

A STREAMLINED KILOWATT FOR WCAR

Pontiac, Mich. Installation Is RCA-All-The-Way

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Chief Engineer, WCAR

WE are mighty proud of the new installation at Pontiac, and if the pictures shown herewith don't convince you that you'd be too—then we ask you to read a bit further while we set forth a few reasons why.

Service Against Odds

The installation is RCA—ALL the way, from microphones to antenna and the transmitter was assembled in the new building two days before beginning regular broadcasts, and has operated with no failures or interruptions due to mechanical failures.

The Studio console was literally jerked from the production line, received the afternoon before going on regular schedule, and has never failed to feed program on schedule.

We think that, in itself, is something not only for us, but the manufacturer to be proud of, for, when you consider the plaster, dirt, cold damp air and other possibilities for failure that existed during the first week's operation, the equipment would have to be good to stand the gaff. Smudge pots ran in adjoining rooms, doors were sealed with cardboard, and the transmitter took to the ether like a baby to its bottle, and never let out a whimper. During this time construction had been a hardship on the technical staff, and Stearns wore five pairs of socks and three pairs of pants while soldering radials under the 230 foot Truscon antenna. The installation was made by the light of an extension, and heat was furnished by a couple of borrowed spot heaters. Permanent wiring was piped in the night we began equipment tests, and a furnace was placed in operation to heat a great portion of the air over our site, two days later.

We were told that the wall board could have such wide cracks because the humidifier

didn't work on the furnace for some time—but it hasn't made a single unit pull apart in the little 1G.

Styling and Design

The building perhaps looks rather familiar to many of you who have seen the various bits of styling by John Vassos and Lynn Brodton—it was in the main—sketched out by Mr. Brodton as a housing for the floor plan which we wanted to include, and resembles the original sketch with the exception of a skylight of glass brick which was eliminated because of practical considerations in construction and cost. The architect was Mr. L. J. Heenan, of Pontiac, and the color schemes were worked out by him and our Vice-President, Mr. Earle C. Kneale.

The fundamental things we kept in mind in making the entire plant could be listed as follows: Appearance, Ease of Maintenance and Economy.

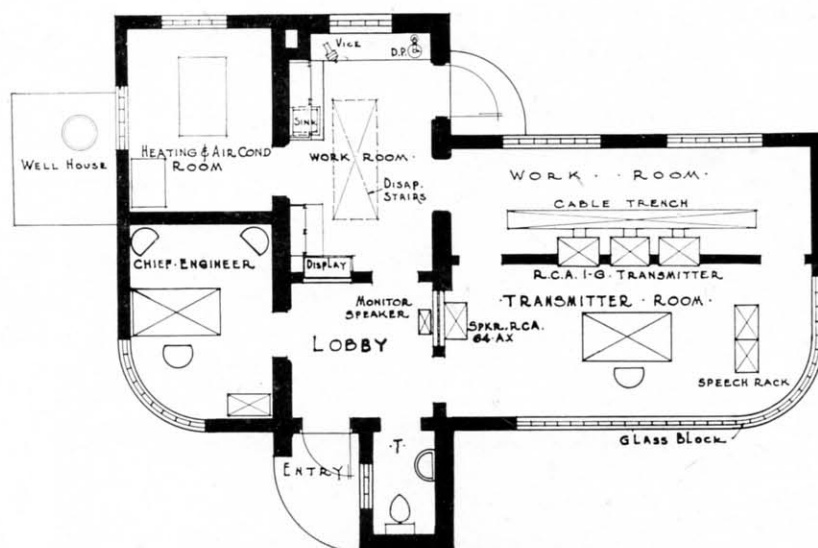
Fundamentals kept in mind in the design of the entire layout have so far proved worthwhile—such as accessibility, appearance, low operating cost, trouble free operation.

We also held to certain obvious fundamentals, when drawing up our plans, and you will note them in the photos. We wanted a work room with good light and plenty of drawer space, a storage room for the various bits that accumulate over a period of time. We were convinced that the glass brick would give us plenty of free daylight, and seal the building up tight from harmful dust and dirt and cold. We think we have leaned over backwards in trying to visualize our needs for floor space and still have not gone beyond a reasonable amount for walls and roofs.

The building is heated, and will be cooled, with a small air conditioning unit, which burns oil and cools with water from our 130 foot well. All air is filtered, which enters the building or recirculates through the furnace, so we don't expect trouble from dirt and bugs.

To prevent upsetting the air conditioning unit, a small blower and thermostat arrangement comes on at eighty degrees behind the transmitter, and blows the heated air out through the roof. It shuts off when the tem-

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Floor Plan WCAR.

WCAR

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perature has dropped back to a preset value, and so long as the doors at each end of the transmitter units are kept closed, the building is little affected by the heat dissipated by them.

The equipment installed, besides the RCA 1-G includes two racks containing the limiting amplifier power supply, monitoring amplifier, limiting amplifier and jack terminations, equalizer and line supply terminations. Thus all audio equipment fills one rack, and circuits are so normalled through, that the monitoring amplifier may be used as an emergency unit for program, or the speakers may be patched through to any circuit desired.

Racks

The right hand rack consists of all monitoring equipment requiring RF voltage feeds, and from top to bottom they are RCA Frequency monitor, and deviation meter. Modulation monitor and the 69-B Distortion Meter had not been installed when the photos were taken.

Along the back inside of each rack cabinet is mounted a 6 foot strip of multi-connection 110 AC outlets, with slots for 110 volt plugs each six inches.

Speakers are provided in the control room, (which is an RCA 64AX) in the Chief Engineer's office, lobby and work room.

The flooring is done in asphalt mastic tile. The floors are light blue in all rooms but the workshop, which is marbled brown, and the wall trimming is done in dark blue. This can be seen as an edging under the transmitter mounting base. The lobby floor contains the design of our letter heads—signifies the Earth, Day and Night, and ether waves penetrating the whole.

As the visitor enters the lobby, he views the display cabinet containing various tubes used in our modern unit, as compared with earlier types, and gets a clear view of the entire transmitter room, as shown in the photo. Lighting in the transmitter room consists of one strip of fluorescent tubing 12 feet long, but is never

required during normal daylight, due to the long narrow glass brick window which travels the entire length of the room.

Behind the speech rack, along the blue tile border, is provided a 110 volt strip outlet for scopes, irons, etc. and the same handy gadgets are found mounted above the workbench, in the Chief Engineer's office and upstairs under the windows of the "Storage" space. Benches can be built along the windows of the second floor, where experimental, or repair work requiring unsightly equipment can be done. One tube of fluorescent lighting illuminates the workbench and workshop room.

Looking out one of the small plate glass windows to be found in the front door, one views the green grass lawn which was formerly a small golf course. It extends past the tower—on out to busy Telegraph road—and since there is heavy traffic going by, we have placed four flood lights to light the cement block building from sunset till midnight.

Some day, we may landscape our enormous front yard, which was formerly a golf course but for the present we have built a "Service Road" in from the highway behind the plant, with a parking area for engineers and visitors. We wanted to keep it as close to the county road as practicable to keep the cost and maintenance down. Power lines and telephone cable were run in overhead, since they could come down the fence line, and be nearly five hundred feet away from the radiator.

Transmission Line

The transmission line is 422 feet long, and was made an open wire line, so, as someone else once said, "We can look out the front window, and see if it's still there." The cost of the line was kept low, by buying poles from a dealer in posts for cabins and fences, trimming them off with a draw knife and painting them, and putting the whole line in ourselves. The Antenna tuning unit is mounted away from the tower, on 4 x 4 posts and a platform, large enough so that test and measuring equip-

ment can be placed in front of it. The lighting choke comes up from buried conduit, in a metal box built to house it.

The antenna is under lock and key at the fence gate—the fence going around the base and being equipped with barbs on a projection.

Under the pole line is buried a four inch copper strap, along with two conduits which contain pairs for a phone line, a remote meter, and lighting wires. The strap runs directly into the inter-wiring trench of the transmitter and right on through to the 6 inch well casing, which in turn goes down through the 130 feet of clay (the blue wet kind). All reinforcement steel, copper lintels, drain pipes etc., are bonded with similar four inch strap to the main buss to ground.

With the above equipment, we pump a beautiful signal into Pontiac and more of the surrounding territory than we had expected.

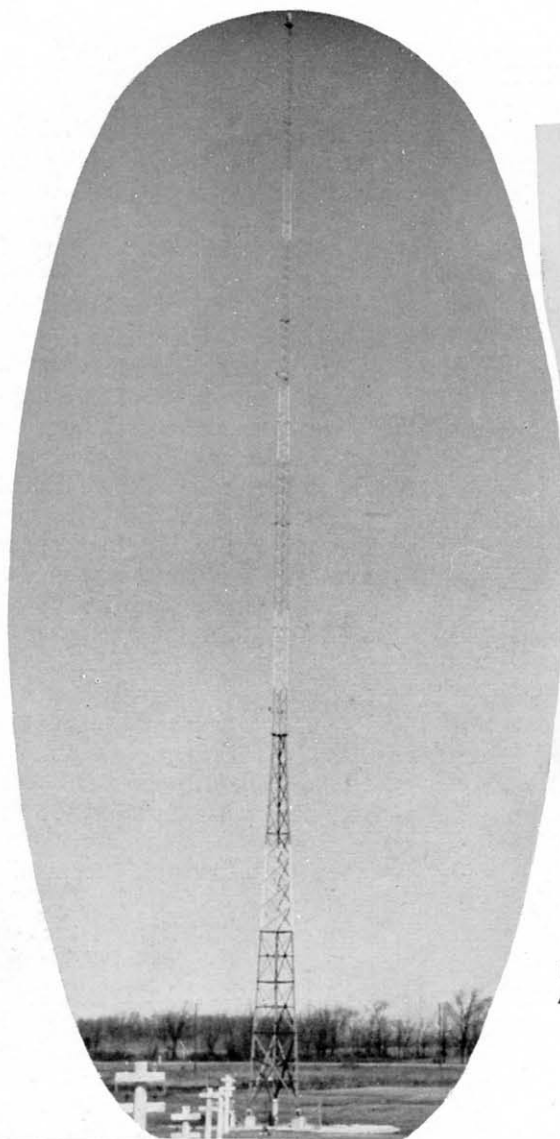
The material which we feed into this streamlined job, originates in the Riker building in downtown Pontiac, and there we find almost an entire floor devoted to Pontiac's new industry—WCAR.

The front portion and one side are devoted to executive offices, sales, continuity, and "Clients Audition" room. Off the main corridor, one enters the "Public Observation Room," which gives a view into Studio A and the control room.

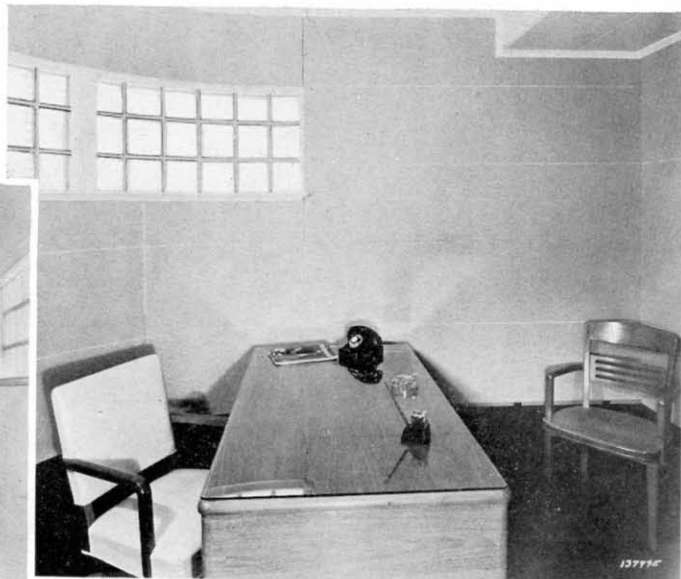
Programs where public view is not desired, are conducted in Studio B which is to the operator's left. In the rear corner of the studio layout is a "Cut in" booth, which can be used for news and breaks, when both studios are in use.

Along a corridor and next to the outside windows, are the program offices, Secretary, Program Director, News room, Announcers' room, and Music Library. All these latter are isolated from public travel.

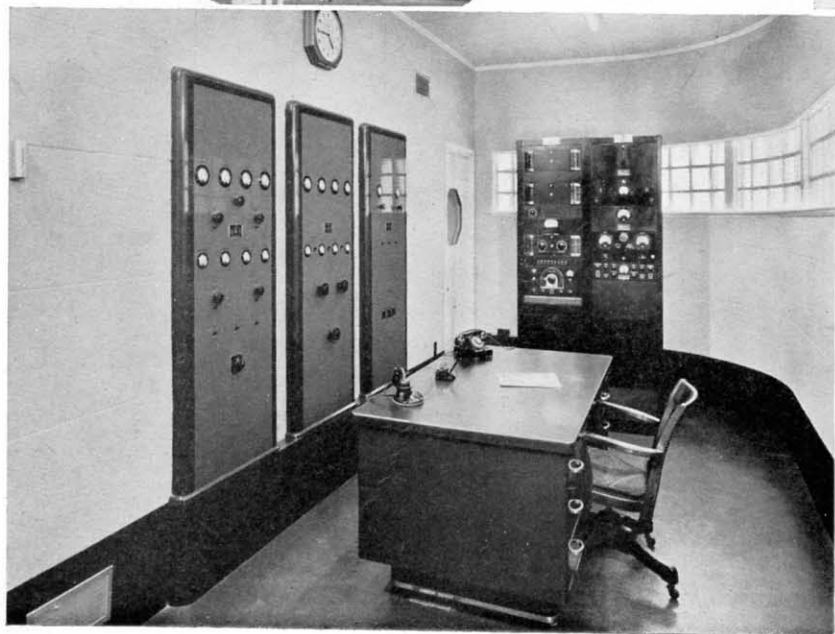
WCAR—STREAM



Above: Elevated control room.

Left: WCAR's
Antenna.

Above: Chief engineer's office.

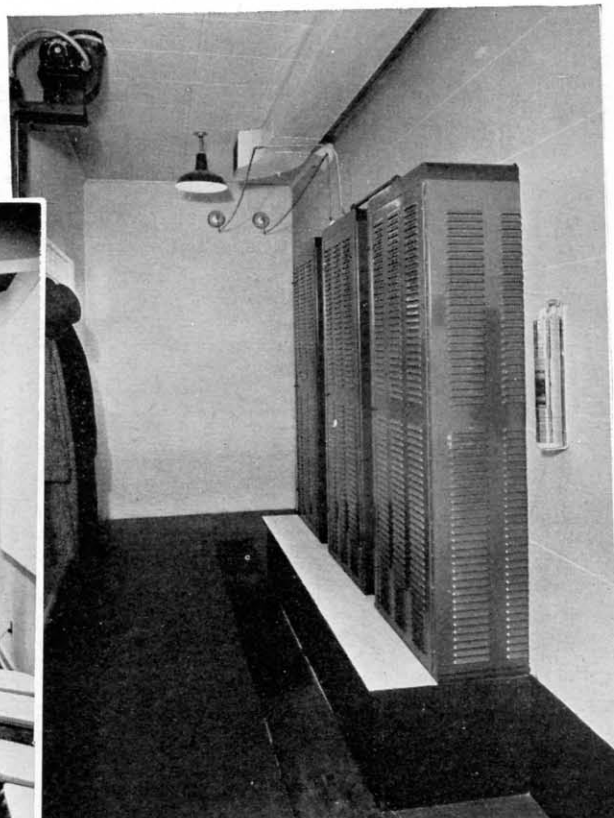


Left: Front view of the transmitter.

LINED BY RCA

Right: Rear view of the transmitter.

Below: One of the Studios at WCAR.



Above: Work shop—WCAR.

Right: Transmitter as seen from lobby.

