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REVISED CLASSIFICATION OF RADIO SUBJECTS USED
IN NATIONAL BUREAU OF STANDARDS

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I. Introduction

The present pamphlet is a combination of LC814, January 11, 1946, the supplement of September 30, 1946 and additions to the classification found necessary for keeping up with current radio literature. LC814 was a revision of B of S Circular 385, "Classification of Radio Subjects - An Extension of the Dewey Decimal System," published in 1930. The latter, in turn, was a revision of the Bureau's Circular C138, published in 1923. As indicated in the title of Circular C385, the classification was an extension of the general Dewey Decimal System, prepared by Doctor Melvin Dewey for classifying books, publications, references, and other material as found in reference and public libraries. The Dewey Classification at that time did not include a detailed classification for radio, and the Bureau's Circular C385 was designed to fill the need of organizations desiring a classification

table covering radio science. The classification presumably could be expanded in any part where the user found it desirable to further subdivide a given topic. This possibility was not followed at the Bureau, so that as the years passed and hundreds of new topics appeared, it became difficult to file new references according to Circular C385. A revised classification was accordingly prepared; this will be added to whenever it is deemed necessary.

II. The Dewey Decimal System of Classification

Under the Dewey decimal system, classification is by subject, numbers being used to show the relative positions of the books, cards, or other material. The numbers, therefore, show both what the material is (that is, its subject matter), and where the material is (that is, its location on the shelves or in the files). In the classification list the indentation and the figures prefixed to each item show the rank of each subject in the classification.

Accompanying the extended classification is an alphabetical index. The index is used in determining the number to assign to a given item or material, or to learn where to place it in the files. The index is also used by any person desiring to locate the material covering a given subject. The reference number tells immediately where all material on that and on related subjects can be found.

The whole subject of radio is given the number 621, 384 in the Dewey classification. The relation of this place to the general field of knowledge is shown by the following table:

Class 600	Useful arts
20	Engineering
1	Mechanical
0.300	Electrical
.080	Communication
.004	Radio

In a strictly radio library or office it is convenient to represent the figure 621.384 by "R" and this abbreviation is used below in the further classification of radio. Thus, R211 indicates 621.384.211.

III. Classification of Radio Subjects

In the classification of radio subjects the main features of the Dewey system as to subject and form classification are retained.

The class (R300) is anomalous. This space in the classification is actually used for nonradio subjects. Such material should, however, be given its regular class number according to the Dewey system.

If it were arranged in strictly numerical order, some of this material would come before radio and some after radio. By choosing arbitrarily to use the space denoted by R800 for this purpose it is possible to arrange the nonradio material in classified order, but to keep it subordinate to a large volume of radio material. Accordingly, a number of nonradio items are included where R800 comes in the list under Section IV below, but are given their number according to the complete classification.

In filing a specific paper under a given class or subdivision, a convenient file number for it can readily be made by using its subject classification number plus a small letter; the order chosen for the letters used for subsequent papers can be according to author, chronological order of accession, or any other consideration depending on the circumstances.

In a card file of references to periodical literature, it is convenient to arrange the cards under each final class or subdivision either in chronological order or in alphabetical order by the names of authors. Cross references may be made conveniently in such a card file by preparing two or more cards and marking each card, after the file number, "X_____". For example, suppose an article on fading (R113.1) includes a method of measuring field intensity by the calibrated loop antenna method (R271.11); two cards should be made out, one marked R113.1 XR271.11 and the other R271.11 XR113.1.

The needs of individual collections of files vary widely, and expansions of the system can be made by any person using the system.

The former Circular was arranged so that the numbers used indicated the type of article, i.e., whether dealing chiefly with general radio material, radio principles, measurements, apparatus, communication systems, applications, stations, manufacturing, or nonradio subjects, as shown by number in the groups R000, R100, R200, R300, R400, R500, R600, R700, and R800*, respectively. This arrangement brought in a certain amount of duplication, particularly in the R100, R200, and R300 groups. Other difficulties were experienced in use; for example, it was found necessary to file some theoretical articles under the R300 group, and some descriptive articles under the R100 group, because of lack of classification numbers in the desired group.

In the revised classification the same general outline of the different hundreds groups has been used, but in certain sections numbers close together provide for theory, apparatus, and procedure. Likewise, the R100 group does not provide for theoretical articles on every subject and item in the table, so that if the reference relates to theory of an item found only in the R300 group, it must be filed under that number.

*The numbers in this group were taken directly from the Dewey Classification Tables and appeared with the numbers as given by Dewey, with a few additions.

In order to overcome some of these inconsistencies, it appeared that a complete change would have to be made in the classification. This seemed undesirable because of the work involved in making a complete new system, and the work required to change files made in accordance with Circular C385 to agree with a new system. The changes made in the numbering have not been numerous, and it is hoped that users of the revised classification will not have difficulty.

It is expected that additions to the present system will be made (1) from suggestions received by users, (2) as the need develops, and (3) as secret material becomes unclassified.

The present revision, although based on Bureau of Standards Circular C385, which in turn was based upon the twelfth edition, 1927, of Doctor Melvin Dewey's book "Decimal Classification and Relative Index for Libraries, Clipping Notes, etc.", should not be confused with the fourteenth edition, 1942, of that book, which devoted some space to radio. The subjects covered in that edition have numbers differing from those assigned in this Circular.

IV. Revised Classification of Radio Subjects

- RO00 RADIO. (Material of a general nature for which no specific classification can be used and which relates to the field as a whole.)
- RO00.1Developments in other countries.
- RO01Statistics.
- RO04Design.
- RO05Executive; administrative; personnel.
- RO07Laws; regulations.
- RO07.1Frequency allocation.
- RO07.9International radio conferences; treaties.
- RO09Reports; bulletins; intelligence reports.
- RO10Research.
- RO20Standards.
- RO30Terminology.
- RO31Symbols.
- RO32Definitions.
- RO40Lectures.
- RO50Publications.
- RO51Specifications.
- RO52Textbooks; handbooks; instruction books; technical manuals.
- RO53Periodicals.
- RO55Bibliographies.
- RO60Societies; meetings.
- RO70Education; training.
- RO71Engineer's relations with public; specialization.
- RO72Research laboratories; experiment stations.

- R074Museums; exhibits.
- R078Accessories; slide rules; calculators.
- R080Collections; miscellanies.
- R081Tables.
- R082Nomograms; abacs.
- R084Maps and charts.
- R090History; reviews.
- R090.1Radio progress.
- R091Radiotelegraphy.
- R094Radiotelephony.
- R094.1Transmission.
- R094.2Reception.
- R095Television.
- R096Facsimile.
- R097Biography
- R100 ..RADIO PRINCIPLES. (Material having to do with underlying theory.)
- R110Radio Waves (propagation phenomena and theory; atmospheric).
- R111Theory (includes propagation at highest frequencies used).
- R111.1Velocity of radio waves.
- R111.2Radiation.
- R111.6Reception.
- R112Radio wave propagation (See also R113).
- R112.1Ground-wave propagation.
- R112.11Direct-wave propagation.
- R112.111Refraction of ground wave.
- R112.112Propagation of ground wave through ground and sea.
- R112.12Surface-wave propagation.
- R112.121Surface-wave propagation over land path.
- R112.122Surface-wave propagation over sea path.
- R112.123Surface-wave propagation over mixed land and sea paths.
- R112.124Surface-wave propagation through jungles.
- R112.125Surface-wave diffraction.
- R112.126Surface-wave polarization.
- R112.127Surface-wave tilt.
- R112.13Ground-reflected wave propagation.
- R112.131Ground reflection coefficients.
- R112.131.1Brewster's angle.
- R112.133Antenna vertical patterns.
- R112.14Height-gain function for ground-wave propagation.
- R112.15Multipath transmission of ground wave.
- R112.16Absorption of ground wave in atmosphere.
- R112.2Tropospheric-wave propagation.
- R112.21Standard refraction of tropospheric wave.
- R112.22Reflection of tropospheric wave from atmospheric inversions.
- R112.23Superrefraction (anomalous propagation) of tropospheric wave.

- R112.24Atmospheric absorption of tropospheric wave.
- R112.25Effect of meteorological fronts on tropospheric wave.
- R112.26Meteorology of lower atmosphere as affecting tropospheric wave propagation.
- R112.27Height-gain function for tropospheric wave propagation.
- R112.3Guided-wave propagation.
- R112.31Guided-wave propagation at very low frequencies.
- R112.32Guided-wave propagation at low frequencies.
- R112.33Modes of guided-wave propagation.
- R112.4Sky-wave propagation.
- R112.41Ionosphere.
- R112.42Reflection and refraction of sky wave.
- R112.43Modes of sky-wave propagation.
- R112.5Skip distance and maximum usable frequency (muf).
- R112.51Oblique-vertical incidence relations for maximum usable frequency.
- R112.52Maximum usable frequency (muf).
- R112.521Maximum usable frequency by regular layers.
- R112.522Maximum usable frequency by irregular or sporadic reflection.
- R112.523Maximum usable frequency by long scatter.
- R112.524Maximum usable frequency by short scatter.
- R112.525Maximum usable frequency as affected by bursts.
- R112.526Maximum usable frequency as affected by spread echoes.
- R112.53Calculation of maximum usable frequency.
- R112.531Calculation of maximum usable frequency for single-hop propagation.
- R112.532Calculation of maximum usable frequency for multi-hop propagation.
- R112.54Prediction of maximum usable frequency.
- R112.55Transmission above maximum usable frequency.
- R112.6Sky-wave field intensities.
- R112.61Unabsorbed sky-wave field intensity.
- R112.62Ionospheric absorption of sky-wave field intensity.
- R112.621Ionospheric absorption of sky-wave field intensity for short distances.
- R112.622Ionospheric absorption of sky-wave field intensity for medium distances.
- R112.623Ionospheric absorption of sky-wave field intensity for long distances.
- R112.624Oblique-vertical incidence relations for ionospheric absorption.
- R112.63Sky-wave field intensity variations.
- R112.631Diurnal variations of sky-wave field intensity.
- R112.632Seasonal variations of sky-wave field intensity.

- R112.633Long-time variations of sky-wave field intensity.
- R112.64Prediction of sky-wave field intensities.
- R112.65Radiated power as affecting sky-wave field intensity.
- R112.7Propagation of atmospheric radio noise.
- R112.71Source of atmospheric radio noise.
- R112.72Diurnal variations of atmospheric radio noise.
- R112.73Geographical variations of atmospheric radio noise.
- R112.74Frequency variations of atmospheric radio noise.
- R112.75Seasonal variations of atmospheric radio noise.
- R112.751Atmospheric radio noise grades.
- R112.76Required radio field intensities.
- R112.761Atmospheric noise as affecting required radio
field intensity.
- R112.763Directional properties of antennas as affecting
required radio field intensity.
- R112.8Lowest useful high frequency (luhf).
- R112.9Polarization of sky waves.
- R112.91Ordinary-wave polarization.
- R112.92Extraordinary-wave polarization.
- R112.93Downcoming-wave polarization.
- R112.94Ground reflection phenomena.
- R112.95Effect of ionosphere on polarization.
- R113Radio wave propagation (continued), (See also R112).
- R113.1Fading.
- R113.101Interference fading.
- R113.102Polarization fading.
- R113.103Absorption fading.
- R113.104Flutter fading.
- R113.105Skip fading.
- R113.106Sunrise-sunset fading.
- R113.107Selective fading.
- R113.108Rayleigh distribution of field intensities.
- R113.109Scintillations of field intensities.
- R113.110Multipath transmission fading.
- R113.111Shadows of objects.
- R113.2Propagation variations.
- R113.21Skip distance and maximum usable frequency (muf).
- R113.211Diurnal variations.
- R113.212Seasonal variations.
- R113.213Latitude variations.
- R113.214Longitude variations.
- R113.215Annual variations.
- R113.216Solar cycle variations.
- R113.217Random variations.
- R113.218Prediction of skip distance and muf.
- R113.22Field intensity and ionospheric absorption.
- R113.221Diurnal variations of field intensity and iono-
spheric absorption.

- R113.222 Seasonal variations of field intensity and ionospheric absorption.
- R113.223 Latitude variations of field intensity and ionospheric absorption.
- R113.224 Longitude variations of field intensity and ionospheric absorption.
- R113.225 Annual variations of field intensity and ionospheric absorption.
- R113.226 Solar cycle variations of field intensity and ionospheric absorption.
- R113.227 Random variations of field intensity and ionospheric absorption.
- R113.228 Prediction of field intensity and ionospheric absorption.
- R113.23 Tropospheric wave variations.
- R113.230.1 Diurnal variations of tropospheric wave.
- R113.230.2 Seasonal variations of tropospheric wave.
- R113.230.3 Latitude variations of tropospheric wave.
- R113.230.4 Longitude variations of tropospheric wave.
- R113.230.5 Annual variations of tropospheric wave.
- R113.230.6 Solar cycle variations of tropospheric wave.
- R113.230.7 Random variations of tropospheric wave.
- R113.230.8 Prediction of tropospheric wave variations.
- R113.230.9 Standard refraction of tropospheric wave.
- R113.231.0 Superrefraction of tropospheric wave.
- R113.231.1 Atmospheric absorption of tropospheric wave.
- R113.231.2 Meteorological effects on tropospheric wave.
- R113.24 Irregularities of radio wave propagation.
- R113.241 Sudden ionosphere disturbances.
- R113.242 Scatter.
- R113.242.1 Short scatter.
- R113.242.2 Long scatter.
- R113.242.3 Auroral zone scatter.
- R113.243 Ionosphere storms.
- R113.244 Sporadic E reflection.
- R113.245 Cross modulation in ionosphere.
- R113.246 Cross modulation of radio waves by objects.
- R113.25 Doppler effect on radio wave propagation.
- R113.3 Directional variations of radio wave propagation.
- R113.301 Non-great-circle propagation.
- R113.302 Vertical angles of arrival.
- R113.303 Heiligtag effect.
- R113.304 Direction-finder errors.
- R113.305 Ionosphere layer tilt.
- R113.306 Reflections from ionosphere clouds.
- R113.307 Reflections from objects.
- R113.308 Scattering.
- R113.309 Auroral-zone reflections.
- R113.4 Solar and cosmic effects on radio wave propagation.

- R113.401Normal ionizing radiation effect on radio wave propagation.
- R113.402Sunspots effect on radio-wave propagation.
- R113.403Solar-cycle variations.
- R113.404Solar corona.
- R113.405Solar flocculi and faculae.
- R113.406Solar prominences.
- R113.407Solar flares.
- R113.408Ultra-violet radiation from sun, effect on radio wave propagation.
- R113.409Corpuscular radiation from sun, effect on radio wave propagation.
- R113.409.1Charged corpuscles from sun, effect on radio wave propagation.
- R113.409.2Neutral corpuscles from sun, effect on radio wave propagation.
- R113.410Lunar effects on radio wave propagation.
- R113.411Solar radio noise.
- R113.412Eclipses.
- R113.413Cosmic radiation, effect on radio wave propagation.
- R113.414Cosmic noise.
- R113.415Meteors and meteoric matter.
- R113.5Geophysical effects on radio wave propagation.
- R113.501Meteorological effects on radio wave propagation.
- R113.501.1Meteorological effects on tropospheric propagation.
- R113.501.2Meteorological effects on atmospheric radio noise.
- R113.501.3Meteorological effects on ionosphere.
- R113.502Constitution of atmosphere.
- R113.502.1Ionization processes in atmosphere.
- R113.502.2Recombination processes in atmosphere.
- R113.502.3Light of night sky.
- R113.502.4Causes of ionosphere layer formation.
- R113.502.41Ozone layer of atmosphere.
- R113.502.42D layer of atmosphere.
- R113.502.43E layer of atmosphere.
- R113.502.44F1 layer of atmosphere.
- R113.502.45F2 layer of atmosphere.
- R113.502.46Sporadic-E layer of atmosphere.
- R113.502.49Other layers of atmosphere.
- R113.503Ionosphere storms.
- R113.503.1Auroral zone.
- R113.503.2Auroras.
- R113.503.3Magnetic storms.
- R113.503.4Earth current variations.
- R113.503.5Radio propagation disturbances.
- R113.503.6Recurrence effects.
- R113.504Sudden ionosphere disturbances.

R113.505	.....Latitude variations of ionosphere.
R113.506	.....Longitude variations of ionosphere.
R113.507	.....Geomagnetic variations of ionosphere.
R113.509	.....Ground constants.
R113.6	.....Ionosphere.
R113.601	.....Description of ionosphere.
R113.602	.....Characteristics of ionosphere.
R113.602.1	.....Critical frequency of ionosphere.
R113.602.2	.....Heights of ionosphere.
R113.602.21	.....Virtual height of ionosphere.
R113.602.22	.....Actual height of ionosphere.
R113.602.3	.....Ion distribution in ionosphere.
R113.602.4	.....Reflection coefficients of ionosphere.
R113.602.5	.....Maximum usable frequencies (muf) and skip distance.
R113.602.6	.....Maximum usable frequency factors.
R113.602.7	.....Absorption and reflection coefficients.
R113.602.8	.....Lowest usable high frequency (luhf).
R113.602.9	.....Polarization.
R113.603	.....F1 layer of ionosphere.
R113.604	.....F2 layer of ionosphere.
R113.605	.....E layer of ionosphere.
R113.606	.....E2 layer of ionosphere.
R113.607	.....D layer of ionosphere.
R113.608	.....Sporadic-E layer of ionosphere.
R113.609	.....Sporadic E2 layer of ionosphere.
R113.610	.....Stratification of ionosphere.
R113.611	.....Other layers of the ionosphere.
R113.612	.....Polar spur on ionosphere records.
R113.613	.....Magneto-ionic effects on ionosphere.
R113.613.1	.....Magneto-ionic effects on ordinary wave propagation.
R113.613.2	.....Magneto-ionic effects on extraordinary wave propagation.
R113.613.3	.....Magneto-ionic effects on "Z" wave propagation.
R113.614	.....Gyrofrequency for radio waves.
R113.615	.....Normal variations of ionosphere.
R113.615.1	.....Diurnal variations of ionosphere.
R113.615.2	.....Seasonal variations of ionosphere.
R113.615.3	.....Solar cycle variations of ionosphere.
R113.615.6	.....Random day-to-day variations of ionosphere.
R113.616	.....Predictions of ionosphere conditions.
R113.616.1	.....Critical frequencies of ionosphere.
R113.616.2	.....Heights of ionosphere.
R113.616.3	.....Muf and skip distance for sky-wave propagation.
R113.616.4	.....Absorption in sky-wave propagation.
R113.616.5	.....Luhf for sky-wave propagation.
R113.617	.....Anomalies and disturbances of ionosphere.

- R113.617.2Forecasting of ionosphere storms.
- R113.617.4Lower layer absorption.
- R113.617.5Scatter.
- R113.617.51Long scatter.
- R113.617.52Short scatter.
- R113.617.53Auroral zone scatter.
- R113.617.6Bursts in ionosphere.
- R113.617.7Spread schoes from ionosphere.
- R113.617.8Ionosphere layer tilt.
- R113.65Ionosphere projects.
- R113.7Calculation of propagation conditions.
- R113.71Handbooks on propagation conditions.
- R113.72Sets of graphs on propagation conditions.
- R113.73Nomograms on propagation conditions.
- R113.74Tables on propagation conditions.
- R113.75Transmission formulas and radio propagation.

Add following numbers to any of classes of R113.7 group to indicate frequency ranges. (Example, R113.721 Set of graphs for very low frequencies.)

R113

- .001Very low frequencies (below 30 kc).
- .002Low frequencies (30 to 300 kc).
- .003Medium frequencies (300 to 3000 kc).
- .004High frequencies (3000 to 30,000 kc).
- .005Very high frequencies (30 to 300 Mc).
- .006Ultra-high frequencies (300 to 3000 Mc).
- .007Super-high frequencies (3000 to 30,000 Mc and above).

R114

-Atmospheric radio noise.
- R114.1Atmospheric radio noise sources.
- R114.11Diurnal variations in atmospheric radio noise.
- R114.12Seasonal variations in atmospheric radio noise.
- R114.13Geographical variations in atmospheric radio noise.
- R114.14Meteorological variations, effect on atmospheric radio noise.
- R114.3Calculation of atmospheric radio noise.
- R114.4Prediction of atmospheric Radio noise.
- R114.5Precipitation radio noise, (static).
- R114.6Whistlers.
- R114.7Required field intensities to overcome atmospheric radio noise.
- R114.8Effects of receiving antennas on atmospheric radio noise.
- R115Directional properties of radio waves.
- R115.1Great-circle path calculations of radio waves.

- R115.11Distance calculations.
- R115.12Bearing and azimuth calculations.
- R115.2Non-great-circle path propagation of radio waves.
- R115.21Ionosphere layer tilt effect on propagation.
- R115.22Reflections of radio waves from ionosphere clouds.
- R115.23Reflections of radio waves from objects.
- R115.24Long scatter of radio waves.
- R115.25Short scatter of radio waves.
- R115.26Auroral scatter of radio waves.
- R115.3Bearing deviations of radio waves.
- R115.31Long-route bearings.
- R115.32Scatter as cause of bearing deviations.
- R115.33Ionosphere storm effects on bearing deviations.
- R115.34Sporadic-E effects on bearing deviations.
- R115.35Heiligtag effects on bearing deviations.
- R115.36Polarization effects on bearing deviations.
- R115.361Night effects on bearings.
- R115.4Vertical angles of arrival of radio waves.
- R115.5Ground reflection effects of radio waves.
- R115.6Radio wave tilt.
- R115.7Polarization effects on directional properties of radio waves.
- R116Radar principles.
- R117Waves on wires; transmission lines; parallel wires or concentric conductors.
- R117.1Properties of transmission lines.
- R117.11Conduction of r-f and a-f by transmission lines.
- R117.111Non-resonant lines.
- R117.112Resonant lines.
- R117.12Impedance and impedance matching.
- R117.121Impedance matching by network.
- R117.122Impedance matching by resonant line coupling.
- R117.123Impedance matching by quarter-wave coupling line.
- R117.124Impedance matching by stub-line.
- R117.125Impedance matching by reentrant transmission line section.
- R117.13Irregularities in transmission lines.
- R117.14Balanced and unbalanced lines.
- R117.15Radiation from transmission lines.
- R117.16Loaded lines.
- R117.17Tapered lines.
- R117.18Pressurizing r-f lines.
- R117.19Delay lines.
- R117.2High-frequency cable; coaxial lines; coaxial cable.
- R117.3Transmission line terminations.
- R118Wave guides.

- R118.1Rectangular wave guides.
- R118.2Nonrectangular wave guides.
- R118.3Transverse magnetic waves, TM or E.
- R118.4Transverse electric waves, TE or H.
- R118.5Cut-off frequency of wave guides.
- R118.6Excitation of modes of wave guides.
- R118.7Attenuation of wave guides.
- R119Cavity resonators.
- R119.1Nonreentrant-type cavity resonator.
- R119.2Reentrant-type cavity resonator.
- R119.3Properties of cavity resonators.
- R119.31Modes of oscillation of cavity resonator.
- R119.32Resonance frequency of cavity resonator.
- R119.33Q of cavity resonator.
- R119.34Impedance of cavity resonator.
- R119.35Coupling to cavity resonator.
- R119.39Other properties of cavity resonators.
- R120Antennas (See also R320); antenna radiation.
- R120.1Vertical directional patterns of antennas.
- R120.11Ground reflection as affecting vertical directional patterns of antennas.
- R120.2Radiation efficiency of antennas.
- R120.21Radiated power from antennas.
- R121Condenser type antennas (ordinary elevated type) with ground or the usual type counterpoise.
- R122Linear antennas - not connected to ground or to the ordinary type of counterpoise.
- R125Directional antennas (transmitting in, or receiving from, a particular direction).
- R125.1Beam antennas, antenna arrays.
- R125.2Wave antennas.
- R125.3Coil antennas.
- R125.31Direction-finding antennas.
- R125.4Adcock antennas.
- R125.5Transmission-line antennas.
- R125.6Vertically radiating antennas.
- R125.61Resonant radiating antennas.
- R125.62Nonresonant radiating antennas.
- R125.7High-angle antennas for short-distance work.
- R125.8Low-angle antennas for long-distance work.
- R126Ground systems.
- R127Image antennas.
- R128Feeders for antennas (transmission lines, etc.).
- R129Other types of antennas (quarter-wave antennas; half-wave antennas).
- R129.1Multiple-tuned antennas.
- R130Vacuum tubes.
- R131General properties; characteristic curves of vacuum tubes.

- R132Amplifying action of vacuum tube; amplifier theory.
- R133Generating action of vacuum tube.
- R133.1Generating action of vacuum tube with negative grid.
- R133.2Generating action of vacuum tube with positive grid.
- R133.3Generating action of vacuum tube, relaxation oscillation.
- R134Detector action of vacuum tube.
- R135Modulating action of vacuum tube.
- R136Trigger action in vacuum tube.
- R138Electron emission; ionization; electron theory.
- R138.1Space charge effects in vacuum tube.
- R138.2Shot effect.
- R138.3Electron optics.
- R138.31Cathode-ray tubes.
- R138.311Electron gun.
- R138.312Deflection of electron beam.
- R138.313Fluorescent screen.
- R138.4Electron oscillations.
- R138.5Electron transit-time.
- R138.6Thermal noise.
- R139Other vacuum-tube principles.
- R139.1Vacuum-tube circuit analysis.
- R139.2Special vacuum-tube circuit arrangements.
- R139.21Cathode follower circuit.
- R139.22Voltage-doubler circuit.
- R139.23Squelch circuit.
- R140Circuit theory and effects; transient effect; relaxation oscillations; parasitic oscillations.
- R141Radio circuits.
- R141.1Frequency of radio circuit.
- R141.11Frequency drift in radio circuits.
- R141.2Resonance, tuning of radio circuit; slug tuning.
- R141.21Series resonance of radio circuit.
- R141.22Parallel resonance of radio circuit.
- R141.23Time constant of radio circuit.
- R141.24Inductive-tuned circuit.
- R141.3Impulse excitation.
- R141.4Relaxation oscillations.
- R141.5Parasitic oscillations.
- R142Coupled circuits.
- R142.1Direct coupling.
- R142.3Inductive coupling.
- R142.5Capacitive coupling.
- R143Networks.
- R143.1Resistance-type attenuators.
- R143.2Filters.

- R143.3Equalizers.
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- R263Receiver amplifying apparatus; sound equipment.
- R264Measurements on other component parts of radio receivers.
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- R283Effects of temperature on radio equipment.
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- R320.41Transmission lines.
- R320.411Parallel wires.
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- R326.24Tank antenna.
- R326.25Multifrequency tuned antenna.
- R326.3Long-wave antennas.
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- R326.5Short-wave antennas.
- R326.6Television antennas; FM antennas.
- R326.61Wide-band antenna.
- R326.611Cylindrical antenna.
- R326.612Conical antenna.
- R326.613Spheroidal antenna.
- R326.614Diamond antenna.
- R326.615Double-diamond antenna.
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rod radiator antennas.
- R327Artificial antennas.
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- R331Construction; evacuation of vacuum tubes.
- R331.5Operation of vacuum tubes.
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- R334Power amplifier tubes.
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- R336Oscillator tubes.
- R337Rectifier tubes.
- R337.1Gas tubes.
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- R338Regulator tubes.
- R338.1Current regulator tubes.
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- R355Vacuum-tube transmitters.
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- R355.13Medium-frequency transmitter (300 to 3000 kc).
- R355.131Broadcast-frequency transmitter (550 to 1600 kc).
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- R355.15Very high-frequency transmitter (30 to 300 Mc).
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- R361.102.3Intermediate-frequency section.
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- R361.105Single-signal receiver.
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- R361.107Diversity receiver.
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- R361.108Musa receiver.
- R361.109Tone-corrected (stenode) receiver.
- R361.110Triple detection receiver.
- R361.111Frequency modulation receiver.
- R361.112Transmission-line tuned receiver.
- R361.113Very high-frequency (30 to 300 Mc) receiver.
- R361.114Ultra-high-frequency (300-3000 Mc) receiver.
- R361.115Super-high-frequency (3000-30,000 Mc) receiver.
- R361.116Broadcast receiver.
- R361.117Communications receiver.
- R361.118Automobile receiver.
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- R361.120Transceivers.
- R361.121Panoramic receiver.
- R361.122Phase-modulation receiver.
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- R361.124All-wave receiver.
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- R361.201.1Muting system, quieting or squelch, tuning
silencers, interchannel noise suppressors,
codans.
- R361.202Manual volume control.

R361.203Tone control.
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R361.209Crystal-controlled receivers.
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R361.211Noise, signal-to-noise ratio.
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R363.12Band-pass amplifier.
R363.13Intermediate-frequency (I.F.) amplifier.
R363.14Class B amplifier.
R363.141Linear amplifier.
R363.15Class C amplifier.
R363.16Velocity modulation amplifier.
R363.2Audio-frequency amplifiers.
R363.21A-F voltage amplifier.
R363.211Resistance-coupled amplifier.
R363.212Transformer-coupled amplifier.
R363.212.1Shunt-feed amplifier.
R363.213Impedance-coupled amplifier.
R363.22A-F power amplifier.
R363.221Class A amplifier.
R363.222Push-pull amplifier.
R363.222.1Class AB amplifier.
R363.222.2Class B amplifier.
R363.23Feed-back amplifier; negative feed-back in
a-f amplifiers.

R363.26Features of a-f amplifiers.
R363.261Peak limiter.
R363.262Volume compressor.
R363.263Volume expander.
R363.264Vogad (AVC).
R363.3Direct-current amplifier.
R363.4Video amplifier (wide-band).
R363.41Video voltage amplifier.
R363.42Video power amplifier.
R365Electroacoustic transducers.
R365.1Telephone receivers.
R365.2Loudspeakers.
R365.21Permanent-magnet type speaker.
R365.22Dynamic speaker.
R365.23Magnetic-armature type speaker.
R365.24Condenser-type speaker.
R365.25Piezoelectric-type speaker.
R365.29Other types of loud speakers.
R365.3Recorders.
R365.31Time-signal recorder.
R365.32Signal-intensity recorder.
R365.33Ionosphere recorders.
R365.331Manual ionosphere recorder.
R365.332Fixed-frequency (h't) recorder.
R365.333Multifrequency (h'f) recorder.
R365.334Absorption recorder.
R365.335Scatter recorder.
R365.34Radio-frequency recorder.
R365.35Magnetic recorder.
R365.36Meteorological recorder.
R365.37Wave direction recorder.
R366Radio receiver power supply.
R366.1Direct-current power supply.
R366.11Power-line supply.
R366.12Batteries.
R366.13Vibrators.
R366.14Generators.
R366.15Regulated d-c voltage supply.
R366.151Electronic voltage regulator.
R366.152Neon-tube regulator.
R366.153Ballast-resistance regulator.
R366.2Alternating-current power supply.
R366.2125-60 cycle power line.
R366.22Rotary dc to ac.
R366.23A-c voltage regulator.
R366.24D-c to a-c by electronic means.
R366.231Magnetic saturation regulator*.
R366.3Rectifiers.

- R366.31Rotary ac to dc rectifier.
- R366.32Vacuum-tube rectifier.
- R366.33Vibrator-type rectifier.
- R366.34Copper-oxide rectifier.
- R366.35Selenium rectifier.
- R366.36Magnesium-copper sulphide rectifier.
- R366.37Rectifier filters.
- R367Remote control of radio receiving equipment.
- R370Instruments.
- R371.1Wave analyzer.
- R371.11Heterodyne-type wave analyzer.
- R371.2Spectrum analyzer.
- R371.3Time-interval meter.
- R371.4Q-meter; cavity Q-meter.
- R371.5Cathode-ray oscillograph; oscilloscope.
- R371.51Electronic switch.
- R371.6Range calibrator.
- R371.7Standing-wave indicator.
- R372Electrical indicating instruments.
- R372.1Ohmmeter, volt-ohmmeter.
- R372.2Radio set analyzer; condenser analyzer.
- R374Frequency meters; frequency standards.
- R374.1Radio-frequency meter.
- R374.11Absorption-type frequency meter.
- R374.111Cavity-type frequency meter.
- R374.112Echo box.
- R374.12Generating-type frequency meter.
- R374.121Buzzer-driven frequency meter.
- R374.122Heterodyne-type frequency meter.
- R374.123Dynatron-type frequency meter.
- R374.124Frequency monitor.
- R374.2Audio-frequency meter.
- R374.21Tuned-circuit frequency meter.
- R374.22Beat-frequency meter.
- R374.23Electronic-type a-f meter.
- R374.5Decremeter.
- R380Component parts.
- R381Capacitors.
- R381.1Fixed capacitors.
- R381.11Mica capacitors.
- R381.12Ceramic capacitors.
- R381.13Air capacitors.
- R381.14Electrolytic capacitors.
- R381.15Paper capacitors.
- R381.16Vacuum capacitors.
- R381.2Variable capacitors.
- R381.21Variable air capacitors.
- R381.22Padder capacitors.

- R382Inductors.
- R382.1Transformers for communications equipment.
- R382.11Radio-frequency transformers; IF transformers;
triple-stub transformers.
- R382.12Audio-frequency transformers.
- R382.13Pulse transformers.
- R382.2Choke coils.
- R382.21RF choke coils.
- R382.22AF choke coils.
- R383Resistors.
- R383.1Fixed resistors.
- R383.11Wire-wound resistors.
- R383.12Composition resistors.
- R383.121Carbon resistors.
- R383.122Metallized resistors.
- R383.2Variable resistors.
- R383.21Attenuator network.
- R383.22Impedance-matching network.
- R383.23Decade resistance box.
- R385Modulation and keying devices.
- R385.1Keys.
- R385.2Buzzers.
- R385.3Interruptors (tone wheels, choppers).
- R385.4Vacuum-tube modulation devices.
- R385.5Microphones.
- R385.51Carbon microphone.
- R385.52Dynamic or moving-coil type microphone.
- R385.53Condenser microphone.
- R385.54Unidirectional ribbon microphone.
- R385.55Velocity-type ribbon microphone.
- R385.56Piezoelectric (crystal) microphone.
- R385.57Polydirectional microphone.
- R385.59Other speech equipment.
- R386Filters.
- R386.1Band-pass filter.
- R386.2Low-pass filter.
- R386.21Scratch-eliminator filter.
- R386.3High-pass filter.
- R386.4Band-eliminator filter.
- R386.41Power-line noise-eliminator filter.
- R386.5Piezoelectric (crystal) filter.
- R386.6Power-pack-type filter.
- R387Protective equipment.
- R387.1Shields.
- R387.5Grounds.
- R387.7Insulators.
- R389Other components.
- R389.1Relays.
- R389.11Plug-in relay.
- R389.12Small-switching relay.

- R389.13 Small-telephone-type relay.
- R389.14 Stepping relay.
- R389.15 Time-delay relay.
- R389.16 Transmitter-switching and keying relay.
- R389.17 Vacuum relay.
- R389.18 Overload relay.
- R390 Other radio apparatus and equipment (public-address systems).
- R391 Public-address systems.
- R391.1 Phonographic recorder.
- R391.11 Transcription turn tables.
- R391.12 Phonographic pickup.
- R392 Volume indicators.
- R396 Attenuators.
- R396.1 Resistance-type attenuator.
- R396.2 Mutual inductance type attenuator.
- R396.3 Mutual capacitance type attenuators.
- R396.9 Miscellaneous types of attenuators.
- R400 .. RADIO COMMUNICATION SYSTEMS (Complete communication systems, or parts of a system which are considered in relation to the complete system).
- R410 Damped-wave (transmitting) systems.
- R411 Spark communication system.
- R412 Timed-spark communication system.
- R413 Impulse-excitation communication system.
- R420 Continuous-wave (transmitting) systems.
- R421 High-frequency alternator.
- R421.1 Alexanderson alternator.
- R421.2 Goldschmidt alternator.
- R421.3 Static-frequency multiplier.
- R422 Arc communication system.
- R423 Vacuum-tube systems (transmitting); frequency-shift transmitter.
- R423.11 Very low-frequency system (below 30 kc).
- R423.12 Low-frequency system (30 to 300 kc).
- R423.13 Medium-frequency system (300 to 3000 kc).
- R423.131 Broadcast-frequency system (550 to 1600 kc).
- R423.132 Synchronization of broadcast stations.
- R423.14 High-frequency system (3000 to 30,000 kc).
- R423.15 Very high-frequency system (30 to 300 Mc).
- R423.16 Ultra-high-frequency system (300 to 3000 Mc).
- R423.17 Super-high-frequency system (3000 to 30,000 Mc and higher).
- R423.2 Telegraph code transmitters.
- R423.21 Frequency diversity transmitter.
- R423.22 Space diversity transmitter.
- R423.23 Polarization diversity transmitter.
- R423.3 Variable-carrier transmitter
- R423.4 Suppressed-carrier transmitter.

- R423.5Single side-band (asymmetric or vestigial side-band) transmitter.
- R423.51Single side-band by filter system.
- R423.52Single side-band by phase-shift system.
- R423.6Single side-band plus carrier transmitter.
- R423.7Amplitude-modulation transmitter.
- R423.8Frequency-modulation transmitter.
- R423.81Armstrong system of FM.
- R423.82Automatic frequency-control system of FM.
- R423.83Morrison system of FM.
- R423.9Secrecy equipment.
- R424Pulse communication.
- R426Beat reception.
- R427Use of receiving interruptors and tone wheels.
- R428Diversity receiving systems.
- R429Other continuous-wave systems.
- R430Interference elimination.
- R430.1Radio interference.
- R430.11Station interference.
- R430.2Man-made electrical interference.
- R430.21Power-line interference.
- R430.22Household-appliance interference.
- R430.23Therapeutic-appliance interference.
- R430.231Diathermy interference.
- R430.232Electrosurgical-appliance interference.
- R430.232.1Spark electrosurgical-appliance interference.
- R430.232.2Vacuum-tube electrosurgical-appliance interference.
- R430.24Automobile-ignition interference (see also R521.2 aircraft ignition shielding).
- R430.25Industrial-heating equipment interference.
- R440Remote control (by wire).
- R450Connection of radio systems to wire systems (vodas).
- R460Duplex and multiplex systems.
- R470Radio-frequency carrier wire systems.
- R480Radio relay systems.
- R490Other systems.
- R500 ..APPLICATIONS OF RADIO (Radio as an instrument in other arts, fields, industries, etc.).
- R501Direction finding systems and equipment.
- R501.1Marine direction finding.
- R501.2Aeronautic direction finding.
- R510Marine applications of radio.
- R511Marine distress signals.
- R512Radio marine navigation aid systems.
- R512.1Marine position finding.
- R512.11Marine radio beacons.
- R512.12Marine fog signalling.

- R512.13Marine radio compass (direction finding).
- R512.1⁴Marine distance finding.
- R512.2Long-range navigation system, Loren.
- R512.3Marine collision prevention.
- R513Fishing boats.
- R514Tow-boat devices.
- R515Submarine signalling.
- R516Marine life-saving service.
- R517Lighthouse service.
- R518Ship communication equipment.
- R520Aeronautic applications of radio.
- R521Receiving on aircraft.
- R521.1Receiving sets for aircraft.
- R521.2Ignition shielding on aircraft.
- R521.3Static suppressors for aircraft.
- R522Transmitting from aircraft.
- R522.1Transmitters for aircraft.
- R522.2Bonding of aircraft.
- R523Receiving from aircraft.
- R524Transmitting to aircraft.
- R525Airplane antennas (See also R326.21).
- R526Radio as navigation aid to aircraft.
- R526.1Beacon systems for aircraft.
- R526.11Equi-signal beacon system (radio range).
- R526.111Coded beacon system.
- R526.112Audio-modulated beacon system.
- R526.113Simultaneous-phone beacon system.
- R526.11⁴Course-identification beacon system.
- R526.12Omni-directional beacon system.
- R526.13Non-directional beacon system (for direction finding).
- R526.14Timed-rotating beacon system.
- R526.15Beacon-system markers.
- R526.151Beacon-system route marker.
- R526.152Beacon-system obstruction marker.
- R526.153Beacon-system fan marker.
- R526.15⁴Beacon-system cone of silence marker.
- R526.2Instrument landing of aircraft.
- R526.21Instrument-landing beam.
- R526.22Instrument-landing marker.
- R526.23Instrument-landing runway-localizer.
- R526.3Direction finders for aircraft.
- R526.4Collision-prevention devices for aircraft.
- R526.5Radio altimeters for aircraft.
- R527Automatic control of aircraft.
- R528Aeronautic communications.
- R530Commercial and miscellaneous radio services.
- R531Traffic.
- R531.1Code and ciphers.

- R531.2Station call letters.
- R531.3Abbreviations.
- R531.4Alphabets, Morse and Continental (international) code.
- R531.5Traffic relations with land lines.
- R531.6Traffic relations with cables.
- R531.7Message rates.
- R531.8Operating data for radio propagation analysis.
- R531.81Traffic logs.
- R531.82Frequency usage on traffic circuits.
- R531.83Figures of merit on traffic circuits.
- R531.84Predictions of frequency usage for traffic circuits.
- R531.85Comparison of frequency usage with ionosphere conditions.
- R532Press services.
- R533Railroad communications.
- R534Radio applications in agriculture.
- R535Radio applications in forestry.
- R536Radio applications in mining and geophysical prospecting.
- R537Radar.
- R537.1Radar sets.
- R537.11Radar antenna and scanning mechanism.
- R537.12Radar transmitter.
- R537.121Radar r-f oscillator.
- R537.122Radar modulator.
- R537.13Radar receiver.
- R537.131Radar indicator; PPI (plan-position indicator).
- R537.2Radar beacons.
- R537.3Radar power.
- R537.4Radar tests.
- R537.9Radar countermeasures.
- R538Police radio.
- R538.1Radio applications in Department of Justice.
- R538.2Radio applications in prisons.
- R538.3State and county police radio.
- R538.4City and metropolitan police radio.
- R539Miscellaneous radio services.
- R539.1Data exchange by radio.
- R539.11Symoptic code systems for data exchange.
- R539.12Cipher systems for data exchange.
- R540Utilities, special services.
- R541Use of radio by public utilities.
- R542General mobile radio, taxicab radio.
- R543Fire-service radio.
- R544Citizens radio communications (walkie-talkie).

- R545Amateur radio.
- R546Rural radio telephone.
- R547Use of radio in special emergency services.
- R547.1Doctor's radio call service.
- R547.2Citizens' alerting system.
- R549Other special services.
- R550Broadcasting.
- R551Time signals.
- R551.1Longitudinal determinations.
- R553Meteorological radio signals.
- R553.1Radio meteorographs (radiosondes).
- R553.2Reemitters.
- R663.21Raywind.
- R553.3Storm locator system.
- R555Standard frequency signals.
- R557Education by radio.
- R560Military radio.
- R560.1Mine detection.
- R560.2Proximity fuze.
- R561Army radio.
- R565Navy radio.
- R565.1Sonar.
- R568Coast Guard radio.
- R570Remote control by radio.
- R570.1Remote control of aircraft.
- R570.2Remote control of marine craft.
- R570.3Remote control of land craft.
- R570.4Remote control of missiles (See also R560).
- R570.5Remote control of radio at a fixed point.
- R580Picture transmission (television); teletype.
- R581Facsimile (including photographs).
- R582Motion pictures.
- R583Television; television relay systems.
- R583.1Basic theory of television.
- R583.11Television image analysis.
- R583.12Television camera action.
- R583.13Scanning beam formation, deflection and synchronization.
- R583.14Video signal amplification and transmission.
- R583.15Television image reproduction.
- R583.16Television propagation and coverage.
- R583.17Television progress and plans.
- R583.2Television studio technique.
- R583.3Television studio equipment.
- R583.4Television transmitters.
- R583.5Television receivers.
- R583.6Television tubes.
- R583.7Television reception.
- R584Teletype.

- R590Other applications of radio.
- R591Transmission of power by radio.
- R593Musical instruments.
- R594Therapeutics.
- R594.1Diathermy.
- R594.11Condenser field application of diathermy.
- R594.12Induction field application of diathermy.
- R594.2Electrosurgery.
- R594.21Surgeon's metal locator.
- R594.3Electrocardiography.
- R594.4Hearing aids.
- R596Use of radio in engineering construction.
- R596.1Use of radio in surveying.
- R597Burglar alarms, detection and/or location of objects.
- R597.1Burglar alarm.
- R597.2Buried metal locator (see also R536).
- R598Industrial heating by r-f currents.
- R600 ..RADIO STATIONS: EQUIPMENT, REGULATIONS, DESIGN,
OPERATION, MANAGEMENT, AND MAINTENANCE.
- R610Radio station equipment.
- R611Very low-frequency station (below 30 kc).
- R612Low-frequency station (30-300 kc).
- R613Medium-frequency station (300-3000 kc).
- R613.1Broadcast frequency station (550-1600 kc).
- R613.11Radio broadcast studios.
- R613.111Studio acoustics.
- R614High-frequency station (3000 to 30,000 kc).
- R615Very high-frequency station (30-300 Mc).
- R616Ultra-high frequency station (300 to 3000 Mc).
- R617Super-high-frequency station (3000 to 30,000 Mc
and higher).
- R618Ship radio stations.
- R620Radio station regulations, design, operation,
maintenance and management.
- R621Regulations for radio stations.
- R621.1Radio station construction applications and
permits.
- R621.2Radio station licenses.
- R621.21Radio station operator's licenses.
- R621.3Radio station lists.
- R622Radio station design and planning.
- R622.1Radio station site selection.
- R623Radio station operation.
- R624Radio station maintenance.
- R625Radio station management.
- R630Frequency modulation broadcasting (FM)
- R630.1Theory of frequency modulation.
- R630.11Frequency modulation propagation and coverage.
- R630.12Frequency modulation progress and plans.

- R630.2Frequency modulation stations.
- R630.22Frequency modulation studio equipment.
- R630.23Frequency modulation studio-transmitter links.
- R630.24Frequency modulation networks.
- R630.3Frequency modulation systems performance.
- R700 ..RADIO MANUFACTURING AND REPAIRING.
- R710Factories.
- R720Processes, factory methods; production methods.
- R730Radio servicing and repairing.
- R740Sales, merchandizing.
- (R800)* ..NON-RADIO SUBJECTS (material of interest, but not a part of radio).

- 347.7Patent service.
- 353.821*National Bureau of Standards.
- 383Postal service, air mail service (See also Aero-nautics 629.13).

- 507.2General Science.
- 510Mathematics.
- 520Astronomy.
- 523.74Sun spots.
- 523.78Eclipses of the sun.
- 525Earth.
- 526Geodesy.
- 526.8Map projections.
- 529.78Instruments for measuring time (watches, clocks).

- 530Physics.
- 531Mechanics.
- 532Liquids, hydrostatics.
- 533Gases, pneumatics.
- 533.85Vacuum apparatus.
- 534Sound.
- 534.3Tuning forks.
- 534.83Signals in navigation.
- 535Light (Light signaling see 623.731).
- 535.3Photo-electric phenomena.
- 535.38*Photo-electric tubes; cells and applications; Kerr cell; selenium cell.

- 536Heat.
- 536.33Radiation; general theory; thermal detector.
- 536.83Heating by induction.
- 537Electricity.
- 537 1Theory of electricity, A.C. theory.
- 537.23Electrostatic generators.
- 537.26*Corona discharge.
- 537.4Lightning.
- 537.6Electrodynamics.
- 537.65*Piezoelectric phenomena. (See also R191, R214, R355.63, and R355.911.41).

The numbers marked with an asterisk () are not found in the Dewey decimal classification, but are inserted here for convenience.

- 537.67*Experimental plotting of electrical fields.
- 537.7X-ray analysis.
- 537.87Physiological electrical phenomena.
- 538Magnetism.
- 538.11*Magnetostriction.
- 539Molecular physics; atomic physics.
- 539.7Radioactivity.
- 540Chemistry.
- 541.3Physical chemistry.
- 550Geology.
- 551.5Weather; meteorology.
- 621Mechanical engineering.
- 621.3Electrical engineering.
- 621.313Electric generators; electric motors.
- 621.313.2Direct-current machinery.
- 621.313.23Direct-current generators.
- 621.313.24Direct-current motors.
- 621.313.25Motor generators.
- 621.313.26Dynamotors.
- 621.313.3Alternating-current machinery.
- 621.313.43Alternating-current generators.
- 621.313.44Synchronous motors.
- 621.313.63Induction motors.
- 621.313.66Repulsion motors.
- 621.313.68Phase converter or adaptor.
- 621.313.7Rectifiers.
- 621.314.3Transformers.
- 621.314.5Voltage regulators.
- 621.314.51Voltage control equipment.
- 621.314.6Choke coils.
- 621.314.7Induction coils.
- 621.317Switchboards.
- 621.317.3Switches.
- 621.317.4Rheostats.
- 621.319.2Transmission lines.
- 621.325Incandescent arcs.
- 621.326Incandescent filament lamps.
- 621.327.4Mercury vapor tubes (lamps).
- 621.327.7X-ray tubes.
- 621.353Batteries, primary.
- 621.354Batteries, secondary (storage).
- 621.354.7Battery-charging devices.
- 621.37Electrical measurements, meters and testing.
- 621.371General.
- 621.372Standards, calibration of instruments.
- 621.373Meters. General types.
- 621.374Special meters and measurements.
- 621.374.2Wheatstone bridges, ohmmeters, resistance boxes, inductance, capacitance.

- 621.374.3 Voltmeters, electrometers, standard cells, volt-ohmmeters; potentiometers.
- 621.374.4 Current, galvanometers, ammeters, coulometers, ampere-hour meters.
- 621.374.5 Watt-hour meters.
- 621.374.6 Wattmeters.
- 621.374.7 Frequency meters. Oscillographs.
- 621.374.9 Other meters and measurements.
- 621.374.91 Phase meters. Power-factor meters. Synchronizers.
- 621.375* Electronics, vacuum tubes, special applications other than radio.
- 621.375.1 Control of conditions.
- 621.375.101 Electric load; electric current
- 621.375.102 Humidity, moisture content.
- 621.375.103 Illumination.
- 621.375.104 Motion; servomechanisms.
- 621.375.105 Pressure.
- 621.375.106 Switching.
- 621.375.107 Synchronization.
- 621.375.108 Temperature.
- 621.375.109 Traffic.
- 621.375.13 Control of devices.
- 621.375.131 Doors.
- 621.375.132 Elevator levelling.
- 621.375.133 Motors.
- 621.375.15 Control of processes.
- 621.375.151 Chemical.
- 621.375.152 Combustion.
- 621.375.153 Electroplating.
- 621.375.154 Welding.
- 621.375.2 Counting process; analysis; computing.
- 621.375.3 Grading, sorting process.
- 621.375.31 Flaw detection.
- 621.375.4 Heating control.
- 621.375.41 Food sterilization, dehydration.
- 621.375.42 Gluing.
- 621.375.43 Metal hardening, tempering.
- 621.375.44 Plastics industry.
- 621.375.45 Wood drying.
- 621.375.5 Ignition systems.
- 621.375.6 Measurements, tests.
- 621.375.601 Color.
- 621.375.602 Conductivity of solutions.
- 621.375.603 Density, opacity.
- 621.375.604 Electron microscope.
- 621.375.605 Gas detection and analysis.
- 621.375.606 Hardness.

- 621.375.607Light intensity.
- 621.375.608Metallurgy, cyclograph.
- 621.375.609Miscellaneous chemical tests.
- 621.375.610pH determination.
- 621.375.611Photography (high-speed).
- 621.375.612Reflection; coefficient meter.
- 621.375.613Smoke detection, recording.
- 621.375.614Speed, velocity.
- 621.375.615Strain.
- 621.375.616Televetering.
- 621.375.617Thickness.
- 621.375.618Time.
- 621.375.619Titration.
- 621.375.620Turbidity.
- 621.375.621Vacuum and ionization gages.
- 621.375.622Vibration.
- 621.375.623X-rays.
- 621.375.624Fluxmeter, magnetic field measurement.
- 621.375.625Lightning generator, high-voltage generator.
- 621.375.626Fluid leak detector.
- 621.375.627Fire and flame detector.
- 621.375.628Clinical apparatus (non-radio use of v.t.)
- 621.375.629Water depth or level indicator.
- 621.375.630Meteorology.
- 621.375.631General purpose power supply.
- 621.375.7Weighing.
- 621.375.9Miscellaneous non-radio applications of
v. tubes.
- 621.379Other electrical measuring instruments;
synchrosopes.
- 621.38Electric communication.
- 621.382Telegraphy.
- 621.382.4High-speed telegraphy.
- 621.382.5Printing telegraph.
- 621.382.7Picture transmission, facsimile (by wire)
(See also R581).
- 621.382.8Submarine cable.
- 621.382.92*Ground telegraphy.
- 621.382.94Induction signaling.
- 621.383.21Relays.
- 621.385Telephony.
- 621.385.91*Program distribution.
- 621.385.95*Condenser transmitters.
- 621.385.97*Electroacoustic devices; telephone units
(See also R594.4).
- 621.385.971*Electric phonograph.
- 621.388Television (by wire).
- 621.39Other applications of electricity.
- 622.12Prospecting, electrical methods.

623.731Light signals.
623.823Steamships.
629.13Aeronautics.
629.132.5Aerial navigation.
629.134Airplane construction.
629.136Airports, airdromes, seadromes.
658Business methods.
681.114.4Chronometers.
681.116Electric clocks.
681.134Moving picture apparatus.
681.134.96*Sound motion pictures.
681.135Sound producers.
681.843Sound recording.
R900MISCELLANEOUS RADIO (Material which has no specific
place. See also R000).

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