

PROVISIONAL
COPY

No. 224

LICENSE FOR LAND RADIO STATION

CLASS LIMITED COMMERCIAL

DEPARTMENT OF COMMERCE
BUREAU OF NAVIGATION
RADIO SERVICE

Pursuant to the act to regulate radio communication, approved August 13, 1912,
WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY

a citizen of the State of Connecticut, a company incorporated under the laws of the State of Connecticut, having applied therefor, is hereby granted by the Secretary of Commerce for a period of thirty days on and subject to the restrictions and conditions hereinafter stated and revocable for cause by him, this License to use or operate the apparatus for radio communication (identified in the schedule hereinafter) for the purpose of transmitting to and receiving from ship stations and other land stations public correspondence, Government and service correspondence, and distress signals and messages, at rates of compensation not in excess of those fixed by the international agreement to which the Government of the United States has adhered, which have been submitted to and approved by the Secretary of Commerce, as included in the schedule hereinafter, or for the purpose of conducting experiments for the development of the science of radio communication or the apparatus pertaining thereto, to carry on special tests, using any amount of power or any wave lengths, at such hours and under such conditions as will insure the least interference with the sending or receipt of commercial or Government radiograms, of distress signals and radiograms, or with the work of other stations, the purpose of the station being designated by the classification at the head of this License.

2. Public correspondence or limited commercial correspondence authorized by this License shall be limited to certain stations, ships or lines of ships named hereinafter, which designation is authorized in view of the nature of the service and is independent of the radio system employed.

3. The use or operation of apparatus for radio communication pursuant to this License shall be subject also to the articles and regulations established by the International Radiotelegraphic Convention, ratified by the Senate of the United States and caused to be made public by the President, and shall be subject also to such regulations as may be established from time to time by authority of subsequent acts and treaties of the United States, in so far as they apply to the class of station indicated by this License.

4. The authority conferred by this License is subject to the provisions of the act of February 4, 1887, entitled "An Act to regulate commerce," as amended by the act of June 18, 1910, so far as the Licensee may be within the operation of said act, and except as provided in the act of August 13, 1912, or in the International Radiotelegraphic Convention and regulations made part thereof, the station shall transmit all messages offered by those who tender lawful rates on equal terms without discrimination, whether as regards rates, order of transmission, or otherwise.

5. The Licensee shall render to the Secretary of Commerce such accounts as the Secretary of Commerce shall direct in respect of all charges due or payable under the International Radiotelegraphic Convention in respect of messages exchanged between the station hereby licensed and other stations and shall pay to the Secretary of Commerce, at such times and in such manner as the Secretary of Commerce shall direct, all sums which shall be due from the Licensee under such accounts.

6. The apparatus shall at all times while in use and operation be in charge or under the supervision of a person or persons licensed for that purpose by the Secretary of Commerce, and the operator of the apparatus shall not willfully or maliciously interfere with any other radio communication.

7. The station shall give absolute priority to signals and radiograms relating to ships in distress; shall cease all sending on hearing a distress signal; and, except when engaged in answering or aiding the ship in distress, shall refrain from sending until all signals and radiograms relating thereto are completed.

8. The station shall use the minimum amount of energy necessary to carry out any communication desired, except in case of signals or radiograms relating to vessels in distress.

9. The station shall not use a transmitter during the first 15 minutes of each hour, local standard time, except for distress signals, whenever the Secretary of Commerce by notice in writing shall require it to observe a division of time, pursuant to the Twelfth Regulation of the act of August 13, 1912.

10. The President of the United States in time of war or public peril or disaster is authorized by law to close the station and cause the removal therefrom of all radio apparatus or may authorize the use or control of the station or apparatus by any department of the Government upon just compensation to the owners.

11. The Secretary of Commerce and Collectors of Customs or other officers of the Government authorized by him may at all reasonable times enter upon the station for the purpose of inspecting and may inspect any apparatus for radio communication of such station and the operation and operators of such apparatus.

12. The apparatus shall not be altered or modified in respect of any of the particulars mentioned in the following schedule, except with the approval of the Secretary of Commerce.

SCHEDULE OF STATION AND APPARATUS

Name of owner, Westinghouse Electric and Manufacturing Co.

Location: State, Massachusetts; County, Hampden
 City or town, Springfield; Street, 700 St. No. 603

Geographical location: Latitude, N 42° 08' 30"; Longitude, W 72° 33' 00"

This station is licensed for communication only with the following land stations, ships, or lines of ships:
For broadcast service only.

Specific hours during which the station ^{must} be open to service (local standard time):
no specific hours _{may}

Power: Transformer input, 1.5 kw.

Normal day range in nautical miles, 700

Time and method, if any, of sending time signals and hydrographic and meteorological radiograms:

Call letters, W B Z

.....; Coast charges: per word ..., minimum per radiogram ...

.....; Coast charges: per word, minimum per radiogram

.....; Coast charges: per word, minimum per radiogram

Radiotelegraphic system employed, Westinghouse - D W

Characteristics of transmitting system:

Type of spark gap,

Approximate spark frequency,

Wave length range of receiving system: From 170 meters to 6000 meters.

Antenna: Number of masts 1, Height,

Type of aerial, 1 with similar counterpoise

Wires: Number, 4, Size and kind, 7/18 silicon bronze

Essential dimensions: Maximum height above water, 170 feet; Length of horizontal part, 50 feet;

Length of vertical part, 75 feet; Total length measured from apparatus, 275 feet;

Length of ground connection, ... feet; Fundamental wave length, 100 meters.

WAVE LENGTHS

The normal sending and receiving wave length shall be 500 meters.

If the station be classified as a coast station it shall be prepared to transmit or relay distress calls

APPLICANT'S DESCRIPTION OF APPARATUS

DEPARTMENT OF COMMERCE
BUREAU OF NAVIGATION
RADIO SERVICE

Ltd Concl

NAV 90 Days 224

WBZ
224
EXAE

The following form of description of apparatus will be filled out in duplicate and forwarded to the radio inspector by each applicant for a license for apparatus for radio communication of any class (ship or land), except amateur stations (general or restricted) for which Form 762 is provided. The inspector, if necessary, will then arrange for an inspection of the station, or, when feasible, the inspector may accompany the applicant and make the inspection during the filling of this form.

Where the form calls for a statement of details of apparatus with which the station is not equipped, the applicant will please draw a line through the space provided for the appropriate answer.

The information is desired primarily as the basis of the description of the apparatus to be inserted in the license, but many of the details are desired to facilitate the classification and particularly the inspection of stations, and will not, of course, be incorporated in the license. This form when filled will not be open to public inspection.

NOTICE.—This Form Must be Submitted in Duplicate to the Proper Radio Inspector.

GENERAL SPECIFICATIONS OF STATION.

Name of applicant: Westinghouse Electric & Manufacturing Co.,
East Springfield Works, Springfield, Mass.

Address: East Springfield Works, Springfield, Mass.

A citizen of the State of X X X X X X X X X X Or a company incorporated in the State of Pennsylvania

Name and address of owner of radio apparatus Westinghouse Electric & Manufacturing Co.,
East Springfield Works, Springfield, Mass.

IF SHIP STATION—Name of ship: X X X X X X X X X Owner of ship: X X X X X X X X X

Type of vessel: X X X X X Official number: X X X X International signal code letters: X X X X

Home port (where permanent document issues): X X X X X Average speed of vessel (nautical miles): X X X X

Number of persons in crew: X X X X X Number of passengers vessel is licensed to carry: X X X X X X

Is vessel subject to the Act of June 24, 1910, as amended by the Act of July 23, 1912? _____

IF LAND STATION—Coast or inland? Inland Location—State: Massachusetts

County: Hampden City or Town: Springfield Street: Page Blvd. No.: 625

Exact Latitude, North: 42 ° 08 ' 30 "; Longitude, West: 72 ° 33 ' 08 "

Class of license desired (see regulations): Glass 2 Nature of service: Limited Commercial

Specific hours open to public service: X X X X X X X

If limited station—Corresponds only with (state names of land stations, names of ships or lines of ships): East Pittsburgh, Pa.,
Newark, N.J., Cleveland, Ohio, Bloomfield, N.J., Bush Terminal, Brooklyn, N.Y.,
also for broadcast service.

Transformer input (normal conditions): 1.5 K. W.

Approximate day-transmitting range (nautical miles) with average ship: X X X X; with similar land station: 500

PRIMARY SOURCE OF POWER SUPPLY.

Engine—Type and horsepower: City Supply

Electric power—Source and available K. W.: Indefinite Is power continuously available? Yes

SHIP OR COAST CHARGES.

(State class of service, such as North and South American or Transoceanic.)

No charge per word: X X X X; minimum per radiogram: X X X X X

X X X X per word: X X X X; minimum per radiogram: X X X X X

X X X X per word: X X X X; minimum per radiogram: X X X X X

Relay charges No charge

Make and type of radio system to be used: Westinghouse -Continuous Wave

Type of spark gap (plain, rotary synchronous, quenched, etc.): X X X X X X X X

Approximate spark frequency (pitch of note) per second: X X X X X X X X X X

Type and make of receiving apparatus (conductive or inductive coupling, etc.): Westinghouse

Type of detector: Audion

Wave length range of receiving system: From 150 meters to 6000 meters.

ANTENNA.

Type of antenna (T, 7, umbrella, fan, etc.): T with similar counterpoise

Masts—Number: 1 Steel or wood? Steel Pipe Other supports: Steel Stack

Essential dimensions—Maximum height above ground or water: 150 ft. Length of horizontal part: 360 ft.

Length of vertical part (including lead-in): 75 ft. Total length measured from apparatus: 255 ft.

Length of ground connection: X X X X X X ft. Fundamental wave length: 400 meters.

Other essential dimensions: 50 ft. effective distance between antenna & counterpoise.

35 Ft. length of leads from counterpoise to instruments.

Number of wires: 4 Size and kind of wire used: 7 strands #18 Silicon Bronze Spacing between wires: 5 Ft.

Insulators—Material: Micarta Sizes: 14 inches

Location: Ends of each of wires

Ground connection—Type: Counterpoise

Lightning protective switch—Type: 100 Amp. 600 Volt Location: Outside

How operated: Hand

Remarks: Same for counterpoise

1 Person, company, or corporation controlling and operating station and responsible, under the law, for operation and radio accounts.
2 Show address of office to which should be sent communications concerning radio accounts and operation of station.

AUXILIARY APPARATUS (IF SHIP STATION).

Type and make: X X X X X Wave length: X X X X meters.
 Source of power: X X X X X Normal day range (nautical miles) with ships: X X X
 Plain aerial or coupled circuits? X X X X Condenser in aerial circuit? X X X X

NORMAL WAVE LENGTH AND OTHER WAVE LENGTHS APPLIED FOR.
 (UNDERScore NORMAL.)

SENDING WAVE LENGTH.	ANTENNA CURRENT.	LOGARITHMIC DECREMENT.
300 meters	2.5 - 7.6	Continuous Wave
600 meters	5.0 - 13.5	"
360 meters	2.5 - 7.6	"
meters		
meters		
meters		

(The smaller antenna currents represent D.C. power supply; the larger values are had with A.C. supply)

If public service coast station, the station insures rapid exchange with land wire stations as follows:

Company: X X X X X Place: X X X X X By direct wire or telephone? X X X X
 Company: X X X X X Place: X X X X X By direct wire or telephone? X X X X
 Number of operators required—First grade: X X X X X Second grade: X X X X X Others: X X X X X

POWER SUPPLY TO TRANSMITTER.

(a) Motor generator: Motor. Generator.
 Voltage—A. C. or D. C. and cycles: X X X X X Volts (rated) and cycles: X X X XX
 H. P. (rated): X X X Speed: X X X X K. W. (rated): X X X XX
 Location: X X X X X K. V. A. (rated): X X X X X
 Remarks: City Supply 110 volts, 60 cycles from step-down transformers

(b) Power-measuring instruments:
 Type, make, range, etc. X X X X X X
 Motor starter—Direct or distant control? X X X Are motor field rheostat and generator field rheostat provided? X X X

(c) Storage battery:
 Make: X X X X X Type: X X X X X X
 Capacity (ampere hours): X X X X X Number of cells: X X X X Location: X X X X X

(d) Internal-combustion engine:
 Make: X X X X X Type: X X X X X
 K. W. of generator (rated): X X X X X Location: X X X X X

RADIO APPARATUS.

(a) Transmitter:
 Is proper means provided for reducing the range of the station as required by the London Convention? _____
 Condenser in aerial circuit for 300 meters, and less than 450 meters.
 Coupling—Inductive or conductive? Conductive Type of primary condenser: Mica

(b) Receiver:
 Is secondary circuit tuned or untuned? Tuned Are complete duplicate receivers installed? No
 Are tuning positions for 300 meters and 600 meters plainly marked on apparatus? Yes
 Method used for disconnecting receiver when transmitting (hand switch or automatic "break"): Hand Switch

Please assign call letters KDKS if possible.
 Signature of applicant: No
 By: A. P. Reynolds Westinghouse Elec. & Mfg. Co.,
 Works Manager.

INSTRUCTIONS TO RADIO INSPECTORS.

Send out this form in triplicate—one for the applicant's files if he desires it. When received back, fill in the following; preserve one copy for your records and forward the original to the Commissioner of Navigation with report and recommendation.

Received by (inspector): Charles Stalder at Boston Mass Date: Sept 19, 1921
 Date of inspection of station: Sept 9, 1921 Inspected by: Charles Stalder
 Name of port or inspection district in which inspection was made: _____

REPORT AND RECOMMENDATION.

License recommended
Charles Stalder

The license, when approved by the Secretary of Commerce, will be forwarded to the inspector for delivery to the applicant. The inspector will then fill in from the license the following on his file copy:

Class of license: _____ Serial No.: _____ Date of delivery to applicant: _____