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DEPARTMENT OF COMMERCE
BUREAU OF STANDARDS
WASHINGTON

Letter
Circular
LC 40

(Revised January 4, 1928)

RADIO PUBLICATIONS OF THE BUREAU OF STANDARDS.

These publications are not in general obtainable directly from the Bureau of Standards. Those for which a price is stated were printed by the Government Printing Office, and can be secured by mail from the Superintendent of Documents, Government Printing Office, Washington, D.C., at the prices stated. Those titles having the symbol °° before them are references to articles emanating from this Bureau which have been published in outside periodicals. The Bureau can not supply copies of the articles published in outside periodicals; inquiries for copies of such papers should be addressed directly to the publisher of the periodical concerned. Files of the periodicals and of the Bureau's publications are maintained at large public libraries.

Publications of the Laboratory for Special Radio Transmission Research, formerly the U.S.Naval Radio Research Laboratory, are listed in Letter Circular 194, which is obtainable from the Bureau on request.

The following abbreviations are used to indicate the several classes of Bureau of Standards publications obtainable from the Government Printing Office:

S = Scientific Paper
T = Technologic Paper
C = Circular
M = Miscellaneous Publication

For example, S189 means Scientific Paper No.189. The letter and number should be given in ordering a publication (for example, "Bureau of Standards publication S189"); it is not necessary to give the title of the article nor to use the full expression, Scientific Paper, Technologic Paper, etc.

A complete list of the Bureau's publications on all subjects, with a brief abstract of each and complete general information about the Bureau publications, is given in Circular No.24, "Publications of the Bureau of Standards," which is obtainable on request from the Bureau. Current publications of the Bureau on all subjects are announced in a series of card announcements. The Bureau will, upon request, place any name on its mailing list to receive these announcements.

The Bureau does not maintain a mailing list for distribution of its radio publications as issued. Persons who wish to keep in touch with the radio publications of the Bureau as they are issued should subscribe to the "Radio Service Bulletin," a monthly publication of the Department of Commerce. Subscriptions should be sent to the Superintendent of Documents, Government Printing Office. The price is 25 cents per year for subscribers in the United States and its possessions, and Canada, Cuba, and Mexico; to other coun-

tries the subscription [illegible]
regarding new Government radio publications, [illegible]
Bulletin" contains brief news items concerning the Government radio work, additions and changes to the lists of radio calls and radio regulations, and other useful information. The Radio Service Bulletin also publishes each month a list of [illegible] more important radio articles appearing in the technical radio periodicals. These references are classified in accordance with the same scheme as that used herein.

The underlined topics used as center-headings below are not the names of publications. They are general subjects given merely for convenience of classification of the various publications. The numbers preceding these underlined topics are classification numbers according to a decimal classification system, and are not the numbers by which publications are known or ordered. A complete description of the classification system is given in Circular No.138, "A Decimal Classification of Radio Subjects -- An Extension of the Dewey System," obtainable from the Superintendent of Documents, Government Printing Office, Washington, D.C.; price 10 cents.

R000. Radio Communication.

°° Bureau of Standards radio work. J.H.Dellinger. The Federal Employee, 4, pp.531-533, Sept.; pp.590-593, Oct.,1919. Reprinted in Radio Amateur News, 1, p.400-402, Feb., 1920, as "The Radio Compass."

°° The radio work of the Department of Commerce. J.H.Dellinger. QST, 4, pp.18-21; June, 1921.

°° The Bureau of Standards lends a hand. J.H.Dellinger. Radio Broadcast, 1, pp.40-48; Nov., 1922.

°° Radiant future for radio forecast. J.H.Dellinger. Manufacturer's News, 25, pp.5-6; April 12, 1924.

°° Solving the mysteries of radio. J.H.Dellinger and C.B.Jolliffe. The Federal Employee, 10, pp.12-14 of September, 1925.

R010. Radio Research.

°° The radio research field (abstract). J.H.Dellinger and L.E. Whittemore. Physical Review, 18, pp.152-153; Aug., 1921.

°° The work of the International Union of Scientific Radio Telegraphy. J.H.Dellinger, Proceedings Institute of Radio Engineers, 11, pp.75-83; April, 1923.

°° Survey of current progress in radio engineering. J.H.Dellinger. Journal Western Society of Engineers, 30, p.39; Feb., 1925.

°° The International Union of Scientific Radio Telegraphy. J.H.Dellinger. Science, 64, pp.638-639; Dec. 31, 1926.

°° Reference to article in a periodical, not obtainable from Government.

R030. Terminology and Symbols.

*C37 Electric wire and cable terminology. 13 pages. 2d edition. 1915. 5¢.

°° Notation for electron tube circuits. J.H.Dellinger. Radio Review, 2, pp.454-459; Dec.,1921.

R055. Radio Bibliography.

*C122 Sources of elementary radio information. 16 pages. 1923. (2d edition). (Information regarding radio publications, including those of the Government, and radio periodicals, radio laws, and call letters. Answers various questions of the beginner). 5¢.

*C138 A decimal classification of radio subjects -- An extension of the Dewey system. 33 pages. 1923. 10¢.

R081. Tables.

*M67 Kilocycle-meter conversion table. 1 page. 1925. 5¢.

R090. History.

°° Recent developments in radio in the United States. J.H.Dellinger. Boletim de la Unico Pan-Americana, (Portugese), 25, pp.31-37; July, 1923. Boletin de la Union Panamericana (Spanish), 57, pp.117-133; Aug.,1923.

°° Radio communication (review for 1925). J.H.Dellinger. The American Yearbook, pp.593-603; 1925.

R100. Radio Principles.

The Principles Underlying Radio Communication. 2d edition, issued March 23, 1923. Textbook of 619 pages, with 300 illustrations, covering radio principles and practice. Signal Corps Radio Communication Pamphlet No.40. Obtainable from Superintendent of Documents; price $1.00. (Foreign postage 15 cents extra.)

°° Radio Communication: Elementary explanation of the principles of radio telegraphy and telephony. J.H.Dellinger. Scientific American Monthly, 124, pp.157-162; February, 1921.

R113. Radio Transmission Phenomena.

*T297 A statistical study of conditions affecting the distance range of radio telephone broadcasting stations. C.M.Jansky, Jr. (B.S.Tech.Papers, 19, pp.641-650) 1925. 5¢.

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*Use this letter and number in ordering publication. Obtainable only from Superintendent of Documents, Government Printing Office, Washington, D.C., at prices stated.

°° Reference to article in a periodical, not obtainable from Government.

°° Application of radio transmission phenomena to the problems of atmospheric electricity. J.H.Dellinger. Jnl.Wash.Acad.Sci., 16, pp.162-167; March 19, 1926.

°° Facts and fallacies of radio wave transmission. J.H.Dellinger. Radio News, 7, p.1139; February, 1926.

°° Apparatus for recording radio phenomena. T.Parkinson. Bull. of National Research Council, #61, pp.183-191; July, 1927.

°° Summary of symposium on correlations of various radio phenomena with solar and terrestrial magnetic and electric activities. J.H.Dellinger. Bull.Nat.Research Council, #61, pp.192-197; July, 1927.

R113.1. Fading.

*S476 A study of radio signal fading. J.H.Dellinger, L.E.Whittemore, and S.Kruse. (B.S.Sci.Papers, 19, pp.193-230.) 1923. 10¢. Preliminary publication in QST, 4, pp.11-14 of Sept., pp.3-12 of Nov., pp.13-15 of Dec.,1920; 7, pp.29-34 of Aug., pp.23-26 of Sept.,1923.

°° Radio signal fading phenomena. J.H.Dellinger and L.E.Whittemore. Jnl.Wash.Acad.Sci., 2, pp.243-259; June 4, 1921. Copied in Jahrb.d.Drahtlosen Tel.& Tel., 24, (#3), p.66; 1924.

°° Concerning the nature of fading. J.H.Dellinger. Radio News, 7, p.270; Sept., 1925.

°° Results of cooperative measurements of radio fading. J.H.Dellinger, C.B.Jolliffe, and T.Parkinson. Radio News 8, p.146;Aug.,1926.

*S561 Cooperative measurements of radio fading in 1925. J.H.Dellinger, C.B.Jolliffe, and T.Parkinson. 1927.

R113.3. Direction Variation. (See also R325.1).

*S353 Variations in direction of propagation of long electromagnetic waves. A.H.Taylor. (B.S.Sci.Papers, 15, pp.419-433.) 1919. 5¢.

°° Objects that distort radio waves. L.E.Whittemore. Radio Broadcast, 1, pp.101-106; June, 1922.

R116. Waves on Wires.

*S491 Theory of determination of ultra-radio frequencies by standing waves on wires. A.Hund. (B.S.Sci.Papers 19,pp.487-540)1924. 5¢.

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°°Reference to article in a periodical, not obtainable from Government.

R116. Waves on Wires.(continued).

°° Correction factor for the parallel wire system used in absolute radio-frequency standardization. A.Hund. Proc.Inst.Radio Engrs., 12, pp.817-821; Dec., 1924.

R120. Antennas.

*S269 Effect of imperfect dielectrics in the field of a radio-telegraphic antenna. J.M.Miller. (B.S.Sci.Papers, 13, No.1, pp.129-136.) 1916. 5¢.

*S326 Electrical oscillations in antennas and inductance coils. J.M.Miller. (B.S.Sci.Papers, 14, No.4, pp.677-696.) 1918. 5¢.

*S341 Airplane antenna constants. J.M.Cork. (B.S.Sci.Papers, 15, pp.199-213.) 1919. 5¢.

*S354 Principles of radio transmission and reception with antenna and coil aerials. J.H.Dellinger (B.S.Sci.Papers, 15, pp.435-495.) 1919. 10¢.

°° Electric wave transmission formulas for antenna and coil aerials (brief note). J.H.Dellinger. Physical Review, 14, p.180; Aug., 1919.

°° Experiments with the two-plate condenser antenna. J.C.Warner. Radio News, 4, pp.1618-1620; March, 1923.

R124. Coil Antennas.

*S431 The field radiated from two horizontal coils. G.Breit. (B.S.Sci.Papers, 17, pp.589-606.) 1922. 5¢.

°° Development of loop aerial for submarine radio communication. (Brief note). J.A.Willoughby and P.D.Lowell. Physical Review, 14, p.193; Aug., 1919.

R125.6 Directive Antennas.

°° The possibilities of directional radio transmission. J.H.Dellinger. Jnl.Franklin Inst., 204, pp.239-243, Aug., 1927.

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°° Reference to article in a periodical, not obtainable from Government.

R130. Electron Tubes.

*S351 Dependence of the input impedance of a three-electrode vacuum tube upon the load in the plate circuit. J.M.Miller. (B.S. Sci. Papers, 15, pp.367-385.) 1919. 5¢.

*S355 Determination of the output characteristics of electron tube generators. L.M.Hull. (B.S.Sci.Papers, 15, pp.497-517.) 1919. 5¢.

*S423 Operation of the modulator tube in radio telephone sets. E.S. Purington. (B.S.Sci.Papers, 17, pp.377-406.) 1921. 10¢.

*S487 A quantitative study of regeneration by inductive feedback. C.B.Jolliffe and J.A.Rodman. (B.S.Sci.Papers, 19, pp.419-438.) 1924. 10¢.

°° A dynamic method of determining the characteristics of three-electrode vacuum tubes. J.M.Miller. Proceedings Institute of Radio Engineers, 6, pp.141-148; June, 1918.

°° The dependence of the amplification constant and internal plate circuit resistance of a three-electrode vacuum tube upon the structural dimensions. J.M.Miller. Proceedings Institute of Radio Engineers, 8, pp.64-74; Feb., 1920.

°° Operation of an electron tube as an amplifying rectifier. (Brief note.) L.M.Hull. Physical Review, 15, p.557; June, 1920

°° Input resistance of thermionic valve. J.M.Miller. Journal American Institute of Electrical Engineers, 40, p.200; March, 1921.

R142. Coupled Circuits.

°° Capacitive coupling in radio circuits. (Brief note.) L.E. Whittemore. Physical Review, 15, p.559; June, 1920.

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°° Reference to article in a periodical, not obtainable from Government.

R144. Radio-Frequency Resistance of Coils. (See also R240).

*S430 The high-frequency resistance of inductance coils. G.Breit. (B.S.Sci.Papers, 17, pp.569-587.) 1922. 5¢.

*S472 Alternating-current resistance and inductance of single-layer coils. C.N.Hickman. (B.S.Sci.Papers, 19, pp.73-104.) 1923. 10¢.

*T330 Resistance of conductors of various types and sizes as windings of single-layer coils at 150 to 6000 kilocycles. E.L.Hall. (B.S.Tech.Paper, 21, pp.109-119), 1926. 5¢.

R145.3 Inductance Calculation.

*S169 Formulas and tables for the calculation of mutual and self inductance. Rosa and Grover. (B.S.Sci. Papers, 8, No.1, pp.1-237.) 1911. 20¢.

*S320 Additions to the formulas for the calculation of mutual and self inductance, (supplementing S169). F.W.Grover. (B.S. Sci.Papers, 14, No.4, pp.537-570.) 1918. 10¢.

*S455 Tables for the calculation of the inductance of circular coils of rectangular cross section. F.W.Grover. (B.S.Sci.Papers, 18, pp.451-487.) 1922. 10¢.

*S468 Formulas and tables for the calculation of the inductance of coils of polygonal form. F.W.Grover. (B.S.Sci.Papers, 18, pp.737-762.) 1923. 10¢.

°° The inductance of coils wound on polygonal frames. (Brief note.) F.W.Grover. Physical Review, 16, p.532; June, 1920.

°° Formulas and tables for the calculation and design of single-layer coils. F.W.Grover. Proceedings Institute of Radio Engineers, 12, pp.193-208; April, 1924.

R181. Beat Interference.

°° When broadcast stations interfere. C.B.Jolliffe. Radio Broadcast, 7, pp.586-590; Sept., 1925.

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*Use this letter and number in ordering publication. Obtainable only from Superintendent of Documents, Government Printing Office, Washington, D.C., at prices stated.

°°Reference to article in a periodical, not obtainable from Government.

R201. General Methods of Radio Measurement.

*C74 Radio instruments and measurements. (2d ed.) 345 pages. 1924. 60¢.

°° Improvements in precision measurements at radio frequencies. (Brief note.) J.H.Dellinger. Physical Review, 14, p.181; Aug., 1919.

°° Measurements at radio frequency. A.Hund. (A differential transformer method.) Electrical World, 84, pp.998-1000; Nov. 8, 1924.

R210. Measurement of Frequency and Wave Length. (See also R384).

*S489 Primary radio-frequency standardization by use of the cathode-ray oscillograph. Grace Hazen and Frieda Kenyon. (B.S.Sci. Papers, 19, pp.445-461.) 1924. 10¢.

*S530 Establishment of radio standards of frequency by the use of a harmonic amplifier. C.B.Jolliffe and Grace Hazen. (B.S. Sci.Papers, 21, pp.179-189.) 1926. 10¢.

°° Reducing the guesswork in tuning. J.H.Dellinger. Radio Broadcast, 3, pp.241-245; July, 1923.

°° A method of measuring very short radio wave lengths and their use in frequency standardization. F.W.Dunmore and F.H.Engel. Proc.Inst. Radio Engineers, 11, pp.467-478; Oct., 1923.

°° A method of measuring radio frequency by means of a harmonic generator. A.Hund. Proc.Inst. Radio Engineers, 13, pp.207-213; April, 1925.

°° Standard frequency dissemination. M.S.Strock. Proc.Inst. Radio Engineers, 15, pp.727-31; Aug., 1927.

R214. Piezoelectric Standards of Frequency.

°° Uses and possibilities of piezoelectric oscillators. A.Hund. Proc.Inst.Radio Engrs., 14, pp.447-469; August, 1926.

°° The salt on the tail of the broadcast frequency (use of piezo crystal in broadcasting stations). M.S.Strock. Popular Radio, 10, pp.773-775; Dec., 1926.

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°° Reference to article in a periodical, not obtainable from Government.

R220. [illegible] city.

*S64 The simultaneous measurement of the capacity and power factor of condensers. F.W.Grover. (B.S.Sci.Papers, 3, No.3, pp.371-431.) 1907. 15¢.

*C36 The testing and properties of electric condensers. 26 pages. 1912. 5¢.

R225. Distributed Capacity of Inductance Coils.

*S427 Some effects of the distributed capacity between inductance coils and the ground. G.Breit. (B.S.Sci.Papers, 17, pp.521-527.) 1921. 5¢.

°° The effects of distributed capacity of coils used in radio telegraphic circuits. F.A.Kolster. Proceedings Institute Radio Engineers, 1, pp.19-34; April, 1913.

°° The distributed capacity of inductance coils. G.Breit. Physical Review, 17, pp.649-677; June, 1921.

°° The effective capacity of multilayer coils with square and circular section. G.Breit. Philosophical Magazine, 43, pp.963-992; May, 1922.

°° The effective capacity of pancake coils. G.Breit. Philosophical Magazine, 44, pp.729-740; Oct., 1922.

R230. Measurement of Inductance of Coils.

*S14 Measurement of inductance by Anderson's method, using alternating currents and a vibration galvanometer. Rosa and Grover. (B.S.Sci.Papers, 1, No.3, pp.291-348.) 1905. 15¢.

R240. Measurement of Resistance, Power Factor, Etc.

*S76 The influence of frequency on the resistance and inductance of solenoidal coils. L.Cohen. (B.S.Sci.Papers, 4, No.1, pp.161-178.) 1907. 10¢.

°° The measurement of radio-frequency resistance, phase difference and decrement. J.H.Dellinger. Proceedings Institute of Radio Engineers, 7, pp.27-59; Feb., 1919.

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°° Reference to article in a periodical, not obtainable from Government.

R250. Current Measurement.

*S206 High-frequency ammeters. J.H.Dellinger. (B.S.Sci.Papers, 10, No.1, pp.91-159.) 1913. 10¢.

R260. Voltage Measurement.

°° The use of the electron tube peak voltmeter for the measurement of modulation. C.B.Jolliffe. Journal Optical Society of America and Review of Scientific Instruments, 9, pp.701-704; Dec., 1924.

R281. Properties of Electrical Insulating Materials.

*S234 Insulating properties of solid dielectrics. H.L.Curtis. (B.S.Sci.Papers, 11, No.3, pp.359-431.) 1914. 15¢.

*T216 Properties of electrical insulating materials of the laminated phenol-methylene type. J.H.Dellinger and J.L. Preston. (B.S.Tech.Papers, 16, pp.501-627.) 1922. 30¢.

*S471 Methods of measurement of properties of electrical insulating materials. J.H.Dellinger and J.L.Preston. (B.S.Sci.Papers, 19, pp.39-72.) 1923. 15¢.

*T284 A study of the seasonal variation of radio-frequency phase difference of laminated phenolic insulating materials. J.L. Preston and E.L.Hall. (B.S.Tech.Papers, 19, pp.225-234.) 1925. 5¢.

°° Radio-frequency properties of insulating materials. J.L. Preston and E.L.Hall. QST, 9, pp.26-28; Feb., 1925.

R284. Properties of Conductors.

*C31 Copper wire tables. 76 pages. 3d edition. 1914. 20¢.

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°°Reference to article in a periodical, not obtainable from Government.

R325.1. Direction Finders. (See also R113.3.)

*[illegible] The radio direction finder and its application to navigation. F.A.Kolster and F.W.Dunmore. (B.S.Sci.Papers, 17, pp.539-566.) 1922. 15¢.

*S525 A unicontrol high-frequency radio direction finder. F.W. Dunmore. (B.S.Sci.Papers, 21, pp.25-35). 1926. 5¢.

*S536 A portable radio direction finder for 90 to 7700 kilocycles. F.W.Dunmore. (B.S.Sci.Papers, 21, pp.409-430.) 1926. 10¢.

°° A simple type of radio direction finder for use on shipboard. F.W.Dunmore. Radio Service Bulletin, No.54, pp.10-12; Oct.1,1921. Reprinted in Radio News, 3, pp.588 and 632, Jan., 1922, as "The radio direction finder: its application, construction and operation."

R342. Electron Tube Amplifiers.

*S449 Radio-frequency amplifiers. P.D.Lowell. (B.S.Sci.Papers, 18, pp.335-343.) 1922. 5¢.

*S450 An electron tube amplifier using 60-cycle alternating current to supply power for the filaments and plates. P.D.Lowell. (B.S.Sci.Papers, 18, pp.345-352.) 1922. 5¢.

*S504 A method of studying electrode potentials and polarization (use of electron tube amplifier). H.D.Holler. (B.S.Sci. Papers, 20, pp.153-166.) 1925. 15¢.

*C141 Description and operation of an audio-frequency amplifier unit for simple radio receiving outfits. 13 pages. 1923. 10¢.

°° Measurements on audio-frequency amplifiers. L.M.Hull. Wireless Age, 8, pp.12-16; June, 1921.

°° An electron tube amplifier for amplifying direct current. H.A.Snow. Journal Optical Society of America and Review of Scientific Instruments, 6, pp.186-192; March, 1922.

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°° Reference to article in a periodical, not obtainable from Government.

R344. Electron Tube Generators.

*S381 An electron tube transmitter of completely modulated waves. L.M.Hull. (B.S.Sci.Papers, 16, pp.259-271.) 1920. 5¢.

°° A method for testing and rating electron tube generators. L.M.Hull. Proc.Inst. Radio Engrs., 10, pp.373-392; Oct.,1922.

°° A 100 to 3000-meter oscillator. H.J.Walls. QST, 6, pp.48-50; May, 1923.

°° The standard frequency set at WWV. H.J.Walls. QST, 8, pp.9-12 of October, 1924.

°° Simultaneous production of a fundamental and a harmonic in a tube generator. H.J.Walls. Proc.Inst.Radio Engrs., 15, pp.37-39; January, 1927.

R360. Receiving Sets.

*T256 Some methods of testing radio receiving sets. J.L.Preston and L.C.F.Horle. (B.S.Tech.Papers, 18, pp.203-228.) 1924. 10¢.

*C120 The construction and operation of a simple homemade radio receiving outfit. 16 pages. 1922. 5¢.

*C121 Construction and operation of a two-circuit radio receiving equipment with crystal detector. 14 pages. 1922. 5¢.

*C133 Description and operation of an electron tube detector unit for simple radio receiving outfits. 21 pages. 1922. 10¢.

*C137 Auxiliary condensers and loading coil used with simple homemade radio receiving outfits. 19 pages. 1923. 10¢.

R374. Crystal Detectors.

°° Permanent-contact crystal detectors. (Brief note.) L.S. McDowell. Physical Review, 13, p.283; April, 1919.

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°° Reference to article in a periodical, not obtainable from Government.

R376. Telephone Receivers.

°° The high-frequency impedance of radio telephone receivers. (Brief note.) C.T.Zahn. Physical Review, 18, p.150; August, 1921.

°° Some measurements of telephone sensitivity. H.H.Smith. Wireless Age, 9, pp.65-66; August, 1922.

°° Note on telephone receiver impedance. E.Z.Stowell. Proc. Inst.Radio Engrs., 13, pp.245-249; April, 1925.

R377. Automatic Recorders.

°° Radio telegraphy: A chronographic recorder of radio time signals. E.A.Eckhardt and J.C.Karcher. Journal Washington Academy of Sciences, 11, pp.303-310; July 19, 1922.

°° A relay recorder for remote control by radio. F.W.Dunmore. Journal of American Institute of Electrical Engineers, 41, pp.310-313; April, 1922. Reprinted in Wireless World and Radio Review, 10, pp.586-590; August 5, 1922.

°° A device for recording electric contact using an electron tube generator and a radio-frequency spark. C.T.Zahn. Journal Washington Academy of Sciences, 12, pp.412-416; November 4, 1922.

R381. Condensers.

*S137 Mica condensers as standards of capacity. H.L.Curtis. (B.S.Sci.Papers, 6, No.4, pp.431-488.) 1910. 10¢.

°° Just what constitutes a good variable condenser. E.L.Hall. Radio Age, p.24; Dec., 1925.

R382. Inductance Coils. (See also R145.3 and R225.)

*S290 A variable self and mutual inductor. H.B.Brooks and F.C. Weaver. (B.S.Sci.Papers, 13, pp.569-580.) 1916. 10¢.

*T298 Radio-frequency resistance and inductance of coils used in broadcast reception. A.Hund and H.B.DeGroot. (B.S.Tech. Papers, 19, pp.651-668.) 1925. 10¢.

°° Inductance, capacity and resistance of coils at radio frequencies. (Brief note.) L.E.Whittemore and G.Breit. Physical Review, 14, p.170; August, 1919.

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°° Reference to article in a periodical, not obtainable from Government.

R384. Frequency Meters (Wavemeters). (See also R210.)

*S235 Direct-reading instrument for measuring logarithmic decrement and wave length of electromagnetic waves. F.A.Kolster. (B.S.Sci.Papers, 11, No.3, pp.421-455.) 1914. 10¢.

*S502 An improved type of wavemeter resonance indicator. M.S. Strock. (B.S.Sci.Papers, 20, pp.111-118.) 1925. 5¢.

°° Portable wavemeters for short-wave radio. R.T.Cox and S.Kruse. QST, 5, pp.14-19; Sept., 1921.

°° Standard radio wavemeter - Bureau of Standards Type R-70B. R.T.Cox. Journal Optical Society of America and Review of Scientific Instruments, 6, pp.162-168; March, 1922. Reprinted in Aviation & Wireless News (Canada), 4, pp.16-18; Feb.,1922. Reprinted as "Details of a new standard B.S.wavemeter," by R.T.Cox. Radio Topics, 1, p.6; January, 1922.

°° A method of measuring coil capacities and standardizing wavemeters. G.Breit. Radio Review, 3, pp.71-79; Feb., 1922.

°° The standard wavemeters of the Bureau of Standards. E.L.Hall. Sibley Journal of Engineering, 38, pp.123-126; May, 1924. Popular Radio, 6, pp.173-177; August, 1924.

R388. Cathode-ray Oscillograph. (See also R210).

°° The cathode-ray oscillograph and its application in radio work. L.M.Hull. Proceedings Institute Radio Engineers, 9, pp.130-149; April, 1921.

R402. High-Frequency Radio Communication.

*S469 Directive radio transmission on a wave length of 10 meters. F.W.Dunmore and F.H.Engel. (B.S.Sci.Papers, 19, pp.1-16.) 1923. 10¢. Reprinted in Radio News, 5, pp.128-130; Aug., 1923, as "Short wave directive radio transmission."

°° Continuous-wave radio transmission on a wave length of 100 meters using a special type of antenna. F.W.Dunmore. Proceedings Institute of Radio Engineers, 11, pp.243-255; June, 1923. Reprinted in part in QST, 6, pp.75-76 of July, 1923, as "Bureau of Standards explores short wave regions."

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°° Reference to article in a periodical, not obtainable from Government.

R470. Line Radio Communication.

Introduction to line radio communication. Radio Communication Pamphlet No.41 (W.D.D.1114.) 1923. Obtainable from Superintendent of Documents; price 10¢.

R510. Radio in Marine Navigation.

*S480 A directive type of radio beacon and its application to navigation. F.H.Engel and F.W.Dunmore. (B.S.Sci.Papers, 19, pp.281-295.) 1924. 5¢.

°° Blindfold navigation, by radio: Department of Commerce radio fog signaling and radio compass system. F.A.Kolster. Shipping, 13, pp.13-18; Feb. 25, 1921.

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°° Reference to article in a periodical, not obtainable from Government.

R800. Non-Radio Subjects.

*S292 International system of electric and magnetic units. J.H. Dellinger. (B.S.Sci.Papers, 13, No.4, pp.599-631.) 1916. 10¢.

*C60 Electric units and standards. 68 pages. 1916. 15¢.

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°° Reference to article in a periodical, not obtainable from Government.

Letter Circulars.

The following documents are not in printed form, and are not available from the Superintendent of Documents, Government Printing Office. They have been prepared in mimeographed form only, like this pamphlet, and can be consulted at the Bureau of Standards. The Bureau has only a small number of copies of these, but where a person can show special need for the information in one of them, a copy may be furnished by the Bureau of Standards without charge.

Letter Circular No.40. Radio publications of the Bureau of Standards.

Letter Circular No.50. Bibliography of books and periodicals on tests, properties and uses of electrical insulating materials.

Letter Circular No.51. List of the more important United States patents covering the material and methods of manufacture of insulating materials.

Letter Circular No.76. The standardization of inductors at radio frequencies.

Letter Circular No.86. Methods of measuring voltage amplification of amplifiers.

Letter Circular No.87. Methods of measuring properties of electron tubes.

Letter Circular No.103. Description of a series of single-layer inductance coils suitable for radio-frequency standards.

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Letter Circular No.183. Directions for use of the piezo oscillator and auxiliary generator for calibration of a radio frequency meter.

Letter Circular No.185. Specifications for portable frequency meter for frequencies from 1500 to 15,000 kilocycles, Bureau of Standards Type K.

Letter Circular No.186. Specifications for portable piezo oscillator, Bureau of Standards Type N.

Letter Circular No.187. Specifications for portable auxiliary generator, Bureau of Standards Type O.

Letter Circular No.207. Bibliography on radio wave phenomena and measurement of radio field intensities.

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