WISH INDIANAPOLIS

WISH...is a dream

The engineer's dream above is the master control room at WISH. The streamlined transmitter installation and the factory-assembled test equipment racks on the following pages are also those of WISH. This station is an outstanding example of the value of careful planning and the use of equipment of coordinated design.

by STOKES GRESHAM, JR. Chief Engineer

THE MASTER CONTROL ROOM

The WISH master control room equipment includes four complete program channels, each having all the necessary amplifiers —including pre-amplifiers, booster amplifier, line amplifier, and monitoring amplifier—required for operation independent of the rest of the system. These amplifiers, the associated switching and control relays, and the audio monitoring and test equipment are mounted in six streamlined cabinet-type racks. All switching is accomplished by push-button controls located on the master control desk. Circuits are arranged so that in ordinary operation no patch cords are required. Normalled jacks are provided, however, in the input and output of all amplifiers, the output of all microphones and turntables, and in all incoming and outgoing telephone circuits. Together with numerous "multiples" these add up to a total of 1056 jacks. They allow any unit in the system to be patched-out and another substituted in less time than it takes to tell about it. The racks, with all equipment, were completely assembled and wired at the factory with all inter-rack wiring being brought to terminal boards at the bottom of each rack. The back of these racks is as neat as the front!

The master control desk is similar in design to those now used in many RCA-equipped stations but has, in addition, a number of special features incorporated to meet the particular requirements of WISH. There are five separate panels on this desk, each being associated with a particular function of the control system. Referring to the illustration and reading from left to right, these are (1) the Studio "A" control panel, (2) the MCR-NET-REM control panel, (3) the master channel monitoring and switching panel, (4) the Studio "B" control panel, and (5) the Studio "C" control panel.

The Studio "A" control panel has four microphone input positions, one spare input position, and mounted in line with the input attenuators, a master attenuator. An off-on switch is associated with each microphone position. An output switch provides for audition, rehearsal, or program. In the rehearsal position the output is not fed to the office and studio monitoring bus.

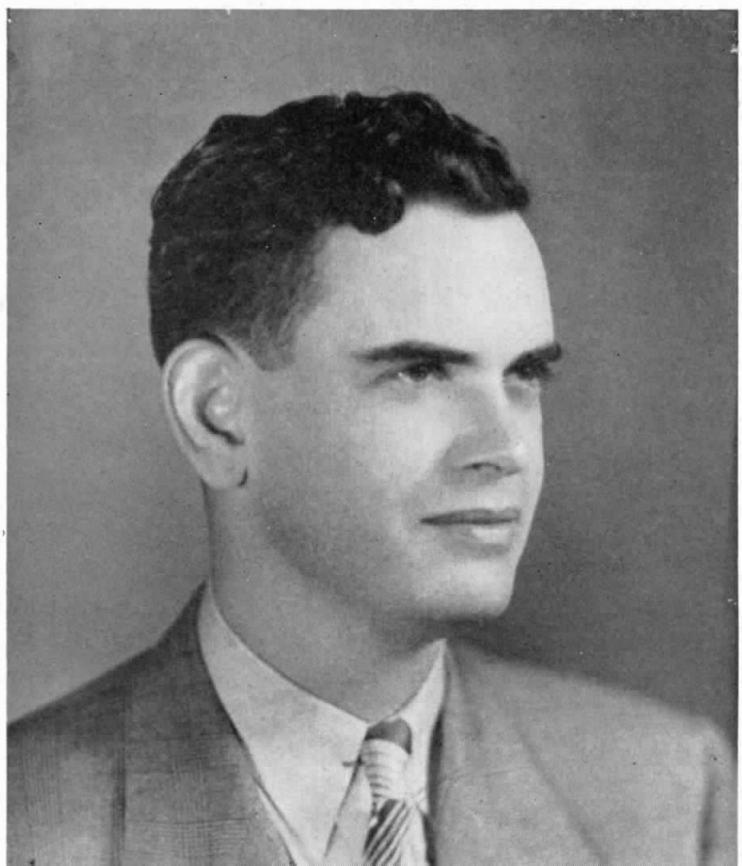
The Studio "C" control panel, located at the right of the desk, is similar to that of Studio "A" except that it has three, instead of four, microphone positions. On each of these panels, and that of Studio "B," in addition to those previously mentioned, controls are provided for cue selection and volume to speakers in the respective studios. On the "A" and "C" studio panels there are selector and volume controls for two ceiling mounted MCR speakers. All selector switches, including those in the offices, are provided with eighteen program sources.

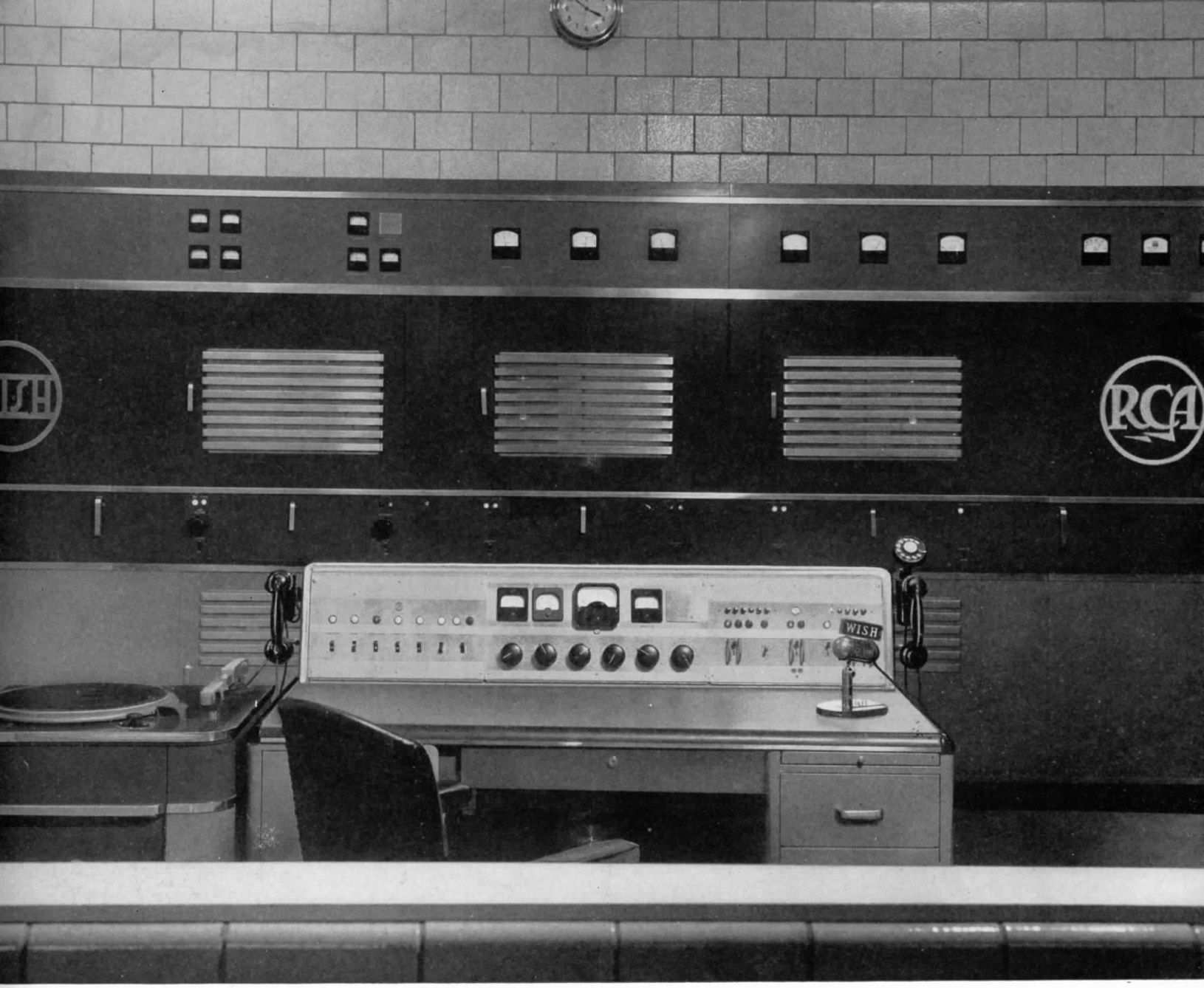
The Studio "B" control panel has two microphone input positions, a turntable input position, and a spare. These controls operate in conjunction with an announcer's control console in Studio "B." The latter includes the mixers for the two turntables located in this studio, a starting switch for each turntable, and a control for the announcer's microphone.

The MCR-NET-REM control panel provides facilities for mixing of the control room microphone, two remotes, Blue Network, and the two turntables which are in the master control room. These inputs may be used in various combinations or operated independently. Also included on this control panel are key switches and push-buttons for cueing and talkback to five remote points, and two override circuits, one for "call-ins" from remotes and one providing for Studio "B" or master control room "override" of any of the four program channels. The latter is indispensable in fading programs to make station breaks, or in originating sound effects or theme music in Studio "B" or master control room.

The master switching panel contains a master attenuator, a selector switch, and a volume indicator for each of the four channels. The selector switches are of the push-button type, mechanically interlocked and so arranged that the input of any of the four master channels can be bridged across the output of any one of the three studios, the master control room, the network, or either of two remote positions. The other switch positions are spare and off. The transmitter is fed by a five-position push-button switch which selects the output of any one of the four program channels or connects the Blue Network line directly to the transmitter. The latter can be used in case of power failure or when it is desired to operate without an operator at the studios.

STOKES GRESHAM, JR., Chief Engineer





THE TRANSMITTER AND CONSOLE

The modernistic WISH transmitting plant was designed especially to house the streamlined 5-DX transmitter and the phasing equipment, supervisory console, turntables, speech input and test equipment used with it. The interior was laid out by the writer with the idea of utilizing to the best advantage all the available floor space. The transmitter is built into a wall enclosure, the door in the end panel of the transmitter giving access to the rear. The phasing equipment is located in a separate room at the right of the transmitter. All essential switching and monitoring can be accomplished from the supervisory console. A 70-C1 turntable is located next to the supervisory console for use in testing and emergency program.

Wiring between units of the 5-DX transmitter and interconnections to the speech racks, test equipment, supervisory console, and phase branching controls is carried in a readily accessible duct in the concrete floor. All interwiring was made with lead cable. Modulation transformer and reactor, high voltage filter rack, and associated equipment are located at the rear of the transmitter proper. The high voltage transformer is located outside the building.

TEST AND MONITORING EQUIPMENT

WISH

The test equipment, monitoring equipment, and audio equipment at the WISH plant are assembled in three cabinet-type racks which are located to the right of the supervisory console as shown in the illustration above. This equipment, which includes duplicate audio channels, limiting amplifier, modulation, phase and frequency monitors, beat frequency oscillator, and test equipment, is unusual in that it was entirely factory-assembled and wired. In most stations this part of the plant equipment is a hodge-podge of different types of units in an assembly which, like Topsy, "just growed." The WISH equipment is composed of units of coordinate design, assembled in the factory, provided with a full set of monitoring jacks like a de luxe studio installation, and wired according to "custom-built" standards. All of the units match in color, and they match the transmitter and console not only in color but also in styling. This whole installation is a particularly good example of the trend toward integrated systems which are factory-assembled, factory-wired, and factory-tested, but which, because they are "custom-built," can still provide for individual station requirements and the personal preferences of station engineers.