

## *A Sample of Telefax Telegraphy, The Ultra-Modern Facsimile Method*

BELOW IS A SOUVENIR MESSAGE TRANSMITTED BY WESTERN UNION TELEFAX  
THE NEWEST ADVANCEMENT IN TELEGRAPH COMMUNICATION

**T**HIS sample of facsimile telegraphy was transmitted by Western Union Telefax installed in the United States Capitol at Washington, scene of the transmission over a hundred years ago, by Samuel F. B. Morse of the famous first telegraph message "What hath God wrought?"

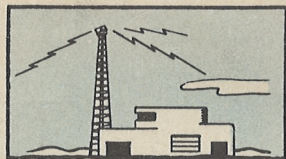
Since that date in 1844 when the course of the world was changed by the transmission of the four immortal words between Washington and Baltimore, many changes have taken place to mark the progress

of telegraphic communication. Western Union is proud of its contributions to these advancements, and of its service to the nation through years of growth and periods of emergency.

Compared to the first slim strand of wire which could carry only one message in one direction at a time, the capacity of wires has been so greatly increased that today hundreds of telegrams can be transmitted in each direction over a single pair of wires simultane-

*(continued on back page)*

ously. By radio beam, which requires neither poles nor wires, more than 2000 telegrams can be transmitted at the same time over a single beam.



RADIO BEAM TOWER

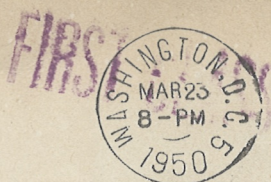
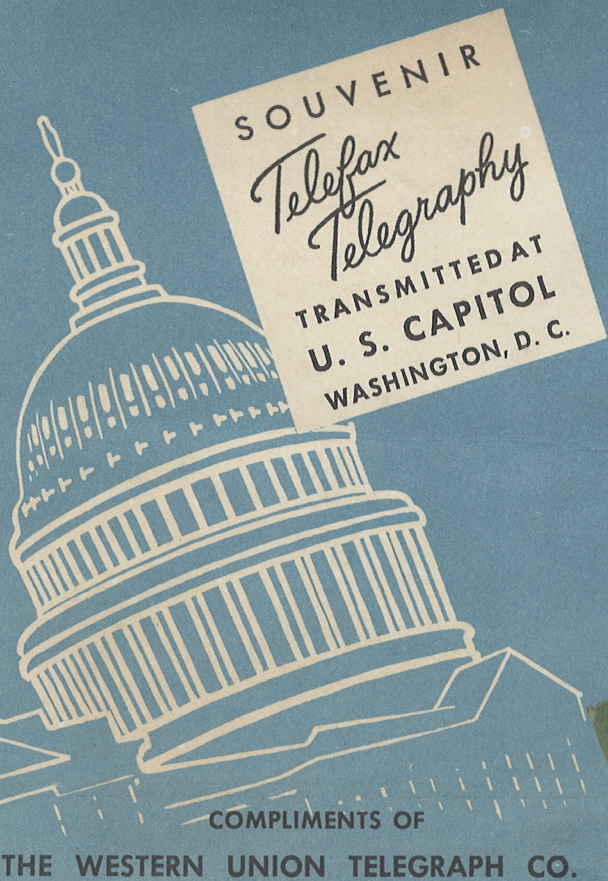
As against the once slow, laborious transmission of words by tapping them out by hand with a telegraph key, telegrams now flash at high speed to their destinations through Western Union Automatic Message Centers strategically located throughout the country. Marvels of mechanical wizardry, these centers route and retransmit telegrams automatically with vastly superior speed and efficiency. Only the push of a button is necessary to speed today's telegram on to desti-

nation where it arrives already typed out, ready for instant delivery.

To better serve the nation, thousands of wire connections provide direct links to Western Union's vast modern communications network and its overseas arteries. To Teleprinter and other facilities by means of which telegraph service is brought directly to the user now is added Telefax in various models.

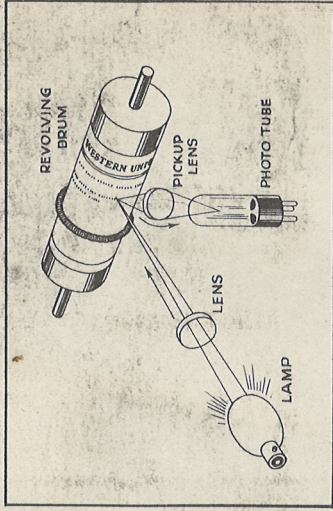
Western Union's network of High Speed Centers is shown on the map in the center fold. Pictured, too, are other examples of the modern Western Union equipment which, today, provide America with a standard of telegraph service unequalled anywhere else on earth.

THE WESTERN UNION TELEGRAPH COMPANY



*For Mr William Conlon*  
*Western Union Tel Co*  
*60 Hudson St. New York City*  
*Rm 1823*

## HERE'S HOW TELEFAX OPERATES



The telegram to be transmitted is wrapped around a cylinder. Light from a lamp is concentrated through a lens upon a small area of the telegram.

Light reflected from this area passes through an aperture so small that a pin-point of light  $1/100$  of an inch in diameter is permitted to pass to a photo-cell.

The photo-cell causes a current of electricity to flow when it is exposed to the light, the amount of current being proportional to the amount of light falling on it. More light is reflected from the light areas of the telegram blank than from the dark sections formed by the words of the message.

As the cylinder upon which the telegram is wrapped revolves, the light moves along the message until the entire telegram has been covered or "scanned" by this beam of light.

This pin-point of light describing fine parallel lines and striking light and dark sections of the telegram causes the current flowing from the photo-cell to vary rapidly and this varying current is transmitted for recording on the distant receiver which is similar to and operating at the same speed as the transmitter.

Teledeltos, a special recording paper developed and patented by Western Union, records the facsimile impression thus created.

TO UNDERSTAND HOW TELEFAX WORKS, LIST MESSAGE

