



MODERN PLANT of Teletype Corporation is in suburban Skokie, Illinois.

THE NEW LOOK AT TELETYPE

Our biggest subsidiary
has a new plant,
record sales and
an array of new products

TELETYPE'S CHIEF executive Goetz
with vp's Carmichael, Zenner, and
Pagenkopf in sales showrooms.



FOR MORE than two generations, the trade name "Teletype" has been synonymous with fast, reliable telegraphic communications. The trade name belongs to Teletype Corporation, W.E.'s biggest subsidiary, and the manufacturer of products which add substance to the "telegraph" in the A.T.&T. corporate name.

For thousands of newspapers all across the United States, Teletype equipment is the means by which the news comes from the source. And in offices and factories, in practically every business imaginable, the teletypewriter is an indispensable communications tool. The military services use vast communications systems built around Teletype equipment. And regular watchers of TV newscasts have been *listening* to Teletype equipment for years—for it is a teletypewriter that provides the staccato sound in the background.



**Teletype's success still
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of high quality**

But it is in the field of business communications that the future is brightest. As businesses have grown and established distant branches, the need for communications has naturally grown with them. Added to this has been a new idea, usually referred to as "Integrated Data Processing," which has added further impetus to Teletype's sales.

Teletype equipment has an array of interesting talents useful in this new field. For example, Teletype printers can type on marginally-perforated business forms as well as the more familiar plain message paper—making it possible for many business firms to transmit such things as invoices or payroll checks, from a central location to distant points. Teletype equipment can also produce punched tape and transmit from tape. Punched tape serves many purposes in Integrated Data Processing, including feeding of information to or taking information from computers and other data machines. With this new factor increasing demand for Teletype products, the company's sales for 1960 are well ahead of sales for 1959.

This year the Teletype Corporation is completing occupancy in a brand new, ultra-modern headquarters plant in Skokie, Illinois—some 12 miles northwest of "Wrightwood," its original plant in Chicago. Teletype also has a building at 4100 Fullerton in Chicago and a small manufacturing plant in Little Rock.

The new Skokie plant complex is on a 105-acre site which extends 2,160 feet along Touhy Avenue. A flagpole with the Bell System flag flying beneath the American flag stands proudly before the main entrance, in the middle of a large expanse of new lawn.

Teletype's new manufacturing building, which is similar in design to W.E.'s newer plants, encloses about 500,000 square feet of floor space. It houses a complete machine shop and extensive tool-room facilities for the production and assembly of the 30,000 small precision parts used in Teletype equipment.

The two-story administration building containing 170,000 square feet of floor space was first occupied in June of this year. Teletype has its own sales force and sales rooms here.

Executives and engineers from the major accounts can watch live demonstrations of Teletype equipment and systems. The main showroom is a sparkling, modern layout that is an appropriate backdrop for the Teletype line.

Teletype also has its own 350-man research and development staff. They occupy a 120,000 square-foot research center that contains laboratories, offices and a shop for the construction of experimental models. It has a "torture testing" chamber and various other special rooms for scientific measurements.

While there is a new look at Teletype, the success of the equipment it manufactures depends heavily on an old-time tradition of high quality. Precision craftsmanship that has characterized Teletype down through the years is very much in evidence. Allowable tolerances on individual parts may get down as low as one ten-thousandth of an inch. Such extreme care in the fabrication of individual components and parts has earned Teletype equipment an enviable reputation for ruggedness and reliability, even where field conditions may be difficult, as in the arctic or the tropics.

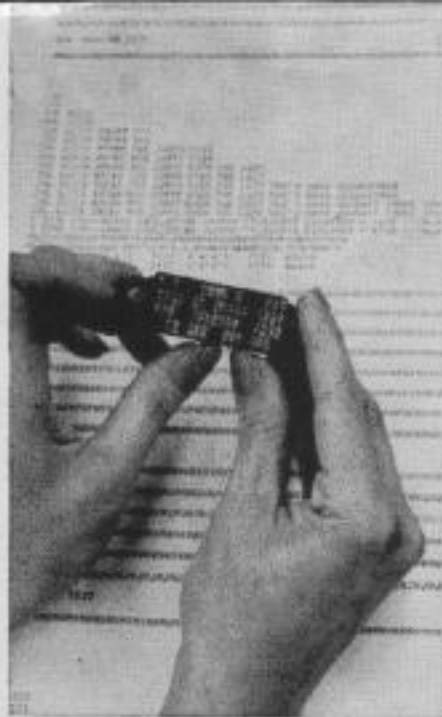
President Maurus T. Goetz (no relation to W.E.'s late President Arthur B. Goetze) is a home-grown product. He started his career with Teletype in 1929. Vice President Walter J. Zenner, who heads the Research Center, came to Teletype about the same time. On the other hand, Vice Presidents D. R. Carmichael (Sales and Finance) and W. H.

INSIDE STORY. Internal mechanisms of Model 28 teletypewriters get final adjustment at new Teletype plant. Below, Ann McGregor displays close-tolerance timing cam, key part of '28' series.





**'We have a strong feeling
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Miniature typebox in "28" has replaced bulky type basket in earlier models.



98 YEARS. That's the experience represented by tool-design veterans Dressen, Durben and Nordstrom.

Pagenkopf (Manufacturing) began their careers with Western Electric.

Teletype's work force totals 5,400. The company's employees have their own Pioneer council, with 348 active and 98 life members.

In addition, 33 Western Electric Supplies Service employees are resident at Teletype. They are the coordinating unit for procuring Teletype equipment for the various distributing houses, Long Lines and operating telephone company locations.

As modern as the new Teletype plant, is the company's new equipment line. The "28" teletypewriter, the mainstay of the line, was first offered in Bell System service just six years ago. The "28" series machines operate at up to 100 words a minute for page teletypewriters and up to 200 words a minute for some tape punching units. The previous model—No. 15—operated at 60 words per minute. And the new 28's are much more versatile. They offer a wide range of data-handling facilities for page printing, tape punching and tape reading. Each is designed to add speed, economy and dependability to record communications systems.

Teletype machines operate by the transmission of electrical pulses over communication channels from a sending unit to one or more receiving sets—as close by as across the room, or as far away as outer space. The sending unit creates pulses when the typewriter-like keys are pressed. The receiving unit converts pulses back into mechanical action, imprinting letters, figures, or other characters on a roll of message paper or fanfold forms. In the Teletype code, each letter or number is represented by a distinct combination of electrical pulses.

Key to versatility of the No. 28 line is a unique device about the size of a carton of king-size cigarettes that is known as a "stunt box." "Stunt" is an old printing telegraph

How Teletype puts emphasis on fast communication of data

term for nontyping functions such as spacing, carriage return, linefeed or switching. The stunt box makes it easy to add extra features to the teletypewriter—horizontal and vertical tabulators, for example. It also makes it possible to turn switches on or off at remote locations.

One of the principal applications of the stunt box has been to provide an economical selective calling system. Messages can be directed only to machines located at places that are actually concerned with the information being transmitted—a particular Works location, for instance. Printers in a system that are not called in for that particular message are always on the alert, their stunt boxes continually “riding the line,” waiting for specific information to be directed to them.

Western Electric is Teletype's No. 1 customer by virtue of its purchases for the Bell System. TWX (teletypewriter exchange) service is a nationwide network similar to long distance telephony, except that printed messages rather than voice messages are transmitted. The service was inaugurated in 1931 with a handful of customers, listed in a directory about the size of a booklet rack pamphlet. Today TWX has 52,000 subscribers, and is scheduled for conversion from manual to dial operation in 1962.

Even more spectacular has been the growth of private line teletypewriter systems leased by the Bell System to business firms. The roster of customers reads like a “Who's Who” of American business, and there are 80,000 revenue-producing stations in this service.

Second largest user of Teletype equipment is the federal government. The Federal Aviation Agency has an enormous network for collecting and disseminating weather data and the military services have globe-circling networks for various defense and logistics operations. Teletype equipment is part of the DEW Line and SAGE communications systems and will be used in the 18 stations which will track the first U. S. man in space.

Teletype's third biggest customer is Western Union, followed by numerous other important users, both domestic and foreign.

As has already been indicated, a major reason for the steady growth in Teletype Corporation sales is data communication, arising out of the need to cope with the staggering amounts of information that are required in modern business operations. The potential has been described by A.T.&T. President Kappel: “We have a strong feeling that in a few years' time data communication will actually exceed in sheer volume the communication of speech.”

Teletype equipment offers not only a means of transmitting data wherever it is needed, but it provides a record of any transaction either in the form of the typewritten word or as a strip of coded tape which can be stored or used to activate business machines. With such versatility, Teletype equipment is ideally fitted for the job of tying electronic data machines together and then getting the information quickly distributed to the field. ▲

HIGH-SPEED TAPE EQUIPMENT: A 1,000-word-a-minute reader-and-punch unit will be added to the Teletype line in 1961. This equipment will work with Data-Phone set-ups over the telephone network or over private lines. One unit will read and transmit information from a standard paper tape and the other will receive and reproduce an identical tape. The new equipment is 10 times faster than the fastest Bell System teletypewriter service now available. This service is not designed to provide printed copy, but the applications for this service are many and varied. The most likely prospects seem to be in connection with inventory control systems, collection of bulk data from outlying branches, and payroll operations.

DELTA AIR LINES SWITCHING SYSTEM: Scheduled for service in the fall of 1961, this will be a new concept in switching systems, in that it will utilize the Direct Distance Dialing facilities of the telephone plant. Teletype is developing the customer station equipment. The principal unit is a modified Model 28 automatic send-receive set which includes a newly-designed card reader unit, designated the Codomat, that permits mechanical insertion of both the telephone number and station address from a rotary file card deck. Teletype is also designing the message center, which will include a translator for converting message traffic addresses into DDD format. It is expected that the line switching concept will eventually replace the majority of automatic private line systems in use today.

AUTOMATIC DATA INTERCHANGE SYSTEM: For the Federal Aviation Agency, Teletype has developed and is building a new high-speed weather distribution system. It will consist of five interchange centers and 30 smaller centers interconnected by a nation-wide telephone facility to form a high-speed party line. Weather data will be collected every 20 minutes by the interchange centers from 750 observation stations on 100-word-per-minute telegraph party lines. The data will then be broadcast on the 857-words-per-minute line by each center in turn and recorded on a programmed basis at all other centers for selective redistribution at lower speed to some 2,500 subscribers throughout the country. The system uses approximately 70,000 transistors, 160,000 diodes, 100,000 magnetic cores, 9,000 relays. It will also involve an estimated 3,300 Model 28 printers and 366 special reperforator-transmitter sets. These last are the “go-between” units for translating the high-speed to low speed and vice versa.