KSEI - POCATELLO, IDAHO

5KW AM - 1KW FM

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General Manager

KSEI, a pioneer in broadcasting in Eastern Idaho, was the first to bring frequency modulation to this area. Originally an AM station only, operating with 250 watts during the day and 1000 watts at night, KSEI has increased its power to a full time operation of 5000 watts with directional antenna at night.

Operating with an RCA 1000 watt FM transmitter and two element Superturnstile antenna with effective radiated power of 1800 watts, KSEI-FM is housed in the same building as the AM transmitter.

The transmitter building is constructed of cement, brick, and steel, making it a highly fire resistant structure. Steel safety sash and steel doors are used to discourage forcible entry into the transmitter building. The structure measures 34 by 46 feet (Fig. 3) and includes an operator's office, transmitter room, auxiliary studio, workshop, furnace room and service area.

Water is supplied to the installation from a 140-foot well, with an automatic pressure system maintaining constant flow.

The directional AM antenna system consists of two towers manufactured by the Lehigh Structural Steel Company. The tower used for nighttime directional pattern is 255 feet high and the supporting tower for the FM antenna is 227 feet high with the FM antenna making up the balance of 255 feet. The FM supporting tower and the FM antenna are used for the radiation of the daytime non-directional pattern.

The RCA Iso-coupler used to bridge the insulators of the AM tower was connected two years ago and has worked perfectly since it has been in service.

Duplicate coaxial transmission lines (1⅝") are installed between building and each tower. Each tower is enclosed with a Cyclone fence. A tuning house is erected at the base with facilities provided for plug-in telephone service, electric light, soldering iron, electrical tools, and heat lamp.

FIG. 1. Photo above shows the transmitter control room of Station KSEI. Recessed fluorescent lighting is used to illuminate the meters of the RCA 5 KW AM transmitter and the speech input racks. The transmitter control console is shown at left.

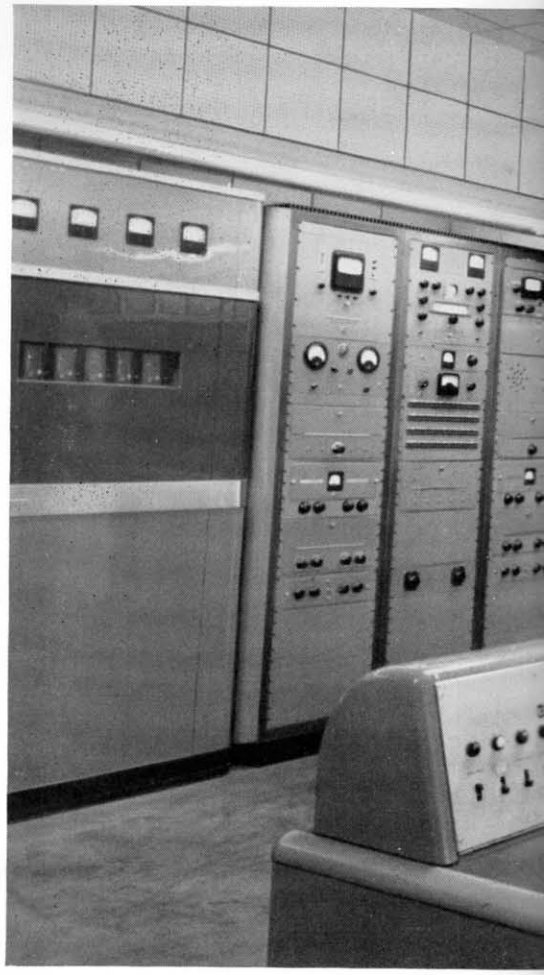
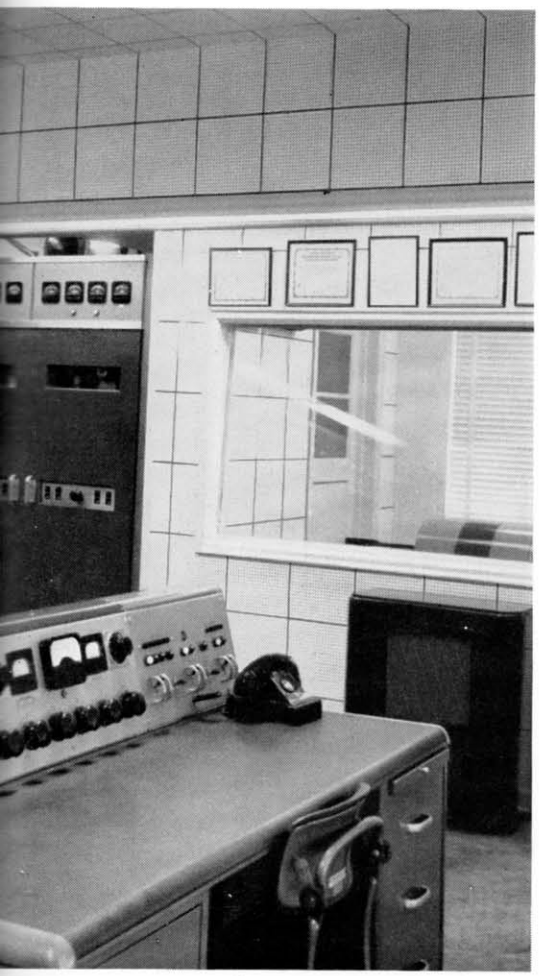


FIG. 2. Another view of KSEI's transmitter room showing one cabinet of the BTA-5F AM transmitter, the speech

The ground system consists of 120 radials from each tower, each 50 feet long and 120 radials from each tower, 300 to 500 feet long, bonded at their intersection points by a four inch copper strip and a four inch copper strip runs from tower to tower. The distance between the two antenna towers is 857 feet.

Coaxial cable supports were designed from four inch cement water pipes, 3½ feet in length. The bell shaped end of the pipe was set in the ground while a metal bracket was cemented into the top end for support of coaxial cables and conduits.

When the transmitter building was designed and the equipment installed, provision was made for future expansion of facilities. The one-kilowatt FM transmitter can be expanded to ten kilowatts if desired.



nput and monitoring racks and 1 KW RCA FM transmitter, which is adjacent to the emergency control studio.

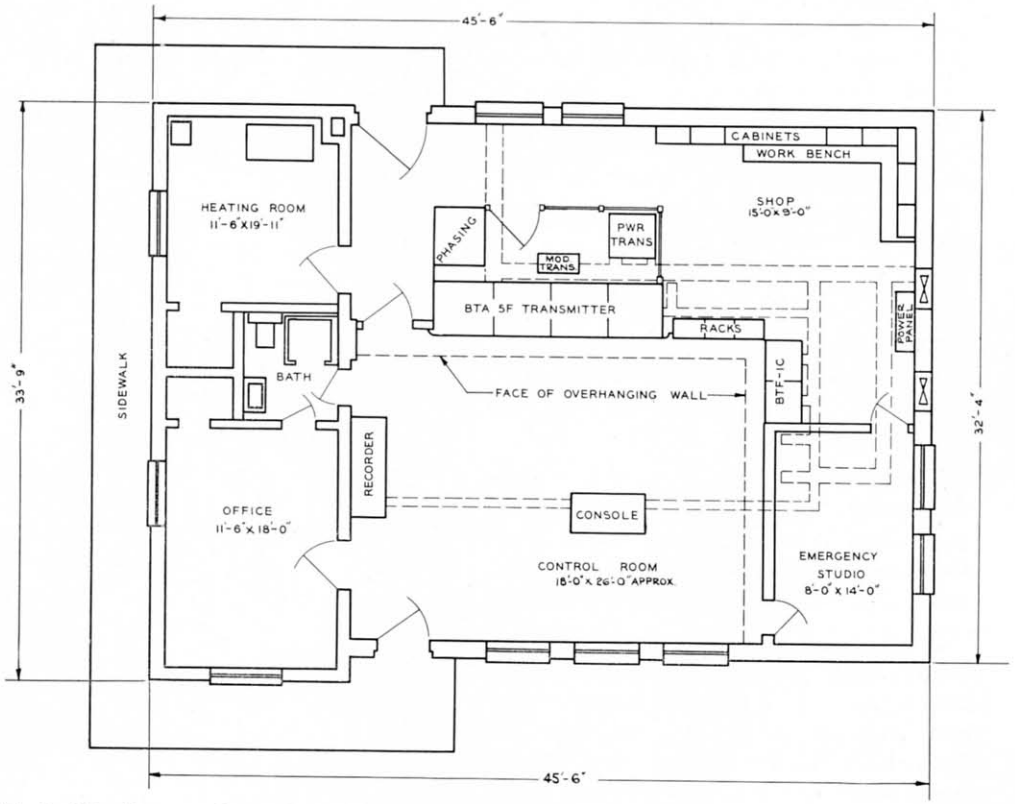


FIG. 3. This diagram shows the well-planned transmitter facilities of KSEI. To provide for increased power, easily accessible wiring ducts were installed in the floor. The ducts are indicated above by broken lines. The 1 KW FM transmitter can be expanded to 10 KW with a minimum of effort.

To facilitate any equipment changes, galvanized wiring ducts were installed with removable covers so that wiring could be changed or additions made at any time. All ducts are lined with copper bonds.

For emergencies and for split AM-FM operation, a small auxiliary studio was built in the transmitter building. It can be operated by the transmitter engineer or by an announcer. (Fig. 4.)

The KSEI transmitter building is equipped with an oil furnace. However, heating is required for a short period only during the early morning hours. Once the transmitters go on the air, the oil burners are shut off and the transmitter heat is adequate to keep the building warm.

Up to a year ago, the studios and offices of these stations were located three miles from the business district of Pocatello. The present location, in the Hotel Whitman, was chosen in the heart of the business district for convenience and efficiency of operation.

FIG. 4. Interior view of the emergency control room showing the RCA 70-C2 Turntables and station's home-made composite control console for combining or separating AM and FM programs. The 5 KW AM transmitter and one monitor rack can be seen through the window.

Practically no construction was necessary for the conversion of the hotel space to studios and offices. Two minor wall partitions were removed and sound-proof windows were installed for visibility between the studios, the control room, and the reception lobby. Acousti-celotex was used on the ceiling and the upper portion of the studio walls. Rubber tile covers the floors and a wallpaper panel covers the lower portion of the walls.

There are two studios connected by a single control room which is completely equipped with RCA turntables and speech input equipment. It can truthfully be said that both KSEI and KSEI-FM are equipped by RCA all the way.

The studios are quite live and have produced pleasing results from the studio programs broadcast. The general run of small city studio programs is carried, including vocal, instrumental and organ programs.

Studio equipment consists of three RCA BR84 series equipment racks. Two receivers are used for monitoring purposes, one tuned to KSEI and one tuned to KSEI-FM. The monitoring system extends to all offices of the station and each RCA wall speaker is equipped with its own volume control and a three-way switch for a selection of any of three program sources.

The studio control room is equipped to record and play-back tape or wire recordings, while disc recording is accomplished at the transmitter location. The racks in the control room are equipped with RCA monitor amplifiers, pre-amplifiers, program amplifiers, variable equalizers and meter panels, installed in such a manner that almost any conceivable combination of equipment and connections may be accomplished.

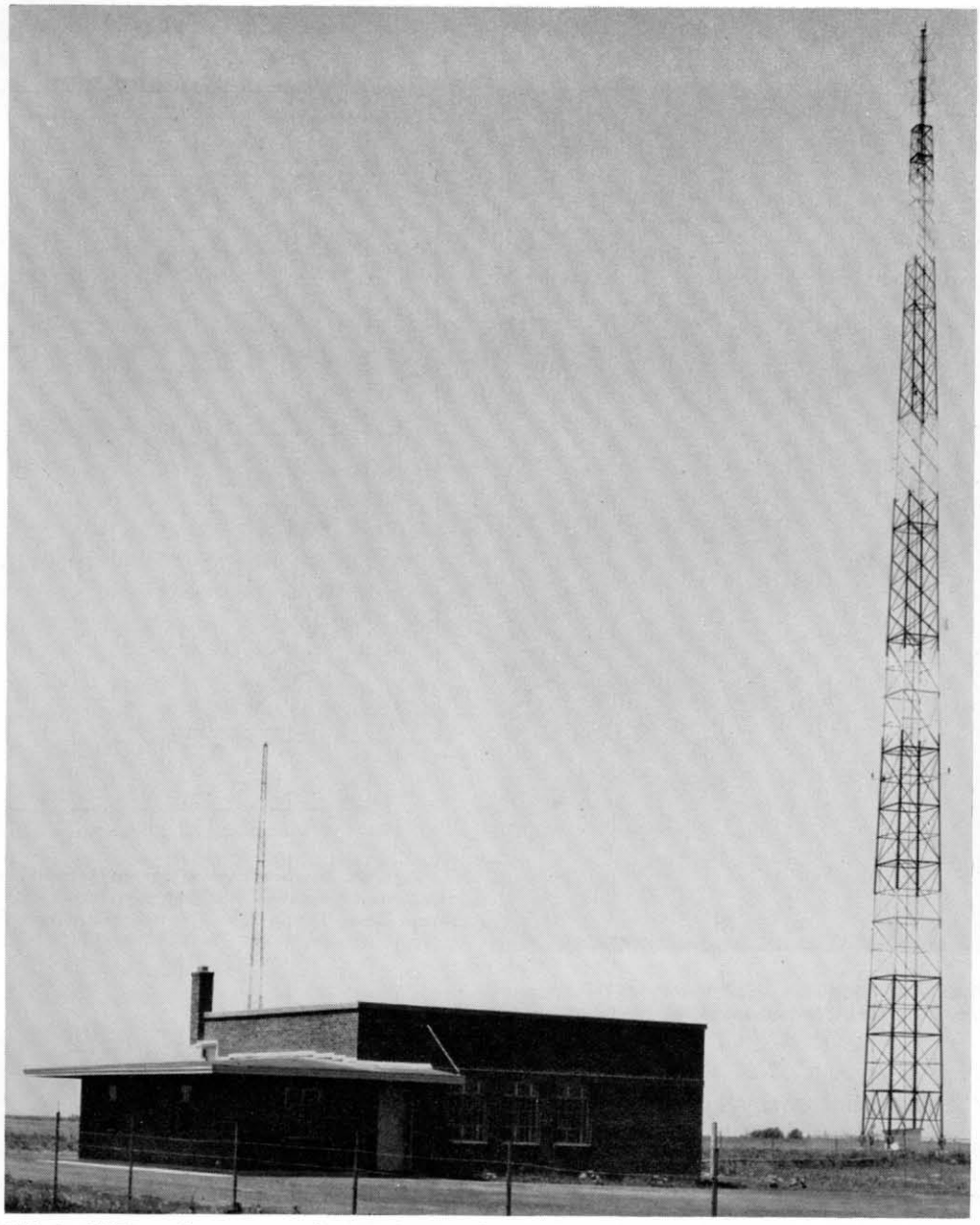


FIG. 5. KSEI employs a two element directional antenna system. The 255-foot tower at left is used for nighttime AM transmission; the one at the right for AM daytime. An RCA two-element Superturnstile FM antenna is mounted atop the AM tower at right.

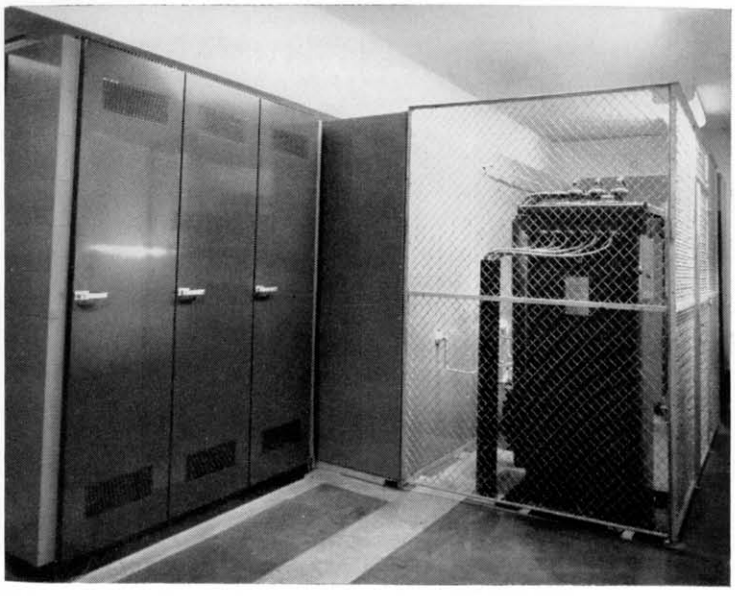


FIG. 6. Rear view of the speech input and monitor equipment racks shown at left. Protective cage encloses plate and modulation transformers. Wiring ducts with removable covers are shown at base of the cabinet racks.

The speech input consolette, operated in conjunction with the above racks, is an RCA 76-B4 and the turntables are RCA 70-C2. The monitoring speaker used in the reception lobby is an RCA LC-1A.

The entire installation was made by and under the capable direction of Chief Engineer, Ellis W. Call.

KSEI and KSEI-FM are owned and operated by Radio Service Corporation of Idaho, of which Mr. O. P. Soule is president. KSEI has been affiliated with the National Broadcasting Company for more than 11 years. KSEI-FM operates on a duplicated program basing during the entire 18-hour schedule of KSEI.