



WTOP RADIO FACILITIES

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A flexible system for accommodating the unpredictable demands of a network operation dedicated to the rapid dissemination of news prescribed the present layout of the radio facilities at WTOP Broadcast House.

The key to the versatility of the radio facilities at Broadcast House is the extended control dispatch system. The equipment associated with the dispatch system permits an elaboration of transmitting and monitoring facilities which could only have been effected by costlier and more laborious means.

The engineering department is faced with innumerable problems of an emergency nature. To meet these demands, master control has provided the program department with a multitude of incoming circuits from all important news centers in Washington, transmitting circuits to points overseas, network facilities and copious facilities for coordinating these operations. To accommodate temporary facilities sixty channels are available in master control.

Jack fields which are accessible, permit a flexibility of operation which is limited only by the ingenuity of the operator.

Though master control is dominated by the presence of the dispatch system console, seven enclosed racks with heat removal ducts appropriately allocate incoming circuits, outgoing circuits, monitoring equipment, test equipment, receivers, tape equipment, distribution amplifiers and power. Each rack contains power for its equipment and all amplifiers are of the shelf variety and can be removed from the front for service or substitution in the event of failure. Master control is further augmented by studio facilities which have been arranged adjacent to the dispatch system console. An RCA 76 series console with tape and disc machines comprise this area and is strategically located with respect to adjacent studios so that adequate vision is afforded the operator for live programs. All units have been terminated in terminal blocks with sufficient latitude to

permit relocation or expansion should the need arise.

Five studios have been integrated with other facilities on the third floor of Broadcast House so that quick and easy intercourse can be readily effected. All studios have been provided with RCA studio equipment. The sub control rooms contain 76 series consolettes, 70C turntables, extra cueing and monitoring facilities, the extended control system, and tape. The extended control feature of the dispatch system permits operation independent of master control, however this feature is seldom exploited because of network monitoring requirements. To lighten the load in master control operation is usually performed on a preset basis with inter-studio switching performed by the local operator. Network switching is done by master control. As is customary in network operation, programs involving instantaneous switching are diverted to studios.

The operations afforded by the dispatch system permits a fluidity of switching that greatly alleviates strain on the master control operator. Any of the outgoing lines can be selected by the studio operator upon release of that facility by the preceding operation. Protective circuits prohibit the accidental or deliberate actuation of the transfer mechanism until the operator releases control. Only master control can change the sequence or assume control of the operation. Each outgoing channel has its own control panel which is located on the control console in master control. By means of press buttons and selector switches its switching operation can be integrated with the whole either on a delayed basis or simultaneous basis. Should it be desired, the channel involved can be excluded from a multi-switch operation.

As a by-product of the equipment associated with the dispatch system, an elaborate system of cueing and monitoring has been devised. Monitoring facilities for all incoming and outgoing channels appear in every studio. Channels in use can be monitored visually and aurally.

The frequency of live remote pick-ups has declined with the advent of tape equipment. The latitude in editing and the ability to gather material on an impromptu basis for integration into the daily operations schedule on a delayed basis has resulted in a greatly expanded use of this medium. As a result a substantial part of the radio facilities at Broadcast House is devoted to the preparation and use of tape.

Disc recording and playback is by no means relegated to a minor role at Broadcast House. Ease of cueing and general handling makes this item the choice when

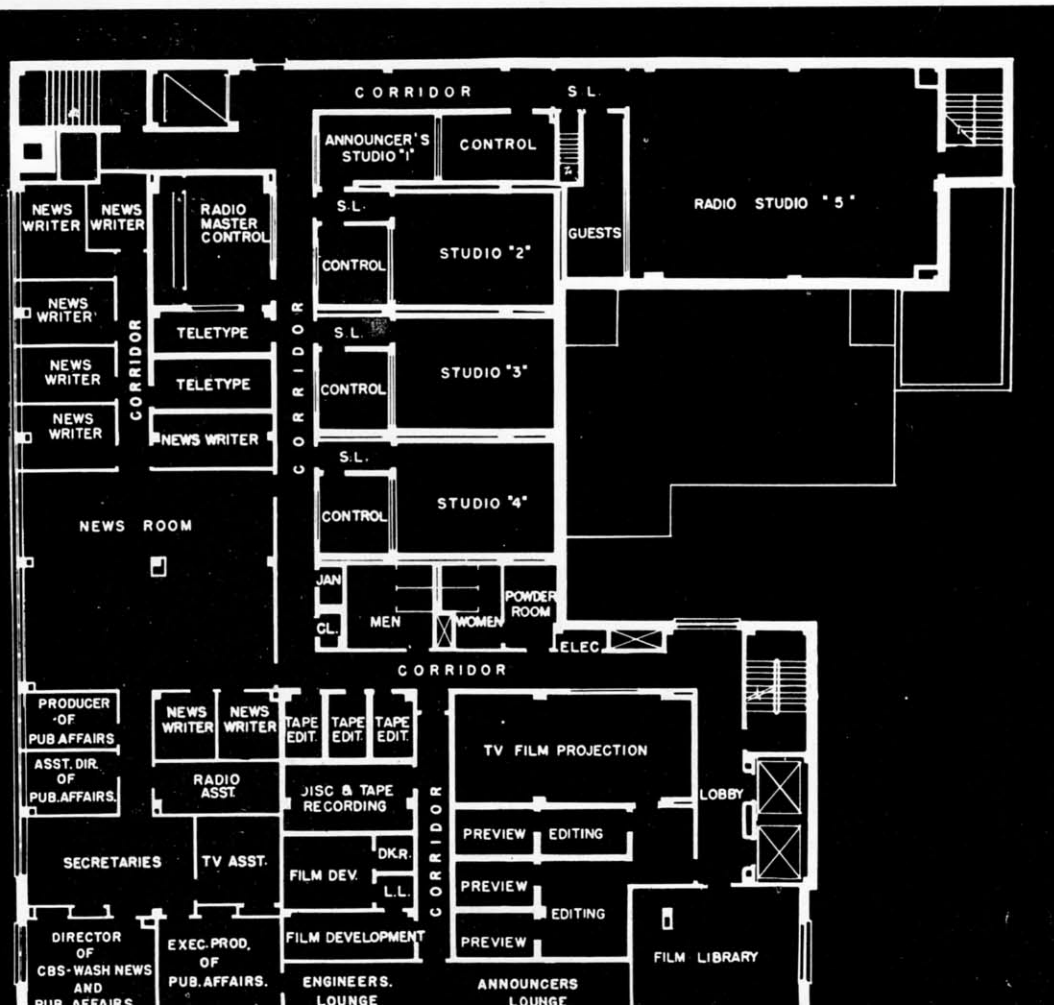


FIG. 37. Radio facilities, news rooms and telecine occupy the third floor. Master control is strategically located as the center of radio activities.

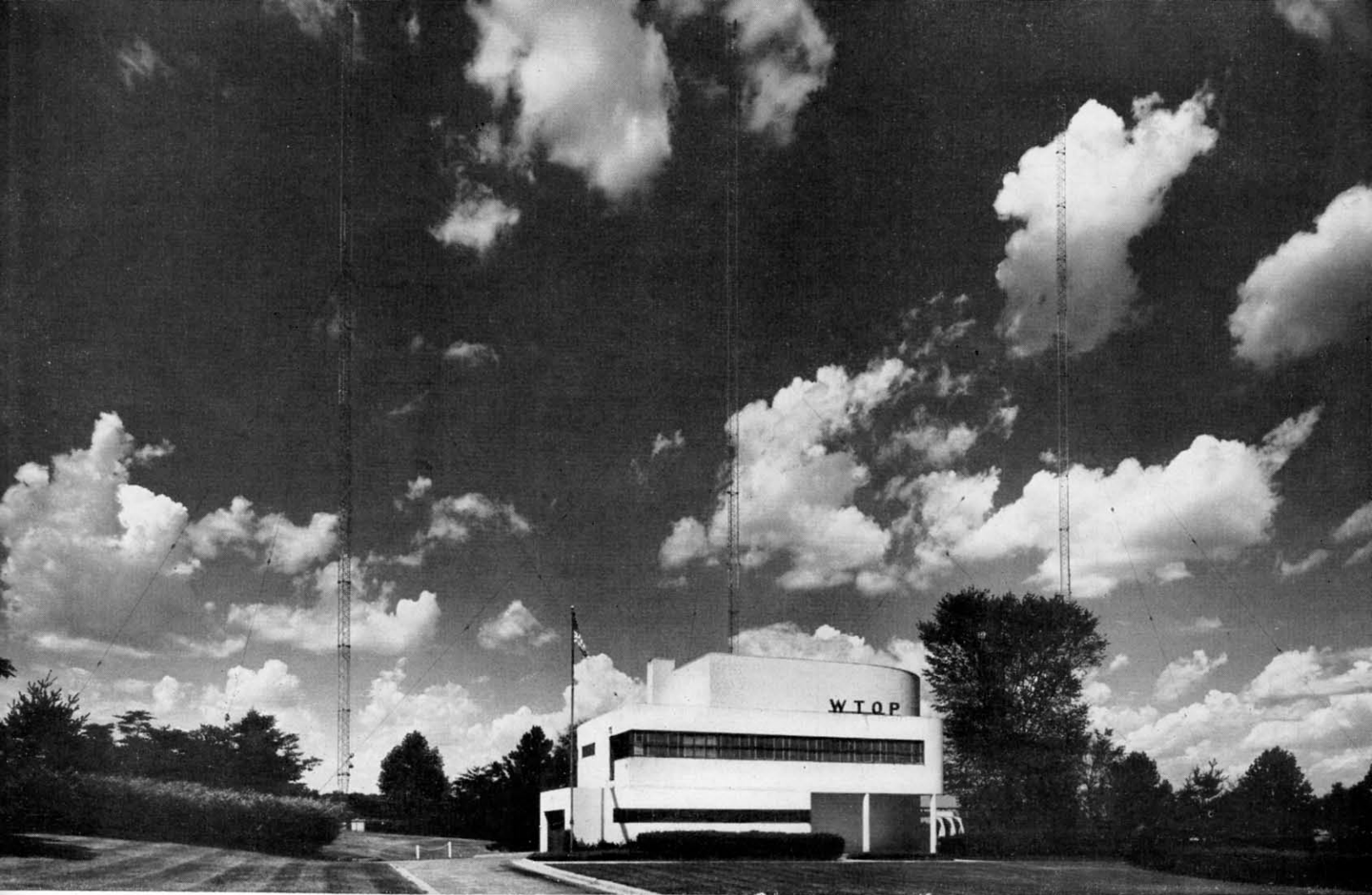


FIG. 38. Three 337-foot towers on the 13-acre site at Wheaton, Maryland, have identified WTQP's modern 50 KW transmitter building since 1940.

editing and high fidelity can be compromised. To facilitate the use of disc operation an efficiently laid out room on the third floor of Broadcast House contains two disc recorders and two tape machines all interconnected so that dubbing and other operations can be accomplished.

As the news center of the world, Washington, D. C., demands a fluidity of operation of unprecedented scope. WTQP meets these demands by providing an appreciable niche in the lower recesses of Broadcast House for remote facilities. A spacious room near the garage provides storage and work area for the maintenance of the special remote gear peculiar to WTQP's requirements. Ten remote amplifiers, a completely adapted RCA 76 consolette, tape and disc equipment, microphones of all types, and special microphone bridging devices for multiple feeds have been allocated accessible space on the shelves which occupy the wall space.

WTQP's remote gear is supplemented by special equipment required for multiple feeds. On the occasion of presidential pickups, WTQP's engineers because of their familiarity with the routine of travel and functions, have become an important part of the presidential retinue. WTQP-CBS labelled RCA OP-5s have been a familiar sight on presidential remotes. When called upon, WTQP's remote crews provide other networks and independent stations with

programs from its microphones. This is accomplished by a bridging amplifier which furnishes program at microphone level so that the receiver may produce and direct his own program. In this manner the President's speaking stand is unencumbered by a battery of microphones. The bridging amplifier has been designed so that 10 points can be fed and an important aspect of the device is the isolation provided at each point. Short circuits or cross talk has negligible effect on the remaining circuits. Two bridging amplifiers of this type are customarily used on presidential pickups so that emergency measures can be taken.

A modern building of contemporary design houses WTQP's big voice at Wheaton, Maryland.

At the transmitter six engineers and

their supervisor, William Kriz, watch over the Doherty high efficiency 50 KW. The Building is circular with the transmitter forming the nucleus. The ground level contains the garage, storage facilities, incoming power equipment, etc.

Continuity of service is assured by two incoming power lines. Automatic devices interchange the lines in the event of failure of the regular power line. Should all power sources fail, a 95 KW gasoline driven Fairbanks-Morse generator located on the ground level is automatically brought into service by the same control mechanism. Sufficient power is available from the generator to furnish building utilities and the transmitter on reduced power. WTQP operates 24 hours a day with efficient uninterrupted service.

FIG. 39. The operating position in Studio 4 sub control room affords 100 per cent visibility into the studio. The RCA 76 consolette dominates this scene. The nearby 70C turntables and the extended control panel lends to the ease of operation.

