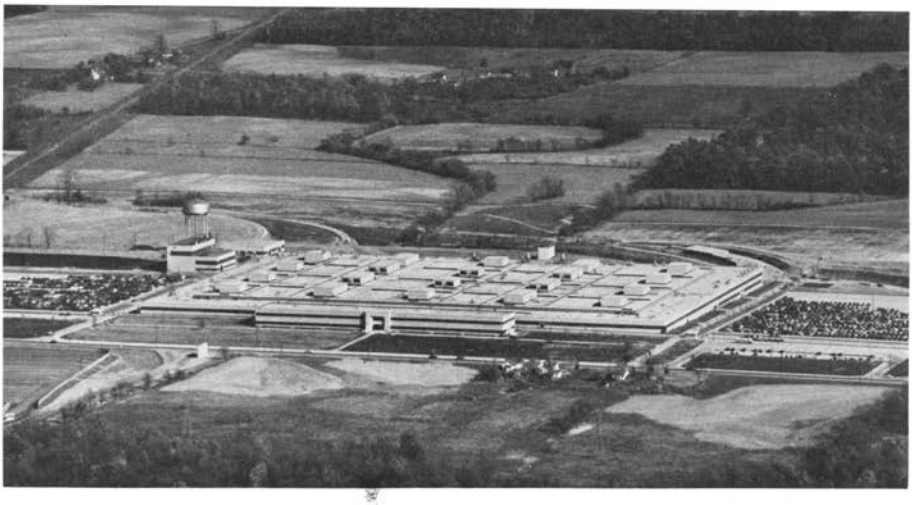


Indianapolis Plant —

Western Electric's New Home of the Telephone Instrument

Engineers of Station Apparatus Development who used to take a train to Chicago and then a cab to the Archer Avenue plant of Western Electric are learning a new route. Now they go to Indianapolis, then six and one half miles northeast on Highway 100 to a brand new plant on Shadeland Avenue. This is where the telephone instrument is going to be made from now on.

Located on a 133-acre tract, the new plant was constructed under the supervision of Western Electric engineers. It was designed especially for the single purpose of telephone instrument manufacture, just as the Allentown plant was designed especially for electron tube manufacture. Over 5,000 people are employed in producing some 8,000 telephones each working day. These include more than eighteen different types of telephone sets, one of which is the new 500 type set designed by the Laboratories and now undergoing field tests.

Actually, the Shadeland Avenue plant is the culmination of a transfer in manufacturing location for telephone sets begun a few years ago, when leased space near the Indianapolis Speedway was acquired and assembly of the combined set started there. This was in anticipation of the new plant replacing the Archer Avenue factory.

Four principal structures with auxiliaries, including a 500,000 gallon water tank comprised this new addition to Western Electric's chain of manufacturing plants. The main manufacturing building consists of a main floor and a partial lower level, containing over thirty acres of floor area. The building houses several thousand machines beneath the more than 2½ miles of overhead conveyor carrying apparatus and parts to and from assembly operations. Surrounding the manufacturing area on the main floor is an 80-foot wide periphery partitioned off for special process rooms, treatment rooms, shop offices, cafeterias, rest rooms, and first aid stations.

The office building, consisting of two stories, is about 500 feet long and 76 feet wide. Besides the offices, it contains a hospital completely

This drilling and tapping machine performs seven different group operations simultaneously on the frames of telephone dials, turning them out at the rate of 750 an hour.

equipped for first aid work and examinations.

In addition to housing the boilers, the boiler house is equipped with pumps, an electrical substation, and five rotary air compressors.

A special process water cooling system has been provided to furnish cooled circulating water to air compressors, refrigerators, die-casting and molding machines, etc. By this method, 97 percent of the water passing through the cooling system is reused, thus reducing the demand for new water to only about 1250 gallons per minute. The controls and pumps for this process are housed in a one story brick pump house. City water is piped directly to the plant from the Fall Creek Reservoir six miles away, but as added protection, the 500,000 gallon elevated water tank was constructed as a reservoir.

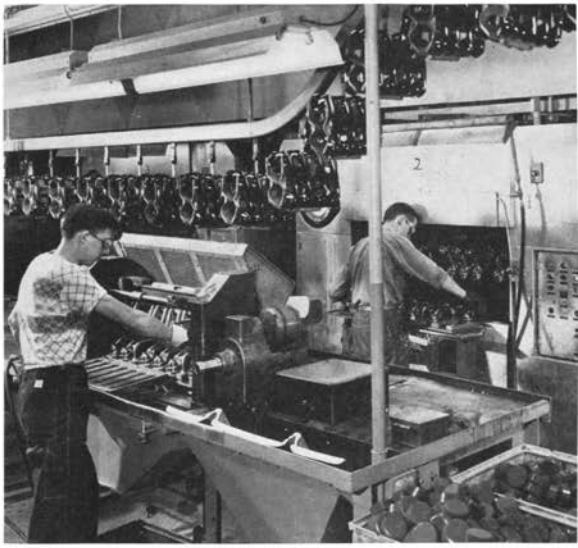
The new plant is completely self-sufficient. Every step from raw material to finished product takes place in its shops or on the main assembly lines themselves. Its own control laboratories continuously check the quality of raw materials and finished products. There is even an oil refinery that salvages oil used in manufacturing operations and makes it suitable for reuse. By means of a special pneumatic system, plastic molding powders are forced through pipes from outside storage tanks directly to the plant's molding rooms. Throughout all the operations, there is scarcely a lost motion. Each assembly step is the last word in efficiency.

Dust control, so essential in the manufacture of precision telephone sets, is accomplished by introducing filtered fresh air into the building and maintaining the inside atmospheric pressure slightly higher than the outside. The ventilating system is so adjusted that the higher the temperature outside, the greater the volume of fresh air pulled through the plant—on a hot day, the big fans can move two and one-half million cubic feet of air per minute through three and one-quarter miles of ducts.

Since a great quantity of metal plating is done in the plant, special attention is given to the treatment of its wastes before it enters the city sewer, to make it harmless to human life and to sewer lines, and to prevent it from interfering with the city's sewage treatment process. Acid and alkaline water is passed through six tanks and treated with caustic solutions to assure that it is not acid. Cyanide wastes are retained in tanks long enough to oxidize them with chlorine before releasing them into the sewage systems.

Besides including the most modern equipment and methods of manufacture, the plant has been designed as a "human" place too—liked both by the people who work there and by the community of which it is a part. It is a place of glistening tile walls, dust free fresh air, abundant light. It has three attractive cafeterias, its own kitchen, bake shop, and, as previously mentioned, a modern hospital. Adequate space for employees' cars is available in parking fields capable of accommodating 2450 cars. A 470-foot square athletic field is being constructed which will be equipped with two soft ball diamonds, badminton, volley ball, and basketball courts; at other locations horseshoe pitching areas and shuffle board courts are provided. The new plant represents the best in modern factory engineering.

From these discs of molding powder resembling hockey pucks which you see in the right foreground, telephone handset handles will be made. First the discs are electronically preheated in a machine at the far right that raises them from room temperature to 260 degrees F in 27 seconds. Then the preheated discs are put into dies which in turn go into molding presses such as the one seen in the center background. In three minutes, the new handset handles emerge.



Colloquium Meetings at Deal and Holmdel

W. D. Lewis talked on *Light Route Radio Systems* on November 3 at Holmdel. Mr. Lewis pointed out the need for such light route systems and described one approach to the problem. Some of the components which have been developed and some still under development