

KENI

ANCHORAGE, ALASKA

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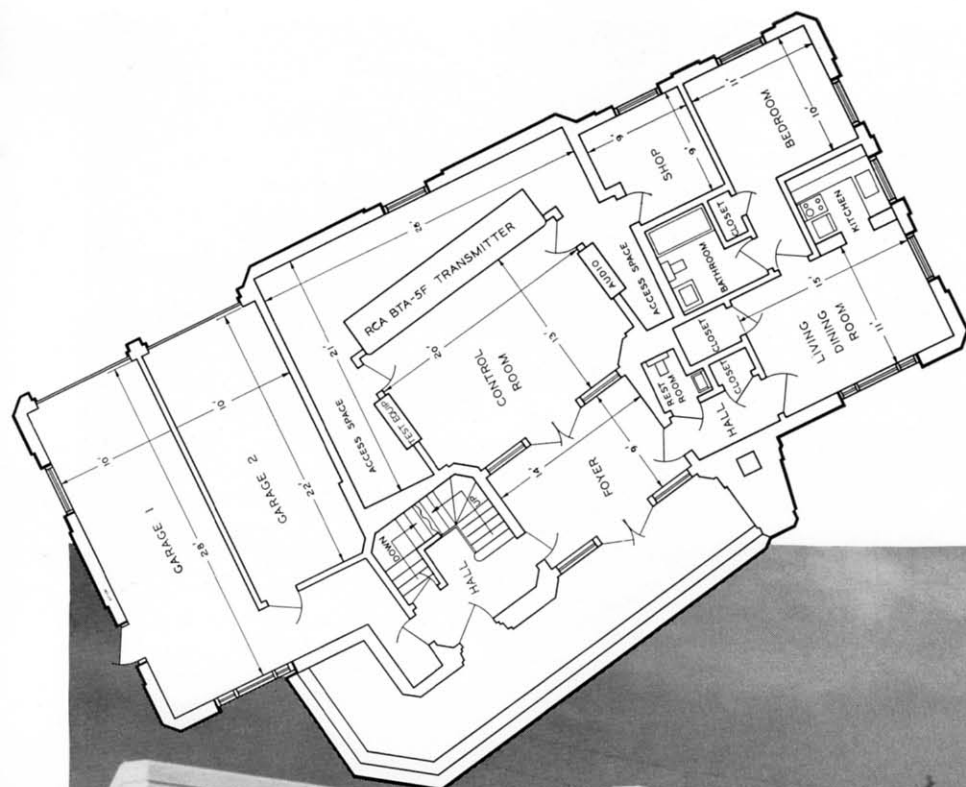


FIG. 1. The modernistic KENI transmitter building is constructed of reinforced concrete. Inset at upper left shows layout of garage, transmitter and bachelor apartment facilities on the main floor of the building.

A typical statement from a visiting tourist can well describe the new KENI studios and transmitter facilities in Anchorage: "I've seen bigger and more powerful stations, but none as smart and luxurious for its size." And this is just exactly what pioneer industrialist Austin E. ("Capt.") Lathrop would hope to hear them say. Stateside visitors have been making similar statements about KFAR, Capt. Lathrop's Fairbanks station since 1939 when it first

began operation. When the decision was made to expand to Anchorage, Capt's only request was to make it "the best radio station money can buy."

The KENI studios and offices are located on the third floor of the new million dollar Lathrop Building which houses the 4th Avenue Theatre and the Lathrop Company offices. The theatre itself is a masterpiece of design and beauty, and it, to-

gether with the new radio studios, provide a tourist attraction of the first magnitude in Anchorage.

Studio facilities include: studio A, capable of seating 150 people; studio B, designed for group or panel discussions; and studio C, primarily designed for news reporting. Studio B overlooks the main studio A, and serves to double as a client's booth. The control room overlooks both

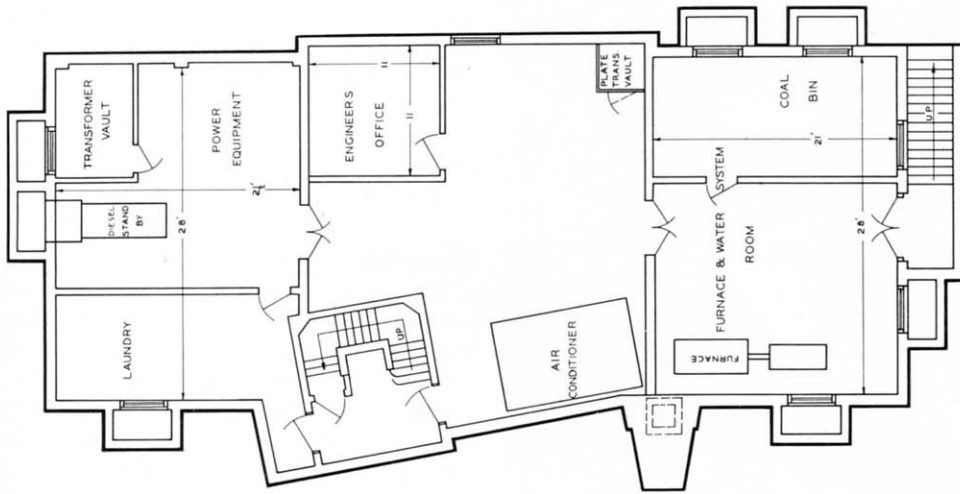


FIG. 2. Floor plan at left shows the layout of facilities in the basement of building. Top floor (not shown) contains two family apartments.

studio A and studio B and is separated from each by triple glass windows of varied thickness which reduce transmission of sound.

The studios are designed and constructed along the accepted Johns-Manville lines of sound isolation and acoustic control. Full floating construction is employed throughout. Floors are isolated by felt-lined metal chairs and ceilings are hung in a similar manner. All walls are isolated and floating free of the structural building.

The floor of studio A consists of a slab of concrete two inches thick floating atop a system of felt-lined chairs, and isolated from the surrounding walls by a one-inch thickness of mastic. Koroseal tile provides the final floor finish. It is anticipated that this type of tile will find wide acceptance in the broadcast industry because of its many advantages. The natural finish resembles a highly polished wax surface, thereby reducing maintenance costs. The tile itself, being plastic, is inert and not subject to the deterioration experienced with some other types of tile in common use.

The walls and ceiling of studio A are non-parallel splayed surfaces, covered with perforated transite backed by rock wool. Mounting of the transite has been handled in an unusual and decorative manner. Each square is separated from the adjacent square by a one-half inch gum-wood bead, thereby eliminating the ragged effect caused by slight edge malformations of the transite, apparent in most installations.

A special effect is created in the ceiling by cove-lighting which casts pattern shad-

ows over the beads. Since each transite square is treated as a unit, the rock-wool backing is cut accordingly, and specific acoustic control can be achieved by removing the square bats or adding additional ones, depending on future control desired.

The auditorium studio is isolated from external noise by an oversize air lock which can more correctly be termed a vestibule. Double sound-proof doors provide adequate isolation for this area which accommodates a substantial number of people and eases the flow of traffic in and out of studio A as well as studio C.

Prescribed sound isolation precautions were taken in the treatment of the air conditioning ducts. All ducts to and from the studios and control room are lined on the inside with regular duct lining and wrapped on the outside with rock wool blankets. The plenum chamber, mounted

above the office area and some distance from the studios, is lined with felt and shock mounted. In addition, all electrical conduit runs connecting to studio walls are broken with flex and wrapped with felt.

Studio control room equipment consists of an RCA Type 76-B4 Console plus auxiliary equipment mounted in two Type BR-84 racks. Three turntables are used by the control operator; two Type 70-C and one Type 70-C2. Since considerable recording is done, the basic design allows a recording feed to the transmitter from any studio without interfering with board operation. Originally, the transmitter engineer carried on all recording activities by using two Type 72-DX Recorders mounted on 70-C Turntables. Installation of two tape recorders at the studio now finds most recording done on tape and handled by the studio control engineer on duty.

The development of magnetic tape recording proved to be a "natural" for Alaskan operation. No network lines exist to the Territory, yet the stations of the Midnight Sun Broadcasting Company have affiliation with two networks. Disc recording in Seattle for delayed reproduction in Alaska was extremely costly. Initial cost plus air-express transportation resulted in almost prohibitive overhead. Tape recording solved both the high cost of transportation and initial expense. A "round-robin" circuit keeps a quantity of tapes moving to

FIG. 3. Engineer Ray Walker checks the meters on the KENI transmitter, RCA Type BTA-5F. Chief Engineer Jack Walden is at transmitter console controls.



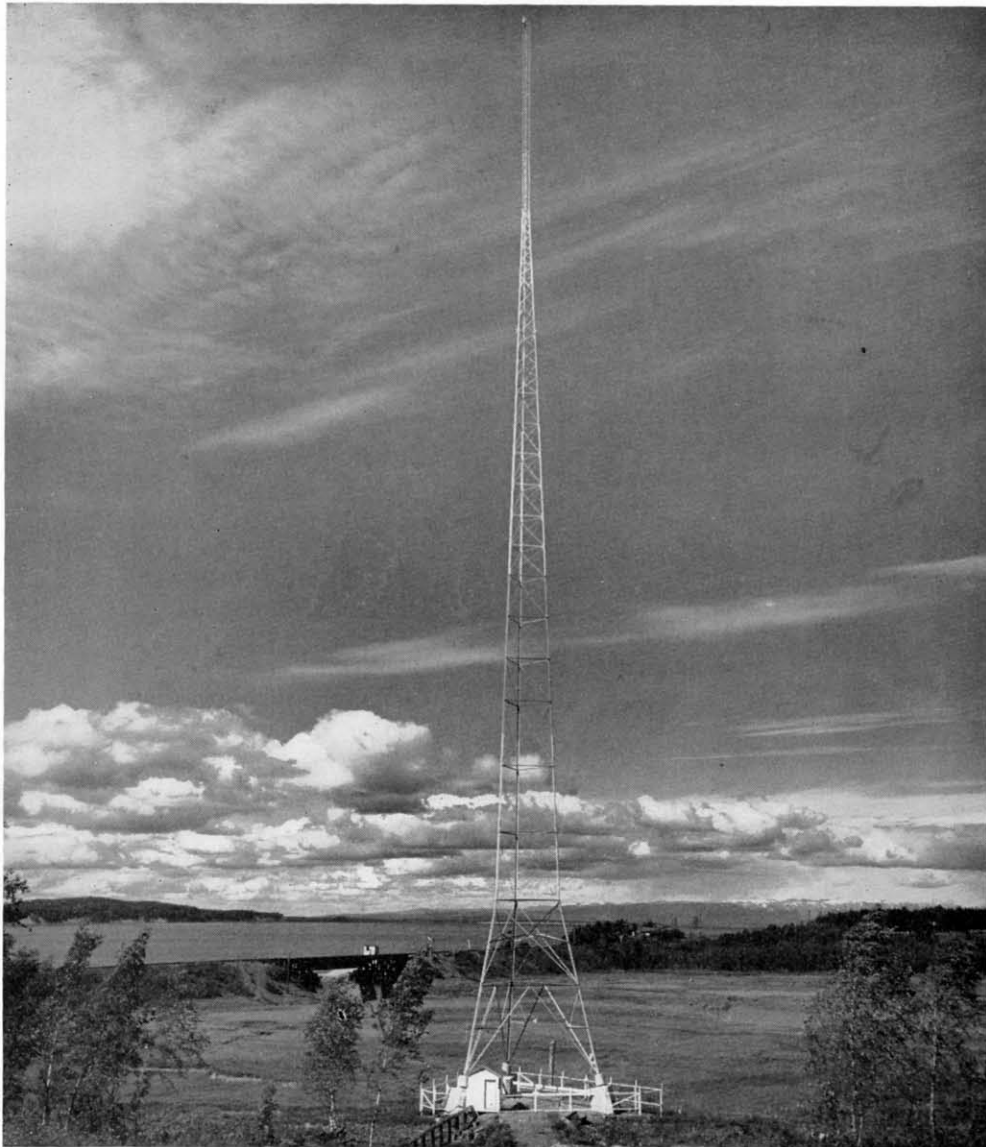


FIG. 4. The KENI antenna tower is located on salt marsh flats overlooking Cook Inlet. 50,000 feet of copper wire buried at base of antenna provides an excellent ground.

and from Alaska with programs fresh from the networks as well as tapes ready for re-recording again.

Transmitter

The KENI transmitter building is not one to take a back seat in regard to either beauty or functional design. The structure itself is reinforced concrete throughout, consisting of a full basement, main floor and second floor. It is situated on a side slope in a beautiful wooded area overlooking the salt water expanse of Cook Inlet and a convenient 10 minute drive from downtown Anchorage.

The transmitting antenna tower is in an excellent location as far as radiation characteristics are concerned. It is situated in a salt water marsh which is flooded periodically throughout the year by high tides, but protected from the sea by a railroad fill barrier. The comprehensive ground system consists of 50,000 feet of copper radials.

Energy is fed to the tower through a $1\frac{5}{8}$ inch co-axial line 475 feet long. A spare line is provided with remotely controlled transfer switches at each end for instant changeover in case of failure. The antenna system contains the first co-axial line installation in the Territory. Probable reaction of the system to the radical differential in temperature at first caused some concern as to reliability. The lines are kept under dehydrated air pressure of 20 to 25 pounds and to date no difficulty has been experienced.

Control room equipment, located in the center section of the main floor, includes an RCA 5-F Transmitter and modified transmitter, control console, four Type BR-84 Speech Racks, and two Type 70-C Turntables with Type 72-DX Recording Attachments. Two speech racks are situated on each side of the transmitter, with space provided for four more, or a total of eight. The racks, control console and transmitter are joined by a metal duct divided into three sections for low level, high level and a-c runs. The duct is accessible from the basement ceiling for any future change or addition in wiring. No radio circuit conduits are "buried" in the concrete. Ports are provided in the floor for the addition

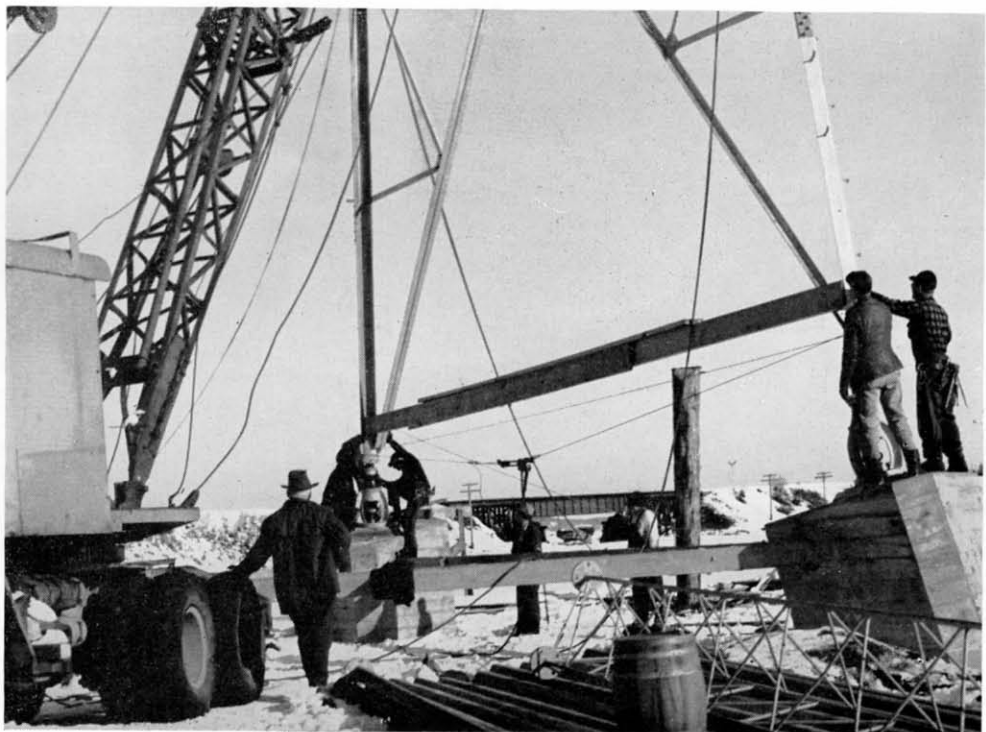


FIG. 5. Capt. A. E. Lathrop (at left) watches construction of the antenna tower on the concrete pilings. Railroad trestle can be seen in background.

FIG. 6. Photo of studio control room taken from Studio B shows Program Director Frank Brink giving familiar cue to Studio A. Announcer-control Engineer Merrill Mael is at the controls of the RCA 76-B4 Console.

of extra racks, which in turn can connect to the existing ductwork.

Although there are no directional requirements, a phasing cabinet was added to provide a unified front design. At the present time the cabinet stands empty, but it is expected that a shortwave transmitter will be built into it in the future for the transmission of special event programs to the domestic networks in the States. This has been done very successfully on numerous occasions from Fairbanks via the writer's experimental transmitter, K7XSB.

The control console was modified to provide for recording, selector control, and transfer switching, as well as for additional input mixing channels for shortwave reception. A National HRO receiver is used for rebroadcasting of international shortwave transmission and to provide daily time signals for clock correction. A system of correctable fifteen-inch self-winding clocks has been installed throughout the KENI studios and offices which can be controlled by the transmitter engineer, and set daily by calibrating with WWV.

Unusual precautions were taken to prevent undue interference with the shortwave receiving facilities. All steel in the construction of the building was securely tied and the main runs were electrically bonded together by welding. In addition, the control room itself was thoroughly shielded by wire screen, carefully overlapped, soldered and grounded. As a result, excellent shortwave reception can be accomplished in the same building with the 5-KW transmitter being in full operation. Antennas used at present for shortwave reception are folded dipoles atop the building. However, rhombics situated on the salt flats are to be installed later.

An auxiliary Diesel electric power plant provides power for emergencies, and this is situated in the basement area. Also in the basement is a laundry for the upstairs apartments, the control room air-conditioning unit, an automatic coal stoker, and adequate coal storage. The air-conditioner is designed to either cool the control room area in the summertime, or recirculate the heat generated by the equipment in the wintertime. It also provides a slightly

FIG. 7. Studio A, which shares a control room with Studio B, seats about 150 people. Backstage curtains offer a degree of acoustic control by exposing or covering polycylindrical diffusers.



positive pressure to the rear enclosed areas, thereby preventing dust from entering and accumulating on the equipment.

The second floor consists of two large family apartments, completely furnished and deluxe in every respect. Each apartment has two bedrooms, bath, kitchen, dining room and large living room. These unusual living facilities have been provided for the engineering staff and their families.

All woodwork throughout the entire building is furnished in rich walnut wood, which lends an air of luxury to the whole

transmitter installation not usually found in this type of structure.

The design and construction of both studio and transmitter was accomplished by the author and KENI Chief Engineer Jack Walden, with Ralph Walker joining the engineering staff for the actual construction. Studio and transmitter architect was Augustine A. Porreca of Seattle.

It may be noted here, although a complete story on KFAR appeared in an earlier issue of BROADCAST NEWS, that RCA equipment has been used almost ex-



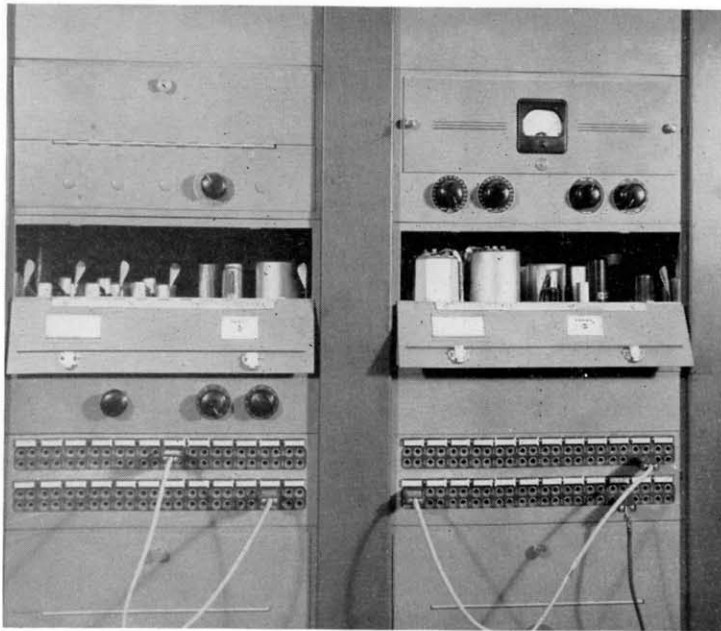


FIG. 8. RCA's plug-in chassis design has been adapted to rather unusual use at KENI. Audio racks at right contain three MI-10253 line transformers, two 56-C line equalizers and one MI-4901-A bridging transformer all mounted on a chassis which plugs into the standard BR-2A panel and shelf assembly. At left is booster amplifier RCA Type BA-2A and three preamplifiers.

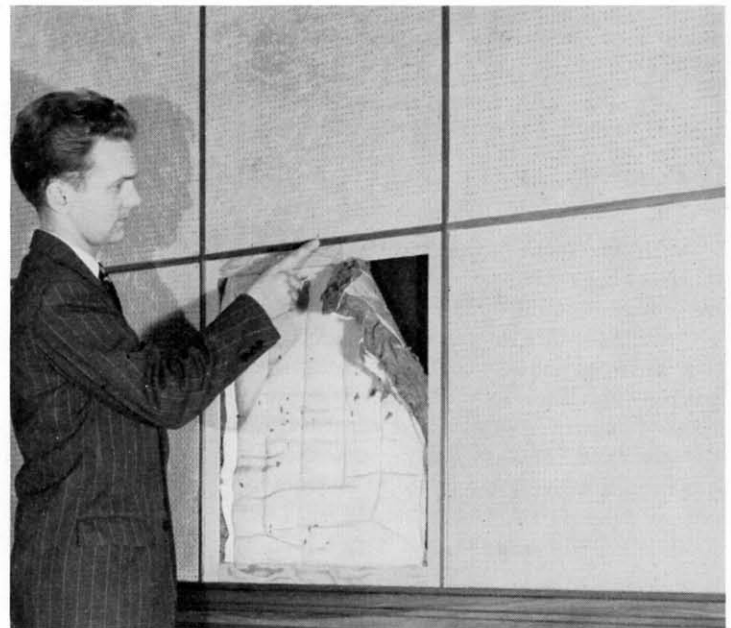


FIG. 9. A. G. Hiebert points out the half-inch gumwood beads used for decorative effect in mounting the perforated transite panels in Studio A. As shown, each panel is backed by two-inch rock wool bat, which can be removed to meet any change in acoustic requirements.

clusively at both stations of the Midnight Sun Broadcasting Company, KFAR Fairbanks, and KENI Anchorage. Early experience at KFAR demonstrated the reliability and quality performance of RCA equipment, therefore when expansion took place it naturally followed that RCA equipment would be installed. In 1942 KFAR replaced its RCA type 1-G transmitter with an RCA 5-DX, and then in 1943 added power to use the RCA 10-DX. Dur-

ing the planning of KENI, it seemed desirable to standardize equipment as much as possible for an interchange of spare parts or tubes in case of emergency. Difficult and uncertain shipping conditions prevail in the service to the Territory occasionally, making rapid replacements of parts an impossibility. This, in addition to fine performance of RCA equipment at KFAR, decided the choice of equipment at KENI. All original KFAR accessory equipment such as turntables, speech amplifiers, com-

pressor amplifier, and studio Consolette are still in use at KFAR, which, on October 1st, celebrated its 10th anniversary. Recording equipment has been modernized by use of 72-DX models, and universal type MI-4875-G pickups replaced the original lateral reproducers.

At KENI, after 16 months of operation, the RCA 5-F transmitter has never lost a moment of air time for any other cause than replacement of tubes.

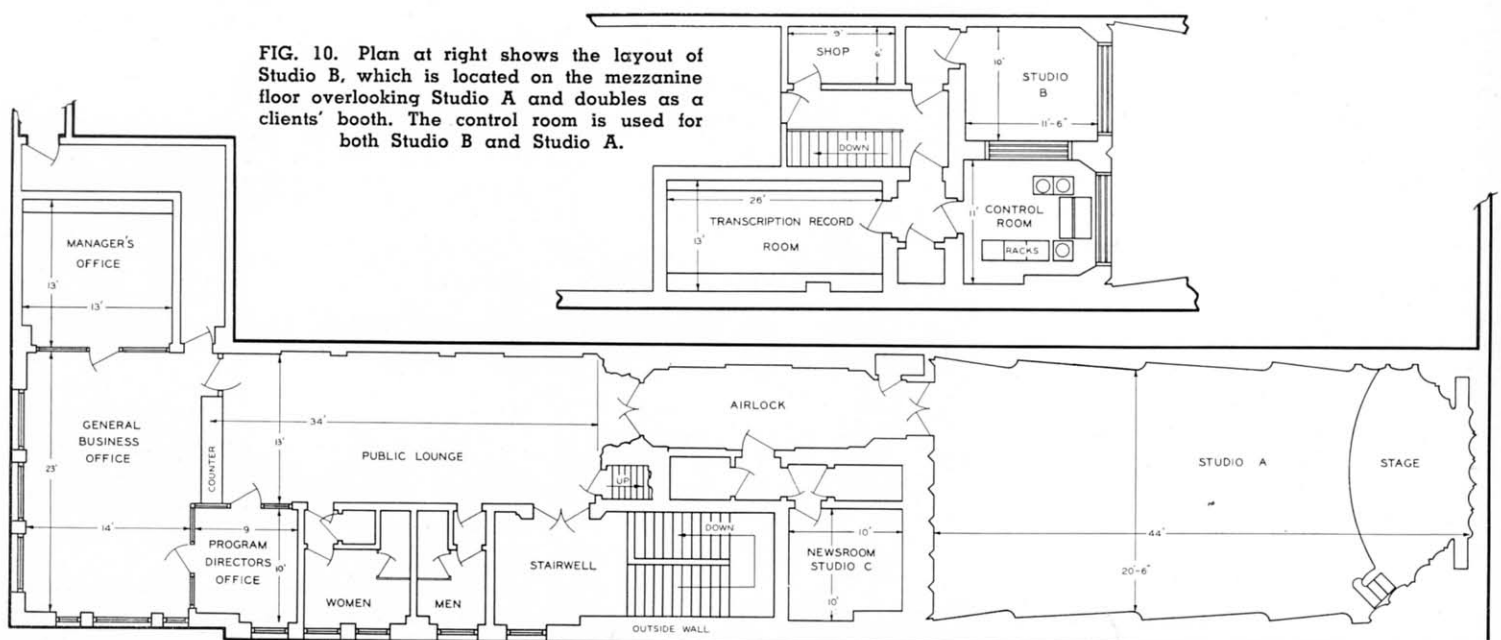


FIG. 10. Plan at right shows the layout of Studio B, which is located on the mezzanine floor overlooking Studio A and doubles as a clients' booth. The control room is used for both Studio B and Studio A.

FIG. 11. Floor plan above shows layout of facilities on the main floor of the KENI Studios. The airlock serves as a vestibule and helps ease the flow of traffic in and out of Studio A and Studio C.