

**U. S. DEPARTMENT OF COMMERCE
BUREAU OF STANDARDS**

**CLASSIFICATION OF RADIO SUBJECTS
AN EXTENSION OF THE DEWEY DECIMAL SYSTEM**

CIRCULAR OF THE BUREAU OF STANDARDS, No. 385

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CLASSIFICATION OF RADIO SUBJECTS—AN EXTENSION OF THE DEWEY DECIMAL SYSTEM¹

ABSTRACT

A systematic scheme of classification of subjects in radio science and engineering is necessary in classifying references to current radio publications and also for classifying all sorts of other radio material, such as reports, reprints, drawings, books, apparatus, etc. In an effort to fill the need for a radio classification this extension of the Dewey decimal system was prepared.

Since the publication of Circular No. 138 (superseded by this circular) in 1923, the subject classification it presents has been used extensively by many radio research workers and engineers as well as by the radio section of the National Bureau of Standards. The present circular brings the classification up to date and makes a few changes which use has shown to be necessary.

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I. INTRODUCTION

Since the publication of Circular No. 138, in 1923, the subject classification it presents has been used extensively by many radio research workers and engineers as well as by the radio section of the Bureau of Standards. The present circular brings the classification up to date and makes a few changes which use has shown to be necessary.

A systematic scheme of classification of subjects in radio science and engineering is necessary in classifying references to current radio publications and also for classifying all sorts of other radio material, such as reports, reprints, drawings, books, apparatus, etc. In an effort to fill the need for a radio classification this extension of the Dewey decimal system was prepared.

Such a system makes it easy to place books on related subjects near together on the shelves, or to file references on the same subject all in the same group and not by the order of their addition to the collection or file. If a classification is to be of the most use, any part of it must be capable of expansion, or it must be possible to disregard any part of the classification without interfering with the usefulness of the remaining parts. These requirements are met.

¹ The original circular (C138) was prepared by L. E. Whittemore and R. S. Ould; this circular prepared by J. H. Dellinger and C. B. Jolliffe.

II. THE DEWEY DECIMAL SYSTEM OF CLASSIFICATION

Under the Dewey decimal system,² of which the present classification is an extension, 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 table used in Bureau of Standard files is an alphabetical index.³ 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.

1. OUTLINE OF CLASSIFICATION

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.

While some of the details of the Dewey system itself seem to be illogical (for example, electrical engineering a subdivision of mechanical engineering), the system has been widely adopted, and confusion would result from attempts to change it into a more logical form.

The Dewey system has some general features which are found especially advantageous. For example, all general material under a given class is put under the class itself (usually having a final figure 0). The ninth division under any class is usually reserved for miscellaneous items which are as yet of too small importance to classify separately; this should not be confused with the first item (0) under each class which is used for general material pertaining to many or all of the subdivisions under it. The ninth division should be used sparingly; that is, effort should always be made to find a more specific classification. This sometimes requires an extension to be made to the classification at some point.

² The original circular (C138) was based on the tenth edition, 1919, of *Decimal Classification and Relative Index for Libraries, Clipping Notes, etc.*, by M. Dewey, published by Forrest Press, Lake Placid Club, N. Y. Successive revisions of Dewey's book appeared, and the twelfth edition, 1927, is the basis of the present edition of this circular. Attention is also called to an elaboration of the Dewey system of decimal classification made by the International Institute of Bibliography (published in *Classification Decimale Universelle*, by Institut International de Bibliographie, Bruxelles. 1905; second edition, 1929). The American Dewey and the International Institute expanded tables are similar in general plan, but differ in detail. For example, in the American Dewey tables radiocommunication is found at 621.384, as explained below, while in the International Institute tables it is found at 621.396.

³ By neglecting detailed numbers this index can be applied to the classification table given in III, 1.

2. DETAILED FORM CLASSIFICATION

The Dewey classification, as well as the extension for radio, is mainly by subject or content, regardless of form. For material covering a general field, special form subdivision of the subject is found practically useful. For classification as to form the following set of numbers may be used in connection with the number corresponding to any subject covered.

- 001 Statistics.
- 002 Quantities; cost.
- 003 Contracts; specifications.
- 004 Designs; drawings.
- 005 Executive; administrative; rules.
- 006 Working; maintenance.
- 007 Laws; regulations.
- 008 Patents.
- 009 Reports of tests; bulletins.
- 01 Theory; methods; programs.
- 02 Textbooks; outlines; manuals.
- 03 Cyclopedias; dictionaries.
- 04 Essays; addresses; lectures; letters; papers.
- 05 Periodicals; magazines; reviews; bibliography; publications.
- 06 Societies; associations; transactions; exhibitions.
- 07 Education; training; museums.
- 08 Tables; calculations; charts; maps.
- 09 History; progress; development; biographical.

The sequence of figures constituting the form number is simply placed to the right of the sequence of figures constituting the class number.⁴ Thus a periodical on any subject has the subject number followed by 05.

Examples:

- R500.05 Periodicals on applications of radio.
- R510. 05 Periodicals on applications of radio to navigation.
- R526.105 Periodicals on radiobeacon systems.
- R526.100. 7 Laws regarding radiobeacons.

Thus the classification of any subject may be expanded to meet the needs of an individual file. The complete number gives in a condensed form an indication of what the material is as well as its location in the files.

III. CLASSIFICATION OF RADIO SUBJECTS

1. DETAILS OF USE

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

The class (R800) is anomalous. This space in the classification is actually used for nonradio matter. 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 larger volume of radio material. Accordingly, a number of nonradio items are included where R800

⁴ In the original circular (C138), the following statement was made: "If the class number already ends in one or two zeros, as 500 or 510, these zeros are disregarded in making up the combined number." This practice has been abandoned and all zeros should be included except under R000.

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 radio-frequency comparison method (R273); two cards should be made out, one marked R113.1, XR273 and the other R273, XR113.1. Each of these should be filed under the first number.

The needs of individual collections of files vary widely, and expansions of the system can be made by any person using the system. The following classification table is given as a classification which in itself meets the needs of small collections or files. Persons interested in a particular subject or subjects will find it advantageous to expand the parts in which they are interested, and to use the classification as given for those parts in which they have only a general interest.

In Section V below there is given a detailed extension of this classification which has been evolved to meet the filing needs of the radio section of the Bureau of Standards. In that table there will be found examples of detailed extensions to meet particular circumstances.

In cases where files of an organization are numbered according to an extended system and are made available to another organization using a less extended system, the detailed portion of the classification numbers can be removed. An example of this is the monthly lists of references to current radio literature published by the Bureau of Standards.⁵ The reference numbers in the bureau's own files are according to the table given in Section V; for example, an article on radiobeacon systems for aircraft (visual type) is filed under R526.12. This may be filed in a less extended file under R520 (aircraft radio), R526 (radio as navigation aid), or R526.1 (beacon systems for aircraft), depending on how brief a system is being used.

2. CLASSIFICATION TABLE

R000 RADIO.

(Material of a general nature for which no specific classification can be used and which relates to the field as a whole.)

R100 ----Radio principles.

(Material having to do with underlying theory.)

R110 -----Radio waves.

(Transmission phenomena and theory; atmospheric.)

R120 -----Antennas.

R130 -----Vacuum tubes.

⁵ Proc. Inst. Radio Engrs.

- R140 ----- Circuit theory and effects.
R150 ----- Generating (transmitting) apparatus (except vacuum tubes. *See* R130.)
R160 ----- Receiving apparatus.
R170 ----- Interference.
R190 ----- Other radio principles.
R200 ----- **Radio measurements and standardization.**
 (Methods of, and apparatus for, measurement.)
R210 ----- Frequency.
R220 ----- Capacity.
R230 ----- Inductance.
R240 ----- Resistance; current; voltage.
R250 ----- Generating (transmitting) apparatus.
R260 ----- Receiving apparatus.
R270 ----- Intensity (field intensity, signal intensity, noise, etc.)
R280 ----- Properties of materials.
R290 ----- Other radio measurements.
R300 ----- **Radio apparatus and equipment.**
 (Component parts of apparatus, not complete communication systems.)
R320 ----- Antennas.
R330 ----- Vacuum tubes.
R350 ----- Generating (transmitting) apparatus.
R360 ----- Receiving apparatus.
R380 ----- Parts; instruments.
R390 ----- Other radio apparatus and equipment.
R400 ----- **Radio communication systems.**
 (Complete communication systems, or parts of a system which are considered in relation to the complete system.)
R410 ----- Modulated-wave systems.
R420 ----- Continuous-wave systems.
R430 ----- Interference elimination.
R440 ----- Remote control (by wire).
R450 ----- Connection of radio systems to wire systems.
R460 ----- Duplex and multiplex systems.
R470 ----- Radio-frequency carrier wire systems.
R480 ----- Radio relay systems.
R490 ----- Other systems.
R500 ----- **Applications of radio.**
 (Radio as an instrument in other arts, industries, etc.)
R510 ----- Marine applications.
R520 ----- Aeronautic applications.
R530 ----- Commercial and special services. (Commercial communications, press, railroads, mining, etc.)
R540 ----- Private.
R550 ----- Broadcasting.
R560 ----- Military.
R570 ----- Remote control by radio.
R580 ----- Picture transmission; television.
R590 ----- Other applications.
R600 ----- **Radio stations.**
 (Equipment, operation, and management.)
R610 ----- Equipment.

- R620 ----- Operation and management.
 R700 ----- **Radio manufacturing.**
 R710 ----- Factories.
 R720 ----- Processes.
 R740 ----- Sales.
 (R800) ----- **Nonradio subjects.**
 (Material of interest, but not a part of radio. Give complete numbers according to the Dewey system. See Pt. V.)
 R900 ----- **Miscellaneous radio.**
 (Material which has no specific place. See also R000.)

This is in substantial agreement with the classification as given in the first edition, with the exception of changes in R240, R250, R260, R340, R580, and R590, mostly made for the sake of consistency between parts of the classification.

IV. EXTENSIONS OF RADIO CLASSIFICATION

For larger collections and files a still more detailed extension might be required. The form classification (Sec. II, 2) is very useful for detailed extensions, and may be used under any item in the classification, as occasion requires.

The following extension of the subject classification has been developed for filing material in the radio section, Bureau of Standards. Form classifications (see Sec. II, 2) are not given in the table except under R000, but, as already stated, may be made anywhere in the classification. Radio reference lists and other material published by the bureau are classified according to this table.

V. EXTENDED CLASSIFICATION TABLE USED IN BUREAU OF STANDARD FILES

R000	RADIO.
R001	----- Statistics.
R004	----- Design.
R005	----- Executive; administrative; personnel.
R007	----- Laws; regulation.
R007.9	----- International conferences; treaties.
R009	----- Reports; bulletins.
R010	----- Research.
R020	----- Textbooks. (See also R050.)
R030	----- Terminology; symbols.
R040	----- Lectures.
R050	----- Publications.
R051	----- Books. (See also R020.)
R053	----- Periodicals.
R055	----- Bibliographies.
R060	----- Societies; meetings.
R070	----- Education; training.
R080	----- Collections; tables; miscellanies.
R081	----- Tables.
R082	----- Nomograms.
R083	----- Humor.
R084	----- Maps and charts.
R090	----- History.

- R091 ----- Radiotelegraphy.
- R094 ----- Radiotelephony.
- R097 ----- Biographical.
- R100 ----- Radio principles.
- R110 ----- Radio waves.
- R111 ----- Theory.
- R111. 1 ----- Velocity of radio waves.
- R111. 2 ----- Radiation.
- R111. 6 ----- Reception.
- R113 ----- Radio wave transmission phenomena.
- R113. 1 ----- Fading.
- R113. 2 ----- Daily variations; seasonal variations.
- R113. 3 ----- Direction variations.
- R113. 5 ----- Meteorological, geophysical, and cosmical effects.
- R113. 55 ----- Eclipses.
- R113. 6 ----- Reflection; refraction; diffraction; absorption; polarization.
- R113. 61 ----- Kennelly-Heaviside layer.
- R113. 62 ----- Multiple signals.
- R113. 63 ----- Wave front angle.
- R113. 7 ----- Transmission formulas; range.
- R114 ----- Atmospheric disturbances; strays.
- R115 ----- Directional properties.
- R116 ----- Waves on wires.
- R120 ----- Antennas.
- R121 ----- Condenser type antennas (ordinary elevated type) with ground or counterpoise.
- R125 ----- Directional antennas (transmitting in, or receiving from, a particular direction).
- R125. 1 ----- Beam antennas.
- R125. 2 ----- Wave antennas.
- R125. 3 ----- Coil antennas.
- R125. 31 ----- Direction finding.
- R125. 4 ----- Adcock antennas.
- R126 ----- Ground connections.
- R129 ----- Other types of antennas.
- R129. 1 ----- Multiple tuned.
- R130 ----- Vacuum tubes.
- R131 ----- General properties; characteristic curves.
- R132 ----- Amplifying action.
- R133 ----- Generating action.
- R134 ----- Detector action.
- R135 ----- Modulating action.
- R138 ----- Electron emission; ionization.
- R139 ----- Other vacuum tube principles.
- R140 ----- Circuit theory and effects.
- R141 ----- Simple radio circuits.
- R141. 1 ----- Frequency.
- R141. 2 ----- Resonance.
- R141. 3 ----- Impulse excitation.
- R142 ----- Coupled circuits.
- R142. 1 ----- Direct coupling.

R142. 3	-----	Inductive coupling.
R142. 5	-----	Capacitive coupling.
R143	-----	Filters.
R144	-----	Radio-frequency resistance.
R144. 1	-----	Damping; decrement.
R145	-----	Reactance.
R145. 3	-----	Inductance.
R145. 5	-----	Capacity.
R146	-----	Harmonics.
R146. 1	-----	Harmonic amplification.
R146. 2	-----	Multivibrator.
R147	-----	Beats.
R148	-----	Modulation.
R148. 1	-----	Distortion.
R149	-----	Rectification.
R150	-----	Generating (transmitting) apparatus (except vacuum tubes, <i>see</i> R133.)
R152	-----	Spark.
R153	-----	Arc.
R154	-----	Alternator.
R160	-----	Receiving apparatus.
R161	-----	Receiving sets.
R161. 1	-----	Selectivity.
R161. 2	-----	Sensitivity.
R161. 3	-----	Fidelity.
R161. 4	-----	Normal output.
R161. 5	-----	Interference output.
R162	-----	Receiving set circuit arrangements.
R163	-----	Heterodyne reception.
R165	-----	Telephone receivers. (<i>See also</i> 621.385.97.)
R170	-----	Interference.
R171	-----	Beat interference.
R190	-----	Other radio principles.
R191	-----	Principles of piezo-electricity applied to radio.
R200	-----	Radio measurements and standardization.
R201	-----	General methods and apparatus.
R201. 5	-----	Shielding and grounding.
R201. 7	-----	Use of cathode-ray oscillograph.
R202	-----	Resonance methods.
R203	-----	Harmonic methods.
R204	-----	Null methods.
R205	-----	Substitution methods.
R206	-----	Use of beat notes in measurements.
R206. 1	-----	Beat indicators.
R207	-----	High-frequency bridge methods.
R210	-----	Frequency.
R211	-----	Circuit resonance methods.
R211. 1	-----	Frequency meters.
R212	-----	Parallel wire methods.
R213	-----	Harmonic methods.
R213. 1	-----	Harmonic amplifiers.
R213. 2	-----	Multivibrators.
R214	-----	Piezo-electric standards.
R220	-----	Capacity.

- R220. 1 ----- Capacity meters.
- R223 ----- Dielectric constant.
- R225 ----- Capacity of coils.
- R230 ----- Inductance.
- R231 ----- Self-inductance.
- R232 ----- Mutual inductance.
- R240 ----- Resistance; current; voltage.
- R241 ----- Resistance; power factor.
- R241. 1 ----- Resistance-variation method.
- R241. 2 ----- Reactance-variation method.
- R241. 3 ----- Substitution method.
- R241. 4 ----- Calorimeter methods. (*See also* 536.)
- R241. 5 ----- Bridge methods.
- R242 ----- Current.
- R242. 1 ----- Ammeters.
- R242. 11 ----- Hot-wire.
- R242. 12 ----- Thermoclement.
- R242. 13 ----- Current transformer.
- R242. 14 ----- Electrodynamometer.
- R242. 15 ----- Einthoven galvanometer.
- R242. 16 ----- Bolometer bridge.
- R243 ----- Voltage.
- R243. 1 ----- Vacuum tube voltmeters.
- R243. 2 ----- Sparking distance.
- R243. 3 ----- Electrostatic voltmeters.
- R250 ----- Generating (transmitting) apparatus.
- R251 ----- Power rating.
- R253 ----- Transmitting vacuum tubes.
- R254 ----- Modulation.
- R255 ----- Power amplifiers.
- R256 ----- Microphones.
- R260 ----- Receiving apparatus.
- R261 ----- Receiving sets.
- R261. 1 ----- Selectivity.
- R261. 2 ----- Sensitivity.
- R261. 3 ----- Fidelity.
- R261. 4 ----- Normal output.
- R261. 5 ----- Interference output.
- R261. 6 ----- Power supply.
- R262 ----- Receiving vacuum tubes.
- R262. 1 ----- Characteristic curves.
- R262. 2 ----- Grid conductance.
- R262. 3 ----- Plate conductance; plate resistance.
- R262. 4 ----- Amplification factor.
- R262. 5 ----- Mutual conductance.
- R262. 6 ----- Internal capacities.
- R262. 7 ----- Life tests.
- R262. 8 ----- Power output.
- R262. 9 ----- Other vacuum tube measurements.
- R263 ----- Amplifying apparatus.
- R264 ----- Component parts.
- R264. 1 ----- Condensers.
- R264. 2 ----- Coils.
- R264. 3 ----- Transformers.

- R265 -----Telephone receivers. (*See also* 621.385.97.)
R265. 1 -----Telephones.
R265. 2 -----Loud speakers.
R270 -----Intensity (field intensity, signal intensity, noise, etc.).
R271 -----Shunted telephone method.
R272 -----Audio-frequency comparison method.
R273 -----Radio-frequency comparison method.
R280 -----Properties of materials.
R281 -----Electrical insulating materials. (*See also* R223, R241.)
R282 -----Electrical conducting materials.
R282. 1 -----Metallic conductors.
R282. 2 -----Electrolytes.
R282. 3 -----Magnetic materials.
R290 -----Other radio measurements.
R300 -----Radio apparatus and equipment.
R320 -----Antennas.
R320. 6 -----Antenna switches.
R320. 8 -----Towers.
R321 -----Condenser type antennas (ordinary elevated type) with ground or counterpoise.
R325 -----Directional antennas (transmitting in, or receiving from, a particular direction).
R325. 1 -----Beam antennas.
R325. 2 -----Wave antennas.
R325. 3 -----Coil antennas.
R325. 31 -----Direction finders.
R325. 4 -----Adcock antennas.
R326 -----Ground connections.
R327 -----Artificial antennas.
R329 -----Other types of antennas. (For airplane antennas see R525.)
R329. 1 -----Multiple tuned antennas.
R330 -----Vacuum tubes.
R331 -----Construction; evacuation. (*See also* vacuum pumps, 533.85.)
R332 -----Two-electrode.
R333 -----Three-electrode.
R334 -----Four-electrode.
R335 -----Five-electrode.
R336 -----Alternating-current tubes.
R336. 1 -----Directly-heated cathode.
R336. 2 -----Indirectly-heated cathode.
R337 -----Rectifier tubes.
R338 -----Regulator tubes.
R339 -----Special types of tubes.
R350 -----Generating apparatus; transmitters.
R352 -----Spark.
R353 -----Arc.
R354 -----Radio-frequency alternators.
R355 -----Vacuum tube transmitters.
R355. 1 -----Low frequency (10 to 100 kc.).
R355. 2 -----Medium frequency (100 to 1,500 kc.).

- R355. 21 ----- Broadcast frequency (550 to 1,500 kc.).
- R355. 3 ----- Medium-high frequency (1,500 to 6,000 kc.).
- R355. 4 ----- High frequency (6,000 to 30,000 kc.).
- R355. 5 ----- Very high frequency (above 30,000 kc.).
- R355. 6 ----- Frequency control.
- R355. 65 ----- Piezo oscillators.
- R355. 7 ----- Power amplifiers.
- R355. 8 ----- Modulators.
- R355. 9 ----- Generating sets for special purposes.
- R356 ----- Power supply.
- R356. 1 ----- Direct current.
- R356. 2 ----- Alternating current.
- R356. 3 ----- Rectifiers.
- R357 ----- Frequency changers; harmonic amplifiers; multi-vibrators.
- R358 ----- Protective devices.
- R359 ----- Automatic transmitters.
- R360 ----- Receiving apparatus.
- R361 ----- Receiving sets.
- R361. 1 ----- Tuned radio-frequency.
- R361. 2 ----- Superheterodyne.
- R361. 3 ----- Regenerative.
- R362 ----- Detectors.
- R362. 1 ----- Crystal.
- R362. 2 ----- Vacuum tube.
- R362. 9 ----- Other types.
- R363 ----- Amplifiers.
- R363. 1 ----- Radio-frequency.
- R363. 2 ----- Audio-frequency.
- R365 ----- Telephone receivers. (*See also* 621.385.97.)
- R365. 1 ----- Telephones.
- R365. 2 ----- Loud speakers.
- R365. 3 ----- Automatic recorders.
- R366 ----- Power supply.
- R366. 1 ----- Direct current.
- R366. 2 ----- Alternating current.
- R366. 3 ----- Rectifiers.
- R380 ----- Parts; instruments.
- R381 ----- Condensers.
- R382 ----- Inductors.
- R382. 1 ----- Transformers.
- R383 ----- Resistors.
- R383. 1 ----- Grid leaks.
- R384 ----- Frequency meters.
- R384. 1 ----- Radio.
- R384. 2 ----- Audio.
- R384. 5 ----- Decremeters.
- R385 ----- Modulation and keying devices.
- R385. 1 ----- Keys.
- R385. 2 ----- Buzzers.
- R385. 3 ----- Interrupters; tone wheels; choppers. (*See also* R427.)
- R385. 5 ----- Microphone.
- R386 ----- Filters.

R387	-----	Protective equipment.
R387. 1	-----	Shields.
R387. 5	-----	Grounds.
R387. 7	-----	Insulators.
R388	-----	Cathode-ray oscillograph.
R389	-----	Electrical indicating instruments.
R390	-----	Other radio apparatus and equipment.
R400	-----	Radio communication systems.
R410	-----	Modulated-wave systems.
R411	-----	Spark.
R412	-----	Telephone.
R413	-----	Audio-frequency modulation.
R414	-----	Radio-frequency modulation.
R420	-----	Continuous-wave systems.
R421	-----	Radio-frequency alternator.
R422	-----	Arc.
R423	-----	Vacuum tube.
R423.1	-----	Low frequency (10 to 100 kc.).
R423. 2	-----	Medium frequency (100 to 1,500 kc.).
R423. 21	-----	Broadcast frequency (550 to 1,500 kc.).
R423. 3	-----	Medium high frequency (1,500 to 6,000 kc.).
R423. 4	-----	High frequency (6,000 to 30,000 kc.).
R423. 5	-----	Very high frequencies (above 30,000 kc.).
R424	-----	Timed spark.
R425	-----	Impulse excitation.
R426	-----	Beat reception.
R427	-----	Use of receiving interrupters and tone wheels.
R429	-----	Other continuous wave systems.
R430	-----	Interference elimination.
R440	-----	Remote control (by wire).
R450	-----	Connection of radio systems to wire system.
R460	-----	Duplex and multiplex systems.
R470	-----	Radio-frequency carrier wire systems.
R480	-----	Radio relay stations.
R490	-----	Other systems.
R500	-----	Applications of radio.
R510	-----	Marine applications.
R511	-----	Distress signals.
R512	-----	Position finding.
R512. 1	-----	Radiobeacon; radio range.
R512. 2	-----	Fog signaling.
R512. 3	-----	Radiocompass.
R515	-----	Submarine.
R516	-----	Life-saving service.
R520	-----	Aeronautic applications.
R521	-----	Receiving on aircraft.
R521. 1	-----	Receiving sets.
R521. 2	-----	Ignition shielding.
R522	-----	Transmitting from aircraft.
R522. 1	-----	Transmitters.
R522. 2	-----	Bonding.
R523	-----	Receiving from aircraft.
R524	-----	Transmitting to aircraft.
R525	-----	Antennas.

- R526 ----- Radio as navigation aid to aircraft.
- R526. 1 ----- Beacon systems; radio range.
- R526. 11 ----- Aural.
- R526. 12 ----- Visual.
- R526. 2 ----- Direction finders; radio compass.
- R526. 3 ----- Field localizers; landing aids.
- R526. 4 ----- Altimeters.
- R527 ----- Automatic control of aircraft.
- R530 ----- Commercial and special services.
- R531 ----- Traffic.
- R531. 1 ----- Codes and ciphers.
- R531. 2 ----- Station call letters.
- R531. 3 ----- Abbreviations.
- R531. 4 ----- Alphabets, Morse and continental (international).
- R531. 5 ----- Relations with land lines.
- R531. 6 ----- Relations with cables.
- R531. 7 ----- Rates.
- R532 ----- Press.
- R533 ----- Railroad.
- R534 ----- Agriculture.
- R535 ----- Forestry.
- R536 ----- Mining; geophysical prospecting.
- R537 ----- Power transmission lines.
- R540 ----- Private.
- R545 ----- Amateur.
- R550 ----- Broadcasting.
- R551 ----- Time signals.
- R551. 1 ----- Longitude determinations.
- R553 ----- Meteorological signals.
- R554 ----- Entertainment.
- R555 ----- Standard frequency signals.
- R556 ----- Market reports.
- R560 ----- Military.
- R561 ----- Army.
- R565 ----- Navy.
- R570 ----- Remote control by radio.
- R580 ----- Picture transmission; television.
- R581 ----- Facsimile; photographs.
- R582 ----- Motion pictures.
- R583 ----- Television.
- R590 ----- Other applications.
- R591 ----- Transmission of power by radio.
- R592 ----- Radio on automobiles.
- R594 ----- Therapeutics.
- R595 ----- Radio toys.
- R600 ----- Radio stations.
- R610 ----- Equipment.
- R611 ----- Low frequency (10-100 kc.).
- R612 ----- Medium frequency (100-1,500 kc.).
- R612. 1 ----- Broadcast frequency (550-1,500 kc.).
- R613 ----- Medium high frequency (1,500-6,000 kc.).
- R614 ----- High frequency (6,000-30,000 kc.).
- R615 ----- Very high frequency (above 30,000 kc.).

R616	-----	Ship stations.
R617	-----	Direction finding stations.
R620	-----	Operation and management.
R700	-----	Radio manufacturing.
R710	-----	Factories.
R720	-----	Processes.
R740	-----	Sales.
(R800) ⁶	-----	Nonradio subjects.
347.7	-----	Patent practice.
353.821*	-----	Bureau of Standards.
383	-----	Postal Service, air mail service. (<i>See also Aeronautics, 629.13.</i>)
510	-----	Mathematics.
520	-----	Astronomy.
526	-----	Geodesy.
526.8	-----	Map projections.
530	-----	Physics.
531	-----	Mechanics.
532	-----	Hydrostatics.
533	-----	Pneumatics.
533.85	-----	Vacuum apparatus.
534	-----	Sound.
534.3	-----	Turning forks.
534.83	-----	Signals in navigation.
535	-----	Light. (<i>For light signaling see 623.731.</i>)
535.3	-----	Photo-electric phenomena.
535.38*	-----	Photo-electric tubes.
536	-----	Heat.
536.33	-----	Radiation; general theory.
536.83	-----	Heating by induction.
537	-----	Electricity.
537.1	-----	Theory of electricity.
537.23	-----	Electrostatic generators.
537.26*	-----	Corona discharge.
537.4	-----	Lightning.
537.6	-----	Electrodynamics.
537.65*	-----	Piezoelectric phenomena. (<i>See R191, R214_p, and R355.65.</i>)
537.67*	-----	Experimental plotting of electrical fields.
537.7	-----	Wave form analysis.
537.87	-----	Physiological electrical phenomena.
538	-----	Magnetism.
538.11*	-----	Magnetostriction.
539	-----	Molecular physics; atomic physics.
539.7	-----	Radioactivity.
540	-----	Chemistry.
541.3	-----	Physical chemistry.
550	-----	Geology.
551.5	-----	Weather; meteorology.

⁶ See p. 3. The numbers marked with an asterisk (*) are not found in the Dewey decimal classification, but are inserted here for convenience.

- 621 ----- Mechanical engineering.
- 621. 3 ----- Electrical engineering.
- 621. 313 ----- Electric generators; electric motors.
- 621. 313. 2 ----- Direct-current machinery.
- 621. 313. 23 ----- Direct-current generators.
- 621. 313. 24 ----- Direct-current motors.
- 621. 313. 25 ----- Motor generators.
- 621. 313. 26 ----- Dynamotors.
- 621. 313. 3 ----- Alternating-current machinery.
- 621. 313. 7 ----- Rectifiers.
- 621. 314. 3 ----- Transformers.
- 621. 314. 6 ----- Choke coils.
- 621. 314. 7 ----- Induction coils.
- 621. 317 ----- Switchboards.
- 621. 317. 3 ----- Switches.
- 621. 317. 4 ----- Rheostats.
- 621. 319. 2 ----- Transmission lines.
- 621. 325 ----- Incandescent arcs.
- 621. 326 ----- Incandescent filament lamps.
- 621. 327. 4 ----- Mercury vapor tubes (lamps).
- 621. 327. 7 ----- X-ray tubes.
- 621. 353 ----- Batteries, primary.
- 621. 354 ----- Batteries, secondary (storage).
- 621. 354. 7 ----- Battery charging devices.
- 621. 374. 2 ----- Wheatstone bridges.
- 621. 374. 3 ----- Voltmeters.
- 621. 374. 33* ----- Electrometers.
- 621. 374. 41* ----- Ammeters.
- 621. 374. 45* ----- Galvanometers.
- 621. 374. 6 ----- Wattmeters.
- 621. 374. 63* ----- Electrodynamometers.
- 621. 374. 7 ----- Oscillographs.
- 621. 375. 1* ----- Vacuum tubes, special applications other than radio.
- 621. 38 ----- Electric communication.
- 621. 382 ----- Telegraphy.
- 621. 382. 4 ----- High-speed telegraphy.
- 621. 382. 7 ----- Picture transmission, facsimile (by wire).
(See also R581.)
- 621. 382. 8 ----- Submarine cable.
- 621. 382. 92* ----- Ground telegraphy.
- 621. 382. 94 ----- Induction signaling.
- 621. 383. 21 ----- Relays.
- 621. 385 ----- Telephony.
- 621. 385. 91* ----- Program distribution.
- 621. 385. 95* ----- Condenser transmitters.
- 621. 385. 96* ----- Talking motion pictures.
- 621. 385. 97* ----- Electro-acoustic devices. (See also R265 and R365.)
- 621. 385. 971* ----- Electric phonograph.
- 621. 388 ----- Television (by wire). See also R583.
- 621. 39 ----- Other applications of electricity.
- 623. 731 ----- Light signals.

623. 823	-----Steamships.
629. 13	-----Aeronautics. (See also R520.)
629. 145	-----Aerial navigation.
629. 18	-----Airplane construction.
658	-----Business methods.
R900	-----Miscellaneous radio.

VI. INDEX TO RADIO CLASSIFICATION

This index applies specifically to Sec. IV, viz, the Bureau of Standards extended classification. It may be used to find the classification number of a subject, or to find the location of information in files or on shelves.

To use the index, find the subject desired in its alphabetical place. The number after it is its classification number, and thus gives the places where the topic will be found on shelves or in files or subject catalogues.

Labels on shelves or drawer fronts may be used to guide readily to the classification number sought. Under the classification number will be found the resources of the library or files on the subject desired.

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