RADIO BROADCASTING NEWS

Regular schedule of WJAM, The Evening Gazette-Iowa Railway and Light company radiophone station (wave length, 268. D. M. Perham, engineer) market reports, daily except Sunday, 10 11 30 and 1:30. Story Hour, conducted by Miss Blanche Loomis, Tuesday, Thursday and Saturday, 6 to 6.30, other programs to be announced (Central standard time.)

New Waves Given Fifteen Class B Radio Stations

WASHINGTON Jan 6—Fifteen class B radio stations have changed their wave lengths slightly in the last few weeks, as a result of secret tests made by the department of commerce early in December Most of the changes are slight The most noticeable are those made by WOC (498) Davenport, and WHAA (498), Iowa City Each of these stations moved up fourteen meters The wave lengths were changed to create new channels for forty proposed new class B stations The new wave lengths were assigned only to stations of 484 meters or higher The changes made were as follows

Call and Location	New	Old
KFUO, St Louis	419.1	416
KSD St Louis	550.1	546
KYW Chicago	535.1	536
WCEE, Elgin Ill	535.4	536
WNYC, New York	528.8	526
WHO, Des Moines	522.3	520
WOAW, Omaha	522.3	520
WCX, Detroit	516	517
WWJ Detroit	516	517
KLX, Oakland	509.9	500
WIP, Philadelphia	509.9	509
WOO Philadelphia	509.9	509
WMC Memphis	503.9	500
WHAA, Iowa City	498	484
WOC, Davenport	498	484

Snodgrass Gives One Of Last Concerts At WOS; Freed Jan. 16

One more Monday night concert, and Harry M Snodgrass will say his adieu to his WOS radio audience On Jan 16 the little pianist, named the world's most popular radio entertainer, will be freed from prison

Playing last night from the Jefferson City station, the king of the ivories" was heard by fans through out this country The announcer however, did not mention the gifts Mr Snodgrass received from his audience last night.

Station WOC, Davenport, had an attractive program of music and readings last night. Then at 10 o'clock the Palmer school players presented an amusing one-act comedy, "The Rough Diamond" Station WFAA at Dallas was well represented by the Magnolia Petroleum company's Dallas band

General Electric station KOA at Denver was heard clearly being on the air with a good musical program.

WJAM TONIGHT

6, story hour, conducted by Blanche Loomis.

7 to 9, piano concert, popular numbers, a request program, by Elmer F. Young.

9 to 10:30, Guy Clark's orchestra, broadcasting from Dreamland ballroom.

FEATURES TONIGHT

(ALL CENTRAL TIME.)

(Also See WJAM Program.)

6, WWJ (516) Detroit, orchestra and tenor

6:30, WCCO, (417) Minneapolis, dinner music

7:15, WGY (380) Schenectady, comedy, Rosemary", WGY players.

7:30-9, WHAS (400) Louisville, Melodists orchestra.

7:30-8:30, WBAP (476) Fort Worth, old time fiddlers

9, WCX (516) Detroit, Red Apple club

9:30-10:45, WBAP (476) Fort Worth program by Rotary club.

10-11:30, KYW (535) Chicago, at home program

11, WLS (345) Chicago, "A Night Among the Heather," Scotch program by Jessie and Nan Muir

ON THE AIR TOMORROW

(Courtesy Radio Digest By Associated Press, All Central Time.)

6, WMAQ (448) Chicago organ
6, WGN (370) Chicago, organ
6, WLW (423) Cincinnati, concert
6, WCCO (417) Mpls., talk.
6, WHN (360) New York, entertainers.
6, WJZ (455) New York, orchestra.
6, KGO (312) Oakland, concert.
6, WWJ (513) Detroit, orchestra.
6, WKAQ (360) Porto Rico, concert.
6:30, WLS (345) Chicago, organ.
6:30, WGN (370) Chicago, concert
6:30, WJJD (278) Mooseheart, organ.
6:30, WEAF (492) New York, army band
6:30, WOO (509) Philadelphia, orchestra.
6:30, WCAE (462) Pittsburgh, Uncle Kaybee.
6:30, KFO (423) 'Frisco, orchestra.
6:35, KYW (536) Chicago, Uncle Bob
6:45, WNYC (526) New York, banjoists.
6:45, WCAE (462) Pittsburgh, special.
6:45, KSD (519) St. Louis, concert ensemble, violinist
7-8, WQJ (448) Chicago, concert
7, KYW (536) Chicago, concert.
7, WLS (345) Chicago, lullaby time.
7, WEAO (294) Columbus, chimes.
7, WOC (498) Davenport, Sandman
7, WCCO (417) Mpls., services.
7, WHN (360) New York, College Clothes"
7, WCAU (278) Philadelphia, concert.
7:10, WJZ (455) New York, Air college.
7:15, WLS (345) Chicago, Lone Scout program
7:15 WJJD (278) Mooseheart, music.
7:20, WOC (498) Davenport, lecture
7:25, WJZ (455) New York, music
7:30, WLS (345) Chicago, entertainers.
7:30-9, WHO (526) Des Moines, orchestra
7:30, WCX (516) Detroit, music.
7:30-8:30, WBAP (476) Ft. Worth, orchestra
7:30-9, WHAS (400) Louisville, quartet.
7:30, WNYC (526) New York, music talk
7:30, WOO (509) Philadelphia, concert.
7:30, WCAE (462) Pittsburgh, concert.
7:30 KFO (423) 'Frisco, Big Brother
8, WMAQ (448) Chicago, lecture.
8, KYW (536) Chicago, music.
8-10, WLS (345) Chicago, farm program, orchestra.
8, WGN (370) Chicago, classical.
8, WLW (423) Cincinnati, program.
8, WOC (498) Davenport, organ.
8, KNX (337) Hollywood, music.
8, WOS (441) Jefferson City, addresses.
8, WEAF (492) New York, orchestra.
8, WOO (509) Philadelphia, recital.
8, KFOA (455) Seattle, concert.
8:15, WDAR (395) Philadelphia, concert
8:30-10, KTHS (375) Hot Springs, concert.
8:30, WOS (441) Jefferson City, fiddling
8:30, WHN (360) New York, orchestra.
8:45, KFI (469) Los Angeles, detective stories
8:45, WNYC (526) New York, program.
8:45, KFOA (455) Seattle, music.
9, WMAQ (448) Chicago, music.
9, KOA (322) Denver, program.
9, WLW (423) Cincinnati, ballet, entertainers, orchestra
9, WCCO (417) Mpls., music.
9, WHN (360) New York, music.
9, KFO (423) 'Frisco, orchestra.
9:05, KYW (536) Chicago, talks.
9:05, WDAR (395) Philadelphia, orchestra
9:05, WOO (509) Philadelphia, recital.
9:30, WBAP (476) Ft. Worth, orchestra
9:30, KFI (469) Los Angeles, music.
9:30, WJZ (455) New York, orchestra.
9:30, WNJ (233) Newark, music.
9:30 WOO (509) Philadelphia, orchestra
10-2, WQJ (448) Chicago, entertainers.
10-10:40, WLS (345) Chicago music.
10, WGN (370) Chicago, orchestra.
10, KNX (337) Hollywood, features.
10, KFI (469) Los Angeles, orchestra.
10, WCCO (417) Mpls., orchestra.
10, WEAF (492) New York, music.
10, KFO (423) 'Frisco, band.
10:30, KTHS (375) Hot Springs, jazz.
10:30, KFOA (455) Seattle, concert.
11, KFI (469) Los Angeles, movie talk.
11, WHN (360) New York, dance.
11, WNJ (233) Newark, orchestra
11, KSD (549) St. Louis, orchestra.
12, KNX (337) Hollywood, orchestra.
12, KFI (469) Los Angeles, vocal.

RADIO MANUAL

BY ORRIN E. DUNLAP, JR.
Radio Editor of the New York Times.

(Continued From Yesterday)

Radio Beacons

Navesink, at Highlands New Jersey the most powerful light in the vicinity of New York Harbor, flashes several hundred thousand candle power but in thick fogs this great beam of light is visible for only a few yards off shore Navesink Light has power enough to be seen for 10 miles but owing to the curvature of the earth sailors do not "pick it up" until they come within a distance of 2 miles The SS Leviathan carries a radio compass which enables navigators to know the exact position even in foggy weather after the ship is within 150 miles of Nantucket Light

Radio has developed a new type of "light house," and New York Harbor has three of them broadcasting invisible signals which guide ships safely along their course, no matter how impenetrable the fog Curvature of the earth does not limit the range of a radio beacon and it can be placed in a small building eliminating the light house keeper

Four radio beacons are used to guide ships in from the Atlantic to New York Harbor and to keep coastwise steamers in their courses One of these radio fog signals is established on the Nantucket Light Station, Nantucket Shoals, Massachusetts The other three are at Fire Island Lightship, Ambrose Lightship and Sea Girt Light Station The radio apparatus of each beacon sends out a characteristic signal which enables a radio operator on board ship to take bearings and determine his position

To eliminate interference, time schedules have been arranged for each beacon The Sea Girt beacon sends groups of three dashes for sixty seconds silent six seconds Fire Island sends a series of dashes for twenty five seconds and is silent twenty-five seconds Ambrose Channel Light Vessel broadcasts a series of one dash for twenty seconds and remains silent for twenty five seconds before sending the next series of dashes The signals are repeated rapidly so a ship operator can quickly obtain bearings

All radio beacons transmit on the 1000 meter wave length and have a power rating of approximately one kilowatt An automatic motor driven timing switch is provided to produce the desired signal at regular intervals The beacons operate continuously during foggy weather, and in clear weather daily from 9 to 9 30 a m and from 3 to 3 30 p. m

When a ship's operator wants to get a position, he points the loop toward the beacon and revolves it until the signals are weakest or inaudible He can refer to the radio compass scale or chart which will tell him the bearing By taking bearings on more than one beacon and noting where the bearings intersect, the exact position can be determined Ships not equipped with radio compass installations can call the shore compass stations for bearings by flashing the international abbreviation "QTE" If a position is wanted, the signal is 'QTF' The 600- meter wave length is used to call for bearings or positions In such circumstances the ship transmits similar to the beacons enabling the land compass operators to make the calculations.

New York Harbor has four radio compass stations in addition to the three beacons All New York compass stations are controlled from the Naval Radio Station at South and Whitehall Streets, New York. These stations have been known to give forty five ships positions within eight hours, when all other means of reckoning had failed because of severe storms of several days' duration

Other beacons are located at Cape Henry Light Station, Virginia, which flashes groups of two dots, followed by one dash, for twenty seconds and is then silent for fifteen seconds. Diamond Shoals Light Vessel, North Carolina, groups of two dashes for thirty seconds; silent, thirty seconds. San Fransisco Light Vessel, groups of two dashes for thirty seconds; silent, thirty seconds. Blunt's Reef Light Vessel, single dashes for thirty seconds; silent, thirty seconds. Heath Point Lightship, off Heath Point, Gulf of St Lawrence, groups of four dashes broadcast for sixty seconds, followed by a silent interval of four minutes. The elapsed time from the beginning of one group of dashes to the beginning of the next group is four seconds.

(Continued tomorrow)

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