

POWER GOES UP AT WDBJ

Roanoke Station Joins 5 KW Group

THE boost in WDBJ's daytime broadcasting power and the operation of the new transmission equipment will mark, one step in the steady progress the station has made since it was started 12 years ago.

Licensed May 5, 1924, it was the second broadcasting station in Virginia. It was originally assigned to transmit on a frequency of 1310 kilocycles with 20 watts power. Later this assignment was changed to 930 kilocycles, the frequency on which it operates at present.

Frequent Power Increases

Several months afterward, its power was raised to 50 watts, then to 250 watts. On October 27, 1933, the Federal Radio Commission granted the station authority to increase its power to 500 watts before sunset. In April 1934 it was granted the authority to increase this power to 500 watts day and night; and on June 15,

1934, a construction permit was granted, allowing the station to build equipment necessary to broadcast on 1,000 watts day and night. This was begun September 2 of that year.

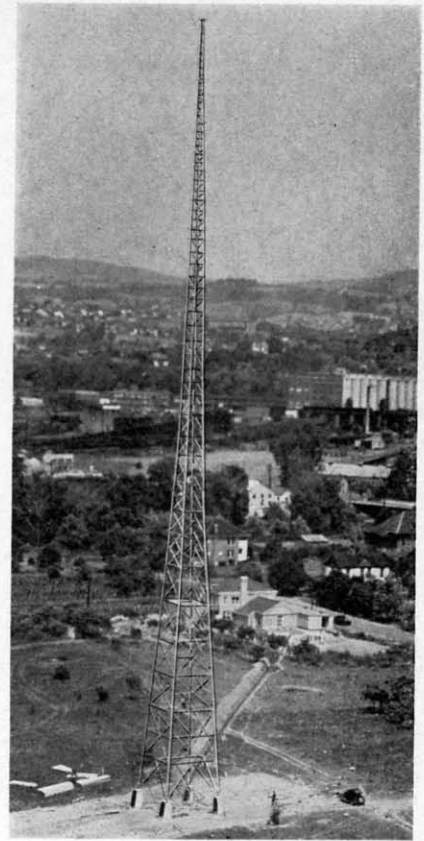
Today the power is increased to 5,000 watts for daytime broadcasting.

Joins Columbia

On October 8, 1929, WDBJ became a part of the Columbia Broadcasting System, an affiliation which has enabled the station to broadcast some of the world's outstanding programs.

WDBJ is on the air 17 hours daily and 16 on Sunday. The operating hours on week-days are from 7 A. M. to midnight. Its offices are in the Times-World building and its studios on the fourth floor of the American Theatre building.

There are several remote control broadcasting points: the American Theatre organ, Hotel Patrick



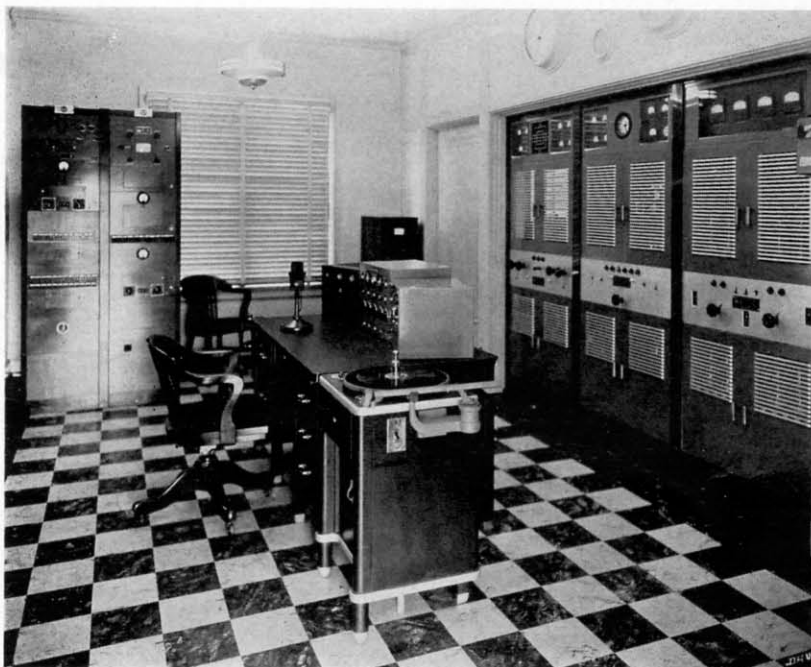
Looking over the city from the antenna site.

Henry, Hotel Roanoke, Elks Club, First Presbyterian church, First Baptist church (colored), and the Roanoke auditorium.

The station was purchased from the Richardson-Wayland Electrical Corporation in May, 1931, by the Times-World Corporation, by whom it is now owned and operated.

WDBJ's new transmission equipment, including a 5,000-watt transmitter housed in a thoroughly modern building, and a 312-foot antenna tower standing nearby, give the station one of the most complete and up-to-date broadcasting set-ups in the South.

The new transmitter, the latest type RCA "high fidelity," makes it possible to broadcast a wider range of musical frequencies. Without blurring or fading, it will



Showing the compact arrangement of transmitter, speech input and transcription equipment.



R. D. AVERY
Chief Engineer

carry the highest note of a flute and the lowest note reached by a bass horn.

Jumps Signal Strength

The new antenna will increase the signal strength of the station within the 50-mile radius without increasing interference.

From the base of the tower radiate 120 strands of bare copper wire, forming the ground system. The longest of these radials is 650 feet and the shortest 350 feet. Underneath the tower, the radials are pointed to a copper ring, while at the far ends the radials are soldered to another wire which forms the outer circle. The entire network is buried several feet underground.

The 20,000-pound tower has a base 23 feet, nine inches square while at the top the sides are only nine feet. Its sections are painted alternately orange and white, a combination of colors most easily discernible to airplane pilots, who at night will be warned by red lights installed at varying heights on the tower. The lights are turned on and off at dusk and dawn by an automatic clock which compensates for the change in the length of the day throughout the year.

Situated on the top of the hill a few hundred yards from the junction of Brandon road and the road leading to the city farm, the transmitter building in Colonial Heights is of somewhat "different" design, and thoroughly modern.

Studio for Emergencies

Besides the actual transmission equipment situated in the operator's control room, the building also contains a workroom for every type of repair, designing, and construction work connected

with the operation of the plant.

A completely equipped studio is provided for emergencies. All equipment is installed in a specially constructed housing and is shielded, even to the windows, to such an extent that not even the local station itself can be picked up inside the house.

Connecting the transmitter and the tower is the concentric transmission line, consisting of a seven-eighths inch copper tube containing a one-quarter inch copper tube, the whole being filled with nitrogen gas. It is buried about two-feet deep below the frost level.

A small apartment, consisting of a bedroom, kitchen and shower is located on the first floor of the building.

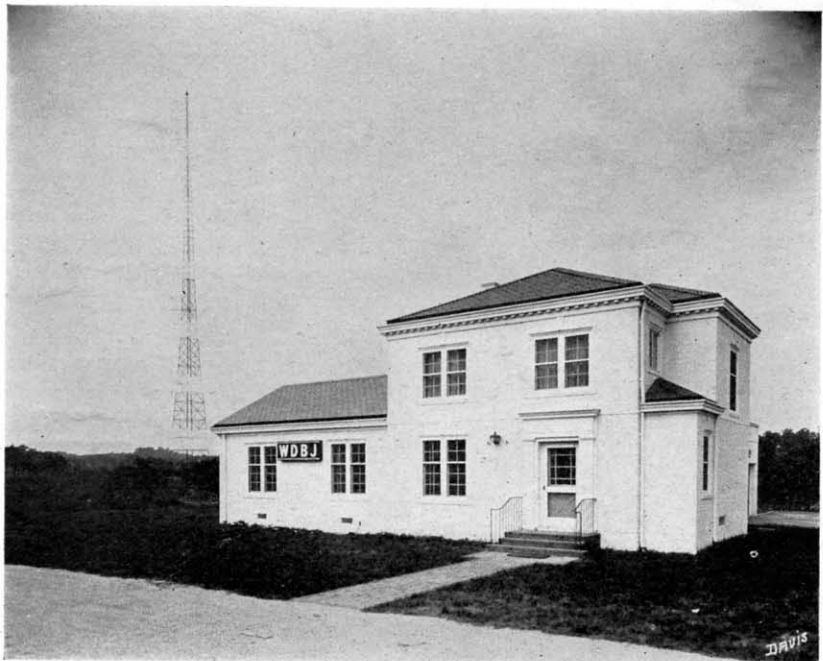
On the second floor is a modern six-room apartment in which Chief Engineer Bob Avery makes his home. It consists of a living room, two bed rooms and connecting bath; a den, a dining alcove and a kitchen.

To the rear of the building is a two-car garage the top of which is used as a porch for the second-floor apartment.

The whole building of brick and steel is air conditioned throughout.



J. W. ROBERTSON
Staff Engineer



The up-to-date plant of WDBJ in the Blue Ridge section of Virginia.