



Do You Know?

On June 27, 1914 the Department of Commerce published a new document called "*Regulations Governing Radio Operators And The Use Of Radio Apparatus On Ships And On Land*".
(<http://earlyradiohistory.us/1914reg.htm#RA4-15>)

This document contained the major International agreements, plus United States radio laws and regulations, current at the time of publication.

- Extracts from the International "Telegraph Convention, Signed At St. Petersburg", July 10-22, 1875
- Service Regulations affixed to "The International Radiotelegraphic Convention", London, 1912.

There are 211 United States "rules" listed in the document and the most interesting, in my opinion, are summarized below with the rule number preceding the rule:

10. **(Pertains to ships only)** One extra pair of head telephones, extra cords, and extra detectors must always be kept on hand.

63. **Special amateur stations** may be licensed by the Secretary of Commerce to use a longer wave length and a higher power on special application. Applications for this class from amateurs with less than two years' experience in actual radio communication will not be approved. The application must state the experience and purpose of the applicant, the local conditions of radio communication, especially of maritime radio communications in the vicinity of the station, and a special license will be granted only if some substantial benefit to the art or to commerce apart from individual amusement seems probable. (Sec. 4, fifteenth regulation, act of Aug. 13, 1912.)

64. **Special amateur coast stations** must be operated by a person holding a **commercial second-class license** or higher. Inland stations may be operated by persons holding amateur second-grade licenses or higher.

65. **General amateur stations** are restricted to a transmitting wave length not exceeding 200 meters and a transformer input not exceeding 1 kilowatt. (Sec. 4, fifteenth regulation, act of Aug. 13, 1912.)

66. **Restricted amateur stations**, within 5 nautical miles of a naval or military station, are restricted to a wave length not exceeding 200 meters and to a transformer input not exceeding one-half kilowatt. (Sec. 4, sixteenth regulation, act of Aug. 13, 1912.)

67. **Amateur first or second grade operators or higher** are required for general and restricted amateur stations.

84. Applications for station licenses of all classes should be addressed to the United States Radio Inspector for the district in which the station is located, who will forward the necessary blank forms and information. The limits of the districts and addresses of, radio inspectors are given on page 68, paragraph 166.

87. **General and restricted amateur-station license are issued directly by radio inspectors. Station licenses of all other classes are issued from the office of the Commissioner of Navigation, Department of Commerce.** Applications and forms are forwarded by radio inspectors with recommendations by them.

88. Stations desiring to operate different portions of the day under different classifications shall submit application for each service, giving exact hours for each. If approved, each classification will be specified in the license.

89. The owner of an amateur station may operate his station in accordance with the laws if his application for a license has been properly filed but has not been acted upon. An application for an operator's license must also have been filed and every effort made to obtain the license before the station may be operated.

90. "Provisional" station licenses are issued to amateurs remote from the headquarters of the radio inspector of the district in which the station is located. These licenses are issued as a matter of convenience and record. If, upon inspection, the station is found to comply with the law, the inspector will strike out the word "Provisional" and insert the date of inspection and his signature at the bottom of the license.

92. All persons are warned that it is unlawful to operate stations after licenses have expired unless application for renewal has been properly made.

93. Owners desiring to renew licenses must complete new forms as prescribed for original applications. Amateur-station licenses issued on current forms may be renewed by the following indorsement on the back, provided no changes in equipment or location have been made; otherwise a new license will be issued: "This license renewed for one year. _____ *Signature of the* _____, Radio Inspector." The Commissioner of Navigation will be notified of the name and call sign in every case of renewal in this manner.

94. Any person applying for a duplicate license to replace an original which has been lost, mutilated or destroyed will be required to submit an affidavit to the Bureau of Navigation through the radio inspector of the district, attesting the facts regarding the manner in which the original was lost. The Commissioner of Navigation will consider the facts in the case and advise the radio inspector in regard to the issue of a duplicate license, or a duplicate will be forwarded through the inspector's office.

95. A duplicate license will be issued under the same serial number as the original and will be marked "Duplicate" in red across the face.

Part III. Regulations Governing Radio Operators. Grades and Requirements

96. (1) Commercial extra first grade; (2) commercial first grade; (3) commercial second grade; (4) commercial cargo grade; (5) commercial temporary permit; (6) experiment and instruction grade; (7) amateur first grade; (8) amateur second grade.

112. Examining officers and radio inspectors are authorized to issue a certificate, in the form of an amateur first-grade license, after examination, to indicate the facts above enumerated in the case of a member of the crew or other person, and experience under this form will be credited by examining officers if the holder later applies for examination for a commercial license. These licenses will be marked "Cargo" in the upper right-hand corner under the serial number.

121. Amateurs before applying for licenses should read and understand the essential parts of the International Radiotelegraphic Convention in force and sections 3, 4, 5, and 7 of the act of August 13, 1912. The Department recognizes that radio communication offers a wholesome form of instructive recreation for amateurs. At the same time its use for this purpose must observe strictly the rights of others to the uninterrupted use of apparatus for important public and commercial purposes. The Department will not knowingly issue a license to an amateur who does not recognize and will not obey this principle. To this end the intelligent reading of the International Convention and the act of Congress is prescribed as the first step to be taken by amateurs. A copy of the radio laws and regulations may be procured for this purpose from the radio inspectors or from the Commissioner of Navigation, Department of Commerce,

Washington, D. C., but they are not for public distribution. Additional copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., at a nominal price. [15 cents]

122. **Amateur first grade.**--The applicant must have a sufficient knowledge of the adjustment and operation of the apparatus which he wishes to operate and of the regulations of the International Convention and acts of Congress in so far as they relate to interference with other radio communication and impose certain duties on all grades of operators. The applicant must be able to transmit and receive in Continental Morse at a speed sufficient to enable him to recognize distress calls or the official "keep-out" signals. **A speed of at least five words per minute (five letters to the word) must be attained. [This license was good for two years.]**

123. **Amateur second grade.**--The requirements for the second grade will be the same as for the first grade. The second-grade license will be issued only where an applicant cannot be personally examined or until he can be examined. An examining officer or radio inspector is authorized in his discretion to waive an actual examination of an applicant for an amateur license, if the amateur for adequate reasons cannot present himself for examination but in writing can satisfy the examining officer or radio inspector that he is qualified to hold a license and will conform to its obligations. **[This license was good for a period of eight months or until the operator has been duly examined.]**

Examinations.

124. The following requirements and method of conducting examination for radio operators' licenses will be adopted at all examining offices.

125. The test shall consist of messages with call letters and regular preambles, conventional signals and abbreviations and odd phrases, and **shall in no case consist of simple, connected reading matter.** The test will be conducted by means of the omnigraph or other automatic instrument wherever possible.



The basic Omnigraph model used only a single code disk. This severely limited the length of the recorded code pattern, and students could cheat once they memorized what was on the disk.

The fifteen disk model is shown here consists of a variable speed spring-powered motor and a stack of aluminum disks which have patterns of dots and dashes "encoded" in their serrated edges. As the motor runs, the disks rotate, a "finger" on a leaf spring follows the pattern on the disks, and operates a set of contacts.

It cost \$30 when new.

126. The test shall continue for five minutes at a speed of 20 words, 12 words, and 5 words per minute, respectively, for the commercial first, second, and lower grades, and to qualify the applicant must receive 20, 12, or 5 words in consecutive order.

127. The code test sheets written by the applicant will be forwarded to the Commissioner of Navigation with other papers and the speed attained noted in the lower left-hand corner of the first sheet.

128. An applicant will be given credit for the maximum speed he can attain.

129. The practical and theoretical examination shall consist of seven comprehensive questions under the following headings and values:

(a) Experience	20
(b) Diagram of receiving and transmitting apparatus	10
(c) Knowledge of transmitting apparatus	20
(d) Knowledge of receiving apparatus	20
(e) Knowledge of operation and care of storage batteries	10
(f) Knowledge of motors and generators	10
(g) Knowledge of international regulations governing radio communication and the United States radio laws and regulations	10
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130. Seventy-five constitutes a passing mark for the first grade commercial. Sixty-five constitutes a passing mark for the second grade commercial.

131. Applicants who fail to attain 20 words in the code test but who attain a mark of between 65 and 75 in the written examination may be issued second-grade licenses, if they can receive at least 12 words per minute.

132. Question (a) [Experience] shall determine the applicant's practical knowledge and experience in handling radio apparatus. An applicant's experience will be determined largely from the personal question sheet and from satisfactory letters or references submitted. Experience, operating first-class amateur apparatus, or the apparatus provided in good training schools, will be given a reasonable value, but applicants who have had experience as apprentices at commercial shore stations or on board vessels will receive higher marks.

133. No applicant who fails to qualify will be reexamined at any examining office within three months from date of the previous examination. All examination papers, whether the applicant qualifies or not, will be forwarded to the Bureau of Navigation for filing as "Operator's record." When the records of the Bureau develop the fact that an applicant has failed to qualify and has applied for reexamination or been reexamined at the same or another office within three months, his existing license may be suspended or revoked by the Secretary of Commerce. Applicants to whom are issued second-grade licenses will not be examined for first grade within three months under the same rule.

146. An operator's license may be granted to any person without regard to sex, nationality, or age if the applicant can fulfill the requirements for the class of license desired. [Women couldn't vote until Aug 20, 1920]

149. Amateurs should write to the nearest examining officer in their vicinity (see pars. 134-145) for Form 756 (application for operator's license) and to the radio inspector in their vicinity for Form 757 (application for license for land station). If the application for operator's license is also made to the radio inspector, both applications should be forwarded in the same envelope.

150. Amateur operators at points remote from examining officers and radio inspectors may be issued second-grade amateur licenses without personal examination. Examinations for first-grade licenses will be given by the radio inspector when he is in that vicinity, but special trips cannot be made for this purpose. (See par. 123.)

151. Persons holding radio operators' licenses, amateur second grade, should make every effort to appear at one of the examination points to take the examination for amateur first-grade license or higher.

152. Persons holding radio operators' licenses of any grade should, before their licenses expire, apply to the nearest radio inspector or examining officer for renewal and submit Form 756 in duplicate.

155. Any operator applying for a duplicate license to replace an original which has been lost, mutilated, or destroyed will be required to submit an affidavit to the Bureau of Navigation through the radio inspector or examining officer who issued the original, attesting the facts regarding the manner in which the original was lost. The Commissioner of Navigation will consider the facts in the case and advise the radio inspector

in regard to the issue of a duplicate license. A duplicate license will be issued under the same serial number as the original and will be marked "Duplicate" in red across the face.

156. Operators' licenses are not valid until the oath for the preservation of the secrecy of messages is properly executed before a notary public or other officer duly authorized to administer oaths. Licenses must indicate on their faces that the oath has been taken and the officer administering the oath on the back of the license should sign also in the blank provided on the face. **Licenses will not be signed by examining officers until the oath of secrecy has been properly executed.**

157. Operators' licenses should be framed and posted in the radio room, and licenses for stations should be accessible at all times to inspectors.

158. Under the supervision of a licensed operator an apprentice or unlicensed person may learn the art by the actual use of the apparatus, but the licensed operator **[aka Control Operator]** who fails to enforce obedience to the regulations by the apprentice or unlicensed person serving under his supervision is liable to penalties as if he had himself violated the regulations.

160. Radio operators holding licenses of any grade or class and applying for examination for any other grade or class must submit to the examining officer Form 756, in duplicate. If a new license is issued the license held by the applicant must be surrendered.

161. Radio operators who pass the examination for a higher grade license are required to surrender their existing licenses, which will be forwarded to the Commissioner of Navigation with the other papers.

162. Operators desiring to retain their expired or canceled licenses may make application therefor to the Commissioner of Navigation.

200. Neither the international list proper nor the supplements will contain a list of amateur stations.

203. Operators of receiving stations do not require licenses, but all persons are required to maintain secrecy in regard to messages, as provided in the act of August 13, 1912, nineteenth regulation of section 4.

206. Licensed stations must be operated by or under the direct supervision of properly licensed operators.

207. Amateur stations within 5 miles of naval or military stations need not have been in actual operation on or before August 13, 1912, to obtain a license for a restricted amateur station.

209. The transmission of superfluous signals by any ship or coast station is absolutely prohibited; trials and practices are forbidden except under such circumstances as to preclude the possibility of interference with other stations.

210. No person shall transmit or make a signal containing profane or obscene words or language.

Now You Know.