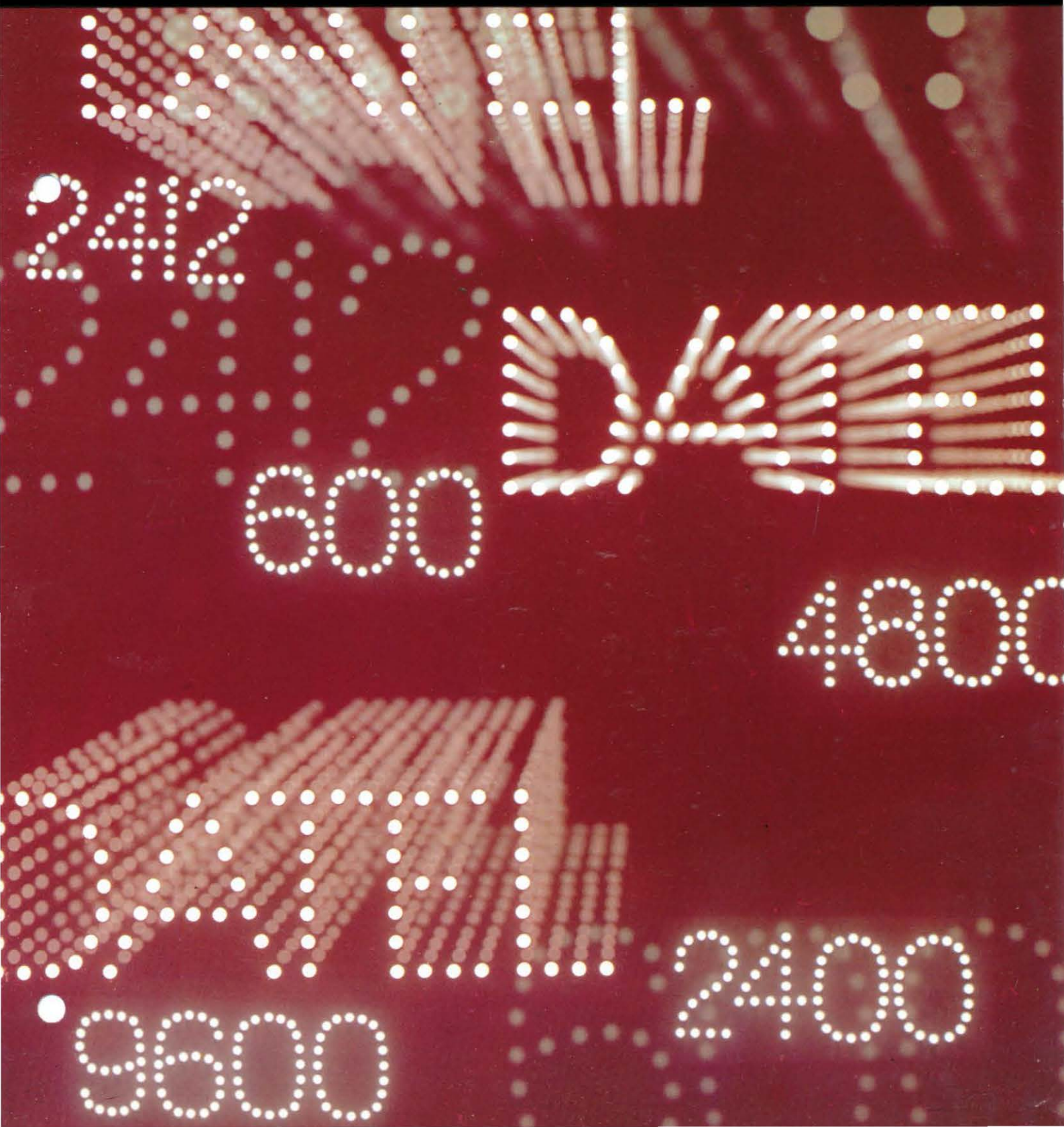
Post Office Telecommunications DLZ 915

Multipoint Circuits for Data Transmission



General

Savings in both circuit and modem costs are generally possible by renting a multipoint circuit.

Circuit costs can be reduced, because instead of renting many point-to-point circuits, data may be concentrated along a single multipoint circuit.

Savings in modem costs are possible, because in general only one modem is required at the central site for each multipoint circuit connected. For example, on a multipoint circuit with eight terminals, only nine modems would be required, compared to the sixteen needed if separate point-to-point circuits were provided to each terminal.

Description

Multipoint circuits for data transmission provide an economical means of sharing a data communications link between a central computer and a number of outstation terminals.

They cannot be used for speech purposes.

A multipoint circuit can connect between two and eleven outstation terminals to a central site, and allows for the transmission of data from the central site to any terminal and from terminals to the central site. Direct communication between terminals is not possible. A typical multipoint configuration is shown in Figure 1.

Types of multipoint circuits

Two grades of 4 wire circuit are available and depending on the modems used, can carry either medium or high speed data.

(i) A tariff Y1 circuit is shown in Figure 1, and this configuration is typical of its use. With this grade of circuit, no more than two remote branching points may be connected in series.

(ii) A tariff Y2 circuit is engineered to a higher standard and is normally used in the configuration shown in Figure 2. Because of the transmission performance expected of this circuit, only one remote branching point is allowed.

Branching points do not count as part of the maximum of twelve terminals.

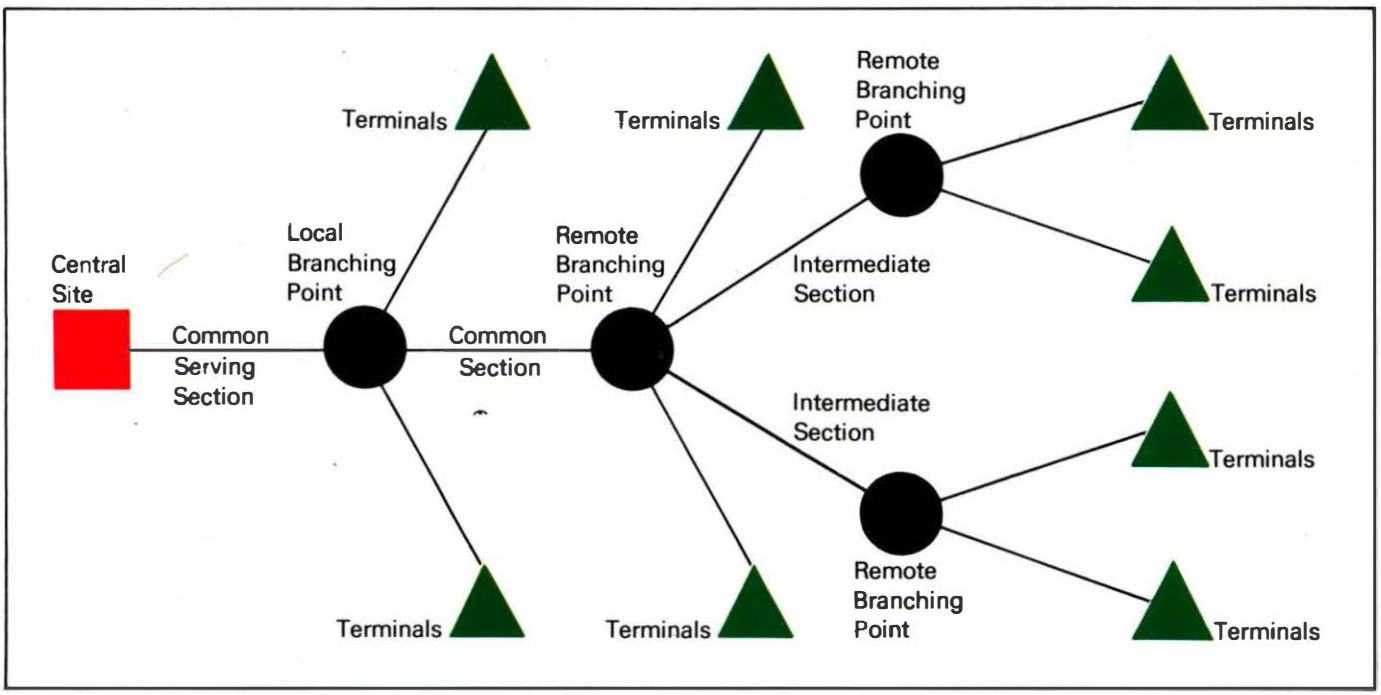


Figure 1. Typical Multipoint Configuration (Tariff Y1)

Line security

The branching points shown are located in Post Office maintenance control centres, which means that any fault reported on the multipoint circuit can be dealt with promptly by Post Office engineers.

Line control

A line control procedure, known as 'Polling', is used in multipoint networks. 'Polling' means that the central site addresses each terminal, requesting them to transmit information.

This 'Polling' technique provides for the concentration of data traffic without the formation of queues of messages in the network. 'Polling' is a facility provided by the computer equipment.

Multiterminal Circuits

The generic term 'Multiterminal Circuit' refers to both multipoint and omnibus circuits. This leaflet describes the facilities and types of 'Multipoint Circuits', but a brief description of the omnibus circuit is necessary in order to avoid confusion between the two.

Omnibus Circuit

Omnibus circuits are generally offered for speech purposes only, but may soon be available for the transmission of data. An omnibus circuit allows the connexion of three to twelve terminals, so that any terminal may communicate individually or simultaneously with all other terminals connected in the circuit.

Multidrop Circuit

A further term used in data communications is 'Multidrop Circuit'. This term originated in the United States of America and it describes a communications facility, similar to the 'Multipoint Circuit', available in that country. Multidrop networks are not provided in the United Kingdom.

Glossary of terms

Common Serving Section

A common serving section connects the central site to the local maintenance control centre, this may also contain a branching point.

Common Section

The common section connects the local branching point to the next remote branching point.

Intermediate Section

The intermediate section/s connect remote branching points in Y1 circuits.

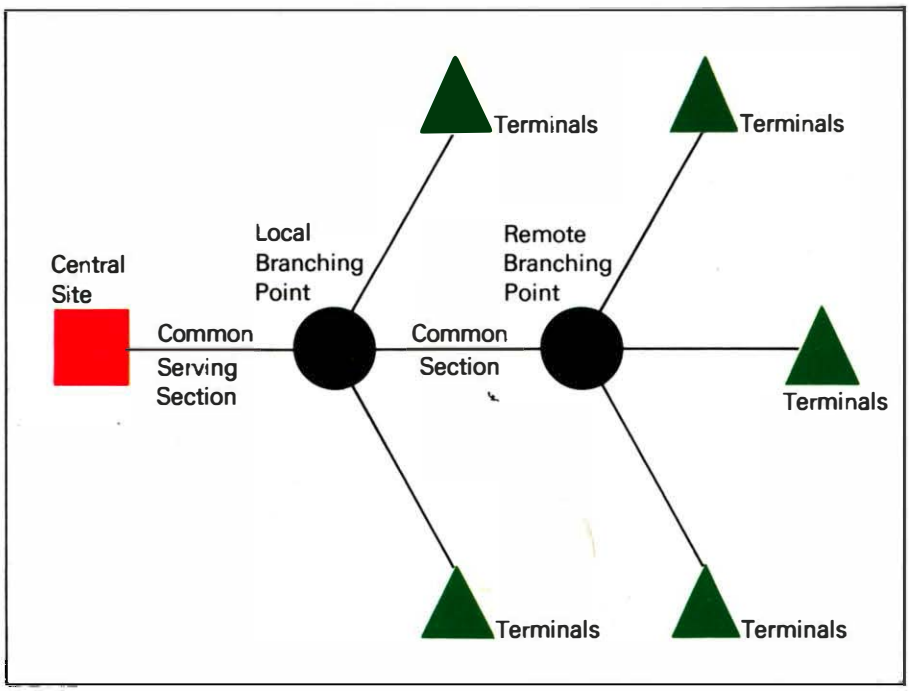


Figure 2. Typical Multipoint Configuration (Tariff Y2 Circuit)

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Please note
We do our best to supply our customers with the apparatus they ask for but we may have to provide apparatus which does not accord exactly with the descriptions and illustrations in this leaflet.

Information on a wide range of our services and apparatus is contained in the Green Pages section of most Telephone Directories.

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