

Data Communications Systems

'MARCONIDATA'

THE RANGE of Marconidata equipment enables the ordinary public telephone network, or private telephone circuits, to be used for the transmission of digital data from one location to another. Equipment is currently available for transmitting data at medium speeds from a punched paper tape at the transmitting terminal, the data being reproduced as another punched paper tape at the receiving terminal. Equipment is being developed for high-speed transmission from and to other media, such as magnetic tape and punched cards, and for direct connection to a computer for on-line data transmission.

The two currently available types of Marconidata equipment, the H 6000 Series and the H 6010 Series, are designed to operate in conjunction with the British Post Office Data Transmission Sets No.1A, or other suitable modems complying with the C.C.I.T.T recommendations on interface parameters and working speeds, and which provide a low-speed return channel.

The H 6000 Series transmits data at a speed of 62.5 characters/second and can be used with 5-, 6-, 7- or 8-hole paper tape, no modifications or adjustments being necessary on changing from one type of tape to another. Tape spooling and rewinding facilities are provided as standard. The signalling speed over the telephone circuit is 500 bauds.

The H 6010 Series operates at a signalling speed of 600 bauds and the data transmission rate ranges from 75 characters/second with 8-hole tape to 100 characters/second with 5-hole tape. The tape size must be pre-selected at the receiver.

OPERATION

A telephone connection between the transmitting and receiving terminals is established over the public system or a private circuit in the normal way and then, at each terminal, a simple control on the equipment is operated to initiate a fully automatic sequence which causes the data to be transmitted over the circuit and correctly recorded at the receiving terminal. Full telephonic communication between terminals is available prior to the transmission of data, and data transmission may be interrupted for a telephone conversation to take place if necessary.

FEATURES

'Marconidata' equipment is designed to provide optimum protection against errors

which may be introduced by the transmission path. In the 'Marconidata' Equipment H 6000 and H 6010 series, blocks of characters are transmitted together with two-coordinate parity check elements, which ensures a very high order of accuracy in the recorded data, and permits full flexibility in the length of the blocks of characters transmitted.

The two-coordinate parity check technique ensures that each block of characters comprises an integral number of complete data characters, thereby permitting the use of comparatively simple phasing circuits, and also providing obvious advantages for the equipment user.

Where, as is generally the case, the input data contains a parity check for each

character, only one additional parity character per block is required to provide the full two-coordinate check. This leads to high coding efficiency.

When a mutilated block of characters is detected at the receiving terminal the whole block is automatically re-transmitted. In the H 6000 series, the recorded mutilated block is erased from the received data by back-stepping the tape reader and printer and overpunching the data with 'all holes' erase characters. In the H 6010 Series, a block of data is not punched on the tape until its accuracy is confirmed by the parity checks.