TV N 42: 66-67 Oct '49

Patents

Art or method and means for generating music electrically, Arthur T. Cahill, 2,463,597, 28 cl. Appl Jan 9, '43; granted Mar 8, '49

Centralized music transmission system, Samuel K. Lackoff, 2,474,110, 15 cl. Appl Nov 25, '46; granted June 21, '49

Combination electrical pickup and bridge for guitars and other instruments, William Ernest Harker, 2,486,647, 1 cl. Appl Feb 8, '46; granted Nov 1, '49

Damper operating mechanism for electric percussion instruments, Paul H. Rowe, 2,484,745, 13 cl. Appl Apr 30, '47; granted Oct 11, '49

Device for artificially generating speech sounds by electrical means, Roelof Vermeulen and Willem Six, 2,458,227, 8 cl. Appl Apr 18, '46; granted Jan 4, '49

Electric musical instrument, Emeric M. Spielman, 2,469,850, 1 cl. Appl Mar 14, '44; granted May 10, '49

Electrical musical instrument, Donald L. Hings, 2,492,919, 11 cl. Appl Mar 20, '46; granted Dec 27, '49

Electrical musical instrument, James A. Oswald, 2,489,497, 9 cl. Appl Mar 20, '46; granted Nov 29, '49

Electrical musical instrument, John M. Hanert, 2,468,062, 7 cl. Appl Dec 23, '44; granted Apr 26, '49

Electrical musical instrument, John M. Hanert, 2,478,867, 37 cl. Appl Mar 20, '42; granted Aug 9, '49

Electrical musical instrument, Laurens Hammond and John M. Hanert, 2,480,132, 43 cl. Appl Jan 16, '46; granted Aug 30, '49

Electrical musical instrument, Merwin J. Larsen, 2,485,751, 4 cl. Appl June 27, '46; granted Oct 25, '49

Electrical musical instrument, Nicholas Langer, 2,486,039, 12 cl. Appl Oct 27, '45; granted Oct 25, '49

Electrical musical instrument, Spencer W. McKellip, 2,481,608, 12 cl. Appl Dec 1, '44; granted Sep 13, '49

Electrical musical instrument, Stanley Leonard Miller, 2,473,897, 4 cl. Appl Apr 4, '47; granted June 21, '49

Electrical musical instrument with split keyboard, Nicholas Langer, 2,458,178, 8 cl. Appl Jan 31, '48; granted Jan 4, '49

Electric piano, Frederik Kerkhof, 2,482,548, 6 cl. Appl Apr 25, '46; granted Sep 20, '49

Electrical piano, Octavio Jose Alverez, 2,486,545, 21 cl. Appl May 22, '46; granted Nov 1, '49

Electroacoustical musical instrument, Charles C. Brown, 2,487,420, 6 cl. Appl Feb 10, '47; granted Nov 8, '49

Electronic device and circuit arrangement therefor, Albert M. Skellett, 2,474,960, 4 cl. Appl Apr 28, '45; granted July 5, '49

Electronic keyboard instrument, Theodore K. Riggen, 2,492,320, 3 cl. Appl May 9, '47; granted Dec 27, '49

Electronic keying means, Thomas J. George, 2,483,-823, 20 cl. Appl Apr 7, '47; granted Oct 4, '49

Electronic means providing tremolo for electrically operated musical instruments, Paul H. Rowe, 2,485,538, 6 cl. Appl May 26, '47; granted Oct 18, '49

Electronic musical instrument, Albert R. Rienstra, 2,486,208, 11 cl. Appl Aug 23, '47; granted Oct 25, '49

Electronic musical instrument, George H. Marmont, 2,480,945, 5 cl. Appl Sep 16, '46; granted Sep 6, '49

Musical instrument, Dominick Zaccagnino, 23,162, 3 cl. Orig appl Aug 22, '44; appl for reissue Aug 7, '46; granted Oct 25, '49

Musical instrument, Ernest Robert Workman, 2,475,-168, 14 cl. Appl Jan 28, '43; granted July 5, '49

Musical instrument, Jacob T. Kunz, 2,472,595, 10 cl. Appl Jan 15, '46; granted June 7, '49

Musical instrument, Richard T. Cornelius, 2,484,930, 3 cl. Appl Nov 22, '44; granted Oct 18, '49

Musical instrument, William Muth and John Muth, jr., 2,471,534, 12 cl. Appl Mar 29, '43; granted May 31, '49

Musical vibration translating unit, Burton Minshall, 2,462,531, 12 cl. Appl May 22, '45; granted Feb 22, '49

Photoelectric keyboard instrument, Emeric M. Spielman, 2,484,914, 2 cl. Appl Feb 7, '47; granted Oct 18, '49

Photoelectric musical instrument, Edward M. Jones, 2,474,847, 22 cl. Appl Aug 5, '46; granted July 5, '49

Tone frequency oscillator, Earle L. Kent, 2,476,607, 8 cl. Appl Sep 25, '46; granted July 19, '49

Tremolo producing device, Andrew L. Appel, 2,460,-868, 5 cl. Appl June 13, '46; granted Feb 8, '49

Vibrato organization, Merwin J. Larsen, 2,470,705, 3 cl. Orig appl Sep 19, '44; divided and this appl June 27, '46; granted May 17, '49

N

NAVIGATIONAL AIDS

Application of electronic principles to dead reckoning navigation. M.S. thesis. Lloyd Julian Perper. Ohio State U Phys Dept Dec '48

NAVIGATIONAL AIDS–Cont'd.

Automatic dead reckoning computer for use on aircraft small boats and submarines. German Industry Rep. JIOA 21 Brit Govt Pub

Compasses, magnetic, aircraft and marine, production, Paris area. German Industry Rep. CIOS IV-3, VI-7, X-4 Brit Govt Pub

Decca" navigator: hyperbolic system of navigation. M. P. Giroud and M. L. Couillard. Onde Elec 29: 5-20 Jan '49. In French

Decca — new English system for radio navigation. (Decca — Et nyt engelsk System til Stedbestemmelse) Radio Ekko 10:75-77 Apr '47

Development, systems, navigation, radio and radar long range, ground communications. Feb '47 PB 87735

EE a new method of radio navigation. L. S. Harley. Electronic Eng 17:713-716 Oct '45

German sonne navigational air radio station. German Industry Rep. CIOS XII-8 Brit Govt Pub

History and technical description of television homing device. German Industry Rep. CIOS XXVIII-41 Brit Govt Pub

Infrared navigation with lead sulphide cell. (Ultrarotortung mit Bleisulfidzelle) Elektron Wiss und Tech 3:96-101 Mar '49

Introduction to radionavigation. P. David. Onde Elec 29:3-4 Jan '49. In French

Long range navigation procedure with pulse ranging. PB 94645. In German

Multiple-track range. M. Beard. IEE Proc pt III 96:245+ May '49

New "two method" phase meter makes possible world-wide navigation systems. E. F. Florman. Instruments 22:40+ Jan '49

Oboe" system. (Le system "Oboe") P. Besson. Onde Elec pt 1 29:351-367 Oct '49; pt 2 29:414-426 Nov '49

Philosophy and equivalence aspects of long-range radio navigation systems. (Abstract) M. K. Goldstein. IRE Proc 37:169 Feb '49

Principle of constant difference of transit time and its application in radio navigation. (Das Prinzip der konstanten Laufzeitdifferenz und seine Anwendung in der Funkortung) Elektron Wiss und Tech 3:70-78 Feb '49

Pulse navigation systems. W. L. Barrow. IRE Proc (Australia) 10:276-282 Oct '49

Radio compass quadrantal error correction. July '48 PB 46818r2

Radiophares of the "Consol" type. H. Portier. Onde Elec 29:57-65 Feb '49. In French

Radio weather aids, general weather information, broadcast schedules (marine-synaptic-aviation), codes, index numbers, miscellaneous. 387 pp M 203.23:HO-206 U.S. Govt Pub

Simple localiser (Een eenvoudig koersbaken) Tijdsch Ned Radiogenoot 14:119-134 July '49

Some relations between speed of indication, bandwidth, and signal-to-random noise ratio in radio navigation and direction finding. H. Busignies and M. Dishal. IRE Proc 37:478-488 May '49. Also in Elec Comm 26:228-242 Sep '49

Sonne navigation system. J. Wilks and J. R. Wilkins. PB 97128

Patents

Apparatus sensitive to magnetic fields, Lennox F. Beach, 2,476,273, 13 cl. Appl Sep 17, '42; granted July 19, '49

Area identification system, William J. O'Brien, 2,483,558, 25 cl. Appl Aug 27, '45; granted Oct 4, '49

Automatic navigator, Robert F. Rusch, 2,485,663, 2 cl. Appl Sep 14, '45; granted Oct 25, '49

Compass correction system, Thomas O. McCarthy, 2,475,627, 16 cl. Appl May 13, '44; granted July 12, '49

Compass indication stabilizing system, William P. Lear, 2,465,311, 12 cl. Appl Oct 30, '45; granted Mar 22, '49

Mechanical converter, Jonas Harschel, 2,479,569, 6 cl. Appl Nov 26, '43; granted Aug 23, '49

Navigation signal system, Edgar W. Penton, 2,458,-414, 5 cl. Appl May 19, '44; granted Jan 4, '49

Navigation system, Llewellyn Goode Duggar, 2,482,-105, 9 cl. Appl Mar 5, '45; granted Sep 20, '49

Navigation system, William J. O'Brien, 2,462,764, 7 cl. Appl June 3, '46; granted Feb 22, '49

Navigation system, William Joseph O'Brien, 2,480,-875, 9 cl. Appl Mar 20, '48; granted Sep 6, '49

Navigational apparatus, John H. Bollman, Fred A. Brooks, and John G. Kreer, jr., 2,488,371, 5 cl. Appl Aug 1, '45; granted Nov 15, '49

Navigational method and apparatus, Serge A. Scherbatskoy, 2,477,145, 14 cl. Appl Feb 22, '45; granted July 26, '49

Pulse echo beacon transponder, Don M. Jacob, 2,477,485, 6 cl. Appl Nov 12, '43; granted July 26, '49

Pulse translator, Sven H. M. Dodington, 2,492,137, 7 cl. Appl Sep 21, '45; granted Dec 27, '49

Radio navigation aid, Irving Wolff, 2,480,068, 11 cl. Appl Aug 9, '46; granted Aug 23, '49

Radio navigation system, Henri G. Busignies, 2,463,-476, 13 cl. Appl Sep 26, '45; granted Mar 1, '49

See also

Direction Finders
Radar

NAVIGATIONAL AIDS, Aircraft

Aerial radionavigation during the war. Guigonis. Onde Elec 29:21-25 Jan '49. In French

Aircraft; automatic dead reckoning computer "Kurskopper." German Industry Rep. JIOA 21 Brit Govt Pub

Aircraft; automatic, homing devices, developments. German Industry Rep. CIOS XXXI-38 Brit Govt Pub

Air navigational aid, radio sonne station, Bresles, France. German Industry Rep. CIOS XII-8 Brit Govt Pub

Airlines navigation systems and equipment, Deutsche Lufthansa. German Industry Rep. CIOS XXXII-24 Brit Govt Pub

All-weather navigation plan is called vital to defense. CAA J 10:49 May '49

CAA outlines 3-year plan to develop RTCA system. CAA J 10:85 Aug '49

Certain new performance criteria for localizer and glide-slope ground installations. (Abstract) IRE Proc 37:177 Feb '49

NATIONAL AIDS, Aircraft–Cont'd.

Course-line computer for radio navigation of aircraft. F. J. Gross. IRE Proc 37:830-834 July '49

Crystal control at 1000 megacycles for aerial navigation. S. H. Dodington. Elec Comm 26:272-278 Dec '49

Distance-measuring equipment for aircraft navigation. V. D. Burgmann. IEE Proc pt III 96:395-402 Sep '49

Electronic navigation aids in the United Kingdom. John H. Battison. Aero Digest 59:20-21+ July '49

Electronics for omni-range navigation. H. B. Yarbrough. Aero Digest 58:78-88+ May '49

Errors and radio navigation. (Errori e radionavigazione) P. Lombardi. Alta Frequenza 18: 24-28 Feb '49. Abstracts in French, English, and German

First steps in RTCA system rapidly nearing completion. CAA J 10:73+ July '49

Higher radio bands hold key to new aviation miracles. CAA J 10:16 Feb '49

Improved radio systems for modern aircraft. Tele-Tech 8:31-33+ Nov '49

Lear introduces "omnimatic". Aero Digest 58:22+ Jan '49

Loran. Portier. Onde Elec 29:286-304 July '49. In French

Loran: long range aid to navigation. 11 pp C 31.141:7 U.S. Govt Pub

Phase and other characteristics of 330 Mc Glide-path systems. (Abstract) S. Pickles. IRE Proc 37: 177 Feb '49

Program for new aids to air navigation. D. W. Rentzel. IRE Proc 37:1041-1042 Sep '49

Radar beacons and Shoran. Video. Rev Telegr No 436:17-19 Jan '49. In Spanish

Radio aids to aerial navigation. Telev Franc No 51: 27-28 Sep '49. In French

Radio distance-measuring equipment for aerial navigation. Engineering 167:187+ Feb 25, '49

Responder systems ground communications development. PB 87144 RTCA program to bring revolutionary changes, radio engineers told. CAA J 10:39 Apr '49

Sky compass. Instruments 22:524+ June '49

Some operation aspects of distance measurement in the transitional air navigation system. (Abstract) J. W. Leas. Aero Eng Rev 8:30-31 Sep '49

Sperry zero reader. S. Kellogg and C. F. Fragola. Aero Eng Rev 8:22-31 Nov '49

Steps toward all-weather flight. Aviation W 50:18 Feb '49

Systems of radio aids to aerial navigation at the Ministro Pistarini airport. P. N. Guzzi. Rev Telegr No 441:307-312 June '49. In Spanish

Transitional avigation aids. Aero Digest 58:17+ Jan '49

Utilization of electron maps in radio aerial navigation. (Die Auswertung von Elektronenkarten in der Flugfunknavigation) Elektron Wiss und Tech 3:103-106 Mar '49

VHF Airborne Navigational receiver and antenna system. (Abstract) A. G. Kandoian, R. T. Adams, and R. C. Davis. IRE Proc 37:177 Feb '49

VHF omniranges accurate, CAA flight checks show. CAA J 10:25 Mar '49

Patents

Air navigation system, Henri G. Busignies, 2,463,474, 15 cl. Appl Mar 5, '45; granted Mar 1, '49

Aircraft glide path indicator, Arthur Donald Baylor, 2,475,123, 11 cl. Appl Aug 7, '44; granted July 5, '49

Airplane course indicating system, Oscar S. Field and Sedgwick N. Wight, 2,463,094, 18 cl. Appl Jan 11, '44; granted Mar 1, '49

Automatic navigating instrument for craft guidance, Robert J. Herbold, 2,492,148, 21 cl. Appl May 13, '47; granted Dec 27, '49

Automatic position indicator, John H. Andresen, jr., 2,467,179, 16 cl. Appl Mar 30, '45; granted Apr 12, '49

Course and height indicator for aircraft, Horace Warren Hastings-Hodgkins, 2,459,074, 6 cl. Appl May 1, '43; granted Jan 11, '49

Craft indicating system, Thomas M. Ferrill, jr., 2,463,529, 12 cl. Appl Aug 30, '45; granted Mar 8, '49

Direct reading radio navigation receiver, John T. McLamore, Milton J. Minneman and Ted E. Dunn, 2,487,822, 9 cl. Appl Apr 30, '47; granted Nov 15, '49

Formation control, Frederic A. Jenks, 2,476,301, 21 cl. Appl May 31, '43; granted July 12, '49

Location finder, Frank J. Lundburg, 2,468,090, 18 cl. Appl May 21, '45; granted Apr 26, '49

Navigation system, Paul G. Hansel, 2,490,050, 23 cl. Appl Nov 7, '45; granted Dec 6, '49

Navigation system, Wayne G. Abraham, 2,489,248, 26 cl. Appl Sep 1, '43; granted Nov 29, '49

Position indicator for airborne traffic, Knox McIlwain, 2,483,097, 6 cl. Appl Sep 12, '46; granted Sep 27, '49

Radio aid to air navigation, Virgil M. Brittain, 2,489,615, 4 cl. Appl Sep 13, '47; granted Nov 29, '49

Radio navigation system, Edward C. Streeter, jr., 2,472,129, 24 cl. Appl Aug 4, '43; granted June 7, '49

Radio navigational system, Herbert Paul Williams. 2,465,411, 1 cl. Appl July 7, '45; granted Mar 29, '49

Radio position determining system, Ludlow B. Hallman, jr., 2,479,567, 6 cl. Appl Feb 11, '41; granted Aug 23, '49

Radio remote-control aircraft system, Edward M. Sorensen, 2,490,844, 11 cl. Orig appl May 16, '40; divided and this appl Mar 24, '41; granted Dec 13, '49

Signal detecting system, Wayne G. Abraham, 2,478,-734, 14 cl. Appl Apr 29, '44; granted Aug 9, '49

Visual on and off course radio beam indicator, Raymond K. Vermillion and Robert J. Cadwallader, 2,491,785, 2 cl. Appl May 15, '45; granted Dec 20, '49

Wireless signaling system, Frederic Calland Williams, 2,490,394, 17 cl. Appl July 25, '47; granted Dec 6, '49

See also

Aircraft, various listings
Direction Finders
Radar

NAVIGATIONAL AIDS, Marine

Adjustment of the shoran triangulation. C. Chu. Am Soc C E Proc 74:1063-1070 Sep '48. Discussion 75:393-398 Mar '49

Anti-collision sound detector. G. M. Marr. Marine Eng 54:71-72 Aug '49

Great Lakes radio aids to navigation, 1949; corrected to Jan 15, '49. 95 pp M 202.2:R11/949 U.S. Govt Pub

Modern aids to navigation. O. B. Whitaker. Marine Eng 54:69-72 Feb '49

Radar in marine navigation. G. Kniazeff. Onde Elec 29:202-215 May '49. In French

Patents

Area identification system, William J. O'Brien, 2,478,833, 9 cl. Appl June 3, '46; granted Aug 9, '49

Depth sounder, George R. Paine and John P. McGuire, 2,476,902 14 cl. Appl June 10, '48; granted July 19, '49

Navigation aiding apparatus, Frank Powell Best, Christopher Derring Colchester, and James Twatt, 2,470,912, 4 cl. Appl Nov 28, '47; granted May 24, '49

Navigational system, Llewellyn G. Duggar, 2,462,077, 11 cl. Appl Mar 19, '46; granted Feb 22, '49

Submarine signaling apparatus, Hugo Benioff, 2,460,-274, 4 cl. Appl Dec 9, '42; granted Feb 1, '49

Submarine signaling device, Rollin W. Gillespie, 2,477,246, 8 cl. Appl May 16, '45; granted July 26, '49

Ultra high frequency transmission, George C. Southworth, 2,461,005, 12 cl. Appl Apr 5, '40; granted Feb 8, '49

See also

Radar

NOISE

Articulation efficiency of banks of speech in noise. J. P. Egan and F. M. Wiener. PB 97057

Barkhausen Noise and magnetic amplifiers. J. A. Krumhansl and R. T. Beyer. Jour Ap Phys pt 1 Theory of magnetic amplifiers. 20:432-436 May '49; pt 2 Analysis of the noise. 20:582-586 June '49

Broad-band microwave noise source. W. W. Mumford. Bell Sys Tech J 28:608-618 Oct '49

Communication in the Presence of Noise. C. E. Shannon. IRE Proc 37:10-21 Jan '49

Contributions to calculation of signal-to-noise ratio at the receiver output and the transmission of noise voltage through a linear rectifier. K. Franz. PB 97327

Design and development of a laboratory model standard noise generator. R. H. George and others. PB 97415

Effect of noise on legibility of microwave connections. (Die Beeintraechtung der Verstaendlichkeit durch Rauschen bei Dezimeter-Verbindungen) Dietrich. Fernmeldetech Zeit 2:173-178 June '49

Electrical noise generators. J. D. Cobine and J. R. Curry. IRE Proc 35:875-879 Sep '47

Inherent noise of crystal diodes. H. F. Matare. Onde Elec 29:231-240 June '49. In French

Lockheed: Reduction of radio noise in "D" band of radio receiver AN/ARC-3-P-80A. Feb '48 PB 86916r

Low-frequency noise from thermionic valves working under amplifying conditions. E. J. Harris and P. O. Bishop. Nature 161:971+ June '48

Measured noise characteristics at long transit angles. N. T. Lavoo. IRE Proc 37:383-386 Apr '49

Microphonism investigation. L. Feinstein. Sylvan Tech 2:9-13 July '49

Noise band of multicascade resonance amplifiers. A. A. Kolosov. Akad Nauk Dok 62:473-476 '48. In Russian

Noise factor for communication by code modulation. E. Kettel. Arch Elek Ubertragung 3:161-164 Aug '49

Noise figures for receiver input circuits. Peter G. Sulzer. Tele-Tech 8:40+ May '49

Noise from current-carrying resistors 20 to 500 kc. R. H. Campbell, jr. and R. A. Chipman. IRE Proc 37:938-942 Aug '49

Noise-generator technique for the VHF man. E. P. Tilton. QST 33:20-21+ Aug '49

Noise in ionization chamber amplifiers. R. J. Cox. NRC-1665

Noise spectrum of temperature-limited diodes. D. B. Fraser. Wireless Eng 26:129-132 Apr '49. Corresp. D. A. Bell. 26:379 Nov '49

Nonlinear distortions and diode noise produced by the action of signals of ultrasonic frequency. Yu. I. Kaznacheev. Akad Nauk Izvest No 9:1173-1189 Sep '47. In Russian

Receiver noise nomograph. C. W. Young. Electronics 22:120 Oct '49

Relay contacts as source of noise in audio circuits. (Relaiskontakte als stoerungsursache in Sprechstromkreisen) A. Wirth and G. Bergstrasser. Fernmeldetech Zeit 2:395-399 Dec '49

Signal-to-noise improvement through integration in a storage tube. (Abstract) J. V. Harrington and T. F. Rogers. IRE Proc 37:177 Feb '49

Signal-to-noise ratio and receiver gain. E. Dandy. Short Wave Mag 7:584-586 Oct '49

Some fundamental considerations concerning noise reduction and range in radar and communication. S. Goldman. PB 98598

Spontaneous fluctuations. D. K. C. MacDonald. Phys Prog Rep 12:56-79 '49

Statistical prediction of noise. Y. W. Lee and C. A. Stutt. NEC Proc '49

Temperature-limited noise diode design. R. W. Slinkman. Sylvan Tech 2:6-8 Oct '49

Theory of receiver noise figure. (Abstract) L. J. Cutrona. IRE Proc 37:177 Feb '49

Transformer audio noise problems on an electric power system. C. S. Murray. AIEE Proc section 9191:1-13 July '49

Transit time correction factor for cylindrical noise diodes. H. Ashcroft and C. Hurst. Phys Soc Proc section B 62:639-646 Oct '49

UHF noise diode. Radio-Electronics 20:85 Jan '49

Patents

Electronic noise generator, Edwin B. Newman, 2,483,226, 6 cl. Appl Oct 29, '45; granted Sep 27, '49

Method and means for measuring the microphonic action of multielectrode tubes, Gaston Julien Louis Guyot and Paul Gillet, 2,482,849, 12 cl. Appl Dec 5, '47; granted Sep 27, '49

NOISE–Cont'd.

See also

Distortion
Interference
Waveform Analysis

NOISE, Measurement

Logarithmic-scale noise meter. Walter J. Ives. Electronics 22:100-103 Aug '49

Measurement of background noise and limiting sensitivity. (Die Messung des Rauschens und der Grenzempfindlichkeit) Radio Tech 25:199-201 Mar '49

Measuring noise levels on frequency-modulated transmitters. C. A. Cady. Gen Rad Exp 24:1-4 Aug '49

Method of measuring noise in high frequency radar receivers. G. Naday. Ann Radioelec 4:257-260 July '49. In French

Noise and its measurements. H. G. M. Spratt. Elec Rev 144:565-567 Apr '49

Objective measurements of noise, its possibilities and limitations. (La mesure objective des bruits ses possibilites et limitations) P. Baron. Ann Telecomm 4:330-340 Oct '49

Simple method of measuring small swings and modulation indices of frequency- or phase-modulated hum and noise. W. W. Boelens and F. L. H. M. Stumpers. Philips Comm N 10:15-19 Jan '49

NOISE, Suppression

Atmospherics, quenching devices, research and developments. German Industry Rep. CIOS XXXI-37 Brit Govt Pub

Audio squelch circuits. J. L. Gergen. Radio-Electronics 21:32-33 Dec '49

Dynamic noise suppressor involving inverse feedback. M.S. thesis. George McPherson, jr. Ohio State U EE Dept June '49

Noise limiter. (Limitador de ruidos) E. Vatteroni. Rev Telegr No 443:434 Aug '49

Noise limiter circuit. E. J. Williams. Short Wave Mag 7:440-441 Aug '49

Noise suppression characteristics of pulse-time modulation. Sidney Moskowitz and Donald D. Grieg. Elec Comm 26:46+ Mar '49

Radio noise suppression equipment. PB 85288

Suppression of short effect noise in triodes and pentodes. K. S. Knol and A. Versnel. Physica 15:462-464 July '49

Suppressors of pickup noise. (Supresores de ruido de pua) Video. Rev Telegr No 439:197-199 Apr '49

Patents

Arrangement for limiting noise interference in carrier telephone systems, Arthur L. Bonner, 2,488,577, 10 cl. Appl Nov 4, '47; granted Nov 22, '49

Interference reducing radio receiver, Daniel E. Noble, 2,459,675, 10 cl. Appl Apr 4, '41; granted Jan 18, '49

Noise shield for handsets, Paul S. Veneklasen, 2,465,985, 5 cl. Appl Jan 29, '46; granted Mar 29, '49

Radio receiver noise discriminating circuit, Robert C. Moore, 2,466,959, 3 cl. Appl Sep 30, '44; granted Apr 12, '49

Selective carrier off noise suppression circuit, George M. Brown, 2,479,305, 1 cl. Appl Apr 25, '45; granted Aug 16, '49

Squelch circuit for suppressing noise components, Robert E. Schock, 2,460,786, 3 cl. Appl June 4, '46; granted Feb 1, '49

Static eliminator for printing presses, William J. Hooper, 2,483,542, 3 cl. Appl Oct 24, '45; granted Oct 4, '49

See also

Frequency Modulation, Reception & Receivers
Interference, Suppression

NUCLEAR PHYSICS

See Atomic Physics

O

OPTICS

Correction of spherical aberration by a phased line source. R. C. Spencer and others. NEC Proc '49

Direct view enlarging lens. Allan Lytel. Radio Ser Deal 10:11-12+ June '49

Lens response measurement. Broadcast Eng J 16:20+ Mar '49

Patents

Mothod of producing low-glare coatings, Frederick H. Nicoll and Ferd E. Williams, 2,486,431, 7 cl. Appl Aug 18, '44; granted Nov 1, '49

See also

Electron Optics
Microwaves, Optics
Television, Projection

OSCILLATION and OSCILLATORS

Analysis of oscillator performance under varying load conditions and an electronic system for automatic load compensation. (Abstract) Eugene Mittelman. IRE Proc 37:178 Feb '49

Automatic calibration of oscillator scales. W. J. Means and T. Slonczewski. NEC Proc '49

Band-width of harmonic control of self-excited oscillator. (Die Breite des Mitnahmebereichs bei der Steuerung eines selbsterregten Roehrengenerators durch eine ganze Vielfache seiner Eigenfrequenz) Kanberg. Funk und Ton 3:497-505 Sep '49

Blocking oscillators. W. T. Cocking. Wireless World 55:230-233 June '49

Conditions for the reproducibility of properties and magnitudes of systems capable of oscillation. (Bedingungen fuer die Reproduzierbarkeit von Eigenschaften und Groessen schwingungsfaehiger Systeme) Max Paesler. Frequenz 3:76-78 Mar '49

Connection between oscillators and filters. W. Herzog. Arch Elek Ubertragung 1:47-58 July-Aug '47

OSCILLATION and OSCILLATORS-Cont'd.

Coupled oscillator circuits. (Circuiti oscillatori accoppiati) G. Tamburelli. Elettronica pt 1 4:65-71 May '49; pt 2 4:111-115 June '49. Abstracts in French and English

Coupled oscillations of plasma and a vacuum resonator. Y. I. Frenkel. Zh Tekn Fiz* 14:97-98 '44

Electron-coupled oscillator. (Der Elektronengekoppelte Oszillator) Kermauner. Radiowelt 4: 4-7 Sep '49

Electron-coupled oscillator in transmitters. (Den elektronkoblede Oscillator i Sendere) Radio Ekko 12:193-195 Oct '49

Electron transit time in negative grid oscillator. S. K. Chatterjee and B. V. Sreekantan. Indian J Phys 23:119-130 Mar '49

Electronic circuitry. J. McG. Sowerby. Wireless World 55:346-347 Sep '49

Elementary and complex oscillations. (Elementare und complexe Schwingungen) Lippert. Funk und Ton 3:3-17 Jan '49

Foundations of a new oscillation theory. (Ueber die Grundlagen zu einer neuen Schwingungsmechanik) Funk und Ton 3:549-569 Nov-Dec '49

Frequency stabilization of V. M. valves. H. Borg. Wireless Eng 26:59+ Feb '49

Heterodyne oscillator for carrier frequencies. (Schwebungssummer fuer den Traegerfrequenzbereich) Boucke and Lennartz. Fernmeldetech Zeit 2:245-248 Aug '49

Influence of thermal resistor-noise and of the shot effect on the interference modulation of oscillators. A. Spalti. Schweiz Elektrotech Ver Bul 39: 419-427 June '48

Midget code practice oscillator. Stephen S. Peschel. CQ 5:35+ May '49

Nonharmonic oscillations as caused by magnetic saturation. Reinhold Ruedenberg. AIEE Proc section 9170:1-10 July '49

Non-linear theory of amplitude-stabilized oscillators. Ph.D. thesis. R. J. Schwarz. Columbia U EE Dept '49

Novel plate-dip oscillator. E. J. Schultz. Radio & TV N 41:42+ May '49

Oscillation amplitude in simple valve oscillators. A. S. Gladwin. Wireless Eng pt 1 26:159+ May '49; pt 2 26:201-209 June '49

Oscillator power variation and frequency pull-in. L. S. Schwartz. Tele-Tech 8:30+ Jan '49

Oscillators in the R.E. Minor set. (Oscillatoren i R.E. Minor) Radio Ekko 11:158 Aug '48

Oscillators—principles and construction. (Oscillatorer—Principper og Opstillinger) Radio Ekko pt 1 11:84-87 May '48; pt 2 11:106-108 June '48

Phenomena in electromagnetic resonators near their characteristic frequencies. V. B. Shteinshleiger. Akad Nauk Dok 65:669-672 May '49. In Russian

Production and application of single damped vibrations of medium frequency. (Ueber die Erzeugung und Anwendung einzelner gedaempfter Schwingungen mittlerer Frequenz) Elektron Wiss und Tech 3:124-126 Mar '49

Pseudotron." (Das Pseudotron) Radio Tech 25: 697-698 Dec '49

Pulsed reflex oscillator. John Markus. Electronics 22:130+ Apr '49

Resonance curves of forced oscillations excited by disturbances with frequency-dependent amplitude. M. Pasler. Ann Phys Lpz 4:1-13 Sep '48

Some theoretical considerations in experiments on vibration phenomena in circuits with non-linear elements. (Enige theoretische beschouwingen enexperimenten over trillingverschijnselen in circuits met niet lineaire elementen) G. J. Elias en S. Duinker Tijdsch Ned Radiogenoot 14:163-191 Nov '49

Synchronization of quasi-sinusoidal oscillators. (Sulla sincronizzazione degli oscillatori quasisinusoidali) G. Francini. Alta Frequenza 18:125-133 July-Aug '49. Abstracts in French, English and German

Telephonic oscillator. (En "Selvsvinger" til Telefoni) Radio Ekko 11:94-95 May '48

Temperature compensation of tank circuits. (Temperaturkompensation von Schwingkreisen) Roske. Funk und Ton 3:328-340 June '49

Theory of R-C oscillators. (Die theoretischen Grundlagen der RC-Generatoren) Radio Tech 25:35-41 Jan '49

Theory of synchronization by control of phase. Edouard Labin. Philips Res Rep 4:291-315 Aug '49

Theory of the generator of an amplifier with cathode coupling. G. A. Khavkin. Zh Tekn Fiz 18:1416-1420 Nov '48. In Russian

Tubeless oscillator uses a IN34 crystal. Rufus P. Turner. Radio-Electronics 21:47 Oct '49

Use of ferrite-cored coils as converters, amplifiers and oscillators. V. D. Landon. RCA Rev 10: 387-396 Sep '49

Versatile grid-dip oscillator. R. L. Parmenter. Radio Electronics 20:52-53 July '49

Patents

Adjustable earphone, Ross E. Dulinsky, 2,486,267, 1 cl. Appl June 2, '45; granted Oct 25, '49

Automatic motor-controlled resonating system, Pearlie K. Myhre, 2,476,897, 9 cl. Appl Sep 7, '46; granted July 19, '49

Capacity responsive system, Harry M. Simons, 2,490,238, 2 cl. Appl Jan 4, '46; granted Dec 6, '49

Circuit arrangement for electronic tubes operating on dynamic grid current principles, John Adolph Sargrove, 2,485,925, 9 cl. Appl Feb 26, '47; granted Oct 25, '49

Compensated, controlled-feedback, amplitude modulated oscillator, Paul Weathers, 2,469,803, 1 cl. Appl Aug 22, '47; granted May 10, '49

Control apparatus, Lloyd B. Cherry, 2,480,713, 6 cl. Appl Oct 6, '45; granted Aug 30, '49

Control apparatus, Rudolf F. Wild, 2,464,193, 4 cl. Appl July 18, '45; granted Mar 8, '49

Controlled generator, Robert W. Clark, 2,486,005, 4 cl. Appl Feb 26, '46; granted Oct 25, '49

Correction device for electronic function generators, Maurice Leighton Greenough, 2,458,700, 6 cl. Appl Sep 28, '45; granted Jan 11, '49

Device for repeated frequent starting and stopping of oscillation generators, Jiri Stivin, 2,486,504, 5 cl. Appl July 3, '47; granted Nov 1, '49

Direct reading multifrequency generator, Roy E. Colander, 2,476,840, 16 cl. Appl Dec 30, '47; granted July 19, '49

OSCILLATION and OSCILLATORS, *Patents*–Cont'd.

Electrical valve excitation circuit, Carl C. Herskind, 2,465,097, 7 cl. Appl Apr 1, '48; granted Mar 22, '49

Fractional frequency generator, Laurence Batchelder, 2,460,800, 12 cl. Appl Dec 27, '45; granted Feb 8, '49

Frequency control system, George S. Wachtman, 2,468,148, 5 cl. Appl June 16, '45; granted Apr 26, '49

Harmonic generator, Gustav Guanella, 2,492,218, 14 cl. Appl July 23, '46; granted Dec 27, '49

Harmonic generator, Vernon C. Westcott, 2,485,124, 1 cl. Appl Nov 30, '46; granted Oct 18, '49

Locked-in oscillator circuits, Murlan S. Corrington, 2,488,584, 7 cl. Appl Dec 8, '43; granted Nov 22, '49

Maximizing or minimizing control system, Orrin W. Livingston, 2,491,822, 4 cl. Appl July 26, '47; granted Dec 20, '49

Means for generating alternating currents, Bertil Stalhane, 2,487,279, 10 cl. Appl Dec 24, '46; granted Nov 8, '49

Oscillator, George Taylor Royden, 2,492,185, 16 cl. Appl June 19, '46; granted Dec 27, '49

Oscillator, John R. Shonnard, 2,478,330, 3 cl. Appl Mar 21, '46; granted Aug 9, '49

Oscillator, Merl T. Reynolds, 2,492,767, 9 cl. Appl Nov 12, '47; granted Dec 27, '49

Oscillator, Thomas A. O. Gross, 2,486,021, 5 cl. Appl Feb 28, '45; granted Oct 25, '49

Oscillator circuits, Jeffrey S. Cohen, 2,483,183, 9 cl. Appl June 25, '47; granted Sep 27, '49

Oscillator control system for electric bonding machines, Harry B. Fuge, 2,487,432, 3 cl. Appl Nov 23, '46; granted Nov 8, '49

Oscillation generator, Henry M. Huge, 2,460,637, 9 cl. Appl July 17, '44; granted Feb 1, '49

Oscillator modulating system, Robert C. Moore, 2,470,573, 12 cl. Appl June 10, '44; granted May 17, '49

Polyphase oscillator, George T. Royden, 2,492,184, 9 cl. Appl Sep 1, '45; granted Dec 27, '49

Shock-excited oscillator, Hans Klemperer, 2,486,176, 12 cl. Appl Feb 12, '46; granted Oct 25, '49

Spot frequency oscillator system, George F. Moynahan, jr., 2,457,830, 8 cl. Appl Mar 5, '46; granted Jan 4, '49

Suppression of parasitic oscillations, Ralph W. George, 2,467,736, 6 cl. Appl Feb 24, '45; granted Apr 19, '49

Variable wave generator, Arthur A. Mahren, 2,478,-973, 8 cl. Appl Apr 5, '48; granted Aug 16, '49

Voltage generator, hyperbolic wave form, Francis Leo Talbott and Ralph O. Robinson, jr., 2,485,938, 6 cl. Appl July 8, '47; granted Oct 25, '49

See also

Microwaves, Oscillators
Multivibrators
Pulse Circuits, Generators
Signal Generators

OSCILLATORS, AF

Audio frequency oscillator. (Ein Tongenerator) Radio Tech 25:144-146 Feb '49

Audio frequency oscillator of the resistance-capacitance type. E. Divoire. HF 1:5-15 Jan '49. In French

Audio oscillator. (Zwevingstoongenerator) Radio Bul 18:343-345 Oct '49

Audio oscillator with continuous tuning. (Tonfrequenzgenerator mit kontinuierlicher Abstimmung) Funk und Ton 3:540-543 Sep '49

Low-distortion audio-frequency oscillator. (Abstract) C. W. Clapp and C. L. Hackley. IRE Proc 37:178 Feb '49

RC audio oscillator with continuous tuning. (RC-Ton-generator mit kontinuierlicher Abstimmung) Funk und Ton 3:399-403 July '49

Patents

Device for controlling oscillating circuits, Carl A. Wiley, 2,473,556, 6 cl. Appl Mar 15, '43; granted June 21, '49

Oscillator-amplifier radio circuits, John J. Antalek, 2,461,306, 7 cl. Appl May 31, '43; granted Feb 8, '49

See also

Signal Generators, Audio Frequency

OSCILLATORS, Beat Frequency

Beat-frequency oscillator for the carrier-frequency range. H. Boucke and H. Lenmartz. Fernmeldetech Zeit 2:245-248 Aug '49

Beat oscillators. (Lidt om Stodoscillatoren) Radio Ekko 10:196 Oct '47

Warbler for beat-frequency oscillator. J. L. Flanagan. Electronics 22:93-95 Dec '49

Patents

Beat frequency oscillator, Harry Grayson, 2,476,975, 5 cl. Appl Nov 28, '47; granted July 26, '49

See also

Reception & Receivers, Superheterodyne

OSCILLATORS, Clapp

Clapp or colpitts? A. G. Dunn. RSGB Bul 24:304-305 June '49

Clapp oscillator. (Clapp-Oscillator) Radio Tech 25:328-329 May '49

"Clapp" oscillator. (Sobre el Oscilador "Clapp") O. D'Antiacq. Rev Telegr No 443:435 Aug '49

Clapp oscillator—Its application. W. L. Werden. CQ 5:26-27 Mar '49

Clapp oscillator—Its Theory. D. Ypey. CQ 5:27-29 Mar '49

Practical design of a Clapp-type variable frequency oscillator. (Realizacion practica de un oscilador de frequencia variable tipo Clapp) H. Windhausen. Rev Telegr No 444:561-563 Sep '49

Reflections on the performance of the "Clapp" oscillator. (Algunas reflexiones sobre el funcionamiento del oscilador "Clapp") W. Kautter. Rev Telegr No 445:611-612 Oct '49

Some notes on the Clapp oscillator. Richard G. Talpey. QST 33:45+ Jan '49

OSCILLATORS, Colpitts

New Colpitts oscillator in practice. (Den ny Colpitts-Oscillator i Praksis) Radio Ekko 11:150-151 Aug '48

OSCILLATORS, Colpitts–Cont'd.

Why Colpitts oscillator? (Hvorfor Colpitts) Radio Ekko 11:170-171 Sep '48

Patents

Low-frequency drift oscillator, John F. Bell, 2,470,-425, 1 cl. Orig appl Feb 13, '43; divided and this appl Oct 20, '44; granted May 17, '49

Oscillator circuits, William E. Bradley, 2,469,811, 12 cl. Appl Sep 17, '46; granted May 10, '49

OSCILLATORS, Crystal

All-band crystal calibrator. W. H. Allen. RSGB Bul 25:104-106 Oct '49

Cathode-coupled crystal oscillators. F. Butler. Short Wave Mag 7:258-262 June '49

Crystal controlled calibrated oscillator. L. Atherton. Short Wave Mag 7:272-275 June '49

Crystal oscillator for carrier supply. H. N. Hansen. Philips Comm N 10:1-15 Jan '49

Frequency stability of crystal controlled vacuum tube oscillations. E. S. Antseliovich. Electro-Ind Bul* No 9 '35

Pulsed crystal oscillator range calibrator. Oct '48. PB 95409

Regenerative oscillator for harmonic-type crystals. G. Treuke. QST 33:46-47+ Dec '49

Research reports covering crystal oscillators, germanium rectifiers, dielectric materials, infrared phosphors, etc. 1939-1945. PB 84913

Theory of a self-oscillator with a quartz crystal. S. I. Evtyanov. Radiotekhnika 4:27-40 Jan-Feb '49. In Russian

Tubeless oscillator uses a IN34 crystal. Rufus P. Turner. Radio-Electronics 21:47 Oct '49

Variable frequency crystal control. RSGB Bul 25: 144 Nov '49

Patents

Crystal controlled oscillator, George T. Royden, 2,459,842, 9 cl. Appl Aug 19, '44; granted Jan 25, '49

Crystal controlled oscillator, George T. Royden, 2,489,327, 11 cl. Appl Sep 14, '45; granted Nov 29, '49

Crystal harmonic oscillator, Emmery J. H. Bussard, 2,486,355, 7 cl. Appl Nov 3, '48; granted Oct 25, '49

Electrostrictive translator, George A. Argabrite, 2,478,223, 3 cl. Appl Mar 1, '46; granted Aug 9, '49

Piezoelectric oscillator, Paul D. Gerber, 2,485,045, 6 cl. Appl May 29, '47; granted Oct 18, '49

Temperature compensated crystal unit, Henry M. Bach, 2,470,738, 15 cl. Appl Jan 30, '45; granted May 17, '49

See also

Crystals

OSCILLATORS, Frequency Modulated

Frequency-modulated audio-frequency oscillator for calibrating flutter-measuring equipment. P. V. Smith and E. Stanko. Soc Motion Picture Eng J 52:309-312 Mar '49

Frequency modulated oscillator. (Frekvensmoduleret Generator) Radio Ekko 12:152-162 Aug '49

Single-valve frequency-modulated oscillators. K. C. Johnson. Wireless World 55:122+ Apr '49

Patents

Frequency modulated oscillator control, Richard H. Ranger, 2,474,278, 17 cl. Appl Oct 2, '44; granted June 28, '49

Frequency modulation, Joseph G. Beard and Leo W. Born, 2,469,289, 6 cl. Appl Feb 26, '45; granted May 3, '49

Wave translating system, Milton E. Mohr, 2,469,837, 5 cl. Appl Sep 26, '46; granted May 10, '49

See also

FM, Transmitters & Transmission, Modulators

OSCILLATORS, High Frequency

Generation of high-frequency oscillations by hot-cathode discharge tubes containing gas at low pressure. E. B. Armstrong and K. G. Emeleus. IEE Proc pt 3 96:390-394 Sep '49

Local oscillator for VHF fixed frequency receiver. (Oscillateur local pour recepteur VHF a frequence calee) L. Liot. Electronique 36:6-7 Oct '49

Shortwave oscillators. (Schwingungserzeugerschaltungen fuer Kurzwellen) Benz. Radiowelt 4:49-53 Sep '49

Test oscillator for the two metre band. J. St. C. T. Ruddock. RSGB Bul 24:164-166 Jan '49

Patents

Band switching arrangement for high-frequency circuits, John G. Crockett, 2,464,557, 4 cl. Appl Dec 30, '44; granted Mar 15, '49

Frequency selection circuit, Vernon H. Vogel, 2,475,-065, 9 cl. Appl Dec 17, '46; granted July 5, '49

High-frequency apparatus, Eugene Mittelman, 2,490,081, 4 cl. Appl July 23, '42; granted Dec 6, '49

Oscillation generator and frequency multiplier, Alan P. Buffington, 2,459,262, 7 cl. Appl Mar 13, '46; granted Jan 18, '49

See also

Microwaves, Oscillators
Pulse Circuits, Generators
Signal Generators, RF & HF

OSCILLATORS, Non-Sinusoidal

Blocking oscillators. W. T. Cocking. Wireless World 55:230-233 June '49

Patents

Blocking oscillator, Karl Rinner, 2,468,420, 6 cl. Appl Dec 11, '45; granted Apr 26, '49

Blocking oscillator, Richard Proskauer, 2,483,431, 5 cl. Appl May 10, '44; granted Oct 4, '49

Frequency displacement, William W. Wiseman and Russell B. Wright, 2,476,343, 6 cl. Appl Dec 13, '40; granted July 19, '49

Frequency stabilized blocking oscillator, Ben W. Robins, 2,466,782, 8 cl. Appl Jan 28, '43; granted Apr 12, '49

Oscillation generator, Charles William Earp, 2,462,-078, 11 cl. Appl Sep 10, '45; granted Feb 22, '49

Relaxation oscillator, L. Hershinger, 2,476,090, 10 cl. Appl Mar 9, '48; granted July 12, '49

OSCILLATORS, Non-Sinusoidal–Cont'd.

See also

Multivibrators
Pulse Circuits, Generators
Signal Generators
Wave Shaping Circuits

OSCILLATORS, Phase-Shift

Phase-shift oscillator. W. C. Vaughan. Wireless Eng 26:391-399 Dec '49

Phase shift oscillators operating with very tight coupling. (Oscillatori a rete variatrice di fase in regime di accoppiamento molto stretto) M. Soldi. Alta Frequenza 18:52-68 Apr '49. Abstracts in French, English and German

Reactance-tube modulation of phase-shift oscillators. (Abstract) F. R. Dennis and E. P. Felch. IRE Proc 37:178 Feb '49. Also in Bell Sys Tech J 28:601-607 Oct '49

Patents

Oscillator, Richard C. Webb, 2,463,073, 7 cl. Appl Jan 26, '45; granted Mar 1, '49

See also

Signal Generators

OSCILLATORS, Pulse

See Pulse Circuits, Generators

OSCILLATORS, Stability

Automatic-frequency-control system for mechanically tuned oscillators. (Abstract) J. G. Stephenson. IRE Proc 37:178 Feb '49

Frequency stability of crystal controlled vacuum tube oscillations. E. S. Antseliovich. Electro-Ind Bul (USSR)* No 9 '35

Highly stable oscillator. (Ein hochstabiler Oszillator) Radio Tech 25:203-204 Mar '49

Increasing stability of oscillators. Albert Danziger. Electronics 22:122+ June '49

Problems of oscillator circuit stability. E. Anteseliovich. Electro-Ind Bul (USSR)* No 6 '35

Stability criterion, particularly for control circuits with a prescribed degree of stability. A. Leonhard. Arch Elek 39:100-107 Sep '48

Tuneable oscillator of high-stability. Spenny. RSGB Bul 24:245-247 Apr '49

Very stable oscillator. (Ein sehr stabiler Oszillator) Radio Tech 25:140-141 Feb '49

Patents

Automatic frequency control circuits, Murray G. Crosby, 2,473,790, 4 cl. Appl Mar 8, '46; granted June 21, '49

Frequency stabilization of alternating current networks, Henri Georges Doll, 2,463,252, 11 cl. Appl Mar 8, '46; granted Mar 1, '49

Stabilized oscillator, Alexis A. Lundstrom, 2,466,904, 5 cl. Appl Feb 13, '45; granted Apr 12, '49

OSCILLATORS, VFO

Bandswitching V.F.O.-exciter unit. Don V. R. Drenner. Radio & TV N 42:37+ Sep '49

Cathode coupled, grounded grid VFO. (Katodckoblet, grounded grid-VFO) Radio Ekko 10:245 Dec '47

Coffee-can VFO. E. Hayward. QST 33:22-23 Aug '49

High-power VFO unit. C. W. Schwenzfeier. QST 33:31-33 Mar '49

Inexpensive V.F.O. and exciter unit. Sidney A. Denney. RSGB Bul 25:72-74 Sep '49

Interesting Dutch V.F.O. (En interessant hollanksk V.F.O.) Radio Ekko 11:74-75 Apr '48

Low-cost bandswitching V.F.O. Robert Lewis. Radio & TV N 41:34+ June '49

Novel break-in V.F.O. Otto L. Woolley. Radio & TV N 41:46+ Mar '49

Self-contained VFO designed for stability on all bands. Andrew Rau, jr. RCA Ham Tips 9:1+ Jan-Feb '49

Stable variable frequency oscillator. J. S. Watson. RSGB Bul 24:302-303 June '49

Surplus VFO unit. J. N. Roe. Short Wave 7:511-514 Sep '49

Tailoring the series-tuned VFO to your needs. G. L. Countryman. QST 33:42-45+ Oct '49

Variable frequency oscillator. Rev Telegr No 436: 30+ Jan '49. In Spanish

Variable frequency R-C oscillators. F. Butler. Electronic Eng 21:140-142 Apr '49. Corresp. J. E. Parton and J. Roorda 21:270-271 July '49; F. Butler 21:304-305 Aug '49

1950 VFO exciter. B. Goodman. QST 33:29-33 Sep '49

VFO from surplus. George F. Marts. Radio-Electronics 20:38-39 Jan '49

VFOs for 'phone or CW Ben W. Roberts. QST 33: 11-14 June '49

Wide-range deviable oscillator. Millard E. Ames. Electronics 22:96+ May '49

Patents

Frequency modulated oscillating system, George T. Royden, 2,462,905, 18 cl. Appl Sep 15, '45; granted Mar 1, '49

Radio-frequency apparatus, Ervin L. Crandell, 2,466,931, 4 cl. Appl May 14, '46; granted Apr 12, '49

Signal generator, Bernard D. Loughlin, 2,461,120, 2 cl. Appl Nov 2, '44; granted Feb 8, '49

Variable frequency oscillation generator, John D. Woodward, 2,490,499, 8 cl. Appl Apr 23, '47; granted Dec 6, '49

See also

Signal Generators, Sweep Frequency

OSCILLOSCOPES and OSCILLOGRAPHS

50 mc wide-band oscilloscope. (Abstract) A. M. Levine and M. Hoberman. IRE Proc 37:164 Feb '49

Balanced-input adapter. M. Maron. Oscillographer 11:15-18 July-Sep '49

Cathode Ray oscilloscope. Walter Buchsbaum. Radio Ser Deal 10:13-14+ Feb '49

Cathode-ray oscillograph as a design tool. Product Eng 20:132-137 Feb '49

Closed cycle recording oscillographs. B. Ciscel and R. Ruhland. NEC Proc '49

OSCILLOSCOPES and OSCILLOGRAPHS–Cont'd.

Conversion of the P4- and P4E-type synchroscopes for high sweepspeed operation. K. N. Hemmenway. PB 97355

CRO horizontal deflection systems. Morton G. Scheraga. Radio Maint 5:10+ Nov '49

CRO time base coupled to a rotating shaft. P. R. Marshall. Electronic Eng 21:98-99 Mar '49

Deflection amplifiers in oscillographs. Joseph J. Roche. Radio Maint 5:14+ Aug '49

Diode limiter circuits in oscillographic applications. H. P. Mansberg. Oscillographer 11:14-19 Apr-June '49

DuMont Type 250 cathode-ray oscillograph. R. P. Abbenhouse. Oscillographer 11:3-8 Jan-Mar '49

Easily portable cathode-ray oscillograph. E. E. Carpentier. Philips Tech Rev 11:111-115 Oct '49

Evaluation of specifications for cathode-ray oscillographs. (Abstract) P. S. Christaldi. IRE Proc 37:164 Feb '49

"Farvigraph" oscillograph. (Der Farvigraph) ETZ 70:171 May '49

General-purpose precision oscilloscope. R. P. Abbenhouse. Electronics 22:106-111 Aug '49

Grounding of CRO. (Die Erdung bei Kathodenstrahloszillographen) Hochrainer. Electrotech und Maschinenb 66:64 Mar '49

High voltage CRO (2 drawings). MDDC 926

How to choose an oscillograph. Joseph J. Rohe. Radio Maint 5:14+ July '49

Improving the performance of the Types 248 and 248-A cathode-ray oscillographs. R. P. Abbenhouse. Oscillographer 11:9-12 Jan-Mar '49

Laboratory oscilloscope. 16 pp '47 MDDC 1033

Long-persistence direct-coupled oscilloscope for control proofing table. U. E. Younger. PB 98079

Luminescent screens for cathode-ray oscillography. R. Feldt. Oscillographer 11:3-11 Apr-June '49

Model L.A.-100 C.R. oscilloscope (circuit diagram). MDDC 908

Multi-channel oscillography. Elec Rev 144:404 Mar '49

Multiple scope and power supply (1 fig.). MDDC 928

New design of the contact oscillograph. PB 98552

New lens for projection oscillography. Oscillographer 11:9 July-Sep '49

New method of expanding the scale of a magnetic oscillograph. Ralph L. Goetzenberger, jr. Instruments 22:405+ May '49

New technique for using the CRO. (Nouvelle technique d'utilisation de l'oscillographe cathodique en electrotecnique generale) M Demontvignier. Rev Gen Elec 58:407-416 Oct '49

Oscillograph for the automatic recording of disturbances on electric supply systems. W. T. J. Atkins. IEE Proc pt II 96:276+ Apr '49

Oscillographic crystal mode analyzer. Oscillographer 11:13-15 Jan-Mar '49

Panoramic display-design considerations. D. W. Thomasson. Electronic Eng 21:259-261 July '49

Polar vector indicator. E. A. Walker. AIEE Proc section 947:1-6 Apr '49

Requirements of a good cathode-ray oscillograph. Morton G. Scheraga. Radio Maint 5:12+ Dec '49

Techniques in high-speed cathode-ray oscillography. C. Berkley and H. P. Mansberg. Soc Motion Picture Eng J 53:549-578 Nov '49

Travelling-wave oscilloscope. J. R. Pierce. Electronics 22:97-99 Nov '49

Universal oscillograph. (Universal Oszillograph) Radio Tech 25:415-420 July '49

Vertical deflection amplifiers in oscillographs. Morton G. Scheraga. Radio Maint 5:10+ Oct '49

Writing at a distance with the CRO. (On peu ecrire a distance grace a l'oscillographe) A. Ingster. Toute la Radio No 132:58-59 Jan '49

Patents

Apparatus for resetting cathode-ray oscillographs, Abe M. Zarem and Raymond D. Weinhold, 2,477,-847, 6 cl. Appl Jan 19, '46; granted Aug 2, '49

Arrangement for repeating oscillograph indications at a distance, Richard Francis Cleaver, 2,485,568, 13 cl. Appl May 4, '46; granted Oct 25, '49

Cathode-ray indicator, Rudolf F. Wild, 2,474,177, 29 cl. Appl Apr 17, '47; granted June 21, '49

Delayed control system for cathode-ray oscillographs, John J. Borek and Abe M. Zarem, 2,477,-848, 7 cl. Appl Jan 12, '46; granted Aug 2, '49

Device comprising a cathode-ray oscillograph adapted to make at least two measuring voltages simultaneously perceptible, Edmond Egbertus Carpentier, 2,466,207, 5 cl. Appl Apr 22, '46; granted Apr 5, '49

Electromagnetic oscillograph, Howard L. Daniels, 2,466,691, 12 cl. Appl Apr 9, '45; granted Apr 12, '49

Electronic apparatus, Lester C. Smith, 2,471,246, 10 cl. Appl May 25, '44; granted May 24, '49

Indicating device, John D. Mallett, 2,464,822, 9 cl. Appl Aug 16, '43; granted Mar 22, '49

Method for producing coordinate screens for cathode-ray oscilloscopes, William Lubin, 2,487,-817, 2 cl. Appl June 7, '45; granted Nov 15, '49

Multiple indicating system, Theodore Zuschlag, 2,485,343, 5 cl. Appl Apr 20, '46; granted Oct 18, '49

Oscillograph, Trevor H. Clark, 2,465,354, 2 cl. Appl Mar 16, '46; granted Mar 29, '49

Oscillograph apparatus, Hiram S. Lasher, jr., 2,467,-834, 13 cl. Appl July 23, '45; granted Apr 19, '49

Oscillograph circuit to avoid distortion, Meyer Maron, 2,473,718, 8 cl. Appl Sep 21, '46; granted June 21, '49

Oscillograph comprising a cathode-ray tube, Bernhardus Gerhardus Dammers, 2,464,558, 2 cl. Appl July 20, '46; granted Mar 15, '49

Oscillograph system, Robert C. Ferrar, 2,465,364, 9 cl. Appl Sep 14, '45; granted Mar 29, '49

Oscillographic recording apparatus, Richard M. Davis, 2,474,303, 1 cl. Appl Mar 13, '47; granted June 28, '49

Radio receiving and indicating system, William A. Miller, 2,488,022, 10 cl. Appl Feb 1, '45; granted Nov 15, '49

Scanning device for cathode-ray oscillographs, Henri G. Busignies, 2,480,837, 8 cl. Appl Feb 19, '43; granted Sep 6, '49

OSCILLOSCOPES and OSCILLOGRAPHS–Cont'd.

See also
Cathode-Ray Tubes
Time Base Circuits
Waveform Analysis

OSCILLOSCOPES and OSCILLOGRAPHS, Applications

Breakdown oscillograms of oil impregnated paper. J. Brablc. Eng Digest 10:112 Apr '49

Oscillographic analysis of transient elementary processes. I. S. Stekol'nikov and V. V. Mezhueva. Akad Nauk Izvest No 2:235-239 '49. In Russian

Oscilloscope presentation of hysteresis loops at 60 cycles and under pulse conditions. W. H. Bostick and others. PB 2870

Recurrent-surge oscillograph and its application to the study of surge phenomena in transformers. E. L. White and W. Nethercot. IEE Proc pt II 96:269+ Apr '49

Representation of spacial configurations and three coordinate diagrams on a cathode ray oscilloscope. (Rappresentazione sull'oscillografo a raggi catocici di figure spaziali e di diagrammi a tre coordinate) C. Villi. Elettronica 4:185-191 Aug '49. Abstracts in French and English

Studying non repeating pulses on the CRO. (Etude a l'oscilloscope des phenomenes transitoires non periodiques) R. Wahl. Electronique 33:1-5 July '49

Visual study of oscillations. (L'etude visuelle des oscillations) F. Haas. Toute la Radio No 140: 329-331 Nov '49

See also
Servicing, TV, Cathode-Ray Tubes

OSCILLOSCOPES and OSCILLOGRAPHS, Miniature

Miniature CRO. (Realisation d'un oscillographe cathodique) J. C. Montagne. Toute la Radio No 134:102-104 Mar-Apr '49

Miniature portable cathode-ray oscillograph recorder. C. F. Johnson. Instruments 22:800-801 Sep '49

Small oscillograph for DC power. (Kleinoszillograph fuer Gleichstromnetze) Radio Tech 25: 639-642 Nov '49

OSCILLOSCOPES and OSCILLOGRAPHS, Photography

Cathode-Ray photography. Charles Berry. Elec Eng 68:246 Mar '49. Also in Electronics 22:130 Feb '49

DuMont Type 314-A Oscillograph-record camera. H. P. Mansberg. Oscillographer 11:3-8 July-Sep '49

Oscilloscope camera self supporting (9 drawings). MDDC 1598

Photographic techniques in cathode-ray oscillography. (Abstract) C. Berkley and H. Mansberg. IRE Proc 37:165 Feb '49

Recording stationary CRT patterns. Leonard Hesse. Radio & TV N 42:62+ Dec '49

OSCILLOSCOPES and OSCILLOGRAPHS, Servicing Uses

Checking television waveforms with a CRO. Samuel Marshall. Sylvan N 16:T5-T8 Feb '49

Checking video and synch waveforms using a CRO. Samuel L. Marshall. Radio Ser Deal 10:15-19+ Jan '49

Scope aid helps audio men. Alfred Haas. Radio-Electronics 20:42-43 Jan '49

Scope as a modern service tool. M. Mandl. Radio Ser Deal pt 1 10:9-11 Nov '49; pt 2 Servicing sound IF stages in TV and FM receivers. 10:11-12 Dec '49

Selecting an oscilloscope for television servicing. Techni-Talk vol 1 June-July '49

Serviceman's oscilloscope. (Un oscilloscope de faible encombrement pour la station-service) J. Raux. Toute la Radio No 139:276-278 Oct '49

See also
Servicing, TV, Cathode-Ray Tubes

P

PHASE INVERTERS and SPLITTERS

Electronic circuitry. J. McG. Sowerby. Wireless World 55:396-397 Oct '49. Also in Wireless World 55:492-494 Dec '49

Incremental phase splitter. E. Kasner. Electronics 22:94-95 July '49

Phase inverter circuits. A. T. Parker. Radio Maint 5:14+ June '49

Properties of Some Wide-Band Phase-Splitting Networks. David G. C. Luck. IRE Proc 37:147-151 Feb '49

PHASE SHIFTERS and CONVERTERS

Constant phase-shift networks. R. O. Rowlands. Wireless Eng 26:283-287 Sep '49. Corresp. 26: 380 Nov '49

ECC40 as phase changer. (Katodyn-Fasevender med ECC40) Radio Ekko 12:197 Oct '49

3-phase from 1-phase. W. Bacon. Electronic Eng 21:58-60 Feb '49

Phase shifting applied to directional transmission and reception. (Anwendungen von Phasenschaltungen) Thiede. Funk und Ton 3:249-255 May '49

Resistive phase shifters. J. E. Bryden. Electronic Eng 21:322-326 Sep '49

Two simple circuits to convert phase difference into voltage difference. (Zwei einfache Summe-Differenzschaltungen) Funk und Ton 3:591-593 Nov-Dec '49

Patents

Device for the alternating voltage supply of a load, Klaas Posthumus, 2,485,773, 6 cl. Appl Apr 13, '46; granted Oct 25, '49

Electrical apparatus, George R. Gamertsfelder, 2,480,187, 1 cl. Appl July 9, '45; granted Aug 30, '49

Electrical circuit, William R. Rambo, 2,485,919, 12 cl. Appl Nov 6, '45; granted Oct 25, '49

PHASE SHIFTERS and CONVERTERS. *Patents*—Cont'd.

Electronic phase shifter, Donald E. Bovey, 2,474,886, 6 cl. Appl Dec 4, '44; granted July 5, '49

Means for and method of synchronizing alternating electric voltages, Gustav Guanella, 2,481,659, 14 cl. Appl Sep 11, '47; granted Sep 13, '49

Mechanical converter, Libero Prati, 2,466,864, 3 cl Appl Feb 5, '45; granted Apr 12, '49

Method and means for supplying heating current to the valves of electric current convevors, Harold Winograd, 2,490,290, 9 cl Appl Nov 5, '46, granted Dec 6, '49

Method for augmenting small phase differences, Leonide Gabrilovitch, 2,475,020, 3 cl Appl Nov 23, '43; granted July 5, '49

Phase adapter, Carl A Helber, 2,480,576, 2 cl Appl Dec 30, '47, granted Aug 30, '49

Phase converter, Thomas T Short, 2,470,863, 11 cl Appl Oct 12, '45; granted Apr 19, '49

Phase reversal protector, Harry F Clark, 2,486,001, 2 cl. Appl Oct 24, '45; granted Oct 25, '49

Phase shifter, Louis A. de Rosa, 2,483,403, 11 cl Appl Apr 24, '43, granted Oct 4, '49

Phase shifter circuit, Bernard M Oliver, 2,476,916, 4 cl. Orig appl Feb 24, '44; divided and this appl Mar 19, '45, granted July 19, '49

Phase shifter for pulse producers, Earl H Scheonfeld, 2,466,044, 1 cl. Appl Mar 28, '46; granted Apr 5, '49

Phase shifting apparatus, Larned A Meacham, 2,461,832, 5 cl. Orig appl June 22, '43, divided and this appl Dec 14, '46; granted Feb 15, '49

Phase shifting potentiometer, Robert L Cummerow and Lincoln K Davis, 2,483,125, 1 cl Appl June 13, '46; granted Sep 27, '49

Quadrature phase shifting circuit, Larned A Meacham, 2,468,302, 5 cl. Appl July 19, '44; granted Apr 26, '49

Variable phase shifter, George K. Werner, 2,469,188, 3 cl. Appl Feb 1, '47; granted May 3, '49

Variable phase shifter, William H. Bussey, 2,469,155, 3 cl. Appl Feb 1, '47; granted May 3, '49

PHONOGRAPHIC PICKUPS and RECORDING HEADS

Compliance meter for pickups. A M. Wiggins. Electronics 22:94-95 Oct '49

Correction filter for crystal pickups. (Korrektionsfilter til Krystal-Pickup's) Radio Ekko 10:173 Sep '47

Crossover filter for disc recording heads. H. E. Roys. Audio Eng 33:18-21 June '49

Cutting stylus problem in microgroove recording—"stylus". Audio Eng 33:26+ Apr '49

Danish lightweight sapphire pickup Colibri. (Den danske Letvaegs-Safir-Pickup Colibri) Radio Ekko 10:218 Nov '47

Design of a balanced-armature cutter-head for lateral cut disc recording. F. E. Williams. IEE Proc pt III 96:145+ Mar '49

Equalizing crystal phonograph pickups. Charles P. Boegli. Radio & TV N 42:64+ Nov '49

GE variable reluctance pickup. A. Douglas. Electronic Eng 21:21 Jan '49

High-fidelity response from phonograph pickups. Elwin J. O'Brien. Electronics 22:118+ Mar '49

Improved lacquer disc recording head. H. E. Roys. Audio Eng 33:21-23 Feb '49. Also in Broadcast N No 53:50 Feb '49

Microgroove in your recording room. C. J. LeBel. Audio Rec pt 1 5:4 Jan '49; pt 2 5:3-4 Feb '49; pt 3 5:4 Mar '49

New plano pickup. Ralph M. Baruch. Radio Ser Dead 10:24-25+ Jan '49

New polyphase reproducer system. Maximilian Weil. Audio Eng 33:13-14+ June '49

Pickup design. T. S. Marshall. Wireless World 55:454-456 Nov '49

Pickup placement. B. B. Bauer. Electronics 22:87+ June '49

Some aspects of phonograph pickup design. W. R. Nicholas. IRE Proc (Australia) 10:63+ Mar '49

Universal phonograph styli. J. D. Reid. Acoust Soc Am J 21:590-592 Nov '49

Variable-disk-speed method of measuring the frequency characteristics of pick-ups. P. R. Terry. BBC Quart 4:176-178 Oct '49

Variable speed turntable and its use in the calibration of disk reproducing pickups. H. E Haynes and H. E Roys. NEC Proc '49

Patents

Capacity type pickup, Chester M Sinnett, 2,465,288, 17 cl. Appl Mar 31, '44; granted Mar 22, '49

Connection means for phonograph pickups, Walter J Brown and Alfred W. W. Williams, 2,485,137, 7 cl Appl Oct 30, '44; granted Oct 18, '49

Dual purpose transducer with recording damping means, William K. Rieber, 2,476,685, 10 cl. Appl Jan 26, '46, granted July 19, '49

Electromagnetic pickup, Harvey F. Schwarz, 2,469,933, 14 cl. Appl Oct 19, '45; granted May 10, '49

Electron tube type phonograph reproducer, James F Gordon, 2,482,972, 6 cl. Appl Sep 10, '45; granted Sep 27, '49

Magnetic transducer having an irregular nonmagnetic gap, Hugh A. Howell, 2,469,266, 2 cl. Appl Aug 14, '46; granted May 3, '49

Means for mounting the armature of a magnetic phonograph record reproducer and recording head, Ralph William Nicholls, 2,466,469, 3 cl. Appl Oct 26, '45; granted Apr 5, '49

Phonograph needle, William H. Hutter, 2,473,374, 1 cl. Appl Apr 26, '45; granted June 14, '49

Phonograph pickup, Ray F. Corbett, 2,482,467, 3 cl. Appl May 10, '46; granted Sep 20, '49

Phonograph pickup, Roy Dally, 2,480,907, 8 cl. Appl June 20, '45; granted Sep 6, '49

Phonograph pickup device, Elmer O. Thompson, 2,480,272, 2 cl. Appl Jan 20, '44; granted Aug 30, '49

Phonograph pickup having fulcrum suspended drive arm, Benjamin B. Bauer, 2,486,099, 8 cl. Appl Mar 14, '46; granted Oct 25, '49

Phonograph pickup having plastic torsion arm, William H. Hutter, 2,476,414, 6 cl. Appl May 24, '45; granted July 19, '49

Phonograph pickup unit, Stanley R. Rich, 2,484,960, 8 cl. Appl Mar 8, '46; granted Oct 18, '49

Phonograph pickup unit using magnetostrictive wire, Stanley R. Rich, 2,471,542, 8 cl. Appl Oct 25, '45; granted May 31, '49

PHONOGRAPHIC PICKUPS and RECORDING HEADS, *Patents*–Cont'd.

Phonograph pickup with mechanical filter, Henry P. Kalmus, 2,473,650, 2 cl. Appl June 10, '43; granted June 21, '49

Phonograph transducer, William K. Rieber, 2,476,-684, 13 cl. Appl Oct 12, '45; granted July 19, '49

Phonographic transducer device, George C. Tibbetts, 2,474,993, 4 cl. Appl Nov 29, '45; granted July 5, '49

Tone arm and pickup assembly, Clarence F. Jensen, 2,475,785, 6 cl. Appl Mar 18, '47; granted July 12, '49

Variable inductance signal translating device, Henry S. Huff, 2,475,185, 5 cl. Appl Oct 31, '46; granted July 5, '49

Variable reluctance device, Charles F. Coake, 2,466,-382, 6 cl. Appl Aug 5, '44; granted Apr 5, '49

Variable resistance phonograph pickup, Robert B. Albright, 2,471,601, 8 cl. Appl Apr 28, '44; granted May 31, '49

Variable resistance phonograph pickup, William S. Bachman, 2,491,794, 15 cl. Appl Nov 28, '44; granted Dec 20, '49

Variable resistance phonograph pickup and system, Walter L. Eckhardt and Madison Cawein, 2,476,-848, 16 cl. Appl July 5, '45; granted July 19, '49

PHONOGRAPHIC PICKUPS and RECORDING HEADS, Magnetic

Alignment of magnetic recording heads. B. F. Murphy. Audio Eng 33:12-13+ Jan '49

Magnetic tape and head alignment nomenclature. N. M. Haynes. Audio Eng 33:22-24+ June '49

Moving iron pickups. E. H. Francis. Wireless World 53:285-286 Aug '47

Patents

Combined erasing and recording magnetic transducer, Marvin Camras, 2,475,421, 3 cl. Appl May 30, '45; granted July 5, '49

Electrostatic pickup, William H. Unger, 2,482,081, 5 cl. Appl Dec 19, '44; granted Sep 13, '49

Magnetic phonograph pickup, Lionel B. Cornwell, 2,485,432, 22 cl. Appl Nov 28, '45; granted Oct 18, '49

Magnetic pickup device and method of balancing the device, Emmett M. Irwin, 2,491,736, 11 cl. Appl Apr 18, '46; granted Dec 20, '49

Magnetic recorder head, Marvin Camras, 2,479,308, 7 cl. Appl Mar 17, '45; granted Aug 16, '49

Magnetic recording head, Marvin Camras, 2,481,393, 2 cl. Appl May 30, '45; granted Sep 6, '49

Magnetic transducer with wear-resistant guide surfaces, Ernst Keller and Franz Roggen, 2,484,097, 2 cl. Appl Mar 20, '45; granted Oct 11, '49

Magnetron-type phonograph pickup, Hans Kohn Richards, 2,473,820, 5 cl. Appl Feb 20, '47; granted June 21, '49

Phono-pickup, James F. Gordon, 2,483,196, 5 cl. Appl Apr 11, '47; granted Sep 27, '49

PHONOGRAPHIC RECORDERS

Application of supersonic energy to high speed electronic recording. H. J. Dana and J. L. Van Meter. NEC Proc '49

Design of recording systems. L. A. Wortman. FM-TV pt 1 9:24-26 Oct '49; pt 2 9:25-30 Nov '49; pt 3 9:21-26 Dec '49

Development of mobile recording technique. M. J. L. Pulling. BBC Quart 4:179-192 Oct '49

Experiment in stereophonic sound. L. D. Grignon. Soc Motion Picture Eng J 52:280-292 Mar '49

High-quality recording electronic mixer. D. Singer. Soc Motion Picture Eng J 52:676-683 June '49

Limitations of sound recording. S. J. Begun. Communications 29:28-29+ Aug '49

Musical terminology. E. T. Canby. Audio Eng 33: 22+ July '49

New transducers, amplifiers and test equipment for audio applications. Monthly column. Tele-Tech

Plastics in German sound recording systems. German Industry Rep. BIOS 1379 Brit Govt Pub

Producing broadcast quality telephone recordings. Adelbert Kelley. Communications 29:12+ Mar '49

Recording tape to disc. C. J. LeBel. Audio Rec 5: 3 Apr '49

Some factors governing the choice of a high-quality recording and reproducing system. G. F. Dutton. IRE Proc (Australia) 10:269-275 Oct '49

Sound recording, reproducing and other electro-acoustic targets. German Industry Rep. BIOS 1176 Brit Govt Pub

Stereophon sound recording system developed by Dr. Carlheinz Becker. German Industry Rep. CIOS XXVII-46 Brit Govt Pub

Stereophonic sound recording. L. D. Grignon. FM-TV 9:28 Apr '49

Telephonograph recording system. German Industry Rep. FIAT 1163 Brit Govt Pub

Patents

Combined recorder and reproducer, Serge Alexander Scherbatskoy, 2,477,144, 9 cl. Appl Feb 18 '43; granted July 26, '49

Combined recording and reproducing, Serge A Scherbatskoy, 2,477,146, 13 cl. Appl Mar 23, '45 granted July 26, '49

Method and apparatus for controlling frequency characteristics in sound recording. Michael Rettinger and Kurt Singer, 2,458,641, 9 cl. Appl May 8, '45; granted Jan 11, '49

Multitone keyer, John P. Lekas, 2,492,160, 1 cl. App Dec 3, '45; granted Dec 27, '49

Phonographic apparatus, Henry E. Roys, 2,491,215, cl. Appl May 29, '44; granted Dec 13, '49

Phonographic apparatus, William D. Rieber, 2,479,-640, 8 cl. Appl Oct 12, '45; granted Aug 23, '49

See also

Phonographic Pickups & Recording Heads

PHONOGRAPHIC RECORDERS, Disc

Audio measurements. John D. Goodell. Radio & TV N 41:10-12+ Jan '49

Commercial disc recording and processing. B. E. G Mittell. IEE Proc pt III 96:130+ Mar '49

Considerations on disk recording and reproduction P. H. Werner. Tech Mitt Schweiz. 27:168-17 Aug '49

Contrast expansion. L. J. Wheeler. Wireless Worl 55:211-215 June '49

PHONOGRAPHIC RECORDERS, Disc–Cont'd.

Disk recorder for motion picture production. J. L. Pettus. Soc Motion Picture Eng J 52:417-426 Apr '49

Disc recording for broadcast stations. W. J. Mahoney. Audio Eng 33:9-13+ Apr '49

Importance of groove fit in lateral recordings. D. R. Andrews. Audio Eng 33:18-19 July '49

Lateral feedback disc recorders. G. R. Yenzer. Audio Eng 33:22-26+ Sep '49

New horizons in phonograph recording techniques. (Schallplattentechnik auf neuen wegen) Karl-Erik Gondesen. Fernmeldetech Zeit 2:383-387 Dec '49

Quality disc recorder. Richard H. Dorf. Radio-Electronics 20:38-40 Apr '49

Recent progress in disc recording. (Les recents progres de l'enregistrement sur disque) M. Adam. Tech Mod 41:393 Dec '49

Recording characteristics. C. G. McProud. Audio Eng 33:20+ Dec '49

Reproduction of disks and records for broadcasting. J. W. Godfrey. BBC Quart 4:170-175 Oct '49

33⅓ — 45 RPM frequency conversion supply. F. K. Brown. Communications 29:19+ Sep '49

Slow-speed record changer. Vin Zeluff. Electronics 22:136+ June '49

Some problems of disc recording for broadcasting purposes. F. O. Viol. IRE Proc (Australia) 10:42+ Feb '49

Synchronous disk recorder drive. C. C. Davis. Soc Motion Picture Eng J 52:427-433 Apr '49

Time extension of sound recordings. (Einrichtung zur zeitlichen Dehnung von Schallaufzeichnungen) Schiesser. Funk und Ton 3:256-260 May '49

To go on record. Bak Rev 21:12-13 July '49

Patents

Frequency-modulation recording and reproducing and its combination with a radio receiver, Walter van B. Roberts, 2,488,936, 22 cl. Appl Dec 12, '40; granted Nov 22, '49

Noise reduction sound system and method, Barton Kreuzer, 2,468,210, 7 cl. Appl Feb 28, '45; granted Apr 26, '49

Record disk cutting device, Arthur H. Sultan, 2,489,685, 3 cl. Appl Aug 20, '47; granted Nov 29, '49

Reverse re-recording system, Lincoln Thompson, 2,466,186, 2 cl. Appl Mar 13, '43; granted Apr 5, '49

Sound recorder, George P. Brubaker, 2,463,513, 10 cl. Appl June 28, '43; granted Mar 8, '49

See also

Phonographic Pickups & Recording Heads

PHONOGRAPHIC RECORDERS, Magnetic

Adapting home recorders for professional use. John B. Ledbetter. Radio & TV N 41:47+ Feb '49

Analysis of magnetic recording. C. S. Thompson. Elec Eng 68:793 Sep '49

Application of experimental test procedures and methods of analysis of results to research problems in magnetic recording. C. S. Thompson. AIEE Proc section 9107:1-11 Apr '49

Arrangement for making magnetic sound recording visible for microscopic research. PB 97013

Factors affecting frequency response and distortion in magnetic recording. J. S. Boyers. Audio Eng 32:18+ May '48

Graphical analysis of linear magnetic recording using high-frequency excitation. Marvin Camras. IRE Proc 37:569-573 May '49

High frequency magnetophon magnetic sound recorders. German Industry Rep. FIAT 705 Brit Govt Pub

Limitations of sound recording. S. J. Begun. Communications 29:28-29+ Aug '49

Low cost precision magnetic recorder for professional use. M. J. Stolaroff. Audio Eng 33:17-18+ Aug '49

Magnetic recording. M. Alixant. Radio Tech Dig 3:259-301 Oct '49. In French

Magnetic recording. S. J. Begun. Sci Mon 69:192-197 Sep '49. Also in FM-TV 9:28 May '49

Magnetic recording in motion picture techniques. J. G. Frayne and H. Wolfe. Soc Motion Picture Eng J 53:217-235 Sep '49

Magnetic recording in the motion picture studio. W. A. Mueller and G. R. Groves. Soc Motion Picture Eng J 52:605-612 June '49

Magnetic recording technique. Desmond Roe. Wireless World 55:362-364 Oct '49

Magnetophon sound recording and reproducing system. German Industry Rep. BIOS 951 Brit Govt Pub

Making magnetic recordings visible. Audio Eng 33:23 Apr '49

Measuring procedures for magnetic recording. Audio Eng 33:19+ Apr '49

Mechanism of the supersonic bias. Angelo Montani. Elec Eng 68:511 June '49

Minute magnetic patterns. Nat Bur Stand Tech Bul 33:3-4 Jan '49

New magnetic record duplicating process. M. Camras. NEC Proc '49

New method of measuring bias. C. J. LeBel. Audio Rec 5:3 June-July '49

Noise in magnetic recording systems as influenced by the characteristics of bias and erase signals. J. W. Gratian. Acoust Soc Am J 21:74-81 Mar '49

Progress in the field of magnetic sound recording. (Fortschritte auf dem Gebiete der Magnettonaufzeichnung) A. Springer. Frequenz 3:38-47 Feb '49

Some distinctive properties of magnetic-recording media. R. Herr and others. Soc Motion Picture Eng J 52:77-87 Jan '49

Stereophonic magnetic recorder. Marvin Camras. IRE Proc 37:442-447 Apr '49

Technical data, reports and specifications covering vacuum tubes, frequency meters, voltage dividers, magnetic recorders, etc., 1940-1945. PB 84905. In German

Techniques for improved magnetic recording. L. C. Holmes. Elec Eng 68:836-841 Oct '49

What is supersonic bias? Angelo Montani. Radio-Electronics 20:47-48 Jan '49

PHONOGRAPHIC RECORDERS, Magnetic–Cont'd.

Patents

Apparatus for producing reentrant magnetic records, John Hays Hammond, jr., 2,475,742, 7 cl. Appl Apr 17, '46; granted July 12, '49

Bifilar magnetic recording system, Marvin Camras, 2,481,904, 3 cl. Appl Mar 17, '45; granted Sep 13, '49

Drive system for magnetic recorders, Willard H. Wade, 2,482,887, 11 cl. Appl Oct 25, '45; granted Sep 27, '49

Head for magnetic recording machines, Thomas H. Long, 2,468,601, 11 cl. Appl Dec 28, '45; granted Apr 26, '49

Magazine for magnetic recording and reproducing devices, Marvin Camras, 2,484,552, 8 cl. Appl July 17, '44; granted Oct 11, '49

Magazine type magnetic recorder, Herman Nygaard, 2,487,170, 6 cl. Appl Apr 16, '47; granted Nov 8, '49

Magazine type magnetic recording apparatus, Earle L. Kent, 2,480,742, 6 cl. Appl May 30, '45; granted Aug 30, '49

Magazine type-magnetic recording apparatus, Walter J. Haloski, 2,476,599, 5 cl. Appl Aug 23, '45; granted July 19, '49

Magnetic recorder method and means, Hugh A. Howell, 2,484,568, 3 cl. Appl Oct 18, '46; granted Oct 11, '49

Magnetic recorder unit, William P. Lear, 2,485,451, 9 cl. Appl Oct 30, '45; granted Oct 18, '49

Magnetic recording and reproducing device with means to prevent accidental erase of record medium, 2,466,514, 3 cl. Appl Nov 23, '44; granted Apr 5, '49

Magnetic recording apparatus, Leland B. Greenleaf, 2,483,729, 9 cl. Appl Dec 1, '44; granted Oct 4, '49

Magnetic sound recorder utilizing varying cathode currents, Shirley Irving Weiss, 2,485,539, 3 cl. Appl June 6, '45; granted Oct 18, '49

Magnetic sound recording and reproducing transducer, Henry E. Roys, 2,469,444, 1 cl. Appl Apr 30, '45; granted May 10, '49

Signal recording apparatus, Henry E. Roys, 2,475,-200, 5 cl. Appl June 28, '45; granted July 5, '49

See also

Phonographic Pickups & Recording Heads, Magnetic

PHONOGRAPHIC RECORDERS, Magnetic Tape

Choosing a tape recorder. C. J. LeBel. Audio Rec 5:2-4 Aug-Sep '49

Development and operation of the tape recorder. (Entwicklung und Wirkungsweise des Bandmagnetophons) Radio Tech 25:131-132 Feb '49

Development of magnetic-tape recorders. B. E. G. Mittell. Engineering 167:264 Mar 18, '49

Duplicating magnetic tape by contact printing. M. Camras and R. Herr. Electronics 22:78-83 Dec '49

Duplicating tape recordings. R. Marchant. Electronics 22:72-76 July '49

Duplication of magnetic tape recordings by contact printing. R. Herr. Tele-Tech 8:28-30+ Nov '49. Also in NEC Proc '49

Eicor model 1000 tape recorder. Radio-Electronics 21:50-52 Nov '49

Factors affecting spurious printing in magnetic tapes. S. W. Johnson. Soc Motion Picture Eng J 52:619-627 June '49

Further studies in magnetophones and tapes. German Industry Rep. FIAT 923 Brit Govt Pub

Magnetic tape erasure by permanent magnets. R. Herr. Audio Eng 33:14-16+ Aug '49

Magnetic tape recorder. Engineer 188:198-199 Aug 10, '49

Magnetic tape recording for amateur movies. (Enregistrement magnetique du son pour cinema d'amateur) Toute la Radio No 139:286-287 Oct '49

Measurements of speed variations of magnetic tape recorders. (Betriebsmaessige Messung von Gleichlaufschwankungen an Magnetofonen) Enkel. Funk und Ton 3:104-106 Feb '49

Modern tape recorders. C. A. Tuthill. Radio Ser Deal pt 1 10:15-16+ May '49; pt 2 10:13-15+ June '49

Modulation noise. C. J. LeBel. Audio Rec 5:3 Dec '49

Multiple tape recorder. FM-TV 9:30+ Mar '49

New method of measuring bias in tape recorders. C. J. LeBel. Audio Rec 5:3 June-July '49

New portable tape recorder performs with studio quality. W. E. Stewart. Tele-Tech 8:40+ Apr '49. Also in Broadcast N No 54:6 Apr '49

New professional tape recorder. Tele-Tech 8:34+ Mar '49

New tape recorder kit. Radio-Electronics 20:42 Sep '49

Portable magnetic tape broadcasting recorder. C. C. Harris. Communications 29:6-7 Dec '49

Portable tape units. A. Jorysz. FM-TV 9:24+ Nov '49

Recent progress in magnetic tape recording. (Recents progres de l'enregistrement sonore sur ru an magnetique) Tech Mod 41:27-28 Jan '49

Tape recorder time clock control. William Marsh. Communications 29:24+ Apr '49

Tape recordings invade literary field. Audio Rec 5:4 Nov '49

Patents

Interchangeable magnetic transducer and switching system, Donald E. Ross and W. Stofer, 2,468,782, 9 cl. Appl Sep 11, '46; granted May 3, '49

Magazine type magnetic recorder with multiple lane tape and traversing transducer, Herman S. Heller, 2,468,198, 24 cl. Appl Aug 3, '45; granted Apr 26, '49

Movable supporting base for sound record tape, Jacob M. Kuhlik, 2,487,976, 2 cl. Appl Oct 15, '43; granted Nov 15, '49

Tapes

Development and manufacture of tapes for magnetic recorders. Pfaumer. PB 97131. In German

Plastic-base audiotape. C. J. LeBel. Audio Rec 5:2-3 Oct '49

Recording tapes. (Magnetophonbaender) Radio Tech 25:715-716 Dec '49

Research problems of tape. C. J. LeBel. Audio Rec 5:3-4 May '49

Tape characteristics for audio quality. R. Marchant. Tele-Tech 8:30-33+ July '49

PHONOGRAPHIC RECORDERS, Magnetic Tape–Cont'd.

See also

Phonographic Pickups & Recording Heads, Magnetic

PHONOGRAPHIC RECORDING, Magnetic Wire

Design considerations for magnetic wire recording. T. Wroblewski. Sylvan Tech 2:6-11 Jan '49

Egg records on wire. Vin Zeluff. Electronics 22: 162+ Feb '49

Experiments with wire recorder. (Magnetofon-Eksperimenter) Radio Ekko 12:115 June '49

Home made wire recorder. (Lydoptager-Aggregat til Selvbygning) Radio Ekko pt 1 11:213-215 Nov '48; pt 2 12:10-14 Jan '49; pt 3 12:31-34 Feb '49

Magnetic band and wire recorders. (Om magnetiski Baand- og Traadoptagere) Radio Ekko 12:93-95 May '49

Magnetic fields surrounding recording wires. Irvin L. Cooter. Elec Eng 68:433 May '49

Radio set and service review (Air King A725 wire recorder). Radio-Electronics 20:48-49 May '49

Wire recorder techniques. Vin Zeluff. Electronics 22:160+ Jan '49

Patents

Magnetic transducer adapted to compensate for twisting of record wire, David E. Sunstein, 2,469,-750, 20 cl. Appl July 3, '45; granted May 10, '49

Magnetic transducing apparatus utilizing a helical sound trace, William E. Bradley, 2,461,368, 13 cl. Appl Dec 19, '44; granted Feb 8, '49

Recording process utilizing the magnetic field of a current conducted by the record member, William A. Brasted and Lester F. Borchardt, 2,483,-398, 12 cl. Appl Mar 3, '45; granted Oct 4, '49

Wire feed for magnetic recorders, Irving A. Stone, 2,467,507, 4 cl. Appl July 3, '46; granted Apr 19, '49

Wire recorder, Colin B. Dale, 2,481,004, 6 cl. Appl June 19, '47; granted Sep 6, '49

Wire recorder indicator, Merlin O. Petroff, 2,460,-190, 6 cl. Appl Mar 21, '46; granted Jan 25, '49

See also

Phonographic Pickups & Recording Heads, Magnetic

PHONOGRAPHS

Frequency correction in phonograph reproduction. (Frekvenskorrektur ved Grammofon-Gengivelse) Radio Ekko 12:92 May '49

Home recording studio. Radio & TV N 42:57 Nov '49

Versatile phonograph preamplifier. Paul St. George and Benjamin B. Drisko. Audio Eng 33:14-16+ Mar '49

Patents

Automatic phonograph, Carl G. Johnson, 2,484,570, 9 cl. Appl Mar 31, '45; granted Oct 11, '49

Automatic phonograph, Fritz George Zandelin and Ernst Bernhard Ingelstrom, 2,484,775, 5 cl. Appl Mar 6, '44; granted Oct 11, '49

Automatic phonograph, James L. Donaldson Morrison, 2,488,137, 30 cl. Appl Oct 27, '41; granted Nov 15, '49

Combination sound and visual reproduction apparatus, Mortimer Abrahams and George Gould, 2,491,944, 3 cl. Appl Dec 19, '46; granted Dec 20, '49

Combined recording and reproducing device, William K. Rieber, 2,482,212, 6 cl. Appl Dec 22, '45; granted Sep 20, '49

Door operated phonographic apparatus, Elmer O. Deaver, 2,485,575, 2 cl. Appl Apr 18, '45; granted Oct 25, '49

Drive for phonographs and the like, Earle W. Ballentine and Sven A. Stolberg, 2,480,623, 12 cl. Appl May 12, '44; granted Aug 30, '49

Frequency modulation phonograph system, Madison G. Nicholson, jr., 2,490,277, 10 cl. Appl Dec 22, '45; granted Dec 6, '49

Frequency modulation reproducing system, Chester M. Sinnett, 2,481,886, 22 cl. Appl Sep 23, '42; granted Sep 13, '49

Intermission device for automatic phonographs, Erik Wennerbo, 2,481,270, 3 cl. Appl Mar 12, '45; granted Sep 6, '49

Magazine phonograph, Erik Wennerbo and Helge Noren, 2,486,898, 17 cl. Appl Nov 29, '43; granted Nov 1, '49

Modulated-oscillator type phonograph reproducing system, Henry P. Kalmus, 2,489,378, 5 cl. Appl Mar 31, '45; granted Nov 29, '49

Modulated-oscillator type signal translating apparatus, Henry P. Kalmus, 2,489,379, 7 cl. Appl Apr 13, '46; granted Nov 29, '49

Phonograph drive, George E. Redfield, 2,479,512, 7 cl. Appl Nov 26, '49; granted Aug 16, '49

Phonograph-record arm mounting, Robert M. Cain, 2,478,234, 6 cl. Appl June 14, '46; granted Aug 9, '49

Phonograph recording arm clamp, Lincoln Thompson, 2,478,722, 6 cl. Appl Sep 8, '45; granted Aug 9, '49

Phonograph with moving stylus and stationary record, Richard G. Leitner, 2,486,661, 6 cl. Appl Sep 30, '42; granted Nov 1, '49

Phonograph with moving stylus and stationary record, Richard G. Leitner, 2,486,662, 13 cl. Appl Sep 30, '42; granted Nov 1, '49

Record changer, Milton A. Walker, 2,489,941, 7 cl. Appl May 3, '44; granted Nov 29, '49

Record changing device, Sven Gustaf Falk, 2,476,-715, 1 cl. Appl Nov 29, '43; granted July 19, '49

Selector for automatic phonographs, Herman G. Jensen, 2,489,782, 9 cl. Appl Nov 4, '44; granted Nov 29, '49

Sound translating device, Richard G. Leitner, 2,478,-538, 8 cl. Appl Sep 30, '42; granted Aug 9, '49

Spiral sound record strip, Richard G. Leitner, 2,478,-539, 4 cl. Appl Jan 18, '43; granted Aug 9, '49

Starting device for non-self starting phonograph motors, Herman Cornelis Van Doorn, 2,478,346, 5 cl. Appl July 3, '46; granted Aug 9, '49

Tone control, John Drysdale Reid and Paul F. G. Holst, 2,474,191, 5 cl. Appl June 6, '47; granted June 21, '49

Voice reproducing instrument, Ned Bullian, 2,489,-857, 1 cl. Appl Oct 20, '45; granted Nov 29, '49

PHONOGRAPHS–Cont'd.

See also

Amplification & Amplifiers, Audio
Phonographic Pickups & Recording Heads
Phonographic Recorders

PHONOGRAPHS, Disc

American microgroove records. D. W. Aldous. Wireless World 55:146+ Apr '49

Analysis of the two frequency intermodulation method of tracing distortion encountered in phonograph reproduction. H. E. Roys. RCA Rev 10:254-269 June '49

Characteristics of the new 45 RPM record. Audio Eng 33:6+ Mar '49

Columbia long-playing microgroove recording system. P. C. Goldmark and others. IRE Proc 37:923-927 Aug '49

Connecting 45 RPM record players to receivers. Radio Ser Deal 10:22-24 May '49

Connecting record players to old and new receivers. C. H. Lowndes. Radio-TV Ap Sales 5:33-34 Jan '49

How and why of RCA Victor's new record and player. D. D. Cole. Audio Rec 5:1-3 Mar '49

LP record changers. Radio & TV Ret 49:94+ Apr '49

LP records and record changers. Radio & TV Ret 49:70+ Mar '49

Making new 45 RPM records and record players. Radio Age 8:16+ Apr '49

"New look" in popular records. Tom Gootee. Radio & TV N 41:41+ Mar '49

New phonograph and record. Radio Age 8:9+ Jan '49

New record design. Vin Zeluff. Electronics 22: 126+ Mar '49

New standards for phonograph records. Werner. Tech Mitt Schweiz 27:168-178 Aug '49. In French and German

Putting microgrooves on the air. W. C. McClung and W. H. Flint, jr. Radio & TV N 42:37+ Aug '49

RCA Victor record and reproducing system. Radio & TV Ret 49:86+ May '49

Record changer and record of complementary design. B. R. Carson and others. RCA Rev 10: 173-190 June '49

Records under the microscope. Wireless World 55: 497 Dec '49

Tracing distortion in phonograph records. Murlan S. Corrington. RCA Rev 10:241-253 June '49

Patents

Apparatus for uninterrupted reproduction of disk phonograph records, Robert E. Stanton, 2,462,435, 5 cl. Appl May 15, '45; granted Feb 22, '49

Automatic phonograph, Edward F. Andrews, 2,458,-496, 28 cl. Appl May 4, '42; granted Jan 11, '49

Automatic phonograph, James A. Davis and Irving Gil, 2,482,659, 37 cl. Appl Oct 6, '41; granted Sep 20, '49

Drawer operated phonograph, Emil I. Harman, 2,475,744, 18 cl. Appl Feb 26, '44; granted July 12, '49

Multiple record support for phonographs, Harold Walker, 2,472,964, 11 cl. Appl Dec 28, '43; granted June 14, '49

Multiple record support for phonographs, William E. Rudolph, 2,472,960, 9 cl. Appl Dec 28, '43; granted June 14, '49

Phonograph record changer, Earle G. Henry, 2,476,-865, 6 cl. Appl Dec 17, '42; granted July 19, '49

Record changer gear and trip mechanism, Walter Miller and James L. D. Morrison, 2,487,771, 6 cl. Appl Sep 4, '46; granted Nov 8, '49

Record changing phonograph, Colin B. Dale, 2,490,-678, 1 cl. Appl Aug 30, '43; granted Dec 6, '49

Repeat device for automatic phonographs, Sven A. Stolberg, 2,473,829, 5 cl. Appl Apr 23, '45; granted June 21, '49

Start and stop control for phonographs, Carl G. Johnson, 2,477,130, 6 cl. Appl Apr 11, '46; granted July 26, '49

Variable inductance frequency modulation phonograph system, Robert Boudreaux, 2,466,201, 6 cl. Appl Dec 11, '44; granted Apr 5, '49

Turntables

Construction of a broadcast station record turntable. Herbert G. Eidson, jr. Audio Eng 33:24-25 May '49

Disc jockey remote turntable. W. Marsh. Communications 29:12-13 Dec '49

Dual-speed turntable motor. Machine Design 21: 136-137 Feb '49

How to shock mount 70 series turntables. W. E. Stewart. Broadcast N No 53:7 Feb '49

Measuring turntable speed fluctuations. E. W. Berth-Jones. Wireless World 55:471-474 Dec '49

Patents

Dual-speed phonograph turntable drive utilizing two motors, Wilton E. Boyd, jr., 2,490,667, 9 cl. Appl Aug 23, '48; granted Dec 6, '49

Turntable drive, Frederick G. Buhrendorf, 2,491,-247, 2 cl. Appl Nov 13, '46; granted Dec 13, '49

Turntable drive system, Thomas C. Sharp, 2,485,848, 4 cl. Appl Feb 12, '47; granted Oct 25, '49

See also

Phonographic Pickups & Recording Heads
Phonographic Recorders, Disc

PHONOGRAPHS, Magnetic

Patents

Humbucking arrangement for magnetic transducers, Charles W. Clapp, 2,483,123, 5 cl. Appl Nov 2, '44; granted Sep 27, '49

Magnetic recording and reproducing apparatus using an endless spirally wound magnetic tape, Semi Joseph Degun, 2,490,771, 20 cl. Appl Sep 6, '45; granted Dec 13, '49

Magnetic reproducer using endless tape records, Wilden A. Munson, 2,468,224, 2 cl. Appl May 11, '45; granted Apr 26, '49

Magnetic transducer adapted to compensate for twisting of the record wire, Howard E. Tompkins, 2,471,251, 18 cl. Appl Sep 6, '45; granted May 24, '49

Method and apparatus for reproduction of angular magnetic recording, David E. Sunstein, 2,458,315, 18 cl. Appl May 3, '45; granted Jan 4, '49

PHONOGRAPHS, Magnetic, *Patents*–Cont'd.

Selector system for magnetic wire reproducers, Marion S. Danisch, 2,481,398, 8 cl. Appl June 29, '45; granted Sep 6, '49

Transducing system to compensate for torsion in a magnetic record wire, Jacob Neufeld, 2,476,110, 2 cl. Appl Sep 8, '44; granted July 12, '49

See also

Phonographic Pickups & Recording Heads, Magnetic
Phonographic Recorders, Magnetic

PHOSPHORS

See

Atomic Measurements, Scintillation Counters, Phosphors

Cathode Ray Tubes, Screens

Illumination and Photometry, Fluorescent, Phosphors

PHOTOELECTRIC TUBES

Application of the condenser method to determine the sign of the carrier of photocurrent. E. K. Putseiko. Akad Nauk Dok 67:1009-1012 '49. In Russian

Centers of photoelectric emission of alkali-antimony cathodes. R. Suhrmann and G. Kressin. PB 18218t

Design features and some applications of a new photocell. J. H. Crow and V. C. Rideout. NEC Proc '49

Electro-optical shutter for photographic purposes. A. M. Zarem and others. AIEE Proc section 924: 1-8 Apr '49

"Equilibrium spectrum" of shower electrons. P. G. Borzyak and N. D. Morgulis. Akad Nauk Dok 61: 624-628 '48. In Russian

Function and circuits of the photocell. (Funktion und schaltungstechnik der photozelle) Radio Tech 25:250-254 Apr '49

German photoconducting cells for the detection of infra-red radiation. German Industry Rep. BIOS 2 Brit Govt Pub

High sensitivity pre-amplifier for photo-cells. (Hochempfindliche vorverstaerker fuer fotozellen) Funk und Ton 3:239-240 Apr '49

Longitudinal photoconductivity and photoelectromotive forces. V. E. Lashkarev. Zh Eksp Teor Fiz 18:953-961 Nov '48. In Russian

Measure of parasitic modulation rate in various light sources. (Mesure du taux de modulation parasits de diverses sources lumineuses) R. Lemas. Electronique 31:12-13 May '49

Method of studying the microstructure of photocathodes with help of an electron microscope. A. I. Frumer and I. G. Sinitskaya. Akad Nauk Dok 66:49-51 '49. In Russian

Multilayer photocells. H. Mayer. Zeit f Phys 124: 345-347 '48

Photocell amplifier. (Ein photozellenverstaerker) Radio Tech 25:468-470 Aug '49

Photocells developed by Elektroakustik laboratories. E. Kutzscher. PB 96904

Photocells, photoelements, and photoresistances. (Photozellen, photoelente und photowiderstaende) Elektron Wiss und Tech 3:473-476 Dec '49

Photoelectric and thermionic properties of nickel. A. B. Cardwell. Phys Rev 76:125-127 July 1, '49

Photoelectric phenomena and their applications. (I fenomeni fotoelettrici e le loro applicazioni) B. Pelissero. Elettronica 4:135-141 July '49

Photoelectric pressure and movement gauges. Engineering 168:216 Aug 26, '49

Photoelectric properties of alkali layers of atomic thickness. H. Mayer. Zeit f Phys 124:326-344 '48

Photosurfaces. Report on German development of photocells, electron multipliers, television pick-up tubes. BIOS 530 Brit Govt Pub

Phototube characteristics as influenced by small amounts of gas. A. H. Taylor. Gen Elec Rev 52:43+ June '49

Power from photocells. Vin Zeluff. Electronics 22: 148+ Jan '49

Servicing photo-electric equipment. W. R. Wellman. Radio Ser Deal pt 1 10:21-22 Oct '49; pt 2 10:15-16 Dec '49

Some semimetallic characteristics of the photoelectric emission from As, Sb, and Bi. L. Apker and others. Phys Rev 76:270-272 July 15, '49

Surface photoelectric effect. R. E. B. Makinson. Phys Rev 75:1908-1911 June 15, '49

Theory of internal photoeffect on polarons and color centers. M. F. Deigen. Zh Eksp Teor Fiz 18:818-824 Sep '48. In Russian

Patents

Photoelectric cell and method of manufacturing it. Johannes Gijsbertus Wilhelm Mulder, 2,491,199, 5 cl. Appl Feb 14, '47; granted Dec 13, '49

Phototube housing with selectable filters, Monroe Hamilton Sweet, 2,484,323, 6 cl. Appl Sep 17, '48; granted Oct 11, '49

Phototube power supply circuit, Frank J. Moles and Philip C. Michel, 2,492,759, 1 cl. Appl Sep 13, '46; granted Dec 27, '49

Photoconductive

Comparison of lead-sulfide photoconductive cells with photoemissive tubes. N. Anderson and S. Pakswer. Soc Motion Picture Eng J 52:41-48 Jan '49

Direct recording of spectra in region 1.2 to 3 using the lead sulfide photo-conductive cell. R. C. Nelson. Opt Soc Am J 39:68+ Jan '49

Electric and photoelectric properties of lead selenide and lead sulfide. B. Gudden. PB 96902

Influence of admixtures of sulfur on the electrical properties of selenium. N. V. Afanas'ev. Zh Tekn Fiz 19:225-230 Feb '49. In Russian

Lead sulfide photo elements. P. Guillery. PB 96906

Lead sulfide photoconductive cells. S. Pakswer. Electronics 22:111+ May '49

Method for production of photo-sensitive layers of very high resistance with PbS as infra-red-sensitive semiconductor. K. Frank and K. Raithel. Zeit f Phys 126:377-382 May 27, '49

"Nonlinear" photoconductivity of cuprous oxide. V. E. Lashkarev and G. A. Fedorus. Akad Nauk Dok 64:195-198 '49

Photoconductivity of some intermetallic compounds. V. P. Zhuze and others. Zh Tekn Fiz 18:1494-1497 Dec '48. In Rusian

PHOTOELECTRIC TUBES, Photoconductive–Cont'd.

Photoconductors of bismuth sulfide. B. T. Kolomiets. Zh Tekn Fiz 19:126-131 Jan '49. In Russian

Photoeffects in semi-conductors. Elec Eng 68:937-942 Nov '49

Photoelectric properties of cadmium-sulphide single-crystals. J. Fassbender. Ann Phys Lpz 5:33-50 June '49

Physical characteristics of silver-sulfur photoelements. V. E. Kosenko and E. G. Miselyuk. Zh Tekn Fiz 18:1369-1377 '48

Properties of lead sulfide photocells. M. Trou. PB 96903

Self-generating photoelectric cells. Vickers Elec Div Bul Cat No VC 4000 Feb 15, '49

Silver sulfide photoelements and their application to photometry. E. G. Miselyuk and V. E. Kosenko. Akad Nayk Izvest 12:669 Sep-Oct '48. In Russian

Structure performance characteristics of silver-sulfur photoelements. I. R. Potapenko. Zh Tekn Fiz 18:1356-1368 Nov '48. In Russian

Temperature variation of long-wave limit of infrared photoconductivity in lead sulphide and similar substances. T. K. Moss. Phys Soc Proc section B 62:741-748 Nov '49

Temporary and temperature dependent photoconductivity of colored alkali-halide crystals. G. E. Zil'berman. Zh Eksp Teor Fiz 19:140-154 '49

Test procedure for lead sulfide cells. Sommer. PB 96905

Photoresistive

New germanium photo-resistance cell. (Letter) J. N. Shive. Phys Rev 76:575 Aug 15, '49

Photovoltaic

Barrier-type photo-cell amplifier. T. A. Ledward. Electrician 143:2036-2042 Dec 23, '49

Efficiency of the selenium barrier-photocell when used as a converter of light into electrical energy. E. Billig and K. W. Plessner. Phil Mag 40:568-572 May '49

Photoelectromotive forces in cuprous oxide. V. E. Lashkarev and K. M. Kosonogova. Zh Eksp Teo Fiz 18:927-936 Oct '48. In Russian

Selenium photo-electric cells. Electrician 143:1955-1956 Dec 16, '49

See also

Conduction & Conductors, Semiconductors
Electron Emission, Photoelectric
Illumination & Photometry, Photometry, Meters
Industrial Controls, Photoelectric
Test Equipment, Product Testing

PHOTOELECTRIC TUBES, Devices

Automatic indicator for coloured fuels flowing in a pipeline. J. Savage and M. Squires. Inst Pet J 34:878-887 Nov '48

Changing light into sound. (Luz em som.) Radio J 1:7 Aug '49

Electric eye controls truck traffic signals. Eng N 142:19 Mar 10, '49

Electronic reading aid for the blind. V. K. Zworykin and L. E. Flory. PB 80665

Electronic reading aids. Radio Age 8:29+ Jan '49

Inexpensive photoelectric burglar alarm. Charles M. Thorne. Radio & TV N 42:44-45 Sep '49

Letter reading machine. V. K. Zworykin and others. Electronics 22:80+ June '49

Measuring color and turbidity of white sugar solutions development of photoelectric methods and apparatus. T. R. Gillett and others. Anal Chem 21:1228-1233 Oct '49

Modified photoelectric apparatus for permeability studies. F. R. Hunter. Science 109:119+ Feb 4, '49

Photoelectric cells sift microfilm records. Product Eng 20:104-105 Sep '49

Photoelectric estimation of suspended solids in sewage. L. R. Setter and others. Sewage Works J 21:14-22 Jan '49

Photoelectric librarian. John Markus. Electronics 22:122+ Sep '49

Photoelectric measurements on cool flames. L. Oullet and others. Jour Chem Phys 17:746-747 Aug '49

Photoelectric relay with variety of uses. Harold Pallatz. Radio-Electronics 20:53 Feb '49

Photoelectric waveform generator. David E. Sunstein. Electronics 22:100+ Feb '49

Positive feed permits high-speed packaging of small parts. Product Eng 20:104-105 Oct '49

Race finish recorder. J. C. Beckman and E. M. Whitley. Electronics 22:98-100 Dec '49

Reading aid for the blind pronounces printed letters. Frank H. Rockett. Electronics 22:130+ Jan '49

Reading machine for the blind. (Lesemaschine fuer blinde.) Radio Tech 25:633-634 Nov '49

Robot reader. Sci Am 180:26-27 May '49

Patents

Device for modifying electrical signals, Alfred Simmon, 2,474,380, 2 cl. Appl Dec 12, '47; granted June 28, '49

Method of operating photoelectric devices, Maximilian Julius Otto Strutt and Aldert van der Ziel, 2,469,852, 3 cl. Appl July 16, '46; granted May 10, '49

Object detecting and indicating device, Frederick W. Lyle, 2,473,893, 5 cl. Appl Sep 19, '41; granted June 21, '49

Photoelectric apparatus for determining the physical properties of substances by alternating exposure to light, Lock White, jr., 2,486,622, 1 cl. Appl Oct 30, '47; granted Nov 1, '49

Photoelectric curve following device, Miles A. McLennan, 2,489,305, 10 cl. Appl Feb 12, '48; granted Nov 29, '49

Photoelectric scanner for register regulation, Frank Slamar, 2,486,334, 6 cl. Appl Sep 25, '48; granted Oct 25, '49

Photoelectric scanning device for copying machines, Ernest Albert Cooke and Alan Henry Greenhalgh, 2,464,293, 14 cl. Appl Mar 18, '47; granted Mar 15, '49

Signal generator or modulator, John R. Shonnard, 2,459,293, 3 cl. Appl Aug 15, '46; granted Jan 18, '49

PHOTOELECTRIC TUBES, Devices-Cont'd.

See also

Illumination & Photometry, Photometry, Meters
Industrial Controls, Photoelectric
Safety Devices & Practices

PHOTOELECTRIC TUBES, Multipliers

Characteristics of electronic photomultipliers used as scintillation detectors. I. M. Ageno and others. Nuovo Cim 4:217-227 May '49. In Italian

Electronic devices with effective emitters of secondary electrons. R. M. Aranovich. Akad Nauk Dok 8:346-351 '44

Electronic multiplier. M.S. thesis. Clinton Samuel Walker. Ohio State U E. E. Dept Sep '48

New design for a secondary-emission trigger tube. C. F. Miller and W. S. McLean. IRE Proc 37: 952-954 Aug '49

New electron multiplier photo-tube. T. Coor. Off of Naval Res (London) Rep NP-709 7pp Jan 20, '49 AEC

Photoelectric multipliers. S. Rodda. Jour Sci Instr 26:65+ Mar '49

Photosurfaces. Report on German development of photocells, electron multiplier, television pick-up tubes. BIOS 530 Brit Govt Pub

RCA 1P21 photomultiplier tube as a gamma ray detector. J. D. Graves and G. E. Koch. Naval Radiological Defense Lab Rep ADP-105 20 pp Apr 13 '49 AEC

Secondary electron multipliers. (Die Sekundaerelektronen-vervielfacher.) Elektron Wiss und Tech 3:175-182 May '49

Variations of background noise in the glass type RCA-931-A photomultiplier with applied voltage. (Sur la variation du bruit de fond d'un photomultiplicateur RCA-931-A avec le potentiel de l'enveloppe en verre) C. Taylor. Jour Phys & Rad 10:255-256 July-Sep '49

Patents

Electronic discharge device for electronic multiplication, Maurice Arditi, 2,462,059, 7 cl. Appl Apr 1, '43; granted Feb 22, '49

Electron Multipliers

Electron multiplier tubes. Developments and uses. (Les cellules a multiplicateurs d'electrons. Developments, utilizations.) A. Lallemand. Jour Phys & Rad 10:235-243 July-Sep '49

Investigation of filamentary secondary multiplier tube IF amplifier. P. T. Maresca. PB 97111

Microwave secondary electron multiplier. M. H. Greenblatt. Rev Sci Instr 20:646-650 Sep '49

Report on an electron multiplier. H. Stoddart. 17 pp Sep 20, '49 AECU 564

Secondary electron multiplier as a particle counter. 3 pp '48 AECD 1956

Patents

Secondary electron emission tube. Walter Soller, 2,458,539, 4 cl. Orig appl Aug 19, '43; divided and this appl Aug 28, '44; granted Jan 11, '49

PHOTOGRAPHIC APPLICATIONS

Cathode-ray tube applications in photography and optics. C. Berkley and R. Feldt. Electronic Eng pt 1 21:115-120 Apr '49; pt 2 21:169-172 May '49

Dark-room lighting. G. D. Rieck. Philips Tech Rev 11:53-61 Aug '49

Discriminator for photographic analyzer (circuit diagram) MDDC 558

Electricity in photography; electric speedlights. Arthur Palme. Am Photog 43:586-587 Sep '49

Electro-optical shutter for photography. A. M. Zarem and others. Elec Eng 68:282-288 Apr '49

Exposure meter for photomicrography. AECD 2271 5 pp '48

Photoflash unit for your camera. W. C. Brown. Radio-Electronics 20:40-41 May '49

Recent research on pulsed light sources. W. T. Whelan. Elec Eng 68:224 Mar '49

Simple electronic flash gun. Lyman E. Greenlee. Radio-Electronics 20:48-49 Feb '49

Synchronized microtime photographic techniques A. M. Zarem. Elec Eng 68:345 Apr '49

Wireless extension flash unit. Glen Southworth. Radio & TV N 42:64-65 Oct '49

Patents

Aerial camera with photoelectric means responsive to illumination bomb for operating grid shutter, Oscar Steiner, 2,485,119, 2 cl. Appl June 20, '45; granted Oct 18, '49

Cathode-ray tube device to measure density differences of photographic transparencies, Alfred Simmon, 2,467,057, 5 cl. Appl Dec 24, '47; granted Apr 12, '49

Exposure timing mechanism, Walter L. Linde, 2,463,985, 2 cl. Appl Feb 13, '48; granted Mar 8, '49

Extinction type exposure meter with automatic eye sensitivity compensation, Karl Rath, 2,484,735, 3 cl. Appl Oct 23, '45; granted Oct 11, '49

Flash bulb igniter, Albert K. Edgerton, 2,486,010, 3 cl. Appl Oct 7, '46; granted Oct 25, '49

Photographic printing exposure control method and apparatus, Jacob Rabinowitz, 2,469,076, 15 cl. Appl May 18, '45; granted May 3, '49

Speed control for movable illuminators, George E. Moen, jr., 2,487,066, 6 cl. Appl Jan 30, '46; granted Nov 8, '49

Submarine radiation apparatus and photographic method, Theodore F. Schwartz and Alfred Leo Giorgi, 2,478,842, 6 cl. Appl Jan 19, '45; granted Aug 9, '49

System for timing exposure interval of photographic prints, Ervin D. Labrum, 2,484,299, 7 cl. Appl Oct 20, '47; granted Oct 11, '49

Testing device for camera synchronizers, Philip K. McGall, 2,475,104, 6 cl. Appl May 8, '46; granted July 5, '49

Testing mechanism for photographic flash lamps, Alfred L. Lidfeldt and Clarence Pickens, 2,467,-591, 3 cl. Appl May 15, '47; granted Apr 19, '49

Timing device for camera shutters, George H. Coleman, 2,477,578, 1 cl. Appl July 25, '46; granted Aug 2, '49

See also

Illumination & Photometry, Photometry, Meter
Sound Films & Projection

PHOTOMETRY

See Illumination and Photometry

PHYSICS, SOLID STATE

Basis of the electron theory of metals, with special reference to the transition metals. N. F. Mott. Phys Soc Proc section A 62:416-421 July '49

Breakdown of ionic crystals by electron avalanches. Avon Hippel and R. S. Alger. Phys Rev 76:127-133 July 1, '49

Distribution of electron density in a lattice of metallic copper. V. K. Kritskaya and B. M. Rovinski. Zh Eksp Teor Fiz 18:785-789 Sep '48. In Russian

Electric breakdown in ionic crystals. H. B. Callen. Phys Rev 76:1394-1402 Nov 1 '49

Electronic states in perturbed periodic systems. H. M. James. Phys Rev 76:1611-1624 Dec 1, '49

Electronic structure of metals. R. Kronig. Physica 15:1-12 Apr '49

Electrons in perturbed periodic lattices. J. C. Slater. Phys Rev 76:1592-1601 Dec 1, '49

Elementary principles of solid-state physics. G. C. Kuczynski. Sylvan Tech pt 1 Metals. 2:6-9 July '49; pt 2 Semiconductors. 2:8-12 Oct '49

Energy of electrical fluctuations in conductors. E. Ya. Pumper. Zh Eksp Teor Fiz 18:1112-1129 Dec '48. In Russian

Lectures on theory of the solid state (with applications to graphite). P. R. Wallace. NRC 1694

Mechanism of electrification of solid and liquid bodies upon pulverization. Ya. I. Frenkel'. Zh Eksp Teor Fiz 18:799-806 Sep '48. In Russian

Resonance transfer of electronic energy in organic crystals. D. J. Brown and others. Phys Soc Proc series A 62:26+ Jan 1, '49

Solid. F. Seitz. Phys Today 2:18-22 June '49

Some electronic properties of a one-dimensional crystal model. David S. Saxon and R. A. Hutner. Philips Res Rep 4:82-122 Apr '49

Theory of electron multiplication in crystals. F. Seitz. Phys Rev 76:1376-1393 Nov 1, '49

Theory of interaction of electrons in the crystal lattice. Multiple electron model of metals and semiconductors. S. V. Vonsovski. Akad Nauk Izvest 12:337-352 July-Aug '48. In Russian

Theory of rectification. (Abstract) Frederick Seitz. IRE Proc 37:176 Feb '49

See also

Conduction & Conductors, Semiconductors
Conduction & Conductors, Superconductors
Crystals
Dielectrics
Magnets & Magnetic Materials
Materials
Resistance & Resistors, Low Temperature

POTENTIOMETERS and RHEOSTATS

Logarithmic potentiometer for photographic densitometry. J. A. Hall. Jour Sci Instr 26:365-366 Nov '49

More uniform control achieved with taper-wound rheostats. Ohmite N Nov '49

Some facts about the replacement of volume controls. C. H. Lowndes. Radio-TV Ap Sales 5:32-33 Mar '49

Theory of the potentiometer and its application to some problems of electrical engineering. G. L. Epshtein. Akad Nauk Izvest 3:447-449 '49. In Russian

Universal parabolic rheostats. P. I. Muzychenko. Akad Nauk Izvest 3:445-446 '49. In Russian

Versatile voltage-divider. P. K. McElroy. Gen Rad Exp pt 1 23:5-8 Feb '49; pt 2 23:4-8 May '49; pt 3 24:4-8 Aug '49

Patents

Adjustable resistor of tubular type, Donald F. Hastings and Robert H. Winkler, 2,473,246, 8 cl. Appl Nov 7, '45; granted June 14, '49

Apparatus for testing adjustable resistances, James O. Hamilton and Leon J. Rozankowski, 2,469,465, 8 cl. Appl July 20, '45; granted May 10, '49

Electrical potentiometer device, Le Roy Armitage, 2,480,995, 1 cl. Appl Aug 27, '47; granted Sep 6, '49

Electrical rheostat device, Donald Francis Hastings, 2,473,247, 9 cl. Appl Feb 23, '46; granted June 14, '49

Measuring device compromising a variable potentiometer, Max Leeuwin and Max Lopez, 2,476,881, 6 cl. Appl Apr 24, '46; granted July 19, '49

Potentiometer, Willard J. Opocensky, 2,461,843, 17 cl. Appl Mar 11, '46; granted Feb 15, '49

Resistance element for rheostats and potentiometers, De Witt T. Van Alen, 2,468,144, 14 cl. Appl July 2, '45; granted Apr 26, '49

Rheostat, Lincoln K. Davis, 2,472,369, 12 cl. Appl Sep 11, '43; granted June 7, '49

Rheostat with rotating arm, John P. Smith, jr., 2,465,940, 4 cl. Appl Jan 30, '47; granted Mar 29, '49

Rheostat with switch, John G. Kunz, jr., 2,469,924, 16 cl. Appl Feb 6, '47; granted May 10, '49

Sealed potentiometer, Irving Gordy, 2,457,814, 6 cl. Appl Aug 9, '46; granted Jan 4, '49

Unitary volume-control switch and dialite assembly, 2,457,920, 2 cl. Appl Sep 6, '46; granted Jan 4, '49

Variable compound resistor, John T. Beechlyn, 2,473,409, 1 cl. Appl Apr 10, '45; granted June 14, '49

Variable resistance unit, Arnold O. Beckman, 2,473,-048, 17 cl. Appl Oct 22, '45; granted June 14, '49

See also

Bridges
Motors, Controls

POWER SUPPLIES

A-battery eliminator. Ryland Hobson. Radio-Electronics 20:52-53 Apr '49

Build this experimenter's power supply. Rufus P. Turner. Radio & TV N 42:64+ Sep '49

Compact dual purpose power-pack. RSGB Bul 24:200-201 Feb '49

Contact rectifier for heavy currents by Siemens Schuckert, Berlin. German Industry Rep. BIOS 408 Brit Govt Pub

Dynamotor power supplies. Robert W. Carter. FM-TV 9:25-26+ July '49

Economical mains boosting system. C. B. Raithby. RSGB Bul 24:171 Jan '49

POWER SUPPLIES–Cont'd.

Electromechanically stabilized mains supply unit. A. E. Maine. Electronic Eng 21:319-321 Sep '49

Heater-compensated power supply. Radio & TV N (Eng Ed) 42:8+ Nov '49

Heating filaments of valves in a cascade generator by means of high-frequency current. T. Douma and H. P. J. Brekoo. Philips Tech Rev 11:123-128 Oct '49

Improving supply to test car sets. Harry S. Leeper. Radio-Electronics 20:50-51 Jan '49

Low-impedance variable-voltage tappings. M. G. Scroggie. Wireless World 55:2+ Jan '49

Miniature counter-tube power supply. D. L. Collins. Electronics 22:170-173 Aug '49

Model 50 power supply (1 fig.) MDDC 593

On a cycle right for you! W. H. Anderson. CQ 5:31+ Sep '49

Power-distribution panel. B. B. Boss. QST 33: 30-31 Aug '49

Power pack design. P. E. Leventhal. Short Wave Mag pt 1 6:877-880 Feb '49; pt 2 7:45-49 Mar '49

Power pack PP-51/APQ9. G. P. Anderson. Short Wave Mag 7:118-119 Apr '49

Power supply. MDDC 826

SCR-274N selenium supply. Lloyd V. Broderson. CQ 5:31-32 Oct '49

Selecting caboose power supply for radio communication. E. H. Musgrove. Ry Mech Eng 123:34-35 Jan '49

Technical data, reports and specifications covering vacuum tubes, frequency meters, voltage dividers, magnetic recorders etc., 1940-1945. PB 84905. In German

Test unit power supply. MDDC 915

Thyratron variable voltage supply. (Une alimentation a tension variable.) F. Haas. Toute la Radio No 141:15-17 Dec '49

Transformerless power supplies. Radio Ser Deal 10: 22-23 Aug '49

Variable bias pack. J. B. Roscoe. Short Wave Mag 7:57-58 Mar '49

Versatile power supply. K. F. Butcher. Wireless World 55:21+ Jan '49

Versatile voltage divider. P. G. McElroy. Gen Rad Exp pt 1 23:1-3 Feb '49; pt 2 23:1-3 May '49

Voltage supplies for the mass spectrograph. June '46 PB 95391

Patents

Amplifier power supply, Robert Adler and Henry P. Kalmus, 2,476,174, 3 cl. Appl Nov 10, '45; granted July 12, '49

Circuit arrangement for cathode-ray tubes, Frank Howard Taylor, 2,465,406, 5 cl. Appl Mar 22, '47; granted Mar 29, '49

Control circuit, John R. Boykin, 2,476,804, 6 cl. Appl June 25, '45; granted July 19, '49

Control circuit for gas tubes, Clokius H. Willis, 2,476,790, 2 cl. Appl Oct 16, '48; granted July 19, '49

Control of energy supplied to translating devices, Mark Audier, 2,458,131, 8 cl. Appl Oct 20, '45; granted Jan 4, '49

Control system, Theodore A. Rich, 2,467,856, 3 cl. Appl Oct 31, '45; granted Apr 19, '49

Current supply system, Arthur L. Quirk, 2,464,940, 5 cl. Appl Dec 9, '44; granted Mar 22, '49

Direct-current power supply, Louis W. Reinken, 2,467,336, 3 cl. Appl Oct 29, '45; granted Apr 12, '49

Direct current power supply system, Herbert Ziebolz, 2,489,996, 4 cl. Appl Aug 15, '47; granted Nov 29, '49

Electric control apparatus for variable loads, Herbert Doane Van Sciver, 2,472,044, 10 cl. Appl June 14, '46; granted May 31, '49

Electric valve control circuits, Maurice E. Bivens, 2,473,238, 20 cl. Appl Apr 19, '47; granted June 14, '49

Electric valve device, Hans Keller, Hans Blatter, and Werner Imobersteg, 2,478,764, 3 cl. Appl Oct 22, '45; granted Aug 9, '49

Electrical control system, Edwin M. Callender, 2,472,043, 18 cl. Appl Nov 23, '45; granted May 31, '49

Filament voltage supply, Joseph F. Marshall, 2,466,-250 4 cl. Appl Dec 4, '47; granted Apr 5, '49

Generator, Charles W. Jarvis, 2,460,790, 4 cl. Appl Mar 11, '46; granted Feb 1, '49

Grid controlled polyphase rectifier, Felix A. Obloy, 2,473,386, 10 cl. Appl July 24, '47; granted June 14, '49

Impulse type power supply, Elbert W. Marlowe and Howard A. Wilcox, 2,470,895, 1 cl. Appl Dec 13, '45; granted May 24, '49

Inverter, Hans Klemperer, 2,475,621, 10 cl. Appl Sep 20, '45; granted July 12, '49

Moving contact electric current converter, Alexander Goldstein, 2,465,682, 11 cl. Appl Aug 7, '47; granted Mar 29, '49

Percentage power control apparatus, Richard Stillman Davies, 2,472,042, 22 cl. Appl Apr 5, '44; granted May 31, '49

Polyphase supply circuit, John H. Andresen, jr. and Edward Kasner, 2,472,507, 5 cl. Appl Oct 19, '46; granted June 7, '49

Potentiometric circuit, Ivan A. Greenwood, jr., 2,473,334, 9 cl. Appl Aug 27, '48; granted June 14, '49

Power converter system, Clarence W. Hansell, 2,483,766, 16 cl. Appl Dec 29, '42; granted Oct 4, '49

Power supply apparatus, Albert G. Owen, 2,488,321, 6 cl. Appl Feb 8, '47; granted Nov 15, '49

Power supply circuit means, Charles J. Mullin, 2,478,303, 1 cl. Appl May 3, '45; granted Aug 9, '49

Power supply system, Hendrikus Gerardus Alphonsus Bax, 2,459,486, 5 cl. Appl Dec 4, '46; granted Jan 18, '49

Power supply system, Robert M. Phinney, 2,475,252, 4 cl. Appl Nov 21, '46; granted July 5, '49

Power supply system for carrier communication systems, Richard Kelly, 2,474,255, 2 cl. Appl Feb 27, '45; granted June 28, '49

Radio-frequency oscillator power supply circuits, Ronald Dean Boadle, 2,459,988, 6 cl. Appl June 12, '45; granted Jan 25, '49

Rectifying apparatus, George W. Meszaros, 2,467,-329, 7 cl. Appl June 22, '45; granted Apr 12, '49

POWER SUPPLIES, *Patents*–Cont'd.

Thermionic valve circuits, Maurice Moise Levy, 2,468,087, 7 cl. Appl Jan 18, '44; granted Apr 26, '49

Voltage distribution system, Hans W. G. Salinger and Harold W. Beach, 2,472,727, 8 cl. Appl Nov 27, '46; granted June 7, '49

Voltage doubler, George D. Harding, 2,492,746, 2 cl. Appl Jan 8, '47; granted Dec 27, '49

Voltage doubler circuits, William George Bird, 2,463,509, 3 cl. Appl Feb 18, '46; granted Mar 8, '49

Voltage multiplier circuit, Samuel J. Harris, 2,467,-744, 3 cl. Appl Aug 1, '47; granted Apr 19, '49

See also

Chokes
Filters
Rectifiers
Regulation
Transformers

POWER SUPPLIES, Filters

Calculation of power supply filters. (Le calcul des filtres d'alimentation.) L. Thourel. Electronique 36:12-16 Oct '49

Filters and voltage doublers. F. A. Annett. Power 93:126-128+ Mar '49

Half-wave filters. QST 33:36-38 Dec '49

Tuned filters. Rufus P. Turner. Radio Serv Deal 10:22-23+ Jan '49

See also

Chokes
Filters

POWER SUPPLIES, High Voltage

Constant voltage sources for TV receivers. H. U. Hjermstad. Service 18:16+ June '49

Economical high voltage supply for counter tubes. (Ein materialsparendes hoch spannungsgeraet fuer zaehlrohre.) Weis. Naturwiss 36:87 '49

HF high voltage generator. Telev Franc 52:26 Oct '49. In French

High voltage, pulse-type, radio-frequency power supply. 7 pp '46 AECD 2145. Also PB 96451

High-voltage supplies for radiation-measuring equipment. (Abstract) Richard Weissman and Stewart Fox. IRE Proc 37:168 Feb '49

HT supply for television receivers. C. H. Banthorpe. Electronic Eng 21:456 Dec '49

Input power requirements of television receivers. S. C. Spielman. Elec Eng 68:291-293 Apr '49

5 to 8 kv radio frequency EHT unit. Electronic Eng 21:174 May '49

25 kv high voltage generator. (Hochspannungsgeraet fuer 25 kv) Radio Tech 25:163-164 Mar '49

30 kv D. C. regulated power supply. William Spellman. Radio & TV N 41:16-17+ May '49

30 kv power supply. MDDC 900

New television power supplies use selenium rectifiers. G. Eannarino. Radio & TV N 40:54-56 Sep '48

Picture tube high voltage system. A. Lytel. Radio Ser Deal 10:11-13+ July '49

Portable high-voltage power supply. V. Wouk. Electronics 22:108-112 July '49

Power supplies for home television receivers. V. Wouk. Elec Eng 68:1061-1064 Dec '49

Radio frequency high voltage power supplies. G. W. C. Mathers. NRC 1725

RF coil for RF high voltage power supply (voltage doubler type) (circuit diagram). MDDC 109

RF high voltage power supply (voltage doubler type) (circuit diagram). MDDC 108

Some additions to the theory of radio-frequency high-voltage supplies. George W. C. Mathers. IRE Proc 37:199-206 Feb '49

Stable high-voltage RF power supply. Louis E. Garner, jr. Radio & TV N 41:58+ Apr '49

Stabilized high voltage supplies for chambers and counters. W. A. Higinbotham. 27 pp Dec 1, '48 AECU 265

Stabilized high voltage power supply for electrostatic analyzer. R. L. Henkel and B. Petree. Rev Sci Instr 20:729-732 Oct '49. Also AECU 558

Stabilised very high voltage supplies. (Tres haute tension stabilisee.) F. Haas. Toute la Radio No 135:155 May '49

Television E. H. T. (extra-high voltage) supply. W. T. Cocking. Wireless World 53:207-211 June '47

Television E. H. T. supply; pts 1 and 2. A. H. B. Walker. Wireless World 54:120-125+ Apr-May '48

Television high-voltage supplies. H. C. Pleak. Sylvan N 16:T29-T31 Sep '49

Transformerless power supplies for television receivers. F. Juster. Telev Franc 49:6-12 July '49. In French

160/1500 volt regulated power supply. 18 pp '46 MDDC 778

1500 volt RF power supply: coil data and circuit diagram. MDDC 106

Voltage multiplier systems in TV receivers. M. Mandl and N. Sher. Radio & TV Ret 50:114-115 July '49. Also in Tele-Tech 8:26+ May '49

Patents

High-potential power supply, John Evans, 2,458,577, 15 cl. Appl July 2, '45; granted Jan 11, '49

High-voltage power supply, George W. Fyler, 2,459,638, 2 cl. Appl Apr 7, '48; granted Jan 18, '49

High-voltage power supply, Ralph C. Kennedy, 2,490,733, 11 cl. Appl Apr 9, '48; granted Dec 6, '49

Method and means for operating high voltage static current converters using ionic valves, Johannes Hansen, 2,485,198, 7 cl. Appl Jan 10, '47; granted Oct 18, '49

Regulated high-voltage apparatus, Robert R. Thalner, 2,475,063, 9 cl. Appl Feb 24, '44; granted July 5, '49

POWER SUPPLIES, Regulated

Cathode heater compensation as applied to degenerative voltage-stabilized direct-current power supplies. R. C. Ellenwood and H. E. Sorrows. Nat Bur Stand Res J 43:251-255 Sep '49

Development of a regulated 28-volt direct current supply. Ph.D. thesis. W. C. Peck. E.E. Dept Purdue U Aug '47

POWER SUPPLIES, Regulated–Cont'd.

Dynamic impedance of regulated power supplies. J. S. Hershey. Bell Lab Rec 27:216-220 June '49

Laboratory manual for general purpose regulated DC supplies types ERA-156A and ERA-156B. E. F. V. Robinson and P. Bennett. PB 97121

Power supply with voltage regulator. (Das stabilisierte netzgeraet.) Brueck. Funk und Ton 3: 224-229 Apr '49

Regulated adjustable low-voltage DC supply for electrolysis and other uses. M. L. Greenough. Elec Eng 68:332 Apr '49

Regulated power supply. (Alimentation stabilisee par tubes a vide.) L. Bruck. Electronique 28: 16-18 Jan-Feb '49

Regulated power supply. (Une nouvelle alimentation stabilisee.) R. Brachet. Electronique 31: 20-23 May '49

Regulated power supply 45V, 300V and 150V for fast sweep chassis. MDDC 929

Regulated supply (circuit diagram). MDDC 84

Stabilized 100A power supply. D. E. Caro. Jour Sci Instr 26:374-377 Nov '49

Stabilized power unit for the BC 221. Martyn Booty. RSGB Bul 24:194-196 Feb '49

Patents

Regulated current supply apparatus, David E. Trucksess, 2,467,347, 9 cl. Appl Feb 6, '47; granted Apr 12, '49

Regulated power supply, Louis F. Mayle, 2,467,765, 14 cl. Appl Apr 25, '47; granted Apr 19, '49

Regulated radio frequency power supply, Louis W. Parker, 2,485,652, 6 cl. Appl Nov 10, '47; granted Oct 25, '49

Stabilized power supply, Jan van der Heem, 2,459,-977, 2 cl. Appl Dec 18, '46; granted Jan 25, '49

POWER SUPPLIES, Vibrators

German progress on mechanical rectifier or contact converter. FIAT 515 Brit Govt Pub

How and why of vibrators. Cap pt 1 14:3-7 July '49; pt 2 14:3-7+ Aug '49

Receiver with 6V vibrator power supply. (Recepteur pour accumulateur 6V avec vibreur.) R. Geffre. Toute la Radio No 133:93-94 Feb '49

Thyratron replaces vibrator. Vin Zeluff. Electronics 22:140+ Aug '49

Vibrators. R. Tabard. Telev Franc 51:14-18 Sep '49. In French

Patents

Electric vibratory converter circuit, Thomas T. Short, 2,476,068, 3 cl. Appl Sep 21, '45; granted July 12, '49

High-frequency vibrator, Robert J. Aust and Clarence Huetten, 2,490,895, 11 cl. Appl Feb 22, '45; granted Dec 13, '49

High-frequency vibrator mechanism, Robert J. Aust, 2,473,353, 7 cl. Appl July 3, '44; granted June 14, '49

Inverter Motor, Arthur Leonard Anderson and Richard C. Burns, 2,459,611, 9 cl. Appl Aug 23, '45; granted Jan 18, '49

Vibrator circuit, Harold J. Brown and Joseph A. Mas, 2,459,866, 6 cl. Appl Nov 26, '43; granted Jan 25, '49

Vibrator power supply, Leonard O. Vladimir, 2,468,-578, 5 cl. Appl Dec 19, '47; granted Apr 26, '49

Vibratory direct current to alternating current converter, Ernest A. Tubbs, 2,476,931, 2 cl. Appl July 28, '44; granted July 19, '49

PRINTED CIRCUITS and MINIATURIZATION

Methods of printing electronic circuits. Product Eng 20:140 Aug '49

New advances in printed circuits. (Abstract) Product Eng 20:140 Aug '49

New advances in printed circuits. MI92 U.S. Govt Pub

New miniature printed circuit. Radio-Electronics 21:39 Oct '49

Paint your own printed circuits. Robert F. Bradley. Radio-Electronics 20:40-42 Sep '49

Printed circuit technique. Electrician 143:2107 Dec 30, '49

Practice of printed circuits. P. P. Hopf. Electronic Eng 21:125-128 Apr '49

Printed circuits. (Abstract) C. Brunette. Mech Eng 71:161-162 Feb '49

Printed circuits. John T. Frye. Radio & TV N 42: 46-48+ Dec '49

Printed circuits. APCO Bul pt 1 15:6-7 Jan '49; pt 2 15:10+ Feb '49; pt 3 15:10+ Mar '49

Printed circuits made by three different methods. Materials & Methods 29:97 Mar '49

Printed circuits produced by new process. Materials & Methods 29:110+ May '49

Resistors for deposited circuit techniques. W. R. Conway. Electronic Eng 21:403-408 Nov '49

Patents

Method of manufacturing electrical network circuits, John Adolph Sargrove, 2,474,988, 5 cl. Appl Aug 16, '44; granted July 5, '49

Miniaturization

Ceramic plate holds miniature electronic circuit. Product Eng 20:100 Aug '49

Circuit techniques for miniaturization. P. G. Sulzer. Electronics 22:98-99 Aug '49

400 mc receiver front end employing subminiature tubes and new miniature tuned circuits. V. H. Aske. Sylvan Tech 2:2-5 Oct '49

Miniature audio-frequency amplifier. W. T. Duerdoth and J. Garlick. P O Elec Eng J 41:228-233 Jan '49

Miniature thermionic valve handling equipment. Workshop technology column. Eng Digest 10: 249-250 July '49

Miniaturizing techniques as exemplified in the design of a compact 300-volt supply. P. Bennett and E. F. V. Robinson. Nov '48 PB 96663

Multiple component units. K. F. Gough. Electronic Eng 21:199 June '49

Pocket micro-receiver. Richard Henry. Radio-Electronics 20:31 Jan '49

Potted subassemblies for subminiature equipment. W. G. Tuller. Electronics 22:104-105 Sep '49

Subminiature call for new skills. Aviation W 50: 18+ Apr 11, '49

PRINTED CIRCUITS and MINIATURIZATION, Miniaturization–Cont'd.

Subminiaturization of intermediate frequency amplifiers. Nat Bur Stand Tech Bul 33:46-48 Apr '49. Also Radio & TV N 41:10-11 June '49

See also

Oscilloscopes & Oscillographs, Miniature
Reception & Receivers, Midget
Vacuum Tubes, Miniature

PROPAGATION OF WAVES

See Electromagnetic Theory

PUBLIC ADDRESS SYSTEMS

Auditory component control for the legitimate theatre. J. H. Beaumont. Audio Eng 33:15-17 July '49

Emergency operation of sound systems. E. Stanko. Intl Proj 24:14-16 Mar '49

High fidelity, low level, PA system for music distribution. Radio & TV Ret 50:58-59 Dec '49

How to lay out a typical PA installation. E. A. Campbell. Radio & TV Ret 49:68+ Mar '49

It's PA for big profits. Robert Stang. Radio Maint 5:18-19+ Sep '49

Mains-battery turntable. I. C. Hutcheson. Wireless World 55:375 Oct '49

Modern school sound system. A. W. Schneider. Audio Eng 33:11-14+ Sep '49

Operation of output valves in high-power public-address amplifiers. N. L. Bezladnov. Radiotekhnika 4:8-17 July-Aug '49. In Russian

PA and intercommunication installation and service. D. B. Black. Radio-TV Ap Sales pt 1 5:36-37+ June '49; pt 2 5:21 July '49

PA fault location. John B. Ledbetter. Radio Maint 5:15+ Dec '49

PA techniques for the coming elections. C. A. Tuthill. Radio Ser Deal 10:15-17+ Oct '49

Planning a factory PA. Conrad Eichorn. Radio-Electronics 20:82+ Mar '49

Powerful PA amplifier uses an 815. Gerald A. Chase. Radio-Electronics 20:90-91 Mar '49

Problems of installing PA systems in rooms with strong reverberation. (Problemes de sonorization des salles a forte reverberation) T. S. Korn. HF 4:103-108 '49

Public address system of the sports arena at Anvers. (L'istallazione sonora del palazzo dello sport di Anversa) T. S. Korn. Elettronica 4:23-26 Jan '49

Remote equipment and setups. Adelbert Kelley. Communications 29:12-13+ June '49

Servicing public address systems. John B. Ledbetter. Radio & TV N 42:70-71+ Nov '49

Sound can make money for you. Guy S. Cornish. Radio-Electronics 20:48-49 Apr '49

Sound installation servicing helps. I. Kamen. Service 18:22+ June '49

Sound system components. R. A. Mitchell. Intl Proj pt 1 23:5-6+ Nov '48; pt 2 23:5-8+ Dec '48; pt 3 24:5-8+ Jan '49; pt 4 24:12-15 Feb '49

Sound systems for large rooms. (Ueber die schallversorgung grosser kaume) Goebel. Fernmeldetech Zeit 2:57-63 Feb '49

100 volt line. R. Besson. Toute la Radio No 138: 261-263 Sep '49. In French

Patents

Automatic acoustic control for public address systems and the like, Grant N. Wetzel, 2,484,662, 4 cl. Appl Jan 24, '46; granted Oct 11, '49

Sound control system, Alfred E. Ekstrand, 2,466,216, 7 cl. Appl June 13, '47; granted Apr 5, '49

See also

Acoustics & Sound, Electroacoustical Systems
Loudspeakers & Baffles

PULSE CIRCUITS

Amplification of pulses by the gating methods. J. A. Fejer. S Afr IEE Trans 40:39-50 Feb '49

Contributions to the technique of dense normal frequency spectra. (Beitraege zur technik dichter normalfrequenzspektren) Elektron Wiss und Tech 3:444-447 Nov '49

Elimination of reflected pulse systems. Dayle O. Collup. Tele-Tech 8:38+ Jan '49

Peak-selector circuit. (Abstract) M. J. Parker. IRE Proc 37:173 Feb '49

Pulse amplifier. (Ein einfacher stromter-impulse-verstaerker) Meister. Arch Elek 39:550-560 '49

Pulse height distribution analyzer using a cathode ray tube. M.S. thesis. William Ellis Glenn. U Calif Eng Dept Feb '49

Pulse power measurement by a heterodyne method. Leonard S. Schwartz. Communications 29:26-27 Feb '49

Pulse-sine wave converter. W. M. Cameron. Electronics 22:174+ Mar '49

Pulse unit model 1. MDDC 827

Some properties of signals with limited spectra. J. Oswald. Compt Rend Acad Sci 229:21-22 July 4, '49

Transient response of an oscillatory circuit with current discharge. A. M. Hardie. Phil Mag 40: 748-759 July '49

Wide-range pulse shaper. Louis D. Stevens, jr. Radio & TV N 42:15+ Sep '49

Patents

Automatic gain control system, William M. Kellogg, 2,492,363, 3 cl. Appl Feb 1, '46; granted Dec 27, '49

Circuits for generating electric impulses, Frederick Harry Bray and Frank Ewart Newton, 2,462,066, 3 cl. Appl Nov 20, '43; granted Feb 22, '49

Circuits for pulsing essentially capacitive leads, Abe M. Zarem and Fred R. Marshall, 2,464,279, 15 cl. Appl Sep 26, '47; granted Mar 15, '49

Control arrangement for wave-signal receivers, Graham Isaac Thomas, 2,476,639, 3 cl. Appl Jan 17, '47; granted July 19, '49

Demodulator system for time modulated pulses, Max G. Hollabaugh, 2,462,100, 9 cl. Appl Apr 18, '46; granted Feb 22, '49

Discharge initiating circuit, Edward F. De Mers, 2,492,850, 5 cl. Appl Mar 29, '46; granted Dec 27, '49

Distributor phase corrector circuit, Warren A. Anderson, 2,465,185, 7 cl. Appl Nov 30, '45; granted Mar 22, '49

PULSE CIRCUITS, *Patents*–Cont'd.

Electric signal transmission system, Paul Francois Marie Gloess, 2,491,969, 7 cl. Appl Oct 14, '46; granted Dec 20, '49

Electrical circuits, Karl J. Stiefel, 2,480,681, 3 cl. Appl Aug 14, '46; granted Aug 30, '49

Electronic pulse shaping circuit, Jacob L. Rector, 2,462,897, 11 cl. Appl Oct 3, '44; granted Mar 1, '49

Gate distributor circuits, Larned A. Meacham, 2,486,491, 2 cl. Appl Feb 8, '46; granted Nov 1, '49

High-intensity pulsing circuits, Donald E. Watts, 2,487,768, 2 cl. Appl Aug 22, '41; granted Nov 8, '49

Impulse correcting repeater, Clarence E. Lomax and Roy W. Jones, 2,487,252, 9 cl. Appl May 1, '46; granted Nov 8, '49

Keyer circuit, Donald M. Lowe, 2,477,634, 5 cl. Appl July 16, '43; granted Aug 2, '49

Means for suppressing supernumerary pulses, Claud E. Cleeton, 2,489,269, 9 cl. Appl May 15, '40; granted Nov 29, '49

Potential matching electrical control system, Gerald Deakin, 2,492,135, 11 cl. Appl July 7, '45; granted Dec 27, '49

Pulse amplifier, Reuben Lee, 2,488,417, 1 cl. Appl Aug 26, '43; granted Nov 15, '49

Pulse circuits, Richard Proskauer, 2,464,259, 2 cl. Appl May 11, '44; granted Mar 15, '49

Pulse coding system, Eugene Cole, 2,492,134, 4 cl. Appl Nov 29, '47; granted Dec 27, '49

Pulse integrating circuits, James R. Day, 2,474,040, 10 cl. Appl Nov 16, '45; granted June 21, '49

Pulse length discriminator, Glenn H. Miller and James A. Krumhansl, 2,484,352, 6 cl. Appl Mar 26, '46; granted Oct 11, '49

Pulse modulation signaling system, Clarence W. Hansell, 2,470,698, 6 cl. Appl Aug 30, '45; divided and this appl May 13, '47; granted May 17, '49

Pulse synthesizing system, Donald D. Grieg, 2,483,-411, 5 cl. Appl Dec 19, '45; granted Oct 4, '49

Pulse testing equipment, Frank H. Hibbard, 2,457,-892, 10 cl. Appl June 26, '43; granted Jan 4, '49

Pulse translator, Donald D. Grieg, 2,462,860, 14 cl. Appl Mar 19, '45; granted Mar 1, '49

Pulse transmission system, George D. Hulst, jr., 2,472,706, 17 cl. Appl July 3, '43; granted June 7, '49

Pulse width control, John A. Buckbee, 2,490,026, 12 cl. Appl Oct 30, '44; granted Dec 6, '49

Pulser tube, Robert C. Hilliard, 2,464,762, 8 cl. Appl Sep 15, '45; granted Mar 15, '49

Pulsing circuit, Frank M. Pearsall, jr., 2,489,926, 9 cl. Appl Dec 23, '47; granted Nov 29, '49

Radio receiving system, David Arthur Bell, 2,489,-948, 3 cl. Appl Aug 14, '44; granted Nov 29, '49

Receiver for electrical pulses, Maurice Moise Levy, 2,476,985, 3 cl. Appl Jan 16, '45; granted July 26, '49

Receiver protective circuit for pulse transmission systems, Battle H. Klyce, jr., 2,460,755, 2 cl. Appl June 30, '45; granted Feb 1, '49

Receiving system for phase-keyed pulse signals, Gustav Guanella, 2,491,810, 5 cl. Appl Sep 18, '46; granted Dec 20, '49

System for producing amplitude-modulated pulses, William D. Houghton, 2,480,137, 21 cl. Appl May 9, '47; granted Aug 30, '49

System for translating pulse signals of variable time delay, Robert B. J. Brunn, 2,491,029, 17 cl. Appl July 11, '47; granted Dec 13, '49

Translation of duration modulated code pulses into equal length code pulses, Paul Francois Marie Gloess and Louis Joseph Libois, 2,485,821, 11 cl. Appl Apr 28, '49; granted Oct 25, '49

See also

Cathode-Ray Tubes, Circuits
Oscillation & Oscillators, Non-Sinusoidal
Trigger Circuits
Wave Shaping Circuits

PULSE CIRCUITS, Communications

Application of pulse modulation to multiple communication systems. R. R. Long. IRE Proc (Australia) 10:10+ Jan '49

Description and general characteristics of an impulse multiplex system, studied and installed at the C.N.E.T. (Description et characteristiques generales d'un equipment multiplex a impulsions etudie et mis au point au C.N.E.T.) J. Icole and G. Potier. Ann Telecomm 4:315-318 Aug-Sep '49

Impulse communication systems. (Sistemas de comunicacion por impulsos) Rev Telecom pp 30-47 June '49

Systems of pulse communication. S. Van Mierlo. HF pt 1 2:16-25 Jan '49; pt 2 2:45-51 Apr '49. In French

Technique for the design of pulse time multichannel radio systems. M. M. Levy. Brit IRE J 9:386-411 Nov '49

Patents

Blocking system for multichannel operation, Donald D. Grieg, 2,468,058, 6 cl. Appl Nov 23, '43; granted Apr 26, '49

Communication system, Robert E. Mumma and Francis X. Bucher, 2,466,467, 11 cl. Orig appl Feb 25, '43; divided and this appl May 30, '45; granted Apr 5, '49

Electrical signaling system, Harold Candeland and Zygmunt Konstanty Hass, 2,487,522, 2 cl. Appl Jan 16, '45; granted Nov 8, '49

Electronic distributor for multiplex pulse comunication systems, Max H. Mesner, 2,459,131, 17 cl. Appl Sep 24, '46; granted Jan 11, '49

Indicator circuit, Frederick W. Frink, 2,465,368, 15 cl. Appl Aug 9, '44; granted Mar 29, '49

Interference reducing radio pulse receiver, Clarence W. Hansell, 2,467,308, 5 cl. Appl Mar 17, '45; granted Apr 12, '49

Multichannel cyclophon, Maurice Arditi, Irwin Harold Franzel, and Joseph Feinstein, 2,474,810, 4 cl. Appl Mar 22, '47; granted July 5, '49

Multichannel electrical pulse communication system, Emile Labin, 2,462,874, 2 cl. Appl Aug 19, '44; granted Mar 1, '49

Multichannel pulse distributor system, Maurice Moise Levy, 2,452,111, 4 cl. Appl July 2, '45; granted Feb 22, '49

Multichannel time modulated electrical pulse communication system, Maurice Moise Levy, 2,489,302, 18 cl. Appl July 2, '45; granted Nov 29, '49

PULSE CIRCUITS, Communications, *Patents*–Cont'd.

Pulse code modulation communication system, John R. Pierce, 2,464,607, 16 cl. Appl July 9, '45; granted Mar 15, '49

Pulse code modulation receiver employing cathode-ray tube demodulators, George Hecht, 2,489,883, 9 cl. Appl Dec 28, '46; granted Nov 29, '49

Pulse communication, Orville E. Dow, 2,458,574, 20 cl. Appl Apr 10, '43; granted Jan 11, '49

Pulse receiving and repeating system, Clement M. Theillaumas, 2,462,144, 6 cl. Appl Apr 12, '46; granted Feb 22, '49

Pulse signaling system, Prafulla Kumar Chatterjea and Charles Thomas Scully, 2,476,959, 7 cl. Appl May 1, '45; granted July 26, '49

Pulse system, Clarence W. Hansell, 2,478,920, 23 cl. Appl Aug 4, '43; granted Aug 16, '49

Pulse system, Harold O. Peterson, 2,458,633, 3 cl. Appl Jan 5, '44; granted Jan 11, '49

Pulse time division multiplex system, Donald D. Grieg, 2,485,591, 4 cl. Appl Oct 30, '45; granted Oct 25, '49

Pulse type multiplex communication system, Clarence W. Hansell, 2,478,919, 12 cl. Appl July 17, '43; granted Aug 16, '49

Radio communicating system, Edmond M. Deloraine and Donald D. Grieg, 2,471,416, 9 cl. Appl Mar 28, '46; granted May 31, '49

Radio communicating system, Emile Labin, Donald D. Grieg, and Arnold M. Levine, 2,468,084, 2 cl. Orig appl Jan 8, '44; divided and this appl Mar 5, '45; granted Apr 26, '49

Radio communication system, Everhard H. B. Bartelink, 2,471,138, 5 cl. Appl Aug 16, '46; granted May 24, '49

Radio communication system, Prafulla Kumar Chatterjea and Leslie Wilfred Houghton, 2,462,-069, 10 cl. Appl May 7, '43; granted Feb 22, '49

Radio control system, Ellison S. Purington, 2,465,-925, 20 cl. Appl May 18, '44; granted Mar 29, '49

Two-way pulse multichannel system employing cathode-ray tube modulators, Emile Labin and Donald D. Grieg, 2,468,085, 3 cl. Appl Aug 24, '46; granted Apr 26, '49

See also

Communications, Secrecy Systems

PULSE CIRCUITS, Detectors

New pulse amplitude-discriminator circuit. E. H. Cooke-Yarborough. Jour Sci Instr 26:96+ Mar '49

Pulse detectors. (Discriminateurs a impulsions) L. Tourel. Electronique 32:14-16 June '49

Pulse transmission over long distances. (Abstract) J. A. Pierce. Jour Geophys Res 54:282-283 Sep '49

Response of frequency discriminators to pulses. E. F. Grant. IRE Proc 37:387-392 Apr '49

Patents

Arrangement for selection and demodulation of electrical pulses, Charles William Earp, 2,490,039, 13 cl. Appl Jan 16, '45; granted Dec 6, '49

Cathode-ray tube pulse separation and demodulation system, Emile Labin, 2,465,380, 8 cl. Appl Nov 25, '44; granted Mar 29, '49

Demodulation of time-modulated electrical pulses, Maurice Moise Levy, 2,462,110, 13 cl. Appl May 30, '44; granted Feb 22, '49

Demodulator, Maurice Arditi and Joseph Feinstein, 2,474,812, 9 cl. Appl Oct 5, '46; granted July 5, '49

Detector system, Conrad H. Hoeppner, 2,466,705, 4 cl. Appl Oct 30, '46; granted Apr 12, '49

Device for detecting pulses modulated by a signal to be reproduced, Klaas Posthumus, 2,467,775, 6 cl. Appl Nov 22, '46; granted Apr 19, '49

Interference reducing radio impulse receiver, Charles William Earp, 2,471,418, 4 cl. Appl Sep 9, '42; granted May 31, '49

Pulse discrimination system, George W. Lenny, jr. and Paul E. Ward, 2,482,782, 3 cl. Appl Feb 13, '47; granted Sep 27, '49

Receiver system, George W. Bryan, jr., 2,490,025, 13 cl. Appl Mar 29, '44; granted Dec 6, '49

Receiving system for frequency or pulse modulated electromagnetic waves, Charles William Earp, 2,476,964, 7 cl. Appl June 12, '43; granted July 26, '49

PULSE CIRCUITS, Generators

300 mc transmitter pulser (mock-up). MDDC 828

Battery operated field pulser. MDDC 920

Design of an amplifier producing pulses of short duration. T. E. Cranshaw and B. B. Kinsey. BR 453 10 pp June 1, '44. AEC

Discriminator-pulse generator. 1 pp MDDC 136

High current high voltage gas discharge tube. W. R. Baker and others. 16 pp July 14, '48 AECD 2634

High voltage pulser for 184-inch cyclotron electric deflector. 10 pp '48 AECD 2117

Model 100 precision pulser (circuit diagram). MDDC 132

Portable pulse generator. 12 pp '47 MDDC 791

Pulse generator (information report). P. E. Ohmart. 2 pp Y3.At 7:22/AECU 185 U.S. Govt Pub

Timing-marker generator of high precision. (Abstract) R. C. Palmer 37:164 Feb '49

Triple pulse generator (with variable delay). 1 pp '47 MDDC 1287

Variable pulse and square wave generator. Robert C. Skar. 8 pp AECU 561

Patents

Alternating current pulser circuit, Hans Klemperer, 2,473,592, 4 cl. Appl Jan 25, '46; granted June 21, '49

Controllable pulse generator, Harold Lyons, 2,475,-625, 7 cl. Appl May 22, '45; granted July 12, '49

Device for converting a signal of variable amplitude into pulses of constant frequency and variable duration, Klaas Posthumus, 2,471,168, 13 cl. Appl Nov 22, '46; granted May 24, '49

Electric impulse generator, Robert H. Lee, 2,491,382, 12 cl. Appl May 12, '48; granted Dec 13, '49

Electrical pulse system, Vernon C. Westcott, 2,459,-858, 6 cl. Appl Dec 21, '44; granted Jan 25, '49

PULSE CIRCUITS, Generators, *Patents*–Cont'd.

Electrical wave producing circuit, Lester Y. Lacy, 2,488,297, 8 cl. Appl July 21, '45; granted Nov 15, '49

Electronic impulse generator, Bertram Morton Hadfield, 2,486,154, 7 cl. Appl Dec 18, '43; granted Oct 25, '49

Electronic trigger pulse generator, Nathaniel Bishop and Herman Britten, 2,489,852, 6 cl. Appl Dec 18, '44; granted Nov 29, '49

Generation of electric pulses, Prafulla Kumar Chatterjea, 2,462,071, 6 cl. Appl Mar 30, '45; granted Feb 22, '49

Generator of time modulated pulses, Arthur V. Lord, 2,479,947, 7 cl. Appl July 10, '46; granted Aug 23, '49

High-power pulse generator, John E. Gorham, 2,459,809, 6 cl. Appl Jan 14, '43; granted Jan 25, '49

Impulse generator, Francis B. Headley, 2,482,000, 9 cl. Appl Dec 13, '48; granted Sep 13, '49

Impulse generator, Harold J. McCreary, 2,458,283, 8 cl. Appl Oct 23, '44; granted Jan 4, '49

Index pulse generating circuit, Wilbur L. Gaines, 2,471,268, 4 cl. Appl May 22, '45; granted May 24, '49

Production of electric pulses, Ernst A. Guillemin, 2,461,321, 21 cl. Appl June 24, '43; granted Feb 8, '49

Proportional pulse signaling device, Edgar P. Turner, 2,464,757, 7 cl. Appl May 29, '46; granted Mar 15, '49

Pulse and square wave generator, Joseph D. Schantz, 2,459,723, 13 cl. Appl Aug 26, '44; granted Jan 18, '49

Pulse generating circuit, Harold W. Lord, 2,485,395, 6 cl. Appl Apr 11, '45; granted Oct 18, '49

Pulse generating system, Evert Manuel Ostlund and Paul Walter Sokoloff, 2,474,275, 10 cl. Appl Sep 21, '45; granted June 28, '49

Pulse generation, James F. Gordon, 2,470,028, 4 cl. Appl Jan 18, '46; granted May 10, '49

Pulse generator, Clarence M. Woodruff, 2,467,415, 1 cl. Appl Jan 2, '45; granted Apr 19, '49

Pulse generator, James A. Ryles, 2,485,778, 8 cl. Appl Aug 25, '47; granted Oct 25, '49

Pulse generator, Martin Fischman, 2,461,110, 15 cl. Appl Mar 8, '45; granted Feb 8, '49

Pulse generator, Roland Harris Dunn, 2,476,963, 1 cl. Appl May 30, '45; granted July 26, '49

Pulse length modulation system, Thomas G. Custin, 2,492,736, 2 cl. Appl Feb 26, '49; granted Dec 27, '49

Pulse-modulated wave-signal generator, Jasper J. Okrent, 2,469,174, 9 cl. Appl June 6, '45; granted May 3, '49

Pulse producing apparatus, John Evans, 2,470,550, 13 cl. Appl Feb 28, '46; granted May 17, '49

Pulsed oscillator, James R. Moore, 2,462,885, 14 cl. Appl Nov 28, '42; granted Mar 1, '49

Pulsed oscillator, James R. Moore, 2,464,252, 8 cl. Appl Nov 28, '42; granted Mar 15, '49

Pulsed oscillator, Philip A. Duffy, jr., 2,484,209, 4 cl. Appl July 10, '45; granted Oct 11, '49

Pulser circuit, Howard Morrison, 2,469,977, 4 cl. Appl May 12, '45; granted May 10, '49

Pulsing system for ultra high frequency generators, Karl J. Stiefel, 2,462,918, 9 cl. Appl Oct 6, '43; granted Mar 1, '49

Rectangular wave impulse generator, Arthur A. Varela, 2,465,407, 15 cl. Appl Mar 30, '43; granted Mar 29, '49

Signal generation system, Conrad H. Hoeppner, 2,457,819, 5 cl. Appl Nov 14, '46; granted Jan 4, '49

Signal translator blocking circuit, Maxwell C. Dettman, 2,459,798, 7 cl. Appl Mar 3, '44; granted Jan 25, '49

Synchronized pulse generator, Maurice Moise Levy, 2,462,109, 3 cl. Appl Mar 15, '44; granted Feb 22, '49

Synchronizing system, Clyde Edwin Hallmark, 2,459,699, 11 cl. Appl Feb 1, '46; granted Jan 18, '49

Transmission system, Norman H. Young, jr., 2,471,473, 8 cl. Orig appl Nov 1, '43; divided and this appl Mar 19, '45; granted May 31, '49

Variable predetermined number pulse generator, Robert W. Carlson, 2,462,945, 4 cl. Appl Aug 14, '44; granted Mar 1, '49

See also

Cathode-Ray Tubes, Circuits
Oscillators, Non-Sinusoidal
Trigger Circuits

PULSE CIRCUITS, Modulation

Distortion in a pulse-count-modulation system with nonuniform spacing of levels. (Abstract) P. F. Panter and W. Dite. IRE Proc 37:161 Feb '49

Installation for multiplex-pulse modulation. C. J. H. A. Staal. Philips Tech Rev 11:133-144 Nov '49

Interference characteristics of pulse-time modulation. (Abstract) E. R. Kretzmer. IRE Proc 37:161 Feb '49

Method of asymmetrical pulse duration modulation. R. J. Watts. Rev Sci Instr 20:622-623 Aug '49

Modulator producing pulses of 10^{-7} second duration at a 1 mc recurrence frequency. Millett G. Morgan. IRE Proc 37:505-509 May '49

Multiplex employing pulse-time and pulsed-frequency modulation. Harold Goldberg and Carl C. Bath. IRE Proc 37:22-28 Jan '49

PCM Thomas Roddam. Wireless World 55:82+ Mar '49

Pulse amplitude and time modulation. D. Eng thesis. Philip F. Ordung. Yale U E.E. Dept

Pulse code modulation. (Ueber den entwicklungsstand der Impuls-Code-Modulation) Rindfleisch. Fernmeldetech Zeit 2:25-26 Jan '49

Pulse modulation. E. M. Deloraine. IRE Proc 37:702-705 June '49. Also in Elec Comm 26:222-227 Sep '49

Pulse time modulation. F. E. Wilson. Ph.D. thesis. Purdue U Aug '47

Signal-to-noise-ratio improvement in a PCM system. A. G. Clavier and others. IRE Proc 37:355-359 Apr '49. Also in Elec Comm 26:257-262 Sep '49

Synchronization for the PCM receiver. J. M. Manley. Bell Lab Rec 27:62+ Feb '49

Time division multiplexing system. W. P. Boothroyd and E. M. Creamer, jr. AIEE Proc section 925:1-6 Apr '49

PULSE CIRCUITS, Modulation–Cont'd.

Timing control for PCM. A. E. Johanson. Bell Lab Rec 27:10+ Jan '49

Patents

Electrical pulse time modulation circuit, Donald D. Grieg, Arnold M. Levine, and Sidney Moskowitz, 2,490,801, 4 cl. Appl Mar 2, '46; granted Dec 13, '49

Impulse generator, Evert M. Ostlund, 2,477,643, 3 cl. Appl Feb 12, '45; granted Aug 2, '49

Line pulse modulator, Lewis Greenwald, 2,474,243, 16 cl. Appl Sep 14, '45; granted June 28, '49

Means for generating time modulated electrical pulses, Maurice Moise Levy, 2,492,161, 5 cl. Appl May 30, '44; granted Dec 27, '49

Modulator, Frank A. Leibe and Benjamin B. Mahler, 2,474,261, 12 cl. Appl May 10, '47; granted June 28, '49

Pulse modulating system, Gaston Potier Versailles, 2,492,004, 3 cl. Appl July 13, '46; granted Dec 20, '49

Pulse modulating system, Robert H. Noyes, 2,476,997, 3 cl. Appl Oct 13, '43; granted July 26, '49

Pulse modulator, David Y. Keim, 2,485,608, 9 cl. Appl May 24, '43; granted Oct 25, '49

Pulse modulator, Howard R. Hegbar, 2,481,925, 2 cl. Appl June 29, '43; granted Sep 13, '49

Pulse time modulated multiplex system, Donald D. Grieg, 2,468,059, 20 cl. Appl Oct 30, '45; granted Apr 26, '49

Pulse time modulation system, Harold Goldberg, 2,466,230, 7 cl. Appl Feb 9, '46; granted Apr 5, '49

Pulse-time modulator, Harold Goldberg, 2,470,027, 9 cl. Appl Feb 21, '47; granted May 10, '49

Pulsed oscillator, Hagan L. Jackson, 2,484,229, 3 cl. Appl June 15, '46; granted Oct 11, '49

R

RADAR

Anomalous radar propagation over land in the period November 29 to December 1, 1948. R. F. Jones. Met Mag 78:233-234 Aug '49

Basis for the optimum aided-tracking time constant. E. A. Mechler and others. Franklin Inst J 238: 327-334 Oct '49

Considerations affecting a choice of radar operating frequencies. W. B. Bernard. IRE Proc (Australia) 10:18+ Jan '49

Doppler radar. Edward J. Barlow. IRE Proc 37: 340-355 Apr '49

Electronic automatic search. F. V. Hunt. 8:893 PB 86118

German development of modulator valves for radar applications. German Industry Rep. BIOS 1746 Brit Govt Pub

High power radar Jagdhaus. German Industry Rep. FIAT 609 Brit Govt Pub

Interchangeability charts: radio, radar, and wire communications equipment. May '48 PB 94992

Manuals on radio, radar, ground communications, etc. Feb '47 PB 87735

"Midar." Samuel Freedman. Radio & TV N 42: 30+ Aug '49

Principal properties of continuous wave radar systems, AM and FM. (Principales proprietes des radars a ondes entretenues a modulation de frequence ou a frequence constante) H. Aberdam. Electronique pt 1 28:19-22 Jan-Feb '49; pt 2 30: 10-13 Mar '49

Radar. E. G. Schneider. Schweiz Elektrotech Ver Bul pt 1 39:192-196 '48; pt 2 39:251-256 '48; pt 3 39:290-291 '48; pt 4 39:313-316 '48; pt 5 39:343-344 '48

Radar delay network tester. John Markus. Electronics 22:128+ May '49

Radar and electronics targets. Cologne and vicinity. German Industry Rep. CIOS XVIII-3 Brit Govt Pub

Radar installation at Le Havre. (Le radar de surveillance du port du Havre) R. Pelicant. Electronique 38:8-12 Dec '49

Radar mapping. R. R. Lowther. Electronic Eng 21: 279-280 Aug '49

Radar scanners and radomes. '48 PB 95271

Radar test for the super-high-frequency band of 9000-9700 mcs. W. Rosenberg and others. IEE Proc pt III 96:476-482 Nov '49

Study of minimum range reduction in pulse-type radar. W. H. Hayt, jr. Ph.D. thesis. Purdue U E.E. Dept June '48

What does rain do to radar? R. McLarren. Aviation W Dec 12, '49

Patents

Automatic frequency control for pulse transmission systems, George W. Fyler, 2,469,875, 5 cl. Appl Jan 25, '44; granted May 10, '49

Automatic regeneration control for pulse-echo systems, Albert L. Free, 2,476,409, 9 cl. Appl Mar 6, '46; granted July 19, '49

Automatic register for echo pulses from a plurality of objects, Albert M. Skellett, 2,478,670, 4 cl. Orig appl Oct 9, '43; divided and this appl Nov 8, '45; granted Aug 9, '49

Compensation of distortion in guided waves, Warren P. Mason, 2,480,038, 5 cl. Appl June 8, '46; granted Aug 23, '49

Distance measuring apparatus, Edward L. Ginzton, 2,485,584, 3 cl. Orig appl Mar 15, '43; divided and this appl Nov 11, '43; granted Oct 25, '49

Doppler radar system, William W. Hansen, 2,479,568, 21 cl. Appl Aug 19, '43; granted Aug 23, '49

Electronic angle indication with particular reference to radar system, Alwyn L. Kelsey, Alvin L. Hiebert, Homer G. Tasker, and William E. Osborne, 2,483,644, 17 cl. Appl Jan 21, '47; granted Oct 4, '49

Electronic indicator system, William A. Miller, 2,488,136, 7 cl. Appl June 30, '44; granted Nov 15, '49

Frequency modulated radar system of superheterodyne type, Luke Chia-Lin Yuan, 2,475,176, 6 cl. Appl Nov 30, '46; granted July 5, '49

Method and apparatus for pulse-echo distance measuring, Eric J. Isbister, 2,481,515, 19 cl. Appl Mar 30, '43; granted Sep 13, '49

Object detector and velocity indicator, John R. Woodyard, Edward L. Ginzton, and Vincent R. Learned, 2,491,542, 4 cl. Appl Sep 7, '43; granted Dec 20, '49

RADAR, *Patents*–Cont'd.

Object locating system, Bernard M. Oliver, 2,459,-117, 3 cl. Orig appl Feb 24, '44; divided and this appl Mar 19, '45; granted Jan 11, '49

Object locator system, Paul A. Jeanne, 2,475,707, 5 cl. Orig appl Feb 24, '44; divided and this appl Mar 19, '45; granted July 12, '49

Position indication and control system, Lionel M. Rodgers, 2,460,597, 2 cl. Appl Aug 4, '45; granted Feb 1, '49

Pulse code operated electronic range indicator, Andrew B. Jacobsen, 2,482,544, 3 cl. Appl May 2, '45; granted Sep 20, '49

Pulse delineator, Eric J. Isbister, 2,477,615, 5 cl. Appl Jan 4, '44; granted Aug 2, '49

Pulse echo apparatus for spotting shellfire, Ernst F. W. Alexanderson, 2,463,233, 3 cl. Appl Jan 22, '43; granted Mar 1, '49

Pulse-echo distance indicator, John Evans, 2,466,-539, 5 cl. Appl Feb 20, '43; granted Apr 5, '49

Pulse echo recognition system, Archibald A. Joyner, 2,471,373, 4 cl. Appl Sep 30, '42; granted May 24, '49

Pulse-echo system, Paul C. Gardiner, 2,467,202, 5 cl. Appl Feb 27, '46; granted Apr 12, '49

Pulse echo system, William C. Hahn, 2,467,208, 37 cl. Appl Dec 30, '43; granted Apr 12, '49

Pulse echo system and pulse indicating means, Franklin G. Patterson, 2,461,998, 14 cl. Appl Nov 17, '43; granted Feb 15, '49

Pulse operated system, Bernard M. Oliver, 2,483,-594, 2 cl. Orig appl Feb 24, '44; divided and this appl Mar 19, '45; granted Oct 4, '49

Pulse radar system, David E. Kenyon, 2,466,711, 7 cl. Appl Jan 18, '44; granted Apr 12, '49

Pulse radio echo distance indicator, Charles E. Dolberg, 2,483,187, 3 cl. Appl Aug 30, '44; granted Sep 27, '49

Pulse receiver system for improved target tracking, Gifford E. White, 2,480,171, 6 cl. Appl Feb 18, '43; granted Aug 30, '49

Radar display system, Charles W. Miller, 2,479,953, 1 cl. Appl Jan 28, '48; granted Aug 23, '49

Radar glide path control system, Ben R. Cole, 2,466,534, 7 cl. Appl July 30, '45; granted Apr 5, '49

Radar scanner unit, Tomlinson I. Moseley, 2,479,539, 18 cl. Appl June 25, '46; granted Aug 16, '49

Radio apparatus, Arthur C. Prichard, 2,464,258, 15 cl. Appl Jan 4, '45; granted Mar 15, '49

Radio detection and location system indicating azimuth and elevation, William A. Miller and Eugene R. Shenk, 2,470,939, 11 cl. Appl Sep 3, '43; granted May 24, '49

Radio detection system, Ross B. Hoffman, 2,490,-808, 14 cl. Appl Nov 28, '42; granted Dec 13, '49

Radio direction and ranging system, John P. Smith, 2,492,120, 8 cl. Appl Apr 23, '45; granted Dec 20, '49

Radio distance and direction indicator, Luis W. Alverez, 2,480,208, 27 cl. Appl June 27, '44; granted Aug 30, '49

Radio distance measuring system, Edward L. Ginzton, 2,485,583, 8 cl. Appl Oct 29, '43; granted Oct 25, '49

Radio identifying system, Donald D. Grieg, 2,459,-811, 16 cl. Appl Mar 18, '44; granted Jan 25, '49

Radio locating and communicating system, Emile Labin, Donald D. Grieg, and Arnold M. Levine, 2,468,083, 5 cl. Appl Jan 8, '44; granted Apr 26, '49

Radio object location system, William H. Doherty, 2,471,264, 4 cl. Appl Jan 1, '45; granted May 24, '49

Radio protective device, Lowell M. Hollingsworth, 2,461,158, 5 cl. Appl Feb 8, '45; granted Feb 8, '49

Radio pulse-echo locator system to distinguish between moving and stationary objects, Ralph S. Holmes, 2,491,450, 9 cl. Appl Feb 24, '44; granted Dec 13, '49

Three-dimensional proximity indication system, William H. Newbold, 2,486,197, 2 cl. Appl Aug 3, '44; granted Oct 25, '49

Time-starting transpondor system, Bernard D. Loughlin, 2,478,409, 5 cl. Appl Nov 26, '46; granted Aug 9, '49

Wave measuring system, Max I. Rothman and Gustave Shapiro, 2,478,208, 5 cl. Appl Mar 26, '45; granted Aug 9, '49

Research and Development

Design of radar test equipment, Sieman-Halske plant, Munich. German Industry Rep. CIOS XXVII-46 Brit Govt Pub

Investigation of radar research laboratories and factories in the Paris area. German Industry Rep. CIOS I-2 Brit Govt Pub

Military radar research and development. Engineering 168:346 Sep 30, '49

Miscellaneous reports covering seismology, fire control equipment, airborne radar equipment, electronic research etc., 1936-1944. 11:445 PB 84915

Miscellaneous reports on electronic research, radio and radar equipment, 1944-1945. 11:213 PB 84925

Miscellaneous reports on electronic research, tests on radar equipment and a manual on a radio receiver, 1940-1945. 11:213 PB 84891

Miscellaneous reports on German radio and radar equipment, 1941-1944. PB 84885

Miscellaneous research reports on radar equipment, 1939-1945. PB 84890

Radar. German Industry Rep. CIOS XXXII-87 Brit Govt Pub

Radar developments in Great Britain. I. B. N. Evans. Sci Mon 69:127-130 Aug '49

Radar equipment. German Industry Rep. CIOS XXVI-85 Brit Govt Pub

Radar evolution takes another step. R. H. Foy and L. J. Ulman. Westinghouse Eng 9:188-190 Nov '49

Radar and radio equipment. Details of organization. German Industry Rep. CIOS XXV-12 Brit Govt Pub

Radar research and development establishment. Engineer 188:373 Sep 30, '49

Radar research and development establishment, Malvern. F. E. Jones. Nature 164:740-741 Oct 29, '49

Report covering various types of radar equipment, test oscillators, etc., 1942-1945. PB 84906. In German

Reports on wave propagation, instrument flying, airborne radar equipment, principles of Y-radar technique, sonar, including reports and drawings on "Erika" radar, 1938-45. PB 84908. In German

RADAR, Research and Development–Cont'd.

Technical data covering radar equipment, infrared rays and miscellaneous electronics reports. PB 84911

Technical manuals and research reports covering transmitters, wave propagation, antennas, magnetrons, VHF tubes, frequency and voltage measurement, and radar methods, 1941-1944. PB 84896. In German

See also

Aircraft, Blind Landing System
Meteorological Applications
Microwaves
Navigational Aids
Pulse Circuits
Research & Laboratories
Training Aids, Aircraft

RADAR, Aircraft

Civil aircraft radar. S. Freedman. Communications pt 1 29:10-11+ Jan '49; pt 2 29:26-27 Mar '49; pt 3 29:25+ Apr '49

Description and operating instructions for Fu MO 61 (Seetakt) submarine radar; operating instructions for "Naxos" Fu MB7 search receiver (Navy) and Fu G 224 airborne radar, 1943-1944. PB 81238

Determination of ground speed of aircraft using pulse-Doppler radar. (Abstract) Irving Wolff and others. IRE Proc 37:175 Feb '49

Flying lab tests airline radar. Aviation W 51:28+ Oct 17, '49

Lightweight airborne navigational radar set AN/APS-42 (AX-3). E. Waldman and R. L. Clarke. PB 97377

Miscellaneous reports on airborne radar and radio equipment, 1941-1944. PB 84886

Radar and controlled missiles. German Industry Rep. CIOS I-1 Brit Govt Pub

Radar research reports including wiring diagrams and reports covering "Erika" airborne radar equipment, 1940-1945. PB 84909. In German

Radar training in the air force. Chas. E. Spitz. Radio & TV N 41:29-32 June '49

Radar: X-band, airborne-standard beacon provisions. Nov '48 PB 95936

Reports on airborne transceivers, antiaircraft directors, airborne radar equipment, etc., 1943-1945. PB 84910

Reports on the development and tests of airborne radar, 1943-1945. PB 84895

Research and evaluation reports covering German airborne radar equipment, 1944-1945. PB 84889

Research reports on aircraft television, iconoscopes and radar equipment, 1938-1945. PB 84894

Research reports on radar, including the "Berlin" airborne radar, 1939-1945. PB 84920. In German

Research reports on radio controlled aircraft, signal beam apparatus, directional antennas, airborne radar equipment, etc., 1935-1945. PB 84900

Technical manuals dealing with aircraft radio and radar equipment, 1942-1945. PB 84887

See also

Aircraft, Blind Landing System
Navigational Aids, Aircraft
Training Aids, Aircraft

RADAR, Antennas

Rapid scanning, high resolution antennas — preliminary report. C. V. Robinson. PB 3975

Theory of the T-R box. H. A. Bethe and others. PB 98693

Patents

Antenna, William Sichak, 2,473,454, 4 cl. Appl July 9, '45; granted June 14, '49

Directive antenna system, Wilton T. Rea, 2,471,284, 6 cl. Appl May 25, '45; granted May 24, '49

Radar antenna driving mechanism, Howard A. Baxter and Horace T. Budenbom, 2,479,897, 1 cl. Appl Apr 17, '47; granted Aug 23, '49

Radar antenna stabilizer, Theodore W. Kenyon, 2,475,746, 3 cl. Appl Jan 25, '47; granted July 12, '49

Transmit receive switching system for pulse communication systems, Louis D. Smulin and Jerome B. Wiesner, 2,478,332, 6 cl. Appl Apr 18, '44; granted Aug 9, '49

Transmitter, Clarence M. Woodruff, 2,460,326, 3 cl. Appl Feb 17, '45; granted Feb 1, '49

See also

Antennas, various listings

RADAR, Calibration and Testing

Improvement in range determination by electronic means. J. J. Slattery. 12:146 PB 97226

Radar range calibration. Robert L. Rod. Electronics 22:114+ Apr '49

Theory and measurements of pulse radar system performance. 1 p M 101/18:11-759 U.S. Govt Pub

Patents

Electronic calibrating means for indicating instruments in pulse echo systems, Philip C. Michel, 2,460,142, 7 cl. Appl Jan 30, '45; granted Jan 25, '49

Testing radio echo equipment, Frank C. Isely, 2,460,827, 22 cl. Appl May 4, '42; granted Feb 8, '49

See also

Microwaves, Measurement

RADAR, Countermeasures

Black aircraft experiments with radar countermeasures and applications. Pigge. PB 89189. In German

RADAR, Echoes

Detection of radio signals reflected from the Moon. John H. DeWitt, jr. and E. K. Stodola. IRE Proc 37:229-242 Mar '49

Forward-transmission echo-ranging system. D. B. Harris. IRE Proc 37:767-770 July '49

Indicating and recording echo sounder PEK-3G and interesting new design from Svenska Rodioaktieboleget. S. von Melsted. Ericsson Rev No 1:10-16 '49

Interpretation of long scatter echo patterns. (Abstract) Allen M. Peterson. Jour Geophys Res 54:284 Sep '49

Japanese echo ranging equipment. Japanese Industry Rep. BIOS/JAP/PR/565 Brit Govt Pub

RADAR, Echoes–Cont'd.

Radar echoes from atmospheric phenomena. A. E. Bent. PB 2846

Radar echoes from precipitation layers. A. E. Bent. PB 2767

Reflection of radar waves from targets of simple geometric form. Feb '43 PB 91858

Theory and practice of tropospheric sounding by radar. Albert W. Friend. IRE Proc 37:116-138 Feb '49

Theory on radar reflections from the lower atmosphere. W. E. Gordon. IRE Proc 37:41-43 Jan '49

RADAR, Indicators

Radar distance indicator demonstrator. F. M. Hanna and others. NRC 1540

Patents

Cathode-ray tube circuit, Paul A. Jeanne, 2,492,-700, 6 cl. Orig appl Feb 24, '44; divided and this appl Mar 19, '45; granted Dec 27, '49

Indicator, Hyman Hurvitz, 2,474,628, 8 cl. Appl May 20, '48; granted June 28, '49

Means for determining range, George J. Eltz, 2,475,-598, 4 cl. Appl Feb 25, '43; granted July 12, '49

Radar indicator, Humboldt W. Leverenz, 2,468,714, 6 cl. Appl Apr 17, '46; granted Apr 26, '49

Radar indicator means, Avery G. Richardson, 2,483,432, 11 cl. Appl July 14, '45; granted Oct 4, '49

Radio obstacle detection apparatus, Henri G. Busignies, 2,471,408, 20 cl. Appl Oct 8, '42; granted May 31, '49

Unitary range, azimuth, and elevation alignment indicator for radar systems, Kenneth L. King, 2,467,319, 2 cl. Appl May 2, '45; granted Apr 12, '49

See also

Cathode-Ray Tubes

RADAR, Interference

Patents

Interference eliminating system, Donald D. Grieg, 2,462,859, 14 cl. Appl Mar 18, '44; granted Mar 1, '49

RADAR, Marine

Centimeter radar for naval applications. (Radar nautico ad onda centimetrica) G. Montefinale. Elettrotecnica 36:46-50 Feb '49

Compact marine radar. Wireless World 55:16+ Jan '49

Decca radar. Wireless World 55:345 Sep '49

Description and operating instructions for Fu MO 61 (Seetakt) submarine radar; operating instructions for "Naxos" Fu MB7 search receiver (Navy) and FuG 224 airborne radar, 1943-1944. PB 81238

Design and characteristics of Marine radar equipment. A. Levin and A. C. D. Haley. Brit IRE J 9:202 June '49

Experimental radar vessel. Can Min J 70:87 Aug '49

Radar evolution takes another step. R. H. Foy and L. J. Ulman. Westinghouse Eng 9:188-190 Nov '49

Radar in marine navigation. G. Kniazeff. Onde Elec 29:202-215 May '49. In French

Radar for small vessels. R. W. Hallows. Wireless World 55:s4-s6 Dec '49

Radio and radar for merchant ships, a performance specification for the climatic and durability testing of marine radio and radar equipment. '48 PB 95513

See also

Navigational Aids, Marine

RADAR, Transmitters and Receivers

Duo sweep and marker generator with calibrator. 1 p '47 MDDC 922

J-2 modulation unit. E. M. Jones. PB 2762

Method of measuring noise in high frequency radar receivers. G. Naday. Ann Radioelec 4: 257-260. In French

Model 6 modulator performance tests. P. C. Bettler. PB 2812

Operating instruction for the "Naxos" Fu MB7 search receiver; "Der Kreisel." '45 PB 94010

Operating instructions for sweep calibrator, model B.R.P. Abbenhouse. PB 2730

Principles of volume scan. (Abstract) Daniel Levine. IRE Proc 37:177 Feb '49

Technical data and manuals covering the German Fu MB8, 6476, Fu G224, "Berlin-A," "Pauke-S," Freya and dete-I radar equipment, 1943-1945. PB 84884. In German

Technical data and reports covering the "Medde," "Seetakt," and "Eisvogel" radar equipment, as well as crystal detectors and rectifiers, 1942-1944. PB 84912. In German

Thyratrons in radar modulator service. Hubert H. Wittenberg. RCA Rev 10:116+ Mar '49

Patents

Cathode-ray oscilloscope, Clarence W. Hansell, 2,459,319, 19 cl. Appl Oct 11, '44; granted Jan 18, '49

Comparator circuits for radio locators, Royden C. Sanders, jr., 2,459,457, 16 cl. Appl Mar 20, '44; granted Jan 18, '49

Object detecting and locating system, William W. Hansen and Russell H. Varian, 2,468,751, 12 cl. Appl Jan 16, '42; granted May 3, '49

Plan position indicating system and method, Newton W. Bryant, 2,471,516, 5 cl. Appl Dec 20, '41; granted May 31, '49

Pulse echo receiver with regenerative feedback, Samuel M. Tucker, 2,487,995, 5 cl. Appl May 26, '41; granted Nov 15, '49

Pulse echo system, Donald E. Norgaard, 2,465,-113, 5 cl. Appl Feb 14, '45; granted Mar 22, '49

Pulse echo volume compensating system, Gifford E. White, 2,474,875, 4 cl. Appl Jan 22, '43; granted July 5, '49

Pulse generating system, Henri G. Busignies, 2,474,219, 9 cl. Appl Sep 14, '42; granted June 28, '49

Radio object location device, William H. Newbold, 2,471,888, 4 cl. Appl Aug 3, '44; granted May 31, '49

Receiver protection circuit, Russell F. Schmid, 2,482,128, 6 cl. Appl July 22, '43; granted Sep 20, '49

RADAR, Transmitters and Receivers, *Patents*–Cont'd.

Signal transmission system, William E. Bradley, 2,484,798, 20 cl. Appl Dec 29, '45; granted Oct 11, '49

Timing and phase control circuits, Robert M. Bowie, 2,470,464, 34 cl. Appl Aug 3, '42; granted May 17, '49

See also

Microwaves, Receivers & Transmitters
Microwaves, Tubes

RADIO DIRECTION FINDER

See Direction finder

RADIOSONDE

See Meteorological Applications

RECEPTION and RECEIVERS (AM)

AM/FM tuner and AF amplifier. Service 18:18+ Feb '49

Are directional receivers coming back? (Kommer Retmodtageren igen) Radio Ekko 12:54-55 Mar '49

Band-pass tuner. Radiogram 14:3 June '49

Building custom-radio business. J. Childs. FM-TV 9:22-23+ Nov '49

Circuitry and common sense. Otto Wooley. Radio-Electronics vol 20 Feb '49

Commercial receiver development in the last 15 years. (Kommerzielle Empfaengerentwicklung der letzten 15 Jahre) ETZ 70:237-239 July 1, '49

Features of French broadcasting receivers for the season 1949-1950. J. Rousseau. TSF pour Tous 25:325-328 Oct '49

High fidelity receiver. (Fidelite ou realisme) R. Deschepper. Toute la Radio No 140:321-324 Nov '49

High-quality audio at reasonable cost. John V. Urban. Radio & TV N 42:58-60 Nov '49

High quality tuner analysis. T. L. Harkwell. Radio Ser Deal 10:14-16+ July '49

Home-built high fidelity AM tuner. Louis J. Frankel, jr. Radio & TV N 41:64-65+ Mar '49

Modern reflex receivers. (Moderne Refleksmodtagere) Radio Ekko 12:173 Sep '49

Music in transit; Transit Radio, inc. J. J. Hassett. Pub Util 44:418-424 Sep 29, '49

Panadaptor. (Panorama-Modtagning) Radio Ekko 9:186-187 Sep '46

Radio receivers. (Die Heutige Technik der Rundspruchempfaenger) Elektrotech und Maschinenb 66:44-47 Feb '49

Separation of receiver and loudspeaker. (Ein neuer Weg zum vollendeten Heimempfang. Trennung von Empfaenger und Lautsprecher wieder sinnvoli) Radio Tech 25:549-550 Sep '49

TRF tuner has AC-DC supply. Clinton E. Clark. Radio-Electronics 20:108-109 Mar '49

Tubeless hi-fi tuner. Audio Eng 33:32-33 Aug '49

Wide range bandpass crystal tuner. Joseph M. Boyer. Radio & TV N 42:31+ Aug '49

Patents

Apparatus for determining the listening habits of wave signal receiver users, Robert A. Clark, jr., 2,483,573, 6 cl. Appl Nov 22, '43; granted Oct 4, '49

Automatic heterodyne eliminator, James L. A. McLaughlin, 2,480,870, 14 cl. Appl Aug 5, '46; granted Sep 6, '49

Broadcast receiving circuit and apparatus, Edwin M. Callender, 2,489,008, 5 cl. Appl Feb 12, '46; granted Nov 22, '49

Directional system, Paul G. Hansel, 2,481,509, 7 cl. Appl Sep 5, '45; granted Sep 13, '49

Diversity radio receiving system, Charles Percy Beanland, 2,459,259, 4 cl. Appl Dec 7, '44; granted Jan 18, '49

Indicating device comprising a rotatable scale, more particularly for radio sets, Maarten Jan Groenenberg, 2,485,196, 4 cl. Appl Apr 23, '46; granted Oct 18, '49

Inverse modulation detector, Donald G. C. Hare, 2,480,575, 9 cl. Appl Mar 21, '46; granted Aug 30, '49

Method of and apparatus for receiving radio signals, Robert T. Killman and Frederick W. Beesley, 2,482,549, 2 cl. Appl Dec 3, '43; granted Sep 20, '49

Pulse multiplex receiver, James R. Day, 2,469,066, 7 cl. Appl June 1, '46; granted May 3, '49

Radio receiver, Frank Maurice Hills, 2,492,698, 1 cl. Appl Oct 16, '45; granted Dec 27, '49

Radio receiver apparatus, Johannes Antonius van Lammeren, 2,486,230, 3 cl. Appl Feb 12, '47; granted Oct 25, '49

Radio receiver construction, F. D. Schnoor and C. N. Hardy, 2,487,601, 2 cl. Appl Dec 17, '47; granted Nov 8, '49

Signal-seeking receiver for amplitude modulation and frequency modulation signals, Madison G. Nicholson, jr. and John C. Pontius, 2,487,772, 9 cl. Appl Aug 8, '45; granted Nov 8, '49

Station selector system, Everhard H. B. Bartelink, 2,478,361, 6 cl. Appl Apr 13, '48; granted Aug 9, '49

System for volume compression, George K. Graham, 2,474,103, 9 cl. Appl Oct 27, '44; granted June 21, '49

Thermoelectric radio operation, Howard J. Findley, 2,480,405, 5 cl. Appl Jan 4, '46; granted Aug 30, '49

Variable bridge transducer and its combination with a radio receiver, James H. Owens, 2,488,927, 21 cl. Appl Mar 10, '45; granted Nov 22, '49

Warning signal for continuously operated radio receivers, Howard C. Riordan, 2,478,320, 7 cl. Appl May 16, '46; granted Aug 9, '49

Wave receiving system, Harold J. Fisher, 2,484,618, 8 cl. Appl Aug 26, '44; granted Oct 11, '49

Wave-signal translating apparatus chassis, Donald H. Mitchell, 2,492,235, 2 cl. Appl May 30, '45; granted Dec 27, '49

Reception

Change of frequency in broadcast receiving. (A mudanca da frequencia nas Irradiacoes) Radio J 1:36 Sep '49

Influence of signal limitation on the reception of voice-frequency signals. T. H. Flowers and D. A. Weir. IEE Proc pt III 96:223+ May '49

RECEPTION and RECEIVERS (AM), Reception–Cont'd.

Interference-free reception. (Storingvrije ontvangst) Radio Bul 18:249-252 Aug '49

Panoramic reception. S. A. Jolliffe and J. D. Peat. Marconi Rev 12:27-33 Jan-Mar '49

Radio receivers and receiving stations of the commercial radio news service: a comparative study. (Rundfunkempfaenger und Empfangsanlagen des komerziellen drahtlosen Nachtrichtenverkehrs. Eine vergleichende Betrachtung) Elektron Wiss und Tech 3:423-429 Nov '49

Reception at over 16000 km from the transmitter. R. G. Sacasa. Rev Telecom 3:11-15 June '48

Relative sky-wave signal strengths required for intelligible reception of various types of radio communication services. PB 19798r

Simultaneous reception of stations on a single aerial. C. T. F. van der Wijck. Tijdschr ned Radiogenoot 8:365-393 Mar '41

Patents

Radio reception, Walter Lyons, 2,472,218, 3 cl. Appl Feb 5, '44; granted June 7, '49

Special Types

"Berkshire" — a radio-phonograph built to transmitting equipment standards. Marvin Hobbs. Broadcast N No 54:78 Apr '49

Broadcast receivers. Wireless World 55:432-435 Nov '49

Building a radio in a globe. (Globus-Radio) Radio Tech 25:239-240 Apr '49

Building the Mignon 4 tube set. (Mignon 4) Radio Tech 25:167-169 Mar '49

Construction of "Minor" receiver. (Minor) Radio Tech 25:637-638 Nov '49

Eddystone model 680. Wireless World 55:335-338 Sep '49

Experimental two-tube receiver. A. V. J. Martin and R. Durand. Telev Franc No 48:10-11 June '49. In French

Hallicrafters model S-72. Radio-Electronics 21:42-43 Dec '49

High fidelity receiver model "TR-138." (Le TR-138) R. Geffre. Toute la Radio No 138:243-248 Sep '49

Industrial receiver. (Un recepteur de conception rationelle industriel) G. Montagne. Toute la Radio No 135:148-151 May '49

Marconi single sideband receiver type CRD.150 20B-SSR.2. C. P. Beanland. Marconi Rev 12:21-26 Jan-Mar '49

M. K. Amphibie I receiver. (M. K. Amphibie I) Radio Bul 18:351-355 Oct '49

M. K. Cosmopoliet receiver. (M. K. Cosmopoliet) Radio Bul 18:253-258 Aug '49

MK sports receiver. (MK sport-ontvanger) Radio Bul 18:334-337 Oct '49

Onyx B 51 receiver. (Onyx B 51 Fuenf-Roehren-Batteriesuper) Radio Tech 25:443-444 July '49

Plans of 2-3 tube detector receiver. (2-3 Rors Detektormodtager) Radio Ekko 11:46 '48

Push-pull crystal receiver. R. P. Turner. Radio-Electronics 21:41 Nov '49

Radiolympia 1949. Wireless Eng 26:370-378 Nov '49

Receiver for musicians. (Un recepteur pour musiciens) M. May. Toute la Radio No 137:205-206 July-Aug '49

"Reflex" receiver. (Reflex) Radio Tech 25:361-363 June '49

Reflex receiver with feedback and AVC. E. G. Beard. Philips Tech Comm No 4:9-14 '49

R.E. Globetrotter companion receiver. (R.E. Globetrotter Companion) Radio Ekko 10:234-235 Dec '47

R.E. Standard Super 47. (R.E. Standart Super 47) Radio Ekko 10:128-131 July '47

Rimlock receiver. M. Barn. Toute la Radio 132:48-55 Jan '49

Synchrodyne receivers. Harry F. Cooke. Radio & TV N 41:10-12+ Apr '49

Syncrodyne, the new English receiver principle. (Syncrodyn, det nye engelske Modtager-Princip) Radio Ekko 11:14-15+ Jan '48

Transistor receivers. (Transitrons-Transistor) E. Aisberg. Toute la Radio No 137:218-220 July-Aug '49

TR-138: the orchestra in your home. R. Geffre. Toute la Radio No 138:243-248 Sep '49. In French

Tuned radio frequency receiver. (Receptor Neutrodino) Radio J 1:3-4 Aug '49

Two or three tube detector receiver. (To/tre Detektormodtager) Radio Ekko 11:46-47 Mar '48

Patents

Analyzing receiver, Lewis F. Jaggi, jr., Everard M. Williams, and Andrew D. Shearer, 2,468,073, 4 cl. Appl Jan 23, '45; granted Apr 26, '49

Interference reducing radio receiver, Roy B. Bullock, 2,468,030, 6 cl. Appl Feb 23, '45; granted Apr 26, '49

Multiband fixed frequency calibration panoramic radio receiver, Marcel Wallace, 2,465,500, 14 cl. Orig appl July 17, '41; divided and this appl Dec 11, '43; granted Mar 29, '49

Panoramic receiver with pulse narrowing systems, Joseph I. Heller, 2,472,531, 3 cl. Appl May 7, '46; granted June 7, '49

Panoramic receiver with quarter-wave line discriminator sweep circuit, John F. Byrne and Fred J. Kamphoefner, 2,479,208, 1 cl. Appl Mar 1, '46; granted Aug 16, '49

Radio receiver, George W. Fyler, 2,491,809, 9 cl. Appl May 14, '43; granted Dec 20, '49

Signal seeking receiver, Verlis H. Wiley, 2,491,942, 9 cl. Appl Sep 16, '44; granted Dec 20, '49

Stereophonic receiving system, Kornelis de Boer and Roelof Vermeulen, 2,491,918, 6 cl. Appl July 2, '46; granted Dec 20, '49

Vibrating reactance panoramic radio receiver, Marcel Wallace and Horace G. Miller, 2,474,387, 16 cl. Orig appl July 17, '41; divided and this appl Dec 11, '43; granted June 28, '49

See also

Cabinets, Radio & Television
Communications
Frequency Modulation, Reception & Receivers
Loudspeakers & Baffles
Manufacturing Techniques
Microwaves, Receivers & Transmitters
Servicing, AM Receivers
Servicing, Analysis of Receivers
Television, Receivers & Reception
Transceivers
Tuning Aids, Receivers

RECEPTION and RECEIVERS (AM), Automobile

Automobile radios. (Auto-Radio) Radio Ekko pt 1 12:158-161 Aug '49; pt 2 12:178-180 Sep '49

Automobile receiver with rimlock tubes. (Automobilmodtager med Rimlockror) Radio Ekko 12: 210-212 Nov '49

Design trends in modern car radio. G. S. Ferguson. IRE Proc (Australia) 10:338-342 Dec '49

Patents

Radio selector system for automobiles, Lawrence J. P. Gilbert, 2,491,968, 4 cl. Appl Apr 2, '46; granted Dec 20, '49

See also

Communications, Police
Communications, Radiotelephony, Mobile
Power Supplies, Vibrators
Transceivers

RECEPTION and RECEIVERS (AM), Characteristics

Comparing receiver performance. W. J. Crawley. Short Wave Mag 7:286-288 June '49

Control chart methods applied to frequency response curves. A. B. Mundel. AIEE Proc section 9109:1-4 Apr '49

Custom building for high fidelity. David T. Armstrong. Radio Ser Deal pt 1 10:21+ Apr '49; pt 2 10:17-18+ June '49

Distinction between effective and circuit bandwidths. William J. Kessler. AIEE Proc section 926:1-2 Apr '49

High fidelity reproduction. (Kvalitets-Gengivelse) Radio Ekko pt 1 10:141-142 July '47; pt 2 vol 10 Aug '47; pt 3 10:174-176 Sep '47; pt 4 10:194-195 Oct '47; pt 5 10:238-240 Dec '47

High fidelity sound reproduction. (Klangtreue Wiedergabe) Radio Tech 25:545-548 Sep '49

Improving receiver sensitivity. A. G. Wood. RSGB Bul 25:184-185 Dec '49

Measurement of quality in audio reproduction. David Fidelman. Radio & TV N 42:7-9+ Sep '49

Panoramic receiver-range 2250 to 2500 mcs. H. B. Law. RSGB Bul 24:174-175 Jan '49

QRM eliminator. G. L. Countryman. CQ 5:21-22+ June '49

Receiver gain nomograph. Peter G. Sulzer. Electronics 22:122+ Apr '49

Sensitivity of receivers at complex internal impedance of the generator (Antenna). [Empfindlichkeit von Empfangern bei komplexem Innenwiderstand des Generators (Antenne).] H. Behling. Frequenz 3:93-101 Apr '49

Taking complete receiver performance data. Cap 14:3-8 Mar '49

Thermal noise and the bandwidth of AM receivers. (Thermisches Rauschen und die Bandbreite von AM-Empfaengern) Funk und Ton 3:361-362 June '49

Transient phenomena in radio receivers. B. Carniol. Tesla Tech Rep pp 21-34 Mar '49

Trends in selectivity. Douglas H. Carpenter. CQ 5:30+ June '49

See also

Distortion
Noise

RECEPTION and RECEIVERS (AM), Communication

Battery powered shortwave superheterodyne. (Batterie-kurzwellensuper) Radiowelt 4:13-14 Feb '49

Building the five tube standard all wave superheterodyne. (Fuenf-Roehren-Standard-Allstromsuper) Radio Tech 25:693-695 Dec '49

Building instructions: AC super with two short wave ranges. (Wechselstromsuper mit zwei Kurzwellenbereichen) Radio Tech 25:103-106 Feb '49

Classic OVI two tube short wave receiver. (Den klassiske O-V-I Torors Kortbolge-Modtager) Radio Ekko 12:188-190+ Oct '49

Construction of short wave superband. (Konstruktionsartikler: KB-Baandsuper) Radio Ekko 11: 240 '48

Construction of 7 tube short wave superheterodyne. (7-Rors Kortbolgesuper) Radio Ekko 11:24-27 Feb '48

Design for battery short wave set. (Batteridrevet KB-Anlaeg) Radio Ekko 11:216-217 Nov '48

Double superheterodynes for short and ultra short wave. (Om Dobbelt-Supere for kort og ultrakorte Bolger) Radio Ekko 10:210-214 Nov '47

Electronic diversity switching. H. V. Griffiths and R. W. Bayliff. Wireless World pt 1 55:414-418 Nov '49; pt 2 55:486-488 Dec '49

German model of communications superheterodyne type KST. (Den tyske Model af Communications-Superen HRO Type KST) Radio Ekko 12:174+ Sep '49

Prahn's short wave superheterodyne 1600 kc. (KB-Baandsuper med 1600 kHz MF) Radio Ekko 11: 240-243 Dec '48

Radiovision commander. Short Wave Mag 7:55-57 Mar '49

Regenerative short-wave receiver in miniature. Robert H. Hawkins. Radio & TV N 41:62-63+ May '49

"Selectoject." O. G. Villard, jr. and D. K. Weaver, jr. QST 33:11-17+ Nov '49

Short wave band attachment for radio-telephony receivers. (KB-Baandforsats til Radiofonimodtagere) Radio Ekko 12:224-225+ Dec '49

Shortwave front end. (Kurzwellen-Vorsatzgeraet) Zyhlaz. Radiowelt 4:23-26 Mar '49

Simple short wave receiver. (Einfache Geraete fuer den Empfang von KW- und UKW- Amateurstationen) Radiowelt 4:26-29 Mar '49

Simplified circuit for audio image rejection. G. Grammer. QST 33:13-19+ Sep '49

Three band superheterodyne. (Dreibereichsuper) Radiowelt 4:7-11 Feb '49

4 tube directional receiver for VHF. (En 4-Rors Ret-Modtager til V-H-F) Radio Ekko 10:53-56 Mar '47

Patents

Communication system, James A. Krumhansl and Harold Goldberg, 2,467,486, 13 cl. Appl Feb 9, '46; granted Apr 19, '49

Headband and earphone mounting, John Volkmann, 2,474,386, 4 cl. Appl June 19, '44; granted June 28, '49

RECEPTION and RECEIVERS (AM), Communication, *Patents*–Cont'd.

Radio communication system, Denis Hawxby Hughes, 2,488,193, 5 cl. Appl July 26, '47; granted Nov 15, '49

Amateur

Amateur receiver. (Baand-Modtager for 10-20-40-80- m Amatorbaand) Radio Ekko 9:104-106 May '46

Amateur short wave reception with standard superheterodyne. (Kurzwellenempfang fuer Standard-Industriesuper) Radio Tech 25:142 Feb '49

Amateur superheterodyne circuit. (Amatorsuperens Kobling) Radio Ekko 9:133-134 June '46

Build your own communications receiver. J. T. Goode. Radio & TV N pt 1 41:66-67+ Jan '49; pt 2 41:50+ Feb '49

Cascode converter for 144 mc. H. H. Cross. QST 33:11-13 Oct '49

Converter for the two metre band. W. H. Allen. RSGB Bul 24:190-193 Feb '49

Double conversion ten and eleven superhet. J. W. Richardt, jr. Ham Tips 9:1-2 Nov-Dec '49

Double superhet for ten. A. B. Wright. Short Wave Mag pt 1 7:418-422 Aug '49; pt 2 7:514-519 Sep '49; pt 3 7:594-595 Oct '49

Effective double superheterodyne for 2 meter band. (Pittige Dubbel-Super 2 m band) Radio Bul 18:280-282 Aug '49

Field tests for Citizens band. R. E. Samuelson. Electronics 21:92-96 Jan '48

Low-cost ham receiver. Newton G. Noell. Radio & TV N 42:54-56 Oct '49

10 meter DC HF receiver. (10 Meter HF Modtager) Radio Ekko 9:146-150+ July '46

Miniature short-wave receiver. (Microrreceptor de onda corta) Fidelco Tec Bol 1:30-33 Apr '49

Modern DX receiver. R. D. Carter. Radio & TV N 41:59-61+ Apr '49

Modernizing the prewar HRO. Loren G. Windon. QST 33:51-53+ June '49

One tube 2 meter superhet. Ernest J. Schultz. Radio & TV N 41:64+ Feb '49. Correction: 41:153 Apr '49

Operating the R1132A on 144 mcs. S. T. Smith. RSGB Bul 25:42-43 Aug '49

R. E. amateur band receiver. (R. E. Baandmodtager) Radio Ekko 12:48-52+ Mar '49

Radio model "TR-136". (Le "TR-136.") M. Barn. Toute la Radio No 136:173-176 June '49

Receiver for the 28 mc band. (Ein guter Empfaenger fuer das 28 MC-Amateurband) Zangerl. Radiowelt 4:44-45 May '49

Receivers and aerials for the 144 mcs band. E. A. Dedman. RSGB Proc 6:105 July '49

Short wave amateur receiver. (KB-Amatormodtager) Radio Ekko 12:78 Apr '49

Sidebands and their functions. Murray Barlowe. Radio Maint 5:16-17+ June '49

Sideband suppression. I. Queen. Radio-Electronics 21:36 Nov '49

"Souping up" a war-surplus HRO. Paul D. Rockwell. QST 33:39 Feb '49

Still more on the "super-selective C.W. receiver." QST 33:58+ June '49

Tested two circuit amateur receiver. (Ein bewaehrter Zwei - Kreis - Amateurempfaenger) Radio Tech 25:657-658 Nov '49

8 tube amateur superheterodyne OZ5OR. (8 Rors Amatorsuper OZ5OR) Radio Ekko 12:112-114+ June '49

W3KPX high-gain preamplifier for 10 meters. Harry D. Hooton. Radio & TV N 41:49-51 Jan '49

See also

Antennas, Amateur
Communications
Transceivers

RECEPTION and RECEIVERS (AM), Controls

Automatic volume control. [Controle automatico de volume (AVC)] Radio J 1:49-51 Oct '49

Automatic volume control. (Fadingautomatic paa smaa Modtagere) Radio Ekko 10:62 Mar '47

Construction details of a continuously variable loudness control. J. W. Turner. Audio Eng 33:17+ Oct '49

Flexible dual control system. Howard T. Sterling. Audio Eng 33:11-12 Feb '49

Full-range loudness control. John Winslow. Audio Eng 33:24-25+ Feb '49

Gated, keyed or pulsed AGC. Radio & TV Ret 50:79 Nov '49

Modification to increase volume control range in AN/ARC-3 and AN/AIC-3-C-47B and C-48D. PB 87149

Need for fast acting AGC system. Walter H. Buchsbaum. Radio & TV N 42:72-74+ Dec '49

Simple far-near device for radio receivers. H. Gibas. Schweiz Elektrotech Ver Bul 39:362-367 May '48. In German

Simple tone control circuit. E. J. James. Wireless World 55:48+ Feb '49

Tone control circuits. P. J. Walker. Wireless World 55:501-502 Dec '49. (Letter)

Tone controls. N. Namthrow. Radio Ser Deal 10:14+ Nov '49

Tube engineering news. Communications 29:14+ Jan '49

Patents

Amplitude control, Darwin S. Renner, 2,462,551, 1 cl. Appl Nov 5, '42; granted Feb 22, '49

Automatic frequency control circuit, Joseph C. Spindler, 2,483,070, 9 cl. Appl May 2, '46; granted Sep 27, '49

Automatic frequency control circuits, Gustav Guanella, 2,474,354, 13 cl. Appl June 4, '43; granted June 28, '49

Automatic frequency control system, Gordon L. Fredenall, 2,458,156, 1 cl. Appl July 29, '44; granted Jan 4, '49

Automatic gain control system, Harold Goldberg, 2,466,229, 1 cl. Appl Apr 21, '44; granted Apr 5, '49

Automatic selector for radio receivers, John Lolli and Gene Papitto, 2,463,290, 13 cl. Appl July 16, '47; granted Mar 1, '49

Dual channel gain control, Harry Wilkie, 2,477,028, 2 cl. Appl Feb 3, '45; granted July 26, '49

RECEPTION and RECEIVERS (AM), Controls, *Patents*–Cont'd.

Electric volume control, Henry M. Dressel, 2,465,-213, 6 cl. Appl July 10, '45; granted Mar 22, '49

Radio receiver gain-control arrangement, Benjamin F. Tyson, 2,460,202, 10 cl. Appl Apr 19, '44; granted Jan 25, '49

Radio volume control, Henry M. Dressel, 2,489,757, 7 cl. Appl Oct 15, '47; granted Nov 29, '49

Tone control system, Lloyd J. Bobb, 2,491,155, 5 cl. Appl Dec 31, '43; granted Dec 13, '49

Variable tone control device, Albert Claus Fitschen, 2,483,041, 4 cl. Appl May 23, '47; granted Sep 27, '49

Wave-signal receiver, including a disabling arrangement, Jasper J. Okrent, 2,467,565, 7 cl. Appl Oct 13, '44; granted Apr 19, '49

See also

Potentiometers & Rheostats
Tuning Aids, Receivers

RECEPTION and RECEIVERS (AM), Detectors & Detection

"Corrector" — new detector principle for superheterodynes. ("Corrector" — nyt Sporingsprincip for Supere) Radio Ekko 11:8-9 Jan '48

Detector-filter circuit. Radio-Electronics 21:32 Nov '49

Effect of fluctuation voltages on linear detection. Ph.D. thesis. J. R. Ragazzini. Columbia U E.E. Dept '41

Eight AM detector systems. Radio-Electronics 21: 46 Dec '49

Phase angle demodulator. (Phasenwinkeldemodulator) Radio Tech 25:457-460 Aug '49

Patents

High-low impedance electron tube detector, Hubert H. Wittenberg, 2,460,160, 6 cl. Appl Nov 29, '45; granted Jan 25, '49

Interference reducing amplitude modulation detector, Donald D. Grieg, 2,471,427, 20 cl. Appl Apr 16, '43; granted May 31, '49

See also

Frequency Modulation, Detectors
Microwaves, Detection
Pulse Circuits, Detectors

RECEPTION and RECEIVERS (AM), Midget

American midget receiver. (Ein amerikanischer Kleinstempfaenger) Radio Tech 25:129-130 Feb '49

Building instructions for the "Mikron" subminiature tube receiver. (Subminiaturroehren-Empfaenger "Mikron") Radio Tech 25:46-50 Jan '49

Building the midget superheterodyne "Phoenix." (Kleinsuper "Phoenix") Radio Tech 25:107-109 Feb '49

Building the Parvulus super midget. (Parvulus Sechs-Roehren-Kleinsuper) Radio Tech 25:170-175 Mar '49

Heat reduction in midget sets. John T. Bailey. Radio-Electronics 20:46-47 June '49

Midget AC mains receiver. S. W. Amos. Wireless World 55:94+ Mar '49

Midget superheterodyne. (Miniatursuper) Radio Tech 25:311-314 May '49

Miniature-tube receiver has permeability tuner. J. E. Hazelrigg. Radio-Electronics 21:40-41 Nov '49

Receiver with subminiature tubes. (Ein Empfaenger mit Subminiaturroehren) Radio Tech 25:315-317 May '49

3 way superheterodyne with Tungsram's new small tubes. (Super for Universaldrift med Tungsrams nye Miniatureror) Radio Ekko 12:209+ Nov '49

Two miniature receivers with space pentode RV 2,4 P 45. (Zwei Kleinstempfaenger mit Raumladepentoden RV 2,4 P 45) Radio Tech 25:57-59 Jan '49

See also

Printed Circuits & Miniaturization
Vacuum Tubes, Miniature

RECEPTION and RECEIVERS (AM), Portable

Building a three-way receiver. (Batterie-Netzempfaenger) Radio Tech 25:595-598 Oct '49

Design of battery receivers. (Planning van batterijontvangers) Radio Bul 18:348-349 Oct '49

Midget tube battery receivers. (Schaltungen mit den neuen Miniaturroehren) Radiowelt 4:57-59 Sep '49

Pocket-micro-receiver. Richard Henry. Radio-Electronics 20:31 Jan '49

Pocket sized receiver. (Taschenempfaenger mit Subminiatureoehren) Radio Tech 25:359-361 June '49

Portable battery superheterodyne. Building instructions. (Batterie-Koffersuper) Radio Tech 25:413-415 July '49

Portable receiver type "OCTR 139." (Un recepteur portatif l'OCTR 139) J. Bertoni. Toute la Radio No 139:273-275 Oct '49

Radio hat. J. Garcin. Toute la Radio No 137:228 July-Aug '49. In French

Radio hat. Radio-Electronics 20:32-33 June '49

Radio hat. Radio Times 4:22-23 Aug 15, '49

Receiver fits shirt pockets. T. J. Judge. Radio-Electronics 21:38-39 Dec '49

R.E. Minor, 4½ tube portable battery superheterodyne. (R.E. Minor 4½ Rors transportabel Batteri-Super) Radio Ekko 11:124-129 July '48

Three tube battery portable. (Dreiroehren-Reiseempfaenger) Rudolph Amon. Radiowelt 4:36-37 May '49

Three tube portable. (Trerors transportabel Super med Staalror) Radio Ekko 9:96-103 May '46

Three-way portable. (Fuenfroehren-Kofferempfaenger fuer Batterie- und Netzbetrieb) Radiowelt 4:53-55 Sep '49

Three-way crystal portable set. (Krystalstyret Universalsender til Sommerferien) Radio Ekko 12: 130 July '49

Three-way receiver problems. (Probleme um den Batterienetzempfaenger) Radio Tech 25:649-653 Nov '49

"Weekend 5" portable. ("Weekend 5") Radio Tech 25:446-448 July '49

RECEPTION and RECEIVERS (AM), Portable–Cont'd.

Patents

Antenna belt and radio receiver, Orrin G. Cafrella and James E. Votour, 2,470,687, 6 cl. Appl Mar 19, '48; granted May 17, '49

Combination power cord and carrying strap for portable radios, Donald R. Baker, 2,487,509, 1 cl. Appl Oct 6, '48; granted Nov 8, '49

Portable radio receiver, Frank A. Zibelman, 2,487,-013, 1 cl. Appl Nov 14, '46; granted Nov 1, '49

Portable receiver, Roland S. Johnson, 2,467,314, 9 cl. Appl Oct 20, '44; granted Apr 12, '49

Radio receiver unit mounted in a suitcase, Arvilla Nathalyn Olsen, 2,486,536, 3 cl. Appl Dec 22, '45; granted Nov 1, '49

See also

Transceivers

RECEPTION and RECEIVERS (AM), Servicing

See servicing

RECEPTION and RECEIVERS (AM), Superheterodyne

Assembly of a superheterodyne. (Dobbelttransporeringssuper med to af vore Konstruktioner) Radio Ekko 12:116 June '49

Building the rimlock superheterodyne with band spread. (Rimlocksuper mit Bandehnung) Radio Tech 25:233-238 Apr '49

Construction of RE standard super. (Konstruktionsartikler: RE Standard Super) Radio Ekko 11: 186 '48

Double superheterodyne with good LF response. (Dobbeltsuper med fast 1. Mellemfrekvens) Radio Ekko 10:219 Nov '47

Four tube AC superheterodyne. (4-Rors Super f. Vekselstrom) Radio Ekko 9:125-127 June '46

High fidelity superheterodyne. (Gross-Super mit hohem Klangkomfort) Radio Tech 25:531-534 Sep '49

Improvements in three tube superheterodyne. (Forbedringer ved Trerorssuperen) Radio Ekko 11:32-33 Feb '48

Inexpensive 4 tube superheterodyne. (Ein Billiger 4-Roehren-Super) Radio Tech 25:471-472 Aug '49

Inexpensive superheterodyne. (Ein billiger Vollsuper) Radio Tech 25:528-530 Sep '49

Interesting German superheterodyne. (En interessant tysk Storsuper) Radio Ekko 12:6 Jan '49

My dream receiver becomes a reality. (Min Onskemodtager bliver til Virkelighed) Radio Ekko pt 1 11:36-38 Feb '48; pt 2 11:64-69 Apr '48

New reception principles for superheterodynes. (Neue Empfangsprincipien fuer Super) Radio Tech 25:584-586 Oct '49

"Pin up" MK 4349 Superheterodyne. ("Pin-up" Super MK 4349) Radio Bul 18:325-331 Oct '49

RE Standard superheterodyne. (R.E. Standard-Super W) Radio Ekko 11:186-188 Oct '48

Superheterodyne chassis. (Einbausuper) Radio Tech 25;465-467 Aug '49

Three tube reflex superheterodyne (Rimlock). (Dreiroehren-Rimlock-Reflexsuper) Radiowelt 4:56-57 Sep '49

Three tube superheterodyne with rimlock tubes. (Trerors Super med rimlock Ror) Radio Ekko 11:90-91 May '48

Patents

Radio receiver, Louis Couillard, 2,468,041, 6 cl. Appl Feb 12, '43; granted Apr 19, '49

Superheterodyne receiver with automatic frequency control, F. Albert de Groot, 2,483,889, 7 cl. Appl Apr 12, '46; granted Oct 4, '49

Wide-band superheterodyne receiver, 2,460,900, 4 cl. Appl Dec 31, '43; granted Feb 8, '49

See also

Reception & Receivers, Communication

RECEPTION and RECEIVERS (AM), Superregenerative

5 meter superregenerative receiver. (5 Meter Superregenerativ Modtager) Radio Ekko 10:122 June '47

112 mc receiver. (Pendelrueckkopplungsempfaenger fuer 112 MHz) Franz Aigner. Radiowelt 4:39-42 May '49

Performance capabilities of superregenerative receivers. G. V. Eltgroth. Tele-Tech pt 1 8:24 Feb '49; pt 2 8:40 Mar '49

Simple theory and design formulas for superregenerative receivers. Wheeler Mono No 3:3 Apr-Sep '48

Superregeneration — an analysis of the linear mode. Herbert A. Glucksman. IRE Proc 37:500-504 May '49

Superregenerative receiver again popular. (Superregenerativschaltungen — wieder actuell) Radio Tech 25:223-229

Superselectivity in a superregenerative receiver. Wheeler Mono No 7 Apr-Sep '48

Patents

Superregenerative receiver, Bernard D. Loughlin, 2,481,852, 20 cl. Appl Nov 30, '44; granted Sep 13, '49

Superregenerative receiver system, Lewis F. Jaggi, 2,481,517, 2 cl. Appl Mar 12, '45; granted Sep 13, '49

RECEPTION and RECEIVERS (AM), Tuning

See

Reception & Receivers (AM)
Tuning Aids, Receivers

RECORDING INSTRUMENTS

Automatic current integrator. M. J. Poole. Jour Sci Instr 26:113+ Apr '49

Automatic recording apparatus for the study of flow and recovery in metals. E. N. da C. Andrade and A. J. Kennedy. Phys Soc Proc section B 62:669-675 Nov '49

Clinton walkie-talkie and scale of two. 8 pp '46 MDDC 1502

Counting with relays. G. R. Frost. Elec Eng 68: 975 Nov '49

RECORDING INSTRUMENTS–Cont'd.

Current integrator. H. T. Gittings. PB 95746

Current integrator. (Letter) H. T. Gittings, jr. Rev Sci Instr 20:325-326 Apr '49

Data recording system instruction book. PB 97215

Design of high-frequency counters. M.S. thesis. H. K. St. Clair. U Calif Eng Dept June '48

Design and production of counting instruments (electrical). German Industry Rep. BIOS 1389 Brit Govt Pub

Dew-point recorder. S. S. Stack. Gen Elec Rev 52:42 Apr '49

Differential counting with reversible decade counting circuits. Frederick H. Martens. Rev Sci Instr 20:424-425 June '49

Double-channel, direct reading, low frequency counting rate meter and counting rate comparator. Robert M. Kloepper and Frank E. Hoecker. Rev Sci Instr 20:17-22 Jan '49

Effect of temperature on the steady-state sensitivity of vacuum radiation detectors. I. Amdur and N. L. Brown. Rev Sci Instr 20:435-441 June '49

Electronic circuitry. J. McG. Sowerby. Wireless World pt 1 55:225-226 June '49; pt 2 55:259-260 July '49; pt 3 55:298-300 Aug '49

Electronic classifying cataloguing, and counting systems. PB 96413

Electronic counters. (Les compteurs electronique) Tech Mod 41:333-334 Oct '49

Electronic counting. (Comptage electronique) J. Raux. Tech Mod 41:174-176 May '49

Engineering aspects of biological recorder design. S. R. Gilford. Elec Eng 68:247-248 Mar '49

High speed rotation counter. Vin Zeluff. Electronics 22:152+ Sep '49

Improvement of the electrokymograph's electronic recording system. M.S. thesis. Simon Cohen. Ohio State U E.E. Dept Dec '48

Improving the response characteristic of graphic recorders. (Letter) P. G. Sulzer and A. H. Waynick. Rev Sci Instr 20:320 Apr '49

Instrument for the measurement and time integration of small voltages and currents. I. A. D. Lewis and A. C. Clark. Jour Sci Instr 26:80+ Mar '49

Linear recording meter. Isadore Cogan. Radio & TV N 41:8-9+ May '49

Method for improving the electrokymograph. M.S. thesis. Morris Ribner. Ohio State U E.E. Dept Dec '48

Model 200 pulse counter. 13 pp '46. MDDC 773

New rapid (millisecond) automatic equistep "staircase" method of calibrating voltage-actuated recorders. H. L. Curtis. Instruments 22:41+ Jan '49

Predetermined electronic counter. B. R. Gossick. IRE Proc 37:813 July '49

Pulse counters. P. Naslin and A. Peuteman. Onde Elec pt 1 29:241-254 June '49; pt 2 29:330-335 Aug-Sep '49. In French

Pulse length sorter and counter. R. J. Parent and R. W. Schumann. NEC Proc '49

Recording dosimeter for one microsecond X-ray pulses. J. S. Allen and D. E. Hudson. PB 96758

Recording of rapidly varying phenomena. (L'enregistrement des phenomenes rapidment variables) U. Zelbstein and J. Avril. Electronique 37:3-9 Nov '49

Recording of small direct voltages with ink. (Ein Verfahren zum Aufzeichnen kleiner Gleichspannungen mit Tintenschrift) Geyger. Arch Elek Ubertragung 3:165-173 Aug '49

Recording of strain by the parallel resonance method. H. J. Beach Electronic Eng 17:737 Oct '45

Shock tube, piezoelectric gauges, and recording apparatus. J. C. Fletcher and others. 1:715 PB 43051

Square-law power-level recorder. W. R. Clark and others. AIEE Proc section 9120:1-7 Apr '49

Subminiature decade counter. W. W. Snyder. Radio & TV N 42:10+ July '49

Triggered electronic counters. (Les compteurs electroniques a impulsions) Electronique 33:15-16 July '49

Versatile, inkless, multichannel recorder. D. W. Halfhill. Gen Elec Rev 52:39-42 Nov '49

Watch rate recorder. H. G. M. Spratt. Electronic Eng 21:39-44 Feb '49

Patents

Accumulator entry means controlled by combinational hole records, George F. Daly, 2,475,312, 4 cl. Appl May 15, '45; granted July 5, '49

Apparatus for recording of rapidly varying processes, Ernst Jacobi, 2,477,062, 4 cl. Appl Oct 28, '41; granted July 26, '49

Automatic recorder, Francis L. Moseley, 2,464,708, 2 cl. Appl Jan 5, '44; granted Mar 15, '49

Contour indicating device, Alda V. Bedford, 2,487,511, 11 cl. Appl May 21, '47; granted Nov 8, '49

Control system, John L. Barker, 2,483,394, 21 cl. Appl Dec 21, '44; granted Oct 4, '49

Counting and timing circuits, Ernest D. Burlingame and Madison G. Nicholson, jr., 2,483,620, 8 cl. Appl Aug 23, '44; granted Oct 4, '49

Counting apparatus, Leo Rosen, 2,468,112, 4 cl. Appl Aug 29, '44; granted Apr 26, '49

Counting tube transfer circuit, Harold T. Lyman, jr., 2,473,159, 8 cl. Appl Jan 29, '49; granted June 14, '49

Current integrating network, William R. Baker, 2,487,510, 3 cl. Appl Nov 12, '47; granted Nov 8, '49

Device for precision recording of X-ray diffraction patterns, Charles L. Christ and Edmund Francis Champaygne, 2,490,674, 4 cl. Appl July 13, '48; granted Dec 6, '49

Differential detection and counting of traveling pulses, Larry L. Young, 2,479,802, 12 cl. Appl July 23, '47; granted Aug 23, '49

Electronic counter, Werner A. Gieseke, 2,470,926, 10 cl. Appl Feb 27, '46; granted May 24, '49

Electronic counter duration indicator, Oliver T. Francis, 2,478,911, 7 cl. Appl Feb 1, '45; granted Aug 16, '49

Electronic counting system, Wilcox P. Overbeck, 2,470,716, 10 cl. Appl June 11, '43; granted May 17, '49

Electronic cycle counting circuit, Joseph C. Tellier, 2,490,243, 3 cl. Appl June 12, '47; granted Dec 6, '49

RECORDING INSTRUMENTS, *Patents*–Cont'd.

Electronic totalizing system, Nathan A. Moerman, 2,472,542, 7 cl. Appl Jan 29, '48; granted June 7, '49

Error recorder, Alfred A. Worf, 2,488,574, 3 cl. Appl Oct 10, '47; granted Nov 22, '49

Impulse counter, Meguer Kalfaian, 2,476,303, 2 cl. Appl Jan 4, '47; granted July 19, '49

Impulse sender, Harold J. McCreary, 2,475,553, 6 cl. Orig appl Mar 10, '45; divided and this appl Apr 26, '47; granted July 5, '49

Mechanism for checking concurrently operating accumulating and printing devices, Orville B. Shafer, 2,475,340, 4 cl. Appl Dec 13, '47; granted July 5, '49

Opinion meter, Theodore A. Rich, 2,491,335, 9 cl. Appl Apr 29, '47; granted Dec 13, '49

Photoelectric counting device, Theodore K. Riggen, 2,481,347, 8 cl. Appl Oct 28, '46; granted Sep 6, '49

Pulse counting time-measuring system and apparatus, Lloyd V. Lewis, 2,477,993, 29 cl. Appl May 12, '48; granted Aug 2, '49

Record verifying machine, Charles R. Doty, 2,475,-315, 4 cl. Appl Dec 12, '44; granted July 5, '49

Recording and controlling apparatus, Rutger B. Cult, 2,467,929, 15 cl. Appl Oct 4, '45; granted Apr 19, '49

Recording apparatus, Claude M. Hathaway, 2,461,-322, 4 cl. Appl Sep 13, '45; granted Feb 8, '49

Recording electric signals, Frank Reginald Thomas, 2,462,145, 1 cl. Appl Mar 26, '45; granted Feb 22, '49

Recording system, Richard F. Shea, 2,469,213, 7 cl. Appl Mar 20, '44; granted May 3, '49

Registration system, Paul Mallery, 2,460,702, 6 cl. Appl Jan 30, '48; granted Feb 1, '49

Shutter mechanism for photoelectric counters, Walter P. Fergnani, 2,465,215, 10 cl. Appl June 25, '48; granted Mar 22, '49

Signaling system, Henry M. Bascom, Robert F. Massonneau, Bernard Ostendorf, jr., and Wilton T. Rea, 2,487,781, 4 cl. Orig appl Aug 17, '44; divided and this appl Apr 25, '47; granted Nov 15, '49

Stenographic recording machine, Harry Bastow, 2,486,777, 16 cl. Appl Apr 14, '47; granted Nov 1, '49

System indicating the direction of variation of an electric quantity, and applications, Rene Jean Hardy, 2,488,909, 2 cl. Appl July 8, '47; granted Nov 22, '49

Totalisator system, John Handley, 2,479,681, 10 cl. Appl Sep 7, '44; granted Aug 23, '49

Transcriber for ink recorder tape, Leslie F. Sherwood, 2,480,386, 6 cl. Appl Apr 9, '47; granted Aug 30, '49

See also

Atomic Measurements

RECTIFIERS

Analytic and graphic determination of the magnitude and phase of higher harmonics of current and voltage in control rectifiers having infinite cathode impedance. Ya. M. Chervonenkis. Akad Nauk Izvest 4:449-458 Apr '48. In Russian

Boundary-layer theory of the dry rectifier. E. Spenke. Zeit f Phys 126:67-83 '49

Circuits for ion tubes. (Schaltungen fuer Ionenroehren) Radio Tech 25:182-185 Mar '49

Compact high frequency alternating current rectifier. German Industry Rep. FIAT T/B T-30 Brit Govt Pub

Contributions to calculation of signal-to-noise ratio at the receiver output and the transmission of noise voltage through a linear rectifier. K. Franz. PB 97327

Doehler rectifying effect. Nov '40. PB 96102

German progress on mechanical rectifier or contact converter. German Industry Rep. FIAT 515 Brit Govt Pub

Image force in rectifiers. P. T. Landsberg. Nature 164:967-968 Dec 3 '49

Modifications in the structure of the 25Z4-GT (half-wave rectifier). Elettronica 4:80 May '49. In Italian

Negative polarized modified double diode rectifier. (Dispositivo de polarizacao negativo) Radio J 1:7 Aug '49

New rectifier tube for extremely high power and voltage levels. T. H. Rogers. NEC Proc '49

Novel bridge rectifier circuit. H. B. Conant. Radio-Electronics 20:47 May '49

Rectifier characteristic and bridge modulator. (Gleichrichterkennlinie und Ringmodulator) Funk und Ton 3:115-117 Feb '49

Rectifier fault currents. C. C. Hershkind and others. AIEE Proc section 968:1-10 Apr '49

Rectifier for amateurs. (Ensretteranlaeg for Amatorer) Radio Ekko 12:227-228 Dec '49

Rectifiers. [Stromforsyningen (Ensretterne)] Radio Ekko 10:191-193 Oct '47

Rectifier stabilized with electronic potentiometer. (Redresseur stabilise a potentiometre) Helv Phys Acta 22:407-409 Aug 15, '49

Synthetic load for testing rectifiers. C. L. Tetherow. Elec Eng 68:341 Apr '49

Patents

Combination of two or more than two blocking-layer cells, Roelof Dirk Bugel and Cornelius de Lange, 2,486,110, 6 cl. Appl Sep 24, '45; granted Oct 25, '49

Current supply apparatus, James A. Potter, 2,469,-176, 8 cl. Appl Apr 18, '46; granted May 3, '49

Discharge device with an outer anode, 2,466,565, 7 cl. Appl Feb 25, '47; granted Apr 5, '49

Electrical circuits, Paul W. Stutsman, 2,480,684, 7 cl. Appl Feb 20, '47; granted Aug 30, '49

Electrical system, Harold E. Edgerton, 2,478,906, 19 cl. Orig appl Aug 16, '33; divided and this appl Oct 2, '46; granted Aug 16, '49

Electron discharge device, Albert G. Thomas, 2,457,-948, 9 cl. Appl Feb 16, '45; granted Jan 4, '49

Electronic circuit, Joseph C. Frommer, 2,477,976, 4 cl. Appl Sep 23, '46; granted Aug 2, '49

Electronic device, Albert G. Thomas, 2,457,950, 12 cl. Orig appl Jan 18, '45; divided and this appl Nov 15, '45; granted Jan 4, '49

Full-wave rectifier in glass or other insulating containers, Walter F. Bonner, 2,459,788, 3 cl. Appl Feb 23, '46; granted Jan 25, '49

Rectifier, Albert E. Howe, 2,482,777, 9 cl. Appl Nov 21, '46; granted Sep 27, '49

RECTIFIERS, *Patents*–Cont'd.

Rectifier, David Vitrogan, 2,482,817, 1 cl. Appl May 17, '45; granted Sep 27, '49

Rectifier and method of making the same, Leslie B. Haigh, 2,485,593, 6 cl. Orig appl Aug 14, '43; divided and this appl Jan 3, '47; granted Oct 25, '49

Rectifier and transformer unit, Klaus L. Hansen, 2,460,006, 3 cl. Appl Jan 10, '44; granted Jan 25, '49

Rectifier treatment, George W. Smith, 2,483,110, 3 cl. Appl Nov 2, '45; granted Sep 27, '49

Rectifying arrangement, George H. Pohm, 2,473,662, 14 cl. Appl Aug 2, '44; granted June 21, '49

Rectifying system, Hans Klemperer, 2,458,516, 5 cl. Appl Dec 5, '45; granted Jan 11, '49

Voltage multiplier, John B. Trevor, jr., 2,470,118, 5 cl. Appl Dec 14, '43; granted May 17, '49

See also

Filters
Power Supplies
Thyratrons

RECTIFIERS, Crystals

Crystals rectifiers. (Kristall-Gleichrichter) Elektron Wiss und Tech 3:381-386 Oct '49

Crystal rectifiers. Telev Franc No 50:24-25+ Aug '49. In French

Electrical technology contact rectifier for heavy currents. German Industry Rep. BIOS 408 Brit Govt Pub

Frequency characteristics of galena rectifiers. Dec 1948. PB 96532

Preparation of semi-conductors and development of crystal rectifiers. PB 98415

Theory of the AC impedance of a contact rectifier. J. Bardeen. Bell System Tech J 28:428-434 July '49

Patents

Crystal matrix, Nathaniel Rochester, 2,476,066, 7 cl. Appl May 6, '48; granted July 12, '49

Electrical power supply, Walter W. Zimmerman, 2,470,542, 4 cl. Appl Oct 29, '47; granted May 17, '49

Point-contact rectifier, Francis Hugh Brittain and Charles Eric Ransley, 2,472,938, 10 cl. Appl Mar 1, '45; granted June 14, '49

See also

Conduction & Conductors, Semiconductors
Crystals
Crystal Tubes, Diodes
Physics, Solid State

RECTIFIERS, Gaseous

Analysis of rectifier biasing circuits. M.S. thesis. Herman Roscoe Weed. Ohio State U Chem Dept Sep '48

Electron-tube rectifiers. F. A. Annett. Power 93:126-128+ Feb '49

Grid control of mercury-arc rectifier. E. O. T. Electrician 143:295-296 July 22, '49

Harmonics in mercury-arc rectifiers. E. O. T. Electrician 143:1075-1076 Sep 30, '49

Hot-cathode gas-filled rectifying valves. R. Suart. Radio Franc No 1:17+ Jan '49

Kenotron tubes for industrial precipitation applications. D. W. Hawkins. Elec Eng 68:342 Apr '49

Patents

Cathode coating for electron discharge devices, Orlow S. Bright, jr., 2,473,358, 5 cl. Appl Aug 23, '46; granted June 14, '49

Cathode structure for gas tubes, Earl K. Smith, 2,489,937, 5 cl. Appl May 15, '47; granted Nov 29, '49

Cold cathode gaseous discharge tube, Ladislas Goldstein and Francis Perrin, 2,487,437, 1 cl. Appl Nov 23, '43; granted Nov 8, '49

Cold-cathode gas tube with starting electrode, Paul W. Stutsman, 2,462,142, 10 cl. Appl June 14, '47; granted Feb 22, '49

Control grid for gas tubes, Charles P. Smith, 2,458,213, 7 cl. Appl Dec 14, '46; granted Jan 4, '49

Current rectifier tube, Maurice Ponte, 2,467,595, 3 cl. Appl May 2, '47; granted Apr 19, '49

Device comprising a current converting tube, Johannes Gijsbertus Wilhelm Mulder, 2,459,284, 3 cl. Appl July 20, '46; granted Jan 18, '49

Device comprising a gaseous discharge tube, Franciscus Cornelis van Looy and Pieter Schouwstra, 2,480,060, 10 cl. Appl Mar 11, '47; granted Aug 23, '49

Discharge device with connector of low thermal and high electrical conductivity, Hubertus Anthonius van Meurs, 2,465,769, 4 cl. Appl July 20, '46; granted Mar 29, '49

Electric system embodying cold-cathode gaseous discharge device, Kenneth J. Germeshausen, 2,492,142, 7 cl. Appl Oct 17, '45; granted Dec 27, '49

Electric valve excitation and control circuit, Carl C. Herskind and Marvin J. Mulhern, 2,484,565, 9 cl. Appl Dec 30, '48; granted Oct 11, '49

Electrical control system, Gustav E. Undy, 2,470,119, 13 cl. Appl Dec 15, '44; granted May 17, '49

Electrical discharge device, Charles G. Smith, 2,473,826, 12 cl. Appl Nov 30, '45; granted June 21, '49

Electrical system, Paul W. Stutsman, 2,473,832, 7 cl. Appl Apr 14, '44; granted June 21, '49

Electrode structure, Edward B. Noel, 2,459,579, 2 cl. Appl Aug 6, '47; granted Jan 18, '49

Electron discharge device, Raymond Richard Back, 2,474,211, 3 cl. Appl May 20, '47; granted June 28, '49

Electron-emitting electrode for electric discharge tubes, Gregorious Johan Lampert and Adriaan A. Padmos, 2,488,731, 3 cl. Appl Apr 27, '46; granted Nov 22, '49

Flasher circuits, Edward V. Sundt, 2,465,131, 6 cl. Appl Nov 25, '46; granted Mar 22, '49

Gas-filled electric discharge device, Stanislaw Lalewicz, 2,479,846, 8 cl. Appl Sep 20, '44; granted Aug 23, '49

Gaseous discharge apparatus, Paul W. Stutsman, 2,466,749, 4 cl. Appl Apr 25, '46; granted Apr 12, '49

Gaseous discharge device, Paul W. Stutsman, 2,463,577, 4 cl. Appl Jan 24, '47; granted Mar 8, '49

RECTIFIERS, Gaseous, *Patents*–Cont'd.

Gaseous discharge device, Paul W. Stutsman, 2,473,-833, 3 cl. Appl Jan 9, '46; granted June 21, '49

Gaseous discharge device, Paul W. Stutsman, 2,481,-365, 7 cl. Appl Sep 19, '46; granted Sep 6, '49

Gaseous discharge tube, Johannes Gijsbertus Wilhelm Mulder, 2,465,256, 6 cl. Appl Apr 29, '46; granted Mar 22, '49

Gaseous discharge tube, Ralph H. Mitchel, 2,478,-119, 6 cl. Appl Apr 20, '45; granted Aug 2, '49

Glow tube rectifier, Paul W. Stutsman, 2,473,831, 8 cl. Appl Feb 24, '44; granted June 21, '49

Grid control circuit for gas tubes, James H. Burnett, 2,489,858, 22 cl. Appl Jan 29, '47; granted Nov 29, '49

Grid control for static current converters, Uno Lamm, 2,479,242, 12 cl. Appl Dec 23, '44; granted Aug 16, '49

Hot cathode grid control gas tube, Earl K. Smith, 2,489,938, 20 cl. Appl Sep 24, '48; granted Nov 29, '49

Ignition device for ionic valves, Uno Lamm, 2,461,-428, 8 cl. Appl Apr 10, '47; granted Feb 8, '49

Marine cathode, August P. Colaiaco and Spencer M. Cork, 2,465,200, 2 cl. Appl Mar 20, '47; granted Mar 22, '49

Mercury vapor rectifying apparatus, Stanley George King, 2,473,151, 10 cl. Appl July 24, '45; granted June 14, '49

Partially indirectly heated cathode structure for gas tubes, Donald V. Edwards, 2,459,997, 11 cl. Appl May 24, '47; granted Jan 25, '49

Rectifier circuit arrangement, Daniel Marie Duinker, 2,467,116, 6 cl. Appl Feb 8, '47; granted Apr 12, '49

Rectifier tube and circuit, Robert C. Hilliard, 2,486,-025, 1 cl. Appl Sep 12, '45; granted Oct 25, '49

Rectifying apparatus, David E. Trucksess, 2,488,350, 4 cl. Appl July 13, '48; granted Nov 15, '49

Thermionic discharge device, Forrest E. Gehrke, 2,484,703, 11 cl. Appl July 1, '48; granted Oct 11, '49

Vapor electric device, William E. Pakala, 2,459,582, 19 cl. Appl Mar 20, '47; granted Jan 18, '49

See also

Thyratrons

RECTIFIERS, Metallic

Application of metallic rectifiers to resistance welding. Elec Eng 68:166 Feb '49

Bismuth: its use in selenium rectifiers. German Industry Rep. BIOS 56 Brit Govt Pub

Characteristics of selenium rectifiers prepared by the vacuum method. German Industry Rep. FIAT 671 Brit Govt Pub

Characteristics and applications of metal rectifiers. P. A. Goodyer. S Afr IEE Trans 40:147-172 July '49

Copper-oxide rectifiers for very small alternating voltages. (Die Verwendung von Kupferoxydul-Gleichrichtern zur messung kleinster Wechselspannungen) H. Ifland. Funk und Ton 3:449-454 Aug '49

Design, application and servicing of selenium rectifiers. I. Wolf. Service 18:10-12+ Nov '49

Disk rectifiers for DC power. F. A. Annett. Power 93:121-124+ June '49

Experimental examination of rectifier theory as applied to the selenium rectifier. H. W. Henkels. NEC Proc '49

Factors in judging selenium rectifiers. I. R. Smith. Westinghouse Eng 9:136-139 Sep '49

German metal rectifier. German Industry Rep. BIOS 797 Brit Govt Pub

German research on rectifiers and semi-conductors. German Industry Rep. BIOS 725 Brit Govt Pub

High inverse voltage germanium rectifiers. S. Benzer. Jour Ap Phys 20:804-815 Aug '49

HV Metallic rectifier systems. N. B. Tharp and C. K. Hooper. Communications 29:12-13+ Sep '49

Modern selenium rectifiers. (Moderne Selengleichrichter) ETZ 70:161-164 May '49

Report on selenium dry rectifier developments. German Industry Rep. FIAT 706 Brit Govt Pub

Research reports covering crystal oscillators, germanium rectifiers, dielectric materials, infrared phosphors, etc., 1939-1945. PB 84913

Selenium rectifiers. German Industry Rep. CIOS XXVII-45 Brit Govt Pub

Selenium rectifiers. German Industry Rep. CIOS XXVIII-38 Brit Govt Pub

Selenium rectifier development in Germany. German Industry Rep. JIOA 56 Brit Govt Pub. Supplement FIAT 890 Brit Govt Pub

Selenium rectifiers for electronic and electrical applications. Vickers Elec Div Bul No Vc-3000 pp 7-15 '49

Selenium rectifiers and their advantages. (Los modernos rectificadores de selenium y sus ventajas) Fidelco Tech Bol 1:18-19+ Apr '49

Selenium rectifiers as used on German motorcycles. German Industry Rep. FIAT 626 Brit Govt Pub

Selenium rectifiers in motor vehicle power systems. Glen Ramsey. AIEE Proc section 946:1-5 Apr '49

Selenium rectifiers replace vacuum tubes. John B. Ledbetter. Radio-Electronics 21:63-65 Oct '49

Semiconductor rectifiers. Elec Eng 68:865-872 Oct '49

Semiconductors and rectifiers. N. F. Mott. IEE Proc 96:253-260 Sep '49

Patents

Alternating current rectifier, Albert C. Fletcher and Donald Lloyd, 2,473,419, 14 cl. Appl Jan 14, '46; granted June 14, '49

Alternating electric current rectifying apparatus of the dry surface contact type, Alec Hervey Bennett Walker, 2,486,768, 1 cl. Appl Aug 14, '45; granted Nov 1, '49

Contact means, Carl C. Hein, 2,473,884, 3 cl. Appl May 7, '46; granted June 21, '49

Dry-plate rectifier unit, Jerome G. Abbott, 2,474,-809, 2 cl. Appl Aug 1, '45; granted July 5, '49

Electric rectifier and method of production, William H. Meiklejohn, 2,485,402, 3 cl. Appl May 2, '46; granted Oct 18, '49

Electrical rectifier construction, Linnie K. Hedding, 2,490,435, 9 cl. Appl Aug 11, '48; granted Dec 6, '49

RECTIFIERS, Metallic, *Patents*–Cont'd.

Manufacture of metal contact rectifiers, Eugene P. Sauerborn, 2,462,906, 2 cl. Appl Apr 29, '44; granted Mar 1, '49

Manufacture of selenium elements such as rectifiers, Douglas Louis Ashton Driver, 2,480,124, 1 cl. Appl Apr 6, '46; granted Aug 30, '49

Method and apparatus for coating dry rectifier elements, William E. Riecken, 2,462,899, 8 cl. Appl Mar 20, '44; granted Mar 1, '49

Method of manufacturing rectifier elements, Murray J. Stateman, 2,462,917, 3 cl. Appl May 12, '45; granted Mar 1, '49

Method of manufacturing rectifier elements, Murray J. Stateman, 2,468,131, 1 cl. Appl July 17, '45; granted Apr 26, '49

Method of manufacturing small current selenium rectifiers, Earl D. Wilson, 2,479,446, 3 cl. Appl May 10, '46; granted Aug 16, '49

Method of reducing the leakage current in selenium rectifiers, Nicoloaas Willem Hendrik Addink, 2,464,066, 6 cl. Appl Aug 29, '45; granted Mar 8, '49

Method of treating selenium, Floris de Boer, 2,462,-949, 1 cl. Appl Apr 9, '46; granted Mar 1, '49

Reclamation of selenium rectifier cells, David W. Rau, 2,471,898, 5 cl. Appl Apr 10, '47; granted May 31, '49

Rectifier, Carl C. Hein, 2,462,186, 1 cl. Appl Mar 15, '45; granted Feb 22, '49

Rectifier, Charles A. Escoffery, 2,468,051, 8 cl. Appl July 22, '47; granted Apr 26, '49

Rectifier, Charles S. Duncan, 2,459,630, 4 cl. Appl Oct 29, '45; granted Jan 18, '49

Rectifier, Chester A. Kotterman, 2,485,450, 10 cl. Appl Oct 24, '46; granted Oct 18, '49

Rectifier, Irvin Levin, 2,469,393, 3 cl. Appl Feb 8, '45; granted May 10, '49

Rectifier, Murray F. Skinker, 2,462,911, 3 cl. Appl Oct 20, '45; granted Mar 1, '49

Rectifier, Pieter Harm Fennema and Albertus Jacobus van den Hoogenhoff, 2,489,767, 3 cl. Appl June 24, '47; granted Nov 29, '49

Rectifier, Wayne E. Blackburn, 2,476,800, 4 cl. Appl May 7, '46; granted July 19, '49

Rectifier, William H. Burgess, 2,491,031, 12 cl. Appl Feb 17, '47; granted Dec 13, '49

Rectifier element, Murray J. Stateman, 2,459,848, 4 cl. Appl July 14, '45; granted Jan 25, '49

Selenium rectifier, Walter P. Krok, 2,459,886, 8 cl. Appl Nov 2, '45; granted Jan 25, '49

Selenium rectifier, Wayne E. Blackburn, 2,484,204, 5 cl. Orig appl July 25, '42; divided and this appl June 2, '45; granted Oct 11, '49

Selenium rectifier, Wayne E. Blackburn, 2,488,369, 9 cl. Appl Dec 15, '43; granted Nov 15, '49

Selenium rectifier, Wayne E. Blackburn and Alberto R. Apodaca, 2,479,301, 6 cl. Appl Nov 29, '47; granted Aug 16, '49

Selenium rectifier and photocell, Frank Gray, 2,485,-589, 4 cl. Appl May 9, '46; granted Oct 25, '49

Selenium rectifier and process of fabrication, Clarence W. Hewlett, 2,476,042, 6 cl. Appl Dec 26, '46; granted July 12, '49

Selenium rectifier element and method of manufacturing same, Tore Gunnar Malmberg, 2,458,-013, 6 cl. Appl Feb 27, '45; granted Jan 4, '49

Testing circuit, Murray J. Stateman, 2,459,849, 9 cl. Appl July 8, '46; granted Jan 25, '49

See also

Conduction & Conductors, Semiconductors
Crystal Tubes, Diodes

RECTIFIERS, Thyratron

See Thyratrons

REGULATION

Development of saturation choke coils as elements in automatic regulation and control systems. Reel 0046 No 475,772:4-6 SDLC. In Russian

Electronic frequency regulator. I. S. Bruk and others. Avtomatika i Telemekhanika 9:144-151 Mar-Apr '48. In Russian

Maintenance of electronic regulators. H. W. Gayek. Power Pl Eng 53:73-75 Mar '49

Monitoring and regulating systems. V. V. Solodovnikov. Avtomatika i Telemekhanika 9:85-103 Mar-Apr '48. In Russian

New phase regulator with four triodes. (Ny Fasevender med fire Trioder) Radio Ekko 11:247-248 Dec '48

Novel regulator circuit. Y. P. Yu. Electronics 22: 170+ May '49

Operation of voltage-stabilizing elements with current-stabilized supplies. J. J. Gilvarry and D. F. Rutland. Rev Sci Instr 20:633-637 Sep '49

Power supply regulators. (La stabilisation des sources d'alimentation) R. Lemas. Electronique 37:27-29 Nov '49

Patents

Automatic regulator using transductors, Marius Bockman, 2,464,551, 3 cl. Appl Aug 21, '47; granted Mar 15, '49

Electrical control circuit, Paul Glass, 2,467,974, 20 cl. Appl May 19, '44; granted Apr 19, '49

Electrical regulator, Ernst Jonas Jacobi, 2,463,389, 5 cl. Appl Apr 20, '44; granted Mar 1, '49

Electrical regulator, John J. Root, 2,486,882, 2 cl. Appl Oct 4, '45; granted Nov 1, '49

Power regulating bridge network, Lloyd B. Cherry, 2,481,905, 12 cl. Appl June 7, '45; granted Sep 13, '49

Sensitivity equalizing circuit for control apparatus, Rudolf F. Wild, 2,473,401, 14 cl. Appl Oct 6, '45; granted June 14, '49

Stabilizer for alternating current power transmission systems, Ernst F. W. Alexanderson, 2,470,-454, 26 cl. Appl May 13, '47; granted May 17, '49

Volt-ampere demand limiter, Robert S. Dole, 2,480,-452, 8 cl. Appl Aug 22, '45; granted Aug 30, '49

Voltage or current regulator, David C. Cox, 2,476,-534, 8 cl. Appl Aug 28, '44; granted July 19, '49

Wave-signal amplitude-limiting system, Wolf Joachim Gruen, 2,485,731, 9 cl. Appl May 2, '47; granted Oct 25, '49

REGULATION, Current

Automatic controls increase furnace output. Iron Age 164:43-45 Dec 29, '49

REGULATION, Current–Cont'd.

Contactless high-speed current regulator. I. L. Kaganov. Reel 0046 No 475,772:33-39 SDLC. In Russian

Patents

Constant current circuit, Ellison S. Purington, 2,475,050, 2 cl. Orig appl Oct 10, '44; divided and this appl June 20, '45; granted July 5, '49

Constant current regulator using a permanent magnet as a standard, Harold T. Faus, 2,491,305, 4 cl. Appl Jan 22, '48; granted Dec 13, '49

Current control apparatus, Karl A. Lang, 2,471,822, 8 cl. Appl Apr 11, '45; granted May 31, '49

Current limiting system for Ward-Leonard drives, Terryl B. Montgomery and Thomas H. Bloodworth, 2,473,721, 12 cl. Appl Dec 18, '43; granted June 21, '49

Current regulating device, Karl A. Lang, 2,471,823, 8 cl. Appl June 13, '45; granted May 31, '49

Overload protection system, William E. McCown, 2,473,344, 3 cl. Appl Jan 26, '45; granted June 14, '49

Regulator, Kenneth R. MacKenzie, 2,468,678, 5 cl. Appl June 28, '46; granted Apr 26, '49

See also

Generator Controls
Motors, Controls
Power Supplies

REGULATION, Voltage

Amplitude voltage regulator in the "Lenard-Ilgnes" system. V. P. Nikitin and N. P. Kunitdki. Akad Nauk Izvest No 9:1419-1432 Sep '48. In Russian

Analysis of the stability of an electronic-ionic voltage regulator. L. S. Gol'dfarb. Avtomatika i Telemakhanika 9:235-250 May-June '48. In Russian

Basic concepts of voltage regulation. C. J. Lake. Elec World 131:72-76+ Feb 26, '49

Brookhirst-Pearson voltage-regulating system. Engineering 168:215+ Mar 4, '49

Calculation of magnetic voltage regulators. (Vorausberechnung von magnetischen Spannungsgleichschaltern) Werner Taeger. Funk und Ton 3:429-437 Aug '49

Carbon pile voltage regulators for aircraft. W. B. Kouwenhoven and G. J. Thaler. Elec Eng 68: 394 May '49

Characteristics of glow-discharge voltage regulator tubes. E. W. Titterton. Jour Sci Instr 26:33+ Feb '49

Corona-tube regulators for high voltages. I. H. Blifford and others. Electronics 22:110-111 Dec '49

Economic voltage regulator design. B. M. Hadfield. Radio & TV N 41:13-15+ Jan '49

Final engineering report on the study of voltage regulator electron tubes. W. B. Field and others. Battelle Memorial Inst Rep NP 774 59 pp June 30, '48. AEC

Improved degenerative regulators. (Abstract) Y. P. Yu. IRE Proc 37:170 Feb '49

Photo-tube input for a voltage stabilizer. E. N. Strait and W. W. Buechner. Rev Sci Instr 20: 783-785 Nov '49

Rectifier voltage control. F. Butler. Wireless World 55:227-229 June '49

Stabilized voltage-dropping element. Sydney E. Smith. Radio & TV N (Eng Ed) 42:6-7+ Nov '49

Tester for VR tubes. Stephen S. Peschel. Electronics 22:148+ Apr '49

Use of barium compounds in glow discharge regulator tubes. H. Jacobs and others. Sylvan Tech 2:12-14 Jan '49

Voltage control without feeder regulators. N. N. Smeloff. Elec Eng 68:57 Jan '49

Voltage regulation. J. N. Walker. RSGB Bul 24: 239-244 Apr '49

Voltage stabilisers. F. A. Benson. Electronic Eng pt 1 21:155-158 May '49; pt 2 21:200-203 June '49; pt 3 21:243-247 July '49; pt 4 21:300-302 Aug '49

Voltage stabilization for electrostatic generators using an electron gun. S. J. Bame, jr. and L. M. Baggett. Rev Sci Instr 20:839-849 Nov '49

Voltage stabilization by means of barium titanate capacitors. G. I. Skanavi and M. D. Neuman. Eng Digest 10:427-429 Dec '49

Voltage-regulated power supplies. Cap vol 14 June '49

Voltage-regulator devices. Power 93:125-126+ Dec '49

Voltage regulator for the heating of tubes. (Un regulateur de tension pour le chauffage des tubes electroniques) L. A. Vallet-Cerisier. Electronique 31:14-16 May '49

VR tube characteristics. (Les tubes stabilizateurs de tension.) Electronique 34:6-14 Aug '49

Patents

Analyzing method and apparatus, Donald P. Eckman and William H. Wannamaker, jr., 2,470,434, 21 cl. Appl Mar 27, '45; granted May 17, '49

Carbon pile regulator, William J. Rady and Lyman A. Rice, 2,486,978, 12 cl. Appl Aug 23, '47; granted Nov 1, '49

Constant voltage source, Heinz E. Kallmann, 2,482,-980, 13 cl. Appl Apr 6, '46; granted Sep 27, '49

Electrical system, Arnold Tustin, 2,474,872, 4 cl. Appl Dec 7, '45; granted July 5, '49

Electronic flash tube apparatus, Raymond B. Basham, 2,469,913, 1 cl. Appl Feb 15, '47; granted May 10, '49

High stability voltage regulator, William R. Baker, 2,462,935, 1 cl. Appl Aug 27, '46; granted Mar 1, '49

Power supply regulator system, Clement Martinez, 2,474,269, 2 cl. Appl Jan 25, '46; granted June 28, '49

Rectifier with a voltage regulating reactor saturable by direct current, Sven-Eric Hedstrom and Uno Lamm, 2,470,556, 10 cl. Appl Nov 14, '46; granted May 17, '49

Solution concentration control system, Sidney G. Noble and William L. Wolgemuth, 2,492,174, 21 cl. Appl Sep 29, '44; granted Dec 27, '49

Stabilizing network for carbon pile voltage regulators, Earle Rhea Davis, 2,464,439, 4 cl. Appl July 30, '47; granted Mar 15, '49

Support for voltage regulators, Warren S. Master, 2,474,270, 1 cl. Appl Oct 16, '44; granted June 28, '49

REGULATION, Voltage, *Patents*–Cont'd.

Voltage and phase control, Stephen Steinitz, 2,459,551, 3 cl. Appl Apr 12, '46; granted Jan 18, '49

Voltage control and stabilizing circuits, Gerhard Herzog and Arthur H. Lord, jr., 2,477,802, 5 cl. Appl Apr 10, '45; granted Aug 2, '49

Voltage control system, Everett L. Deeter, 2,473,512, 27 cl. Appl June 1, '44; granted June 21, '49

Voltage regulating arrangement, Bertram Morton Hadfield, 2,486,155, 2 cl. Appl May 27, '44; granted Oct 25, '49

Voltage regulating system, George H. Fletcher, 2,462,624, 24 cl. Appl May 18, '45; granted Feb 22, '49

Voltage regulating system, Lester G. Tubbs, 2,482,522, 2 cl. Appl May 7, '46; granted Sep 20, '49

Voltage regulating system, Michael E. Hiehle, 2,474,580, 6 cl. Appl May 23, '46; granted June 28, '49

Voltage regulating system, Uno Lamm, 2,477,991, 2 cl. Appl June 4, '48; granted Aug 2, '49

Voltage regulation, David E. Trucksess, 2,468,850, 5 cl. Appl Feb 18, '47; granted May 3, '49

Voltage regulation, Hans Klemperer, 2,468,080, 5 cl. Appl Jan 31, '47; granted Apr 26, '49

Voltage regulation, James A. Potter, 2,471,976, 6 cl. Appl Apr 18, '46; granted May 31, '49

Voltage regulation, John T. McLamore, 2,465,903, 3 cl. Appl Feb 26, '44; granted Mar 29, '49

Voltage regulation, William H. Bixby, 2,466,874, 8 cl. Appl Jan 31, '45; granted Apr 12, '49

Voltage regulator, Allen E. Hastings, 2,475,613, 2 cl. Appl Oct 11, '45; granted July 12, '49

Voltage regulator, Eugene Mittelmann, 2,488,600, 4 cl. Appl Mar 13, '46; granted Nov 22, '49

Voltage regulator, Jack L. Bowers, 2,461,514, 3 cl. Appl May 2, '46; granted Feb 15, '49

Voltage regulator, Murlan S. Corrington, 2,483,755, 3 cl. Appl Dec 28, '45; granted Oct 4, '49

Voltage regulator, Robert B. Le Tourneau, 2,482,588, 4 cl. Appl Feb 11, '47; granted Sep 20, '49

Voltage regulator, William Herbert Bixby, 2,486,250, 19 cl. Appl Dec 24, '47; granted Oct 25, '49

Voltage regulator circuit, William L. Kinsell, 2,490,063, 6 cl. Appl June 14, '47; granted Dec 6, '49

Voltage regulator circuits, Clyde E. Smith, 2,477,946, 5 cl. Appl Apr 13, '44; granted Aug 2, '49

Voltage regulator for alternating current machines, Ulrik Krabbe, 2,477,988, 2 cl. Appl Aug 21, '47; granted Aug 2, '49

Voltage regulator tube circuit, Walter F. Scott, 2,469,280, 4 cl. Appl Apr 18, '46; granted May 3, '49

Voltage regulator tube starter, Richard W. Lee and Raymond L. Garman, 2,483,386, 8 cl. Appl Dec 9, '48; granted Sep 27, '49

Voltage regulator with secondary source of potential, Lionel P. Paradise and Werner F. Auerbacher, 2,484,724, 20 cl. Appl Aug 1, '44; granted Oct 11, '49

Voltage stabilizer, Gerrit Mak, 2,472,256, 6 cl. Appl Jan 10, '48; granted June 7, '49

See also

Motors, Controls
Power Supplies
Rectifiers, Gaseous

RELAYS

Analysis of contact relay systems. M. A. Gavrilov. Electricity (USSR)* No 4:5-13 '47

Brain as a relay circuit. (Das Gehirn als Relaisanlage) Elektron Wiss und Tech 3:478-481 Dec '49

Contacts. P. W. Swenson. Bell Lab Rec 27:50+ Feb '49

Counting with relays. G. R. Frost. AIEE Proc section 9148:1-5 July '49

Development and production of electrical components, especially of relays. German Industry Rep. BIOS 393 Brit Govt Pub

Discussion on "ultra-high-speed relays in the fields of measurement and protection." IEE Proc pt II 96:50+ Feb '49

Electric relay. German Industry Rep. BIOS 393 Brit Govt Pub

Electronic alternating-current relays. Power 93:112-114+ Aug '49

Electronic direct-current relays. Power 93:118-120+ July '49

Electronic pressure transmitter and self balancing relay. 11 pp '44 MDDC 803

Electronic protective relays. R. H. Macpherson and others. Elec Eng 68:122-128 Feb '49

Electronic relay aids utility communication. G. W. Benedict. Elec World 131:106+ Apr 9, '49

Electronic relay developments. J. J. Loving 68:478 June '49

Equations for the processes in an electromagnet (solenoid) with a moving armature. A. I. Moskvitin. Akad Nauk Izvest No 4:509-516 Apr '48 In Russian

Erosion of electrical contacts on make. L. H Germer and F. E. Haworth. Jour Ap Phys 20:1085-1109 Nov '49

Gaseous relays. (Ionenschalter) Radio Tech 25:119-122 Feb '49; pt 2 25:299-303 May '49

German naval mining relays and moulded powder permanent magnets. German Industry Rep BIOS 587 Brit Govt Pub

Lead-pencil mark sets off relay. V. H. Laughter Radio-Electronics 21:35 Dec '49

Logic of relay circuits. Wm. Keister. AIEE Proc section 9145:1-6 July '49

New distance ground relay. S. L. Goldsborough Elec Eng 68:27 Jan '49

Philips relay valve type PL5. T. W. Sauvan Philips Tech Comm No 6:15-18 '49

Relay "Trees" and symmetric circuits. S. H. Washburn. AIEE Proc section 9147:1-5 July '49

Selecting magnetic relays for industrial controls. H F. Littlejohn, jr. Product Eng pt 1 20:89-93 Sep '49; pt 2 Magnetic relays types and characteristics 20:140-145 Oct '49

Sequential aspects of relay circuits. A. E. Ritchie AIEE Proc section 9146:1-5 July '49

Shipshaw relay protection. J. T. Madill and F. H Duffy. AIEE Proc section 94:1-9 Apr '49

Spark quenching at relay contacts interrupting DC circuits. A. Hamilton and R. W. Sillars. IEE Proc 96:64+ Mar '49

Test set for mercury contact relays. R. J. Hopf Bell Lab Rec 27:132-135 Apr '49

RELAYS–Cont'd.

Time-delay electronic relays. Power 93:126-128+ Sep '49

Vacuum tube relay for thermostat control. (Letter) I. Sucher and H. S. Anker. Rev Sci Instr 20: 321 Apr '49

Patents

Alternating current relay, Michael Debrey, 2,484,934, 23 cl. Appl Oct 15, '46; granted Oct 18, '49

Automatically controlled interrupter circuit, Charles G. Compton, 2,480,396, 6 cl. Appl Feb 17, '48; granted Aug 30, '49

Code detecting means, Frederick T. Fereday, 2,465,-794, 3 cl. Appl Nov 27, '46; granted Mar 29, '49

Compensatory electrical control circuit, Howard Farley, 2,478,257, 2 cl. Appl Nov 5, '47; granted Aug 9, '49

Condenser fed plural relay system, Kenneth L. Curtis, 2,466,689, 2 cl. Appl Apr 27, '43; granted Apr 12, '49

Control circuit for slow-releasing relays, Thomas L. Dimond, 2,489,017, 6 cl. Appl Feb 26, '48; granted Nov 22, '49

Current responsive relay with shock and ambient temperature compensating means, Harold E. Schleicher, 2,486,888, 26 cl. Appl Feb 5, '45; granted Nov 1, '49

Cutout relay system, George L. Webb, 2,469,092, 1 cl. Orig appl Nov 24, '44; divided and this appl Sep 20, '46; granted May 3, '49

Electric circuit for retentive type relays, George C. Armstrong and Owen L. Taylor, 2,486,240, 9 cl. Appl Aug 18, '45; granted Oct 25, '49

Electric relay, Osborne I. Price, 2,462,894, 4 cl. Appl Feb 27, '45; granted Mar 1, '49

Electrical control system, Karl J. Stiefel, 2,473,617, 2 cl. Appl Oct 27, '44; granted June 21, '49

Electrically operated vibrator apparatus, David Benjamin, 2,472,367, 2 cl. Appl Oct 28, '47; granted June 7, '49

Electromagnetic mercury relay, John P. Keating, 2,474,000, 10 cl. Appl Apr 6, '46; granted June 21, '49

Electromagnetic relay, Carle E. Rackley, 2,487,372, 1 cl. Appl Nov 5, '45; granted Nov 8, '49

Electromagnetic relay, Ernest Alfred Bryan, 2,458,-247, 1 cl. Appl Feb 5, '45; granted Jan 4, '49

Electromagnetic relay, Fredric E. Wood, 2,473,982, 3 cl. Appl Nov 23, '45; granted June 21, '49

Electromagnetic relay mechanism, Ralph E. Hersey, 2,484,224, 8 cl. Appl Nov 23, '46; granted Oct 11, '49

Electromagnetically operated vacuum sealed relay, Keith Robert Vale and John Ernest Benson, 2,485,-024, 3 cl. Appl Oct 19, '45; granted Oct 18, '49

Electronic compass relay (reflector type), Robert C. Harrington, jr., 2,480,134, 5 cl. Appl Nov 19, '48; granted Aug 30, '49

Electronic relay, Earle B. McDowell and Pieter Juchter, 2,471,834, 5 cl. Appl Dec 9, '44; granted May 31, '49

Frequency responsive relay, Jerome G. Abbott, 2,485,548, 2 cl. Appl Mar 28, '46; granted Oct 25, '49

Magnetic limit switch, Charles F. Coake, 2,475,819, 15 cl. Appl Feb 24, '45; granted July 12, '49

Motor control relay, Edward Pearson, 2,484,244, 3 cl. Appl Oct 7, '46; granted Oct 11, '49

Multiphase vibrator and vibrator system, William W. Garstang, 2,489,372, 11 cl. Appl Aug 31, '46; granted Nov 29, '49

Periodic electromagnetic relay, Henry Wolfson and Stanley Carden Shepard, 2,482,820, 3 cl. Appl Apr 17, '43; granted Sep 27, '49

Photoelectric relay, Elihu Craig Thomson, 2,466,751, 13 cl. Appl Nov 1, '46; granted Apr 12, '49

Relay, Andrew W. Vincent, 2,461,360, 5 cl. Appl Oct 16, '43; granted Feb 8, '49

Relay, George C. Armstrong, 2,486,239, 9 cl. Appl Apr 3, '45; granted Oct 25, '49

Relay, George M. Stapleton, 2,484,358, 6 cl. Appl Dec 22, '45; granted Oct 11, '49

Relay, Joseph E. Willing and George J. Johanek, 2,486,086, 4 cl. Appl Aug 21, '45; granted Oct 25, '49

Relay circuit, Nathan Garber, 2,483,408, 3 cl. Appl Mar 26, '45; granted Oct 4, '49

Relay coil assembly, Leigh W. McMichael, 2,486,-751, 11 cl. Appl June 22, '45; granted Nov 1, '49

Relay control circuits, Stephen V. Hart, 2,484,342, 5 cl. Appl Sep 29, '45; granted Oct 11, '49

Relay distributing circuit, Henry C. Harrison, 2,486,-712, 5 cl. Appl Feb 24, '47; granted Nov 1, '49

Relay system, Frederick D. Snyder, 2,473,916, 6 cl. Appl Aug 15, '46; granted June 21, '49

Resonance-receiving relay switching device, Werner Koenig, 2,476,419, 10 cl. Appl Mar 28, '45; granted July 19, '49

Selective relay, George Eannarino, 2,486,394, 6 cl. Appl Feb 25, '46; granted Nov 1, '49

Three-phase transfer relay, Kurt Mahnke, 2,486,-305, 4 cl. Appl July 20, '45; granted Oct 25, '49

Vibrator relay, Eric Malcolm Swift McWhirter, 2,485,624, 1 cl. Appl Oct 6, '45; granted Oct 25, '49

Voltage responsive relay, Harold E. Schleicher, 2,486,887, 16 cl. Appl Nov 2, '44; granted Nov 1, '49

Wear adjusting shim for a relay, Harry B. Smith, 2,484,251, 1 cl. Appl Apr 12, '46; granted Oct 11, '49

See also

Microwaves, Communication, Relays
Television, Relay Systems

REMOTE CONTROL

Magnetic amplifier remote-positioning system. J. W. Drisko. PB 98547

Radio control of mobile miniatures. E. L. Safford, jr. CQ 5:18-21+ Apr '49

Radio-controlled bus. M. Gordon Moses. Radio-Electronics 20:22-23 Jan '49

Radio controlled motor boat model. (Radio-Fjern-styring af Model-Motorbaad) Radio Ekko 9:120-122+ June '46

Radio operated gates control mountain traffic. Eng N 142:18 Mar 24, '49

Remote control for a model boat. (Radiocommande d'un modele reduit) P. Dejean. Toute la Radio No 132:40-43 Jan '49

REMOTE CONTROL–Cont'd.

Remote control system applicable to the resetting of clocks. (Procede de telecommande, notamment applicable a la remise a l'heure des pendules) Electronique 37:25-26 Nov '49

Telecontrolled tunable receiver installation. J. E. Benson and W. A. Colebrook. AWA Tech Rev 8:125-145 '49

Wired wireless control unit. Radio-Electronics 20: 40 Jan '49

Patents

Antihunt positioning apparatus, Herman Nygaard, 2,475,457, 15 cl. Appl Feb 12, '45; granted July 5, '49

Antihunting means for remote-control systems, Michel N. Yardeny, 2,475,269, 4 cl. Appl Feb 27, '43; granted July 5, '49

Electronic remote-control device, Joseph R. Desch and Ernest V. Gulden, 2,467,257, 32 cl. Appl May 11, '44; granted Apr 12, '49

Frequency measuring device and remote-control system, Edward M. Sorensen, 2,484,804, 11 cl. Orig appl May 16, '40; divided and this appl Mar 24, '41; granted Sep 27, '49

Millivolt control unit, John W. Alderson, 2,459,784, 4 cl. Appl Aug 10, '43; granted Jan 25, '49

Radio control system, Ellison S. Purington, 2,480,-338, 11 cl. Appl July 7, '44; granted Aug 30, '49

Radio control system, Gilbert G. Brown and George J. Eannarino, 2,480,115, 7 cl. Appl Nov 30, '46; granted Aug 30, '49

Radio remote-control system, James M. Althouse and Margaret A. McAdams, 1 cl. Appl Apr 26, '46; granted Dec 13, '49

Remote control, Robert Alkan, 2,473,464, 5 cl. Appl May 26, '45; granted June 14, '49

Remote-control apparatus, Hosmer L. Blum, 2,461,-407, 2 cl. Appl Oct 21, '44; granted Feb 8, '49

Remote control arrangement, Charles Thomas Scully, 2,462,134, 9 cl. Appl Oct 14, '42; granted Feb 22, '49

Remote-control system, Adolph J. Wohlgemuth, 2,462,343, 17 cl. Appl Aug 21, '44; granted Feb 22, '49

Remote control system, Clarke M. Gilbert, 2,486,357, 8 cl. Appl Aug 13, '47; granted Oct 25, '49

Remote-control system, Donald A. Heisner, 2,474,-527, 6 cl. Appl May 9, '45; granted June 28, '49

Remote-control system, Hamilton A. Stamper, 2,471,843, 9 cl. Appl Nov 28, '45; granted May 31, '49

Remote-control system, Henry S. Young, 2,460,337, 9 cl. Appl June 20, '46; granted Feb 1, '49

Remote-control system, Ira F. Cadman, 2,460,336, 5 cl. Appl Feb 20, '46; granted Feb 1, '49

Remote-control system, Willard A. Derr, 2,484,208, 10 cl. Appl Mar 27, '47; granted Oct 11, '49

Remote-control system for selectively controlling a plurality of adjustable elements, De Witt Rugg Goddard, 2,474,663, 16 cl. Appl Dec 11, '44; granted June 28, '49

Remote-control system, particularly for arc welding, 2,487,375, 2 cl. Appl June 20, '45; granted Nov 8, '49

Remotely controlled receiver, Gunter H. Isay, 2,483,-053, 6 cl. Appl Mar 20, '48; granted Sep 27, '49

See also

Aircraft, Equipment, Automatic Pilots
Servomechanisms
Telemetering

REPEATERS

See

Communications, Telegraphy
Communications, Telephony, Repeaters

RESEARCH and LABORATORIES

Basic research projects under ONR contracts. Karl R. Spangenberg and Walter E. Greene. Electronics 22:66+ June '49

"Debellarmus superbos." RSGB Bul 25:113 Oct '49

Drawings for the 1050/SI transmitter modulator as well as reports on magnetron research and miscellaneous electronics research reports, 1939-1943. PB 84921. In German

Electronic research activities, France. German Industry Rep. CIOS I-1 Brit Govt Pub

Electronics and its application in industry and research. B. Lovell. Uspekhi Fiz Nauk 34:457-458 '48. In Russian

Electronics, including fundamental emission phenomena, part II. FIAT review of German science. G. Goubar and others. PB 85034. In German

Electrotechnological problems and research. A. Gunterschulze. 5:971 PB 70365

Electrotechnical research work undertaken for the German army and navy. PB 70365

Experimental facilities to be available at the Brookhaven nuclear reactor. 1 p AECU-291

Finding new products. Paul G. Weiller. Electronics 22:72+ Mar '49

German electronics in World War II. A. H Sullivan, jr. Elec Eng 68:403-409 May '49

German infra-red military research and development. E. R. Ricker and others. PB 97106

German research and development in the radio field Lyons area. German Industry Rep. CIOS XI-7 Brit Govt Pub

German research on semi-conductors, metal rectifiers, detectors and photocells. German Industry Rep. BIOS 1571 (51-7275-51) Brit Govt Pub

German war-time developments in infrared; a review of reports and documents released by the United States government. PB 95308

Institutes of the Bevollmaechtigter fuer Hochfrequenz-Forschung (high frequency research) German Industry Rep. CIOS XXXI-37 Brit Govt Pub

Miscellaneous electronics research reports from the Reichstelle fur Hochfrequenzforschung, 1938-1944 PB 84888. In German

Miscellaneous electronic research reports and drawings, 1936-1944. PB 84916

Miscellaneous material dealing with electrical and electronic research together with certain technical research on aeronautical research, 1939-1944. 11: 444 PB-84928

Miscellaneous reports covering electronic, reflection coefficients, solution of systems of linear equations and tables of Bessel functions, 1939-1944. 11:364 PB-84914

ESEARCH and LABORATORIES–Cont'd.

Miscellaneous reports covering electronic research, 1938-1945. 11:213 PB-84892

Miscellaneous reports covering seismology, fire control equipment, airborne radar equipment, electronic research, etc., 1936-1944. 11:445 PB-84915

Miscellaneous reports on electronic research, 1940-1945. 11:213 PB-84922

Miscellaneous reports on electronic research; radio and radar equipment, 1944-1945. 11:213 PB-84925

Miscellaneous reports on electronic research, tests on radar equipment and a manual on a radio receiver, 1940-1945. 11:213 PB-84991

Miscellaneous reports on radio and television research. 1943-1944. PB 84931

National Research Council of Canada. Electrical Engineering and radio branch. Progress report for April, May, June, 1948. July '48. PB 95441

New high-voltage engineering laboratory. J. H. Hagenguth. Gen Elec Rev 52:9-14 Sep '49

Organized creative technology. M. J. Kelly. Mid Eng 2:3-5+ Nov '49

Progress report for October, November, December 1948. PB 97120

Radio development. German Industry Rep. BIOS 201 Brit Govt Pub

Report on electrical side of Friedrich Krupp A. G. Schiessplatz, Meppen. German Industry Rep. CIOS E/R 303 Brit Govt Pub

Reprints dealing aeronautical research together with drawings for radio equipment and miscellaneous electronic research reports, 1943-1944. 11:445 PB-84929

Research for defense, history and activities of R.R.D.E. H. S. Young. Wireless World 55:s15 Dec '49

Research reports covering cavity resonators, cyclotrons, crystal vibration, feedback, microwaves, etc., 1942-1944. PB 84893. In German

Science and Industry. Electrician 143:817-818 Sep 9, '49

Scientific service to industry. Electrician 143:35 July 1, '49

Summary of 29 German research reports on electrical contacting phenomena and associated engineering problems. N. E. Hyde. PB 97527

Tables of organization and other data concerning the Telefunken organization. German Industry Rep. CIOS XXI-1 Brit Govt Pub

Technical data covering radar equipment, infrared rays and miscellaneous electronics reports. PB 84911

Technical data, reports and specifications covering vacuum tubes, frequency meters, voltage dividers, magnetic recorders, etc., 1940-1945. PB 84905. In German

University research in physics. J. A. Teegan. Beama J pt 1 56:319-326 Sep '49; pt 2 56:356-364 Oct '49; pt 3 56:371-380 Nov '49

X-ray impulse tube: teleprinter, helischreiber, telephony, and telegraphy systems: cine cameras and projectors; and use of ultrasonic oscillations for tinning and emulsifying. 1935-1946. PB 73731s2

Laboratories

Acoustics laboratories of the Physikalisch-Techniske Reichsanstatlt, Goettingen. German Industry Rep. BIOS 208 Brit Govt Pub

Administration and operation of a radiochemical laboratory. Tracerlog pt 1 No 9:6 Feb '48; pt 2 No 10:8 Apr '48; pt 3 No 11:12 June '48; pt 4 No 12:9 Sep '48

Air-conditioned electron tube laboratory. R. L. Vance. Bell Lab Rec 27:205-209 June '49

GEC research laboratories conversazione. Engineer 188:12-13 July 1, '49

High-voltage laboratory, Witton Engineering Works. H. F. Jones and J. Mitchell. GEC Jour 16:85-95 Apr '49

Huge laboratory will expand study of high voltages. Product Eng 20:141 Aug '49

Illinois U's new EE lab. Elec World 131:16-17 June 11, '49

Nondestructive testing laboratory. Vin Zeluff. Electronics 22:154+ May '49

New laboratory facilities to improve engineering effort. John A. Miller and John Horn. Gen Elec Rev 52:21-28 Dec '49

New physics laboratory at Sylvania. Sylvan Tech 2:2-7 Apr '49

See also
Engineering
Radar, Research & Development
Television

RESISTANCE and RESISTORS

Carbon resistors. Wireless World 55:S2-S4 June '49

Carbon resistors. Radio Times 4:14-15+ July 16, '49

Coating for wirewound resistors: final report, Aug 20, 1943-Nov 20, 1944. E. E. Marbaker. PB 18835. Addendum, Nov 20, 1944-May 31, 1945. PB 18834

Correspondence between the static characteristics and the dynamic parameters of negative resistance devices. G. Cartianu. Onde Elec 29:44-50 Jan '49. In French

Cracked-carbon resistors. Robert W. Wilton. FM-TV 9:29+ Feb '49

Distribution of temperature and current in cylindrical bodies. Carl F. Muckenhoupt. Jour Ap Phys 20:939-942 Oct '49

Electrical conducting of bismuth fibres: magneto resistance and the crystalline structure. B. Donovan and G. K. T. Conn. Phil Mag 40:283-296 Mar '49

Electronic load resistor. Rufus P. Turner. Electronics 22:124+ Feb '49

Fixed resistors for use in communications equipment. P. R. Coursey. IEE Proc 96:169 May '49

Investigation of the properties of high valued resistors and methods of reducing surface leakage. 10 pp '44 AECD-2355

Measuring high-resistance values. L. B. Keim. Audio Eng 33:36-37 Oct '49

Multiple components. Wireless World 55:S15 June '49

RESISTANCE and RESISTORS–Cont'd.

Negative temperature coefficient resistors. ("NTC" resistors.) Philips Tech Comm Aust No 2-3:35-39 '49

Ohm's law and the resistor. J. T. Frye. Radio-Electronics 20:96 Mar '49. Also in Radio Times 4: 14-15+ Aug 1, '49

Properties of non-wire-wound resistors. (Les resistances fixes non bobinees) Toute la Radio No 135:141-143 May '49

Resistance construction. (Parlons encore des resistances) J. Gourevitch. Toute la Radio No 138: 253-256 Sep '49

Resistance-temperature characteristics of fixed composition resistors. 8 pp '45 MDDC-1554

Resistors and fixed capacitors manufactured in Germany. German Industry Rep. BIOS 567 Brit Govt Pub

Resistors for deposited circuit techniques. W. R. Conway. Electronic Eng 21:403-408 Nov '49

RF dummy loads. Herbert G. Eidson, jr. Communications 29:10-11+ June '49

Short time rated resistance. W. de Renzi. Elec Rev 145:151-153 July 22, '49

Size-variation of resistivity for mercury and tin. E. R. Andrew. Phys Soc Proc serial A 62:77 Feb 1, '49

Patents

Adjustable resistor, Viron E. Payne, 2,481,682, 2 cl. Appl Sep 13, '48; granted Sep 13, '49

Driver for variable resistors, Mervin Arisman, A. J. Vaksvik, and Ralph W. Mahnusen, 2,484,667, 10 cl. Appl Mar 17, '49; granted Oct 11, '49

Electric resistance and method of making, Evert Johannes Willem Verwey, 2,492,543, 6 cl. Appl July 24, '46; granted Dec 27, '49

Electrical impedance filament and the method of making same, Arthur C. Ruge, 2,470,051, 5 cl. Appl June 14, '47; granted May 10, '49

Electrical resistor, Thomas Holmes, 2,470,352, 3 cl. Appl July 20, '45; granted May 17, '49

Electrical resistor and method of making same, Theodore R. Palumbo, 2,487,581, 11 cl. Appl Mar 31, '48; granted Nov 8, '49

High-frequency resistor, Hugh E. Webber, 2,468,793, 14 cl. Orig appl Dec 6, '43; divided and this appl Dec 18, '44; granted May 3, '49

High-voltage resistor, John G. Crockett, 2,466,211, 3 cl. Appl Dec 30, '47; granted Apr 5, '49

Humidity responsive resistor, Alexis B. Dember, 2,481,728, 5 cl. Appl Oct 24, '45; granted Sep 13, '49

Insulated electrical resistances, John Stockdale, 2,461,935, 6 cl. Appl July 19, '44; granted Feb 15, '49

Lamella resistance unit, Shirley A. Bocking, 2,482,-316, 3 cl. Appl June 6, '46; granted Sep 20, '49

Metallic oxide resistor, Howard Christensen, 2,462,-162, 4 cl. Appl July 3, '44; granted Feb 22, '49

Multiple coil wound resistor, Aldo L. Livera, 2,464,-820, 3 cl. Appl Apr 5, '45; granted Mar 22, '49

Point contact negative resistance devices, Russell S. Ohl, 2,469,569, 13 cl. Appl Mar 2, '45; granted May 10, '49

Precision resistor, Seth August Holmqvist, 2,463,-384, 8 cl. Appl Jan 27, '47; granted Mar 1, '49

Pressure responsive electrical resistor, Hyman Hurvitz, 2,472,214, 8 cl. Appl Oct 22, '47; granted Jun 7, '49

Resistance unit and method of making same, Wilbu M. Kohring, 2,487,057, 3 cl. Appl Feb 23, '46 granted Nov 8, '49

Resistor having distortion protected connectin means, Charles B. Green and Raymond L. Rulison, 2,489,409, 5 cl. Appl Oct 29, '47; granted No 29, '49

Resistors for thermogauges, Karl Schwartzwalde Holly, Alexander S. Rulka, and Robert W. Smith 2,480,166, 5 cl. Appl Jan 8, '45; granted Aug 30 '49

Temperature-stable molded resistor, Morris L. Barfield and John J. Gurowski, 2,472,801, 3 cl. App May 6, '47; granted June 14, '49

Thermal responsive resistance device, Frederic R Quinn, 2,484,585, 4 cl. Appl Dec 2, '48; granted Oct 11, '49

Variable electrical resistor, Eugene Leopold Straub 2,458,314, 3 cl. Appl Jan 11, '46; granted Jan 4 '49

Variable resistance, Baden John Edwards and Donald Jackson, 2,486,931, 5 cl. Appl Aug 7, '47 granted Nov 1, '49

Variable resistor, Viron E. Payne, 2,484,117, 1 cl Appl Sep 13, '48; granted Oct 11, '49

See also

Bridges
Conduction & Conductors, Superconductors
Potentiometers & Rheostats

RESISTANCE and RESISTORS, Alloys

Change of electrical resistance of alloys during ageing. Z. Matyas. Phil Mag 40:324-337 Mar '49

Electrical properties of pure silicon and silicon alloys containing boron and phosphorus. G. L Pearson and J. Bardeen. Phys Rev 75:865-883 Mar 1, '49

Electrical resistivity and temperature coefficient of resistance of copper-manganese alloys. R. S Dean and others. Am Soc for Metals Trans 40: 381-400 '48

New alloy possesses high electrical resistivity: specially suitable for high accuracy wire-wound resistors. Steel 124:129 June 20, '49

Pressure and temperature coefficients of the electrical resistance of certain alloys. H. Egbert and J. Gielessen. Ann Phys Lpz 1:229-240 May 22, '47

Special silver-manganese resistance alloys. (Abstract) Metal Progress 55:720 May '49

RESISTANCE and RESISTORS, Low Temperature

Calculation of the "ideal" resistance of metals at low temperatures. G. J. van den Berg. Physica 15:65-75 Apr '49

Electrical resistance of a germanium rod at low temperatures. A. N. Gerritsen. Physica 15:427-432 May '49

High frequency resistance of superconductors. A. B. Pippard. Physica 15:40-44 Apr '49

High frequency skin resistance of metals at low temperatures. A. B. Pippard. Physica 15:45-54 Apr '49

ESISTANCE and RESISTORS, Low Temperature–Cont'd.

hermal and electrical resistance of tungsten single crystal at low temperatures and in high magnetic fields. J. DeNobel. Physica 15:532-540 July '49

See also

onduction & Conductors, Superconductors

ESISTANCE and RESISTORS, Measurement and Calculations

bsolute measurement of resistance by the Wenner method. J. L. Thomas and others. Nat Bur Stand Res J 43:291-353 Oct '49

pparatus for the measurement of the conductivity of electrolytes. H. K. Moneypenny. Jour Sci Instr 26:120+ Apr '49

ridge for direct measurement of resistance at carrier frequency. A. H. Burkhalter. Elec Eng 68: 339 Apr '49

alculations of resistance. F. Oakes. Toute la Radio No 139:278-281 Oct '49. In French

igh resistance bridge. 6 pp '44 MDDC-1523

inear resistance bridge. I. Queen. Radio-Electronics 20:54-56 July '49

easurements on the electrical resistivity of thin metallic films. A. Van Itterbeek and I. DeGreve. Physica 15:80-82 Apr '49

easurement of series-resonant resistance of a quartz crystal. L. A. Rosenthal and T. A. Peterson, jr. Rev Sci Instr 20:426-429 June '49

easurement of soil resistance. Engel. Tech Mit Schweiz 27:14-20 Feb '49. In French and German

easuring the resistance of conductors having spontaneously varying potentials. S. Y. Litvinov. Akad Nauk Izvest 3:440-441 '49. In Russian

Megger" earthometer tester. Engineering p 260+ Mar 18, '49

ethods and apparatus for calibration of resistances. (Metodi ed apparecchiature per misure su resistori campione) G. Rosa. Elettroteenia 36: 50-56 Feb '49

hmmeter reads to 300 megohms. John T. Bailey. Radio-Electronics 20:56-57 Apr '49

C ohmmeter. 4 pp '46. AECD 1978. Also PB 94869

obust 1 ohm sub-standard resistor for use at high frequencies. E. B. Moullin. IEE Proc pt II 96: 309+ Apr '49

elf-balancing resistance bridge. H. F. Rondeau. Gen Elec Rev 52:45-46 Oct '49

mple for RC measurements. (Semplici ponti di misura per RC) R. Zambrano. Elettronica 4: 72-74 May '49. Abstracts in French and English

mplified resistance calculations. J. C. Finlay. Electronic Eng 21:17-20 Jan '49

me results of measurements on a two-dimensional network analog. J. J. Donoghue. North American Aviation, Inc. Rep SR-29 17 pp June 20, '49. AEC

ansient response of high voltage resistance dividers. H. J. White. Rev Sci Instr 20:837-839 Nov '49

sing your ohmmeter. Herbert S. Brier. Radio-Electronics 20:52-53 Jan '49

Valve megohmmeter. W. H. Cazaly. Wireless World 55:326-328 Sep '49

Patents

Apparatus for electrically testing and classifying resistors, David E. Sunstein, 2,468,843, 3 cl. Appl Apr 10, '45; granted May 13, '49

Apparatus for measuring electrical resistance, Henry George Taylor, 2,458,805, 7 cl. Appl Oct 19, '45; granted Jan 11, '49

Apparatus for measuring high resistance, Joseph Razek, 2,461,923, 6 cl. Appl Sep 13, '44; granted Feb 15, '49

Electrical bridge circuit for testing the value of a resistor, Lawrence Raymond Goetz, 2,468,625, 2 cl. Appl Oct 1, '45; granted Apr 26, '49

Instrument for measuring resistances, Angus Love, 2,460,095, 2 cl. Appl Nov 22, '44; granted Jan 25, '49

Means for measuring resistance at high voltage, Scott L. Shive, 2,466,746, 2 cl. Appl Oct 16, '45; granted Apr 12, '49

Measuring apparatus, Joseph Razek, 2,484,737, 12 cl. Appl May 19, '45; granted Oct 11, '49

Resistance measuring apparatus, Robert B. Marye, 2,482,196, 3 cl. Appl Feb 6, '45; granted Sep 20, '49

See also

Bridges
Measurements & Meters, Multimeters

RESISTANCE and RESISTORS, Non-linear

Change in electrical resistance and thermal electromotive force in an elongated magnetic field in the NiMn alloy as a function of the amount of ordered phase. R. G. Annaev. Akad Nauk Dok 61:1009-1012 '48. In Russian

Contact resistance and its variation with current. S. Rudeforth. P O Elec Eng J 42:65-69 July '49

Dependence of resistivity of Ge in electric field. (Letter) R. Bray. Phys Rev 76:152-153 July 1, '49

Influence of a magnetic field on the conductivity of thin metallic films. E. H. Sondheimer. Nature 164:920-921 Nov 26, '49

Influence of a magnetic field on the size-variation of electrical conductivity. K. Sarginson and D. K. C. MacDonald. Nature 164:921-922 Nov 26, '49

Influence of form on the resistance of bismuth single crystals in a magnetic field. E. S. Borovik and B. G. Lazarev. Akad Nauk Dok 62:611-614 '48. In Russian

Magnetic resistance variation and conductance types. (Magnetische Widerstandsaenderung und Leitfaohigkeitstypen) Kohler. Naturwiss 36:86-87 '49

Non-linear resistor as surge divertor. E. O. T. Electrician 143:363-364 July 29, '49

Reason for nonlinearity of the volt-ampere characteristic of carborundum. V. I. Pruzhinina-Granovskaya. Zh Tekn Fiz 19:100-110 Jan '49. In Russian

Results of an investigation of the volt-ampere characteristic of some nonlinear resistors. M. A. Topchibashev. Avtomatika i Telemekhanika 10: 13-24 Jan-Feb '49. In Russian

RESISTANCE and RESISTORS, Non-linear–Cont'd.

Patents

Nonlinear resistance element, De Witt T. Van Alen, 2,487,839, 10 cl. Appl Nov 7, '45; granted Nov 15, '49

Resistor and method of making same, Anton M. Feller, 2,470,153, 4 cl. Appl May 25, '45; granted May 17, '49

RESISTANCE and RESISTORS, Thermistors

Electrolytic thermistors. F. Gutmann and L. M. Simmons. Rev Sci Instr 20:674-675 Sep '49

New applications for "wire-thermistors" in regulators. (Nuove applicazioni dei termistori a filo negli apparecchi regolatori) E. Meyer-Hartwig and E. Federspiel. Elettronica 4:265-268 Oct '49. Abstracts in French and English

Thermistor low frequency oscillator. M.S. thesis. Jay Stone. U Calif Eng Dept Sep '48

Thermistors. G. Pierry. Toute la Radio No 138: 250-242 Sep '49

Thermistors and their applications. (Les formes pratiques des thermistors et leurs applications) Electronique 37:13-14 Nov '49

Thermistors as components open design horizons. K. P. Dowell. Elec Mfg 42:84-91 Aug '48

Thermistors as instruments of thermometry and anemometry. W. B. Hales. Am Met Soc Bul 29: 494-499 Dec '48

Thermistors of uranium oxide. (Etude des thermistors a l'oxide d'uranium) J. Prigent. Jour Phys & Rad 10:58 Feb '49

Thermistors, pt 1, static characteristics. Monograph. Otto J. M. Smith. U Calif Eng Dept '48

Patents

Bead thermistor, Frederick H. Drake, 2,462,369, 14 cl. Appl Oct 10, '46; granted Feb 22, '49

Control circuit using high-temperature coefficient resistance elements, Prafulla Kumar Chatterjea and Charles Thomas Scully, 2,465,352, 3 cl. Appl May 20, '43; granted Mar 29, '49

Thermistor circuit compensating for supply voltage fluctuations, Prafulla Kumar Chatterjea, Leslie Wilfred Houghton, and Charles Thomas Scully, 2,468,082, 3 cl. Appl Aug 16, '43; granted Apr 26, '49

RHEOSTATS

See Potentiometers and Rheostats

S

SAFETY DEVICES and PRACTICES

Audio smoke alarm. Earle L. Kent. Electronics 22:77+ June '49

Automatic fire alarm. (Predetecteur de gaz et fumees. Le dispositif "Signum E.S. 32") Electronique 38:3-7 Dec '49

Construction of a hand-contamination counter and radiation monitor. 8 pp '47 MDDC-1639

"Dangerous radio parts." (Livsfarlige "Komponenter") Radio Ekko 12:121 June '49

Determination of perception current 30 to 200,000 cycles. M.S. thesis. T. H. Mansfield. U Calif Eng Dept Jan '49

Electric eye sees the dangers. E. Jellinek. Safety Eng 98:11 Aug '49

Electric shock vs. the broadcast engineer. F. W Smith. Broadcast Eng J 16:3-7 Aug '49

Explosion testing of radio and radar airborne equipment. D. Alden and V. W. Beckham. PB 9768

Flame detectors for domestic fuel burner safety devices. Justin A. Deubel. Elec Eng 68:346 Apr '49

Hand count procedures at Clinton laboratories. H M. Parker. AECD 1340

Hand count procedures at Clinton laboratories. H M. Parker. AECD 1840

Health physics division instrument manual. D. M Davis. 116 pp June 7, '49 AECU 299

Health-physics, instrumentation and radiation protection. H. M. Parker. MDDC 783

Lightening arresters for rotating machines. Edward Beck. Westinghouse Eng 9:72-73 May '49

Operating instructions for the radiation alarm model 2. Victoreen Instrument Co. 3 pp Oct 1 '49 AECD 2723

Photographs of health physics instrument used a Clinton Laboratories. Clinton Labs 14 pp MDDC 1397

Pocket radiation alarm: Aug 1947. PB 96370

Pocket radiation alarm. 8 pp '47 MDDC-1180

Radiation hazards-atomic age problem. H. W Speicher. Westinghouse Eng 9:119-121 July '49

Review of air monitoring procedures at Clinton Laboratories. H. M. Parker. MDDC 471

Review of water monitoring procedures at Clinton Laboratories. H. M. Parker. MDDC 401

Role of instruments in the Atomic bomb project W. P. Jesse. MDDC 289

Safety considerations for electronic blankets. L. W Cook. Elec Eng 68:623-627 July '49

Safety precautions. (Sikringsforanstaltninger) Radio Ekko 10:58-59 Mar '47

Safety regulations for radio receivers. (Sicherheitsvorschriften fuer Radioempfangsgeraete) Radio Tech 25:479-482 Aug '49

Siren-controlled traffic regulator. Vin Zeluff. Electronics 22:144+ May '49

Spark guard for electrostatics. S. M. Milanowski Electronics 22:138+ May '49

Standard safety requirements; safety regulation No 3. U.S. Atomic Energy Commission M-4408 339 pp Apr 28, '47. AEC

Static and inductive magnetic fuses. (Statische und induktive Magnetzuender) Elektron Wiss und Tech 3:65-69 Feb '49

Televise dangerous operation. Vin Zeluff. Electronics 22:133+ June '49

Television for the remote control of hazards from explosive filled ammunition items. Safety Eng 97:19+ June '49

Tests prove adequacy of protection scheme for open-wire signaling lines. W. A. Derr and others Elec World 132:71-73 Nov 5, '49

SAFETY DEVICES and PRACTICES–Cont'd.

Warning winker. "Diallist." Wireless World 55: 45+ Feb '49

Watch out for high voltages. (Pas paa Staerkstrommen) Radio Ekko 9:199 Sep '46

Watch out! Our work can be dangerous! (Pas paa! Vort Arbejde kan vaere farligt!) Radio Ekko 12:140-141 July '49

Patents

Alarm circuits, Victor S. Rutherford, 2,487,675, 8 cl. Appl July 3, '47; granted Nov 8, '49

Automatic cutoff for transformers, Richard H. Seaman, 2,463,812, 2 cl. Appl Sep 25, '45; granted Mar 8, '49

Burglary or fire alarm system, Daniel Parilla, 2,474,757, 1 cl. Appl June 4, '45; granted June 28, '49

Electrical fuse element, George S. Phipps, 2,486,202, 4 cl. Appl Dec 30, '48; granted Oct 25, '49

Electrical safety interlocking system, James B. Grover, 2,452,094, 7 cl. Appl June 30, '45; granted Feb 22, '49

Fire alarm system, Winslow B. M. Clark, 2,473,940, 4 cl. Appl Nov 20, '45; granted June 21, '49

Fire detecting apparatus, Lawrence J. Dahline, 2,478,373, 7 cl. Appl Dec 30, '46; granted Aug 9, '49

Fuse, Anthony T. Timerman, 2,485,076, 1 cl. Appl Sep 3, '46; granted Oct 18, '49

Fuse indicating system, John Aubrey Collins, 2,464,848, 1 cl. Appl Jan 3, '47; granted Mar 22, '49

Heat detecting system, John Evans, 2,467,120, 10 cl. Appl Apr 25, '45; granted Apr 12, '49

Heat detecting system, John Evans, 2,473,197, 2 cl. Appl June 21, '45; granted June 14, '49

Thermocouple for fire detection, Dwight A. Wrigley, 2,485,468, 4 cl. Appl Apr 13, '49; granted Oct 18, '49

Shunt control unit, John L. Stender and John I. Stender, 2,474,600, 4 cl. Appl Nov 25, '47; granted June 28, '49

See also

Circuit Interrupters & Breakers

SERVICING

Better soldering for better service. Radio Maint 5:32 May '49

Chassis punch. (Eine einfache Lochstanze) Zyhlarz. Radiowelt 4:38-39 May '49

Electronically speaking. Radio & TV N Monthly column

Electron theory. J. T. Frye. Radio-Electronics 20: 56 Feb '49. Also in Radio Times 4:14-15+ July '49

Fundamentals of radio servicing; what is induction? John T. Frye. Radio-Electronics 20:46-47 Apr '49

High quality analysis series. C. A. Tuthill. Radio Ser Deal 10:17+ Nov '49

How to make preventive repairs. Radio & TV Ret 50:102-103 Oct '49

How to repair a Hammond Solovox. Homer L. Davidson. Radio-Electronics 20:40-41 June '49

Instant-heating soldering iron. J. Gilbert. RSGB Bul 25:110+ Oct '49

One chance in fifty! Method in your magic speeds repair work — system is the only way to fast service. Radio & TV Ret 49:82+ May '49

Radio's "orphan" becomes television's necessity. RTJ 66:18-19+ Mar '49

RCA launches a new service campaign. Radio Maint 5:29 Nov '49

"Reflex" method of alignment. F. Haas. Toute la Radio No 137:216-218 July-Aug '49. In French

Review of trade literature. Radio Maint. Monthly column of book reviews for radio servicemen

Servicing of airborne equipment. T. R. W. Bushby. IRE Proc (Australia) 10:190-195 July '49

Servicing photo-electric equipment. W. R. Wellman. Radio Ser Deal pt 1 10:21-22+ Oct '49; pt 2 10:15-16+ Dec '49

Servicing simplified. S. J. Richard and J. T. Cataldo. Radio & TV N 41:70-72+ Jan '49

Shocks from radio and TV sets. John T. Frye. Radio Maint 5:22-23+ Jan '49

Solder and the service man. Franklin S. Hoffman. Service 18:24+ May '49

This may shock you. Cyrus Glickstein. Radio Maint 5:28+ June '49

What is induction? J. T. Frye. Radio-Electronics 20:46 Apr '49. Also in Radio Times 4:28-29+ Aug 15, '49

Patents

Soldering iron, Cyril L. Uhing, 2,458,319, 2 cl. Appl Dec 11, '45; granted Jan 4, '49

Soldering iron, Frank L. Darling, 2,475,376, 3 cl. Appl Feb 28, '46; granted July 5, '49

See also

Oscilloscopes & Oscillographs, Servicing Uses
Signal Generators
Test Equipment, Circuits & Tubes
Waveform Analysis

SERVICING, AM Receivers

AC-DC hints for the new service technician. Richard Laurence. Radio Maint 5:26-27+ May '49

Ambulance treatment for "sick" receivers. (Ambulant Behandling af "syge" Modtagere) Radio Ekko 12:96-97 May '49

Custom audio installation. Irving Greene. Service 18:14+ May '49

Farm receivers are easy to service. Richard Laurence. Radio-Electronics 20:96-97 May '49

Fundamentals of radio servicing. John T. Frye. Radio-Electronics pt 1 20:56-57 Feb '49; pt 2 20: 98-99 Mar '49; pt 3 20:46-47 Apr '49; pt 4 20:50-51 May '49; pt 5 20:44-45 July '49; pt 6 20:55-58 Aug '49; pt 7 20:43-45 Sep '49; pt 8 20:48-51 Oct '49; pt 9 21:56-60 Nov '49; pt 10 21:50-54 Dec '49

High quality analysis. C. A. Tuthill. Radio Ser Deal 10:18-19 Sep '49

Mismatched coupled circuits. (Falske Koblinger) Radio Ekko 12:36-37+ Feb '49

Maintenance of aircraft radio equipment. Engineering 168:164 Aug 12, '49

Marine servicing. C. C. Erhardt. Radio Maint pt 1 5:10-11+ Mar '49; pt 2 5:30-31+ Apr '49

SERVICING, AM Receivers–Cont'd.

Modern methods of testing radio receivers. (Moderne Provemetoder ved Radiomodtagere) Radio Ekko 11:133-137 July '48

Notebook. Column of radio servicing hints. Radio Maint 5:40 Feb '49; 5:38 May '49; 5:36 June '49

Open filaments. (Filamentos "quemados") Fidelco Tech Bol 1:22-26 June '49

Radio performance tests. K. V. Amatneek. Radio Times 4:10-12+ Aug 1, '49

Radio set and service review. Radio-Electronics Monthly column

Reflex method of alignment. (La methode "reflex" d'aligneinent) F. Haas. Toute la Radio No 137: 216-218 July-Aug '49

Sensitivity low? Output down? R. Meyers. APCO Bul 15:5 Dec '49

Service exchange; hints on servicing. Sylvan N vol 16 Mar '49

Servicing the clock radio. Radio & TV Ret 50:113 July '49

Service hints. Sylvan N Monthly column

Servicing a noisy set. H. A. Nickerson. Radio Times 4:12+ Oct 1, '49

Servicing helps variable reluctance preamp equalization. P. M. Randolph. Service 18:26+ Jan '49

Simple routine check locates receiver hum. J. T. Cataldo and S. J. Richard. Radio Times 4:22-23 Nov 1, '49

Simple routine check locates receiver hum. J. T. Cataldo and S. J. Richard. Radio-Electronics 20: 46 July '49

There's money in custom installations. John D. Goodell. Radio & TV N pt 1 41:35-37+ Jan '49; pt 2 41:56-58+ Feb '49

Transmission-line method of testing loop receivers. Elec Eng 68:257 Mar '49

Auto Radios

Auto radio installation. Lewis Martin. Service 18:20+ May '49

Auto radio service aids. P. M. Randolph. Service 18:40+ Sep '49

Auto radio servicing. Jack Darr. Service 18:18+ May '49

Intermittents

Intermittent filaments. D. Gnessin. Radio-Electronics 21:56 Dec '49

Servicing intermittents. John B. Ledbetter. Radio-Electronics 20:42-43 June '49

Servicing intermittents. Robert M. Field. Radio & TV N 42:68+ Oct '49

Short circuit between cathode and heater. (Kortslutning mellem Katode og Glodetraad) Radio Ekko 12:197-198 Oct '49

See also

Oscilloscopes & Oscillographs, Servicing Uses
Signal Generators, Audio Frequency
Test Equipment, Circuits & Tubes

SERVICING, Analysis of Receivers

Alba "Rover." Wireless and Elec Trader supplement 934 vol 83 Nov 26, '49

Circuit analysis of Detrola 611-A, Crosley 9-102 Hoffman C-503. Radio Ser Deal 10:25+ Oct '49

Circuit analysis of GE 376, Temple G-1430. Radio Ser Deal 10:23+ Sep '49

Circuit analysis: Temple G-1430, Aircastle WRAL-A, Majestic 8JL885. Radio Ser Deal 10:26+ Aug '49

Decca model DP-29. Radio Ser Deal 10:19 July '49

EKCO model CR61. Wireless World 55:480-482 Dec '49

General Electric model 250. Radio Ser Deal 10:19-22 July '49

Howard model 482. Radio Ser Deal 10:20+ Nov '49

Masco model MA-25HF. Radio Ser Deal 10:18+ Dec '49

Murphy A124, three-band AC superhet. Wireless and Elec Trader supplement 933 vol 83 Nov 26 '49

Murphy model A138R. Wireless World 55:457-459 Nov '49

Murphy U124, three-band AC/DC superhet. Wireless and Elec Trader supplement 935 vol 83 Dec 10, '49

Philco model 49-1606. Radio Ser Deal 10:18 Dec '49

Recordio models 7D42 and 7D44. Radio Ser Deal 10:20+ Nov '49

Ser-cuits (Olympic, Hallicrafters and Farnsworth models) Service 18:30+ Jan '49

Successor to the 208-B. Radio Maint 5:14+ Dec '49

Vidor "Riviera." Wireless and Elec Trader supplement 936 vol 83 Dec 10, '49

SERVICING, Business Practices

Advertise, win customers and prosper. Victor M Turner. Radio Maint pt 1 5:18-20+ Jan '49; pt 2 5:20-22 Feb '49; pt 3 5:12-14+ Mar '49; pt 4 5:26-29 Apr '49; pt 5 5:22-23+ May '49; pt 6 5:18-19+ June '49

Advertising media preferred by radio servicemen Radio Maint 5:22-23+ Nov '49

Build customer confidence. Herbert S. Laufman Radio & TV N 41:56-57+ Mar '49

Business methods in television servicing. Charles Wigutow. Radio-Electronics 20:20-22 Sep '49

Does your memory cost you money? Sylvan N 16:M13+ Apr '49

Don't discount radio repair. H. Rainier. Sylvan N 16:G14 Apr '49

For just a penny increase your business and raise your profits. David Markstein. Radio Maint 5:20+ Nov '49

How good is your store front design? Victor M. Turner. Radio Maint 5:20-23 Aug '49

How is your business IQ? Dan Valentine. Radio Maint 5:15 Mar '49

How to display products more effectively. Victor M. Turner. Radio Maint 5:22-25 July '49

How to set up a television service department. RTJ 66:14-15+ Mar '49

Is your profit on sales a good profit on business investment? Fred Merish. Radio & TV N 42:26+ Sep '49

SERVICING, Business Practices-Cont'd.

Making a profit from service business. Sylvan N 16:M17 + May '49

Radio servicing, an underpaid profession. John T. Frye. Radio Maint 5:32-33 + Feb '49

Selling service means dollars to you. R. C. Love. Sylvan N 16 M10 + Mar '49

Service + sales = success. Philip Brenton. Radio Maint 5:20 + June '49

Using the professional touch. Henry H. Huff. Radio Maint 5:20-21 Oct '49

What's in a name: business procedures. Jack Bedford. Radio Maint 5:24-25 May '49

You can't sell what you don't have! Sylvan N 16: M37 + Nov '49

SERVICING, FM Receivers

Alignment of FM receivers. R. D. Hickok and W. A. Weiss. Service 18:12 + Mar '49

Visual FM alignment. John B. Ledbetter. Radio-Electronics 20:34-35 Jan '49

See also

Oscilloscopes & Oscillographs, Servicing Uses
Signal Generators, RF & IF
Test Equipment, Circuits & Tubes

SERVICING, Instruments

Aligning receivers with the aid of an oscilloscope (Tecnica de la calibracion del receptor por el osciloscopio). F. Kennedy. Fidelco Tec Bol 1 10-16 June '49

Balancing with the neodynamic analyzer. M. Bonhomme. Toute la Radio No 138:257-260 Sep '49. In French

Do you know your test equipment? Morton G. Scheraga. Radio Maint 5:12-13 + Sep '49

Probe units and signal tracing. Martin Clifford. Radio Maint 5:22-24 + Apr '49

Radio servicing by signal-tracing. (Radio servicio por investigacion de la senal). J. F. Rider. Fidelco Tec Bol pt 1:20-25 May '49; pt 2 1:31-42 June '49; pt 3 vol 1 July '49

Save testing time with an "outlet box" unit. H. Leeper. Radio Times 4:17 Oct 16, '49

Service with the ammeter. O. J. McDaniel. Radio Maint 5:28-29 + May '49

Test instruments and the technician. H. S. Brier. Radio-Electronics 21:24-25 Dec '49

Troubleshooting with the neodynamic analyzer. M. Bonhomme. Toute la Radio No 137:225-227 July-Aug '49. In French

Two new instruments for AM-FM-TV servicemen. Sylvan N 16:G18 May '49

Valve testing methods. H. R. Singh. RSGB Bul 24:306-308 June '49

Volt per mil per 1000 ohms. J. F. Cataldo. Radio Maint 5:26+ Feb '49

Your shop tube tester will help build prestige. Robert N. Vendeland. Radio & TV N 41:56-57+ Apr '49

See also

Oscilloscopes & Oscillographs, Servicing Uses
Signal Generators
Test Equipment, Circuits & Tubes

SERVICING, Phonographs and Recorders

Coin-operated automatic phono servicing. J. Darr. Service 18:10-11 + June '49

Juke box servicing. Max Alth. Radio Maint 5: 24 + Feb '49

Magnetic tape playback-recorder system operation and servicing notes. K. Stewart. Service 18:18 + Nov '49

Phonograph trouble in the U.S.A. (Grammofon-Uro i U.S.A.) Radio Ekko 12:184 + Oct '49

Phono installation and service. Stewart. Service Vol 18 '49. Monthly column

Servicing 45-rpm changers. T. Y. Flythe. Service 18:12-15 + June '49

Servicing helps connecting LP adapter to Philco receivers using beam-of-light reproducers. P. M. Randolph. Service 18:24 + Mar '49

Wire recorder service problems. Willard Moody. Radio-Electronics 20:69 Feb '49

SERVICING, Television

Adjusting TV traps. Matt Mandl. Radio Maint 5:8-11 + Feb '49

Contract TV service. John F. Rider. Suc Serv 10: 1 + Feb '49

Disturbance test — a short-cut in TV servicing. Cyrus Glickstein. Radio & TV N 42:46-49 + July '49

For finer TV reception. Radio Maint 5:16-17 Aug '49

Head-end. Techni-Talk 1:1-2 June-July '49

In selling TV it's service that counts. Isadore L. Gross. Radio Maint 5:18-19+ Nov '49

Large scale TV service. Radio & TV Ret 49:66 Feb '49

Off on the right foot for TV. Sylvan N 16:M33+ Oct '49

Ser-cuits (circular screen TV models and FM signal generator). Service 18:14+ Mar '49

Ser-cuits (Sparton indirect view TV sets). Service 18:20 + Feb '49

Ser-cuits (TV AGC and video amp and noise clipper circuits). Service 18:41+ May '49

Service -- key to television sales. RTJ 66:13 Mar '49

Servicing helps. M. A. Marwell. Monthly column Service

Signal strength TV test set. Service 18:30-33 Dec '49

Spot speed and ghosts. Suc Serv 10:9 Feb '49

Television and the radio technician. Max F. Balcom. Radio & TV N 41:76+ Apr '49

Television is your future. Radio Maint 5:10-13+ Apr '49

Television service. John R. Meagher. Radio Serv N 14:3 Jan-Feb '49

Those TV controls and adjustments. Allan Lytel. Service 18:16+ Mar '49

Troubles in horizontal-deflection and high-voltage circuits. John R. Meagher. Radio Serv N 14:3 July '49

Trouble-shooting in television kits. Joseph L. Reiffin. Radio-Electronics 20:27-29 Mar '49

SERVICING, Television-Cont'd.

Trouble-shooting television sets. Irving Dlugatch. Radio-Electronics 20:25-27 Aug '49

Trouble-shooting TV receivers. Cyrus Glickstein. Radio Maint 5:10-11+ Dec '49

TV measurements. Henry Chanes. Suc Serv pt 1 10:1+ May '49; pt 2 10:1+ June '49; pt 3 10: 1+ July '49

TV receiver servicing. C. Quirk. Service pt 1 18:10-11+ Aug '48; pt 2 18:26-29+ Sep '49

Vertical deflection troubles. John R. Meagher. Radio Serv N 14:2+ Sep-Oct '49

Vertical oscillator troubles. John R. Meagher. Radio Serv N 14:4-5 Nov-Dec '49

Alignment

Aligning the TV receiver for fringe area reception. J. F. Bigelow. Service 18:10+ Apr '49

Aligning the Westinghouse H-196. I. Silberg. Service 18:14-16+ Oct '49

How to align video IF stages. Mathew Mandl. Radio Maint 5:14-15+ Nov '49

Markers for visual alignment. Walter H. Buchsbaum. Radio Ser Deal 10:27-28+ Mar '49

19-28 mc signal generator for TV IF alignment. Robert L. Donaldson. Radio & TV N 41:52+ Feb '49

Television and FM alignment. Douglass H. Carpenter. Radio-Electronics 20:52-54 May '49

Television test pattern. M. S. Kay. Radio & TV N 41:38-39+ Jan '49

TV receiver visual alignment techniques. Lester L. Libby. Service 18:14+ Jan '49

TV receiver visual alignment techniques. Lester L. Libby. Service 18:22+ Mar '49

TV test pattern quiz. Sol D. Prensky. Radio-Electronics 20:32-33 Mar '49

Visual TV alignment procedures. V. I. Robinson. Service pt 1 18:12-13+ July '49; pt 2 18:12-13+ Aug '49

Visual TV receiver analysis. John B. Ledbetter. Radio Maint 5:12-15+ Feb '49

Cathode-Ray Tubes

Correction of grid-cathode shorts in CRT. Suc Serv 10:13 Jan '49

How to handle cathode-ray tubes safely and efficiently. RTJ 66:20-21 July '49

Picture tube damage resulting from incorrect ion trap magnet adjustment. Sylvan N 16:T15-T16 Apr '49

Replacing picture tubes in television receivers. Milton S. Kiver. Radio-Electronics 20:23-25 Sep '49

Television tubes are not dangerous if properly handled. Sylvan N 16:T13-T15 Apr '49

Tube adaptors in TV receivers. Suc Serv 10:8 Mar '49

Installation

Fringe installation problems. J. Richard Johnson. Radio Maint 5:14-17+ Apr '49

It's time to review installation policy. William L. Bowne. Radio Maint 5:17+ Sep '49

Pitfalls of many TV installations. I. Wolf. Radio & TV N 41:59+ Feb '49

Precautions in television installation. Nat Safety N 59:140-141 Mar '49

Roof to receiver, over. C. T. Josephs. Radio Maint 5:21 Jan '49

Servicing helps. TV antenna installation hints. P. M. Randolph. Service 18:24+ Apr '49

TV custom installations. D. T. Armstrong. Radio-Electronics 21:28-30 Nov '49

TV installation specialist. Harry J. Miller. Radio Maint 5:25 June '49

Instruments

Checking television waveforms with a CRO. Samuel Marshall. Sylvan N 16:T5-T8 Feb '49

'Scope as a modern tool. M. Mandl. Radio Ser Deal pt 1 10:9-11+ Nov '49; pt 2 Servicing sound IF stages in TV and FM receivers. 10:11-12+ Dec '49

Test equipment preferred by radio servicemen. Radio Maint 5:17+ Dec '49

Test gear for frequency modulation and television. German Industry Rep. BIOS 1269 with addendum Brit Govt Pub

TV measurements. Henry Chanes. Suc Serv pt 1 10:1+ May '49; pt 2 10:1+ June '49; pt 3 10: 1+ July '49

See also

Oscilloscopes & Oscillographs, Servicing Uses
Signal Generators, Sweep Frequency
Television
Test Equipment, Circuits & Tubes

SERVOMECHANISMS

Analysis of relay servomechanism. Ph.D. thesis. David A. Kahn. Ohio State U E.E. Dept Dec '48

Analysis of the functioning of discontinuous physical processes and their applications to servomechanisms. (Analyse du fonctionement des systems physiques discontinus et son application aux servomechanismes) F. H. Raymond. Ann Telecomm pt 1 4:250-257 July '49; pt 2 4:307-314 Aug-Sep '49; pt 3 4:357-362 Oct '49

Automatic control of moisture. Ralph V. Coles. Electronics 22:82-86 Nov '49

Automatic equipment and techniques for field mapping. J. K. Mickelsen. Gen Elec Rev 52:19-23 Nov '49

Bearing friction may be reduced by using servo-controlled follow-up system. Machine Design 21: 83-84 Feb '49

Characteristics of an amplidyne-selsyn synchro-tracking system. D. A. Popov. Reel 0015 No 475,278:67-68 SDLC. In Russian

Comparative analysis of servo-systems. V. P. Nikitin and N. B. Kunitski. Akad Nauk Dok 61: 463-466 '48. In Russian

Comparison of steady-state and transient performance of servomechanisms. Harold Chestnut and Robert W. Mayer. AIEE Proc section 9196: 1-13 July '49

Damper stabilized instrument servomechanisms. Albert C. Hall. AIEE Proc section 979:1-8 Apr '49

Decibel direct and inverse plot of servo transfer loci. M.S. thesis. Richard W. Ittelson. Ohio State U E.E. Dept Dec '48

SERVOMECHANISMS–Cont'd.

Design equations for servomechanisms. Benjamin Parzen. Elec Comm 26:249-256 Sep '49

Design of a component unit of an all-electronic servocontrol. M.S. thesis. Joy J. Eaton. Ohio State U E.E. Dept June '49

Determination of the time function of a servomechanism from its frequency response in graphical form. M.S. thesis. Monroe Berriman. Ohio State U E.E. Dept Dec '48

Electromechanical lead networks for AC servomechanism. D. McDonald. Rev Sci Instr 20: 775-779 Nov '49

Electronic control systems. (Les variateurs electroniques) A. Fouille. Tech Mod pt 1 41:148-157 May '49; pt 2 41:220-227 July '49. Correction: 41: 301 Sep '49

Electro-pneumatic or electro-hydraulic servo-relays. (Servo-relais electropneumatique ou electro-hydraulique) Tech Mod 41:338 Oct '49

Experimental study of an unstable servomechanism. M.S. thesis. E. W. Skiff. U Calif Eng Dept June '48

Flutter of servo-controlled aircraft. J. Winson. Aero Sci J 16:397-404 July '49

Fundamentals of automatic control. W. Oppelt. Eng Digest pt 1 10:184-189 June '49; pt 2 10:237-241 July '49; pt 3 10:317-321 Sep '49

Generalized equation of transitional processes of an electric drive with amplitude regulation. V. P. Nikitin and others. Akad Nauk Dok 61:59-61 '48. In Russian

Graphical determination of transfer function loci for servomechanism components and systems. C. H. Thomas and E. G. Easton. AIEE Proc section 980:1-12 Apr '49

Improvements in the characteristics of AC lead networks for servomechanisms. Donald McDonald. Elec Eng 68:344 Apr '49

List of Russian articles on questions of automatic regulation and following systems for the period 1917-1947. Avtomatika i Telmekhanika 9:397+ Sep-Oct '48

Magnetic fluid clutch in servo applications. Gorman R. Nelson. Electronics 22:100-103 Nov '49

Overhaul instructions for DC selsyn liquid level indicators and transmittors, (General Electric). Aug '47. PB 87743

Phase lead for AC servo mechanisms. Arthur H. Benner. Jour Ap Phys 20:268+ Mar '49

Power matching study in two phase servo-system. M.S. thesis. George R. Harrington. U Calif Eng Dept June '48

Pressure controller sensitive to 10^{-4} mm of mercury. John S. Nisbet. Jour Sci Instr 26:271-273 Aug '49

Probability criterion for the design of servomechanisms. John R. Ragazzini and Lotfi A. Zadeh. Jour Ap Phys 20:141+ Feb '49

Servo-controlled tensile strength tester. George S. Burr. Electronics 22:101+ May '49

Servo electronic control of a large planer. S. H. Dale. GEC Jour 16:52-60 Jan '49

Servo employing the magnetic fluid clutch. E. S. Bettis and E. R. Mann. Rev Sci Instr 20:97-101 Feb '49

Servomechanism analysis of a photoelectric loop control. L. U. C. Kelling. Elec Eng 68:344 Apr '49

Servo-mechanisms. (Les servo-mechanismes) P. Dejean. Toute la Radio pt 1 No 140:325-328 Nov '49; pt 2 No 141:4-6 Dec '49

Servomechanisms and modern physics. R. Moch. Radio Tech Dig pt 1 3:133-145 June '49; pt 2 3:235-252 Aug '49. In French

Servomechanisms and regulators: stability criteria and applications. C. Galmiche. Revue Gen Elec 58:19+ Jan '49

Servos with magnetic amplifiers (transductors). German Industry Rep. BIOS MISC 57 Brit Govt Pub

Servos with torque saturation. W. Hurewicz. PB-2833

Ship stabilization. J. Bell. Muirhead Technique 3: 12-16 Apr '49

Some design considerations of a thyratron servomechanism. Report. R. A. Bruns. U Calif Eng Dept May 20, '48

Synthesis of an all-electronic servo-control system. M.S. thesis. David A. Huffman. Ohio State U E.E. Dept June '49

Theory of servomechanisms. H. M. James and others. Nature 161:994+ June 26, '48

Transfer function of a laboratory servomechanism. M.S. thesis. Floyd E. Nixon. Ohio State U E.E. Dept Sep '48

Patents

Antihunt circuit for regulating systems, Milton S. Mead, jr., 2,465,110, 4 cl. Appl Sep 12, '47; granted Mar 15, '49

Antihunt electric motor control system, Anthony J Hornfeck, 2,482,065, 6 cl. Appl Jan 28, '47; granted Sep 13, '49

Antihunt electrical measuring and controlling system, Anthony J. Hornfeck, 2,482,064, 2 cl. Appl Oct 14, '46; granted Sept 13, '49

Antihunt electrical servo system, William G. Gorton, 2,473,423, 7 cl. Appl June 18, '45; granted June 14, '49

Antihunting servo control system, Leslie B. M. Buchanan, 2,463,498, 13 cl. Appl Nov 27, '45; granted Mar 1, '49

Automatic positioning apparatus, Joseph O. Mesa, 2,459,039, 5 cl. Appl June 26, '45; granted Jan 11, '49

Automatic rotor balancing apparatus, Hughes M. Zenor, 2,474,883, 7 cl. Appl Sep 20, '45; granted July 5, '49

Automatic speed control of motors, George W. Switzer, 2,483,678, 1 cl. Appl Apr 6, '46; granted Oct 4, '49

Constant speed device, Gifford E. White, 2,466,756, 12 cl. Appl Dec 4, '43; granted Apr 12, '49

Control system, Willard G. Cook, 2,479,317, 11 cl. Appl July 7, '44; granted Aug 16, '49

Electric motor follow-up apparatus, Knute Arnold Holst, 2,486,029, 5 cl. Appl Dec 10, '46; granted Oct 25, '49

Electrical control circuit, Paul Glass, 2,458,937, 27 cl. Appl May 14, '45; granted Jan 11, '49

Electrical follow-up system, Rawley D. McCoy, 2,464,249, 8 cl. Appl July 19, '43; granted Mar 15, '49

SERVOMECHANISMS, *Patents*–Cont'd.

Electrical gyroscopically actuated control device, Ward Leathers and George S. Di Monico, 2,464,-592, 8 cl. Appl Dec 29, '45; granted Mar 15, '49

Electrical servo system, Erich J. Uhlig, 2,462,238, 2 cl. Appl Apr 30, '45; granted Feb 22, '49

Electronic relay transmitter and receiver self-synchronous system, Bernard F. Baecher, 2,461,-511, 11 cl. Appl Dec 26, '45; granted Feb 15, '49

Follow-up motor system control circuits, Rawley D. McCoy, 2,478,203, 14 cl. Appl Apr 8, '44; granted Aug 9, '49

Gas tube controlled servo system, William C. Grabau, 2,473,424, 2 cl. Orig appl July 9, '42; divided and this appl Dec 9, '43; granted June 14, '49

Geared follow-up system, John W. Dawson, 2,480,-634, 2 cl. Appl May 2, '44; granted Aug 30, '49

Magnetic servo operator, Nelson D. Cooper and Eugene A. Ruchty, 2,473,572, 5 cl. Appl Dec 11, '46; granted June 21, '49

Master-slave system, Nicholas V. Fedotoff, 2,474,-576, 13 cl. Appl Dec 31, '46; granted June 28, '49

Modulator circuit, Robert Fred Hays, jr., 2,492,863, 13 cl. Appl June 11, '47; granted Dec 27, '49

Motion control system, John W. Bancroft, 2,464,548, 11 cl. Appl Feb 21, '44; granted Mar 15, '49

Motion repeating system, Thomas O. McCarthy, 2,459,830, 21 cl. Appl Sep 12, '44; granted Jan 25, '49

Motion transmission system, George Agins, 2,464,-544, 14 cl. Appl Oct 1, '45; granted Mar 15, '49

Motor control circuit, Bernard Ostendorf, jr., 2,472,-611, 2 cl. Appl June 2, '45; granted June 7, '49

Position control system, Enoch B. Ferrell, 2,464,566, 3 cl. Appl Jan 26, '44; granted Mar 15, '49

Selsyn transmission by radio, Ward C. Mikkelson and Jacob Anthes, 2,462,117, 1 cl. Appl Apr 12, '45; granted Feb 22, '49

Servo controller, Warren A. Anderson, 2,492,779, 1 cl. Appl Mar 26, '46; granted Dec 27, '49

Servo follow-up control, Clarke M. Gilbert, 2,460,-638, 11 cl. Appl Nov 13, '46; granted Feb 1, '49

Servo mechanism, Albert C. Hall, 2,470,099, 7 cl. Appl Oct 31, '44; granted May 17, '49

Servo-mechanism synchronizing system, Andrew Alford and Ernest C. Carkofsky, 2,478,221, 1 cl. Appl May 24, '46; granted Aug 9, '49

Servo system with eddy current brake controlled by error voltage, Sidney Wald, 2,489,689, 2 cl. Appl Dec 14, '46; granted Nov 29, '49

Variable differential transformer, Ernest G. Ashcraft, 2,459,210, 3 cl. Appl July 21, '44; granted Jan 18, '49

See also

Antennas, Auxiliary Equipment
Industrial Controls, Position
Motors, Controls
Remote Control
Telemetering

SERVOMECHANISMS, Servomotors

Characteristics of 2-phase servomotors. R. J. W. Koopman. Elec Eng 68:775 Sep '49

Comparison of small and medium power electric servomotors. R. S. Edwards. Instruments 21: 1137-1141 Dec '48

Operating characteristics of 2-phase servomotors. R. J. W. Koopman. AIEE Proc section 981:1-11 Apr '49

Radio synchro-motor. (Radio syncro-moteur) J. Loeb and others. Ann Telecomm 4:87-101 Mar '49

Selecting electric servomotors. R. S. Edwards. Machine Design 21:104-109 Jan '49

Small DC motors suitable for use in servo-mechanisms. German Industry Rep. CIOS XXX-47 Brit Govt Pub

Patents

Antihunt servomotor control system, Alda V. Bedford, 2,462,456, 7 cl. Appl Apr 14, '45; granted Feb 22, '49

Differential pressure fluid servomotor, Fred K. van Almelo, 2,459,475, 2 cl. Appl Dec 2, '43; granted Jan 18, '49

Electric servomotor control system, Harry B. Fuge, 2,464,745, 1 cl. Appl July 13, '45; granted Mar 15, '49

Electric servomotor system, Rawley D. McCoy, 2,466,035, 6 cl. Appl Feb 28, '47; granted Apr 5, '49

Follow-up servomotor, William A. Ray, 2,474,279, 7 cl. Orig appl May 5, '42; divided and this appl Nov 7, '44; granted June 28, '49

Frictional servomotor, Stanley J. Mikina, 2,473,896, 10 cl. Appl Nov 28, '47; granted June 21, '49

Multivalve control station for servomotors, Roy R. Stevens, 2,473,695, 14 cl. Appl Jan 21, '47; granted June 21, '49

Servomotor and control system therefor, Robert S. Curry, jr., 2,474,830, 15 cl. Appl June 29, '46; granted July 5, '49

Servomotor armature current control, Walter T. White, 2,481,550, 15 cl. Appl June 15, '46; granted Sep 13, '49

Servomotor damper, Richard B. Wilson, 2,464,362, 1 cl. Appl June 28, '45; granted Mar 15, '49

Servomotor system, Orland E. Esval, 2,462,081, 26 cl. Appl Aug 22, '47; granted Feb 22, '49

SHIELDING

Patents

Ignition coil and filter shield assembly, Elton C. Hallett, 2,462,491, 4 cl. Appl Oct 22, '45; granted Feb 22, '49

Magnetic shielding, Edward W. Kellogg, 2,463,778, 13 cl. Appl Dec 15, '43; granted Mar 8, '49

Multiple shielded assembly unit, Elton C. Hallett, 2,462,489, 3 cl. Appl Sep 17, '45; granted Feb 22, '49

Radio shielded ignition means, Claude F. Waldron, 2,458,121, 4 cl. Appl June 23, '45; granted Jan 4, '49

Radio shielding sealing gasket, Adrian A. Pierson, 2,462,334, 2 cl. Appl June 2, '44; granted Feb 22, '49

Shielded housing for ignition coils and filters, Elton C. Hallett, 2,462,490, 4 cl. Appl Sep 17, '45; granted Feb 22, '49

Wave shielding arrangement, Norman L. Harvey, 2,487,547, 1 cl. Appl Nov 20, '43; granted Nov 8, '49

SHIELDING–Cont'd.

See also

Interference, Suppression
Interference, Television, Suppression

SIGNAL GENERATORS

40,000 heterodynes . . . or a multivibrator. J. Garcin. Toute la Radio No 139:270-272 Oct '49. In French

Build this absorption type signal marker. Guy Dexter. Radio & T VN 41:54-55+ June '49

Build this compact signal injector. Rufus P. Turner. Radio & TV N 41:40-41 Apr '49

Building kit generator solves design problems. Richard L. Parmenter. Radio-Electronics 20: 92-94 Mar '49

Building the multigenerator. (Multigenerator) Radio Tech 25:110-112 Feb '49

Flexible high voltage square wave generator. L. C. Hedrick. Rev Sci Instr 20:781-783 Nov '49

Laboratory square-wave generator. John E. Pitts. Radio-Electronics 20:60-62 Aug '49

Practical oscillator for frequency measurement, etc. (En praktisk og nem Oscillator til Frekvensmaaling, o.s.v.) Radio Ekko 13:7+ Jan '50

Practical signal generator. (En nem og praktisk Signalgenerator) Radio Ekko 10:48-49 Mar '47

Signal generator design. Douglas H. Carpenter. Radio Ser Deal 10:17-18+ Apr '49

Simple square-wave generators. Cap 14:3-7 Oct '49

Tone modulating the BC-221. John E. Pitts. CQ 5:14+ Aug '49

Patents

Deflecting signal generator, Allen C. Munster and David E. Sunstein, 2,491,684, 7 cl. Appl Nov 8, '46; granted Dec 20, '49

Discharge wave generator, Donald L. Hings, 2,468,-754, 6 cl. Appl Aug 6, '45; granted May 3, '49

Electronic noise generator, Stanley Smith Stevens, 2,490,487, 2 cl. Appl Oct 29, '45; granted Dec 6, '49

Electronic signal generator, Donald E. Norgaard, 2,471,836, 12 cl. Orig appl June 8, '42; divided and this appl June 2, '44; granted May 31, '49

Electronic signal shaping circuit, Carl Harrison Smith, jr. and Milton L. Kuder, 2,482,803, 3 cl. Appl Sep 13, '46; granted Sep 27, '49

Frequency control system, Ohmer R. Miller, 2,477,-076, 11 cl. Appl Oct 12, '45; granted July 26, '49

Harmonic-frequency generator, Rudolf E. Sturm, 2,484,763, 1 cl. Appl Sep 20, '41; granted Oct 11, '49

Harmonic generator, Lourens Blok, 2,484,372, 4 cl. Appl July 16, '46; granted Oct 11, '49

Method and means for frequency stabilizing signal generators, Lowell E. Norton, 2,479,697, 17 cl. Appl Feb 26, '45; granted Aug 23, '49

Noise generating system, Robert H. Brown. 2.486,-106, 15 cl. Appl Feb 23, '44; granted Oct 25, '49

Radio-frequency apparatus, Ervin L. Crandell, 2,458,684, 2 cl. Appl May 14, '46; granted Jan 11, '49

Stabilized oscillation generator, Warren H. Bliss, 2,490,404, 10 cl. Appl Jan 7, '47; granted Dec 6, '49

Step wave generator, Harold Lyons, 2,474,266, 7 cl. Appl May 22, '45; granted June 28, '49

Unsymmetrical rectangular wave generator, Louis L. Lakatos, 2,486,789, 2 cl. Appl Jan 29, '44; granted Nov 1, '49

See also

Oscillators, Phase Shift
Servicing, TV
Test Equipment, Circuits & Tubes

SIGNAL GENERATORS, Audio Frequency

Audio signal generator. M. G. Scroggie. Wireless World pt 1 55:294-297 Aug '49; pt 2 55:331-334 Sep '49

Audio frequency generators. Muirhead Technique 3:3 Jan '49

Design notes on the resistance-capacity oscillator circuit. B. Bauer. HP Jour pt 1 1:1-4 Nov '49; pt 2 1:1-4 Dec '49

Generator for AF measurements. W. Noel Eldred. FM-TV 9:31+ June '49

Inexpensive audio frequency generator. J. Whitaker. Radio & TV N 42:40+ Aug '49

Signal generator for 20-15000 cps. (Analyse d'un generateur 20-15000 p/s) Toute la Radio No 136: 197-198 June '49

Standard signal generators for audio frequencies. J. A. B. Davidson and K. W. Bedford. Muirhead Technique 3:4-6 Jan '49

Versatile audio oscillator. Harry Hatfield. Radio-Electronics 20:38 Feb '49

SIGNAL GENERATORS, RF and HF

AM generator useful for TV. R. M. Vendeland. Radio-Electronics 20:47 July '49

Citizens band signal generator. Walter C. Hollis. Electronics 22:77-79 Nov '49

Compact microwave signal generator. W. Eisner. Electronics 22:144+ July '49

Frequency modulated signal generators. (Generatori di segnali a modulazione di frequenza) Paul Zambrano. Elettronica 4:301-304 Nov '49. Abstracts in French and English

General-purpose AM standard-signal generator. A. G. Bousquet. Gen Rad Exp 24:1-7 Sep '49

High-stability pilot generator for the 3.5 mcs and 7 mcs bands. L. Liot. Radio Franc No 1:21-24 Jan '49

Kay megaliner. Allen Lytel. Radio Ser Deal 10: 18-19+ Oct '49

500 kc calibration generator with crystal control. (Ein 500 kHz Eichgenerator mit Quarzsteuerung) Radio Tech 25:643 Nov '49

Low-distortion AM signal generator. Ernest S. Sampson. Electronics 22:118+ Apr '49

New Sylvania type 216 AM-FM generator. C. L. Simpson. Sylvan N 16:T26-T28 Aug '49

R.E. HF pilot signal generator. (R.E. HF-Pilot) Radio Ekko 10:170-172 Sep '47

R.E. signal generator. (R.E. Signalgenerator 49 w) Radio Ekko 12:28-30 Feb '49

Signal generator for 80 to 115 mc. (Empfaenger Pruefsender fuer den UKW-Funk) Klemt. Funk und Ton 3:488-490 Sep '49

SIGNAL GENERATORS, RF and IIF–Cont'd.

Simple standard-signal generator for FM broadcast use. D. B. Sinclair. Gen Rad Exp 24:1-4 Nov '49

Versatile amplitude modulator for VHF standard-signal generators. D. B. Sinclair. Gen Rad Exp 24:5-7 Nov '49

See also

Servicing, TV

SIGNAL GENERATORS, Sweep Frequency

Audio sweep-frequency generator. H. Toomin. Audio Eng 33:23-29 Aug '49

Composite video signal generator. A. Lytel. Service 18:10-12+ Oct '49

Efficiency diode in television line time bases. N. Coxall. Philips Tech Comm No 4:3-8 '49

Hints on using sweep generators for TV receiver alignment. John A. Cornell. Radio & TV N 42: 66-68+ Dec '49

Klystron TV sweep generator. Allan Lytel. Radio Ser Deal 10:15-17 Sep '49

New audio sweep frequency generator. George A. Argabrite. Audio Eng 33:11-13+ May '49

New TV-FM sweep generator. L. S. Rich. Radio Ser Deal 10:19-20+ May '49

New TV and FM sweep generator. Allan Lytel. Radio Ser Deal 10:18-19+ Aug '49

Precision FM sweep generator. Douglas H. Carpenter and Owen Shepherd, jr. Radio & TV N 41:52-53+ Jan '49

Radio frequency sweep generator. Millett C. Morgan. Electronics 22:109+ Mar '49

Self-checking wobbulator HF/VHF instrument design. Joseph H. Vogelman. Communications 29:28-31+ Feb '49

Sweep frequency ionosphere equipment. Peter G. Sulzer. Jour Ap Phys 20:187+ Feb '49

Sweep generator adjustment of transmission lines and antennas. John A. Cornell. Radio & TV N 42:52-53+ Sep '49

Sweep generator operating hints. V. I. Robinson. Service 18:36-37+ Sep '49

Sweep generators service FM and TV. Jesse Dilson. Radio-Electronics 20:42-43 Feb '49

Sweep generators for television. Bob Stang. Radio-Electronics 20:42-43 Mar '49

Television crosshatch generator. Vin Zeluff. Electronics 22:154+ Jan '49

Television servicing with a sweep generator. Howard E. Anthony. Radio & TV N 42:46-47+ Sep '49

Television signal generator. R. G. Hibberd. Electronic Eng pt 1 18:174-175+ June '46; pt 2 18:204-207 July '46

TV and FM sweep signal generator. F. Berhley. Service 18:21+ Sep '49

Test equipment for TV. S. D. Prensky and N. DeFalco. Radio-Electronics 20:65-66 Mar '49

Wobbulator. (Wobbelsender) Radio Tech 25:599-604 Oct '49

SOLID STATE

See Physics, Solid State

SONAR

Ambient noise survey out of Miami. M. W. Johnson and R. H. Fleming. PB 81558

Calculation of sound ray paths in sea water. R. H. Fleming and R. Revelle. PB 86231

Detectors with high resolving power for underwater sound waves. C. Bachem and M. Dieckmann. PB 98714

Low "Q" directional magnetostrictive electroacoustic transducer. L. Camp and F. D. Wertz. Acoust Soc Am J 21:382-384 July '49

Modulator application of reverse magnetostriction. M.S. thesis. Herman I. Leon. U of Calif Eng Dept June '48

Physics of sound in the sea. P. G. Bergmann and others. PB 97782

Preliminary working plans, model JQ underwater sound receiving equipment. PB 97878

Reports on sonar, wave propagation, instrument flying, etc., 1938-1945. PB 84908. In German

Sonar in harbor defense and amphibious landing. Elias Klein and Thomas F. Jones. Elec Eng 68: 107-114 Feb '49

Underwater ambient noise survey: Bahamas and east coast of Florida. R. H. Fleming and D. A. Proudfoot. PB 81557

Patents

Acoustical apparatus, Harvey C. Hayes and Elias Klein, 2,472,107, 18 cl. Appl May 6, '36; granted June 7, '49

Amplifier for underwater listening apparatus, Frank P. Hernfeld, 2,487,135, 1 cl. Appl Jan 5, '46; granted Nov 8, '49

Apparatus for echo distance measurement, Robert E. Peterson, 2,458,415, 6 cl. Cont of appl Aug 19, '42; this appl Oct 22, '47; granted Jan 4, '49

Automatic transmitter, Louis M. Potts, 2,468,273, 4 cl. Appl Mar 21, '47; granted Apr 26, '49

Device for transmitting and receiving compressional waves, Hugo Benioff, 2,473,354, 6 cl. Orig appl Nov 20, '42; divided and this appl Jan 10, '48; granted June 14, '49

Echo ranging and listening gear, Horace M. Trent and Thomas F. Jones, 2,460,316, 9 cl. Appl July 31, '44; granted Feb 1, '49

Frequency variation system for echo ranging, William W. Wiseman and Russell B. Wright, 2,491,-540, 2 cl. Appl Dec 31, '40; granted Dec 20, '49

Magnetostriction hydrophone, John R. Kauke, 2,484,036, 3 cl. Appl Apr 16, '45; granted Oct 11, '49

Magnetostrictive condition-responsive apparatus, John L. Russell, 2,469,005, 7 cl. Appl Feb 8, '47; granted May 3, '49

Magnetostrictive oscillator, Albert L. Thuras, 2,472,-388, 2 cl. Appl Jan 15, '44; granted June 7, '49

Magnetostrictive pressure indicator, Anton M. Feller, 2,461,635, 6 cl. Appl Oct 6, '44; granted Feb 15, '49

Ranging system, Frank H. Slaymaker and Willard F. Meeker, 2,474,918, 2 cl. Appl July 30, '45; granted July 5, '49

Submarine sound direction determining system, Laurence Batchelder, 2,467,368, 20 cl. Appl Sep 23, '43; granted Apr 19, '49

SONAR, *Patents*–Cont'd.

System for echo ranging, Edwin E. Turner, jr., 2,475,363, 14 cl. Appl Apr 10, '45; granted July 5, '49

System of wave trains, Donald Orr Sproule, 2,463,-328, 8 cl. Appl July 6, '45; granted Mar 1, '49

Underwater sound detecting and indicating system, Oscar Hugo Schuck, 2,473,974, 12 cl. Appl May 18, '44; granted June 21, '49

See also

Acoustics & Sound
Navigational Aids, Marine
Transducers
Ultrasonics

SOUND FILMS and PROJECTION

Bermuda theater with "floating screen." Arch Record 105:86-91 Apr '49

Cinema in New York. Arch Forum 90:94-96 Jan '49

Conversion method to increase film recording studio facilities. Norman T. Prisament and Thomas F. LoGiudice. Audio Eng 33:15-18 May '49

Direct-positive variable-density recording with the light valve. C. R. Keith and V. Pagliarulo. Soc Motion Picture Eng J 52:690-698 June '49

Distortion factors in sound reproduction. R. A. Mitchell. Intl Proj pt 1 24:5-8 June '49; pt 2 24: 5-6+ July '49

Frequency-modulated audio-frequency oscillator for calibrating flutter-measuring equipment. P. V. Smith and E. Stanko. Soc Motion Picture Eng J 52:309-312 Mar '49

German cinematograph industry. German Industry Rep. BIOS 1365 Brit Govt Pub

German cinematograph industry. German Industry Rep. BIOS 1449 Brit Govt Pub

German projection equipment (screens). German Industry Rep. BIOS 1408 Brit Govt Pub

Investigation of multipath sound scribing. A. I. Parent'ev. Zh Tekn Fiz 18:1210-1220 Sep '48. In Russian

Lead-sulfide photoconductive cells in sound reproducers. R. W. Lee. Soc Motion Picture Eng J 53:691-706 Dec '49

Magnetic device for cuing film. J. A. Larsen. Soc Motion Picture Eng J 52:326-332 Mar '49

Magnetic sound recording for sound films. Toute la Radio No 139:286-287 Oct '49. In French

16-mm film phonograph for professional use. C. E. Hittle. Soc Motion Picture Eng J 52:303-308 Mar '49

35-mm and 16-mm portable sound-recording system. E. W. Templin. Soc Motion Picture Eng J 53:159-182 Aug '49

35-mm and 16-mm sound-on-film reproducing characteristic. J. K. Hilliard. Soc Motion Picture Eng J 53:389-394 Oct '49

Motion picture film sound reproducers. H. D. Hastings and T. F. LoGiudice. Audio Eng 33: 18-19+ Jan '49

Navy electronic shutter analyzer. W. R. Fraser. Soc Motion Picture Eng J 53:256-267 Sep '49

New automatic sound slidefilm system. W. A. Palmer. Soc Motion Picture Eng J 52:320-325 Mar '49

New instrument for the reproduction of optical sound tracks. (Ein neues Wiedergabegeraet zur abtastung optischer Tonspuren) Fassbender. Funk und Ton 3:261-264 May '49

Optical sound-track printer. J. A. Maurer. FM-TV 9:29+ Mar '49

Projecting Paramount pictures in Peru. Arch Record 105:92-97 Apr '49

Silent playback and public-address system. B. H. Denney and R. J. Carr. Soc Motion Picture Eng J 52:313-319 Mar '49

Sound film projection. F. W. Campbell and others. 248 pp George Newnes, Ltd., London, England

Studio 15-mm re-recording machine. G. R. Crane. Soc Motion Picture Eng J 52:662-668 June '49

Theatre reproducer for double-width push-pull operation. G. R. Crane. Soc Motion Picture Eng J 52:657-661 June '49

Trend control in variable-area processing. F. P. Herrnfeld. Soc Motion Picture Eng J 52:97-102 Jan '49

Variable density recording on 16 mm film for TV. Lewis W. Martin. Communications 29:21 Apr '49

Wide-track optics for variable-area recorders. L. T. Sachtleben. Soc Motion Picture Eng J 52: 89-96 Jan '49

Zero-shift test for determining optimum density in variable-width sound recording. C. H. Evans and R. C. Lovick. Soc Motion Picture Eng J 52:522-533 May '49

Patents

Light control, John Brosius, jr., 2,458,334, 10 cl. Appl Sep 10, '46; granted Jan 4, '49

Magnetic-photographic rerecording system, Dorothy L. O'Dea, 2,485,839, 7 cl. Appl Apr 29, '48; granted Oct 25, '49

Method of making sound picture films, Peter F. Rossman and Karl Rath, 2,479,869, 2 cl. Appl Apr 10, '48; granted Aug 23, '49

Negative-positive recording method and system, Glenn L. Dimmick, 2,468,047, 13 cl. Appl Nov 17, '45; granted Apr 26, '49

Photographic sound recording system and aperture plate therefor, Glenn L. Dimmick, 2,468,049, 3 cl. Appl Apr 19, '47; granted Apr 26, '49

Photographic sound recording system and monitoring arrangement therefor, Glenn L. Dimmick, 2,468,048, 7 cl. Appl Nov 17, '45; granted Apr 26, '49

Rectangular translucent sound track record, Antonio Fuschi, 2,484,881, 2 cl. Orig appl Dec 14, '42; divided and this appl May 12, '44; granted Oct 18, '49

Reproduction of sound, Harold E. Haynes, 2,462,-263, 5 cl. Appl Feb 2, '45; granted Feb 22, '49

Sound recorder, Sumter Clavert, 2,460,411, 4 cl. Appl Mar 9, '44; granted Feb 1, '49

Sound-reproducing device, John R. Cooney, 2,465,-849, 4 cl. Appl Apr 10, '44; granted Mar 29, '49

Sound reproduction accompanied by pictures, Fred Waller and Willis Robert Dresser, 2,475,439, 14 cl. Appl Mar 31, '47; granted July 5, '49

See also

Phonographic Recorders, Magnetic

SPECTROMETER

See Atomic Measurements, Spectrometry and Spectroscopy

SUPERCONDUCTORS

See Conductors, Superconductors

SWEEP CIRCUITS

See Time Base Circuits

SWEEP FREQUENCY GENERATORS

See Signal Generators, Sweep Frequency

SWITCHES, Electrical

50 kw FM power cutback switch. C. J. Sterner. Broadcast N No 53:18 Feb '49

Electric time-switch for closing circuits at accurately regular intervals. 8 pp '47 MDDC 1602

Electronic diversity switching. H. V. Griffiths and R. W. Bayliff. Wireless World 55:414-418 Nov '49

Equipment and appliances. Weekly column of new British electrical electronic equipment. Electrician

Highly accurate adjustable impulse switch. (Einstellbarer Impulsgeber hoher Genauigkeit) Elektron Wiss und Tech 3:318-321 Aug '49

How to apply and maintain pilot devices. J. M. Harney. Factory Management 107:83-86 Apr '49

Laminated contact — a new type of contact and its application to certain important forms of switching devices. A. Johansonn. Ericsson Rev No 1: 22-32 '49

Plug connections solve pump-motor float-switch control problem. M. H. Kinsinger. Power 93: 92-93 Jan '49

Precision snap-acting switches. A. L. Riche. Elec Eng 68:128-134 Feb '49

Patents

Antenna switching device, Robert E. Kester, 2,480,-140, 2 cl. Appl Aug 2, '45; granted Aug 30, '49

Capacitive switch, Frank J. Lundberg, 2,485,617, 6 cl. Appl Apr 9, '45; granted Oct 25, '49

Centrifugal delay switch, Sheldon H. Dike, 2,458,-467, 6 cl. Appl Feb 20, '43; granted Jan 4, '49

Centrifugal switch, John W. Busacker, 2,458,464, 1 cl. Appl Sep 17, '43; granted Jan 4, '49

Contact-making device for electrical appliances, Henri Louis Lesigne, 2,486,042, 6 cl. Appl Sep 19, '45; granted Oct 25, '49

Control apparatus, Herman F. Barsun, 2,473,845, 6 cl. Appl July 20, '45; granted June 21, '49

Electric locking device, Joseph E. Taylor, 2,473,654, 8 cl. Appl May 10, '46; granted June 21, '49

Electric switch, Edgar H. Ayers and Andrew G. Elmerdorf, 2,492,726, 5 cl. Appl May 23, '46; granted Dec 27, '49

Electric switch, John Fowler, 2,473,992, 1 cl. Appl Sep 6, '46; granted June 21, '49

Electric switch, Luis Bulgarini, 2,458,056, 3 cl. Appl Sep 24, '45; granted Jan 4, '49

Electric switch, Malcolm E. Porter, 2,474,189, 5 cl. Appl Mar 15, '46; granted June 21, '49

Electric switch construction, William H. Martin, 2,485,399, 6 cl. Appl June 10, '46; granted Oct 18, '49

Gravity-actuated high-voltage switch, Robert P. Roetter, 2,485,170, 5 cl. Appl Nov 30, '46; granted Oct 18, '49

High-frequency switch, Nathan Marchand, 2,477,-635, 5 cl. Appl Nov 25, '44; granted Aug 2, '49

Magnetic switch, Charles E. Hastings, 2,487,052, 1 cl. Appl Nov 29, '45; granted Nov 8, '49

Magnetic switch apparatus, Hal Cooley, 2,473,468, 1 cl. Appl Aug 6, '46; granted June 14, '49

Motor starting control switch, Onni Lindfors, 2,490,-877, 3 cl. Appl May 12, '47; granted Dec 13, '49

Multiple selector switch, Paul F. McDonald, 2,479,-014, 2 cl. Appl Jan 13, '45; granted Aug 16, '49

Phase controlled switching system, Orrin W. Livingston, 2,484,575, 15 cl. Appl Mar 20, '43; granted Oct 11, '49

Piezoelectric type switching relay, Warren P. Mason, 2,471,967, 5 cl. Appl May 3, '46; granted May 31, '49

Polarized magnetic switch structure, H. Reifel and Herbert G. Weightman, 2,491,907, 4 cl. Appl June 11, '46; granted Dec 20, '49

Power supply switching system, Ching-ih Chou, 2,473,194, 8 cl. Appl Mar 4, '48; granted June 14, '49

Pressure switch, Richard Shaw, jr., 2,485,783, 8 cl. Appl Apr 25, '46; granted Oct 25, '49

Rotary electric switch, Gilbert S. Ellithorpe, 2,459,-998, 5 cl. Appl Dec 28, '45; granted Jan 25, '49

Setback switch, Richard L. Maneval, 2,458,478, 1 cl. Appl Apr 10, '43; granted Jan 4, '49

Setback switch, Thomas M. Perry, 2,458,479, 5 cl. Appl Apr 28, '43; granted Jan 4, '49

Snap acting device and electric switch, Arthur L. Riche, 2,473,970, 9 cl. Appl Aug 29, '46; granted June 21, '49

Solenoid operated switch, Arthur S. Dubuar, 2,457,-878, 11 cl. Appl Dec 2, '44; granted Jan 4, '49

Switch, James Raymond Bird, 2,473,565, 5 cl. Appl Oct 9, '46; granted June 21, '49

Switch, John W. Busacker, 2,458,464, 2 cl. Appl Jan 21, '43; granted Jan 4, '49

Switch for radio-frequency currents, Ray G. Shankweiler, 2,475,464, 2 cl. Appl Apr 8, '44; granted July 5, '49

Switch mechanism, Edward Stanley Giffin, 2,484,-991, 22 cl. Appl Jan 11, '45; granted Oct 18, '49

Switching apparatus for ultra high frequencies, Robert V. Gould, 2,484,822, 10 cl. Appl Apr 24, '44; granted Oct 18, '49

Thermal switch, George C. Armstrong, 2,472,082, 7 cl. Orig appl Apr 3, '45; divided and this appl Aug 15, '46; granted June 7, '49

Time switch, Edward V. Platt, 2,474,494, 3 cl. Appl Oct 6, '47; granted June 28, '49

Manual

Patents

Air circulation control system, William A. Ray, 2,474,369, 3 cl. Appl Aug 19, '44; granted June 28, '49

WITCHES, Electrical, Manual, *Patents*–Cont'd.

lectric switch, Herschel C. Bolley, 2,461,028, 9 cl. Cont of appl May 5, '41; this appl June 15, '46; granted Feb 8, '49

lectric switch, Raymond N. Rowe, 2,465,933, 7 cl Appl Mar 7, '46; granted Mar 29, '49

lectric switch, Robert Bain, 2,473,088, 6 cl. Appl Oct 24, '47; granted June 14, '49

lectric switch, Robert E. Smith, 2,473,263, 2 cl. Appl Nov 12, '47; granted June 14, '49

lectric switch assembly, Kenneth C. Allison, and Edward P. Herrick, 2,474,999, 6 cl. Appl June 2, '47; granted July 5, '49

lotor starting and safety switch, Alfred R. Lucas, 2,475,038, 4 cl. Appl Sep 28, '46; granted July 5, '49

lotor starting switch, Alfred R. Lucas, 2,475,039, 1 cl. Appl Jan 24, '47; granted July 5, '49

lultiple switch, Francis J. Maloney, 2,473,287, 5 cl Appl June 12, '46; granted June 14, '49

lultiswitch means for optionally and selectively operating multi-filament means, David Gordon, 2,475,237, 3 cl. Appl Apr 24, '48; granted July 5, '49

otary electrical switch, Edward H. Reinschmidt, jr., 2,472,230, 6 cl. Appl Mar 12, '48; granted June 7, '49

witch, Rolland S. Robbins, and Carl T. Cochran, 2,473,303, 1 cl. Appl Aug 24, '45; granted June 14, '49

witch and circuit breaker, Edmond F. Webb, 2,475,-300, 7 cl. Appl July 23, '45; granted July 5, '49

ltra high frequency switch, James O. Spriggs, 2,475,647, 8 cl. Appl June 13, '45; granted July 12, '49

Telephonic

runking plan for No 5 crossbar. W. B. Graupner. Bell Lab Rec 17:360-365 Oct '49

B relay. H. M. Knapp. Bell Lab Rec 17:355-358 Oct '49

Patents

elephone key with bisecting plate, Hendrik Dorjee, 2,485,818, 5 cl. Appl Oct 24, '46; granted Oct 25, '49

See also

ircuit Breakers & Interrupters
ower Supplies, Vibrators
elays

WITCHES, Electrical Relays

See Relays

WITCHES, Electronic

lectronic diversity switching. H. V. Griffiths and R. W. Bayliff. Wireless World pt 1 55:414-418 Nov '49; pt 2 55:486-488 Dec '49

lectronic relay developments. James J. Loving, jr. AIEE Proc section 966:1-10 Apr '49

ectifier networks for multiposition switching. D. R. Brown and N. Rochester. IRE Proc 37:139-146 Feb '49

cope aid helps audio men. Alfred Haas. Radio-Electronics 20:42-43 Jan '49

Simultaneous reproduction of several circuit characteristics on an oscilloscope screen. (Reproduction simultanee de plusieurs phenomenes sur l'ecrain d'un oscilloscope a faisceau electronique) J. Raux. Electronique 38:15-18 Dec '49

Speed of electronic switching circuits. (Abstract) E. M. Williams and D. F. Aldrich. IRE Proc 37: 170 Feb '49

Patents

Biasing potential switching system, Gerald Deakin, 2,462,074, 7 cl. Appl Jan 5, '46; granted Feb 22, '49

Capacitor regenerator, John L. Wagner and Robert E. Lawhead, 2,480,795, 9 cl. Appl Mar 29, '48; granted Aug 30, '49

Electrical system, John W. Dawson and Laurence K. Marshall, 2,478,527, 23 cl. Appl Jan 7, '46; granted Aug 9, '49

Electronic relay, Edwin R. Mickle, 2,482,553, 4 cl. Appl May 10, '46; granted Sep 20, '49

Electronic reversing switch, Gordon S. Burroughs, 2,485,560, 9 cl. Appl May 7, '45; granted Oct 25, '49

Electronic switch, Paul B. Sebring, 2,480,385, 3 cl. Appl Mar 20, '45; granted Aug 30, '49

Electronic switch, Trevor H. Clark, 2,474,224, 7 cl. Appl Mar 20, '47; granted June 28, '49

Electronic switch, Trevor H. Clark, 2,483,400, 6 cl. Appl May 13, '47; granted Oct 4, '49

Electronic switch with common cathode output, Ralph D. Goodrich, jr. and Thomas F. C. Muchmore, 2,482,759, 2 cl. Appl Apr 16, '45; granted Sep 27, '49

Electronic switching system, James Ernest Smith, 2,464,353, 5 cl. Appl Sep 16, '43; granted Mar 15, '49

Electronic switching system, John H. Newitt, 2,485,-642, 8 cl. Appl Mar 5, '45; granted Oct 25, '49

Electronic switching system in a diversity receiving system, John B. Atwood, 2,492,780, 7 cl. Appl May 8, '46; granted Dec 27, '49

Electronic timing device, Phillip J. Cade, 2,460,277, 7 cl. Appl Nov 1, '46; granted Feb 1, '49

Gaseous tube and circuit, Clyde J. Fitch and Robert N. Eichorn, 2,484,084, 1 cl. Appl Nov 27, '45; granted Oct 11, '49

Glow switch, Sidney Howard Noble, 2,459,578, 5 cl. Appl May 1, '47; granted Jan 18, '49

High-tension switching means, Victor Quittner, 2,475,197, 8 cl. Appl Oct 21, '47; granted July 5, '49

Low impedance switch circuit, Donald D. Grieg, 2,480,130, 7 cl. Appl Apr 6, '46; granted Aug 30, '49

Triple gate, Charles W. Johnstone and Leonard P. Mautner, 2,485,886, 3 cl. Appl Feb 21, '46; granted Oct 25, '49

Variable limit switch, Alfred D. Hammes, 2,492,745, 9 cl. Appl June 30, '48; granted Dec 27, '49

Voltage responsive trip circuit, Ralph E. Sturm and James R. Cosby, 2,467,948, 11 cl. Appl Oct 4, '45; granted Apr 19, '49

See also

Pulse Circuits
Trigger Circuits

T

TELEGRAPHY

See Communications, Telegraphy

TELEMETERING

Carrier telemetering load control. A. W. Walton and H. W. Lensner. Elec Eng 68:316 Apr '49

Electrical pickoffs for pilotless aircraft instruments. J. Andersen. ASME Trans Paper No 49-SA-13 June '49

Electrical telemetering. Norman A. Abbott. Radio & TV N 42:3+ Oct '49

Heliograph traces rocket path. Aviation W 50:26+ Mar 21, '49

Multiple telemetering over a single telephone circuit. J. M. Lester and J. W. Henderson. Am Water Works Ass'n J 41:9-17 Jan '49

New aerograph for more adequate data. Aviation W 51:34 July 25, '49

New carrier-current equipment for telemetering. R. W. Beckwith. Elec Eng 68:401 May '49

New frequency-type telemeter for carrier-current channels. E. E. Lynch and others. Gen Elec Rev 52:28+ Feb '49

Preliminary directional study of cosmic rays at high altitude. W. G. Stroud and others. Phys Rev 76:1005-1019 Oct 15, '49

Radio telemetering. G. L. Hinckley. Electronic Eng 21:209-211+ June '49

Radio telemetering receiver selector developed at the Technische Hochschule, Darmstadt. German Industry Rep. CIOS XXX-57 Brit Govt Pub

Report on telemetering in aero research. Robert McLaren. Aviation W 51:24+ Nov 28, '49

Telemeter carrier channels. T. DeWitt Talmage. Elec Eng 68:41 Jan '49

Thermal converter for telemetering. W. C. Downing, jr. Elec Eng 68:1039 Dec '49

Thermal converter for telemetering and totalizing. William C. Downing, jr. AIEE Proc section 9159: 1-6 July '49

Transistor oscillator for telemetering. F. W. Lehan. Electronics 22:90-91 Aug '49

Patents

Apparatus for transmission of radiotelegraphic signals relating to sea or river levels at the installation site, Carlos Hansen, 2,466,099, 10 cl. Appl Jan 8, '47; granted Apr 5, '49

Apparatus for transmitting changes in gauge conditions, Harvey D. Giffen, 2,484,218, 10 cl. Appl May 13, '44; granted Oct 11, '49

Automatic transmission of data from aircraft, Peter R. Murray, 2,467,400, 3 cl. Appl Aug 1, '45, granted Apr 19, '49

Control apparatus, Waldo H. Kliever, 2,490,735, 16 cl. Appl May 31, '43; granted Dec 6, '49

Electron beam telemetering system, Curtiss R. Schafer, 2,465,277, 14 cl. Appl Oct 17, '45; granted Mar 22, '49

Electron tube type transmitter, Clarence A. de Giers and Abraham Edelman, 2,483,266, 4 cl. Appl Sep 8, '45; granted Sep 27, '47

Electronic gauge, Joseph J. Neff, 2,465,032, 5 cl. Appl July 28, '45; granted Mar 22, '49

Fluid flow responsive transmitter for telemetering systems, Howard D. Warshaw, 2,487,083, 10 cl. Appl May 16, '45; granted Nov 8, '45

Impulse generator for telemetering systems, Gabriel M. Giannini, 2,471,947, 5 cl. Appl June 4, '45; granted May 31, '49

Integrating and remote reading compass system, Reginald V. Craddock, 2,466,687, 12 cl. Appl Aug 13, '45; granted Apr 12, '49

Ratiometer, Clarence A. de Giers, 2,463,681, 9 cl. Appl June 19, '45; granted Mar 8, '49

Recording apparatus for telemetric systems, Harvey D. Giffen and Thomas B. Thomson, jr., 2,485,730, 20 cl. Appl Aug 14, '44; granted Oct 25, '49

Self-balancing telemetric receiver, Perry A. Borden, 2,465,191, 10 cl. Appl Nov 27, '44; granted Mar 22, '49

Self-calibrating metering system, Theodore A. Rich, 2,464,612, 4 cl. Appl Oct 28, '47; granted Mar 15, '49

Self-positioning circuit balancing telemeter receiver, Richard G. Jewell, 2,484,569, 3 cl. Appl Dec 15, '48; granted Oct 11, '49

Self-synchronous system, Henry A. Giroud, 2,458,-586, 2 cl. Appl Oct 12, '45; granted Jan 11, '49

Telemetering system, Alfred A. Sweeny and Maurice F. Sweeny, 2,491,591, 3 cl. Appl June 2, '48; granted Dec 20, '49

Telemetering system for transmitting indications of movements, Joseph Tazek, 2,469,744, 10 cl. Appl Sep 22, '45; granted May 10, '49

Telemetric device, Henry H. Johnson, 2,459,704, 5 cl. Appl Mar 26, '46; granted Jan 18, '49

Telemetric motor control system, John F. Emerson, 2,479,105, 8 cl. Appl Jan 30, '48; granted Aug 16, '49

Telemetric system, Bernard E. Lenehan, 2,465,241, 3 cl. Appl Dec 15, '45; granted Mar 22, '49

Telemetric system, Gabriel M. Giannini, 2,475,232, 2 cl. Orig appl June 4, '45; divided and this appl Sep 5, '47; granted July 5, '49

Telemetric system, Harvey D. Giffen, 2,466,803, 6 cl. Appl Aug 14, '44; granted Apr 12, '49

Telemetric system, Harvey D. Giffen, 2,466,804, 7 cl. Appl Aug 14, '44; granted Apr 12, '49

Telemetric system, William H. T. Holden, 2,486,784, Cont of appl June 30, '44; this appl Oct 11, '45; granted Nov 1, '49

See also
Instrumentation
Measurements & Meters
Remote Control

TELEVISION

Average light of the image. W. Mayel. Toute la Radio No 135:136-140 May '49. In French

Choice of the intermediate frequency in television. A. V. J. Martin. Toute la Radio No 138:251-252 Sep '49. In French

Development of a high-speed communication system. (Abstract) Donald S. Bond. IRE Proc 37: 160 Feb '49

Development of television since 1939. (Ueber die fernsehentwicklung seit 1939) ETZ pt 1 70: 117-124 Apr '49; pt 2 70:211-216 June '49

ELEVISION–Cont'd.

ectronic magic. H. W. Secor. Radio-Electronics 20:20-22 June '49

imination of reflections on video lines. C. A. Meyer and R. G. Middleton. Radio & TV N 41: 70-72+ May '49

imination of sound interference in television. (Elimination du son en television) W. Mazel. Toute la Radio No 140:338-342 Nov '49

rst international congress of television. (Le premier congres international de television) Genie Civil 126:28-31 Jan 15, '49

istorical sketch of TV progress. L. R. Lankes. Intl Proj 24:11+ Jan '49

iprove your television picture. Allan Lytel. Radio-Electronics 20:18-21 Aug '49. Also Telev Ital 1:61 Oct '49. In Italian

fluence of phase and attenuation distortion on the building up of television signals. (Distortions d'affaiblissement et de phase et leur influence sur l'establissment des signaux de television) G. Fuchs and V. Baranov. Cables et Trans 3:194-207 Apr '49

iscellaneous reports on radio and television research, '43-'44. PB 84931

odern aspects of television. (Aspectos modernos de la television) Vladimir K. Zworykin. Rev Soc Cuba Ing 57:103-111 May-June '49

ultipath television reflections. E. G. Hills. IRE Proc 37:1043-1046 Sep '49

ew British television principle (Pye-system). (Det nye britiske fjernsynsprincip) (Pye-systemet) Radio Ekko 9:131-132 June '46

otes for remote viewers. Vin Zeluff. Electronics 22:144+ June '49

ilosophy of our TV system. John H. Roe. Broadcast N pt 1 53:73+ Feb '49; pt 2 54:37 Apr '49

lastic television. (Plastisches fernsehen) Radio Tech 25:699-701 Dec '49

CA completes sixth TV clinic. Broadcast N 54:43 Apr '49

esearch reports on aircraft television, iconoscopes and radar equipment, 1938-1945. PB 84894

ix papers on television. German Industry Rep. FIAT 865 Brit Govt Pub. In German with English prefaces

ome aspects of television circuit technique: phase correction and gamma correction. T. C. Nuttall. Telev Soc J 5:257-265 Mar '49

torage and differential picture television systems. (Speicherbild und differenzbild fernsehen) Elektron Wiss und Tech 3:89-95 Mar '49

elevising science. R. K. Marshall. Phys Today 2:26-30 Jan '49

elevision in the limelight. (A televisao em foco) Radio J 1:12 Aug '49

elevision by pulse-code modulation. (Abstract) W. M. Goodall. IRE Proc 37:169 Feb '49

elevision survey for '49. (Televisione '49) R. Zambrano. Elettronica 4:233-235 Sep '49. In Italian, with abstracts in French and English

elevision's future. D. F. Schmit. Mid Eng 1:3-4 Jan '49

elevision's future in America. Lee de Forest. Radio-Electronics 20:22-23 Mar '49

Television today. Charles A. Scarlott. Westinghouse Eng 9:98-103 July '49

Television's trends. Lee de Forest. Radio-Electronics 20:23 May '49

Train television. Frank R. Norton and others. Electronics 22:100+ Mar '49

TV predictions for '49. Allen B. Du Mont. Radio & TV N 41:40+ Mar '49

Understanding television. C. H. Lowndes. Radio-TV Ap Sales pt 1 5:32-33 June '49; pt 2 5:28-29 July '49

USAF shows off its television. B. W. Southwell. Radio-Electronics 20:23 June '49

'48 — year of TV advance. Will Baltin. Radio-Electronics 20:34-35 Mar '49

Patents

Automatic frequency control circuit for frequency modulation television systems, William E. Bradley, 2,481,902, 9 cl. Appl Apr 10, '46; granted Sep 13, '49

Means for preventing cross talk in sound-vision systems, Kurt Schlesinger, 2,486,498, 17 cl. Appl Apr 20, '45; granted Nov 1, '49

Multiplex television and pulse modulated sound system, Emile Labin, 2,477,625, 8 cl. Appl Aug 25, '44; granted Aug 2, '49

Photovision, Allen B. Du Mont, 2,472,889, 4 cl. Appl Dec 17, '46; granted June 14, '49.

Still projector simulating television sets, Irving Asherman, 2,477,032, 5 cl. Appl Sep 22, '48; granted July 26, '49

Synchronizing pulse gating system, 2,480,582, 9 cl Appl Oct 18, '45; granted Aug 30, '49

Television and pulse modulated sound system, Norman H. Young, jr., 2,477,679, 2 cl. Appl Apr 24, '46; granted Aug 2, '49

Television apparatus, Donald Jackson, 2,479,494, 9 cl. Appl July 28, '47; granted Aug 16, '49

Television film projection with synchronized discharge lamp, Donald E. Norgaard, 2,483,149, 4 cl. Appl Mar 13, '46; granted Sep 27, '49

Waveform compensating circuit for television film transmitters, Clyde E. Hallmark, 2,485,594, 7 cl. Appl Apr 15, '46; granted Oct 25, '49

See also

Amplification & Amplifiers, Wide Band, Video
Antennas, TV
Federal Communications Commission
Interference, TV
Time Base Circuits
Training Aids, TV

TELEVISION, Amplifiers

See Amplifiers, Wideband

TELEVISION, Antennas

See Antennas, TV

TELEVISION, Broadcasting Stations and Studios

Air conditioning a television studio plant. C. A. Rackey and R. T. Keowen. Heat & Ven 46:57-61 May '49

AD HOC Committee report. R. Lewis. Communications 29:6-9+ July '49

TV, Broadcasting Stations and Studios–Cont'd.

Experimental equipment for 729-Line TV. (Un equipement experimental de television a 729 lignes) J. L. Delvaux. Rev Tech Comp Franc Thomson-Houston 12:35-40 May '49

From silents to television. Elec West 103:78-79 Dec '49

Midlands television service. Elec Rev 145:1181-1184 Dec 23, '49

Production of TV shows poses new stage problems says ABC's Fassnacht. Mid Eng 1:12-13 Jan '49

Progress toward international TV standards. D. G. Fink. Electronics 22:69-71 Oct '49

Symmetrical amplifiers for FM or TV broadcasting. Westinghouse Eng 9:155-156 Sep '49

System of remotely controlled program-circuit switching. J. A. Green and R. D. Essig. Communications 29:10-12+ July '49

Television broadcasting of meteorological information. R. Clausse. Onde Elec 28:358-360 Oct '48

Television for the midlands. Electrician 143:2032-2034 Dec 23, '49

Television studio maintenance. John B. Ledbetter. Radio & TV N 42:11+ Sep '49

Television in Texas. Rudy Bretz. Televiser 6: 25-26 May '49

Unique engineering design featured in WOR-TV studios. J. H. Battison. Tele-Tech 8:20-22+ Dec '49

Stations

Basic equipment for small TV station. John B. Ledbetter. Radio & TV N 42:12-14+ Oct '49

Cutouts aid TV station planners. Marvin L. Gaskill. Radio Age 8:14+ Apr '49

Design of television stations. J. P. Allinson. Arch Record 105:123-132 June '49

FM-TV station at Dayton, Ohio. L. M. Druckenbrod. FM-TV 9:17-19 Nov '49

How a TV station operates. Morton Shore. Radio-Electronics 20:22-23 July '49

Presenting top television fare station WGN-TV. Mid Eng 1:6-7 Jan '49

Sutton Coldfield television-transmitting station. Engineering 168:661-664 Dec 23, '49. Also in Engineer 188:733-736 Dec 23, '49

Television in Detroit. Rudy Bretz. Televiser 6: 18-21 June '49

Visit to WOR-TV. Communications 29:21 May '49

WCAU-TV. John G. Leitch. Broadcast N 54:52 Apr '49

WENR-TV. E. C. Horstman and J. M. Valentine. Broadcast N 54:14 Apr '49

WICU — Dumont network affiliate. Arch Record 105:138-139 June '49

WOR TV-FM: design for the future. F. J. Bingley. Electronics 22:70-81 Sep '49

Studio Lighting and Sound

Audio technique in television broadcasting. R. H. Tanner. Audio Eng 33:9-13+ Mar '49

Lighting distortion in television. R. Blount. Soc Motion Picture Eng J 53:625-634 Dec '49

Lighting requirements of television studios. Richard E. Blount. Tele-Tech 8:24+ May '49

Illumination for television studios. H. M. Gurin Tele-Tech pt 1 8:54-56+ Sep '49; pt 2 8:34-36+ Oct '49

Studio technique in television. D. C. Birkinshaw Telev Soc J 5:247-256 Mar '49

Technique of television sound. (Abstract) Rober H. Tanner. IRE Proc 37:163 Feb '49

Television photometry and optical background. R L. Kuehn. Tele-Tech 8:24-26+ July '49

Television studio. D. C. Birkinshaw. BBC Quar 4:105-117 July '49

Television studio lighting. A. H. Brolly. Soc Motion Picture Eng J 53:611-624 Dec '49

TV station studio controls. Morton Shore. Radio-Electronics 21:32-33 Oct '49

Visual and lighting problems of television. E. W Commery. Illum Eng 44:541-542 Sep '49

See also

Broadcasting (AM & FM), Stations & Studios
Illumination & Photometry

TELEVISION, Cameras and Pickup Equipment

British TV equipment offered to U.S. stations. Televiser 6:18 Dec '49

Development and performance of television camera tubes. R. B. Janes and others. RCA Rev 10: 191-223 June '49

Distant electric vision. J. D. McGee. IRE Proc (Australia) 10:211-223 Aug '49

Graphicon: an improved picture storage tube. (Das Graphechon, eine verbesserte Bildspeicherroehre) Elektron Wiss und Tech 3:447-449 Nov '49

How to get the best picture out of your image orthicon camera. H. Kozanowski. Broadcast N . No 54:74 Apr '49

Iconoscopes production, Paris area. German Industry Rep. CIOS XIII-5 Brit Govt Pub

Iconoscope, research and developments. German Industry Rep. CIOS XXXI-37 Brit Govt Pub

Iconoscopes. German Industry Rep. CIOS XXXII-95 Brit Govt Pub

Image isocon — an experimental television pickup tube based on the scattering of low velocity electrons. P. K. Weimer. RCA Rev 10:366-386 Sep '49

Making fine mesh screens for the image orthicon. Harold B. Law. Broadcast Eng J 16:6+ May '49

Multiplexing film cameras to minimize TV program failures. A. H. Jones and K. E. Mullinger. Tele-Tech 8:34-35+ Nov '49

New iconoscope. Telev Franc No 50:31-33 Aug '49. In French

New TV studio relay switching system. W. E. Tucker and C. R. Monro. Tele-Tech 8:24-27 Aug '49

Signal noise and optical relations in television cameras. G. Liebmann. Electronic Eng 21:121-124 Apr '49

Slow-electron television cameras. J. J. M. Moral. Rev Telecom 3:38-52 June '48

Television camera cables. Engineering 168:653 Dec 16, '49

Television iconoscopes. (Tubi di represa televisiva) Angelo de Filippi. Elettronica 4:13-21 Jan '49

Television optics. Elettronica 4:161 July '49. In Italian

V, Cameras and Pickup Equipment–Cont'd.

elevision pickup for transparencies. R. D. Thompson. Soc Motion Picture Eng J 53:137-142 Aug '49

oday's celluloid networks. Malcolm McGlasson. Televiser 6:11-14 Feb '49

wo new image orthicons. R. B. Janes and others. NEC Proc '49

Patents

irect current insertion circuit, Ray D. Kell, 2,463,038, 2 cl. Orig appl July 6, '44; divided and this appl Mar 27, '45; granted Mar 1, '49

lectronic pointer for television images, William E. Denk, 2,487,641, 6 cl. Appl Sep 7, '46; granted Nov 8, '49

ıertia-operated panning device, Thornton W. Chew, 2,481,083, 8 cl. Appl Feb 15, '46; granted Sep 6, '49

:orage tube, Richard L. Snyder, jr., 2,470,875, 13 cl. Appl Apr 12, '46; granted May 24, '49

elevision camera lens switching device, Thornton W. Chew, 2,481,082, 4 cl. Appl June 4, '45; granted Sep 6, '49

elevision camera tube, Thomas C. King and James E. Drummond, 2,490,734, 4 cl. Appl Oct 23, '46; granted Dec 6, '49

elevision pickup tube, Albert Rose, 2,458,205, 2 cl. Appl Sep 27, '46; granted Jan 4, '49

elevision receiver screen, Charles G. Smith, 2,473,825, 6 cl. Appl Apr 23, '45; granted June 21, '49

See also

athode-Ray Tubes, Television Tubes

ELEVISION, Color

ccurate color reproduction in color television. (Fernsehen in Farben mit richtiger Farbenwiedergabe) Radio Tech 25:427-433 July '49. Addition 25:702-703 Dec '49

BS color TV tests broadcast in Baltimore and Washington. Tele-Tech 8:40+ Sep '49

olor television? M. S. Kay. Radio & TV N 42: 35-37+ Dec '49

olor television transmission systems. J. H. Battison. Tele-Tech 8:18-20+ Oct '49

olor television tried in ramjet run. Aviation W 51:26 July 18, '49

olor TV coming? Business W 1:68+ Oct 8, '49

olours and their mixtures in colour television. V. A. Babits. Telev Soc J 5:269-273 Mar '49

ot systems of color television. Wilson Boothroyd. Electronics 22:88-92 Dec '49

r. Lee deForest's color television system. Tele-Tech 8:41-42 Nov '49

igh definition color TV urged for VHF and UHF; RCA report to FCC. Broadcast Eng J 16:4-5+ Nov '49

ighlights of FCC color-TV demonstrations. F. Loomis. Tele-Tech 8:18-19+ Dec '49

ıterlaced-dot color television announced by RCA. John Markus. Electronics 22:122+ Nov '49

atest RMA color TV report. Broadcast Eng J 16: 6-7 Nov '49

ew advances in color TV. E. W. Engstrom. Broadcast Eng J 16:3-4 Nov '49

New colour television system. Wireless World 55: 459-460 Nov '49

New directions in color television. Electronics 22: 66-71 Dec '49

New RCA color television system. Standardization 9:3-7 Oct '49

New RCA system of color TV. (Le nouveau systeme 100% electronique de television en couleurs de la RCA) J. Garcin. Toute la Radio No 141:20-24 Dec '49

New RCA TV color transmission system. (Il nuovo sistema RCA di televisione a colori) Telev Ital 1:63-64 Oct '49

Report on FCC color TV demonstrations at Washington. Tele-Tech 8:24-26 Nov '49

Patents

Color television, Alfred N. Goldsmith, 2,481,839, 29 cl. Appl Aug 5, '44; granted Sep 13, '49

Color television, Donald D. Grieg, 2,465,371, 9 cl. Appl Jan 13, '45; granted Mar 29, '49

Color television, Harry E. Legler, 2,465,652, 1 cl. Appl June 25, '46; granted Mar 29, '49

Color television, Louis W. Parker, 2,477,645, 7 cl. Appl Apr 24, '46; granted Aug 2, '49

Color television, Otto H. Schade, 2,458,649, 17 cl. Appl Jan 31, '41; granted Jan 11, '49

Color television, Peter C. Goldmark, 2,466,021, 25 cl. Appl Nov 27, '45; granted Apr 5, '49

Color television, Peter C. Goldmark, 2,480,571, 26 cl. Appl Sep 7, '40; granted Aug 30, '49

Color television apparatus, Roy E. Schensted, 2,479,517, 9 cl. Appl June 8, '46; granted Aug 16, '49

Color television device, Charles Willard Geer, 2,480,848, 40 cl. Appl July 11, '44; granted Sep 6, '49

Color television projector, Christian C. Larson, 2,489,299, 5 cl. Appl Apr 15, '46; granted Nov 29, '49

Color television system, Arthur B. Bronwell, 2,461,515, 16 cl. Appl July 16, '45; granted Feb 15, '49

Color television system, Georges Valensi, 2,492,926, 14 cl. Appl Oct 5, '45; granted Dec 27, '49

Color television system, Henry B. De Vore, 2,479,820, 2 cl. Appl May 1, '47; granted Aug 23, '49

Color television system, Thornton W. Chew, 2,473,276, 7 cl. Appl May 23, '46; granted June 14, '49

Control for color television, Charles E. Huffman, 2,490,812, 4 cl. Appl Jan 3, '46; granted Dec 13, '49

Variable color filter assembly for television transmitting systems, Frank J. Somers, 2,478,598, 16 cl. Appl Sep 15, '45; granted Aug 9, '49

TELEVISION, Commercial Aspects

Çan 2,710,000 television sets be sold in '49? Radio & TV N 41:66 June '49

Is fair trade the answer to TV price cutting problem? Carle Christensen. Radio & TV N 42:40-41+ Oct '49

Legal bombshell hits TV "policies." Radio Ser Deal 10:16-17+ Aug '49

Legality of TV "policies" clarified. Radio Ser Deal 10:12 Sep '49

Local TV commercials. Chester A. Snow. FM-TV 9:22-23+ Aug '49

TELEVISION, Commercial Aspects–Cont'd.

Low cost TV operation. Garo W. Ray. FM-TV 9: 24+ Mar '49

Nationwide TV service (TV areas; TV channels; TV markets; priorities; transmitters; coverage). Milton B. Sleeper. FM-TV 9:10-19 Aug '49

Stability vs chaos in TV. A. N. Goldsmith. Intl Proj 24:18+ Feb '49

Status of television. J. G. Wilson. Radio Age 8: 6+ Apr '49

Television as advertising medium. P. A. Bennett. 30 pp c 18.271:DC 14 U.S. Govt Pub

Television distribution. P. Adorian. Wireless World 55:18+ Jan '49

Television expands its frontiers. RTJ 66:10+ Feb '49

Television to remain luxury item, city phenomenon; will complicate home routine. C. E. Hooper. Mid Eng 1:8-9 Jan '49

Television's impact. Herbert Laufman. Radio & TV N 42:30-31 July '49

TV operation in small cities. E. J. Meehan. FM-TV 9:24+ June '49

When will television make money? Irwin A. Shane. Televiser 6:7-9 Dec '49

TELEVISION, Coverage

BBC television map. Wireless World 55:55+ Feb '49

Field survey of television channel 5 propagation of New York metropolitan area. Thomas T. Goldsmith and others. IRE Proc 37:556-563 May '49

Fringe area television reception. R. W. Sanders. Radio & TV N 42:44-46+ Oct '49

How to get television DX. Lyman E. Greenlee. Radio-Electronics 20:28-29 Jan '49

Long distance television defies engineering laws and theories. Sylvan N 16:G38 Nov '49

Reception of images at a large distance. G. Robert. Telev Franc No 48:6-8+ June '49. In French

Technique for TV field surveys. J. F. Dreyer, jr. Electronics 22:82-85 Oct '49

Television coverage extended. Radio Age 8:13+ Jan '49

Television field intensity measurements. J. B. Epperson. Electronics 22:78+ Mar '49

TV reception below line of sight. Robert B. McGregor. Electronics 22:72-76 Nov '49

VHF television — propagation aspects. (Abstract) Edward W. Allen, jr. IRE Proc 37:166 Feb '49

Viewing areas of TV receivers. Robert P. Wakeman. Service 18:10+ Feb '49

WDTV field coverage survey. R. Lewis. Communications 29:6-7+ Aug '49

WDTV field-strength report. T. T. Goldsmith, jr. FM-TV 9:15-18+ Sep '49

TELEVISION, Foreign

Birmingham television reception. Wireless World 55:312-313 Aug '49

Comparison of television standards in Germany, England, and America. (Vergleich von Fernsehnormen in Deutschland, England und America) ETZ 70:130 Apr '49

Danish experiments. H. V. Bischoff. Telev & Viev 4:13-14 Nov '49

Definitive characteristics of the 819 line standard Telev Franc No 51:22 Sep '49. In French

French high-definition TV. E. Aisberg. Radio-Electronics 20:58-59 Mar '49

Interrogation of German television and electroni authorities. German Industry Rep. FIAT 29 Brit Govt Pub

819 lines. W. Porche. Telev Franc No 44:30 Jan-Feb '49. In French

London television transmissions received perfectly in France. G. Giniaux. TSF Pour Tous 24:23 Sep '48

New French TV test pattern. Radio-Electronics 20: 27 Aug '49

Plans for a service in Holland. C. L. Zaalberg Telev & View 4:15 Nov '49

Progress toward a European television standard (Auf dem Wege zur europaeischen Fernsehnorm) Elektrotechnik 3:177-181 June '49

Reasons for the choice of 819 lines; replies to some criticisms. Y. L. Delbord. Onde Elec 29:185-19 May '49. In French. Also in Telev Franc No 47: 33-37 May '49. In French

Some notes on British TV receivers. R. Norris Radio-TV Ap Sales 5:22+ July '49

Studio & OB television practice in Great Britain T. H. Bridgewater. Telev Soc J 5:301-306 June '49

Technical trends at Radiolympia; a review of television receivers. R. C. Norris. Telev & View 4: 28+ Nov '49

Television development and application in Germany German Industry Rep. BIOS 867 Brit Govt Pub

Television development in Britain. Nature 162: 427+ Sep 18, '48

Television in Birmingham. Electronic Eng 21:457-460 Dec '49

Television in Czechoslovakia. J. Havelka. Tesla Tech Rep pp 2-3 Mar '49

Television in Europe. Ralph W. Hallows. Radio-Electronics 20:52-53 Mar '49

Television in France. German Industry Rep. CIOS XI-1 Brit Govt Pub

Television standards. Elec Rev 144:226 Feb 11, '49

Trends and technics in European communications. J. H. Battison. Tele-Tech 8:16-17+ July '49

Video frequencies at 625 lines. (Welche Hoechste uebertragungs-frequenz gehoert zu einem Fernsehbild mit 625 Zeilen.) F. Kirschstein. Fernmeldetech Zeit 2:97-102 Apr '49

See also

Television, Receivers & Reception, Models, Foreign

TELEVISION, Industrial Applications

Potential television applications. W. R. G. Baker. Radio-Electronics 20:25 Mar '49

Seeing eye for industry: wired television. W. L. Norvell. Nat Safety N 60:24-25 Sep '49

Television applications. Elec Eng 68:676 Aug '49

Television in industry. Vin Zeluff. Electronics 22: 154+ Sep '49

Television in the plant. Factory Management 107: 80 Apr '49

TELEVISION, Industrial Applications–Cont'd.

Television proves itself in the plant. G. W. Bice. Power 93:120-121 Sep '49

Television registers pilot burner flame. Elec World 132:114 Sep 10, '49

See also

Training Aids, TV

TELEVISION, Interference

See Interference, TV

TELEVISION, Manufacturing and Construction

Admiral licks TV cost with big plastic molding. Business Week No 1028:78-80+ May 14, '49

Building a televiser. Roy Freeland. Radio-Electronics pt 1 18:60 Jan '47; pt 2 18:28 Feb '47; pt 3 18:32 Mar '47

Building a TV receiver. (Vi bygger en FS-Modtager) Radio Ekko pt 1 12:162 Aug '49; pt 2 12:180 Sep '49

Constructing your own receiver at home. J. N. Roe. Telev & View 4:32-33 Dec '49

DuMont opens largest TV assembly plant. Tele-Tech 8:24-25 Oct '49

High-speed production of metal kinescopes. H. P. Steier and R. D. Faulkner. Electronics 22:81+ May '49

16-inch conversion kit. Walter H. Buchsbaum. Radio Ser Deal 10:23-24 Oct '49

Pulse cross generator applied to TV production test equipment. R. P. Burr. Tele-Tech 8:36+ Apr '49

Receivers assembled from kits play big role in TV advance. Herbert D. Suesholtz. Radio-Electronics 20:62-63 Mar '49

Southern plant geared for speed and quality—Bendix plant in Maryland. Mfg Rec 118:36-37 Feb '49

Television producing plant. Elwell. Arch Record 105:133 June '49

Television production line testing. M. S. Kiver. Radio & TV N (Eng Edition) pt 2 41:6-9+ Jan '49; pt 3 41:16-18 Feb '49; pt 4 41:11-13+ Mar '49

Television receiver economics. Wireless World 55: S6-S8 Sep '49

TV custom building. David T. Armstrong. Radio-Electronics 21:26-28 Oct '49

TV receiver production changes. Monthly column D. Phillips. Service vol 18 '49

Patents

Method and apparatus for making mosaic targets for electron beams, John B. Johnson, 2,463,180, 15 cl. Appl Apr 29, '43; granted Mar 1, '49

Television tube support, Henry E. Hinz, 2,484,345, 7 cl. Appl June 29, '48; granted Oct 11, '49

See also

Manufacturing Techniques

TELEVISION, Mobile

BBC's mobile TV transmitter. (BBC's mobiele TV zender.) Radio Bul 18:333-356 Oct '49

Design, development and operation of a TV mobile unit. W. I. McCord. Communications 29:10-11+ Dec '49

Microwave television link. Brit IRE J 9:221 June '49

"SADIR" — mobile camera equipment. Telev Franc 52:7-8 Oct '49. In French

Televising the '49 Oxford and Cambridge boat race. T. C. Macnamara and P. A. T. Bevan. Electronic Eng 21:165-168 May '49

WMAL-TV mobile TV unit. F. W. Harvey and E. D. Hilburn. Communications 29:8-11 Mar '49

WOW-TV mobile unit. Louis de Boer. Broadcast Eng J 16:4+ May '49

WOW-TV television field car. Joseph Herold. Communications 29:12-13 Apr '49

WTMJ's mobile television unit. John E. Hubel. Radio & TV N 41:53+ June '49

TELEVISION, Projection

Brightness and contrast in television. P. C. Goldmark. Elec Eng 68:237-242 Mar '49. Corresp. A. Abramowitz. 68:559-560 June '49; M. W. Balwin, jr., and P. C. Goldmark 68:827 Sep '49

Criteria for normal and abnormal ultrasonic light diffraction effects. G. W. Willard. Acous Soc Am J 21:101-108 Mar '49

Custom-built projection televisers. Radio-Electronics 20:30 Jan '49

Electro-optical characteristics of television systems. O. H. Schade. RCA Rev pt 1 9:5-37 Mar '48; pt 2 9:245-286 June '48; pt 3 9:490-530 Sep '48; pt 4 9:653-686 Dec '48

Examining mirrors for projection television. Philips Tech Rev 10:286-287 Mar '49

Home projection television, pulse-type high-voltage supply. G. J. Siezen and F. Kerkhof. IRE Proc 36:401-407 Mar '48

Home television projection receivers. (Projektions-Heimfernsehempfaenger) Radio Tech 25:159-162 Mar '49

Packaged projection TV. Radio & TV Ret 49:50 Apr '49

Projection system for domestic television receivers. Electronic Eng 21:314-318 Sep '49

Projection television. Allan Lytell. Radio Ser Deal 10:15-17 Mar '49

Projection-television receiver; 25 kv anode voltage supply unit. G. J. Siezen and F. Kerkhof. Philips Tech Rev 10:125-134 Nov '48

Projection-television receiver; circuits for deflecting the electron beam. J. Haantjes and F. Kerkhof. Philips Tech Rev 10:307-317 Apr '49

Projection-television receiver; synchronisation. J. Haantjes and F. Kerkhof. Philips Tech Rev 10: 364-370 June '49

Projection television systems. Martin Clifford. Radio Maint pt 1 5:18-38 July '49; pt 2 5:18-34+ Aug '49

Projection television today. RTJ 66:23+ May '49

Reflector system TV chassis. Service 18:26+ Mar '49

Reflector system TV (Sparton AVC). Service 18: 26+ Mar '49

Television projection. R. Aschen. Telev Franc 51: 25-26 Sep '49. In French

TELEVISION, Projection–Cont'd.

Television projection methods. A. H. Rosenthal. Radio-Electronics 20:36-38 Mar '49

Television projection systems. M. S. Kay. Radio & TV N 41:47-49+ May '49

Television tubes and projection systems. (Tubi e sistemi di proiezione delle immagini televisive) G. Dilda. Elettronica 4:179-184 Aug '49. Abstracts in French and English

Television with projected image. (Televisie met geprojecteerd beeld) Tijdsch Ned Radiogenoot 14:99-117 July '49

TV 16-mm pulsed light projector. Communications 29:14-16 July '49

Patents

Adjustment means for optical components of projection television receivers, Charles E. Cady, 2,467,185, 2 cl. Appl Jan 11, '47; granted Apr 12, '49

Apparatus for reproducing electric signals, particularly television reproducers, Adolph H. Rosenthal, 2,472,988, 6 cl. Appl Oct 28, '44; granted June 14, '49

Cathode-ray image-translating device, Henry Neil Frihart, Wilbur C. Jackson, Frederick B. Williams, 2,459,637, 3 cl. Appl Nov 29, '44; granted Jan 18, '49

Cathode-ray projection tube, Homer G. Boyle, 2,482,151, 12 cl. Appl Aug 13, '44; granted Sep 20, '49

Focusing mechanism for cathode-ray tubes, George K. Schnable, 2,466,331, 6 cl. Appl Apr 18, '47; granted Apr 5, '49

Folded Schmidt television projector, Pieter Martinus van Alphen, 2,476,124, 4 cl. Appl Jan 15, '46; granted July 12, '49

Image forming projection with Schmidt-type optical system, Ernest H. Traub, 2,470,198, 2 cl. Appl Sep 27, '46; granted May 17, '49

Partitioned projection cathode-ray tube, Kurt Arthur Richard Samson, 2,466,329, 18 cl. Appl Mar 5, '47; granted Apr 5, '49

Schmidt television projector with spherical aberration corrector, James G. Baker and Constantin S. Szegho, 2,491,072, 13 cl. Appl June 19, '45; granted Dec 13, '49

Schmidt-type image projection apparatus, Frederick H. Nicoll, 2,476,898, 1 cl. Appl Nov 28, '44; granted July 19, '49

Skewed Schmidt television projector with directive screen, 2,466,338, 5 cl. Appl Feb 21, '46; granted Apr 5, '49

Large Screen

Demonstration of large-screen television at Philadelphia. R. Wilcox and H. J. Schlafly. Soc Motion Picture Eng J 52:549-560 May '49

Large-screen projection television. Ralph V. Little, jr. Elec Eng 68:329 Apr '49

Large-screen television. Ralph V. Little, jr. Radio Age 8:26+ Jan '49

Large-screen television and the "Eidophore" system. H. Thiemann. Telev Franc 50:6-10+ Aug '49. In French

Projector for large-screen television. P. Mandel. Telev Franc 44:9-13 Jan-Feb '49. In French

TV magnifiers vs. large screen sets. M. J. Greenwald. RTJ 66:13-14 Oct '49

Theaters

Big-screen television for motion picture theaters. Tele-Tech 8:36-38+ Sep '49

Chicago theatre-WBKB intermediate full-screen TV film system. Intl Proj 24:18-19 Aug '49

Cinema television. E. Aisberg. Radio-Electronics 20:31 Apr '49

New telecine channel. F. Ehrenhaft and M. Cawein. Tele-Tech 8:18-21 July '49

Present status of theatre TV. Intl Proj 24:10-12+ Mar '49

Progress report — theater television. B. Kreuzer. Soc Motion Picture Eng J 53:128-136 Aug '49

Projection TV for large audiences. Gerard Franceour. Radio & TV N 41:52-54 Apr '49

Recent television theaters. (Ueber neuzeitliche Fernseh-Kinoanlagen) Radio Tech 25:73-75 Jan '49

SMPE asks 60 channels for theatre TV; RCA color TV. Intl Proj 24:15+ Sep '49

Statement on theater television. Soc Motion Picture Eng J 53:354-362 Oct '49

Suitability of the cathode-ray tube with fluorescent screen for television projection in cine-theatres. F. Fischer. Schweiz Elektrotech Ver Bul 39:468-480 July 24, '48

Television in the cinema. A. G. D. West. Wireless World 55:42+ Feb '49

Theatre television. Soc Motion Picture Eng J 52:243-267 Mar '49

Theatre television system. R. Hodgson. Soc Motion Picture Eng J 52:540-548 May '49

Theater television today. J. E. McCoy and H. P. Warner. Soc Motion Picture Eng J 53:321-349 Oct '49

Theatre television: what, how and when. J. E. McCoy and H. P. Warner. Intl Proj pt 1 24:12-15+ Nov '49; pt 2 24:19-21+ Dec '49

Theatre TV — a new industry. W. W. Watts. Standardization 9:10-12 Oct '49

TELEVISION, Receivers and Reception

Airline TV receiver installation tests. William S. Smoot. Communications 29:8-9+ Jan '49

Analysis of the design of a television receiver. M.S. thesis. Mahmoud Ahmad El-Melehy. Ohio State U E.E. Dept June '49

Better TV sound. Allan Lytel. Radio-Electronics 20:80 Mar '49

Coils for television receivers. (Bobinages pour recepteurs de television) F. Juster. Telev Franc 53:15-18 Nov '49

Double-ended DC restorer. D. A. Bell. Electronics 22:162-165 July '49

Evaluation of television viewing filters. (Letter) A. E. Martin and others. Sylvan Tech 2:19 Oct '49

Extension television. Wireless World 55:S6-S7 Dec '49

Extension viewer and remote control for TV. Radio-Electronics 20:39-41 Mar '49

Improved audio quality from standard TV receiver. C. G. McProud. Audio Eng 33:28-30 Oct '49

TELEVISION, Receivers and Reception–Cont'd.

New developments in TV picture size. Radio & TV Ret 49:63+ Feb '49

New features in TV sets. Radio-Electronics 20: 44-45 Mar '49

New television receiver without transformers, and with interchangeable units. R. Aschen. TSF pour Tous pt 1 25:246-250 Apr '49; pt 2 25:129-133 May '49; pt 3 25:169-173 June '49; pt 4 25:205-212 July '49; pt 5 25:244-246 Aug '49; pt 6 25:293+ Sep '49; pt 7 25:329-330 Oct '49

New TV receiver circuits. Radio Maint 5:16+ Dec '49

Observation on TV sound. Richard H. Dorf. Radio-Electronics 20:64 June '49

Obsolescence of TV receivers. Milton B. Sleeper. FM-TV 9:22+ Apr '49

Optical requirements for clear television pictures. (Die optisch zu erfuellenden Voraussetzungen zur Erzielung einwandfreier Fernsehbilder) Funk und Ton 3:575-583 Nov-Dec '49

Steady-state component in television and its physical significance. R. Lemas. Telev Franc 47: 5-6+ May '49. In French

Superheterodyne television unit. Wireless World pt 1 55:61+ Feb '49

Television accessories for improved reception. Robert F. Scott. Radio-Electronics 20:56-57 Mar '49

Television afloat. Standardization 9:14-15 Oct '49

Television attenuator construction. H. A. Rains. Wireless & Elec Trader 83:1114-1116 Dec 10, '49

Television clamp circuit. C. L. Townsend. Broadcast Eng J 16:2+ Jan '49

Television equipment. Wireless World 55:428-432 Nov '49

Television "goodness factor." R. W. Hallows. Wireless World 55:87+ Mar '49. Corresp. 55:235-236 June '49

Television picture expansion circuits. Martin Clifford. Radio Maint 5:10-11+ May '49

Television receiver chart. Radio-Electronics 20:70-73 Mar '49

Television receiver signal-noise evaluation. D. O. North. Electronics 22:122-156+ Aug '49

Television receiving systems. C. M. Sinnett. Elec Eng 68:513-517 June '49

Trap circuits for television receivers. Radio & TV N 40:58 Sep '48

Trends in television and radio receiver design. Ralph R. Batcher. Tele-Tech 8:22+ Jan '49

TV RF circuit applications. Radio Ser Deal 8:13 Aug '47

Waveform analysis in TV receivers. John B. Ledbetter. Radio & TV N 42:56-58+ Dec '49

Patents

Synchronizing pulse reforming system for television relays, Eric Lawrence Casling White, 2,492,943, 2 cl. Appl Apr 27, '46; granted Dec 27, '49

Television cabinet with removable screen controlling focusing system, Adolph H. Rosenthal, 2,469,992, 3 cl. Appl June 20, '44; granted May 10, '49

Television receiver horizontal deflection, Hubert Shaw, 2,482,737, 7 cl. Appl May 14, '48; granted Sep 20, '49

See also

Amplification & Amplifiers, Wideband, Video
Cabinets, Radio & Television
Cathode-Ray Tubes, Television Tubes
Frequency Modulation, Reception & Receivers
Interference, TV
Manufacturing Techniques
Power Supplies, High Voltage
Servicing, TV
Time Base Circuits

TELEVISION, Receivers, Controls

Automatic contrast control for TV receivers. Samuel A. Proctor. Radio & TV N (Eng Ed) 42: 7-9+ Dec '49

Automatic frequency and phase control for TV. (Commande automatique de frequence et de phase) F. Juster. Toute la Radio No 135:158-161 May '49

AVC system for positive modulation television. E. G. Beard. Philips Tech Comm Aust No 6:9-14 '49

Brightness and contrast in television. John Markus. Electronics 22:130+ Apr '49

Brightness and contrast in television. Peter C. Goldmark. Elec Eng 68:237-242 Mar '49

Circuits for horizontal AFC. Louis E. Garner, jr. Radio-Electronics 20:24-26 July '49

Conditions affecting TV image resolution. Nathaniel Rhita. Radio-Electronics 20:29 July '49

Horizontal AFC system in magnavox TV receivers. J. F. Bigelow. Service 18:14+ Feb '49

Illumination and contrast in television. (Helligkeit und Kontrast beim Fernsehen) Radio Tech 25: 539-542 Sep '49

Modern television receivers — AGC systems. Milton S. Kiver. Radio & TV N 41:60-62+ Jan '49

New focusing arrangement improves TV kits. Martin Mullin. Radio & TV N 41:54 Mar '49

Television receiver focus compensation. E. M. Underhill. Electronics 22:170-171+ Sep '49

Television receiver with rimlock valves and automatic frequency and phase control. F. Juster. Radio Prof 18:11-15 June '49

Television; video detection and AGC. W. B. Whalley. Sylvan N 16:T1-T2 Jan '49

TV automatic controls. Matt Mandl. Radio Maint 5:12-15+ May '49

Patents

Automatic frequency control circuit for television deflecting systems, Harland A. Bass, 2,492,090, 5 cl. Appl Nov 3, '48; granted Dec 20, '49

Automatic frequency control system, Gordon L. Fredendall, 2,463,685, 2 cl. Appl July 31, '44; granted Mar 8, '49

Automatic volume control and sync separator for television receivers, Alfred C. Schroeder, 2,481,-045, 11 cl. Appl Mar 12, '45; granted Sep 6, '49

Beam-velocity control system for cathode-ray tubes, Richard G. Clapp, 2,476,698, 1 cl. Appl Nov 5, '46; granted July 19, '49

Fast-acting automatic volume control and sync pulse reshaping circuit, Antony Wright, 2,476,523, 2 cl. Appl June 27, '45; granted July 19, '49

TV, Receivers, Controls, *Patents*–Cont'd.

Video signal level control, Louis F. Mayle, 2,469,606, 5 cl. Appl Oct 25, '45; granted May 10, '49

See also

Tuning Aids, Receivers

TELEVISION, Receivers, Front End

All-channel TV tuner. Ernest J. Schultz. Radio-Electronics 20:24-25 May '49

Antenna input system for television receivers. D. E. Foster. Tele-Tech 8:28+ Feb '49

Booster uses standard tuner. Matthew Mandl. Radio-Electronics 20:22-24 Aug '49

Converters for VHF television reception. D. K. Reynolds and M. B. Adams. Electronics 22:92-96 Sep '49

Front end for television receivers. J. O. Silvey. Tele-Tech 8:36+ Jan '49

Head-end. Techni-Talk 1:1-2 June-July '49

Input stages for TV. (L'etage d'entree en television) Toute la Radio No 132:44-47 Jan '49

New Philco TV front end. Radio & TV Ret 49:65 June '49

Oscillator and mixer circuits for TV receivers. F. R. Norton. Tele-Tech 8:31+ Feb '49

Simple television tuner. J. T. Goode. Radio & TV N 41:48-49+ June '49

Television booster amplifier. Aerovox Res Worker pt 1 19:1-3 Mar '49; pt 2 19:1-3 Apr '49

Television front-end design. H. M. Watts. Electronics pt 1 22:92+ Apr '49; pt 2 22:106+ May '49

Transit-time effects in television front-end design. H. M. Watts. Electronics 22:158+ Aug '49

TV booster has gain of ten. David Gnessin. Radio-Electronics 20:64-65 Mar '49

TV signal boosters. Radio & TV Ret 49:66 June '49

TV tuning systems. John B. Ledbetter. Radio Maint 5:14-17+ Jan '49

Two new television tuners. M. F. Melvin. NEC Proc '49

See also

Antennas, TV
Tuning Aids, Receivers

TELEVISION, Receivers, Intercarrier

Audio noise in intercarrier TV receivers. Matthew Mandl. Radio & TV N 42:158 Nov '49

How to remove the 60-cycle buzz from intercarrier TV receivers. L. S. Pearlman. Radio-Electronics 21:28-29 Dec '49

Intercarrier method of sound reception. Sylvan N 16:T3-T4 Jan '49

Intercarrier system. R. Aschen. Telev Franc No 47:25-26 May '49. In French

Intercarrier televisers use common IF channels. Jesse Dilson. Radio-Electronics 20:30-31 Sep '49

Television intercarrier sound reception. Aerovox Res Worker 19:1-3 June '49

TELEVISION, Receivers, Models

American

Analyses of the Admiral AM/FM tuner and 16" tube TV chassis. Service 18:20+ Nov '49

Circuit analysis of Bendix 16-tube TV chassis. Service 18:22+ Oct '49

Circuit analysis of G.E. 12" tube TV models and Admiral TV receivers with FM/AM tuners. Service 18:12+ Dec '49

Designing a TRF television receiver. W. H. Buchsbaum. Tele-Tech 8:36-39 Aug '49

Eight tube televiser. Radio-Electronics 20:20-22 May '49

Modern television receivers. Milton S. Kiver. Radio & TV N pt 11 41:66-68+ Feb '49; pt 12 41:66-68+ Mar '49; pt 13 41:43-46+ Apr '49; pt 14 41:43-46+ May '49; pt 15 41:41-43+ June '49; pt 16 42:38-39+ July '49; pt 17 42:41-44+ Aug '49; pt 18 42:61-63+ Sep '49; pt 19 42:58-60+ Oct '49; pt 20 42:49-52+ Dec '49. Correction 42:137 July '49

Motorola television receiver—model VT. 71. Radio Franc No 4:10+ Feb '49. In French

New television set. Elec Rev 145:1023-1024 Nov 25 '49

New TV receivers. Radio & TV Ret 50:87+ Sep '49

Portable TV set has 7 inch tube (Sentinel 400 TV). Radio-Electronics 20:48-50 Mar '49

Roof-top televiser. Robert F. Scott. Radio-Electronics 21:34-36 Oct '49

Rotary switch 7" TV model. Service 18:18+ Jan '49

Television monitor with 12" tube. E. M. Pardo. Rev Telegr No 444:540-542+ Sep '49. In Spanish

TV model with keyed AGC system. W. H. Buchsbaum. Service 18:14-15+ Nov '49

TV monitor receiver. F. Cecil Grace. Communications 29:10-13+ Feb '49

Patents

Frequency modulation television receiver, Vernon J. Duke, 2,480,913, 4 cl. Appl Dec 27, '43; granted Sep 6, '49

Multichannel radio and television receiver, George W. Fyler, 2,491,808, 12 cl. Appl Aug 6, '42; granted Dec 20, '49

Television receiver, Frank R. Norton, 2,470,048, 3 cl. Appl May 31, '46; granted May 10, '49

Television receiver, George W. Fyler, 2,458,365, 14 cl. Appl Sep 11, '46; granted Jan 4, '49

Television receiver including a horizontal oscillator responsive to a predetermined fraction of transmitted synchronizing pulses, Dennis C. Espley, 2,468,256, 10 cl. Appl June 22, '45; granted Apr 26, '49

Foreign

AC-DC television receivers. F. Juster. Telev Franc No 48:30-34 June '49. In French

Direct amplification television receiver. J. Aubry. Telev Franc No 52:27-29 Oct '49. In French

Economical image receiver. M. Mauny. Telev Franc No 48:29+ June '49. In French

Economical television receiver. A. V. J. Martin. Telev Franc No 46:9-12 Apr '49. In French

Experimental receiver for 819 lines. F. Juster. Telev Franc No 47:15-18+ May '49. In French

Experimental television receiver: 450 and 819 lines. Telev Franc No 45:13-16+ Mar '49. In French

High capacity television receiver. (Ein Fernseh-Hochleistungsempfaenger) Radio Tech 25:127-128 Feb '49

TV, Receivers, Models, Foreign–Cont'd.

High quality receiver with interchangeable blocks. Telev Franc No 52:23-25 Oct '49. In French

Interesting and economical commercial receiver. Telev Franc No 52:16-18 Oct '49. In French

Modernly conceived TV receiver. (Un televiseur de conception moderne) G. Montagne and J. Neubauer. Toute la Radio No 133:80-85 Feb '49

Radiolympia. Wireless Eng 26:370-378 Nov '49

Receiving TV on the CRO. (L'oscilloscope devient recepteur d'images) H. Lerouge. Toute la Radio No 133:72-75 Feb '49

Simple television receiver. F. Juster. Telev Franc No 44:15-19 Jan-Feb '49. In French

Simple television receiver with an oscillograph tube. R. Barre. Telev Franc No 47:11-13 May '49. In French

Technical notes on the "T.R.2" TV receiver. (Notes techniques se rapportant au recepteur "T.R.2") Telev Franc No 54:23-24 Dec '49

Television receiver with miniature valves, for 450 or 819 lines. F. Juster. Radio Prof pt 1 18:16-19 Mar '49; pt 2 18:12-13 Apr '49

Televisor. Electronic Eng 21:27+ Jan '49

14-tube British televiser. Ralph W. Hallows. Radio-Electronics 20:27-29 July '49

TV receiver of M.M. Venquier at Thieulain. (La recepteur de M.M. Venquier a Thieulain) Telev Franc No 53:28-30 Nov '49

TV receiver type "Cristal-Grandin T 322 or 331". (Le recepteur "Cristal-Grandin T 322 ou 331") Telev Franc No 53:23-24 Nov '49

TV receiver type "TV-18". (Le releviseur "TV-18") R. Laurent. Telev Franc No 53:20-21 Nov '49

"Wireless world" television receiver. W. T. Cocking. Telev Soc J 5:285-296 June '49

"Zephyr" TV receiver. (Le "Zephyr") M. Lorach. Telev Franc No 54:17-20 Dec '49

TELEVISION, Receivers, Viewing Habits

Eyestrain—a new video hazard. W. S. Stewart. Radio & TV N 41:84 May '49

Television viewing habits revealed by survey. M. E. Dodds. Illum Eng 44:544-545 Sep '49

TELEVISION Recording

Filmed television; special techniques for telecasting movie films. T. Downey. Radio-Electronics 21: 26-27 Dec '49

Filming of television broadcasts for the international exchange of programs. (L'enregistrement sur le film des emissions de television, en vue des echanges internationaux de programmes) Y. L. Delbord. Ann Telecomm 4:190-202 June '49

Films in television. Soc Motion Picture Eng J 52: 363-383 Apr '49

Improved sensitivity of television equipment. A. Rose. PB-43034

16 mm film for TV programs. J. A. Maurer. FM-TV 9:20+ Jan '49

Picture splice as a problem of video recording. F. N. Gillette. Soc Motion Picture Eng J 53:242-255 Sep '49

RCA's kinephoto system for TV-to-film transfer. Intl Proj 24:23 Apr '49

Reproduction of contrasts in moving pictures and television. (La resa dei contrasti nel cinema e nella televisione) E. Vassy. Elettronica pt 1 4: 57-63 May '49; pt 2 4:107-109 June '49. Abstracts in French and English

Shutterless television film projector. L. C. Downes and F. J. Wiggin. Electronics 22:96 Jan '49

Sound mixer for TV film recording. John B. Ledbetter. Radio & TV N 42:12-13 July '49

Sound-on-film recording for television broadcasting. C. R. Keith. Soc Motion Picture Eng J 53:114-116 Aug '49

Television film recording. R. V. Little, jr. Broadcast N No 54:32 Apr '49

Television recording. D. A. Smith. Wireless World 55:305-306 Aug '49

Television transcriptions. Ricardo Muniz. Radio-Electronics 20:32-33 Sep '49

TV film projectors. G. W. Tunnell. Intl Proj 24: 9-12 May '49

Use of films in television. Intl Proj 24:12-14+ Apr '49

Video announcer. Edward P. Bertero. RCA Rev 10:304-307 June '49

Video recording technics. George H. Gordon. Tele-Tech pt 1 8:31+ May '49; pt 2 8:29+ June '49

See also
Sound Films & Projection

TELEVISION, Relay Systems

Beamed radio technique. Electrician 143:1550-1552 Nov 11 '49

Boat race television broadcast. B. H. Moore. P O Elec Eng J 42:99-101 July '49

Coaxial cable joins east and mid-west TV networks. Robert Hertzberg. Tele-Tech 8:18+ Feb '49

Coaxial telephone-television system progress. L. G. Abraham. Elec Eng 68:147 Feb '49

Experimental TV relay. Radio-Electronics 20:27-29 May '49

Intercity television radio relays. (Abstract) William H. Forster. IRE Proc 37:17+ Feb '49

London-Birmingham television cable. H. Stanesby. Elec Comm 26:186-200 Sep '49

London-Birmingham television radio-relay link. Engineering 168:511-514 Nov 11 '49; also in Engineer 188:551-553 Nov 11, '49

6000 mc television relay system. William H. Forster. Electronics 22:80+ Jan '49

Microwave system for television relaying. (Abstract) J. Z. Miller and W. B. Sullinger. IRE Proc 37:174 Feb '49

Microwave television link. Brit IRE J 9:221 June '49

Microwave TV remote. V. Zeluff. Electronics 22: 124+ Oct '49

New York to Schenectady television relay. F. M. Deerhake. Elec Eng 68:419-422 May '49

Operating control of television networks. H. A. Lewis. Bell Lab Rec 27:99+ Mar '49

Simplified handling of TV remotes. Willis McCord. Tele-Tech 8:26+ June '49

TELEVISION, Relay Systems–Cont'd.

Stratovision. W. Evans. Mech Eng 71:333-334 Apr '49

Stratovision in the future. (Die Stratovision in Kommen) Radio Tech 25:242-243 Apr '49

Tele network problems. Allen B. DuMont. Radio-Electronics 20:24-25 Mar '49

Television distribution over short wire lines. P. Adorian. Brit IRE J 9:89+ Mar '49

Television radio relay. Wireless World 55:474-476 Dec '49

Video design considerations in a television link. (Abstract) M. Silver and others. IRE Proc 37: 175 Feb '49

See also

Microwaves, Communication, Relays

TELEVISION, Scanning

Additional data on TV flying spot scanner. Broadcast Eng J 16:15+ Mar '49

Cathode-ray tube video scanner. R. D. Thompson. Communications 29:24-25 Sep '49

Distortion of scanning waveforms. G. G. Gouriet. Electronic Eng 21:327-331 Sep '49

Television sweep circuits. Allan Lytel. Radio-Electronics 20:28 Feb '49

Universal ceramic iron core sweep transformer. C. E. Torsch. Tele-Tech 8:23-25+ Dec '49

Patents

Catoptric projection system for flying spot scanning, Samuel J. Harris, 2,490,052, 8 cl. Appl June 23, '48; granted Dec 6, '49

Discontinued interlaced scanned system, Pierre Marie Gabriel Toulon, 2,479,880, 2 cl. Appl July 3, '37; granted Aug 23, '49

Double time-constant circuit for direct-current restoration, Vernon J. Duke, 2,472,577, 2 cl. Appl May 31, '46; granted June 7, '49

Electronic commutation system and its application especially to the scanning in television, Pierre Marie Gabriel Toulon, 2,474,338, 10 cl. Appl Aug 4, '47; granted June 28, '49

Electron ray scanning device, Pierre Marie Gabriel Toulon, 2,467,786, 8 cl. Appl Nov 2, '36; granted Apr 19, '49

Image dissector, Christian C. Larson, 2,459,778, 11 cl. Appl July 9, '45; granted Jan 18, '49

Invisible light television system, William A. R. Malm, 2,458,865, 2 cl. Orig appl Apr 15, '44; divided and this appl Oct 27, '45; granted Jan 11, '49

Irregular interlace scanning system, Louis F. Mayle, 2,472,774, 6 cl. Appl Oct 17, '45; granted June 7, '49

Method of and means for controlling the beam current in television camera tubes, Robert R. Thalner, 2,465,667, 8 cl. Appl Jan 9, '45; granted Mar 29, '49

Scanning circuit, Otto H. Schade, 2,480,511, 5 cl. Appl Sep 29, '44; granted Aug 30, '49

TELEVISION, Servicing

See Servicing, TV

TELEVISION, Standards

Discussion of television standards. R. Barthelemy. Onde Elec 29:181-184 May '49. In French

Present TV standards in the U.S. (Die heutige Fernsehnorm in den USA) Arch Elek Uebertragung 3:175-181 Aug '49

RMA makes TV recommendations. Sylvan N 16: G-10 Mar '49

Standards again. Radio Tech Dig 3:121-126 Apr '49. In French

Standards for TV. (Normungsfragen des Fernsehens) Gerber. Tech Mit Schweiz 27:113-122 June '49

Theoretical bases for the choice of television standards. M. J. L. Delvaux. Onde Elec 29:193-201 May '49. In French

See also

Federal Communications Commission

TELEVISION, Synchronization

Camera synchronizer. MDDC-932

Frame synchronizing signal separators. A. W. Keen. Electronic Eng 21:3-9 Jan '49

Synchronization in TV. (La synchronization en television) E. Agabra. Telev Franc pt 1 No 53:31-35 Nov '49; pt 2 No 54:31-34 Dec '49

Synchronization of television stations. Electronics 22:72+ Feb '49

Synchronization of TV carriers to reduce co-channel interference. Albert Francis. Tele-Tech 8: 29+ Jan '49

Television sweep circuits. H. C. Pleak. Sylvan N 16:T18-T20 May '49

Television synchronising-signal generator. J. E. Benson and others. IRE Proc (Australia) 10:128-138 May '49

Television: sync strippers and separators. H. C. Pleak. Sylvan N 16:T9-T11 Mar '49

Television time base linearization. A. W. Keen. Electronic Eng 21:195-198 June '49

Television transmitter carrier synchronization. (Abstract) R. D. Kell. IRE Proc 37:169 Feb '49

Patents

Synchronization of camera and television receiver tube, Carl D. Maurer and Walter J. Swenson, 2,486,717, 2 cl. Appl Mar 20, '46; granted Nov 1, '49

Synchronizing system, Hugh B. Fleming and George M. Brown, 2,491,804, 5 cl. Appl Nov 29, '46; granted Dec 20, '49

TELEVISION, Transmission and Transmitters

Air-cooled 5 kw TV transmitter design. E. Bradburd and J. Racker. Radio & TV N (Eng Ed) 42:3-6+ Dec '49

Clampers in video transmission. S. Doba, jr. and J. W. Rieke. Elec Eng 68:33+ Apr '49

Delay distortion in television transmission and its measurement. S. H. Padel. BBC Quart 3:235+ Jan '49

Earthed-grid power amplifiers. VHF sound and vision transmitters. P. A. T. Bevan. Wireless Eng 26:235-242 July '49

TV, Transmission and Transmitters–Cont'd.

Fixed frequency transmitters of 2 and 20 KW. (Emetteurs a bande unique 2 et 20 KW SFR) G. Pemose. Ann Radioelec 4:358-371 Oct '49

10 KW transmitter for short waves. (Emetteur SFR 10 KW sur ondes coutes) H. Grumel. Ann Radioelec 4:344-357 Oct '49

Locked oscillator for television. Kurt Schlesinger. Electronics 22:112+ Jan '49

Measurement of the modulation depth of television signal. (Abstract) R. P. Burr. IRE Proc 37:171 Feb '49

Measuring modulation depths of TV signals. R. P. Burr. Tele-Tech 8:32-35+ Sep '49

Method of multiple operation of transmitter tubes particularly adapted for television transmission in the ultra high frequency band. George H. Brown and others. RCA Rev 10:161-172 June '49

Mid-level modulation for TV transmitters. N. H. Young. Communications 29:10-11 Sep '49

Practical screen modulation. F. C. Jones. CQ 5:24-25+ Dec '49

Precise direct reading phase and transmission measuring system for video frequencies. D. A. Alsberg and D. Leed. Bell System Tech J 28: 221+ Apr '49

Sound transmitter at Sutton Coldfield television station. Engineering 168:708-709 Dec 30, '49

Standardization of the transient response of television transmitters. R. D. Kell and G. L. Fredendall. RCA Rev 10:17+ Mar '49

Symmetrical amplifiers for FM or TV broadcasting; Symmetron. Westinghouse Eng 9:155-156 Sep '49

Televising moving images. R. W. Hallows. Wireless World 55:291-293 Aug '49

Transient-response tests on the WPTZ television transmitter. (Abstract) R. C. Moore. IRE Proc 37:169 Feb '49

TV distribution system for laboratory use. Joseph Fisher. Communications 29:8-9+ Feb '49

TV-FM site testing with balloon-supported antennas. R. W. Hodgkins. Communications 29: 6-7+ Oct '49

Vestigial sideband filter design. E. Bradburd and others. Tele-Tech pt 1 8:38-40+ Oct '49; pt 2 8:44-45+ Nov '49

Wideband television transmission systems. E. Labin. Electronics 22:86+ May '49

WRGB TV transmitter installation. D. C. Wilson. Broadcast Eng J 16:3-6 Sep '49

Patents

Television picture mixing circuit, William Ussler, jr., 2,490,561, 4 cl. Appl June 20, '49; granted Dec 6, '49

Transmitter apparatus, Waldemar J. Poch, 2,489,813, 3 cl. Appl July 26, '45; granted Nov 29, '49

Vertical blanking circuit for television transmitter systems, Otto H. Schade, 2,471,903, 3 cl. Orig appl Dec 31, '41; divided and this appl Dec 29, '44; granted May 31, '49

Video black clipper, Salvatore Robert Patremio, 2,485,310, 2 cl. Appl Dec 12, '46; granted Oct 18, '49

See also

Antennas, TV
Transmission Lines, Coaxial Cable

TELEVISION, Tubes

Anastigmatic yoke for picture tubes. K. Schlesinger. Electronics 22:102-107 Oct '49

Development of a large metal kinescope for television. H. P. Steier and others. RCA Rev 10:43 Mar '49

Energy in deflectors for TV. (Energie dans les deflecteurs) M. A. Dubec. Telev Franc No 53: 10-13 Nov '49

Graphechon—a picture storage tube. L. Pensak. RCA Rev 10:59 Mar '49

Ion trap magnet and its adjustment. W. W. Hensler. Sylvan N 16:T37-T40 Nov '49

Low-noise input tube. C. R. Knight and A. P. Haase. Radio & TV N 41:15-18+ Mar '49

New receiving tubes for TV sets. Sylvan N 16: G-6 Feb '49

New tube has "Memory." Radio Age 8:20+ Apr '49

Photosurfaces. Report on German development of photocells, electron multipliers, television pickup tubes. German Industry Rep BIOS 530 Brit Govt Pub

Quartz film is both conductor and insulator; visual memory tubes. Product Eng 20:149-150 May '49

Series of modern tubes for FM and TV broadcasting. J. Becquemont. Onde Elect 29:145-151 Apr '49. In French

Patents

Cathode beam transmitter tube, Harold B. Law, 2,460,093, 4 cl. Appl Apr 19, '45; granted Jan 25, '49

High capacitance target, Stanley V. Forgue, 2,489,-127, 2 cl. Appl June 14, '47; granted Nov 22, '49

Method of manufacturing target electrodes, Albert Rose, 2,473,220, 11 cl. Appl Aug 16, '41; granted June 14, '49

See also

Cathode-Ray Tubes, Television Tubes
Vacuum Tubes

TELEVISION, UHF

Continuously tuned converter for UHF television. R. P. Wakeman. Electronics 22:68-71 July '49

Current developments in UHF television. (Abstract) Thomas T. Goldsmith, jr. IRE Proc 37:172 Feb '49

Field test of UHF television. J. Fisher. Electronics 22:106-111 Sep '49

Progress on UHF television. Thomas T. Goldsmith, jr. FM-TV 9:24+ May '49

TV freeze and ultra-high frequencies. M. S. Kay. Radio & TV N 42:35-38+ Oct '49

UHF television. Acrovox Res Worker 19:1-3 Dec '49

TEST EQUIPMENT

Accoustic analyzer. PB 96911

TEST EQUIPMENT–Cont'd.

Airborne electronic system analysis in the lab. J. J. MacGregor and K. L. Huntley. Communications 29:24-25 June '49

All electronic testing machine. Machine Design 21: 140-141 Jan '49

Arc-back indicator. R. F. Walz and L. C. Sigmon. Electronics 22:104-105 Dec '49

"Brabender" test instruments, including the "Brabender" moisture content recorder for testing plasticizers. PB 95225

Calibrating hygrometers below the freezing point. Arnold Wexler. Instruments 22:221 Mar '49

Cavity resonance measures volume changes. Product Eng 20:93 Jan '49

Check synchronization equipment. E. L. Livingston. IEE Proc 96:803-808 Dec '49

Circuit and constructional details of the precision electronic pH system. J. E. Breeze. PB 97670

Determination of relative color density of liquids; rapid photoelectric method. L. Dykken and J. Rae, jr. Anal Chem 21:787-793 July '49

Development, construction and working reliability of electron-tube-operated measuring and testing apparatus. E. Samal. Microtecnic 3:174-181 July-Aug '49

Direct reading microdisplacement meter. J. P. Arndt, jr. Acoust Soc Am J 21:385-391 July '49

Electrical-insulation contaminants. K. N. Mathes and others. Elec Eng 68:504 June '49

Electrical measurement of mechanical oscillations in construction work. (Elektrische Messung mechanischer Schwingungen auf dem Gebiet der Bautechnik) Wehrle. Schweiz Arch 15:278-285 Sep '49

Electrical methods of inducing and detecting vibrations. G. Snowball. Engineering 168:406-408 Oct 14, '49

Electronic calorimeter. Mech Eng 70:1011 Dec '48

Electronic equipment for helicopter testing tower. Electronic Eng 21:292-293 Aug '49

Electronic pressure gauge. H. A. Prime and T. J. Chi. Engineer 187:320-322 Mar 25, '49

Frequency characteristic analyzer. J. W. Sampsel. PB 97344

German electrical indicating instrument industry—its technique and materials. German Industry Rep BIOS 1716 Brit Govt Pub

German measuring instruments and machines used in precision engineering. German Industry Rep BIOS 1659 Brit Govt Pub

How to test for leaks reliably, quickly, and at low cost. Gen Elec Rev 52:41-44 Oct '49

Magnetic and inductive non-destructive testing of metals. I. R. Robinson. Metal Treat 16:12-24 '49

Magnetostrictive acceleration meter. H. Wilde and E. Eisele. Zeit angew Phys 1:359-366 May '49

New carbon-block accelerometer with damping. PB 96146

New developments announced in testing machine equipment. Materials & Methods 30:98-100 Dec '49

New lightning-measurement technique. Theodore Brownlee. Elec Eng 68:503 June '49

Noise meter checks mechanical assemblies. Iron Age 163:80 Mar 31, '49

Oscillation properties of piezoelectric measuring instruments. May '40. PB 36441t

Photoelectric meter for shade number classification of industrial eye-protective glasses. R. Stair. Glass Ind 30:441-443+ Aug '49

Photoelectric polariscope is integrally built. E. Chapman. Product Eng 20:180 Dec '49

Photoelectric reflectance comparator. H. Rostron Hindley. Jour Sci Instr 26:396-399 Dec '49

Physical measurement test set. PB 85295

Piezoelectric measuring instrument for determination of accelerations of short durations. (Ein piezoelektrisches messgaraet zur Bestimmung kurzzeitiger Beschleunigungen) Voelcker. Frequenz 3:244-249 Aug '49

Point counters and counter tubes for surface investigations in metallography. J. Kramer. Zeit f Phys 125:739-756 Mar 15, '49

Practical applications of stress analysis at I-H. J. A. Halgren and others. Iron Age 163:77-80 Mar 17, '49

Quality extras—and why. R. H. Smith. Iron Age 164:75-77 Sep 8, '49

Scientific instruments. Elec Rev 144:781-783 May 6, '49

Suggested approach to the analysis of mineral suspensions by high-frequency electrical measurements. (Abstract) J. D. Morgan, jr. and S. J. Pirson. Am Cer Soc J 32:155-156 June '49

Surface pictures with secondary electrons. (Der Elektronabtaster—eine Abbildungsmethode mit Hilfe von Sekundaerelektronen) Ing. H. te Gude. Funk und Ton 3:373-382 July '49

Survey of new techniques. Frank H. Rockett. Electronics 22:173 Jan '49

Testing and measuring gear. Wireless World 55: 442-443 Nov '49

Testing of lightning arresters with high frequencies. (Ueberpruefen von Erdern mit Hochfrequenz) Fritsch. Radiowelt 4:17-22 Mar '49

Test radioactive rings. Power 93:103 May '49

Theory of the Hopkins electromagnetic blastmeter. R. H. Kent. PB 98077

Theory of the vibration test. (Theorie der Schuettel pruefung) Heymann. Frequenz 3:196-208 July '49

Vibration instrument for gas turbines. E. Y. Stewart. Gen Elec Rev 52:36+ Mar '49

Vibration testing of airplanes. Abner R. Willson. Electronics 22:86 Mar '49

Wide-range pressure gauge for explosion-pressure investigations (in internal-combustion engines). W. Gohlke. Zeit angew Phys 1:347-359 May '49

X-band phase shiftless power splitter. Henry J. Riblet. Elec Eng 68:254 Mar '49

Patents

Analyzing apparatus, William H. Wannamaker, jr., 2,488,505, 2 cl. Appl Aug 19, '47; divided and this appl Mar 27, '45; granted Nov 15, '49

Apparatus for continuously predicting a trend in observed data, David E. Sunstein, 2,477,395, 14 cl. Appl Apr 12, '45; granted July 26, '49

Apparatus for detecting metal particles, Charles B. Grady, jr., 2,477,057, 2 cl. Appl Jan 11, '46; granted July 26, '49

TEST EQUIPMENT, *Patents*–Cont'd.

Apparatus for inspecting materials by wave trains, Benson Carlin, 2,489,860, 6 cl. Appl Nov 14, '45; granted Nov 29, '49

Apparatus for testing ignition systems for internal-combustion engines, Frank Raymond Faber Ramsay, 2,487,071, 10 cl. Appl Nov 22, '46; granted Nov 8, '49

Automatic sampling device, George C. Fairbairn, 2,477,513, 5 cl. Appl Sep 13, '47; granted July 26, '49

Ballistoscope, Estle Ray Mann and Samuel Ward Stanton, 2,482,194, 3 cl. Appl May 13, '44; granted Sep 20, '49

Circuits for comparing electrical quantities, Graham J. Scoles, 2,487,603, 10 cl. Appl Apr 11, '47; granted Nov 8, '49

Cyclograph for testing metals, Estle Ray Mann and Harold Edward Beste, 2,477,384, 2 cl. Appl Nov 9, '43; granted July 26, '49

Detection of emanations from materials and measurement of the volumes thereof, Thomas G. Hieronymus, 2,482,773, 13 cl. Appl Oct 23, '46; granted Sep 27, '49

Detection of water in fuels, Herbert Friedman, 2,487,797, 7 cl. Appl Dec 6, '46; granted Nov 15, '49

Device for portrayal of complex waves, Ralph K. Potter, 2,492,062, 5 cl. Appl Nov 5, '46; granted Dec 20, '49

Electrical meter testing device, Owen W. Hetzler, Clarence A. Sloan, and Lawrence W. Jones, 2,486,651, 3 cl. Appl Oct 27, '47; granted Nov 1, '49

Electric microgauge system, Charles F. Coake, 2,487,523, 7 cl. Appl Feb 16, '45; granted Nov 8, '49

Electromagnetically actuated vibrator, Henry J. Sevigny, 2,482,033, 3 cl. Appl Apr 3, '47; granted Sep 13, '49

Frequency analyzer, Lourens Blok, 2,483,311, 3 cl. Appl July 13, '46; granted Sep 27, '49

Impulse testing, Harold C. Stewart and James E. Holcomb, 2,479,426, 2 cl. Appl Nov 30, '45; granted Aug 16, '49

Impulse testing apparatus, Frank Kessler, 2,486,172, 9 cl. Appl Jan 8, '45; granted Oct 25, '49

Indicating, controlling, and recording instrument, Edward H. Yonkers, 2,469,940, 6 cl. Appl Oct 16, '44; granted May 10, '49

Magnetic measuring device and method, Rex De Ore McDill, 2,478,773, 10 cl. Appl June 21, '43; granted Aug 9, '49

Magnetic testing system, Morris L. Mages, 2,481,937, 8 cl. Appl June 21, '43; granted Sep 13, '49

Metal detector, Philip C. Michel, 2,489,920, 5 cl. Appl July 3, '46; granted Nov 29, '49

Method and apparatus for determining leaks, Alfred O. Nier, 2,486,199, 5 cl. Appl Sep 10, '45; granted Oct 25, '49

Microwave acoustic gas analysis method and system, William D. Hershberger, 2,483,829, 16 cl. Appl May 28, '45; granted Oct 4, '49

Microwave-acoustic wave translator, William D. Hershberger, 2,483,768, 16 cl. Appl June 15, '44; granted Oct 4, '49

Process and apparatus for examining materials, Estle Ray Mann, Samuel Ward Stanton, and Thomas Toliver Goldsmith, jr., 2,483,471, 2 cl. Appl Jan 24, '45; granted Oct 4, '49

Rail flaw detector mechanism, William E. Mesh, 2,467,328, 10 cl. Appl Feb 27, '46; granted Apr 12, '49

Rail flaw detector mechanism, William E. Mesh, 2,481,858, 2 cl. Appl Mar 2, '48; granted Sep 13, '49

Relay tester, Ernest Rose, 2,478,945, 4 cl. Appl Jan 11, '46; granted Aug 16, '49

Relay tester, Ernest Rose, 2,478,946, 4 cl. Appl Jan 22, '46; granted Aug 16, '49

Stabilized system, Robert Rudin, 2,482,373, 7 cl. Appl July 4, '45; granted Sep 20, '49

Test prod, Eero E. Helin, 2,485,881, 2 cl. Appl Dec 22, '45; granted Oct 25, '49

Tester for electronic discharge devices, Edwin R. Sanders, 2,485,924, 4 cl. Appl Aug 5, '47; granted Oct 25, '49

Thermal conductivity analysis of gases, William Jasper Clark, 2,472,645, 5 cl. Appl Sep 20, '45; granted June 7, '49

Vibratory strand reference apparatus with longitudinal component drive, Thomas M. Ferrill, jr., 2,466,018, 21 cl. Appl Aug 2, '46; granted Apr 5, '49

Viscometer, Paul B. Weisz, 2,485,424, 4 cl. Appl July 2, '47; granted Oct 18, '49

Visual representation of complex waves, Lionel Schott, 2,481,247, 9 cl. Appl Oct 10, '46; granted Sep 6, '49

See also
Geophysical Applications
Industrial Applications
Industrial Controls
Measurements & Meters
Servicing
Vacuum Practice

TEST EQUIPMENT, Circuits and Tubes

Airborne communications maintenance equipment. PB 85284

Audio test instruments. David Fidelman. Radio & TV N 42:72+ Nov '49

Double checker. Walter S. Rogers. Radio & TV N 42:102+ Nov '49

Ground communications test equipment development. PB 85294

Ground communications test equipment development. PB 85300

Impulse generator-electronic switch for visual testing of wide-band networks. (Abstract) T. R. Finch. IRE Proc 37:104 Feb '49

Instrument tests battery radio. W. H. Brakes. Radio-Electronics 21:44 Dec '49

New lab and test equipment. Monthly column. Tele-Tech 8:43 July '49

New TV test equipment. Allan Lytell. Radio Ser Deal pt 1 10:15-16+ Apr '49; pt 2 10:17-18+ May '49

Radio and radar test equipment. PB 94982

Rapid and automatic frequency analyzer. (Analyseur de frequence a exploration rapide et automatique) L. Pimonov. Ann Telecomm 4:257-272 July '49

TEST EQUIPMENT, Circuits and Tubes–Cont'd.

Test gear for frequency modulation and television. German Industry Rep. BIOS 1269 Brit Govt Pub

Testing precision audio equipment. Art Davis. Radio & TV N 42:70 Aug '49

TV receiver line-voltage control-checker. C. S. Cummings. Service 18:16+ Dec '49

TV test instruments. Radio & TV Ret 49:60+ Jan '49

Patents

Bias indicator, Reginald G. Schuler, 2,481,354, 1 cl. Appl Mar 11, '48; granted Sep 6, '49

Circuit for sampling balanced signals, Luther W. Hussey, 2,458,599, 12 cl. Appl Dec 4, '46; granted Jan 11, '49

Circuit testing apparatus, Earl L. Clemens, 2,457,-869, 1 cl. Appl Dec 20, '44; granted Jan 4, '49

Coil-polarity indicator, Adolf J. Bialous, 2,481,282, 2 cl. Appl Aug 21, '47; granted Sep 6, '49

Electrical system, David E. Sunstein, 2,463,004, 19 cl. Appl Jan 25, '45; granted Mar 1, '49

Electrical testing instrument, Julian Henry Runbaken, 2,476,115, 1 cl. Appl Nov 5, '45; granted July 12, '49

Electronic point inspection, Charles T. Germann, 2,467,124, 5 cl. Appl May 21, '46; granted Apr 12, '49

Fault indicator for closed circuit installations, Joseph Giorgianni, 2,488,622, 2 cl. Appl Oct 25, '46; granted Nov 22, '49

Fault indicator for radio relaying systems, Leland E. Thompson, 2,460,789, 11 cl. Orig appl Feb 6, '45; divided and this appl Mar 15, '46; granted Feb 1, '49

Indicator circuit for a balancing network, Harry M. Simons, 2,481,954, 1 cl. Appl Jan 4, '46; granted Sep 13, '49

Microphonism testing apparatus, Roger E. Schell, 2,487,599, 12 cl. Appl Apr 30, '49; granted Nov 8, '49

Multipurpose electrical testing meter, Adam Sadlon, 2,466,558, 5 cl. Appl Feb 25, '46; granted Apr 5, '49

Polarity indicator plug, William L. Todd, 2,474,407, 8 cl. Appl Jan 15, '45; granted June 28, '49

Radio circuit testing system, Roy J. Teetsell, 2,475,-649, 4 cl. Appl Feb 19, '45; granted July 12, '49

Short circuit detector, Leon L. Simkins, 2,469,703, 7 cl. Appl Apr 20, '46; granted May 10, '49

System for comparing synchronized wave signals, Seymour Lobel, 2,471,530, 1 cl. Appl Sep 12, '45; granted May 31, '49

Vacuum tube comparison test method and system, John J. De Muth, 2,478,750, 15 cl. Appl Apr 17, '48; granted Aug 9, '49

Vacuum tube measuring instrument, Andre Willem Storm, 2,463,652, 2 cl. Appl Sep 18, '44; granted Mar 8, '49

Vibrator test circuit, Marvin E. Nulsen, 2,470,049, 4 cl. Appl Nov 21, '44; granted May 10, '49

Signal Tracers

All-round signal tracer for shop or outside. Radio-Electronics 20:41 Feb '49

Carvalyzer services auto radios. S. H. Covington, jr. Radio-Electronics 20:57-59 June '49

Circuit isolation by means of signal tracing. J. T. Cataldo and S. J. Richard. Radio & TV N 41:62+ Apr '49

Compact signal tracer. (Een compacte signaalspiegel) Radio Bul 18:346-347+ Oct '49

Converted home receiver ideal for signal tracer. J. R. Fristik. Radio & TV N 41:60 Feb '49

Dynamic signal tracer. (Analyseur neodynamique) Bonhomme. Toute la Radio No 136:180-185 June '49

High-sensitivity AF-RF signal tracer. Cap 14:3-8 Dec '49

Pocket signal tracer. J. L. Barber. Radio & TV N 42:50-51+ Sep '49

Signal tracer at minimum cost. Donald G. Ward. Radio & TV N 42:49-51+ Oct '49

Signal tracers. (Semplici rivelatori di segnali) Raul Sambrano. Elettronica 4:29-30 Jan '49

Tracer uses tube as probe. A. R. Wilson and W. K. Wilson. Radio-Electronics 21:37 Nov '49

Tube Testers

Transmitting tube checker. W. Marsh. Communications 29:22-23 Oct '49

Tube test set for the L1 carrier system. A. A. Heberlein. Bell Lab Rec 27:182-185 May '49

Tube Tester. Techni-Talk 1:3 Apr-May '49

Tube tester and analyzer. Harold Pallatz. Radio-Electronics 20:44-46 Jan '49

Universal visual valve tester. F. L. Hill and C. W. Brown. Electronic Eng 21:425-430 Nov '49

Patents

Tube testing apparatus, Pat Warren, 2,458,814, 16 cl. Appl Aug 8, '47; granted Jan 11, '49

See also
Measurements & Meters
Servicing
Signal Generators

TEST EQUIPMENT, Lines and Machinery

Automatic test board for small motors. S. S. Wolff. Elec Eng 68:655-658 Aug '49

Cable fault finder. F. E. Planer. Elec Rev 145:57-59 July 8, '49

Cable fault locator. German Industry Rep. BIOS 564 Brit Govt Pub

Detection of overheated transmission line joints by means of a bolometer. J. R. Leslie and J. R. Wait. AIEE Proc section 99:1-6 Apr '49

Infra-red detector for the location of faulty joints in power transmission lines. B. A. Auld. July 1948 PB 95410. Also NRC 1779

Instrument for measuring commutation. R. T. Lundy. Elec Eng 68:502 June '49

Locating shorted turns in AC turbine generator field coils. J. F. Kalbach. Power 93:80-81 Apr '49

Location of faults in lines and cables. A. C. Timmis. P. O. Elec Eng J Paper No 192 '49

Modern breadboard chassis. B. L. Snavely and others. Electronics 22:101-103 July '49

Portable three-phase ground detector. J. Adams. Can Min J 70:70 Aug '49

Rotor balancing with an electronic capacitor gauge. H. D. Warshaw. Rev Sci Instr 20:474-476 July '49

EST EQUIPMENT, Lines and Machinery–Cont'd.

ensitive balance for stability tests on permanent magnets. S. F. Knight. IEE Proc 96:635-640 Aug '49

park-plug tester. Craig Walsh and A. L. Livera. Electronics 22:104+ June '49

est network relays twice as fast. H. K. McCutcheon and H. V. Dolding. Elec World 131:84 May 7, '49

esting aid for subscribers' apparatus faultsmen. L. A. Missen. P.O. Elec Eng J 42:160-164 Oct '49

urns and short circuit tester. F. G. Spreadbury. Beama J 56:314-317 Sep '49

se of instruments in maintenance. Ralph H. Pelton. Elec Eng 68:166-167 Feb '49

ire line fault finder. A. W. Flanagan. Radio & TV N 41:9+ June '49

Patents

pparatus and method for fault locations, Dale H. Nelson and James R. Cosby, 2,476,317, 7 cl. Appl May 8, '43; granted July 19, '49

pparatus for checking circuit continuity and identifying wires, Charles R. Parmenter, 2,488,556, 2 cl. Appl Jan 8, '46; granted Nov 22, '49

pparatus for locating faults in cables, Richard D. Gambrill, 2,481,655, 3 cl. Appl June 29, '46; granted Sep 13, '49

pparatus for locating faults in cables, Richard D. Gambrill and Clay E. Lewis, 2,460,688, 2 cl. Appl May 4, '44; granted Feb 1, '49

pparatus for testing cables, Leslie Ernest Weaver, 2,477,023, 2 cl. Appl May 23, '44; granted July 26, '49

evice for locating faults in cables, Howard S. Dimmick and Felton S. Jenkins, 2,471,417, 4 cl. Appl Dec 22, '43; granted May 31, '49

ectrical testing system, Leon Himmel, 2,492,150, 3 cl. Appl Aug 21, '45; granted Dec 27, '49

ectronic wheel slip detector, Claude M. Hines, 2,468,199, 11 cl. Appl Mar 30, '45; granted Apr 26, '49

ult detector for transmission lines, Herbert Payne, 2,459,239, 5 cl. Appl May 22, '47; granted Jan 18, '49

ase failure indicating device for polyphase systems, Victor John Terry and Richard Kelly, 2,474,290, 5 cl. Appl Nov 2, '44; granted June 28, '49

sting arrangement for protected electrical apparatus, Guglielmo Camilli, 2,474,825, 4 cl. Appl Feb 24, '44; granted July 5, '49

See also

easurements & Meters, Speed
otors, Testing
ansmission Lines, Measurement

ST EQUIPMENT, Product Testing

pparatus for detecting superficial cracks in wires. Philips Tech Rev 11:12-15 July '49

pparatus to depict the load-elongation diagram of yarn at five cycles per second. F. Breazeale and J. Whisnant. Jour Ap Phys 20:621-626 June 49

meras are tested with simple setup. F. C. Gabriel. Radio-Electronics 21:38-39 Nov '49

Capacitance method of measuring wear. Nat Bur Stand Tech Bul 33:60-62 May '49

Color television used in testing supersonic engine. Elec Eng 68:622 Aug '49

Detection of defects in metals improved by new model changes. Materials & Methods 30:110 Dec '49

Direct reading analysis of 18-8 stainless steels. M. F. Hasler. Iron Age 164:96-99 Nov 3, '49

Elastic constants and sound velocities. 11 longitudinal, torsional, and bending vibrations of loaded bars. Myra F. Kilpatrick. 17 pp Mar 8, '49 AECU 375

Electric gun bore gage. A. Brenner and E. Kellogg. Nat Bur Stand Res J 42:461-464 May '49

Electrical equipment advances car road performance testing. W. A. McConnell. SAE Jour 57:27-30 July '49

Electro-mechanical tester evaluates ball bearing greases. I. Axelrad and M. M. Fromm. Product Eng 20:132-133 Sep '49

Electronic principles as applied in Germany to the testing of materials. W. G. Shilling PB 51070. Also BIOS 724 Brit Govt Pub

Electronic watch testing apparatus. (Elektronisches Uhrenpruefgeraet) Radio Tech 25:696-697 Dec '49

Ferrometer, a magnetic measuring instrument for solid iron. PB 96831

General electric metals comparator. D. E. Bovey. Elec Eng 68:331 Apr '49

Hysteresis machine for rubber-testing. German Industry Rep. BIOS 668 Brit Govt Pub

Industrial thickness gauges employing radioisotopes. (Abstract) J. R. Carlin. IRE Proc 37:168 Feb '49

Instron tensile tester. H. Hindman and G. S. Burr. ASME Trans 71:789-796 Oct '49

Magnetic separator is nonelectric. Materials & Methods 29:97 Feb '49

Manufacturing controls of large steel forgings. T. Gardner. Iron Age 164:46-48 Dec 29, '49

Metal detector for conveyers. K. Urbach. Electronics 22:81-83 July '49

Metal detector for the lumber industry. C. R. Schafer. Electronics 22:100-103 Sep '49

New analyzer checks and sorts metal parts. Materials & Methods 29:128 Jan '49

New test head developed for metals comparator. Materials & Methods 30:100 Sep '49

Nondestructive flaw detection. D. M. Kelman. Westinghouse Eng 9:115-118 July '49

Non-destructive testing of materials and X-ray protection methods. German Industry Rep. BIOS 203 Brit Govt Pub

Nondestructive testing of materials, Siemens-Werner Werke "M" Berlin/Siemenstadt. German Industry Rep. BIOS 214 Brit Govt Pub

Oldsmobile uses modern gaging techniques in producing new engine. H. Chase. Iron Age 163:78-82 Feb 10, '49

Owen bridge for testing magnetic materials. R. J. Stanley. Muirhead Technique 3:20-21+ July '49

Oxygen diviner. Chem Ind 65:873 Dec '49

Portable instrument measures coating thicknesses on steel. Materials & Methods 30:122 Sep '49

TEST EQUIPMENT, Product Testing–Cont'd.

Radioactive thickness gage for moving materials. J. R. Carlin. Electronics 22:110-113 Oct '49

Sharper eyes, keener ears for inspection. Mod Ind 17:87-88 June 15, '49

Some transverse tests on meehanite iron beams. O. Smalley. Iron Age 164:83-86 Nov 10. '49

Thickness gage for nonmagnetic materials. I. W. Rozian and S. V. Hart. NEC Proc '49

Thickness gage measures continuously moving sheet materials. Materials & Methods 29:110-112 June '49

Patents

Apparatus for detecting dilution or commingling of substances, Henry L. Grimes, 2,475,023, 6 cl. Appl May 14, '47; granted July 5, '49

Breakdown testing apparatus, Leon V. Michal, 2,478,414, 4 cl. Appl Jan 7, '44; granted Aug 9, '49

Color sorting device using differently color-selective photocells and a cathode-ray tube, Carl Berkley, 2,483,452, 3 cl. Appl Nov 19, '46; granted Oct 4, '49

Comparison control system, Ralph W. Engstrom, 2,459,632, 14 cl. Appl Dec 26, '47; granted Jan 18, '49

Electrical apparatus for measuring metal thicknesses, George T. Brady, 2,476,943, 5 cl. Appl June 9, '48; granted July 19, '49

Electrical test apparatus, Mortimer F. Bates, 2,459,-142, 8 cl. Appl Aug 30, '45; granted Jan 18, '49

High-frequency surface testing instrument, Charles V. Larrick, 2,489,092, 6 cl. Appl Sep 25, '46; granted Nov 22, '49

Inspection system, Camiel de Brabander, 2,461,592, 16 cl. Appl Sep 28, '49; granted Feb 15, '49

Instrument for the measurement of surface finishes, Harry Shaw, 2,474,015, 4 cl. Appl Feb 14, '45; granted June 21, '49

Magnetic testing apparatus, John Carrington Sellars, 2,469,476, 2 cl. Appl Jan 13, '48; granted May 10, '49

Measurement of thickness, Alexander Wolf, 2,486,-902, 8 cl. Appl Jan 8, '46; granted Nov 1, '49

Method and apparatus for detecting flaws, Walter C. Barnes, 2,472,784, 23 cl. Appl Sep 8, '43; granted June 14, '49

Noncontacting thickness gauge, Charles W. Clapp, 2,488,269, 19 cl. Appl June 19, '48; granted Nov 15, '49

Photoelectric apparatus for detecting surface defects in glassware, Elliott R. Owens, 2,481,863, 3 cl. Appl Apr 26, '45; granted Sep 13, '49

Photometric apparatus for testing the cleanliness of dishes, Paul J. Koning, 2,487,112, 3 cl. Appl Apr 17, '47; granted Nov 8, '49

Resonance inspection method, Floyd A. Firestone, 23,090, 25 cl. Orig No 2,439,131, Apr 6, '48; appl for reissue Oct 18, '48; granted Mar 15, '49

Smoke detector and signal for ducts, Clarence Noel Cahusac, 2,474,221, 8 cl. Appl Sep 28, '46; granted June 28, '49

Surface roughness measuring device, John P. Arndt, jr., 2,460,726, 1 cl. Appl Jan 11, '43; granted Feb 1, '49

Testing instrument for machines parts, John B. Lovick, 2,474,482, 3 cl. Appl Mar 28, '44; granted June 28, '49

Thickness gauge, George H. Rendel, 2,474,117, 5 cl. Appl Dec 23, '46; granted June 21, '49

Vibration apparatus for testing articles, Robert G. Rowe, 2,486,984, 5 cl. Appl May 7, '43; granted Nov 1, '49

See also

Industrial Applications
Industrial Controls
Photoelectric Tubes, Devices

TEST EQUIPMENT, Strain Gages

Application of electrical resistance strain gauges. A. L. Tannahill. Engineer 187:630-633 June 10, '49

Bonded resistance wire gages for strain measurements. A. C. Ruge. Product Eng 20:116-117 Jan '49

Direct-reading electrical torsiometer. K. Staiger. PB 36114

Electrical measurement of strain. Engineer 188: 713-714 Dec 16, '49

Electromechanical strain-gage multiplier. (Abstract) C. H. Woods and others. IRE Proc 37: 171 Feb '49

Electronic strain measurements. (L'electronique permet la mesure des contraintes mechaniques) C. de Lafon. Electronique 32:17-20 June '49

Gages measure strain on rotating engine parts. R. E. Gorton and R. W. Pratt. SAE Jour 57:46-49 Apr '49

Gaging wire tension in prestressed tanks. Eng N 143:33-34 Oct 6, '49

Industrial load cells. Product Eng 20:111-115 Mar '49

Magnetic strain gage for static metallic members. J. G. Gable. Product Eng 20:119-120 Nov '49

Measurement of changes in length with the aid of strain gauges. A. L. Biermasz and H. Hoekstra. Philips Tech Rev 11:23-31 July '49

Modified SR-4 indicator to measure dynamic strains. B. B. Hammer and H. Sommer. Product Eng 20: 143-145 Sep '49

Resistance strain gauges. T. B. Sansom. Elec Rev 145:3-6 July 1, '49

Resistance wire strain gauges as elements of the Wheatstone Bridge. Vincent Petrucelly, jr. Elec Eng 68:331 Apr '49

Simple electrical strain-gauge for recording small tensions. A. V. Hill. Jour Sci Instr 26:128+ Apr '49

Strain gage dynamometer for measuring cutting tool loads. H. Rottersman and others. Iron Age 164: 55-61 Sep 29, '49

Strain-gage multiplier. John Markus. Electronics 22:126+ May '49

Strain gages for measurement and control of displacement. Product Eng 20:136-137 Aug '49

Strain measurement by X-ray diffraction methods. G. B. Greenough. Aero Quart 1:211-224 Nov '49

Stress-strain-time apparatus for fiber testing. C. H. Reicgardt and others. Rev Sci Instr 20:509-516 July '49

Testing vehicle components with strain gages. R. C. Hizer. Product Eng 20:134-137 Apr '49

TST EQUIPMENT, Strain Gages–Cont'd.

Theory and practice of strain-measuring with strain gauges." G. P. Roszbach. Philips Tech Comm Aust 4:15-25 '49

Patents

Apparatus for electrically measuring strain applied to strength of materials, William H. Hoppmann, II, and Edward C. Taylor, 2,475,614, 5 cl. Appl Sep 21, '45; granted July 12, '49

Apparatus for testing conductors, Wentworth D. Boynton, 2,476,278, 2 cl. Appl Oct 3, '44; granted July 19, '49

Apparatus for testing electrical continuity, Wentworth D. Boynton, 2,476,279, 5 cl. Appl Oct 3, '44; granted July 19, '49

Electromagnetic strain gauge, Claude M. Hathaway, 2,484,164, 3 cl. Appl July 21, '43; granted Oct 11, '49

Strain-stress computer, William A. Sourwine, Hamilton M. Maynard, and Alexander H. Flax, 2,478,720, 6 cl. Appl July 20, '44; granted Aug 9, '49

System for determining the point of break in an electrical conductor, William R. McLean, 2,490,-267, 4 cl. Appl Dec 16, '44; granted Dec 6, '49

TST EQUIPMENT, Stroboscopes

Compact home-built stroboscope. Lyman E. Greene. Radio & TV N 41:44-45+ Mar '49

High-power, low-speed stroboscope. W. R. Saylor. Gen Rad Exp Vol 23 May '49

High-speed stroboscope. Cenco No 63:7+ Spring '49

Industrial applications of the stroboscope. (Quelques applications industrielles du stroboscope) R. Faux. Electronique 35:21-24 Sep '49

Light flash stroboscope. (Ein Lichtblizstroboscop) Radio Tech 25:318-319 May '49

Motion control by the stroboscope. (Le controle des mouvements au moyen du stroboscope) P. C. Gloviaux. Onde Elec 28:6-10 Jan-Feb '49

Portable repeating flash unit. W. H. Fritz. Electronics 22:74+ Mar '49

Portable series flash generator. (Ein tragbares Serienblitzgeraet) Radio Tech 25:308-310 May '49

R. stroboscope for measuring turntable speed. (R.E. Omdrejningsviser) Radio Ekko 11:56 Mar '49

Patents

Electronic tachometer and stroboscope, James D. Jordan, 2,485,888, 1 cl. Appl Sep 4, '44; granted Oct 25, '49

Stroboscope, Harold E. Edgerton, 2,478,903, 4 cl. Orig appl Aug 16, '33; divided and this appl Aug 5, '39; granted Aug 16, '49

Stroboscope, John Horace Townshend, 2,491,342, 2 cl. Appl June 13, '46; granted Dec 13, '49

Ultraviolet stroboscope, Jack De Ment, 2,467,661, 5 cl. Appl Apr 29, '46; granted Apr 19, '49

X-ray stroboscope, Jack De Ment, 2,465,676, 2 cl. Appl Apr 29, '46; granted Mar 29, '49

TEST EQUIPMENT, Ultrasonic

Dynamic measurement of polymer physical properties. J. W. Ballau and J. C. Smith. Jour Ap Phys 20:493-502 June '49

Examination for plans in steel with an ultrasonic stethoscope. Machine Design 21:86 Feb '49

Immersed ultrasonic inspection. R. H. Smith and D. C. Erdman. Iron Age 164:83-88 Aug 4, '49

Propagation of audiofrequency sound in high polymers. R. S. White and others. Jour Ap Phys 20: 481-485 June '49

Supersonic resonance testing. B. Carlin. Product Eng 20:122-123 Dec '49

Theory of ultrasonic materials testing. H. E. Van Valkenburg. Mech Eng 71:817-820 Oct '49

Transmission of elastic pulses in metal rods. D. S. Hughs and others. Phys Rev 75:1552 May 15, '49

Ultramodern supersonics and X-rays. (Abstract) Metal Progress 56:62-65 July '49

Ultrasonic flaw detector. Vin Zeluff. Electronics 22:124 Feb '49

Ultrasonic testing. Safety Eng 97:47-48 Jan '49

Ultrasonic testing of aircraft components. W. C. Hitt. Iron Age 163:66-70 June 23, '49

Ultrasonic testing of tool steels. J. C. Hartley and E. K. Mull. Iron Age 163:81-85 May 19, '49

Ultrasonic weld inspection facilitated by angle beam searching unit. Steel 123:98+ Dec '48

Patents

Supersonic inspection, Floyd A. Firestone, 2,458,581, 4 cl. Appl May 21, '46; granted Jan 11, '49

Supersonic inspection for flaws lying near the surface of a part, Floyd A. Firestone, 2,467,301, 3 cl. Appl July 23, '45; granted Apr 12, '49

See also

Ultrasonics

TEST EQUIPMENT, X-ray

Geiger counter technique for X-ray diffraction. H. Friedman and L. S. Birks. Naval Research Lab Rep pt 1 NRL-H-2246 10 pp Feb 28, '44; pt 2 NRL-H-2434 33 pp Dec 1, '44; pt 3 NRL-H-2517 52 pp Apr 20, '45. AEC

How Pennsylvania railroad uses X-ray inspection. D. Goodman. Iron Age 164:80-83 Sep 1, '49

Non-destructive testing of materials and X-ray protection methods. German Industry Rep. BIOS 203 Brit Govt Pub

Photograph exposure meter for industrial radiography. D. T. R. Dighton and R. H. Herz. Jour Sci Instr 26:404-407 Dec '49

Use of X-rays in stress measurement. German Industry Rep. BIOS 205 Brit Govt Pub

X-ray diffraction studies of the stretching and relaxing of polyethylene. A. Brown. Jour Ap Phys 20:552-558 June '49

X-ray examination of cast turbine blades. Engineering p 79 Jan 28, '49

X-ray gage measures thickness of cold rolled steel strips. Materials & Methods 30:102 Dec '49

X-ray gaging of flat rolled steel. D. I. Brown. Iron Age 164:101-104 Aug 18, '49

X-ray work in some fields of research on metals and alloys, 1939 to 1946. A. M. B. Douglas. Iron & Steel Inst J 162:300-315 July '49

TEST EQUIPMENT, X-ray–Cont'd.

Patents

Means for measuring the difference in magnitude of alternately occurring pulses, Philip C. Michel, 2,467,844, 8 cl. Appl Mar 26, '46; granted Apr 19, '49

Noncontacting thickness gauge, Charles W. Clapp, 2,467,812, 8 cl. Appl Apr 1, '47; granted Apr 19, '49

Stress analysis by X-ray diffraction, Francis George Firth, 2,462,374, 12 cl. Appl Oct 4, '44; granted Feb 22, '49

X-ray absorption photometer, Theodore A. Rich, 2,469,206, 6 cl. Appl Nov 14, '46; granted May 3, '49

X-ray diffraction apparatus, Otto G. Koppius, 2,476,-150, 13 cl. Appl Feb 12, '47; granted July 12, '49

X-ray diffraction photometer, Edmund Francis Champaygne, Charles L. Christ, and Robert Bowling Barnes, 2,490,673, 5 cl. Appl June 16, '48; granted Dec 6, '49

See also

X-Rays

THERMOCOUPLES

Development of high temperature thermocouples. 1 pp Y 3 At 7:22/AECU-42 U.S. Govt Pub

Dynamic impedance and sensitivity of radiation thermocouples. P. B. Fellgett. Phys Soc Proc 62:351-359 June 1, '49

High-temperature thermocouple. W. C. Troy and G. Steven. Frontier 12:6-8+ Dec '49

Indicator — temperature, electrical-resistance, —50° to +300° C. Nov '48 PB 95913 and PB 95916

Indicator—temperature, electrical-resistance, single, —50° to +50° C. Nov '48 PB 95914 and PB 95917

Indicator—temperature, thermocouple, chromel-alumel, single 0° to 1000° C. Nov '48 PB 95894

Investigation of aircraft heaters: 26 development of a sensitive plated-type thermopile for measuring radiation. L. M. K. Boelter and others. Nat Advisory Committee for Aeronautics Tech Note 1450 66 pp July '48. AEC

New Edison installation for Capital Airlines. Aviation W 51:35-37 Nov 28, '49

Note on the effect of impurities and cold work on the thermoelectric power of aluminum. J. K. Galt. Phil Mag 40:309-314 Mar '49

Some observations on the behavior of platinum/platinum-rhodium thermocouples at high temperatures. M. K. McQuillan. Jour Sci Instr 26: 329-331 Oct '49

Terminal-thermocouple, chromel and alumel. Dec '48 PB 96237

Thermocouple: chromel-alumel, range 0 to +1000 degrees centigrade. Air Force-Navy aeronautical specification. Oct '48 PB 92460a

Thermocouple-chromel-alumel, range 0 to +1000 degrees centigrade. Dec '48 PB 92477r

Thermocouple leads-chromel and alumel, installation of. Dec '48 PB 93316r2

Thermocouple for the measurement of steel bath temperatures. V. G. Gruzin. Eng Digest 10:344 Oct '49

Thermocouple microvoltmeter for use in the differential thermal analysis of clays. J. J. Theron. Jour Sci Instr 26:233-235 July '49

Thermocouple parallel arrangement-chromel and alumel, installation of. Dec '48 PB 93604r

Thermoelectricity. D. Hadfield. Iron & Steel En 21:478-482 '48

Tuned low-frequency amplifier for use with thermocouples. D. A. H. Brown. Jour Sci Inst 26:194-197 June '49

Tungsten-molybdenum thermocouples. R. D. Potte and N. J. Grant. Iron Age 163:65-69 Mar 31, '4

Patents

Base metal thermopile, Ralph H. Beach, 2,490,196, cl. Appl Mar 27, '45; granted Dec 6, '49

Constant potential source of the thermocouple typ Perry A. Borden, 2,463,944, 7 cl. Appl Oct 25, '4 granted Mar 8, '49

Electric thermostat, John M. Wilson and Benjami Cyr, 2,485,950, 13 cl. Appl Nov 30, '45; grante Oct 25, '49

Heating circuit for different voltages, George C Pearce, 2,480,337, 4 cl. Appl Mar 19, '45; grante Aug 30, '49

High-frequency thermocouple for concentric line William A. Miller, 2,485,904, 6 cl. Appl Apr 2 '45; granted Oct 25, '49

High-frequency thermocouple for wave guide William A. Miller, 2,485,905, 5 cl. Orig appl Ap 23, '45; divided and this appl Oct 11, '46; grante Oct 25, '49

Impedance matched thermocouple for coaxial con ductors, Paul J. Ovrebo, 2,468,775, 2 cl. App Oct 25, '44; granted May 3, '49

Reference junction for thermocouple leads, Home J. Hall and Frederick Lowell Jonach, 2,475,238, cl. Appl Dec 20, '45; granted July 5, '49

Thermocouple junction with radiation shiel Andrew I. Dahl, 2,472,808, 5 cl. Appl July 1, '4 granted June 14, '49

Thermocouple safety pilot switch, John H. Thorn bery, 2,463,216, 15 cl. Appl May 28, '45; grante Mar 1, '49

Thermocouple with radiating fins, Gilbert S Wickizer and Ernest N. Brown, 2,473,627, 3 c Appl Sep 21, '44; granted June 21, '49

Thermostat control circuit, Timothy J. Lehan 2,485,003, 5 cl. Appl Dec 16, '46; granted Oct 1 '49

Thermostatic electric switch, Benjamin J. Wilso Raymond C. Machler, Norman E. Polster, an George E. R. Murray, 2,471,806, 3 cl. Appl May 2 '47; granted May 31, '49

Thermostatic switch, Einar G. Lofgren, 2,476,498, cl. Appl Oct 26, '45; granted July 19, '49

Thermostatic switch, Joseph Youhouse, 2,486,365, 1 cl. Appl Dec 23, '43; granted Oct 25, '49

Thermostatic switch, Malcolm E. Porter, 2,474,19 5 cl. Appl May 2, '47; granted June 21, '49

Time and thermostatically controlled switching ar rangement, Stanley Carden, 2,471,457, 8 cl. App July 17, '44; granted May 31, '49

THYRATRONS

Battery chargers and thyratrons. F. A. Annett Power 93:125-128+ Apr '49

Deionization time of thyratrons: a new method o measurement. H. de B. Knight. IEE Proc pt II 96:257-261 July '49

HYRATRONS–Cont'd.

ifferent types of thyratrons. (Differents types de thyratrons) R. Aschen and P. Maguer. Electronique 33:6-8 July '49

ttended range DC bias control of thyratron plate current. L. Reiffel. Rev Sci Instr 20:699-702 Sep '49

ot-cathode thyratrons: practical studies of characteristics. H. de B. Knight. IEE Proc pt III 96: 361-381 Sep '49

ercury vapor thyratron characteristics. Elettronica pt 1 4:239-240 Sep '49; pt 2 4:281-282 Oct '49. In Italian

ew line of thyratrons. A. W. Coolidge, jr. AIEE Trans 67:723-728 '48

rallel operation of small thyratrons. P. G. Hansel. Rev Sci Instr 20:836 Nov '49

Patents

aseous discharge tube, Hannes Olof Gosta Alfven, 2,478,446, 2 cl. Appl Feb 14, '45; granted Aug 9, '49

id biasing system, Everett R. Sarratt, 2,492,196, 9 cl. Appl Sep 14, '46; granted Dec 27, '49

ydrogen-filled thyratron, Howard B. Sloan, 2,492,-666, 7 cl. Appl Mar 15, '46; granted Dec 27, '49

yratron tube, Howard B. Sloan, 2,492,665, 5 cl. Appl Mar 29, '45; granted Dec 27, '49

See also

ectifiers, Gaseous

IME BASE CIRCUITS

utomatic frequency phase control of television sweep circuits. E. L. Clark. IRE Proc 37:497-500 Mar '49

alibrated sweep generator (circuit diagram). MDDC 921

esigning cathode coupled paraphase amplifiers. N. Alpert. Tele-Tech 8:57-59 Sep '49

lectronic expansion of the sweep. (Loupe electronique de balayage) R. Wahl. Electronique 36: 11 Oct '49

ast sweep and scope (circuit diagram). MDDC 923

igh-efficiency sweep circuit. (Abstract) B. M. Oliver. IRE Proc 37:172 Feb '49

inear resistance-charged gas relay time base. E. J. B. Willey. Electronic Eng 21:101 Mar '49

inear time base of the blocking oscillator type. Telev Franc No 44:29 Jan-Feb '49. In French

inear time bases: from the neon tube to the modern thyratron. D. Ivanoff and F. Pasquinelli. Telev Franc No 49:22-26 July '49. In French

ow-frequency synchronized sawtooth generator providing constant amplitude sweep with a periodic synchronization input. (Abstract) P. Zaffee. IRE Proc 37:173 Feb '49

agnetic sweeps for CR tubes, with tubes operating class A. (Notes sur le baleyage magnetique des tubes cathodiques effectue par tubes fonctionnant en classe A) A. Dubec. Telev Franc No 54:6-12 Dec '49

odel six sweep (circuit diagram). MDDC 927

odel 260 sweep. '45 MDDC 594

odel 300 sweep (circuit diagram). MDDC 895

Oscilloscope sweep circuit and delay line for the study of transients. 6 pp '44 MDDC 1212

Panoramic sweep circuits. C. Bruce Clark and Fred J. Kamphoefner. Electronics 22:111-114 Nov '49

Precision delayable sweep (modified). MDDC 1109

Relaxation oscillators using gas tubes. (Les oscillations de relaxation dans les tubes a decharge) J. Moussiegt. Ann Phys 4:593-670 Sep-Oct '49

Saw tooth generator and discriminator. MDDC 930

Sawtooth sweep linearization. Seymour D. Uslan. Suc Serv 10:1+ Oct '49

Shock-impulsed spiral time base. G. H. Rawcliffe. Wireless Eng 26:242-244 July '49

Simple time base circuit. J. Sowerby. Wireless World 55:188 May '49. Corresp. W. T. Cocking. 55:236 June '49

Simplified chronotron-type timing circuit. J. Warren Keuffel. Rev Sci Instr 20:197-202 Mar '49

Slow sweep time-base. V. H. Atree. Jour Sci Instr 26:257-262 Aug '49

Television sweep circuits. H. C. Pleak. Sylvan N 16:T18-T20 May '49

Television time base linearisation. A. W. Keen. Electronic Eng 21:195-198 June '49

Television time-base linearization. (Letter) A. W. Keen. IRE Proc 37:61 Jan '49

Time base for high frequencies. R. Aschen. Telev Franc pt 1 No 48:20-22 June '49; pt 2 No 49:26-30 July '49. In French

Two sweep voltage generators. R. Lemas. Telev Franc No 52:9-10 Oct '49. In French

Wide-range saw-tooth generator. Peter G. Sulzer. Rev Sci Instr 20:78-80 Jan '49

Patents

Apparatus for linearizing saw-tooth waves, Merwin J. Larsen, 2,473,208, 2 cl. Appl Nov 14, '44; granted June 14, '49

Bearing sweep amplifier circuit, William H. Doherty, 2,476,441, 3 cl. Appl Sep 26, '46; granted July 19, '49

Blanking system for locked sweeps in panoramic systems, Benjamin R. Gardner, Everett T. Wilbur, and Lee W. Aukerman, 2,490,045, 4 cl. Appl June 11, '48; granted Dec 6, '49

Cathode-ray deflecting circuits, Howard J. Heim, 2,464,393, 8 cl. Appl June 12, '45; granted Mar 15, '49

Cathode-ray tube sweep circuit, Henry B. De Vore, 2,466,537, 4 cl. Appl Feb 28, '47; granted Apr 5, '49

Circuit arrangement embodying cathode-ray tubes, Eric William Bull and Max Eric Pemberton, 2,467,-009, 3 cl. Appl Dec 12, '46; granted Apr 12, '49

Circuit for generating a saw-tooth-like current in the deflecting coil of cathode-ray tubes, Frederik Kerkhof, 2,471,819, 3 cl. Appl Apr 12, '46; granted May 31, '49

Electric time base circuits, Claude Langdon Richards, 2,467,699, 8 cl. Appl Mar 18, '46; granted Apr 19, '49

Electronic saw-tooth voltage generator, Madison Cawein, 2,467,465, 4 cl. Appl Jan 9, '43; granted Apr 19, '49

Oscillograph control circuit, Colin Irving Bradford and Paul F. Darby, 2,466,924, 3 cl. Appl May 18, '45; granted Apr 12, '49

TIME BASE CIRCUITS, *Patents*–Cont'd.

Oscilloscope sweep circuit, Humbert P. Pacini, 2,489,312, 3 cl. Appl Jan 4, '44; granted Nov 29, '49

Pulse generator, Sidney Moskowitz, 2,468,100, 5 cl. Appl Mar 20, '47; granted Apr 26, '49

Saw-tooth voltage generator, George W. Fyler, 2,458,366, 17 cl. Orig appl Sep 11, '46; divided and this appl Apr 10, '48; granted Jan 4, '49

Saw-tooth voltage generator, George W. Fyler, 2,458,367, 11 cl. Appl Jan 23, '48; granted Jan 4, '49

Sawtooth wave generator, Lambert L. Johnson, 2,462,024, 7 cl. Appl Aug 15, '47; granted Feb 15, '49

Sweep circuit, David E. Kenyon, 2,466,712, 9 cl. Appl Feb 16, '44; granted Apr 12, '49

See also

Cathode-Ray Tubes, Circuits
Oscilloscopes & Oscillographs
Radar, Transmitters & Receivers
Television, Receivers & Reception

TIME DELAY CIRCUITS

1500 microsecond delay unit (circuit diagram). MDDC 924

Capacitors delay AC relay operation. Power 93: 112-113+ Oct '49

Delay networks having maximally flat frequency characteristics. W. E. Thomson. IEE Proc pt III 96:487-490 Nov '49

Design of networks for constant time delay. M. H. Herb and others. Jour Ap Phys 20:616-620 June '49

Mercury delay line memory using a pulse rate of several megacycles. I. L. Auerbach and others. IRE Proc 37:855-861 Aug '49

Time-delay electronic relays. Power 93:126-128+ Sep '49

Patents

Delay device, Glenn E. Hagen, 2,487,332, 9 cl. Appl Mar 15, '49; granted Nov 8, '49

Delay timer, Hugh H. Davids, 2,483,126, 4 cl. Appl Apr 10, '46; granted Sep 27, '49

Electrical timing circuits, Joseph C. Tellier, 2,491,-428, 4 cl. Appl Dec 8, '45; granted Dec 13, '49

Electronic time delay circuit, Elbert D. Schneider, 2,463,318, 2 cl. Appl Aug 5, '44; granted Mar 1, '49

Equalized delay line, Heinz E. Kallmann, 2,461,061, 6 cl. Appl Feb 7, '46; granted Feb 8, '49

Pulse delay system, Robert C. Moore, 2,479,954, 7 cl. Appl Apr 29, '44; granted Aug 23, '49

Time delay control, Charles T. Zavales, 2,486,089, 7 cl. Appl Oct 30, '46; granted Oct 25, '49

Time delay electrical relay system, Wallace H. Blankmeyer, 2,482,397, 1 cl. Appl June 21, '45; granted Sep 20, '49

Time delay for selective tripping, Herbert C. Graves, jr., 2,486,596, 3 cl. Appl Oct 19, '45; granted Nov 1, '49

Timing device, Otto Jensen Malvern and Herbert C. Graves, jr., 2,486,602, 10 cl. Appl Aug 11, '45; granted Nov 1, '49

Variable delay means, Bernard M. Oliver, 2,478,778, 5 cl. Appl Aug 1, '44; granted Aug 9, '49

See also

Ultrasonics

TRAINING AIDS

Classroom model of vertical ionospheric reflectio J. A. Pierce. Am J Phys 17:542-547 Dec '49

Demonstration of electron paths perpendicular to magnetic field. R. Stuart Mackay. Am J Ph 17:444-446 Oct '49

Demonstration of Lissajous' figures. P. A. Medgyessy. Am J Phys 17:222 Apr '49

Devise panel-type accelerometer. Aviation W 5 27 Aug 1, '49

Electronically driven ripple-tank as an aid to phas front visualization. A. H. Schooley. NEC Pr '49

How to train crews at a profit. Stanley L. Colbe Aviation W 51:37+ Sep 19, '49

Industrial electronic problems for engineering ed cation. W. Richter. Elec Eng 68:1041-1043 D '49

Instructional broadcast studio. E. F. Coriell. Aud Eng 33:14-15 Nov '49

Microwave experiments and their optical analo G. F. Hull, jr. Am J Phys 17:559-566 Dec '49

Operation classroom. Gilbert Chase. Standar ization 8:14-15 July '49

Radar distance indicator demonstrator. F. Hanna and others. NRC 1540

Simulated electric line. Reginald T. Harling. A J Phys 17:46 Jan '49

Slide rule operations for radio problems. Wheel Mono No 2:3 Apr-Sep '48

University is born. Radio & TV N 42:52-53 Nov

Patents

Circuit element for tuning an electric circuit over plurality of frequency bands, Frederik Hendr Gusdorf and Alexandre Horowitz, 2,471,523, cl. Appl Apr 17, '46; granted May 31, '49

Radio navigation training device, George Alt Decker, 2,485,262, 3 cl. Appl July 27, '46; grant Oct 18, '49

Radio object locating training device with error i dication, Orfeo Cesareo, 2,492,356, 4 cl. Appl D 6, '43; granted Dec 27, '49

Sound ranging training apparatus, Carlton M. Bey and Ernest M. Bolze, 2,459,679, 3 cl. Appl Apr '46; granted Jan 18, '49

Telegraphic code teacher, Harold M. Herman, 2,47 749, 1 cl. Appl Sep 4, '46; granted June 21, '49

Trainer for enabling the giving of radio instructio Ernest L. Baulch, 2,458,550, 10 cl. Appl Dec '44; granted Jan 11, '49

TRAINING AIDS, Aircraft

Aids to training — the design of radar synthet training devices for the R.A.F. G. W. A. Dumm IEE Proc pt III 96:101+ Mar '49

Training manuals: individual, aircraft warni officer and radar repairman, ground reporti equipment (AN/CPS-4). Sep '47 PB 87730

Training manuals: individual, aircraft warni officer and radar repairman, ground reporti equipment (AN/TPS-1B and AN/TPS-10A). S '47 PB 87739

TRAINING AIDS, Aircraft–Cont'd.

Training manuals: individual, aircraft warning officer and radar repairman, ground reporting equipment (AN/CPS-5). Sep '47 PB 87740

Training manuals: individual, aircraft warning officer and radar repairman, ground reporting equipment (AN/CPS-1). Sep '47 PB 87741

Patents

Aircraft personnel trainer, Charles E. Germanton, 2,460,743, 14 cl. Appl June 30, '44; granted Feb 1, '49

Aircraft trainer for aerial gunners, Richard C. Dehmel, 2,471,315, 27 cl. Appl Feb 3, '44; granted May 24, '49

Apparatus for training aircraft personnel in radio navigation, Ahlert P. Stuhrman and Charles W. McKee, 2,485,331, 11 cl. Appl Nov 25, '39; granted Oct 18, '49

Apparatus for training bombardiers, George F. Daly, Burdette H. Phillips, and Gustav V. A. Malmros, 2,478,250, 4 cl. Appl June 29, '45; granted Aug 9, '49

Automatic radio compass control for link trainers, Floyd L. Byers and Allan W. Reagan, 2,468,033, 3 cl. Appl Feb 12, '48; granted Apr 26, '49

Automatic radio signaling means for aviation trainers, Gregor L. Lang, 2,460,511, 3 cl. Appl May 27, '43; granted Feb 1, '49

Control apparatus, Richard C. Dehmel, 2,460,877, 19 cl. Appl May 1, '45; granted Feb 8, '49

Device for simulating automatic radio compass indications in ground trainers, Carl W. Muller, 2,460,305, 14 cl. Appl Dec 9, '40; granted Feb 1, '49

Device for simulating runway localizer and glide path beams for training purposes, Grant C. Melvin, Peter C. Jones, and Stanley B. White, 2,471,439, 7 cl. Appl Nov 14, '45; granted May 31, '49

Ground trainer for aircraft, Russell B. Buchanan, 2,470,468, 13 cl. Appl Dec 28, '46; granted May 17, '49

Ground trainer for aircraft personnel, Joseph J. Lukacs and Robert O. Rippere, 2,471,966, 14 cl. Appl Mar 1, '45; granted May 31, '49

Ground trainer for simulating the engines and propeller vibrations of multiengined airplanes, Joseph J. Lukacs, 2,486,488, 7 cl. Appl Mar 20, '46; granted Nov 1, '49

Instrument simulating means for grounded aviation trainers, Karl A. Kail, 2,487,758, 5 cl. Appl Apr 25, '46; granted Nov 8, '49

Navigation apparatus for aircraft and training devices, Richard Carl Dehmel, 2,475,314, 60 cl. Appl Nov 25, '43; granted July 5, '49

Radio beacon keying circuit, Stanley B. White, 2,463,583, 4 cl. Appl Dec 15, '44; granted Mar 8, '49

Signaling means for training devices, Thomas J. McLaughlin, 2,465,165, 7 cl. Appl May 18, '44; granted Mar 22, '49

TRAINING AIDS, TV

Hospital television. Wireless World 55:s16-s18 Dec '49

Navy teaches with television. Radio-Electronics 20: 30-31 Mar '49

Navy uses television for teaching. Arch Record 105:136-137 June '49

New TV "prompt" system uses tape recorder, deaf aids. Tele-Tech 8:39 Aug '49

Radio electronic television schools. Broadcast Eng J 16:4-7 Apr '49

Simple television demonstration. Robert E. Benn. Am J Phys 17:437-438 Oct '49

Televising science. R. K. Marshall. Phys Today 2: 26-30 Jan '49

Television as an aid to teaching surgery. Electronic Eng 21:212-213 June '49

Television for the deaf. S. Kelley. Volta Rev 51: 445-446 Sep '49

Theoretical and practical television course. (Corso teorico-pratico di televisione) A. Banfi. Telev Ital 1:57-58 Oct '49

TRANSCEIVERS

Adjacent-channel equipment. H. A. Jones. FM-TV pt 1 9:11-13+ Nov '49; pt 2 9:16-17 Dec '49

Application of 2-way mobile radio for electrical ultilities. Blair Jenkins, jr. Elec Eng 68:65 Jan '49

Army standardizes FM equipment. G. Devore. Tele-Tech 8:20-23 Aug '49

Battery short wave receiver with built in colpitts transmitter. (Batteridrevet kortbolgesmodtager med paabygget colpitts-sender) Radio Ekko 11: 70-71 Apr '48

Better results with 522. Robert E. Fairbrother. QST 33:23-26 Apr '49

CBS listener-counter. Frank H. Rockett. Electronics 22:180+ Mar '49

Command set special. F. A. Bartlett. CQ 5:18-21+ Nov '49

10-meter handie-talkie. D. M. Launer. QST 33: 17-19 July '49

Miniature 4 tube transceiver. Radio & TV N 41: 33 June '49

Modern mobile transceiver. Harry R. Hyder. Radio & TV N 41:42+ July '49

Portable 2-way radio. Electronic Eng 21:66-67 Feb '49

Patents

Apparatus for determining the listening habits of wave signal receiver users, Henry A. Rahmel. 2,484,734, 6 cl. Appl Feb 11, '48; granted Oct 11, '49

Carrier-wave communication system, Harold M. Lewis, 2,461,646, 19 cl. Appl Oct 8, '41; granted Feb 15, '49

Circuit for stabilizing frequencies of transmitter-receiver systems, Herbert Reginald Cantelo, 2,460,781, 18 cl. Appl Feb 27, '45; granted Feb 1, '49

Radio and visual warning device, William S. Halstead, 2,475,578, 10 cl. Appl Feb 8, '45; granted July 5, '49

Radio centercasting selection apparatus, Alfred N. Goldsmith, 2,488,508, 5 cl. Appl June 5, '42; granted Nov 15, '49

System and apparatus for recording the listening habits of wave signal receiver users, Henry A. Rahmel and Harry T. Bentley, II, 2,494,733, 12 cl. Appl Feb 11, '48; granted Oct 11, '49

TRANSCEIVERS, *Patents*–Cont'd.

Transceiver circuit arrangement, Dirk Johan Braak, 2,477,039, 9 cl. Appl Feb 7, '47; granted July 26, '49

Transmitter-receiver system, Emile Labin, 2,471,-436, 1 cl. Appl Jan 4, '43; granted May 31, '49

Two-way radio communication system, Wendell L. Carlson, 2,475,127, 20 cl. Appl Mar 29, '45; granted July 5, '49

Two-way radio equipment for lifeboat service, Joseph F. McDonald, 2,459,281, 8 cl. Appl Jan 8, '45; granted Jan 18, '49

See also

Communications, Mobile
Communications, Police

TRANSDUCERS

Application of activated ceramics to transducers. H. W. Koren. Acoust Soc Am J 21:62 Jan '49

Measurements of mechanical properties of polymer solutions by electromagnetic transducers. Thor L. Smith and others. Jour Ap Phys 20:144+ Feb '49

Motional impedance measurements on a magnetostrictive system. Frank P. Finlon. Acoust Soc Am J 21:177 May '49

Piezoelectric transducers. W. Roth. IRE Proc 37: 750-758 July '49

Plane wave reciprocity parameter and its application to the calibration of electroacoustic transducers at close distances. B. D. Simmons and R. J. Urick. Acoust Soc Am J 21:633-635 Nov '49

Theoretical aspects of reciprocity calibration of electromechanical transducers. Sanford P. Thompson. Acoust Soc Am J 21:538-542 Sep '49

Theory of passive linear electroacoustic transducers with fixed velocity distribution. L. L. Foldy. Acoust Soc Am J 21:595-604 Nov '49

Patents

Electroacoustic transducer, Loy E. Barton, 2,473,-846, 7 cl. Orig appl Nov 30, '42; divided and this appl June 2, '47; granted June 21, '49

Electromechanical transducer, Arthur C. Keller, 2,484,626, 8 cl. Appl July 26, '46; granted Oct 11, '49

Electromechanical transducer device, Charles K. Gravley, 2,477,596, 6 cl. Appl Aug 29, '47; granted Aug 2, '49

Electronic transducer, George M. Rose, jr., 2,491,-391, 6 cl. Appl Dec 14, '46; granted Dec 13, '49

Electronic transducer, Harry F. Olson, 2,491,390, 12 cl. Appl Oct 21, '46; granted Dec 13, '49

Electrotransducer and method of making same, Charles K. Gravley, 2,479,926, 6 cl. Appl Oct 11, '47; granted Aug 23, '49

Magnetic transducer with separable pole faces, William P. West, 2,459,299, 11 cl. Appl July 20, '46; granted Jan 18, '49

Magnetostrictive rod unit, Norman E. Lee, 2,487,-815, 12 cl. Appl May 13, '44; granted Nov 15, '49

Magnetostrictive transducer, Robert L. Peek, jr., 2,468,837, 10 cl. Appl Aug 2, '45; granted May 3, '49

Structure for magnetostriction transducers, Clare H. Kean, 2,490,273, 5 cl. Appl Nov 18, '47; granted Dec 6, '49

Transducer and method of making the same, Robert B. Gray, 2,486,560, 15 cl. Appl Sep 20, '46; granted Nov 1, '49

Transducer means, Frank Massa, 2,475,148, 10 cl. Appl Apr 16, '45; granted July 5, '49

Underwater transducer, Donald E. Ross, 2,473,971, 1 cl. Appl Feb 25, '44; granted June 21, '49

See also

Acoustics, Electroacoustical Systems
Crystals
Loudspeakers & Baffles
Microphones
Phonographic Pickups & Recording Heads
Sonar

TRANSFORMERS

Calculation and practical construction of transformers. G. Thierry. Telev Franc No 48:14-17+ June '49. In French

Change of mutual conductance with frequency Walter Raudorf. Wireless Eng 26:331-337 Oct '4

Design of a capacitor voltage transformer. E. Billig IEE Proc pt II 96:793-802 Dec '49

Design charts for air-cored transformers. C. N Jeffery. AWA Tech Rev 8:167-183 '49.

Equivalent circuit for a three winding transformer P. L. Kalantarov. Reel 0016 No 475279:36-3 SDLC. In Russian

Experimental transformers for university use. G. H Rawcliffe. Engineer 188:265+ Mar 11, '49

Generalized conditions of turns ratio and optimum dimensions for transformers. V. A. Trapeznikov Reel 0015 No 475278:28-37 SDLC. In Russian

German transformer industry. German Industry Rep. BIOS 682 Brit Govt Pub

Heating process in a dry transformer. L. M Shnitser. Reel 0037 No 475,622:51-53 SDLC. In Russian

Heating of transformers under short-circuit conditions. V. M. Montsinger and G. H. Halsey. AIEE Proc section 9189:1-8 July '49

Hermetically sealed transformers. M. C. Jones Electronic Eng 21:218-221 June '49. Corresp. H F. Haynes and W. T. Duerdoth. 21:271-272 July '49

High-impedance filament transformers. Vin Zeluff Electronics 22:140 June '49

Materials problems solved to develop new butyl-molded transformer. I. F. Kinnard. Materials & Methods 29:47-50 June '49

New transformer coil material promotes higher efficiencies. Materials & Methods 30:90 Dec '49

3 phase transformer. (OZ70 Genopstaar og Beskrivel 3: Stromforsyningen) Radio Ekko 9:135-136 June '46

Rectifier transformer characteristics. Elec Eng 68: 340 Apr '49

Report on Siemens Schuckert, Pretzeld, the Schloss N.E. of Fachheim. German Industry Rep. CIOS E/R 269 Brit Govt Pub

Reports covering transformers, band filters, voltmeters, antennas, etc., 1942-1945. PB 84926

Revolutionary advance in instrument transformer design. I. F. Kinnard. Gen Elec Rev 52:15+ June '49

TRANSFORMERS–Cont'd.

Therman images for transformers. German Industry Rep. FIAT 1155 Brit Govt Pub

Transformer and its equivalent circuits. (Der Transformer und seine Ersatzschaltbilder) Paul G. Violet. Frequenz 3:143 Jan '49

Transformers constructed for tropical countries. J. S. Anderson. Radio N 32:45+ Dec '44

Transformers in terms of the field impedance. W. H. B. Cooper. IEE Proc pt II 96:509-517 June '49

Transformer used as amplifier. Product Eng 20:100 Nov '49

TV matching transformer. Vin Zeluff. Electronics 22:138 June '49

Universal-application cathode ray sweep transformer with ceramic iron core. C. E. Torsch. NEC Proc '49

Patents

Ballast reactor transformer, Leopold Mauerer, 2,486,307, 3 cl. Cont of appl Aug 28, '42; this appl June 27, '47; granted Oct 25, '49

Electric transformer, Walter Kram, 2,462,106, 7 cl. Appl Apr 26, '46; granted Feb 22, '49

Electromagnetic coupling device, Loya Bryan Perkins, 2,465,602, 3 cl. Appl Feb 21, '45; granted Mar 29, '49

High reactance transformer, Charles E. Derbyshire, 2,481,985, 2 cl. Appl Jan 15, '49; granted Sep 13, '49

Leakage reactance transformer, William Kendrick, 2,491,567, 1 cl. Appl Feb 24, '47; granted Dec 20, '49

Method of making transformers, Richard C. Ehrman, 2,464,029, 6 cl. Appl Apr 7, '45; granted Mar 8, '49

Regulated transformer, Lionel Lorant, 2,471,222, 1 cl. Appl Nov 7, '47; granted May 24, '49

Resistance transformer for transforming direct current into three-phase current, Richard Strub, 2,484,867, 4 cl. Appl Nov 29, '45; granted Oct 18, '49

Tap changing transformer system, Nils Sjoberg, 2,482,441, 3 cl. Appl July 10, '46; granted Sep 20, '49

Transformer, Albert W. Friend, 2,476,854, 2 cl. Appl Oct 2, '45; granted July 19, '49

Transformer, Scott Beamer, 2,464,287, 9 cl. Appl Sep 30, '46; granted Mar 15, '49

Transformer calibrating apparatus, Richard A. Caldwell, 2,481,198, 6 cl. Appl Jan 29, '47; granted Sep 6, '49

Transformer load indicator, Daniel Marie Duinker, 2,474,017, 3 cl. Appl July 20, '46; granted July 5, '49

Transformer mounting, Wayne H. Gilman, 2,459,-023, 5 cl. Appl Sep 27, '46; granted Jan 11, '49

Transformer responding to variations in amplitude of input waves, William B. Callaway, 2,481,644, 6 cl. Appl July 10, '47; granted Sep 13, '49

Transformer system, Thomas A. O. Gross, 2,475,611, 12 cl. Appl Jan 3, '46; granted July 12, '49

Transformer windings, William B. Biebesheimer, 2,470,598, 9 cl. Appl Jan 29, '48; granted May 17, '49

Variable coupling device, Oliver D. Davis, 2,483,-994, 2 cl. Appl Oct 23, '47; granted Oct 4, '49

Measurements and Calculations

Detection of inter-turn faults during impulse tests of transformers. H. Aeschlimann. Eng Digest 10: 384-386 Nov '49

Detection by oscillographic methods of winding failures during impulse tests on transformers. E. C. Rippon and G. H. Hickling. IEE Proc pt II 96:769-788 Oct '49

How to determine the characteristics of unknown transformers. (Como determinar las caracteristicas de transformadores desconocidos) Fidelco Tec Bol 1:4+ May '49

Measuring transformers for the indirect determination of voltages constant in time. Y. G. Tolstov. Akad Nauk Izvest No 2:192-210 '49. In Russian

Method for the direct measurement of the active and the reactive voltage drop in transformers. F. Koppelmann. Arch Elek 39:164-183 Sep '48

Operation of direct current measuring transformers during active loading. Yu. G. Tolstov. Akad Nauk Izvest No 4:459-474 Apr '48. In Russian

Theory of calculation of leakage inductance of transformers. G. N. Petrov. Reel 0016 No 475279: 30-35 SDLC. In Russian

Transformer impulse failure detection methods. L. C. Aicher. Elec Eng 68:289 Apr '49

See also

Impedance, Matching
Inductance & Inductors
Power Supplies

TRANSFORMERS, AF

Audio frequency transformer design. C. F. Brockelsby. Marconi Rev 12:1-11 Jan-Mar '49

Audio transformer applications. A. J. Avis. Audio Eng 33:20-21+ Nov '49

Audio transformer with frequency range extending below one cycle per second. D. W. Kuester. NEC Proc '49

Patents

Protected transformer circuit for high-voltage tubes, Herbert H. Gates, 2,461,265, 2 cl. Appl Sep 17, '45; granted Feb 8, '49

Transformer network, Richard G. Stephenson and William M. Bush, 2,461,091, 6 cl. Appl Aug 28, '45; granted Feb 8, '49

TRANSFORMERS, IF

Circuit change in IF transformers. (Koblingsaendring i MF Transformatorer) Radio Ekko 9: 155 July '46

Design for double-time transformers. J. B. Rudd. AWA Tech Rev 8:147-165 '49. Also in Brit IRE J 9:306-316 Aug '49 and IRE Proc (Australia) 10: 3+ Jan '49

Determining form factors of IF transformers. W. C. Vergara. Electronics 22:168-169 July '49

Measurements on IF transformers with type 916-A RF bridge. R. A. Soderman. Gen Rad Exp vol 23 Jan '49

Measurements on intermediate-frequency transformers. E. Stern. Brit IRE J 9:157+ Apr '49

Television IF coil design. J. H. Felker. Electronics 22:122+ Mar '49. Also in Bell Lab Rec 27:181+ May '49

TRANSFORMERS, IF–Cont'd.

Patents

Permeability tuned transformer, Kenneth B. Ross, 2,461,397, 4 cl. Appl June 21, '47; granted Feb 8, '49

Transformer, Martin Silver, 2,485,666, 2 cl. Appl Apr 6, '46; granted Oct 25, '49

TRANSFORMERS, Power

Adapting high-cycle transformers. Short Wave Mag 7:346-347 July '49

Iron-silicon alloys for transformers at power frequencies. G. H. Cole. Elec Eng 68:332 Apr '49

Push pull output transformer. (Vi vikler en Push-Pull-Udgang-stransformator) Radio Ekko 9:144-145 July '46

Radial and evolute ceresections for power transformers. A. Langley Morris. Engineer 188:605+ June 3, '49

Patents

Current transformer, John P. Smith, jr., 2,476,121, 19 cl. Appl Sep 11, '46; granted July 12, '49

Variable output transformer system, John C. McDonald, 2,463,546, 6 cl. Appl Sep 13, '44; granted Mar 8, '49

See also

Power Supplies

TRANSFORMERS, Pulse

Equivalent network for the 232-BW pulse transformer based on the method of virtual displacements. F. E. Bothwell. PB 2773

High voltage pulse transformer designs at University of California Radiation Laboratory. W. R. Baker and others. 39 pp May 20, '49 AECU 304

Method for designing pulse transformers. H. S. Kirschbaum and C. E. Warren. AIEE Proc section 9198:1-8 July '49

Pulse transformer. F. Blache. Ann Radioelec 4: 149-156 Apr '49. In French

TRANSFORMERS, RF

Build your own 10.7 mc discriminator transformer. Joseph C. Michalowicz. Radio & TV N 41:59+ May '49

Patents

High-frequency matching transformer, Gustav Guanella, 2,470,307, 2 cl. Appl Apr 5, '45; granted May 17, '49

High frequency transformer, Harold C. Early, William G. Dow, and Robert Ohlsson, 2,474,395, 5 cl. Appl Sep 20, '45; granted June 28, '49

Radio-frequency distribution transformer, John B. Gehman and Alfred H. Turner, 2,469,162, 11 cl. Appl Oct 12, '46; granted May 3, '49

Transformer, Samuel Di Vita and John H. Krajewski, 2,464,218, 2 cl. Appl Oct 16, '45; granted Mar 15, '49

TRANSIENTS

See Electromagnetic Theory

TRANSISTOR

See Crystal Tubes, Transistors

TRANSMISSION LINES

Artificial lines and pulse technique. R. Lemas. Telev Franc pt 1 No 43 Dec '48; pt 2 45:25-27 Mar '49; pt 3 No 47:29-31 May '49. In French

Attenuation of impulses in a cable. D. V. Razevig. Reel 0046 No 475772:58-61 SDLC. In Russian

Cable and loading coil construction. (La construction des cables et de bobines de charge) R. Belus. Cables et Trans 3:31-47 Jan '49

Cables, styroflex, etc., telephone and telegraph. German Industry Rep. BIOS 297 Brit Govt Pub

Cables, submarine; manufacture, storage and handling. German Industry Rep. CIOS XXX-54 Brit Govt Pub

Carrier system for 8000 cycle program transmission. R. A. Leconte and others. Bell System Tech J 28: 165 Apr '49

Choice and rational utilization of a transmission line. A. de Gouvenain. Telev Franc No 46:15-16 Apr '49. In French

Energy relationships for a high frequency transmission line. A. L. Fel'dshteyn. Radiotekhnika 4:45-50 July-Aug '49. In Russian

Equally distributed variates and associated problems. (Variables aleantes equireparties) J. Ville. Cables et Trans 3:262-274 July '49

Fault losses on power transmission lines. E. O. T. Electrician 143:208-210 July 15, '49

Function of the expulsion tube used on overhead power lines. E. O. T. Electrician 143:44 '49

Graphic procedure for calculations involving transmitting line systems. A. de Onis. Philips Comm N 10:87-97 Oct '49

Heating of radio-frequency cables. William W. Macalpine. AIEE Proc section 977:1-6 Apr '49

High frequency transmission characteristics of cables. (Die Uebertragungseigenschaften von Fernkabeln bei hoheren frequenzen) E. Widl. Fernmeldetech Zeit 2:373-381 Dec '49

High-frequency transmission line chart. P. R. Clement. Electronics 22:104-105 Aug '49

Highly balanced radio-frequency transmission lines. K. H. Zimmerman. Elec Comm 26:201-203 Sep '49

Impedance instrumentation for microwave transmission lines. (Abstract) Pierre A. Portmann. IRE Proc 37:162 Feb '49

400kv transmission lines with special reference to multiple conductor lines (Bundelleitungen). German Industry Rep. BIOS 1833 (51-8275-33) Brit Govt Pub

Lightning current observations in buried cable. H. M. Trueblood and E. D. Sunde. Bell System Tech J 28:278 Apr '49

Loading of short-distance cables. (La pupinization des cables courts) A. Rougeoreille and J. Dobremez. Cables et Trans 3:294-305 Oct '49

Long distance cable laying. (La pose des cables a grande distance) M. Trouble. Cables et Trans 3: 48-65 Jan '49

Long distance cable maintenance. (La maintenance des cables) A. Chavigner. Cables et Trans 3: 106-125 Jan '49

TRANSMISSION LINES–Cont'd.

Maintenance and operation of long distance underground circuits. (La maintenance et l'exploitation des circuits) R. Croze. Cables et Trans 3:126-133 Jan '49

New type of slotted-line section. W. B. Wholey and W. N. Eldred. NEC Proc 4:221+ '48

Open wire line for FM. John W. Ecklin. Electronics 22:80-81 Nov '49

Power rating of radio-frequency cables. R. C. Mildner. AIEE Proc section 978:1-10 Apr '49

Reflections in transmission lines at high frequencies. M. Bouix. Onde Elec 29:35-43 Jan '49. In French

RF transmission line nomographs. P. H. Smith. Electronics 22:112+ Feb '49

Simple vector diagram for high-frequency lines. P. Cornelius. Philips Comm N 10:33-40 June '49

Synthesis of electric wave filters with semi-finite terminations. S. Shou-Lien Chang. Ph.D. thesis. Purdue U E.E. Dept Aug '47

Thermal movement of moisture in soil. A. S. Mickley. AIEE Proc section 983:1-6 Apr '49

Transmission line charts. H. L. Krauss. Elec Eng 68:767-774 Sep '49

Transmission line conversion nomographs. R. C. Paine. Communications 29:24-25 Oct '49

Transmission-line fault finders. Vin Zeluff. Electronics 22:148 Mar '49

Transmission-line filters. E. K. Sandeman. Wireless Eng 26:11+ Jan '49

Transmission lines. Robert C. Paine. Radio-Electronics 20:46-47 Feb '49

Transmission lines. Robert C. Paine. Radio-Electronics 20:50-51 Apr '49

Transmission lines and equivalent networks. Wheeler Mono No 1:3 Apr-Sep '48

Tubes control long lines. Vin Zeluff. Electronics 22:124+ Apr '49

100 volt transmission line for speaker systems. (La ligne 100 volts) R. Besson. Toute la Radio No 138:261-263 Sep '49

Patents

Cooled, high-frequency electric cable, Wesley M. Roberts, 2,483,301, 8 cl. Appl Oct 31, '44; granted Sep 27, '49

Coupling arrangement for ultra high frequency circuits, Eric Osborne Willoughby, 2,468,151, 2 cl. Appl Apr 6, '44; granted Apr 26, '49

Folded transmission line, Nils E. Lindenblad, 2,462,-410, 6 cl. Appl Sep 24, '42; granted Feb 22, '49

High-frequency potential dividing termination, Howard J. Tyzzer, 2,460,476, 5 cl. Appl May 26, '44; granted Feb 1, '49

High-speed sequential relaying system, Shirley L. Goldsborough, 2,459,639, 19 cl. Appl Nov 8, '45; granted Jan 18, '49

Protective coupling circuit, Armig G. Kandoian, 2,485,606, 7 cl. Appl June 27, '44; granted Oct 25, '49

Protective system for electric lines, Edward H. Yonkers, jr. and Ralph R. Pittman, 2,474,711, 5 cl. Appl Nov 11, '43; granted June 28, '49

Radio frequency power division network, George H. Brown and Donald W. Peterson, 2,465,843, 3 cl. Appl Aug 16, '44; granted Mar 29, '49

Repeated transmission system, including multifilament amplifiers, Edmund A. Veazie, 2,488,948, 14 cl. Appl Nov 28, '47; granted Nov 22, '49

Square voltage wave generator, John P. Blewett, 2,467,184, 5 cl. Appl July 19, '43; granted Apr 12, '49

Support for conductors of signal transmission lines, Charles R. Burrows, 2,467,292, 7 cl. Appl Feb 29, '44; granted Apr 12, '49

Terminus for concentric transmission lines, Forrest S. Mabry, 2,465,245, 6 cl. Appl Mar 3, '45; granted Mar 22, '49

Transmission control system, Estill I. Green, 2,465,-531, 3 cl. Appl June 8, '45; granted Mar 29, '49

Transmission line, Sidney B. Pickles, 2,474,277, 6 cl. Appl Mar 19, '45; granted June 28, '49

Transmission line oscillator, Charles C. Eaglesfield, 2,483,189, 7 cl. Appl Nov 28, '45; granted Sep 27, '49

Transmission line system, Robert S. Wehner, 2,462,-443, 4 cl. Appl Jan 7, '46; granted Feb 22, '49

Wave-signal directional coupler, David F. Bowman, 2,486,818, 8 cl. Appl Aug 30, '46; granted Nov 1, '49

See also

Conduction & Conductors
Insulation & Insulators
Test Equipment, Lines & Machinery
Waveguides

TRANSMISSION LINES, Coaxial Cable

Attenuation data on popular TV transmission lines. Amph Eng N 2:87 Sep '49

B-1 alarm and control system. R. B. Hearn and L. A. Weber. Elec Eng 68:1032 Dec '49

Cable (coaxial) for telecommunications. German Industry Rep. BIOS 687 Brit Govt Pub

Coaxial attenuation standards. J. S. Elliott. Bell Lab Rec 27:221-224 June '49

Coaxial cable. Amph Eng N 2:60 Feb '49

Coaxial cable with high characteristic impedance. J. A. Hodelin. Radio Franc 2:23+ Feb '49

Coaxial cable with confocal elliptical cylindrical conductors. M. R. Shebes. Radiotekhnika 4:36-44 July-Aug '49. In Russian

Coaxial cable line-tuning equipment. Howard J. Sutton. Elec Eng 68:434 May '49

Coaxial cables. P. Schiaffino and L. Albanese. Poste e Telecom 17:85-104 Feb '49

Coaxial cables. (El cable coaxial) Fidelco Tec Bol 1:46-47+ May '49

Coaxial cables monitored by special alarm system. Product Eng 20:142-143 Aug '49

Coaxial impedance matching links. F. E. Butterfield. Tele-Tech 8:29 Dec '49

Coaxial-line support for 0 to 4000mc. R. W. Cornes. IRE Proc 37:94-97 Jan '49

Detector for measuring RF voltage characteristics and circuit continuity in coaxial lines. M. S. Wong. PB 97240

Effect of inhomogeneities in coaxial cable on its parameters. L. A. Zhekulin. Akad Nauk Izvest 9:1089-1105 Sep '47. In Russian

Interconnection of channel groups between coaxial cables. A. Fromageot and M. A. Lalande. Elec Comm 26:158-166 June '49

TRANSMISSION LINES, Coaxial Cable–Cont'd.

London-Birmingham television cable. H. Stanesby and W. K. Weston. P O Elec Eng J pt 1 41:183-188 Jan '49; pt 2 42:33-38 Apr '49

Maintenance equipment for coaxial cables. (Appareils de maintenance pour circuits coaxiaux) J. Selz. Cables et Trans 3:306-325 Oct '49

Multiplexing coaxial cables. (Interconnexion de groupes de voies entre cables coaxiaux) A. Fromageot and M. A. Lalande. Ann Telecomm 4:66-74 Mar '49

New television repeater for telephone cable circuits. T. Kilvington. P O Elec Eng J 42:76-80 July '49

Polyethylene-insulated coaxial cable. H. B. Slade and F. P. West. Elec Eng 68:10 Jan '49

Power supplies for coaxial systems. H. H. Spencer. Elec Eng 68:1045 Dec '49

Propagation of electromagnetic waves in a tube containing a coaxial DC discharge. P. Rosen. Jour Ap Phys 20:868-877 Sep '49

RF and television cables. H. J. Dixon. Wireless World 55:s12-s14 June '49

Splicing coaxial conductors. V. H. Baillard. Bell Lab Rec 27:54+ Feb '49

Patents

Adjustable reactance line, Irving Karmin, 2,483,419, 7 cl. Appl July 24, '44; granted Oct 4, '49

Coaxial cable, Fred A. Muller, 2,462,887, 4 cl. Appl Jan 12, '46; granted Mar 1, '49

Coaxial conductor, Louis H. Morin, 2,461,834, 1 cl. Appl Feb 26, '44; granted Feb 15, '49

Coaxial electron discharge device, Herbert A. Finke, 2,463,368, 7 cl. Appl Jan 24, '47; granted Mar 1, '49

Coaxial line termination, Foster F. Rieke, 2,463,428, 1 cl. Appl Dec 17, '45; granted Mar 1, '49

Constant resistance coupling arrangement, Harold A. Wheeler, 2,475,344, 5 cl. Appl Jan 4, '47; granted July 5, '49

Electric cable for high frequencies, William Kirby Weston, 2,480,170, 1 cl. Appl Sep 5, '46; granted Aug 30, '49

High-frequency cable, Cecil George Lemon, 2,488,-211, 5 cl. Appl Nov 29, '44; granted Nov 15, '49

High-frequency coaxial cable switch, Stanley M. Beleskas, 2,472,274, 1 cl. Appl Apr 23, '46; granted June 7, '49

High-frequency shorting block, Phillip A. Vonada, 2,468,147, 1 cl. Appl Sep 6, '44; granted Apr 26, '49

High-frequency transmission line or cable and connector therefor, Edward Cecil Cork, 2,490,622, 8 cl. Appl May 15, '43; granted Dec 6, '49

Line balance converter, George H. Brown and Oakley M. Woodward, jr., 2,473,328, 11 cl. Appl Dec 19, '44; granted June 14, '49

Method and means for connecting coaxial cables, Herman C. Schwartz, 2,468,783, 2 cl. Appl May 23, '45; granted May 3, '49

Method of corona measurement, Robert W. Stolzenbach, 2,462,919, 3 cl. Appl Aug 23, '44; granted Mar 1, '49

Radio-frequency coupling device, William R. Rambo, 2,489,433, 2 cl. Appl Nov 27, '45; granted Nov 29, '49

Radio-frequency rotating joint, Donald W. Peterson, 2,465,922, 4 cl. Appl July 14, '43; granted Mar 29, '49

Resistance element for coaxial transmission lines, Eugene Feenberg, 2,471,732, 5 cl. Appl Mar 13, '47; granted May 31, '49

Shorting bar for concentric lines, Albert A. Nims, jr., 2,463,415, 3 cl. Appl Aug 26, '43; granted Mar 1, '49

Termination for coaxial cables, Le Roy W. Kelsay, 2,475,787, 7 cl. Appl June 26, '45; granted July 12, '49

Transmission system, Joseph Goldsmith, 2,475,563, 2 cl. Appl Feb 25, '44; granted July 5, '49

Tuning system, Armig G. Kandoian, 2,492,155, 3 cl. Appl Aug 11, '45; granted Dec 27, '49

Universal elbow for transmission lines, Gustav H. Steuer, 2,480,203, 3 cl. Appl May 28, '47; granted Aug 30, '49

Wide-band high-frequency transmission line, Marvel W. Scheldorf, 2,473,262, 4 cl. Appl Nov 1, '45; granted June 14, '49

See also

Television, Relay Systems

TRANSMISSION LINES, Communication Networks

CCIF recommendations for radio transmission lines of high quality. (CCIF-Empfehlungen fuer neue Rundfunkleitungen hoher guete) Pavel. Fernmeldetech Zeit 2:65-68 Mar '49

Coupling between telephone cable circuits. (Etude des couplages entre circuits de cables telephoniques) F. Lahaut and E. Symon. HF 4:109-115 '49

Electro-mechanical installations of repeater stations. (Les installations electromecaniques des stations de repeteurs) A. Romanet. Cables et Trans 3:83-95 Jan '49

French telecommunications networks. Development and organization of the long distance underground line networks. (Les reseaux francais de telecommunications. Les developments et l'organization des L. S. G. D.) J. Mailley. Cables et Trans 3:20-30 Jan '49

French telecommunications networks. Various types of lines and networks. (Des different types de lignes et les reseaux qu'elles constituent) J. Gasterbois. Cables et Trans 3:8-19 Jan '49

TRANSMISSION LINES, Impedance

Calculation of the impedance and attenuation of high-frequency lines from field of a perfect conductor. H. Buchholz. Arch Elek 39:79-100+ Sep-Dec '48

Characteristic impedance of lines for standing and traveling waves. A. Drabkin. PB 98596. In German

Exact characteristic impedance of an open-wire transmission line. L. Liot. Telev Franc No 49:21 July '49. In French

Geometric relations in circle diagrams of transmission-line impedance. Wheeler Mono No 4:1 Apr-Sep '48

Impedance transformation with transmission lines. (Widerstandstransformation mit Leitungen). Burkhardtsmaier. Funk und Ton pt 1 3:151-167 Mar '49; pt 2 3:202-213 Apr '49

TRANSMISSION LINES, IMPEDANCE–Cont'd.

Radiation resistance of skew-wire radio frequency transmission lines. S. S. Banerjee and R. R. Mehrotra. Indian J Phys 32:403-409 Sep '49

Standing waves and impedance circle diagrams. Graphical approach to transmission-line theory. C. H. Westcott. Wireless Eng 26:230-234 July '49

Transmission line impedance measurement. R. J. Lees and others. Wireless Eng 26:78+ Mar '49

See also

Impedance, Matching

TRANSMISSION LINES, Measurement

Antennas and open-wire lines. Jour Ap Phys pt 1 Theory and summary of measurements. R. King. 20:832-850 Sep '49; pt 2 Measurements on two-wire lines. K. Tomiyasu. 20:892-896 Oct '49; pt 3 Image-line measurements. P. Conley. 20:1022-1026 Nov '49

Cable fault locator. German Industry Rep. BIOS 564 Brit Govt Pub

Capacity (electrical) correction of transmission lines. German Industry Rep. BIOS 183 Brit Govt Pub

Circular standing-wave detector. Radio & TV N 42:12-13 Dec '49

Four reports: (1) Determination of complex resistances and electrical constants in the decimeter range; (2) Measurement of complex resistances in the decimeter range, by resonance; (3) Resonance testing device for complex resistances in the decimeter range; (4) Influence of supporting lecher wire lines at their ends, on the distribution of voltage along same. Dr. Schwan. PB 97087. In German

Generator mismatch measurements in transmission lines. Peter E. Gilmer. Elec Eng 68:255 Mar '49

No-load and short-circuit measurements for determining the transmission characteristics of open lines and cables. O. Naumann. Arch Tech 160:T22-T23 Mar '49

Patents

Method and means for determining transmission line attenuation, John M. Miller, 2,476,992, 5 cl. Appl June 20, '44; granted July 26, '49

Transmission line energy indicator, Johan Willem Alexander, 2,467,648, 5 cl. Appl May 2, '46; granted Apr 19, '49

Ultra high frequency metering device and method, Stephen Yando, 2,472,038, 10 cl. Appl Jan 15, '45; granted May 31, '49

See also

Insulation & Insulators, Testing
Test Equipment, Lines & Machinery

TRIGGER CIRCUITS

Electronic trigger circuit as an aid to neurophysiological research. H. W. Shipton. Brit IRE J 9:374-383 Oct '49

Electronic trigger for a high speed engine indicator. M.S. thesis. Thomas E. Hayes. Ohio State U M.E. Dept Mar '49

High-speed trigger circuits. Wm. B. Luric. Electronics 22:85+ Apr '49

Transistor trigger circuit. H. J. Reich and R. L. Ungvary. Rev Sci Instr 20:586-588 Aug '49

Trigger circuits for digital computers. M.S. thesis. W. L. Flock. U Calif Eng Dept Sep '48

Patents

Control circuits, Ruric C. Mason, 2,459,667, 5 cl. Appl Jan 13, '45; granted Jan 18, '49

Signal amplitude responsive trigger circuits for quantizing, Rhean D. Cunningham, 2,486,390, 4 cl. Appl Sep 12, '45; granted Nov 1, '49

Signal amplitude responsive trigger circuits for quantizing, Rhean D. Cunningham, 2,486,391, 4 cl. Appl Sep 12, '45; granted Nov 1, '49

Trigger network, Harry R. Summerhayes, jr., 2,459,852, 1 cl. Appl June 8, '45; granted Jan 25, '49

See also

Cathode-Ray Tubes, Circuits
Multivibrators
Pulse Circuits, Generators
Switches, Electronic

TRANSMITTERS and TRANSMISSION

American pocket transmitters. (Amerikanske Lommesendere) Radio Ekko 10:236-237 Dec '47

Automatic test keyer. James M. Whitaker. Radio & TV N 42:70-71 Dec '49

Construction of PA tank circuit. (Die Construction des PA-Tankkreises) Radio Tech 25:498-499

Design and application of a multipath transmission simulator. A. H. Ross and H. F. Meyer. PB 97281

Field tests for citizens band. R. E. Samuelson. Electronics 21:92-96 Jan '48

Iron-core interstage and output 3-kw MF transmitter design. I. F. Deise and L. W. Gregory. Communications pt 1 29:12-14+ Oct '49; pt 2 29:12-13 Nov '49; pt 3 29:30-31 Dec '49

Modern radio transmitter equipment. (O Equipamento moderno das transmissoras de radio) Radio J 1:60 Oct '49

New 40 kw worldwide transmitter. (Nieuwe 40 kw Zender voor Wereldomroep) Radio Bul 18:264-266

Predicting maximum usable frequency from long-distance scatter. Arthur H. Benner. IRE Proc 37:44-47 Jan '49

Proposed control transmitter. (Forslag til en Styresender) Radio Ekko 11:175-178 Sep '48

Radio wave transmitters. B. A. Vvedenski and A. G. Arenberg. Akad Nauk Izvest pt 1 No 2:312 '49. In Russian

Range of radio signals with small transmitter output. (Reichweite von Funkverbindungen mit geringen Senderleistungen) Elektrotechnik 3:181-182 June '49

Remote control transmitter for 72 mc. (Emetteur pour telecommande sur 72 mcs) L. Liot. Electronique 38:29-30 Dec '49

System for 8000-cycle program transmission. Elec Eng 68:395-400 May '49

Technical manuals and research reports covering transmitters, wave propagation, antennas, magnetrons, VHF tubes, frequency and voltage measurement, and radar methods, 1941-1944. PB 84896. In German

TRANSMITTERS and TRANSMISSION–Cont'd.

Transmitter frequency invariability. (Frequenzkonstanz des Senders) Radio Tech 25:606-608 Oct '49

Transmitters used by the "Voice of America." Kenneth R. Boord. Radio & TV N 42:69+ Dec '49

Types TGM.651 and TGZ.651 transmitters. W. J. Morcom. Marconi Rev 12:104-107 July-Sep '49

150 watt input transmitter. (Uma transmissor de 150 watts imput) Radio J 1:28-29 Sep '49; pt 2 1:52-53 Oct '49

Patents

Negative feed-back transmission system, Henry P. Thomas, 2,469,218, 9 cl. Appl Apr 30, '47; granted May 3, '49

Neutrodyning for short waves, Georges Ahier and Emile Touraton, 2,471,401, 7 cl. Appl Mar 20, '47; granted May 31, '49

Radio communication system, Myron S. Wheeler, 2,467,793, 5 cl. Appl May 19, '45; granted Apr 19, '49

Radio-frequency transmission through grounded conducting structures and the like, Keith Lansing Bell, 2,470,000, 15 cl. Appl Sep 20, '44; granted May 10, '49

Radio relaying system, Harold H. Beverage, 2,487,513, 8 cl. Appl Oct 26, '43; granted Nov 8, '49

Selective control device for radio apparatus and the like, Richard W. May, 2,484,638, 33 cl. Appl May 14, '47; granted Oct 11, '49

Synchronizing system, Karl R. Wendt, 2,487,682, 13 cl. Appl Jan 18, '46; granted Nov 8, '49

Transmission control system, Alton C. Dickieson, 2,460,075; 6 cl. Appl June 1, '46; granted Jan 25, '49

Transmitter for code communication systems, David P. Fitzsimmons, 2,484,700, 5 cl. Appl Apr 8, '48; granted Oct 11, '49

Wave length control of wave energy, "R" Lee Hollingsworth, 2,480,820, 13 cl. Appl Jan 11, '43; granted Aug 30, '49

Measuring

Simplified transmission measuring set. J. P. Smith, jr., and C. F. Scott. Audio Eng 33:19-21+ May '49

Transmission-measuring set for low-frequency carrier systems. J. Brundage and J. Zyda. Elec Comm 26:204-208 Sep '49

Use of the transmission measuring set. George W. Curran. Audio Eng 33:26-29+ Feb '49

See also

Broadcasting (AM & FM)
Communications
Electromagnetic Theory, Propagation of Waves
Frequency Modulation, Transmitters & Transmission
Frequency Monitors & Standards
Measurements & Meters, Field Strength
Microwaves, Receivers & Transmitters
Pulse Circuits, Generators
Radar, Transmitters & Receivers
Sonar
Television, Transmission & Transmitters
Tuning Aids, Transmitters

TRANSMITTERS, Amateur

Adapting the SCR-274N series transmitters for 14 mc. QST 33:31-34+ Apr '49

Amateur transmitter with indoor antenna. (Eine Amateur-sendestation mit Zimmerantenne) Courtois. Radiowelt 4:59-61 Sep '49

Apartment size 400-watt transmitter. Buford Smith. Radio & TV N 42:52-54+ July '49

Arizona kilowatt. John Girand. QST 33:16-19+ Mar '49

BC-375E strips for action. Jim Kirk. CQ 5:26-27 May '49

Black box 3.5 and 7 mc VFO transmitter for fixed, portable or mobile operation. Albert E. Hayes, jr. QST 33:48 Jan '49

Command set special. F. A. Bartlett. CQ 5:18-21+ Nov '49

Control transmitter on OZ70/OZ5ED. (Styresenderen paa OZ70/OZ5ED) Radio Ekko 11:16-17 Jan '48

Four-in-one. Charles Levine. CQ 5:24-27+ June '49

Getting back on "160." Richard M. Smith. QST 33:11-13+ Apr '49

Getting started on 160. Radio-Electronics 20:79 May '49

Good housekeeping approach to station design. Walter A. Brauer. CQ 5:15+ Aug '49

Grid-modulated rig. Alvin B. Kaufman. Radio-Electronics 20:22-24 Feb '49

Impulse transmitter for amateurs. (Impulssender im Amateurverkehr) Radio Tech 25:726-729 Dec '49

Inexpensive VFO transmitter. R. M. Smith. QST 33:20-25 July '49

Ingenious small QRP transmitter. (En nem lille QRP-Sender) Radio Ekko 11:173 Sep '48

"Little Slugger" a 10 meter transmitter for use in TV areas. Philip S. Rand. QST 33:11-17 Feb '49

5 meter band transmitter-receiver. (Sender-Modtager til UKB [5M]) Radio Ekko 11:88-89 May '49

MHE transmitter. GE Ham N 4:2 Mar-Apr '49

Modulated QRP radio telephonic transmitter. (Styret QRP-Telephonisender) Radio Ekko 11:116-117 June '48

Modulated short wave transmitter. (Styret Kortbolgesender) Radio Ekko 10:181-191 Oct '47

New low cost transmitter. Carlton G. Rich. Radio-Electronics 20:54-56 June '49

Operation on 160 meters. Rufus P. Turner. Radio-Electronics 20:50-54 Sep '49

OZ 7RE QRP-transmitter. (OZ 7RE QRP-Sender) Radio Ekko 12:136-138 July '49

"Pint-sized" station. Clifford Paterno. CQ 5:28-30 Aug '49

Plans of transmitter with PE 06/40. (Sender med PE 06/40) Radio Ekko 11:12 '48

QRP oscillator-transmitter. W. Oliver. Short Wave Mag 7:212-214 May '49

RF 27 for two and ten metre operation. F. J. Rutter. RSGB Bul 24:274-276 May '49

Short wave transmitter. (Kortbolge-senderen) Radio Ekko 9:128-130 June '46; pt 2 9:152-153 July '46

TRANSMITTERS, Amateur–Cont'd.

Simple approach to high power. A. M. Clarke. CQ 5:30-33+ Mar '49

Simple top-band transmitter. A. Kerford-Byrnes. Short Wave Mag 7:366-367 July '49

Simplicity 6. E. P. T. QST 33:40-41 Aug '49

Single tube transmitter. (Etrors Sender) Radio Ekko 12:156-157+ Aug '49

Six and two. L. P. Neal. CQ 5:28-32+ May '49

Small transmitter for antenna experiments. GE Ham N 4:1 Jan-Feb '49

Smallest local transmitter. (Den mindste Lokal-sender) Radio Ekko 12:196 Oct '49

Super-modulated, low-power phone transmitter. Rufus P. Turner. Radio & TV N 41:50-52+ June '49

The President's Trophies" transmitters. F. Pike. RSGB Bul 25:150+ Nov '49

Three stage short wave transmitter. (Tretrins Kortbolge-Sender) Radio Ekko pt 1 12:170-172 Sep '49; pt 2 12:191-192 Oct '49

Top band cabinet transmitter. J. N. Walker. Short Wave Mag 7:498-505 Sep '49

Transmitter design. W. R. Joss. Short Wave Mag 7:363-365 July '49

Transmitter for the beginner. J. N. Walker. Short Wave Mag 7:746-751 Dec '49

Transmitter for new frequency band. (Det nye Frekvensbaand-Senderen) Radio Ekko pt 1 11: 138-139 July '48; pt 2 11:156-157 Aug '48

U5B on top band. A. P. Kerford-Byrnes. Short Wave Mag 6:866-869 Feb '49

Two-meter R9'er. G. H. Floyd. CQ 5:18-20+ Dec '49

Type 17 on two. H. E. Smith. Short Wave Mag 7: 298-299 June '49

W6BRC wins prize for best 2-M rig. Radiogram 14: 1 Feb '49

0 watts at 230 volts. F. How and F. Harrop. Short Wave Mag 7:264-269 June '49

50 watts on VHF. C. V. Chambers. QST 33:22-27+ Sep '49

Your first transmitter. Richard L. Parmenter and C. E. Clark. Radio & TV N 42:26-27+ Aug '49

CW and Phone

CW and telephone with transmitter pentodes. (CW og Fone med Senderpentoden) Radio Ekko 10: 180 Sep '47

Low-power ring for CW or FM phone. Otto I. Woolley. Radio & TV N 42:48-50 Aug '49

Phone-CW transmitter in miniature. Ray D. Zimmerman. Radio & TV N 41:49-51+ Mar '49

Simple CW and phone monitor. RSGB Bul 25:106 Oct '49

Versatile low-power phone-CW transmitter. G. A. Baker. QST 33:38-41 Jan '49

Equipment

Adding phone to "your first transmitter." R. L. Parmenter. Radio & TV N 42:42-43 Dec '49

All-band tank circuit. L. H. Thomas. Short Wave Mag 7:592-594 Oct '49

AC mains operation. W. G. Morris. Short Wave Mag 6:787-789 Jan '49

First steps on phone. W. Farrar. Short Wave Mag 7:767-768 Dec '49

Gilding the gold-plated special. Jim Kirk. CQ 5: 15-16 Oct '49

Harmonic reduction in a 500-watt all-band rig. QST 33:21-28 Nov '49

Narrow-band pulse transmission. D. A. Griffin. QST 33:11-16 July '49

Practical method for reducing harmonic radiation using tuned feedback circuits to cancel transmitter harmonics. John L. Reinartz. Ham Tips 9:1-2 Jan-Feb '49

Practical SSB driver. H. C. Woodhead. Short Wave Mag pt 1 7:425-429 Aug '49; pt 2 7:587-591 Oct '49

Rack and a beer for a fin. D. S. Traer. CQ 5:15 Dec '49

Restricting speech range in speech amplifiers. Lighthouse Larry. GE Ham N 4:6-8 July-Aug '49

RF balance. W. Vinicombe. Short Wave Mag 7:32-33 Mar '49

RSGB 420 mcs. tests. RSGB Bul 25:116-117 Oct '49

Screen grid modulating the command rigs. Robert R. Hall. CQ 5:35-36 Sep '49

Screen modulated final. J. D. Kline. Radio & TV N 41:110 June '49

Simple break-in systems. J. P. Hawker. RSGB Bul 25:107-109 Oct '49

Speech driver unit. W. R. Joss. Short Wave Mag 7:18-22 Mar '49

Station behind the call. RSGB Bul 24:311 June '49

True s-metering. K. E. Marcus. RSGB Bul 24:198 Feb '49

TVI free rig for 10! M. Seybold. CQ 5:23-26+ Nov '49

TVI on 160 meters? P. S. Rand. CQ 5:11-14 Dec '49

40 watt LF output stage with RL 12P35 tube. (40 W LF-Udgangstrin med RL 12P35) Radio Ekko 12:17 Jan '49

Exciters

Another broad-band exciter. J. B. Roscoe. Short Wave Mag 7:183-186 May '49

Bandswitching exciter. Bob White. Radio-Electronics 20:43-45 Apr '49

BC-610 exciter. F. E. Wingfield. Short Wave Mag 7:22-31 Mar '49

Broad-band exciter. V. J. Copley-May. Short Wave Mag 6:858-861 Feb '49

Crystal-controlled exciter or low-power transmitter for 420 mcs. W. A. Scarr. RSGB Bul 24:214-216 Mar '49

FM/AM exciter unit. R. P. Ellis. Short Wave Mag 7:98-103 Apr '49

Latest in exciters. O. J. McCabe. CQ 5:16-17+ Dec '49

Man-size all-band exciters. D. Good. CQ 5:29-32+ Nov '49

Miniature tubes in a bandswitching exciter. W. Mayer. QST 33:11-15 Dec '49

Ultra short wave crystal transmitter exciter. (Krystalstyret "Exciter" til UKB) Radio Ekko 11:48-49+ Mar '48

TRANSMITTERS, Amateur–Cont'd.

Mobile

10-meter mobile transmitter. Rufus P. Turner. Radio & TV N 42:32-33+ July '49

28-mc installation for the car. G. P. McGinnis. QST 33:11-16 Aug '49

All-band mobile transmitter. John F. Clemens. Radio & TV N 41:50-51+ Apr '49

"Built-in" 10-meter mobile. H. J. Hanson. QST 33:19-21 Oct '49

Crystal controlled portable VHF transmitter. Robert B. Tomer. Radio & TV N 42:34-35+ Aug '49

Miniature phone-CW transmitter for portable or mobile use. Hal Bumbaugh. Radio & TV N 41: 61-64+ June '49

Mobile 10-meter rig. Paul M. Kersten. Radio-Electronics 20:52-53 June '49

Mobile 10-meter rig puts out 20 watts on phone. Alvin B. Kaufman. Radio-Electronics 20:48-49 Aug '49

See also

Antennas, Amateur
Communications, Amateur

TRANSMITTERS, Broadcast

AM-FM switching and relay system. F. E. Bartlett. Communications 29:16-17 Apr '49

Co-ordinated design of AM broadcast transmitters for a range of power output. P. R. Hellyear. IRE Proc (Australia) 10:181-189 July '49

New Danish short wave transmitting station. (Den nye Danmarks Kortbolgesender) Radio Ekko pt 1 11:144-149 Aug '48; pt 2 11:168-169 Sep '48

New 100-kw (broadcasting) transmitter at Naples. S. Bertolotti. Poste e Telecom 17:44-46 Jan '49

Operation of AM broadcast transmitters into sharply tuned antenna systems. W. H. Doherty. IRE Proc 37:729-734 July '49

Patents

Broadcasting system, Donald G. Grieg, 2,485,611, 3 cl. Appl Apr 7, '44; granted Oct 25, '49

See also

Broadcasting (AM & FM)
Frequency Monitors & Standards

TRANSMITTERS, Mobile

Crystal ball for your mobile rig. George M. Brown. CQ 5:26-27 Aug '49

Twenty-forty QRP portable. W. R. Joss. Short Wave Mag 7:106-111 Apr '49

See also

Communications, Mobile
Communications, Police
Transmitters, Amateur, Mobile

TRANSMITTERS, Modulators

Amplitude-frequency-impulse modulation. (Amplitude-Frekvens-Impulsmodulation) Radio Ekko 9:192-196 Sep '46

Construction of modulation amplifier for amateur sets. (Konstruktionsartikler: Modulationsforstaerker t. Amatorsender) Radio Ekko 11:7 '48

Data for 100 watt class B modulator with 807 tube. (Data til 100 w Klasse B Modulator med 807) Radio Ekko 11:72 Apr '48

Designing class-AB2 modulators. Rufus P. Turner. Radio-Electronics 20:50-51 July '49

Full-power modulator. F. H. Lane. Short Wave Mag 6:865-866 Feb '49

Modulating a kilowatt. R. C. Cheek. CQ 5:13-15 Nov '49

Modulation of a screen grid tube. (Modulation af en Skaermgitterror) Radio Ekko 11:54-57 Mar '48

Modulators for high power transmitters. H. A. Teunissen. Philips Comm N 10:41-51 June '49

Self modulating the 829-B. Otto L. Woolley. Radio & TV N 42:49+ Sep '49

Simplified procedure for designing audio modulators. A. G. Nekut. Ham Tips 9:1-3+ July '49

Three stage modulator for small transmitters. (Tretrins Modulator til smaa Sendere) Radio Ekko 12:138-139 July '49

Transmission of information through band-limited transmission systems. (Abstract) W. P. Boothroyd and E. M. Creamer, jr. IRE Proc 37:177 Feb '49

60 watt modulator with 4654 tube. (60 Watt Modulator med 4654) Radio Ekko 11:117 June '48

Patents

Electrical communication system, Prafulla Kumar Chatterjea and Dermot Min Ambrose, 2,489,268, 10 cl. Appl Feb 16, '43; granted Nov 29, '49

High-frequency modulating system, William W. Hansen and Russell H. Varian, 2,482,766, 34 cl. Appl Dec 30, '42; granted Sep 27, '49

High-frequency modulating system, William W. Hansen and Russell H. Varian, 2,482,768, 18 cl. Orig appl Dec 20, '42; divided and this appl Mar 31, '45; granted Sep 27, '49

Modulation control system, Paul Gerhard Wulfsberg, 2,459,208, 3 cl. Appl Aug 23, '45; granted Jan 18, '49

Modulation indicator, John F. Byrne, 2,458,830, 1 cl. Appl May 23, '45; granted Jan 11, '49

Radio transmitting circuits, Hilary Moss, 2,491,754, 15 cl. Appl Nov 4, '47; granted Dec 20, '49

See also

FM, Transmitters & Transmission, Modulators
Modulation
Pulse Circuits, Modulation

TRANSMITTERS, Single Sideband

Single sideband for the average ham. W. M. Rust. QST 33:47-50+ Aug '49

Single-sideband transmission applied to amateur telephony. N. G. Hyde. RSGB Bul 25:178-180 Dec '49

Single sideband working. H. C. Woodhead. Short Wave Mag 7:338-341 July '49

Patents

Single side-band system, Bernard E. Lenehan, 2,476,880, 24 cl. Appl Oct 20, '45; granted July 19, '49

See also

Communications, Single Sideband

TRANSMITTERS, Tuning

See Tuning Aids, Transmitters

TROPICALIZATION

See Manufacturing Techniques, Weatherization

TUNING AIDS

Patents

Arrangement for increasing the tuning range of inductance tuned resonance circuits, Leonard O. Vladimir, 2,479,438, 2 cl. Appl Nov 12, '47; granted Aug 16, '49

Control apparatus for tuners, Edward J. Mastney and John H. Williams, 2,469,170, 8 cl. Appl Dec 10, '45; granted May 3, '49

High-frequency tunable circuit, Thomas McL. Davis and Emerick Toth, 2,491,480, 6 cl. Appl May 21, '45; granted Dec 20, '49

Permeability tuning slug support, Reuben C. Carlson, 2,488,375, 1 cl. Appl Mar 28, '45; granted Nov 15, '49

Remote tuner control system, Neville R. Ridgely, jr., and Clarence B. Coleman, 2,473,907, 5 cl. Appl Apr 13, '48; granted June 21, '49

Tunable circuit, Horace E. Overacker, 2,463,417, 5 cl. Appl Aug 8, '45; granted Mar 1, '49

Tunable unit for high-frequency circuit, Frederick C. Everett, 2,483,893, 8 cl. Appl Nov 19, '45; granted Oct 4, '49

Tuning arrangement for thermionic valve circuits, William Alexander Gold, 2,483,409, 10 cl. Appl Nov 6, '43; granted Oct 4, '49

Tuning means, Robert G. Schriefer, 2,490,836, 13 cl. Appl Oct 10, '44; granted Dec 13, '49

Tuning means comprising variable condenser and adjustable inductor of the mechanically deformable type, William O. Bradford and Emil G. Zapor, 2,459,493, 4 cl. Appl Sep 26, '45; granted Jan 18, '49

Tuning mechanism, Gilbert C. Larson, 2,490,526, 17 cl. Appl Oct 31, '46; granted Dec 6, '49

Tuning mechanism, John E. Tillman, 2,491,341, 1 cl. Appl Dec 18, '47; granted Dec 13, '49

Tuning mechanism, John M. Ammerman, 2,488,366, 2 cl. Appl June 29, '48; granted Nov 15, '49

Tuning mechanism, Kenneth L. Henderson, 2,482,-181, 7 cl. Appl Jan 7, '47; granted Sep 20, '49

Tuning unit, Lewis H. Van Billiard, 2,492,773, 6 cl. Appl Sep 20, '46; granted Dec 27, '49

Ultra high frequency tuner, Frank Wilburn, 2,482,-393, 8 cl. Appl Mar 4, '46; granted Sep 20, '49

Variable drive screw and tuning system, Harold B. Stott, 2,485,464, 5 cl. Appl Nov 29, '43; granted Oct 18, '49

Variable permeability tuning system, Winfield R. Koch, 2,475,032, 4 cl. Appl Mar 17, '45; granted July 5, '49

Variable tuning arrangement, Ira J. Kaar, 2,479,368, 2 cl. Appl Oct 21, '47; granted Aug 16, '49

TUNING AIDS, Receivers

Tuning indicators in high quality receivers. Electronic Eng 21:286 Aug '49

Visomatic. Toute la Radio No 139:295-297 Oct '49. In French

Patents

Automatic radio control apparatus, Warren B. Bruene, 2,467,422, 7 cl. Appl Aug 2, '46; granted Apr 19, '49

Automatic radio tuner, Ivan Andersson, 2,488,575, 6 cl. Appl Aug 27, '47; granted Nov 22, '49

Automatic radio tuning mechanism, Stanley H. Proffitt and James A. Choules, 2,478,011, 10 cl. Appl Jan 8, '48; granted Aug 2, '49

Automatic tuning electric system, Wilson P. Boothroyd, 2,486,551, 3 cl. Appl Oct 4, '44; granted Nov 1, '49

Band-spread tuning circuit for radio receivers, Henri Blok and Henricus Adrianus Broos, 2,492,-519, 4 cl. Appl Feb 8, '47; granted Dec 27, '49

Combined inductance and capacity tuner, John L. Rennick, 2,483,105, 1 cl. Appl Oct 3, '45; granted Sep 27, '49

Device for the band-spread tuning of radio apparatus, Jan van der Heem, 2,486,692, 4 cl. Appl Apr 25, '46; granted Nov 1, '49

Dual band permeability tuning unit, Allan M. Hadley, 2,477,979, 5 cl. Appl Aug 17, '46; granted Aug 2, '49

Frequency control device, Walter E. Kuenstler, 2,464,045, 10 cl. Appl Mar 20, '47; granted Mar 8, '49

Frequency scanning arrangement, Martin Silver, 2,468,126, 3 cl. Appl July 11, '45; granted Apr 26, '49

Glow-discharge lamp tuning indicator, David C. Pinkerton, 2,479,964, 3 cl. Appl Sep 11, '47; granted Aug 23, '49

Loop-antenna tuning system, Bernard D. Loughlin, 2,469,168, 7 cl. Appl Dec 17, '46; granted May 3, '49

Motor-driven tuning control for radio receivers, Frank Himmer, 2,490,591, 2 cl. Appl June 20, '47; granted Dec 6, '49

Mounting and operating means for radio tuning units, William A. Schaper, 2,487,385, 17 cl. Appl Mar 15, '47; granted Nov 8, '49

Multifrequency tuning system, Oliver W. Greene, jr., 2,479,064, 3 cl. Appl Apr 21, '47; granted Aug 16, '49

Permeability tuning system, William Francis Sands, 2,486,986, 12 cl. Appl June 28, '43; granted Nov 1, '49

Precision radio tuner, Sidney Y. White, 2,491,347, 2 cl. Orig appl Dec 8, '42; divided and this appl Nov 21, '46; granted Dec 13, '49

Preselected stop means for tuner elements, Otto E. Wagenknecht, 2,485,223, 8 cl. Appl Dec 31, '43; granted Oct 18, '49

Preselector for radio frequency network, John H. Williams, 2,469,189, 2 cl. Appl May 3, '46; granted May 3, '49

Radio program selector, Walter Alexander Lea, 2,488,207, 7 cl. Appl Feb 23, '45; granted Nov 15, '49

Radio receiver indicator dial, John P. Barnes, 2,464,-368, 1 cl. Appl Feb 14, '46; granted Mar 15, '49

TUNING AIDS, Receivers, *Patents*–Cont'd.

Radio receiver tuning indicator, including a wide angle viewing lens, Jan Bergmans, Johan George Kronouer, and Max Leeuwin, 2,470,012, 5 cl. Appl Apr 23, '46; granted May 10, '49

Radio tuner, Peter C. Jones, 2,478,925, 6 cl. Appl Oct 1, '45; granted Aug 16, '49

Remotely tuned radio apparatus and the like, Francis L. Moseley, 2,492,392, 14 cl. Appl May 21, '47; granted Dec 27, '49

Semiautomatic tuner device for radio apparatus and the like, Richard W. May, 2,472,979, 6 cl. Appl May 23, '46; granted June 14, '49

Single button tuning control for radio sets, Richard F. Koch, 2,487,760, 15 cl. Appl Apr 4, '46; granted Nov 8, '49

Spread band tuning circuit, Zolmon Benin, 2,470,-426, 3 cl. Orig appl Oct 28, '42; divided and this appl Aug 22, '45; granted May 17, '49

Stop-on carrier tuner, Wilson P. Boothroyd and William H. Forster, 2,470,843, 1 cl. Appl Oct 4, '44; granted May 24, '49

Tuning and indicating mechanism, Francis A. Dawson, 2,458,690, 12 cl. Appl Apr 3, '46; granted Jan 11, '49

Tuning apparatus with straight-line characteristic curve, Theodore A. Hunter, 2,468,071, 16 cl. Appl Mar 30, '46; granted Apr 26, '49

Tuning circuit for high-frequency receivers, Joseph A. Worcester, jr., 2,475,638, 5 cl. Appl Sep 28, '46; granted July 12, '49

Tuning control and band switching arrangement, Hardin T. Abrams, 2,469,941, 2 cl. Appl Mar 5, '46; granted May 10, '49

Tuning drive mechanism for superfrequency receivers, George H. Burbage, 2,479,555, 3 cl. Appl July 27, '44; granted Aug 23, '49

Tuner for radio receivers, William J. O'Brien, 2,489,-721, 2 cl. Appl July 13, '46; granted Nov 29, '49

Tuning means for radio receivers and the like, Roy Coles Wilks, 2,479,658, 2 cl. Appl Sep 21, '45; granted Aug 23, '49

Unicontrol permeability tuning device for superheterodyne receivers, Frederik Hendrik Gusdorf, 2,486,152, 4 cl. Appl May 9, '46; granted Oct 25, '49

Variable permeability tuner, Henry H. Grimm, 2,457,816, 3 cl. Appl Feb 27, '45; granted Jan 4, '49

Visual tuning indicator for frequency modulation signals, Charles E. Young, 2,482,821, 6 cl. Appl Nov 21, '47; granted Sep 27, '49

See also

Frequency Modulation, Reception & Receivers
Reception & Receivers (AM)
Television, Receivers & Reception, Front End

TUNING AIDS, Transmitters

Automatic antenna tuning. Sidney Wald. Radio & TV N 41:10-11 May '49

Automatic tuning of transmitters. W. L. Vervest. Philips Comm N 10:20-29 Jan '49

Cam tracking mechanism. John Markus. Electronics 22:128+ Apr '49

Dial problems. (Skala-Problemer) Radio Ekko 12: 229 Dec '49

Feeding the aerial. V. J. Copley-May. Short Wave Mag 7:103-105 Apr '49

How old is multicircuit tuning? (Wie alt ist die Mehrkreisabstimmung) Elektron Wiss und Tech 3:477-478 Dec '49

Standing waves and loading. W. J. Crawley. Short Wave Mag 7:182

Multiple-circuit tuners from grid to feeder. C. Vernon Chambers. QST 33:25-28+ June '49

Tubeless grid-dip adapter. Douglas H. Carpenter. Radio & TV N 41:60-61+ May '49

Very high frequency tuning devices. (Abstimmittel fuer Hoechstfrequenzen) Elektron Wiss und Tech 3:33-36 Jan '49

Patents

Automatic circuit-tuning apparatus, David E. Sunstein, 2,468,350, 10 cl. Appl Mar 30, '45; granted Apr 26, '49

Automatic resonating control system, Vernon H. Vogel, 2,489,064, 7 cl. Appl May 7, '48; granted Nov 22, '49

Circuit tuner, Joseph G. Beard and Robert F. Dressler, 2,469,324, 21 cl. Appl Feb 9, '45; granted May 3, '49

Frequency shift tuning indicator system, Reynold S. Chapin, 2,477,962, 12 cl. Appl Sep 12, '45; granted Aug 2, '49

Transmitter tuning indicator, Jarrett L. Hathaway and Ralph C. Kennedy, 2,468,197, 12 cl. Appl Dec 12, '46; granted Apr 26, '49

See also

Frequency Monitors & Standards

U

ULTRASONICS

Calculation of the focusing of ultrasonics. A. I. Gubanov. Zh Tekn Fiz* 19:30-33 Jan '49

Electric-field modulation of ultrasonic signals in liquids. A. W. Nolle. Jour Ap Phys 20:589-592 June '49

Experimental ultrasonics. S. Young White. Audio Eng pt 1 33:20-23+ Mar '49; pt 2 33:24-25+ Apr '49

High-energy ultrasonics opens process prospects. Chem Ind 65:885+ Dec '49

Improved ultrasonic delay lines. F. A. Metz, jr. and Walther M. A. Andersen. Electronics 22:96-100 July '49

Indicating and recording echo sounder PEK-3G. S. von Melsted. Ericsson Tech No 1:10-16 '49

Magnetostrictive delay line. (Abstract) E. Bradburd. IRE Proc 37:170 Feb '49

Note on the theory of supersonic diffusers. F. Friedlander. BDDA 11

Optical method for the determination of ultrasonic absorption in opaque soft media. T. Huter and R. Pohlman. Zeit angew Phys 1:405-411 June '49

Production of high intensity ultrasonics at megacycle frequencies. G. G. Selman. Jour Sci Instr 26:229-231 July '49

Propagation of ultrasonic waves in solid rods. T. Huter. Zeit angew Phys 1:274-289 Jan '49

LTRASONICS–Cont'd.

nock wave problem arising in the theory of supersonic diffusers. F. Friedlander. BDDA 22

me theoretical results on the flow in supersonic diffusers. F. Friedlander. BDDA 20

ound field produced by a point source with uniform rectilinear ultrasonic velocity in a perfect fluid. P. Lienard. Compt Rend Acad Sci 228:910-912 Mar 14, '49

personic concentrations at the gas stream oscillator. (Konzentration des Ultraschalles beim Gasstrom-Schwing-generator) Schaffs. Frequenz 3:333-334 Nov '49

personic control of a lantern slide projector. S. G. Lutz and G. Rand. NEC Proc '49

neory of ultrasonic absorption in unassociated liquids. E. Bauer. Phys Soc Proc series A 62:141+ Mar 1, '49

wenty years of evolution of ultrasonic technique. (Les ultra-sons, 20 ans d'evolution technique) L. Dubrulle. Electronique 32:1-9 June '49

ltrasonic echo-sounding equipment for the blind. Arthur Roberts. Radio & TV N 41:6-8+ June '49

ltrasonic generator. (Realisation originale d'un generateur d'ultra-sons) Electronique 33:14 July '49

ltrasonic lenses of plastic materials. D. Sette. Acoust Soc Am J 21:61 Jan '49

ltrasonic measurements on rochelle salt crystals. W. J. Price. Phys Rev 75:946-952 Mar 15, '49

ltrasonic opacity of porous media. G. A. Homes. Compt Rend Acad Sci 228:1695-1697 May 30, '49

trasonic radiation from curved quartz crystals. Louis Fein. Acoust Soc Am J 21:511-516 Sep '49

trasonic research and developments in X-ray equipment. German Industry Rep. BIOS 212 Brit Govt Pub

trasonics. R. R. Whymark. Elec Rev 144:610-612 Apr 15, '49

trasonics: a brief survey. J. H. Jupe. Electronic Eng 21:422-424 Nov '49

trasonic tests in agriculture. M. Lorant. Electronic Eng 21:161 May '49

locity of ultrasonic waves in an electric field and the effect of temperature. A. Bonetti. Ricerca Sci 18:777-780 July '48

Patents

ompressional wave translating device, Arthur C. Keller, 2,466,112, 4 cl. Appl Dec 31, '42; granted Apr 5, '49

eneration of tranverse vibrations in liquids, Warren P. Mason, 2,490,452, 15 cl. Appl Aug 16, '46; granted Dec 6, '49

odulation system, Warren P. Mason, 2,484,636, 20 cl. Appl Sep 26, '47; granted Oct 11, '49

gnal transmission and receiving apparatus, Harry F. Olson, 2,461,344, 5 cl. Appl Jan 29, '45; granted Feb 8, '49

personic reflectoscope, Floyd A. Firestone, 2,458,-771, 9 cl. Appl Mar 15, '43; granted Jan 11, '49

See also

coustics & Sound
onar

ULTRASONICS, Industrial Applications

Action of ultrasonics on metallic crystalline formation for electrolytic plating. (Azione degli ultrasuoni sulla formazione dei cristally metallici per deponsizione elettrolitica) F. A. Levi. Ricerca Sci 19:887-891 Aug '49

Application of ultrasonics in engineering and physics. (Abstract) S. Y. Sokolov. Metal Progress 56:114+ July '49

Britain's first commercial ultrasonic generator. Electronic Eng 21:161 May '49

How industry can use ultrasonics. Business W No 1047:64-66+ Sep 24, '49

Evaluation of adhesion ultrasonic vibrations. S. Moses and R. K. Witt. Ind & Eng Chem 41:2334-2338 Oct '49

Industrial applications of ultrasonics. German Industry Rep. BIOS 1504 Brit Govt Pub

Industrial applications of ultrasonics. (Applicazioni industriali degli ultrasuoni) E. G. Richardson. Ricerca Sci 19:816-832 Aug '49

Obstacle detection using ultrasonic waves in air. B. Bradfield. Electronic 21:464-468 Dec '49

Supersonic soldering of aluminum alloys. (La soudure supersonique des alliages d'aluminum) Electronique 30:14-17 Apr '49

Ultrasonic control of a slide projector. S. G. Lutz and G. Rand. Electronics 22:96-97 Dec '49

Ultrasonic depth gauging and control. (La mesure des epaisseurs et le controle des pieces mechaniques par les appareils ultra-sonores) Electronique 35:30-35 Sep '49

Ultrasonic material testing and other applications. D. O. Sproule. PB 98712

Ultrasonic microscope. S. Y. Sokolov. Zh Tekn Fiz* 19:271-273 Feb '49. Also in Akad Nauk Dok* 64:333-335 '49

Ultrasonics, and their possibilities. (Les ultra-sons et leurs possibilites) R. Roger. Electronique 29:14-16 Mar '49

Ultrasonics has wide industrial applications. Product Eng 20:153-154 Nov '49

Patents

Apparatus for sonic pulverization and dispersion of materials, Thomas Robinson, 2,468,515, 10 cl. Appl Nov 29, '44; granted Apr 26, '49

Inspection of a solid part utilizing supersonic transmission, Floyd A. Firestone, 2,483,821, 3 cl. Appl June 28, '45; granted Oct 4, '49

V

VACUUM PRACTICE

Calibration of Philips ion gauge. J. R. Tolmie. 12 pp Mar 25, '44 AECD 2691

Conductance of bends and concentric tubes of a vacuum system. E. V. Sherriff. Jour Sci Instr 26:43+ Feb '49

Construction and application of a new design of the Philips vacuum gauge. F. M. Penning and K. Nienhuis. Philips Tech Rev 11:116-122 Oct '49

VACUUM PRACTICE–Cont'd.

Construction and theoretical analysis of a direct-reading hot-wire vacuum gauge with zero point control. J. A. H. Kersten and H. Brinkman. Appl Sci Res A1:289-305 '49

Design calculations for molecular vacuum pumps. R. Risch. Schweiz Arch 14:279-285 Sep '48

Effect of thermal lagging on an 8-inch diffusion booster pump. Kenneth M. Simpson and William M. Bush. 6 pp Jan 25, '45 AECD 2688

Eight inch vacuum pump. MDDC-942

Electro-vacuum technology. A. A. Ivanov. Uspekhi Fiz Nauk* 35:131-132 '48

Engineering drawings which can be used in manufacture of a special high vacuum chamber in which materials can be handled. PB94892

Four inch oil diffusion. MDDC-943

Glass vacuum valve. J. Lambe. Rev Sci Instr 20: 831 Nov '49

High frequency vacuum breakdown tests for copper and copper-plated ceramic surfaces. 4 pp '47 MDDC 1695

High vacua in nuclear physics and atomic energy. (Abstract) M. L. E. Oliphant. Chem & Ind p 88 Feb 5, '49

High-vacuum coating equipment. Elec Rev 144:878 May 20, '49

High vacuum pumping systems. Cenco 65:57-59 '49

Hot-wire vacuum switch. Clarence W. Wieske. 11 pp Nov 18, '43 AECD 2693

Improved hot-wire vacuum switch. Clarence W. Wieske. 11 pp Sep 6, '45 AECD 2694

Improved methods of testing for residual gas in electron tubes and vacuum systems. (Abstract) E. W. Herold. IRE Proc 37:171 Feb '49

Life tests of tungsten and tantalum filaments in ion gauges. W. E. Bush. 19 pp Jan '44 AECD 2682

Modern vacuum-pump design. Glenn L. Mellen. Electronics 22:90+ May '49

New type of diffusion pump. E. L. Harrington. Rev Sci Instr 20:761-762 Nov '49

New Vacuum lock for continuously evacuated systems. D. Saxon and J. Richards. 4 pp May '49 AECU 536

Outgassing of materials in a vacuum. 4 pp MDDC 1307

Philips type vacuum gauge. K. M. Simpson. 10 pp Jan 7, '44 AECD 2689

Physical principles of vacuum measurement and production. C. H. Bachman. Instruments vol 22 Jan '49

Precision vacuum gauge. G. C. Fryburg and J. H. Simons. Rev Sci Instr 20:541-548 Aug '49

Pressure and vacuum joints. J. R. Fawcett. Mech World Eng Record 126:439-442 Oct 14, '49

Pumping speed of diffusion pumps below limiting pressure. C. E. Berry. Rev Sci Instr 20:835-836 Nov '49

Recent developments in vapor pump design. Maurice E. Bell. Office of Naval Research London Branch Tech Rep 35-48 NP-861 11 pp Nov 17 '48. AEC

Rectangular diffusion pump. K. M. Simpson. 10 pp Sep 13, '45 AECD 2687

Report on DC operation of Philips gauges. J. R. Tolmie and K. M. Simpson. 10 pp May 3, '44 AECD 2690

Retractable liquid air trap. Alan J. Samuel. 9 pp Nov 11, '43 AECD 2684

Six inch diffusion pump. MDDC 960

Time constants for vacuum gauge systems. S. A. Schaaf and R. R. Cyr. Jour Ap Phys 20:860-863 Sep '49

Vacuum divider; a low pressure multiplier. 9 pp '47 MDDC 1464

Vacuum technique—some general principles and post office applications. J. E. Thwaites and H. E. Pearson. P.O. Elec Eng J 41:199-203 Jan '49

Vacuum testing at SAM laboratories. 32 pp '48 AECD 1814

Patents

Apparatus for high evacuation, Eugene F. Shelby, 2,469,006, 3 cl. Appl Sep 27, '44; granted May 3, '49

Freezing trap for vacuum systems, Charles T. De Groat, 2,465,793, 2 cl. Appl Mar 19, '48; granted Mar 29, '49

Ionic vacuum pump, Rudolf C. Hergenrother, 2,460,-175, 11 cl. Appl July 31, '45; granted Jan 25, '49

Use of glow discharge in vacuum coating processes, George Herbert Bancroft and Gerhard R. Nagel, 2,467,953, 3 cl. Appl Sep 19, '46; granted Apr 19, '49

Vacuum chamber evacuation, Horace L. Smith, jr., 2,460,197, 11 cl. Appl Nov 14, '45; granted Jan 25, '49

Vacuum gauge, Dayton H. Clewell and David C. Pfeiffer, 2,460,873, 4 cl. Appl Jan 1, '45; granted Feb 8, '49

Vacuum gauge structure, Robert G. Picard, 2,490,-468, 1 cl. Appl Oct 19, '46; granted Dec 6, '49

Vacuum pump, Carl Freyn, 2,463,458, 11 cl. Appl May 6, '47; granted Mar 1, '49

Vacuum pump, Kenneth C. D. Hickman, 2,465,590, 7 cl. Appl May 11, '45; granted Mar 29, '49

See also

Volume Expanders & Compressors

VACUUM TUBES

Application and mounting details of Rimlock and Mazda-Medium valves. G. Giniaux. TSF pour Tous 24:89+ Apr '48

Calculation with electron tubes. (Rechnen mit Elektronenroehen) Radio Tech 25:508-514 Sep '49

Ceramic-wall tubes. John Markus. Electronics 22: 168 June '49

Characteristics and applications of new tubes. (Characteristiques et emploi des nouvelles lampes) Toute la Radio No 137:211-215 July-Aug '49

Circulation of the electrode temperatures in radio valves. S. Wagener. Brit IRE J 9:318-319 Aug '49

Contact potential and retarding-field measurements. G. D. O'Neill. Sylvan Tech pt 1 2:13-18 July '49; pt 2 2:12-15 Oct '49

Conversion factors for power triodes, tetrodes, and pentodes, operating under various conditions. (Bollettino d'informazioni del servizio clienti. Fabrica Italiana valvole radio-elettriche) Elettronica 4:33-36 Jan '49

'ACUUM TUBES–Cont'd.

'o-ordination of circuit requirements, valve characteristics and electrode design. I. A. Harris. Brit IRE J 9:125+ Apr '49

'opper in electronic tubes. R. Carson Dalzell. Electronics 22:164+ Apr '49

'escription of ECC40 tube. (Roehrenkennblatt: ECC 40) Radio Tech 25:519-522 Sep '49

lectron flow in curved paths under space-charge conditions. B. Meltzer. Phys Soc Proc section B 62:813-817 Dec '49

lectron transit in space-charge limited current between coaxial cylinders. P. L. Copeland and D. N. Eggenberger. Jour Ap Phys 20:1148-1154 Dec '49

lectron tube development and experimental equipment. PB 85281

lectrostatic field in vacuum tubes with arbitrarily spaced elements. W. R. Bennett and L. C. Peterson. Bell System Tech J 28:303+ Apr '49

M data for surplus tubes. Radio & TV N 41:74 May '49

xamination of radio tubes. (Undersogelser af Radioror) Radio Ekko 10:132-133 July '47

curves as an aid in circuit design. (Abstract) Keats A. Pullen. IRE Proc 37:170 Feb '49

eptodes as channel tubes. (Heptoder som Kanalror) Radio Ekko 10:80-81 Apr '47

iformation bulletin on vacuum tube characteristics. "FIVRE". Elettronica 35B5 4:79 May '49; 50BS 4:117 June '49; 6SN7-GT 4:155 July '49; 807 4:197 Aug '49; 6J5-GT 4:237 Sep '49; 6X4 4:279 Oct '49; 5R4-GY 4:317 Nov '49

iterelectrode capacitance of valves. B. L. Humphreys and E. G. James. Wireless Eng 26:26+ Jan '49

iller effect. Wireless World 55:307-312 Aug '49

iniature beam power amplifier; 5763, power tetrode; 465A and 811A power triode. VHF tubes. Communications 29:21 July '49

ew miniature "rimlock" valves for AC receivers. J. Rousseau. TSF pour Tous 24:226+ Sep '48

ew small all glass rimlock tube. (Nye smaa Helglas-Ror (Rimlock)) Radio Ekko 11:30-32 Feb '48

onstationary processes in a vacuum tube circuit with complex loading. R. D. Leytes. Reel 0046 475,772:47-52 SDLC. In Russian

erformance diagnosis of vacuum-tube circuits. E. M. Noll. Service pt 1 18:16+ Nov '49; pt 2 18:20+ Dec '49

hysical dimensions of "FIVRE" vacuum tubes. Elettronica 4:80 May '49. In Italian

lanar electrode valves for VHF. Wireless World 55:165+ May '49

otential functions for a thermionic vacuum tube. E. C. Okress. Jour Ap Phys 20:850-856 Sep '49

esistive films in valves. E. G. James and B. L. Humphreys. Wireless Eng 26:93+ Mar '49

imlock tubes of the E and U series. (Die Rimlockroehren der E und U-Serie) Radio Tech 25:123-126 Feb '49

imlock type TR-1049. (Le Rimlock type TR-1049) M. Barn. Toute la Radio No 132:48-55 Jan '49

ronger tubes for harder usage. Aviation W 51:25+ Oct 31 '49

Surge testing of high vacuum tubes. H. J. Dailey. Tele-Tech 8:26-29+ Oct '49

Survey of modern radio valves. H. Staneby. P.O. Elec Eng J 42:117-123 Oct '49

Technical data, specifications and research reports on vacuum tubes, 1943-1944. PB 84903

Technical manuals and research reports covering transmitters, wave propagation, antennas, magnetrons, VHF tubes, frequency and voltage measurement, and radar methods, 1941-1944. PB 84896. In German

Tetrode characteristics of Raytheon tube CK571AX. T. Cantwell and J. Sandock. 31 pp AECU 29

Theory of tubes with two control grids. Ph.D. Thesis. Ah Wing, jr. Columbia U E.E. Dept '40

Thermionic tubes. (Valvulas Termoionicas) Radio J pt 1 1:13-14 Aug '49; pt 2 1:58-59 Oct '49

Transconductance as a criterion of electron tube performance. T. Slonczewski. Bell System Tech J 28:315 Apr '49

Transconductance of electron tubes. T. Slonczewski. Elec Eng 68:788 Sep '49

Transit-time deterioration of space-charge reduction of shot effects. D. K. C. MacDonald. Phil Mag 40:561-568 May '49

Transit-time effects in UHF valves. John Thomson. Wireless Eng 26:192-199 June '49

Triode and tetrode tubes. J. T. Frye. Radio-Electronics 21:50+ Dec '49

Tube formulas. (Roehrenformeln) E. Roeschen. Funk und Ton pt 1 3:278-279 May '49; pt 2 3:338-339 June '49

Tube nomenclature. (Appellation des lampes) M. Bonhomme. Toute la Radio No 140:342-345 Nov '49

Tubes and tube accessories. Monthly column. Tele-Tech 8:48 July '49

Twelve new vacuum tubes introduced. Radio & Electronics 20:27 Sep '49

Use of "G" curves in the analysis of electron-tube circuits. (Abstract) Keats A. Pullen. IRE Proc 37:210 Feb '49

Using "G" curves in tube circuit design. K. A. Pullen. Tele-Tech pt 1 8:34-36 July '49; pt 2 8:33-35+ Aug '49

Using rimlock tubes. L. Liot. Telev Franc No 44: 31-35 Jan-Feb '49. In French

Vacuum divider. Low pressure multiplier. PB 95718

Vacuum testing at Sam Laboratories. PB 95383

Vacuum tube substitution charts. Elettronica pt 1 4:200 Aug '49; pt 2 4:238-239 Sep '49; pt 3 4:320 Nov '49. In Italian

Valves with resistive loads. S. W. Amos. Wireless Eng 26:119+ Apr '49

Patents

Beam power tube, Donald G. Haines, 2,459,072, 3 cl. Appl Jan 8, '46; granted Jan 11, '49

Cesium electric discharge device, Albert W. Hull, 2,489,891, 9 cl. Appl Dec 27, '48; granted Nov 29, '49

Combination beam shift-grid control tube, Albert G. Thomas, 2,457,949, 5 cl. Orig appl Aug 14, '43; divided and this appl May 3, '45; granted Jan 4, '49

VACUUM TUBES, *Patents*–Cont'd.

Cooling system for electron discharge devices, William S. Wechsler, Robert P. Roetter, and Richard P. Corporon, 2,476,647, 6 cl. Appl June 29, '46; granted July 19, '49

Cooling system for electron tubes and other devices, William E. Brown, 2,475,473, 9 cl. Appl Jan 10, '47; granted July 5, '49

Demountable vacuum tube, Jean Martin, 2,479,755, 2 cl. Appl Aug 2, '46; granted Aug 23, '49

Discharge device, base, and method, William Makenny, 2,477,340, 9 cl. Appl May 8, '45; granted July 26, '49

Electric discharge device, Frank R. Elder, 2,486,134, 5 cl. Appl May 21, '46; granted Oct 25, '49

Electric discharge device, Hayyt L. Thorson, 2,489,-873, 1 cl. Appl Sep 21, '46; granted Nov 29, '49

Electric discharge tube, Gesinus Diemer, 2,476,961, 1 cl. Appl Mar 6, '47; granted July 26, '49

Electric discharge tube comprising a secondary emission electrode, Adrianus Johannes Marie van Overbeek, and Gerrit Hendrik Petrus Alma, and Carel Peter Klopping, 2,478,141, 2 cl. Appl May 7, '46; granted Aug 2, '49

Electric discharge tube comprising electrodes secured to rods, Johannes Cornelis Janssen, 2,458,-945, 7 cl. Appl Jan 15, '46; granted Jan 11, '49

Electric discharge tube with improved electrode system, Jan Hendrik van den Berge and Gerrit Starre, 2,490,177, 3 cl. Appl Aug 9, '47; granted Dec 6, '49

Electric valve with grid mounted on divided anode insulator, Othmar K. Marti, 2,459,828, 6 cl. Appl Sep 15, '45; granted Jan 25, '49

Electrical apparatus, Leo Rosen, 2,477,008, 9 cl. Appl Aug 1, '45; granted July 26, '49

Electrical discharge device, Henry de Boyne Knight, 2,460,132, 14 cl. Appl Sep 25, '46; granted Jan 25, '49

Electrical discharge tube, Thomas H. Rogers, 2,480,-198, 11 cl. Appl Nov 26, '45; granted Aug 30, '49

Electron beam tube, Ralph O. McIntosh and Glenn E. Sheppard, 2,491,995, 5 cl. Appl June 26, '48; granted Dec 20, '49

Electron discharge apparatus, Raymond W. Sears, 2,458,652, 11 cl. Appl Dec 13, '46; granted Jan 11, '49

Electron discharge apparatus, Richard W. Daniels, 2,480,122, 8 cl. Appl Sep 10, '47; granted Aug 30, '49

Electron discharge device, Andrew F. Henninger, 2,457,891, 4 cl. Appl Jan 12, '45; granted Jan 4, '49

Electron discharge device, Lloyd P. Garner, 2,477,-122, 11 cl. Appl May 30, '42; granted July 26, '49

Electron discharge device, Percy L. Spencer, 2,477,-317, 9 cl. Appl Mar 21, '45; granted July 26, '49

Electron discharge device, Sidney Frankel, 2,480,126, 11 cl. Appl Dec 14, '45; granted Aug 30, '49

Electron discharge device, William A. True, 2,468,-141, 9 cl. Appl Oct 12, '44; granted Apr 26, '49

Electron discharge device, William C. Brown, 2,480,-900, 6 cl. Appl Sep 3, '43; granted Sep 6, '49

Electron discharge tube, Harry Kenneth Ishler, 2,492,643, 9 cl. Appl Jan 14, '46; granted Dec 27, '49

Electron discharge tube with metal foil electrode, Johan Lodewijk Hendrik Jonker and Gesinus Diemer, 2,470,248, 4 cl. Appl Aug 17, '46; granted May 17, '49

Electron tube, Donald F. Drieschman, 2,458,693, 10 cl. Appl Jan 25, '46; granted Jan 11, '49

Electron tube, Walter Soller, 2,477,667, 6 cl. Orig appl Aug 19, '43; divided and this appl Aug 28, '44; granted Aug 2, '49

Electronic switch, Albert G. Thomas, 2,470,536, 13 cl. Orig appl Jan 18, '45; divided and this appl Oct 31, '47; granted May 17, '49

Electronic tube, Albert G. Thomas, 2,458,223, 7 cl. Orig appl July 3, '39; divided and this appl May 15, '43; granted Jan 4, '49

Electronic tube, Alexander R. Rangabe, 2,480,608, 10 cl. Appl Jan 28, '46; granted Aug 30, '49

Electronic tube, John R. Steinhoff, 2,484,194, 1 cl. Appl Mar 30, '45; granted Oct 11, '49

High-frequency oscillation tube, Albert G. Thomas, 2,457,947, 11 cl. Appl Dec 21, '42; granted Jan 4, '49

Microphonics tester, John E. Sterner, 2,458,033, 1 cl. Appl Apr 24, '43; granted Jan 4, '49

Negative transconductance electrical discharge tube, Juan Francisco Visscher, 2,470,732, 4 cl. Appl Nov 5, '43; granted May 17, '49

Piezometric thermionic tube, Jerome Rothstein, 2,474,280, 14 cl. Appl Apr 22, '46; granted June 28, '49

Short-wave adjustable radio tube, Abraham Binneweg, jr., 2,467,420, 11 cl. Appl Nov 18, '43; granted Apr 19, '49

Thermionic valve circuits, Bertram Morton Hadfield, 2,467,474, 2 cl. Appl Oct 2, '44; granted Apr 19, '49

Vacuum tube, Peter Welch, 2,490,110, 1 cl. Appl Dec 13, '46; granted Dec 6, '49

See also
Microwaves, Oscillators
Microwaves, Tubes
Photoelectric Tubes
Vacuum Practice

VACUUM TUBES, Cathodes

Activation phenomena with thoria cathodes. O. A. Weinreich. Jour Ap Phys 20:1256 Dec '49

Application of thermodynamics to chemical problems involving the oxide cathode. A. H. White. Jour Ap Phys 20:856-860 Sep '49

Barium-sulphide layers on oxide cathodes and their influences on the emission. H. A. Stahl. Schweiz Arch 14:337-343 Nov '48

Cathode art. J. R. Pierce. Phys Today 2:17-19+ Oct '49

Contact potential measurements on metal oxide surfaces. (Kontaktpotentialmessungen an Metalloxydoberflaechen) Funk und Ton 3:471-472 Aug '49

Contamination of oxide cathodes. (Vergiftung von Oxydkatoden) Funk und Ton 3:470-471 Aug '49

Effect of gases and vapors on the emission of oxide cathodes. (Der Einfluss von Gasen und Daempfen auf die Emission of Oxydkathoden) Herrmann & Krieg. Ann der Phys series 6 4:441-464 Aug '49

Electron emission and conduction mechanism of oxide-coated cathodes. R. Loosjes and H. J. Vink. Jour Ap Phys 20:884 Sep '49

VACUUM TUBES, Cathodes–Cont'd.

Emission by an oxide coated cathode. S. V. Ptitsyn. Zh Tekn Fiz* 17:965-982 '47

Free barium on the oxide cathode. R. O. Jenkins and R. H. C. Newton. Jour Sci Instr 26:172+ May '49

Hall effect in oxide cathode coatings. D. A. Wright. Nature 164:714-715 Oct 22, '49

Influence of core material on the thermionic emission of oxide cathodes. Ph.D. thesis. H. A. Poehler. Columbia U E. E. Dept '48

Investigation of cold cathode tubes made by Siemens Reiniger Werks, Rudolstadt. Production details. German Industry Rep. BIOS 622 Brit Govt Pub

Metal-oxide interface in oxide cathodes. H. B. Michaelson. Sylvan Tech 2:16-18 Jan '49

Microanalysis of gas in cathode-coating assemblies. (Abstract) Harold Jacobs and Bernard Wolk. IRE Proc 37:174 Feb '49

Optical pyrometry of oxide cathodes — measurement of the spectral emissive power. R. Champeix. Am Cer Soc J 32:119-120 Apr '49

Oxide-cathode properties and their effects on diode operation at small signals. (Abstract) G. Conrad Dalman. IRE Proc 37:174 Feb '49

Oxide cathodes. F. Violet and J. Riethmuller. Ann Radioelec 4:184-215 July '49. In French

Poisoning effects in oxide-cathode valves. G. H. Metson. P.O. Elec Eng J 41:204+ Jan '49

Potassium-activated cold-cathode tubes. A. L. Chilcot. Jour Sci Instr 26:289-294 Sep '49

Pulse emission decay in oxide-coated cathodes. G. R. Feaster. Jour Ap Phys 20:415+ Apr '49

Resistance of oxide cathode coatings for high values of pulsed emission. W. E. Danforth and D. L. Goldwater. Jour Ap Phys 20:163+ Feb '49

Semi-conducting properties in oxide cathodes. N. B. Hannay and others. Jour Ap Phys 20:669-681 July '49

Some physical properties of barium oxide thermocathodes. N. D. Morgulis and V. S. Yagovdik. Akad Nauk Dok * 59:247-250 '48

Some properties of the Ba_2SiO_4 oxide cathode interface. A. Eisenstein. Jour Ap Phys 20:776-790 Aug '49

Standard diode for electron-tube oxide-coated cathode-core material approval tests. Robert L. McCormack. IRE Proc 37:683-687 June '49

Testing cathode materials in factory production. J. T. Acker. IRE Proc 37:688-690 June '49

Use of radioactive elements for investigating the behavior of the alkaline-earth metals of oxide cathodes. J. Beydon and others. Akad Nauk Dok 229:353-354 Aug 1, '49

Virtual cathode problem for cylindrical electrodes. A. van der Ziel. Appl Sci Res B1:105-118 '48

Work functions and conductivity of oxide-coated cathodes. G. W. Mahlman. Jour Ap Phys 20: 197+ Feb '49

Zirconium carbide as a thermionic emitter. R. E. Haddad and others. Jour Ap Phys 20:886 Sep '49

Patents

Articulated cathode, William P. Zabel, 2,479,193, 10 cl. Appl July 8, '46; granted Aug 16, '49

Cathode, Glenn F. Rouse, 2,459,841, 4 cl. Appl June 8, '43; granted Jan 25, '49

Cathode, William P. Zabel, 2,479,192, 3 cl. Appl June 28, '46; granted Aug 16, '49

Cathode anticontamination structure, Jerome Rothstein, 2,490,096, 4 cl. Appl May 1, '46; granted Dec 6, '49

Cathode assembly for electric discharge tubes, Henricus Johannes de Weyer, 2,489,367, 4 cl. Appl Dec 6, '47; granted Nov 29, '49

Cathode coating, George S. Evans, 2,476,590, 14 cl. Cont of appl Mar 14, '41; this appl July 3, '43; granted July 19, '49

Cathode cup construction, Zed J. Atlee, 2,471,298, 5 cl. Appl Oct 2, '43; granted May 24, '49

Cathode for electric discharge tubes, Gerrit Schmidt, 2,478,841, 3 cl. Orig appl Mar 22, '43; divided and this appl July 17, '47; granted Aug 9, '49

Cathode for electron discharge devices, Robert W. Deutsch, 2,490,786, 6 cl. Appl June 26, '47; granted Dec 13, '49

Cathode structure for electric discharge tubes, Johan Lodewijk Hendrik Jonker, 2,486,292, 2 cl. Appl July 20, '46; granted Oct 25, '49

Cathode support, Percy L. Spencer, 2,468,129, 9 cl. Appl Aug 20, '47; granted Apr 26, '49

Cathode-temperature control system, Elmer G. Hills, 2,463,876, 6 cl. Appl Apr 28, '49; granted Mar 8, '49

Directly heated cathode, John F. Hanson, 2,477,601, 4 cl. Appl June 11, '47; granted Aug 2, '49

Directly heated cathode, Percy L. Spencer, 2,473,-550, 9 cl. Appl Aug 19, '47; granted June 21, '49

Electron tube and heater type cathode therefor, Carl F. Miller, 2,459,086, 10 cl. Appl Apr 6, '48; granted Jan 11, '49

Heating device for hot cathode tubes, Marcel Georges Favre, 2,474,575, 3 cl. Appl Nov 8, '45; granted June 28, '49

Means for saving power, George D. Hanchett, jr., 2,460,883, 10 cl. Appl Nov 10, '47; granted Feb 8, '49

Process for manufacturing cathodes for electron discharge tubes, Robert Loosjes, 2,464,702, 4 cl. Appl Feb 18, '47; granted Mar 15, '49

Process of manufacturing cathodes for electric discharge tubes, Cornelis Frederik Veenemans and Robert Loosjes, 2,463,727, 2 cl. Appl Feb 26, '47; granted Mar 8, '49

Slotted cathode structure, Benjamin J. Butler, 2,468,736, 2 cl. Appl June 13, '46; granted May 3, '49

Thermionic cathode, Charles Norman Smyth, 2,485,-668, 5 cl. Appl Dec 5, '45; granted Oct 25, '49

Thermionic tube having a secondary-emission electrode, Henri Bienfait and Cornelis Frederik Veenemans, 2,472,189, 2 cl. Appl Mar 22, '43; granted June 7, '49

Filaments

Production of molybdenum and tungsten for radio valves and electric lamps. Metallwerke Plansee, Teutte, Tyrol. German Industry Rep. BIOS 684 Brit Govt Pub

Thoriated tungsten filaments in rectifiers. Z. J. Atlee. Elec Eng 68:683 Oct '49

VACUUM TUBES, Cathodes, Filaments–Cont'd.

Use of thoriated-tungsten filaments in high-power transmitting tubes. (Abstract) R. B. Ayer. IRE Proc 37:174 Feb '49

Patents

Filament structure for electron discharge devices, John J. Glauber, 2,462,858, 12 cl. Appl July 24, '45; granted Mar 1, '49

Filament structure for thermionic tubes, Harry Bender and William B. Voorhis, 2,482,826, 18 cl. Appl Aug 4, '45; granted Sep 27, '49

Filament support for electric space discharge tubes, Elton K. Kelley, 2,467,390, 8 cl. Appl Oct 29, '45; granted Apr 19, '49

Mounting of filaments in vacuum tubes, Christopher Henry Foulkes, 2,452,084, 5 cl. Appl Mar 26, '45; granted Feb 22, '49

Vibration suppressing suspension for tensioned filaments of electron space charge devices, Paul Schwerin, 2,458,534, 1 cl. Appl June 29, '46; granted Jan 11, '49

See also

Electron Emission, Thermionic

VACUUM TUBES, Diodes

Cathode field in diodes under partial space-charge conditions. H. F. Ivey. Phys Rev 76:554-558 Aug 15, '49

Current fluctuations in a plane diode taking account of space charge and transit time. A. Perez. Compt Rend Acad Sci 228:1482-1484 May 9, '49

Diode space charge for any initial velocity and current. L. Page and N. I. Adams, jr. Phys Rev 76: 381-388 Aug 1, '49

Flicker effect in saturated diodes. L. deQueiroz Orsini. Compt Rend Acad Sci 228:1704-1706 May 30, '49

Graphical analysis of diode circuits. G. L. Hamburger. Wireless Eng 26:147+ May '49

High frequency response of cylindrical diodes. E. H. Gamble. NEC Proc '49

High frequency total emission loading in diodes. Nicholas A. Begovich. Jour Ap Phys 20:457+ May '49

Movable anode diode. (Le tube diode a electrode mobile) G. H. Dion. Electronique 31:5-8 May '49

Nonlinear distortion and noise in a diode acted upon by UHF signals. Yu I. Kaznachcev. Akad Nauk Izvest 9:1173-1189 Sep '47. In Russian

Note on space-charge considerations in test-diode design. Edward A. Coomes and James G. Buck. IRE Proc 37:626-627 June '49

Novel multiplying circuits with application to electronic wattmeters. M. A. H. El-Said. IRE Proc 37:1003-1015 Sep '49

Some characteristics of dioxide-coated cathodes. W. R. Ferris. RCA Rev 9:134+ Mar '49

Patents

Electric discharge device with internal capacitor, Harold R. Cummings, 2,470,605, 4 cl. Appl Feb 14, '47; granted May 17, '49

Electrode, Ralph Cortese, 2,473,413, 3 cl. Orig appl May 17, '45; divided and this appl Aug 5, '47; granted June 14, '49

High-tension rectifier anode, Otto Pressel and Gerardus Adrianus Marinus Diepstraten, 2,466,-967, 6 cl. Appl Apr 7, '45; granted Apr 12, '49

Mount for electron discharge devices, Oliver H. Fulton, jr., 2,460,382, 7 cl. Appl Dec 4, '46; granted Feb 1, '49

Rectifier discharge tube and method of sealing the anode leadin, Dominicus Gerardus Serge Ruhwandl, 2,461,237, 3 cl. Appl Feb 14, '47; granted Feb 8, '49

See also

Microwaves, Tubes
Power Supplies
Rectifiers

VACUUM TUBES, Foreign

Description of 85 A 1 tube. (Roehrenkennblatt:85 A 1) Radio Tech 25:587-591 Oct '49

Description of EF 40 tube. (Roehrenkennblatt:EF 40) Radio Tech 25:421-423 July '49

Description of EF 42 tube. (Roehrenkennblatt:EF 42) Radio Tech 25:473-476 Aug '49

Description of UAF 21 tube. (Roehrenkennblatt: UAF 21) Radio Tech 25:526-527 Sep '49

Description of UCH 42 tube. (Roehrenkennblatt: UCH 42) Radio Tech 25:188-190 Mar '49

Description of the UAF 42 tube. (Roehrenkennblatt: UAF 42) Radio Tech 25:244-248 Apr '49

Description of UL 41 tube. (Roehrenkennblatt:UL 41) Radio Tech 25:304-307 May '49

Description of UY 41 tube. (Roehrenkennblatt:UY 41) Radio Tech 25:369-370 June '49

English universal tube UA-55. (Die englishe Universalroehre UA-55) Tetzner. Funk und Ton 3:286-289 May '49

European receiving tubes. H.A.S. Gibas. Electronics 22:156+ Feb '49

Multi-purpose British radio tube. Vin Zeluff. Electronics 22:156 Mar '49

New post-war German tube. (Die neuen Roehren der deutschen Nachkriegsproduction) Radio Tech 25:249 Apr '49

New vacuum tube techniques for the Telefunken Rohrenwerke, Berlin. German Industry Rep. FIAT 560 Brit Govt Pub

Possible applications of the UA 55. (Toepassingsmogelijkheden ven de UA 55) Radio Bul 18:283-285 Aug '49

Production and use of getter materials in German radio valves, thermionic devices generally, and electric lamps. 1944. PB 96670

Rugged valves and mechanical tests for valves and components. German Industry Rep. BIOS 510 Brit Govt Pub

Some tests with 4654 tube. (Nogle Forsog med 4654) Radio Ekko 10:200-201 Oct '47

Tables of tubes for the "Flanofoon." (Buizentabellen voor de "Flanofoon") Radio Bul 18:272-273 Aug '49

Technical data, reports and specifications covering vacuum tubes, frequency meters, voltage dividers, magnetic recorders, etc., 1940-1945. PB 84905. In German

'ACUUM TUBES, Grids

rid-cathode capacitance of amplifier tubes. (Die Gitter-Katoden-Kapacitaet von Verstaerker-roehren) Funk und Ton 3:410-412 July '49

rid structures and construction. Elettronica 4: 81-82 May '49. In Italian

trong grid voltage. (Fast Gitter-Forspaending) Radio Ekko 12:139-144 July '49

Patents

lectrode for electron discharge devices, Harry L. Ratchford, 2,472,760, 2 cl. Appl Dec 30, '43; granted June 7, '49

lectron tube grid structure, 2,472,767, 3 cl. Appl Mar 19, '47; granted June 7, '49

rid structure, Bernard C. Gardner, 2,473,793, 2 cl. Appl Oct 26, '45; granted June 21, '49

rid structure for electric discharge devices, Robert P. Watson, 2,461,303, 6 cl. Appl Mar 9, '48; granted Feb 8, '49

rid structure for electron discharge devices, Simeon Weston, 2,459,859, 10 cl. Appl Mar 23, '45; granted Jan 25, '49

igh-frequency tube structure, William T. Cooke and Joe J. Caldwell, jr., 2,490,030, 26 cl. Appl June 28, '40; granted Dec 6, '49

acuum tube grid construction, Harner Selvidge, 2,460,794, 2 cl. Appl Jan 15, '45; granted Feb 1, '49

'ACUUM TUBES, Manufacture

nalysis of residual gas in electron tubes with the light spectrograph. R. H. Zacharrason. Anal Chem 21:1285-1286 Oct '49

eramics for radio valves: materials and manufacture. German Industry Rep. BIOS 30 Brit Govt Pub

lectrical properties of glasses used in the construction of vacuum tubes. P. Meunier. Ann Radioelec 4:54-67 Jan '49. In French

lectronic valve (tube) factories, Helmbrechts and Minden. German Industry Rep. CIOS XXIV-26-27 Brit Govt Pub

lectronic valves, manufacture and testing. German Industry Rep. CIOS XXI-1 Brit Govt Pub

nproved method of testing for residual gas in electron tubes and vacuum systems. E. W. Herold. RCA Rev 10:430-439 Sep '49

lanufacture of electronic tubes. (La Fabrication des tubes electroniques) A. Borgne. Electronique pt 1 Receiving tubes. 29:22-24 Mar '49; pt 2 Transmitting tubes. 30:22-23 Apr '49

lanufacture of sinter glass. (Die Sinterglass-technik) Radio Tech 25:645-646 Nov '49

laterials control in the production of electronic tubes. (Le controle des materiaux dans la fabrication des tubes electroniques) A. Laurent. Rev Tech Comp Franc Thomson-Houston 2:23-32 Apr '45

hillips valve works, Hamburg, Hammerwerke (valve works), Minden, C. H. Mueller A. G. (X-ray tube factory), Hamburg. German Industry Rep. BIOS 65 Brit Govt Pub

roduction and use of getter materials in German radio valves, thermionic devices generally, and electric lamps. German Industry Rep. BIOS 1834 Brit Govt Pub

Quality control in radio-tube manufacture. J. Alfred Davies. IRE Proc 37:548-556 May '49

Radio valve and lamp industry in Vienna. German Industry Rep. BIOS 248 Brit Govt Pub

Recent developments in the technique of radio valve manufacture. Machinery 74:848-852 June 23, '49

Rugged tubes. George W. Baker. IRE Proc 37:171 Feb '49

Telefunken Wireless Telegraphy Corporation, Berlin; special materials for radio valves: thorium metal, zirconium, and other special metals. Special getters. German Industry Rep. BIOS 276 Brit Govt Pub

Bases and Seals

Critical survey of methods of making ceramic-to-metal seals and their use for electron-tube construction. (Abstract) Roger P. Wellinger. IRE Proc 37:171 Feb '49

Socket pin connections. (Sockelschaltbilder in Tabellenform) Settinger. Radiowelt 4:40-41 May '49

Patents

Base structure for electron discharge devices, Andre Besson, 2,475,369, 3 cl. Appl Oct 4, '45; granted July 5, '49

Base structure for electron tubes, Robert L. Norton, 2,471,005, 4 cl. Appl Aug 27, '46; granted May 24, '49

Basing of radio tubes and the like, Mark J. Orr, 2,470,518, 6 cl. Appl Nov 20, '46; granted May 17, '49

Contact terminal for thermionic tubes, Fernald S. Stickney, 2,480,059, 6 cl. Appl Feb 1, '46; granted Aug 23, '49

Electrical connector, Geoffrey William Clark, 2,462,-036, 1 cl. Appl Mar 6, '45; granted Feb 15, '49

Electron discharge device seal, Per Roland Hanson, 2,460,575, 6 cl. Appl May 21, '45; granted Feb 1, '49

Lead-in structure for vacuum tubes, Henri Saucet, 2,486,065, 3 cl. Appl July 16, '46; granted Oct 25, '49

Method and apparatus for inserting contacts in glass tubes, George N. Phelps, 2,485,769, 15 cl. Appl Dec 29, '44; granted Oct 25, '49

Method of attaching a pin type terminal to a base, Harry V. Knauf, jr., 2,464,405, 4 cl. Appl July 22, '44; granted Mar 15, '49

Method of making glass-to-metal seals, James E. Beggs, 2,486,101, 2 cl. Appl Mar 1, '46; granted Oct 25, '49

Resilient contact structure for electron tubes, Richard Chamberlin, 2,482,839, 3 cl. Appl May 4, '48; granted Sep 27, '49

Electrodes

Patents

Adjustable mounting system for power tubes, Raymond E. Lewthwaite and Stephen J. Straub, 2,468,088, 8 cl. Appl Oct 17, '45; granted Apr 26, '49

Anode construction, Michael J. Zunick, 2,482,053, 21 cl. Appl Nov 13, '45; granted Sep 13, '49

Anode tube for ionic valves for high-voltage static current converters, Gunnar J. Persson, 2,468,836, 4 cl. Appl Nov 29, '45; granted May 3, '49

VACUUM TUBES, Manufacture, Electrodes, *Patents*–Cont'd.

Electric discharge envelope, Robert Leonard Breadner, Henry Grainger Jenkins, and Charles Henry Simms, 2,491,847, 8 cl. Appl June 21, '46; granted Dec 20, '49

Electrode arrangement for electron discharge devices, Walter Warwick Marsh and Peter Welch, 2,465,385, 7 cl. Appl Oct 6, '45; granted Mar 29, '49

Electrode assembly for electron discharge devices, Barremore B. Brown, 2,458,142, 9 cl. Appl Mar 8, '44; granted Jan 4, '49

Electrode assembly for electron space discharge devices, Herbert D. Suesholtz, 2,464,272, 8 cl. Appl Dec 8, '45; granted Mar 15, '49

Electrode spacer, Johannes Antonius Maria van Liempt, 2,459,476, 6 cl. Appl Apr 26, '46; granted Jan 18, '49

Electrode structure for electrical space discharge tubes, Ross Wood, 2,459,861, 3 cl. Appl Mar 21, '46; granted Jan 25, '49

Electrode support structure for electric discharge devices, Gerald G. Halstead and Richard B. Russ, 2,459,277, 14 cl. Appl Dec 3, '46; granted Jan 18, '49

Electron discharge device and method of manufacture, William C. Dale, 2,481,202, 5 cl. Appl Nov 26, '46; granted Sep 6, '49

Envelope and electrode mounting structure for electric discharge devices, Thomas A. Elder and Thomas G. Crawford, 2,489,872, 14 cl. Appl Feb 27, '46; granted Nov 29, '49

Exhaust tube structure for electron discharge tubes, Laurent Thibieroz, 2,479,032, 5 cl. Appl Aug 9, '46; granted Aug 16, '49

Getter structure, Leopold Reiver, 2,462,813, 8 cl. Appl June 18, '46; granted Feb 22, '49

Gettering for discharge tubes, Cornelis Frederik Veenemans and Hugo Christiaan Hamaker, 2,482,-043, 3 cl. Appl May 14, '46; granted Sep 13, '49

High vacuum getter, John R. Beers, 2,469,626, 8 cl. Appl June 20, '46; granted May 10, '49

Mounting of electrodes in electric discharge tubes, Arthur Leslie Chilcot and Sydney Jackson, 2,481,-906, 8 cl. Appl Dec 24, '43; granted Sep 13, '49

Spacer for electron-discharge tubes, Norman B. Krim, 2,464,241, 3 cl. Appl May 10, '45; granted Mar 15, '49

Supporting means for vacuum tube electrodes, Edwin C. Ewing, 2,486,829, 6 cl. Appl Aug 31, '45; granted Nov 1, '49

Tube Sockets

Patents

Adapter, Leslie G. Lawrence, 2,481,027, 3 cl. Appl Mar 19, '46; granted Sep 6, '49

Clamping device for electron tubes and the like, Arthur Chiger, 2,461,198, 3 cl. Appl June 23, '47; granted Feb 8, '49

Clamping device for vacuum tube apparatus, Bertram M. Harrison, 2,474,976, 3 cl. Appl Dec 28, '44; granted July 5, '49

Electron tube mount stabilizer support, Harry Kenneth Ishler, 2,478,969, 4 cl. Appl July 19, '44; granted Aug 16, '49

Electron tube socket, Vincent E. Thomason, 2,492,-202, 2 cl. Appl Nov 4, '44; granted Dec 27, '49

Holder for thermionic valves and like electrical devices and means for securing it to supports, George Wagstaff, 2,461,487, 3 cl. Appl Feb 28, '45; granted Feb 8, '49

Holder for thermionic valves and the like and means for securing them to apertured supports, George Wagstaff, 2,464,778, 2 cl. Appl Feb 1, '45; granted Mar 15, '49

Mount for electron tubes, Otto H. Schade, 2,460,398, 20 cl. Appl Jan 11, '47; granted Feb 1, '49

Mount structure for electron discharge devices, William H. Warren and Norval H. Green, 2,476,-646, 14 cl. Appl May 17, '46; granted July 19, '49

Radio tube socket, Donald Jackson, 2,468,368, 3 cl. Appl July 25, '46; granted Apr 26, '49

Sealed demountable joint for vacuum tubes, Henri Saucet, 2,485,926, 4 cl. Appl July 16, '46; granted Oct 25, '49

Socket for electronic tubes, William A. Ready, 2,477,940, 1 cl. Appl Jan 10, '45; granted Aug 2, '49

Socket for electronic tubes with associated condensers, William J. Larkin, 2,458,390, 6 cl. Appl Feb 21, '46; granted Jan 4, '49

Tube mounting, Donald J. Nigg, 2,484,578, 4 cl. Appl July 5, '47; granted Oct 11, '49

Vacuum tube socket, 2,472,131, 5 cl. Appl Jan 15, '46; granted June 7, '49

See also

Manufacturing Techniques

VACUUM TUBES, Miniature

Construction criteria for miniature tubes. Elettronica 4:318-319 Nov '49. In Italian

Improvements in the placing of the pins and their connections in the new miniature tubes. RCA application note. Rev Telegr No 436:33-34 Jan '49. In Spanish

New series of small radio valves. G. Alma and F. Prakke. Philips Tech Comm Aust 6:3-8 '49

Sub-miniature valves. Elec Rev 145:1106 Dec 9, '49

Table of miniature tubes. Toute la Radio No 138: 249-250 Sep '49. In French

Patents

Subminiature type vacuum tube structure, Ross Wood, 2,476,940, 10 cl. Appl May 22, '47; granted July 19, '49

Vacuum tube with filamentary cathode, John A. Victoreen, 2,462,441, 3 cl. Appl Feb 12, '47; granted Feb 22, '49

See also

Microwaves, Tubes

VACUUM TUBES, Pentodes

Design considerations for a dual control grid pentode. R. W. Slinkman. NEC Proc 4:209-219 '48

New high mu short wave HF tube — EF42 pentode. (Et nyt stejlt KB Ror Pentoden EF 42) Radio Ekko 11:196-197 Oct '48

VACUUM TUBES, Pentodes-Cont'd.

New modulation principle for beam tubes. (Nyt Udstyringsprincip for "Beam-Tubes") Radio Ekko 11:50-51 Mar '48

RF pentode valves. H. N. Gant. RSGB Bul 24: 219-221 Mar '49

Type 5811 and type 5807 tubes — the smallest commercial pentode amplifiers. L. Grant Hector and H. R. Jacobus. IRE Proc 37:167 Feb '49

Variation of input impedance of television amplifying pentodes. F. Juster. Telev Franc No 46: 23-26+ Apr '49. In French

VACUUM TUBES, Tetrodes

See Vacuum Tubes

VACUUM TUBES, Transmitting

Coolers for transmitter tubes with high water turbulence. (Senderoehrenkuehler mit erhoehter Turbulenz des Kuehlwassers) Elektrotechnik 3: 220-221 July '49

Cooling of high-power radio valves. J. Bell. Engineering 168:258+ Mar 18, '49

Development of radio transmitting valves. J. Bell and J. W. Davies. GEC Jour 16:138-149 July '49

Dismountable transmitting tubes with continuous evacuation. (Les tubes d'emission demontables a vide entretenu) M. Matricon. Rev Tech Comp Franc Thomson-Houston 2:33-38 Apr '45

ECC40 double triodes in transmitters. (Dobbelt-Trioden ECC40 i Sendere) Radio Ekko 12:213-214 Nov '49

Guaranteed life of power valves. F. Dickson. Philips Tech Comm Aust 2-3:14-16 '49

Method of multiple operation of transmitter tubes particularly adapted for television transmission in the UHF band. George H. Brown and others. IRE Proc 37:169 Feb '49

Modern transmitter tubes. (Moderne Senderrochren) Radio Tech pt 1 25:523-525 Sep '49; pt 2 25:592-594 Oct '49; pt 3 25:644 Nov '49

New inexpensive transmitter tube. (Vi prover et nyt, billigt og godt Senderror) Radio Ekko 11: 12-13 Jan '48

New interesting transmitter tube, ultra short wave triode TB 2.5. 300. (Et nyt interessant Senderror: UKB Trioden TB 2,5/300) Radio Ekko 11:221-222 Nov '48

New technique for the manufacture of sealed transmitting tubes. (Une nouvelle technique de fabrication des tubes d'emission scelles) M. Matricon and J. Chanterequ. Rev Tech Comp Franc Thomson-Houston 2:5-18 Apr '45

New ultra short wave transmitter tube QQC 04/15 for 2 meter band. (Et nyt UKB-Senderror dobbelt-tetroden QQC 04/15 verlegnet til 2m-Arbejdet) Radio Ekko 12:135 July '49

Radiators for transmitting valves. A. J. Young. Marconi Rev 12:85-91 July-Sep '49

Standardization of parts in the manufacture of CFTH transmitting tubes. (La normalisation des pieces detachees dans la fabrication des tubes d'emission CFTH) R. Montagne. Rev Tech Comp Franc Thomson-Houston 2:19-23 Apr '45

Study and development of a new method of cooling by forced air adapted to vacuum tubes. J. Prevost and others. Ann Radioelec 4:138-148 Apr '49. In French

Transmitting tube targets in Germany. 1947. PB 88961s

Transmitting tubes. C. P. Pluss. Rev Telegr pt 1 No 435:851-854 Dec '48; pt 2 436:20-22 Jan '49. In Spanish

Transmitting valve cooler with increased turbulence of the cooling water. M. J. Snijders. Philips Tech Rev 10:239-246 Feb '49

Patents

Heater controlling circuit, Victor W. Breitenstein, 2,471,929, 18 cl. Appl Feb 11, '44; granted May 31, '49

Multiunit electron tube, William W. Eitel and Jack A. McCullough, 2,468,433, 5 cl. Appl June 9, '47; granted Apr 26, '49

Multiunit electron tube, William W. Eitel and Jack A. McCullough, 2,468,434, 8 cl. Appl June 9, '47; granted Apr 26, '49

VACUUM TUBES, Triodes

Application of power series to the solution of nonlinear circuit problems. A. W. Gillies. IEE Proc 96:453-457 Nov '49

Current distribution in triodes, neglecting space charge and initial velocities. H. C. Hamaker. Appl Sci Res B1:77-104 '48

ECC-40: new double triode. L. Liot. Telev Franc No 49:18-20 July '49. In French

Empirical formulas for amplification factor. W. H. Aldous. IRE Proc 37:60-61 Jan '49

Factors influencing the perveance of power-output triodes. Gordon R. Partridge. IRE Proc 37:87-93 Jan '49

Improved corona triode voltage regulating system. C. M. Turner. AECU 303:8 May 13, '49

Structural modifications of types 6SQ7-GT and 12SQ7-GT. Elettronica 4:198-199 Aug '49. In Italian

Triode and tetrode tubes. J. T. Frye. Radio-Electronics 21:50+ Dec '49

Triode interelectrode capacitance. E. E. Zepler and J. Hekner. Wireless Eng 26:53 Feb '49. Corresp. R. H. Booth. Wireless Eng 26:211 June '49

Triode with pentode characteristics. M.S. thesis. Shih Chang Feng. Ohio State U E.E. Dept June '49

Tube engineering news. Communications 29:22-23 June '49

Patents

Cathode-input signal-translating arrangement, Harold A. Wheeler, 2,463,229, 14 cl. Appl June 2, '44; granted Mar 1, '49

Electric discharge device, James E. Beggs, 2,459,-487, 8 cl. Appl Mar 27, '46; granted Jan 18, '49

Electron discharge device, Carl Arne Schleimann-Jensen, 2,465,041, 2 cl. Appl Jan 15, '45; granted Mar 22, '49

Electron discharge device, Hilmar A. Andresen, 2,462,153, 11 cl. Appl May 28, '45; granted Feb 22, '49

Electron discharge device and its circuits, Louis W. Parker, 2,477,644, 3 cl. Appl Dec 8, '45; granted Aug 2, '49

Electron tube, William Walter McGoffin, 2,490,145, 4 cl. Appl July 12, '46; granted Dec 6, '49

VACUUM TUBES, Triodes, *Patents*–Cont'd.

Grid controlled electron tube, Paul W. Charton, 2,460,062, 18 cl. Appl Nov 23, '45; granted Jan 25, '49

See also
Microwaves, Tubes

VELOCITY MODULATION

See
Cavity Resonator
Klystrons
Microwave Tubes, Velocity Modulated

VIBRATORS

See Power Supplies

VOLTMETERS

Balanced voltmeter for telephone line measurements. (Voltmetro bilanciato per misure telefoniche) Gaetano Dalphane. Elettronica 4:37 Jan '49

DC voltage multiplier for Sylvania polymeter. Sylvan N 16:G-2 Jan '49

Direct-reading dynamic electrometer. J. van Hengel and W. J. Oosterkamp. Philips Tech Rev 10:338-346 May '49

Discussion on "a note on the measurement of short-duration recurrent voltage impulses by means of spark-gaps." IEE Proc 96:79+ Feb '49

High AC voltage measurements. Henry Chanes. Suc Serv 10:14 Nov '49

High-impedance millivolt measurements above 5 mc. Walter K. Volkers. IRE Proc 37:173 Feb '49

High-impedance voltage measurements with the direct reading dynamic electrometer. (Hochohmige Spannungsmessung mit dem direkt anzeigenden dynamischen Elektrometer) Funk und Ton 3:538-540 Sep '49

High-voltage meter. (Ein Hochspannungsvoltmeter fuer Absolutmessungen) Gaenger. Arch Elec 39:443 July '49

High-voltage multipliers. Henry Chanes. Suc Serv 10:5 Sep '49

Instantaneous voltage measurement by use of a trigger circuit. R. G. Kloeffler and K. H. Martin. PB 98694

"Miniwatt" stabilizing tube 85A1 as a voltage reference. C. J. Boers. Philips Tech Comm Aust 5:12-15 '49

New expanded scale AC voltmeter. N. P. Millar. AIEE Proc 9161:1-3 July '49. Also in Elec Eng 68:1044 Dec '49

Precision electrothermic voltmeter. F. L. Hermach. Elec Eng 68:28-29 Jan '49

Primary high-frequency voltage standard. Myron C. Selby. Instruments 22:318 Apr '49

Primary high-frequency voltage standard. Radio & TV N 41:7+ May '49

Primary RF voltage standard. John Markus. Electronics 22:172 June '49

Reports covering radio receivers, band filters, voltmeters, antennas, transformers, etc., from 1942 to 1945. Miscellaneous data sheets, drawings, and wiring diagrams are included. PB 84926

Rocket applications of electrostatic generating voltmeters. J. F. Clark, jr. Instruments 22:1007-1009 Nov '49

Sensitive indicator of AC voltage fluctuations. G. M. Petropoulos. Jour Sci Instr 26:372-374 Nov '49

Television kilovoltmeter. Rufus P. Turner. Radio Ser Deal 10:24-26+ Mar '49

Vector voltage indicator. Peter G. Sulzer. Electronics 22:107+ June '49

Voltage measurement in simple divider networks. G. A. Bryan. RSGB Bul 25:15+ July '49

Voltage measurement without output. (Leistungslose Spannungsmessung) Radio Tech 25: 477-478 Aug '49

Voltage measurements for very short pulse. (Spannungsmessung sehr kurzer Impulse) Funk und Ton 3:121-122 Feb '49

Voltmeter for low frequencies. R. Besson. Toute la Radio No 132:38-39 Jan '49

Patents

Alternating current compensator circuit for measuring, Gotthard Viktor, Arnold Gustafsson and Johan David Halmqvist, 2,471,105, 5 cl. Appl Dec 12, '44; granted May 24, '49

Circuit arrangement adapted to visualize direct voltages on the screen of a cathode-ray oscillograph, Antheunis Jacobs, 2,466,590, 2 cl. Appl Mar 3, '47; granted Apr 5, '49

Cold cathode tube voltage indicator, Theodore Spierer, 2,491,781, 4 cl. Appl Oct 25, '45; granted Dec 20, '49

Composite test probe for radio apparatus and the like, John Francis Rider, 2,488,328, 3 cl. Appl June 12, '46; granted Nov 15, '49

Direct-current measuring and recording device, Dale H. Nelson, 2,476,318, 7 cl. Appl Sep 7, '44; granted July 19, '49

Dual purpose voltmeter range attenuator, Roswell W. Gilbert, 2,478,966, 4 cl. Appl Mar 29, '48; granted Aug 16, '49

Electrical measuring system, Haakon M. Evjen, 2,475,827, 2 cl. Appl Nov 6, '45; granted July 12, '49

Electrostatic measurement of high-frequency voltage, Auguste Louis Marie Antoine Roux, 2,482,801 12 cl. Appl July 25, '45; granted Sep 27, '49

High-voltage tester and indicator, Edward V. Sundt, 2,474,073, 4 cl. Appl Dec 13, '46; granted June 21, '49

Measuring system with capacitor having characteristics of an infinite capacity, Albert J. Williams jr., 2,459,730, 7 cl. Appl June 30, '44; granted Jan 18, '49

Motor control system with stray signal elimination, Rudolf F. Wild and Leonard Stanton, 2,475,576 19 cl. Appl Feb 10, '48; granted July 5, '49

Potential comparator, Owen A. Tyson, 2,473,457, 1 cl. Appl Aug 1, '45; granted June 14, '49

Pulse storage device, Otto H. Schmitt, 2,468,687, 5 cl. Appl July 9, '45; granted Apr 26, '49

Standard cell construction, Frederick W. Side, 2,484,593, 5 cl. Appl Aug 15, '46; granted Oct 11, '49

Voltmeter for high voltages, Hannes Alfven and Sigvard Eklund, 2,464,428, 4 cl. Appl Nov 29, '44; granted Mar 15, '49

VOLTMETERS, *Patents*-Cont'd.

Wide band probe, Donald D. Grieg and Arnold M. Levine, 2,483,410, 3 cl. Appl Oct 30, '45; granted Oct 4, '49

See also

Measurements & Meters, Multimeters

VOLTMETERS, VTVM

AC vacuum-tube voltmeters. Henry Chanes. Suc Serv 10:15+ Dec '49

Cathode follower VTVM. Ernest J. Schultz. Radio & TV N 42:52+ Aug '49

DC vacuum-tube voltmeter. (Et Rorvoltmeter) Radio Ekko 10:70-73 Apr '47

Getting the most from your VTVM. F. Haas. Toute la Radio No 136:177-179 June '49. In French

30kv negative voltmeter. Radio-Electronics 20:51 Apr '49

Low-frequency vacuum-tube voltmeter. (Voltmetre a lampes b.f.) R. Besson. Toute la Radio No 132:38-39 Jan '49

Modern electronic VOM. A. Lytel. Radio Ser Deal 10:13-14+ Dec '49

New sylvania polymeter, multi-purpose vacuum-tube voltmeter designed for television, FM, AM and electronic circuits. R. R. Shields. Sylvan N 16:T17+ May '49

Probe for VTVM. (Tastzusatz zum Roehrenvoltmeter) Radiowelt 4:12 Feb '49

RCA voltohmyst electronic meter is highly versatile in ham shack. A. M. Seybold. Ham Tips 9:1+ July '49

Reflex valve voltmeter. M. G. Scroggie. Wireless World 55:401-404 Oct '49

Vacuum capacitor voltage dividers. E. F. Kiernan. Electronics 22:140+ Sep '49

Vacuum-tube measuring instruments. (Un controleur electronique) F. Haas. Toute la Radio No 136:177-179 June '49

Vacuum tube voltmeter. (Rorvoltmeter) Radio Ekko 9:112-114 May '46

Vacuum-tube voltmeter. (Um voltometro a valvula) Radio J 1:2 Aug '49

Vacuum tube voltmeters. William R. Wellman. Radio Ser Deal 10:16-17+ Feb '49

Vacuum tube voltmeters with compensating circuits. (Roehrenvoltmeter mit Kompensationsschaltungen) Funk und Ton 3:356-358 June '49

Valve voltmeter. A. G. Wood. Short Wave Mag 6: 782-786 Jan '49

Volt-ohm-milliammeter. Techni-Talk 1:3 Feb-Mar '49

VTVM in radio applications. (Roehrenvoltmeter, ein wichtiges Messgeraet der Radiotechnik) Radio Tech 25:51-56 Jan '49

Patents

Discharge device for voltage measurement, Antonius Wilhelmus Vingerhoets and Hendrik Niewdorp, 2,458,659, 5 cl. Appl Apr 27, '46; granted Jan 11, '49

High impedance vacuum tube voltmeter, Joe K. Bair, 2,478,174, 8 cl. Appl Sep 21, '45; granted Aug 9, '49

Linear response vacuum tube voltmeter, Roy A. McNaughton, 2,470,219, 8 cl. Appl Mar 7, '44; granted May 17, '49

Method and apparatus for removing random fluctuations from intensity measurements, Clifford Jesse Gibbs and James Henry Stein, 2,469,383, 13 cl. Appl Mar 4, '44; granted May 10, '49

VOLUME EXPANDERS and COMPRESSORS

Clever GG compressor. (En fiks GG "Compressor") Radio Ekko 11:95-96 May '48

Preselection of variable gain tubes for compressors. K. Singer. Soc Motion Picture Eng J 52:684-689 June '49

Volume compressors for sound recording. W. K. Grimwood. Soc Motion Picture Eng J 52:49-75 Jan '49

See also

Vacuum Practice

W

WATTMETERS

AC wattmeters. H. E. Angold. Elec Rev 145:201 July '49

Heat flow ratio as a design parameter in thermal demand meters. J. S. Nelson. AIEE Proc 9160: 1-7 July '49

Loading for meter tests controlled automatically. W. C. Downing, jr. Elec World 131:75-78 May 7, '49

Maximum-demand meter and alarm. Engineering 168:137 Feb 11, '49

New developments in logarithmic amplifiers. C. J. LeBel. Audio Eng 33:15-17+ Sep '49

New device for calibrating watt-hour meters. H. F. Robison and W. H. Wickham. Elec Eng 68:329 Apr '49

New meter standards. P. Schiller. Elec Rev 145: 1231-1232 Dec 30, '49

New thermal volt-ampere demand meter. M. E. Douglass and W. H. Morong. AIEE Proc 922:1-5 Apr '49. Also in Elec Eng 68:477+ June '49

Novel multiplying circuits with application to electronic wattmeters. M. A. H. El-Said. IRE Proc 37:1003-1015 Sep '49

Parasitic forces existing in induction watt-hour meters. G. F. Shotter. IEE Proc 96:729-751 Oct '49

Power factor indicator built from watthour meter. Lawrence G. Getz. Elec World 131:56-58 Jan 1, '49

Radio frequency wattmeter. Thesis. M. J. Ehrlich. U Calif Eng Dept Sep 27, '48

Self-contained UHF wattmeter. Norman B. Ritchey. Radio & TV N (Eng Ed) 42:10-11+ Dec '49

Simple new parallel circuit solves old measurement problem. E. E. Lynch. Gen Elec Rev 52:24-26 July '49

Steps in floodproofing a watthour meter. E. L. Keller. Elec World 131:86-87 Apr 9, '49

WATTMETERS-Cont'd.

Surge protection in a modern watthour meter. F. H. Busch and G. D. Williams. AIEE Proc section 920:1-5 Apr '49. Also in Elec Eng 68:418+ May '49 and Gen Elec Rev 52:40 May '49

Testing watthour meters. Elec Rev 145:939-940 Nov 11, '49

Three-phase meters. G. W. Stubbings. Elec Rev 144:853-854 May 20, '49

Watthour meters. Elec Rev 144:613+ Apr 15, '49

Patents

Maximum demand meter, Albert J. Allen, 2,484,396, 5 cl. Appl Oct 27, '48; granted Oct 11, '49

Rectifier bridge type wattmeter, John Norman de Gruchy, 2,492,556, 5 cl. Appl Sep 9, '48; granted Dec 27, '49

System analyzer, Emory B. Phillips, 2,487,942, 11 cl. Appl May 13, '46; granted Nov 15, '49

See also

Microwaves, Measurement

WAVEFORM ANALYSIS

Analysis and synthesis of musical sounds. A. W. Ladner. Electronic Eng 21:379-386 Oct '49

Checking video and synch waveforms using a CRO. Samuel L. Marshall. Radio Ser Deal 10:15 Jan '49

Design and construction of an automatic wave analyzer. H. F. Hicks. PB 98742

Direct reading pulse length meter and shape analyzer. R. Rudin. Rev Sci Instr 20:467-471 July '49

Electronic method for approximating the frequency spectra of transient functions. E. S. Hoffer. Naval Res Lab Rep. FIAT 3406 13 pp Jan 27, '49. AEC

Fourier analysis in relation to the electrocardiogram. W. E. Benham. Brit IRE J 9:170-183 May '49

Fourier coefficient harmonic analyzer. S. Charp. Electronic Eng 68:1057 Dec '49

Fundamentals of square wave testing. Charles Chilton. Radio Ser Deal 10:19 Feb '49

Harmonic analyzer and synthesizer. Jules Lehmann. Electronics 22:106-110 Nov '49

Harmonic content of multivibrator waveforms. W. C. Vaughan. Electronic Eng 21:214-217 June '49

New Fourier coefficient harmonic analyzer. S. Charp. AIEE Proc section 9163:1-8 July '49

Optimum performance of a wave analyzer. N. F. Barber. Electronic Eng 21:175-179 May '49. Corresp. 21:304-305 Aug '49

Pulse amplitude analyzer for nuclear research using pretreated pulses. C. H. Westcott and G. C. Hanna. Rev Sci Instr 20:181-189 Mar '49

Pulse height distribution analyzer. William E. Glenn, Jr. Nucleonics 4:40+ June '49

Remarks on the harmonic analysis of aleatory functions. A. Bland-Lapierre. Rev Sci 85:1027-1040 Nov '47

Speech spectrum analyzer. P.O. Elec Eng J 41:188 Jan '49

Square-wave analysis of compensated amplifiers. Philip M. Seal. IRE Proc 37:48-57 Jan '49

Square waves. (Les signaux rectangulaires) M. Verdier. Toute la Radio No 137:202-204 July-Aug '49

Ten-channel electrostatic pulse analyzer. D. A. Watkins. Rev Sci Instr 20:495-499 July '49

Waveform analysis. O. Abbiati. PB 2831

Patents

Apparatus for analyzing complex waves, Earle L. Kent, 2,491,186, 7 cl. Appl July 12, '45; granted Dec 13, '49

Apparatus for analyzing waves, Thomas H. Long, 2,491,189, 14 cl. Appl June 16, '45; granted Dec 13, '49

Apparatus for analyzing waves, Thomas H. Long, 2,491,190, 12 cl. Appl June 30, '45; granted Dec 13, '49

Wave analyzer, George W. Cook, 2,465,355, 4 cl. Orig appl Jan 27, '43; divided and this appl Feb 14, '45; granted Mar 29, '49

Wave-signal analyzing system, Bernard D. Loughlin, 2,490,530, 11 cl. Appl Dec 17, '45; granted Dec 6, '49

See also

Electromagnetic Theory, Mathematics
Oscilloscopes & Oscillographs

WAVEGUIDES

Analogies between the vibrations of elastic membranes and the EM field in guides and cavities. E. C. Cherry. IEE Proc pt III 96:346-360 July '49

Application of conformal representation to the field equations for rectangular waveguides of non-uniform cross-section. R. Piloty, jr. Zeit angew Phys 1:441-448 Aug '49

Attenuation in waveguides. Henry Lisman. Electronics 22:112+ June '49

Basis of the application of network equations to waveguide problems. D. M. Kerns. RP 1990 Nat Bur Stand

Broadband microwave components. PB 98293

Broadband waveguide and waveguide component techniques and designs. PB 98293s

Closed and open-ridge waveguide. T. G. Mihran. IRE Proc 37:640-644 June '49

Consideration of directivity in waveguide directional couplers. S. Rosen and J. T. Bangert. IRE Proc 37:393-401 Apr '49

Contributions to the theory of wave guides. W. Z. Chien and others. Canada J Res 27A:69-129 July '49

Design of practical high power slotted wave guide arrays. D. R. Hay. NRC 1849

Disk-loaded wave guides. E. L. Chu and W. W. Hansen. Jour Ap Phys 20:280+ Mar '49

Effect of openings in walls of metal waveguides on the wave propagation. G. Klages. Arch Elekt Ubertragung 3:85-92 Mar '49

Electromagnetic radiation from waveguides and horns. L. Lewin. Nature 164:311 Aug 20, '49

Equivalent circuits for coupling of waveguides by apertures. N. Marcuvitz. IRE Proc 37:163 Feb '49

'AVEGUIDES–Cont'd.

xperimental investigation of reflections produced in a waveguide by any dielectric. L. R. Noriega. Rev Telecom 3:2-10 June '48

xperimental studies of re-entrant transmission lines. M.S. thesis. George Kazuo Tajima. U Calif Eng Dept Sep '48

igure of merit for directional couplers. George James. Elec Eng 68:254 Mar '49

eometric representation of characteristics of an obstacle inserted in a waveguide. J. Ortusi and P. Fechner. Ann Radioelec 4:131-135 Apr '49. In French

lossary of terms used in waveguide technique. Sup No 1 Brit Stand Inst Info Sheet p 1 May '48

ollow waveguide having a phase velocity $v<c$ for the E_{10}-wave. (Eine Hohlrohrleitung mit Phasengeschwindigkeit $v<c$ fuer die E_{10}-Welle) E. Kettel. Frequenz 3:73-76 Mar '49

npedence of resonant transmission lines and wave guides. W. W. Harman. Jour Ap Phys 20:1252-1255 Dec '49

ivestigation of dielectric rod as waveguide. C. H. Chandler. Jour Ap Phys 20:1188-1192 Dec '49

aterally-displaced slot in rectangular waveguide. A. L. Cullen. Wireless Eng 26:3+ Jan '49

agnetically controlled wave-guide attenuators. T. Miller. Jour Ap Phys 20:878-883 Sep '49

iicrowaves; wave guides. C. W. Palmer. Radio-Electronics pt 1 20:24-26 Apr '49; pt 2 20:55-58 May '49

odel for studying electromagnetic waves in rectangular wave guides. K. S. Knol and G. Diemer. Philips Tech Rev 11:156-163 Nov '49

etwork equations to waveguide problems. David M. Kerns. Nat Bur Stand Res J 42:515-540 May '49

onstationary processes in wave guides. R. V. Khokhlov. Akad Nauk Dok 61:637-640 '48. In Russian

otes on waveguides for slow waves. W. Walkinshaw. Jour Ap Phys 20:634-635 June '49

iston attenuator in a waveguide below cutoff. Wheeler Mono No 8 Apr-Sep '48

ropagation of TE_{11} waves in curved wave guides. W. J. Albersheim. Bell System Tech J 28:1+ Jan '49

eflection cancellation in waveguides. L. Lewin. Wireless Eng 26:258-264 Aug '49

eflection from corners in rectangular wave guides-conformal transformation. S. O. Rice. Bell System Tech J 28:104+ Jan '49

epresentation of the field in a wave guide in form of a sum of the TE and TM fields. A. A. Samarski and A. N. Tikhonov. Zh Tekn Fiz 18: 959-970 July '48. In Russian

et of second-order differential equations associated with reflections in rectangular waveguides-application to guide connected to horn. S. O. Rice. Bell System Tech J 28:136+ Jan '49

ome properties of radiation from rectangular waveguides. J. T. Bolljahn. IRE Proc 37:617-621 June '49

andard for waveguides. W. H. Fenn. Electronics 22:110+ June '49

heory of T-R box. H. A. Bethe and others. PB 98693

Waveguide bends. PB 98566

Waveguide field pattern in evanescent modes. A. L. Cullen. Wireless Eng 26:317-322 Oct '49

Waveguides. R. Malvano. Ricerca Sci 18:1595-1612 Nov-Dec '48

Patents

Adjustable wave guide joint, Walter Aron, 2,463,-347, 3 cl. Appl May 8, '46; granted Mar 1, '49

Application of high loss dielectric to wave guide transmission systems, George L. Fernsler, 2,465,-719, 6 cl. Appl Apr 29, '43; granted Mar 29, '49

Cavity joint, Ernest C. Okress, 2,476,621, 7 cl. Appl Nov 6, '42; granted July 19, '49

Coupled cavity resonator and wave guide apparatus, Arnold E. Bowen, 2,458,556, 13 cl. Orig appl Apr 8, '41; divided and this appl Mar 5, '42; granted Jan 11, '49

Coupling system for wave guides, Kenneth A. Young, 2,474,137, 12 cl. Appl Feb 15, '44; granted June 21, '49

Directional coupler, Edward M. Purcell, 2,478,317, 4 cl. Appl July 9, '45; granted Aug 9, '49

Electrical apparatus, Carol G. Montgomery, 2,480,-194, 3 cl. Appl Apr 26, '44; granted Aug 30, '49

Flexible electromagnetic waveguide, William Douglas Allen, 2,479,288, 10 cl. Appl Feb 28, '46; granted Aug 16, '49

Flexible section for wave guide, Edwin H. Meier and Hubert J. Schafly, 2,464,598, 1 cl. Appl Aug 30, '43; granted Mar 15, '49

High-frequency bridge circuit, William W. Hansen, 2,484,028, 8 cl. Appl Feb 17, '45; granted Oct 11, '49

High-frequency resonator, Merle R. Hubbard, 2,462,-639, 11 cl. Appl Mar 2, '44; granted Feb 22, '49

Modulation apparatus, Royden C. Sanders, jr. and William R. Mercer, 2,468,237, 7 cl. Appl May 24, '47; granted Apr 26, '49

Modulator, Paul J. Pontecorvo, 2,462,893, 3 cl. Appl Mar 7, '46; granted Mar 1, '49

Radiating electromagnetic wave guide and resonator, William W. Hansen, 2,489,288, 30 cl. Appl July 10, '40; granted Nov 29, '49

Resonant waveguide switching, Walter F. Kannenberg, 2,466,439, 1 cl. Appl Apr 27, '44; granted Apr 5, '49

Resonator apparatus, William W. Hansen and Russell H. Varian, 2,460,288, 7 cl. Orig appl Aug 24, '39; divided and this appl Dec 6, '43; granted Feb 1, '49

Standing wave detector and indicator system, Daniel Blitz, 2,472,785, 11 cl. Appl Sep 14, '46; granted June 14, '49

Switch tube device for waveguides, William M. Hall and James D. Le Van, 2,491,971, 5 cl. Appl July 13, '45; granted Dec 20, '49

Transmission controlling device for waveguides, Reginald M. Pease, 2,474,688, 6 cl. Appl June 6, '45; granted June 28, '49

Ultra high frequency coupler between contiguous ends of aligned waveguide sections, Ernest C. Ikress and Alfred H. Laidig, 2,473,724, 4 cl. Appl Sep 24, '43; granted June 21, '49

Ultra high frequency coupling system, Guilford L. Hollingsworth and Nick A. Schuster, 2,476,732, 11 cl. Appl Aug 12, '43; granted July 19, '49

WAVEGUIDES, *Patents*-Cont'd.

Ultra high frequency rotatable joint, George L. Ragan, 2,473,443, 8 cl. Appl Apr 18, '44; granted June 14, '49

Vacuum seal for waveguides, John W. Coltman, 2,467,730, 10 cl. Appl Nov 10, '43; granted Apr 19, '49

Waveguide, Harold C. Early, 2,479,220, 5 cl. Appl Aug 1, '45; granted Aug 16, '49

Circular

Attenuation in a dielectric circular rod. W. M. Elsasser. Jour Ap Phys 20:1193-1196 Dec '49

Circular waveguides. (Hohlrohrleitungen mit Kreisquerschnitt) Radio Tech 25:515-518 Sep '49

Corrections to the attenuation constants of piston attenuators. J. Brown. IEE Proc pt III 6:491-495 Nov '49

Electromagnetic waves in circular wave guides containing two coaxial media. R. Teasdale and T. J. Higgins. NEC Proc '49

Investigation of dielectric rod as waveguide. C. H. Chandler. Jour Ap Phys 20:1188-1192 Dec '49

Propagation of electromagnetic waves in a tube containing a coaxial DC discharge. P. Rosen. Jour Ap Phys 20:868-877 Sep '49

Theory of symmetrical waves in a circular wave guide with an open end. L. A. Vainshtein. Zh Tekn Fiz 18:1543-1564 Dec '48. In Russian

Transverse field in waveguides of circular cross-section. P. Jacottet. Arch Elek 39:108-115 Sep '48

Patents

Apparatus for testing insulating materials, Morris Muskat, 2,463,297, 1 cl. Appl Dec 21, '44; granted Mar 1, '49

Radio wave guide, William E. Bradley, 2,471,021, 11 cl. Orig appl Aug 15, '44; divided and this appl Aug 31, '44; granted May 24, '49

Excitation

Excitation of electromagnetic waves in cylindrical metallic waveguides. A. Colino. Jour Ap Phys 20:567-577 June '49

Excitation of radio waveguides,3. A. A. Samarski and A. N. Tikhonov. Zh Tekn Fiz 18:971-985 July '48. In Russian

Excitation of semi-infinite radio waveguide through an opening in its bottom surface. M. L. Levin. Zh Tekn Fiz 18:653-656 '48. In Russian

Modification of a method of calculating excitation of waveguides. M. B. Zakson. Akad Nauk Dok 66:637-640. In Russian

Theory of excitation of radio waveguides. G. V. Kisunko. Akad Nauk Dok 51:199-202 Jan 30, '46. In Russian

See also

Cavity Resonators
Impedance Matching
Transmission Lines

WAVE-SHAPING CIRCUITS

Clipper-filter systems. H. Walley. RSGB Bul 25: 138-140 Nov '49

Current integrator. 3 pp '48 AECD 1984

Design of pulse forming networks. M.S. thesis. Lester Mintzer. Ohio State U E.E. Dept Sep '48

Differentiating and integrating circuits using resistance and capacity. J. P. Calvelo. Rev Telegr No 444:518-521 Sep '49. In Spanish

High-power sawtooth current synthesis from square waves. Heinz E. Kallman. IRE Proc 37:173 Feb '49

Integrating circuits and improvement of linearity. R. Lemas. Telev Franc No 48:23-24 June '49. In French

Integration method of linearizing exponential waveforms. A. W. Keen. Brit IRE J 9:414-423 Nov '49

Limiter clipping action. Ph.D. thesis. N. K. Peters. Purdue U E.E. Dept Feb '48

Speech clippers. P. F. Cundy. RSGB Proc 5:5-9 Apr '49. Corresp. 24:294 May '49

Time-constant selection in application of RC differentiating and integrating circuits. R. J. Jeffries. Instruments 22:1106 Dec '49

Waveform and bandwidth. (Impulsform und Bandbreite) E. Marquardt. Funk und Ton 3:388-391 July '49

Patents

Circuit arrangement for producing a saw-tooth current in inductance coils, Johan Haantjes and Josue Jean Phillippe Valeton, 2,489,374, 5 cl. Appl May 3, '47; granted Nov 29, '49

Circuit arrangement for producing a saw-tooth current in inductance coils, Johan Haantjes and Josue Jean Phillippe Valeton, 2,489,375, 7 cl. Appl May 8, '47; granted Nov 29, '49

Circuit arrangement for producing a sine wave voltage from a pulse waveform, Leslie W. Germany, 2,461,637, 3 cl. Appl June 30, '45; granted Feb 15, '49

Electrical network for forming and shaping electrical waves, Alan Dower Blumlein, 2,465,840, 12 cl. Appl Aug 30, '44; granted Mar 29, '49

Electronic wave generating method and means, Robert M. Fraser, 2,469,227, 15 cl. Appl Jan 30, '46; granted May 3, '49

Frequency measuring circuit, Jan A. Rajchman and Edwin A. Goldberg, 2,492,368, 3 cl. Orig appl Apr 1, '42; divided and this appl Apr 29, '48; granted Dec 27, '49

Integrating system, Raymond C. Olesen, 2,463,553, 7 cl. Appl Apr 5, '44; granted Mar 8, '49

Pulse modifying circuit, Sven H. M. Dodington, 2,477,585, 10 cl. Appl Oct 10, '45; granted Aug 2, '49

Rate circuits, Percy Halpert, 2,462,095, 6 cl. Orig appl Aug 19, '41; divided and this appl June 27, '42; granted Feb 22, '49

Smoothing and differentiating circuit, David J. Campbell and Willis G. Wing, 2,492,355, 23 cl. Appl Dec 30, '42; granted Dec 27, '49

Synchronizing system for saw-tooth wave generators, David E. Sunstein, 2,492,018, 5 cl. Appl Nov 11, '44; granted Dec 20, '49

See also

Multivibrators
Oscillators, Non-Sinusoidal

X

-RAYS

utomatic braking device for X-ray apparatus. J. M. Constable. Philips Tech Rev 11:50-52 Aug '49

eramics; in manufacture of X-ray tubes and radio valves. German Industry Rep. FIAT 560 Brit Govt Pub

ompact radiographic tubehead using forced oil cooling. S. Gilman and J. Lempert. Elec Eng 68: 346 Apr '49

ata on German X-ray industry. German Industry Rep. JIOA 46 Brit Govt Pub

osimeter for X-rays; "Iontodor." German Industry Rep. BIOS 564 Brit Govt Pub

ffective use of collimating apertures in small-angle X-ray diffraction cameras. Orvil E. A. Boldaun and Richard S. Baer. Jour Ap Phys 20:983-992 Oct '49

lectron focusing in a demountable X-ray tube. J. S. Thorp. Jour Sci Instr 26:201-204 June '49

lectronic enhancement of X-ray film contrast. (Letter) J. S. Garvin and C. W. Goodwin. Science 110:481 Nov 4, '49

lectronic methods of measuring X-ray intensities. M.S. thesis. Nathan Spielberg. Ohio State U Phys Dept Sep '48

igh temperature precision X-ray camera. Paul Gordon. Jour Ap Phys 20:908-917 Oct '49. Also AECD 2426

igh temperature X-ray camera. H. L. Johnston. Physica 15:189-190 Apr '49

ollow anode tube for roentgenradiation. E. A. W. Mueller. PB 96245

nterrogations regarding high-frequency communication systems for army use, X-ray apparatus, etc. German Industry Rep. FIAT 272 Brit Govt Pub

easurement of intense low-voltage X-rays. Nat Bur Stand Tech Bul 33:86-87 July '49

easurement of intense low-voltage X-rays. John Markus. Electronics 22:166-167+ Sep '49

easurement of intensity of X-rays diffusely scattered by (using) a crystal with an interference counter with single impulse counts. Gustav Wagner and Albert Kochendorfer. Zeit Naturforsch pp 354-365 '48

echanical calculating machine for X-ray structure factors. V. Vand. Nature 163:169-170 Jan 29, '49

ew bent-crystal X-ray monochromator. W. A. Wooster and others. Jour Sci Instr 26:156+ May '49

enetration and diffusion of hard X-rays through thick barriers. U. Fano and others. Phys Rev pt 1 Approach to spectral equilibrium. 76:538-540 Aug 15, '49; pt 2 Asymptotic behavior when pair production is important. 76:739-742 Sep 15, '49

ortable microrentgen meter. 10 pp '44 MDDC 1484

eflecting microscope for X-rays. John Markus. Electronics 22:122 Aug '49

tudy of X-rays from Berkeley van de Graaff generator. M. R. Jeppson. 7 pp y 3.At7:22/AECU 214

Summarized proceedings of conference on X-ray analysis — London, Apr '48. Jour Sci Instr 26: 99+ Mar '49

Ultrasonic research and developments in X-ray equipment. German Industry Rep. BIOS 212 Brit Govt Pub

X-ray industry in Germany. Amended. German Industry Rep. CIOS XXVIII 31 Brit Govt Pub

X-ray microscope. Paul Kirkpatrick. Sci Am 180: 44+ Mar '49

Patents

Anode construction, Michael J. Zunick, 2,490,246, 1 cl. Appl Nov 13, '45; granted Dec 6, '49

Apparatus for producing a convergent X-ray beam, Ludo K. Frevel, 2,472,745, 5 cl. Appl Sep 19, '46; granted June 7, '49

Combined X-ray and fluoroscopic apparatus, Leo Mackta, 2,477,307, 12 cl. Appl Nov 9, '46; granted July 26, '49

Dual phototube X-ray timer for selective exposure of chest films, Russell H. Morgan and Paul C. Hodges, 2,486,866, 1 cl. Appl May 15, '46; granted Nov 1, '49

Exposure selecting device for X-ray apparatus, Russell H. Morgan and Paul C. Hodges, 2,488,315, 8 cl. Appl May 15, '46; granted Nov 15, '49

Metering circuit for X-ray machines, Louis L. Weisglass, 2,482,604, 1 cl. Appl Mar 22, '46; granted Sep 20, '49

Protective equipment, Allan R. Brown, 2,488,168, 3 cl. Appl Oct 15, '45; granted Nov 15, '49

Safety arrangement for X-ray apparatus, Marvin F. Hall, 2,492,281, 5 cl. Appl Mar 29, '45; granted Dec 27, '49

X-ray comprising a disk-shaped rotary anode, Bart Combee, 2,489,080, 2 cl. Appl July 18, '47; granted Nov 22, '49

X-ray control switch, Bernard A. Warmey, 2,485,340, 2 cl. Appl May 29, '47; granted Oct 18, '49

X-ray device, Johan Marie Ledeboer, 2,490,140, 3 cl. Appl Apr 16, '46; granted Dec 6, '49

X-ray equipment, Oswald Conrad Hollstein, 2,474,-421, 3 cl. Appl Feb 19, '48; granted June 28, '49

X-ray equipment, Oswald C. Hollstein, 2,474,422, 10 cl. Appl Nov 20, '47; granted June 28, '49

X-ray screen, William H. Byler, 2,487,097, 1 cl. Appl May 22, '45; granted Nov 8, '49

X-ray system, Charles T. Zavales, 2,492,343, 7 cl. Appl June 14, '45; granted Dec 27, '49

X-ray transformer control, Edwin Russell Goldfield, 2,477,298, 8 cl. Appl Dec 23, '46; granted July 26, '49

X-ray tube cooling apparatus, Wijbe Johannes Oosterkamp and Antonius Wilhelmus Vingerhoets, 2,468,942, 6 cl. Appl July 1, '46; granted May 3, '49

X-ray unit, Bruno F. Wehmer, 2,457,961, 2 cl. Appl Sep 26, '46; granted Jan 4, '49

See also

Medical & Biological Applications
Test Equipment, X-Rays

X-RAYS, Applications

Chemical analysis by X-ray photometry. G. A. Doxey. Electronics 22:87 Dec '49

X-RAYS, Applications–Cont'd.

Dosagemeter (X-ray) for surface therapy. German Industry Rep. BIOS 213 Brit Govt Pub

Flash radiography applied to ordinance problems. J. C. Clark. Jour Ap Phys 20:363 Apr '49

Industrial X-ray field in Germany. German Industry Rep. FIAT 535 Brit Govt Pub

Industrial X-ray laboratory inspection of gas-turbine cast blades. Elec Rev 144:643-647 Apr 22, '49

Interparticle interference effects in small angle X-ray scattering from fine powders. L. H. Lund and G. H. Vineyard. Jour Ap Phys 20:593-597 June '49

5kw crystallographic X-ray tube with rotating anode. A. Taylor. Jour Sci Instr 26:225-229 July '49

Medical X-ray protection up to 2 million volts. 43 pp CIOS 13.20:CS-41 U.S. Govt Pub

Miniature X-ray apparatus for dentists. J. Fransen. Philips Tech Rev 10:221-230 Feb '49

Probing chemicals with X-rays. DuPont Mag 43: 20+ Jan-Feb '49

Radar-circuit-powered X-ray movie equipment for operation at 150 frames per second. D. C. Dickson and others. IRE Proc 37:171 Feb '49

Radiological activities in Germany. German Industry Rep. BIOS 1688 Brit Govt Pub

Soaps and X-ray diffraction. Gopal S. Hattiangdi Nat Bur Stand Res J 42:331-341 Apr '49

X-Ray counters for K-capture isotopes. Eric Clarke. Tracerlog No 19:4-8 May '49

X-Ray work in some fields of research on metals and alloys, 1939-1946. A. M. B. Douglas. Iron and Steel Inst J 162:300-315 July '49

Patents

Focusing X-ray monochromator, Herbert Friedman, 2,474,240, 9 cl. Appl Aug 8, '45; granted June 28, '49

Shutter alarm, Elmer O. Wangerin and Richard K. Walker, 2,484,436, 8 cl. Appl Oct 13, '44; granted Oct 11, '49

X-ray spectrometer, Herbert Friedman, 2,474,835, 3 cl. Appl July 14, '45; granted July 5, '49

BIBLIOGRAPHY OF ENGINEERING BOOKS

ACOUSTICS

Acoustic Measurements. Leo L. Beranek.
John Wiley & Sons, Inc., New York, 914 pp, il, $7.00, 1949.

Loudspeakers. Third Edition. G. A. Briggs.
Wharfedale Wireless Works, Yorkshire, England, 88 pp, 36 il, $1.25, 1949.

Treatise on the Capture of Sound. (Traite de prise de son.) Bernhart.
Eyrolles Editeur, Paris, France, 382 pp, 2950 francs, 1949.

ANTENNAS

Aerials for Metre and Decimetre Wavelengths. R. A. Smith.
Cambridge University Press, London and New York, 218 pp, 125 il, $3.75, 1949.

A.R.R.L. Antenna Book. Fifth Edition.
American Radio Relay League, Inc., West Hartford, Conn., $1.00, 1949.

Microwave Antenna Theory and Design. Samuel Silver.
McGraw-Hill Book Co., Inc., New York, 614 pp, il, $8.00, 1949.

Radio Aerials. E. B. Moullin.
Oxford University Press, London and New York, 530 pp, il, $8.00, 1949.

Radio Navigation Antennas. (Radio-Navigation Aerienne.) P. Gaudillere.
Dunod, Paris, 248 pp, 123 il, 1949.

COMMUNICATIONS

Communication Circuit Fundamentals for Radio and Communication Engineers. Carl E. Smith.
McGraw-Hill Book Co., Inc., New York, 398 pp, il, $5.00, 1949.

Course in Radio Electricity. (Cours de Radioelectricite.) Vol. II: Amplification, modulation, oscillation and detection. (Amplification, modulation, oscillation et detection.) Barroux.
Eyrolles Editeur, Paris, France, 246 pp, 1490 francs, 1949.

Glimpse into Telecommunications. (Blick in das Fernmeldewesen.) H. K. Ibig.
Staufen Verlag, Krefeld, Germany, 306 pp, 82 il, 1949.

Introductory Radio. H. J. Hicks.
McGraw-Hill Book Co., Inc., New York, 382 pp, il, $3.20, 1949.

Outline of Radio.
George Newnes, Ltd., London, 688 pp, 1949.

Pulses and Transients in Communication Circuits. C. Cherry.
Chapman and Hall, London, 317 pp, il, 32s, 1949.

Radio Data Charts. 5th Edition. R. T. Beaty. Revised by J. McG. Sowerby.
Iliffe & Sons, Ltd., London, 91 pp, 7s. 6d., 1949.

Radio Engineering. Vol. II. E. K. Sandeman.
Chapman and Hall, London, 480 pp, 1949.

Radio Laboratory Handbook. 4th Edition.
Iliffe & Sons, Ltd., London, 430 pp, 12s. 6d., 1948.

Radio Manual. (Manuel Technique de la Radio.) E. Aisberg, R. Soreau, and H. Gilloux.
Societe des Editions Radio, Paris, France, il, 200 francs, 1949.

Radio Technology. Ernest J. Vogt.
Pitman Publishing Corp., New York, 556 pp, il, $6.00, 1949.

Reference Data for Radio Engineers.
Federal Telephone and Radio Corp., New York, 640 pp, $3.75, 1949.

War History of the Radio Branch.
National Research Council of Canada, Ottawa, Ontario, 131 pp, 1949.

Wireless for Beginners. 4th Edition. C. L. Boltz.
Harrap, London, 272 pp, il, 7s. 6d., 1949.

COMMUNICATIONS, Amateur

Hints & Kinks.
American Radio Relay League, Inc., West Hartford, Conn., $.50, 1949.

Radio Amateur's Beam Pointer Guide. John F. Rider.
John F. Rider Publisher, Inc., N.Y.C., 32 pp, $1.00, 1949.

Radio Amateur's Handbook.
American Radio Relay League, Inc., West Hartford, Conn., $2.00, 1949.

Radio Operator's License Q & A Manual. Milton Kaufman.
John F. Rider Publisher, Inc., New York, 608 pp, 193 il, $6.00, 1949.

COMPUTERS

Calculating Instruments and Machines. Douglas R. Hartree.
University of Illinois Press, Urbana, Illinois, 138 pp, 68 il, $4.50, 1949.

Description of a Relay Calculator. By the Staff of the Harvard Computation Laboratory.
Harvard University Press, Cambridge, Mass., 384 pp, il, $8.00, 1949.

Giant Brains. Edmund Berkeley.
John Wiley & Sons, New York, 270 pp, il, $4.00, 1949.

DIELECTRICS

Theory of Dielectrics, Dielectric Constant and Dielectric Loss. H. Froehlich.
Oxford University Press, London and New York, 192 pp, $6.00, 1949.

ELECTRICAL CIRCUITS

Electric Circuits and Machines. B. L. Robertson and L. J. Black.
D. Van Nostrand Company, Inc., New York, 440 pp, il, $5.00, 1949.

ELECTRICAL ENGINEERING

Basic Electrical Engineering. G. F. Corcoran.
John Wiley & Sons, N.Y.C., 449 pp, il, $4.50, 1949.

Earth Conduction Effects in Transmission Systems. E. D. Sunde.
D. Van Nostrand Company, Inc., New York, 373 pp, il, $6.00, 1949.

Electrical Engineers' Handbook: Electric Power. 4th Edition. H. Pender and W. Del Mar.
John Wiley & Sons, Inc., New York, il, $8.50, 1949.

High Voltage and High Performance. (Hochspannung und Hochleistung.) E. H. J. Biermanns.
Carl Hanser Verlag, Munich, Germany, 655 pp, 595 il, 49 marks, 1949.

Standard Handbook for Electrical Engineers. 8th Edition. Archer E. Knowlton, Editor.
McGraw-Hill Book Co., Inc., New York, 2280 pp, il, $12.00, 1949.

ELECTRICITY & MAGNETISM

Basic Electrical Principals. Maurice G. Suffern.
McGraw-Hill Book Co., New York, 430 pp, il, $3.20, 1949.

Electricity. C. L. Boltz.
George G. Harrap and Co., Ltd., London, England, 31 pp, 8s. 6d., 1949.

Electrotechnical Fundamentals. (Elektrotechnische Grundlagen.) Artur Daschler.
R. Winter Verlagsbuchhandlung, Zurich, Switzerland, 184 pp, 160 il, 15.5 francs, 1949.

Fundamentals of Electrical Engineering. Gerhard Jentsch.
Fachverlag Schiele & Schoen, Berlin, Germany, 224 pp, 1949. In German.

Permanent Magnets. (Abriss der Dauermagnetkunde.) Fischer.
Springer-Verlag, Heidelberg, Germany, 240 pp, 1948.

Principles of Electricity and Electromagnetism. 2nd Edition. G. P. Harnwell.
McGraw-Hill Book Co., Inc., New York, 655 pp, 397 il, $6.00, 1949.

Terrestrial Magnetism and Electricity. Edited by J. A. Fleming.
Dover Publications, Inc., New York, 794 pp, 296 il, $4.95, 1949.

Theory of Electricity and Magnetism. Max Planck.
The MacMillan Company, New York, 247 pp, $3.00, 1949.

ELECTROMAGNETIC THEORY

Atmospheric Electricity. J. Alan Chalmers.
Oxford University Press, London and New York, 192 pp, $3.75, 1949.

Course in Radio Electricity. (Cours de Radioelectricite.) Vol. I: Study of circuit propagation and radiation. (Etude de la propagation du circuit et du royonnement.) Barroux.
Eyrolles Editeur, Paris, France, 276 pp, 1490 francs, 1949.

Electric and Magnetic Fields. 3rd Edition. S. S. Attwood.
John Wiley & Sons, New York, 475 pp, $5.50, 1949.

Electromagnetic Waves. (Elektrische Wellen.) Winfried Otto Schumann.
Carl Hanser Verlag, Munich, Germany, 340 pp, 248 il, 28.5 marks, 1948.

Elements of Electromagnetic Waves. L. A. Ware.
Pitman Publishing Corp., New York, 203 pp, 98 il, $3.50, 1949.

Faraday's Discovery of Electro-Magnetic Induction. Thomas Martin.
Edward Arnold & Co., London, 160 pp, il, 9s., 1949.

Introduction to Waves and Oscillations. (Einfuchrung in die Lehre von den Schwingungen und wellen.) Wagner.
Dieterichsche Verlagsbuchhandlung, Wiesbaden, Germany, 656 pp, 1947.

Networks, Lines, and Fields. John D. Ryder.
Prentice-Hall, Inc., New York, 462 pp, $7.35, 1949.

Quantum Theory of Fields. Gregor Wentzel.
Interscience Publishers, Inc., New York, 225 pp, il, $5.00, 1949.

Radio Wave Propagation. Consolidated Summary Technical Report of The Committee on Propagation. Edited by S. S. Attwood.
Academic Press, Inc., New York, 548 pp, il, $8.80, 1949.

Terrestrial Radio Waves. Bremmer.
N. V. Philips' Gloeilampenfabricken, Eindhoven, Holland (distributor: Elsevier Publishing Co., Inc., New York), 354 pp, 91 il, $5.50, 1949.

Theory of Light. Max Planck.
The Macmillan Company, New York, 216 pp, $2.75, 1949.

Theory of Oscillations. A. A. Andronow and C. E. Chaikin.
Princeton University Press, Princeton, N.J., 358 pp, $6.00, 1949.

ELECTRONICS

Basic Electronics. R. G. Kloeffler and M. W. Horrell.
John Wiley & Sons, New York, 435 pp, il, $5.00, 1949.

Electronics in Engineering. W. R. Hill.
McGraw-Hill Book Co., Inc., New York, 374 pp, il, $3.50, 1949.

LECTRONICS–Cont'd.

lectronics Manual for Radio Engineers. Vin Zeluff and John Markus.
McGraw-Hill Book Co., Inc., New York, 879 pp, il, $9.50, 1949.

laintenance Manual of Electronic Control. R. E. Miller, Editor.
McGraw-Hill Book Co., Inc., New York, 305 pp, $4.50, 1949.

ymposium of Electronics. A. G. Peacock.
Chapman and Hall, Ltd., London, 200 pp, 1949.

extbook of Electronics. J. M. A. Lenihan.
English Universities Press, London, 211 pp, 12s. 6d., 1948.

FACSIMILE

acsimile. Charles R. Jones.
Murray Hill Books, Inc., New York, 422 pp, 223 il, $6.00, 1949.

acsimile. L. Hills and T. J. Sullivan.
McGraw-Hill Book Co., Inc., New York, 319 pp, il, $3.50, 1949.

ILLUMINATION

old Cathode Fluorescent Lighting. H. A. Miller.
Technical Press, Ltd., Kinston Hill, England, 144 pp, 10s. 6d., 1949.

undamentals of Discharge Tube Circuits. V. J. Francis.
Methuen & Co., Ltd., London, 6s. 6d., 1949.

ighting Technique. B. F. Federov; with additional sections on fluorescent lighting, by W. T. O'Dea.
Hutchinson's Scientific and Technical Publications, London, 299 pp, 25s., 1949.

:ience of Artificial Lighting. R. O. Ackerly.
E. and F. N. Spon, Ltd., London, 135 pp, 12s. 6d., 1949.

INDUSTRIAL APPLICATIONS

pplied Electronics. D. H. Thomas.
Blackie, London, 132 pp, 7s. 6d., 1948.

lectronics in the Factory. Edited by H. F. Trewman.
Sir Isaac Pitman and Sons, Ltd., London, 188 pp, 20s., 1949.

ıdustrial Electricity. Vol. II. W. H. Timbie and F. Willson.
John Wiley & Sons, New York, 781 pp, il, $5.96, 1949.

ıdustrial Electronics. Andrew Kramer.
Pitman Publishing Corp., New York, 311 pp, il, $6.00, 1949.

ıdustrial Electronics and Control. R. G. Kloeffler.
John Wiley & Sons, New York, 478 pp, il, $5.50, 1949.

adio Frequency Heating. L. Hartshorn.
Allen & Unwin, London, 263 pp, 102 il, 21s., 1949.

adio Frequency Heating. L. L. Langton.
Pitman Publishing Corp., New York, 197 pp, il, $3.75, 1949.

LUMINESCENCE & FLUORESCENCE

Cathode Luminescence. (Katodolyuminestzentiziya.) Moskvin.
VOKS, The All Union Society for Cultural Relations with Russia, Moscow, USSR, $1.25, 1949.

Fluorescence and Phosphorescence. Peter Pringsheim.
Interscience Publishers, Inc., New York, 790 pp, 219 il, $13.50, 1949.

Luminescent Materials. G. F. J. Garlick.
Oxford University Press, London and New York, 262 pp, il, $5.50, 1949.

MANUFACTURING

Components Handbook. John F. Blackburn.
McGraw-Hill Book Co., Inc., New York, 624 pp, il, $8.00, 1949.

Invention and Innovation in the Radio Industry. W. R. Maclaurin.
The Macmillan Co., New York, 304 pp, il, $6.00, 1949.

MATHEMATICAL TABLES

Divergent Series. G. H. Hardy.
Oxford University Press, London and New York, 386 pp, $6.00, 1949.

Graphical Tables of Functions. (Graphische Funktionentafeln.) Rohrberg.
Fachverlag Schiele und Schoen, Berlin, Germany, 32 pp, 1949.

Engineering Tables, Tables of Numbers, and Formulae for School and Office. (Ingenieur-Tabellen, Zahlentafeln, und Formeln fuer Studium und Praxis.) Ricken.
Carl Hanser Verlag, Munich, Germany, 292 pp, 1949.

Tables of Elementary Functions. (Tafeln Elementaerer Funktionen.) Fritz Emde.
B. G. Teubner, Leipzig, Germany, 1948.

Tables of Generalized Sine- and Cosine-Integral Functions. Parts I and II. By the Staff of the Harvard Computation Laboratory.
Harvard University Press, Cambridge, Mass., part I 460 pp, part II 560 pp, $8.00 ea., 1949.

Tables of Higher Functions. (Tafeln Hoeherer Funktionen.) Jahnke-Emde.
B. G. Teubner, Leipzig, Germany, 300 pp, 1948.

Tables of Inverse Hyperbolic Functions. By the Staff of the Harvard Computation Laboratory.
Harvard University Press, Cambridge, Mass., 290 pp, $8.00, 1949.

Tables of the Bessel Functions of the First Kind of Orders Forty Through Fifty-One. By the Staff of the Harvard Computation Laboratory.
Harvard University Press, Cambridge, Mass., 620 pp, $8.00, 1949.

Tables of the Bessel Functions of the First Kind of Orders Fifty-Two Through Sixty-Three. By the Staff of the Harvard Computation Laboratory.
Harvard University Press, Cambridge, Mass., 400 pp, $8.00, 1949.

MATHEMATICS

Applied Differential Equations. F. E. Relton.
Blackie, London, 264 pp, 20s., 1948.

Extrapolation, Interpolation, and Smoothing of Stationary Time Series with Engineering Applications. Norbert Wiener.
John Wiley & Sons, New York, 163 pp, $4.00, 1949.

Finite Differences and Difference Equations in the Real Domain. Tomlinson Fort.
Oxford University Press, London and New York, 258 pp, $6.00, 1949.

Introduction to the Laplace Transformation. J. C. Jaeger.
Methuen and Co., London, 132 pp, 1949.

Introduction to the Theory of Finite Groups. Walter Ledermann.
Interscience Publishers, New York, 152 pp, 7s. 6d., 1949.

Introduction to the Theory of Fourier's Series and Integrals. 3rd Edition. H. S. Carslaw.
Dover Publications, Inc., New York, 368 pp, 39 il, $3.95, 1949.

Lectures on Higher Mathematics. (Vorlesungen ueber hoehere Mathematik.) Josef Lense.
R. Oldenbourg Verlag, Munich, Germany, 260 pp, 102 il, 15 marks, 1948.

Mathematics of Circuit Analysis. E. A. Guillemin.
John Wiley & Sons, New York, 590 pp, $7.50, 1949.

Numerical Calculus. William Edmund Milne.
Princeton University Press, Princeton, N.J., 393 pp, il, $3.75, 1949.

Nomography. (Cours de Nomographie.) Martin.
Eyrolles Editeur, Paris, France, 150 pp 760 francs, 1949.

Numerical Methods of Analysis in Engineering. L. E. Grinter and others.
The Macmillan Company, New York, 207 pp, $5.80, 1949.

Operational Calculus with Applications in Physics and Technics. K. W. Wagner.
J. A. Barth, Leipzig, 448 pp, 29.60 RM, 1940. In German.

Partial Differential Equations in Physics. A. Sommerfeld.
Academic Press, Inc., New York, 335 pp, 12 il, $5.80, 1949.

Radio and Television Mathematics. B. Fischer.
The Macmillan Co., New York, 530 pp, 167 il, $6.00, 1949.

Short Course in Differential Equations. Earl D. Rainville.
The Macmillan Company, New York, 210 pp, il, $3.00, 1949.

Theory and Applications of the Functions of Complex Variables. (Theorie und Anwendung der Funktionen einer komplexen Veranderlichen.) Josef Heinhold.
R. Oldenbourg, Munich, Germany, 213 pp, 63 il, 15 marks, 1949.

Transformation Calculus and Electrical Transient. Stanford Holdman.
Prentice-Hall, Inc., New York, 439 pp, $8.35, 1949.

MEASUREMENTS

Electric Measuring Instruments with Dynamoter, Galvanometer, and Iron Vane Movements. Circuit. Calculation of Resistances. Calibration. (Elektrische Messinstruments mit Drehspuhl-Drehmagnet-, und Dreheisenmesswerken. Schaltung. Widerstandsberechnung. Bichung.) Kunze.
Deutscher Funk-Verlag GmbH., Berlin, 101 pp, 1949.

Electric Resistance Strain Gauges. W. B. Dobie and P. C. G. Isaac.
The Macmillan Co., New York, 114 pp, il, $3.50, 1949.

Electrical Measurements. E. Molloy, Ed.
Newnes, London, 103 pp, il, 5s, 1948.

Electrical Measuring Equipment. (Elektrische Messgerate.) Ernst Blamberg.
Wissenschaftliche Verlagsanstalt K. G., Hanover, Germany, 146 pp, 161 il, 6.8 marks, 1949.

Electronic Time Measurements. Britton Chance, E. F. MacNichol, and Robert Hulsizer.
McGraw-Hill Book Co., Inc., New York, 528 pp, il, $7.00, 1949.

Giorgi's Rationalized MKS Mass System with Dimensional Coherence. (Giorgis rationales MKS -Mass system mit Dimensionskohaerenz.) Eugene Bodea.
Verlag Birkhauser, Basil, Switzerland, 142 pp, 17 tables, 24.5 Swiss francs, 1949.

Radio Laboratory. (Laboratoire Radio.) F. Haas.
Societe des Editions Radio, Paris, France, 180 pp, 300 francs, 1949.

Scientific Instruments. H. J. Cooper.
Chemical Publishing Co., Inc., Brooklyn, New York, 305 pp, $6.00, 1949.

Summary of the General Electrical Measuring Techniques. (Abriss der allgemeinen elektrischen Messtechnik.) Franz Moeller.
Wissenschaftliche Verlagsanstalt K. G., Hanover, Germany, 64 pp, 39 il, 3.8 marks, 1949.

METAL RECTIFIERS

Metal Rectifiers. H. K. Henisch.
Oxford University Press, New York, 146 pp, $3.75, 1949.

MICROWAVES

High Frequency Technique. (Hochfrequenztechnik.) Hans Meinke.
R. Oldenbourg Verlag, Munich, Germany, 32 pp, 74 il, 4.5 marks, 1948.

Microwaves and Radar Electronics. E. C. Pollard and J. M. Sturtevant.
Chapman and Hall, London, 426 pp, 30s, 1948.

Microwaves and Wave Guides. H. M. Barlow.
Dover Publications, Inc., New York, 122 pp, 70 il, $1.95, 1949.

Principles of High Frequency Techniques. (Grundzuge der Hochfrequenztechnik.) Leo Pungs.
Wissenschaftliche Verlagsanstalt K. G., Hanover, Germany, pt I 254 pp, 197 il: pt II 142 pp, 117 il; 9 marks, 1949.

MICROWAVES–Cont'd.

Technique of Very Short and Ultra Short Waves. (Technique des Ondes tres Courtes et Ultra-Courtes.) L. Liot.
Dunod, Paris, 260 pp, 192 il, 780 francs, 1949.

OPTICS

Electron Microscopy. (Die Uebermikroskopie.) Bodo von Borries.
Etitio Cantor Verlag, Aulendorf, Germany, 406 pp, 225 il, $13.00, 1949.

Electron-Optics. Paul Hatschek.
American Photographic Publishing Co., Boston, Mass., 183 pp, $3.50, 1948.

Engineering Optics. K. J. Habell and Arthur Cox.
Pitman Publishing Corp., New York, 411 pp, 188 il, $7.50, 1949.

Technical Optics. L. C. Martin.
Pitman Publishing Corp., New York, 343 pp, 207 il, $7.50, 1949.

Theory and Design of Electron Beams. J. R. Pierce.
D. Van Nostrand Company, Inc., New York, 208 pp, il, $3.50, 1949.

OSCILLOSCOPES

Cathode-Ray Oscillograph in Industry. Third Edition. W. Wilson.
Chapman and Hall, London, 252 pp, il, 18s, 1948.

Cathode-Ray Oscillographs. (Elektronenstrahl-Oszillographen.) P. E. Klein.
Weidmann, Berlin, 210 pp, 1948.

Modern Oscilloscopes and Their Uses. Jacob H. Ruiter, jr.
Murray Hill Books, Inc., 350 pp, il, $6.00, 1949.

OSCILLATORS

Electrical Relaxation Oscillator. (Elektrische Kippschwingungen.) H. Richter.
S. Hirzel, Leipzig, 154 pp, 11.50 RM, 1940.

PHOTOELECTRICITY

Photoelectricity and its Applications. J. K. Zworykin and E. G. Ramberg.
John Wiley & Sons, New York, 494 pp, il, $7.50, 1949.

PHYSICS

Basic Theories of Physics; Mechanics and Electrodynamics. Peter G. Bergmann.
Prentice Hall, Inc., New York, 312 pp, $5.00, 1949.

Classical Mechanics. Herbert Goldstein.
Addison-Wesley Press, Inc., Cambridge, Mass., 400 pp, 80 il, $6.50, 1949.

Cosmic Ray Physics. D. J. X. Montgomery.
Princeton University Press, Princeton, N. J., 378, pp, $5.00, 1949.

Foundations of Nuclear Physics. Compiled by Robert T. Beyer.
Dover Publications, Inc., New York, 272 pp, il, $2.95, 1949.

Handbook of Chemistry and Physics. (Taschenbuch fuer Chemiker und Physiker.) Edited by D'Ans and Lax.
Springer-Verlag, Heidelberg, 1896 pp, 1949.

Infrared Determination of Organic Structure. Harrison M. Randall, Richard G. Fowler, Nelson Fuson, and Robert Dangl.
D. Van Nostrand Company, Inc., New York, 237 pp, il, $10.00, 1949.

Introduction to Atomic Physics. (Einfuehrung in die Atomphysik.) Finkelnburg.
Springer-Verlag, Heidelberg, Germany, 339 pp, 1948.

Low-Temperature Physics. L. C. Jackson. Second Revised Edition.
Methuen, London, 138 pp, 6s, 1948.

Natural Science. (Ergebnisse der exacten Naturwissenschaften.) Edited by Flueggem Trendelenburg, and Harteck.
Springer-Verlag, Heidelberg, Germany, 270 pp, 1949.

Philosophical Foundations of Quantum Mechanics. (Philosophische Grundlagen der Quantenmechanik.) Hans Reichenbach.
Verlag Birkhauser, Basil, Switzerland, 200 pp, 7 il, 23 Swiss francs, 1949.

Physical Principles of the Quantum Theory. Werner Heisenberg.
Dover Publications, Inc., New York, 184 pp, $2.50, 1949.

Radioactive Tracer Techniques. George K. Schweitzer and Ira B. Whitney.
D. Van Nostrand Company, Inc., 186 pp, il, $3.25, 1949.

Some Recent Researches in Solar Physics. F. Hoyle.
Cambridge University Press, New York, 134 pp, $2.50, 1949.

Structure of Matter. F. O. Rice and Edward Teller.
John Wiley & Sons, New York, 361 pp, il, $5.00, 1949.

Text Book of Physics for Students of Science and Engineering. Second Edition. J. Duncan and S. G. Starling.
The Macmillan Co., New York, 1063 pp, il, $5.50, 1949.

Theory of Groups and Quantum Mechanics. Hermann Weyl.
Dover Publications, Inc., New York, 422 pp, $4.50, 1949.

Trilinear Chart of Nuclear Species. W. H. Sullivan.
John Wiley and Sons, New York, charts, $2.50, 1949.

University Physics. Francis Weston Sears and Mark W. Zemansky.
Addison-Wesley Press, Inc., Cambridge, Mass., 848 pp, $6.00, 1949.

RADAR

Frequency Modulated Radar. G. C. Luck.
McGraw-Hill, New York, 466 pp, il, $4.00, 1949.

RADAR–Cont'd.

Principles and Practices of Radar. H. E. Penrose.
George Newnes, Ltd., London, 692 pp, 512 il, 42s, 1949.

Radar Systems and Components. Bell Telephone Laboratories Staff.
D. Van Nostrand Company, Inc., New York, 1020 pp, $7.50, 1949.

RECEIVERS

Fundamentals of Radio Reception. M. Maurer.
Dunrod, Paris, 210 pp, il, 1949.

Manual of Radio Technique. H. Pitsch.
Geest & Portig K.-G., Leipzig, 855 pp, 67 DM, 1949.

Permeability Tuning. (Sintonia a permeabilita.) A. Ricla.
Radio Industria Edizioni Tecniche, Milan, Italy, 250 lire, 1949.

Recent Advances in Radio Receivers. L. A. Maxon.
Cambridge University Press, London and New York, 183 pp, $3.75, 1949.

Technique of Radio Design. Second Edition. E. E. Zepler.
John Wiley & Sons, Inc., New York, 394 pp, $5.00, 1949.

SERVICING

Installation and Servicing of Low Power P-A Systems. John F. Rider.
John F. Rider Publisher, Inc., New York, 208 pp, $1.89, 1949.

Practical Manual of Adjustment and Alignment. (Manuel Pratique de Mise au Point et D'Alignment.) U. Zelbstein.
Societe des Editions Radio, Paris, France, 240 pp, 240 francs, 1949.

Practical Television Servicing. J. R. Johnson and J. H. Newitt.
Murray Hill Books, Inc., New York, 334 pp, over 230 il, $4.00, 1949.

Rider's Perpetual Trouble Shooter's Manual. Vol. XVIII.
John F. Rider Publisher, Inc., New York, 2,036 pp, $19.80, 1949.

Rider's Perpetual Trouble Shooter's Manual, Vol. XIX.
John F. Rider Publisher, Inc., New York, 2,122 pp, $19.80, 1949.

Rider's TV Manual. Vol. II.
John F. Rider Publisher, Inc., New York, 2,300 pp, $18.00, 1949.

Rider's TV Manual. Vol. III.
John F. Rider Publisher, Inc., New York, 2,032 pp, $21.00, 1949.

Television Servicing For Radiomen. H. P. Manly.
Frederick J. Drake & Co., Chicago, Ill., 418 pp, il, 1949.

SOUND FILMS

Sound Film Projection. F. W. Campbell and others.
George Newnes, Ltd., London, England, 238 pp, 1949.

The Technology of 16-mm Sound Motion Pictures. William H. Offenhauser, jr.
Interscience Publishers, Inc., New York, 500 pp, 123 il, $8.50, 1949.

TELEVISION

Basic Television. Bernard Grob.
McGraw-Hill, New York, 407 pp, il, $6.50, 1949.

Newne's Television Manual. F. J. Camm. Seventh Edition.
George Newnes, Ltd., London, 224 pp, 7s. 6d., 1948.

RCA Television Pict-O-Guide. Vols. I and II. John R. Meagher.
Radio Corporation of America, Harrison, N.J., 100 pp (Vol. I), 224 pp (Vol. II) il, 1949.

Television Explained. Third Edition. W. E. Miller.
The Trader Publishing Co., Ltd., London, England (Distributed by Iliffe & Sons, Ltd., London), 112 pp, il, 5s, 1949.

Television for Radiomen. E. M. Noll.
The Macmillan Company, New York, 595 pp, $7.00, 1949.

Television Techniques. (Televisietechniek.) L. Ch. G. van den Berg.
Gottmer, Haarlem, Holland, 280 pp, il, 1949.

TV Projection and Enlargement. Allan Lytel.
John F. Rider Publisher, Inc., N.Y., 192 pp, il, $3.30, 1949.

ULTRASONICS

Ultrasonics. Benson Carlin.
McGraw-Hill Book Co., Inc., New York, 364 pp, il, $5.00, 1949.

Ultrasonics and its Applications in Science and Technology. (Der Ultraschall und Seine Anwendungen in Wissenschaft und Technik.) Ludwig Bergmann.
Hierzen Verlag, Zurich, Switzerland, 768 pp, 475 il, $15.60, 1949.

VACUUM TECHNIQUES

Manual of Vacuum Practice. L. H. Martin and R. D. Hill.
Melbourne University Press, Melbourne, Victoria, Australia, 120 pp, 10s. 6d., 1947.

Scientific Foundations of Vacuum Techniques. Saul Dushman.
John Wiley & Sons, New York, 882 pp, $15.00, 1949.

VACUUM TUBES

Applied Grid Theory. (Angewandte Gitterphysik.) W. Kleber.
Walter De Gruyter & Co., Berlin, Germany, 215 pp, 54 il, 12 marks, 1949.

Electron Tubes. A. N. Goldsmith, A. F. Van Dyck, R. S. Burnap, E. T. Dickey, and G. M. K. Baker.
RCA Review, Radio Corporation of America, Princeton, N.J., Vol. I 475 pp, $2.50, 1949; Vol. II 454 pp, $2.50, 1949.

VACUUM TUBES–Cont'd.

Fundamentals of Radio Valve Technique. J. Deketh.
Philips Gloeilampenfabrieken, Eindhoven, Holland, (distributed by Elsevier Publishing Company, Inc., New York), 547 pp, 384 il, $5.00, 1949.

Fundamentals of Vacuum Tubes. Third Edition. Austin V. Eastman.
McGraw-Hill Book Company, Inc., New York, 806 pp, il, $5.50, 1949.

International Radio Tube Encyclopedia. Bernard B. Babani. 410 pp.
Bernard Ltd., London, England.

New American Receiver Tubes. (Nouve valvole riceventi americane.) G. B. Angeletti.
Radio Industria Ediaioni Techniche, Milan, Italy, 600 lire, 1949.

Official Listings of Vacuum Tubes. (Lexique Officiel des Lampes Radio.) L. Gaudillat.
Societe des Editions Radio, Paris, France, 64 pp, 150 francs, 1949.

Techniques of Radio Tubes. (Bases de la technique des tubes de T.S.F.) J. Deketh.
N. V. Philips Gloeilampenfabrieken, Eindhoven, Holland, 576 pp, 537 il, 1947.

The Electron Tube. (Die Elektronenroehre.) H. Meinke and K. Fischer.
Allgemeine Rundfunk-Technik, Bielefeld, Germany, 177 pp, 1948.

Tube Testers. (Les Lampemetres.) M. Jamain and F. Haas.
Societe des Editions Radio, Paris, 56 pp, 75 francs, 1949.

WAVESHAPING CIRCUITS

Waveforms. Britton Chance, F. C. Williams, Vernon Hughes, David Sayre, and Edward F. MacNichols.
McGraw-Hill Book Co., Inc., New York, 785 pp, il, $10.00, 1949.

X-RAYS

Crystals and X-Rays. K. Lonsdale.
D. Van Nostrand Company, Inc., New York, 199 pp, il, $3.75, 1949.

Optical Principles of the Diffraction of X-Rays. R. W. James. Vol. II: The Crystalline State.
The Macmillan Co., New York, 623 pp, $17.50, 1949.

X-Ray Analysis of Crystals. J. M. Bijvoet, N. H. Kolkmeijer, and C. H. MacGillavry.
Interscience Publishers, Inc., New York, 250 pp, 160 il, $6.00, 1949.

X-Ray Optics: The Diffraction of X-rays by Finite and Imperfect Crystals. A. J. C. Wilson.
Methuen & Co., Ltd., London, 6s, 1949.

X-Rays of Material Testing: Various Considerations of Radio Metallography. (Materialprufung mit rontgenstrahlen: unter besonderer berucksichtigung der rontgenmetallkunde. Dritte erweiterte auflage.) R. Glocker.
Springer-Verlag, Berlin, 440 pp, 58 marks, 1949.

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What The Reviewers Are Saying About

THE ELECTRONIC ENGINEERING MASTER INDEX FOR 1947-1948

The Journal of the Franklin Institute:

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