Datel 9600 service

British TELECOM
part of the Post Office

The Datel 9600 service

The Datel 9600 service enables data to be transmitted synchronously in duplex or half duplex mode at 9600 bits per second (bit/s) with fallback rates of 7200 bit/s and 4800 bit/s. The service can be provided on 4-wire private circuits and/or 2 public switched telephone network (PSTN) lines to provide maximum flexibility of application. The hardware for the service is based upon a microprocessor controlled modulator/ demodulator unit termed a modem. This translates information received from the Data Terminal Equipment into signals suitable for transmission over telephone circuits. Additionally a line switching unit (LSU) will be supplied if standby or exclusive PSTN operation is required. The LSU derives power from the modem unit and incorporates the necessary logic to enable 2 dialled PSTN connections to be set-up correctly.

The modem may be either a single installation or part of a multiple racked system. Multiple installations may be installed in a British Telecom Datel Network Control System (DNCS). Other features and options of the service include:-

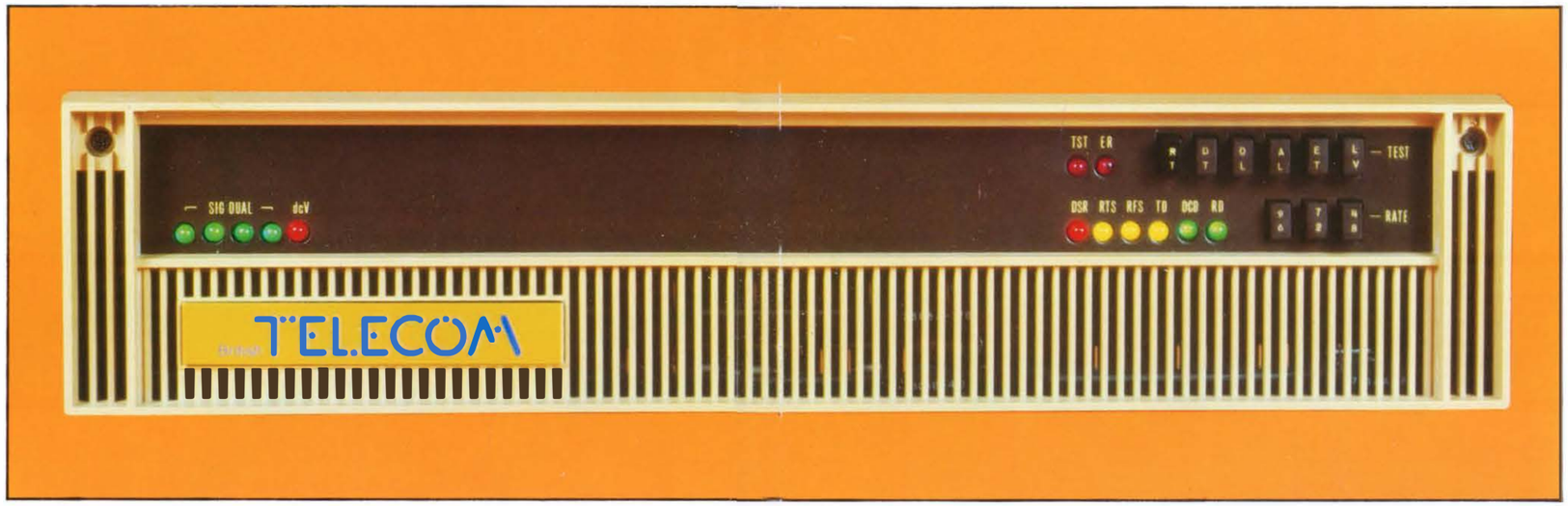
A multiport model enabling up to 4 synchronous ports/channels to be operated independently of each other over a 9600 bit/s bearer circuit by means of a multiplexing technique. (See table).

Table of transmission rates

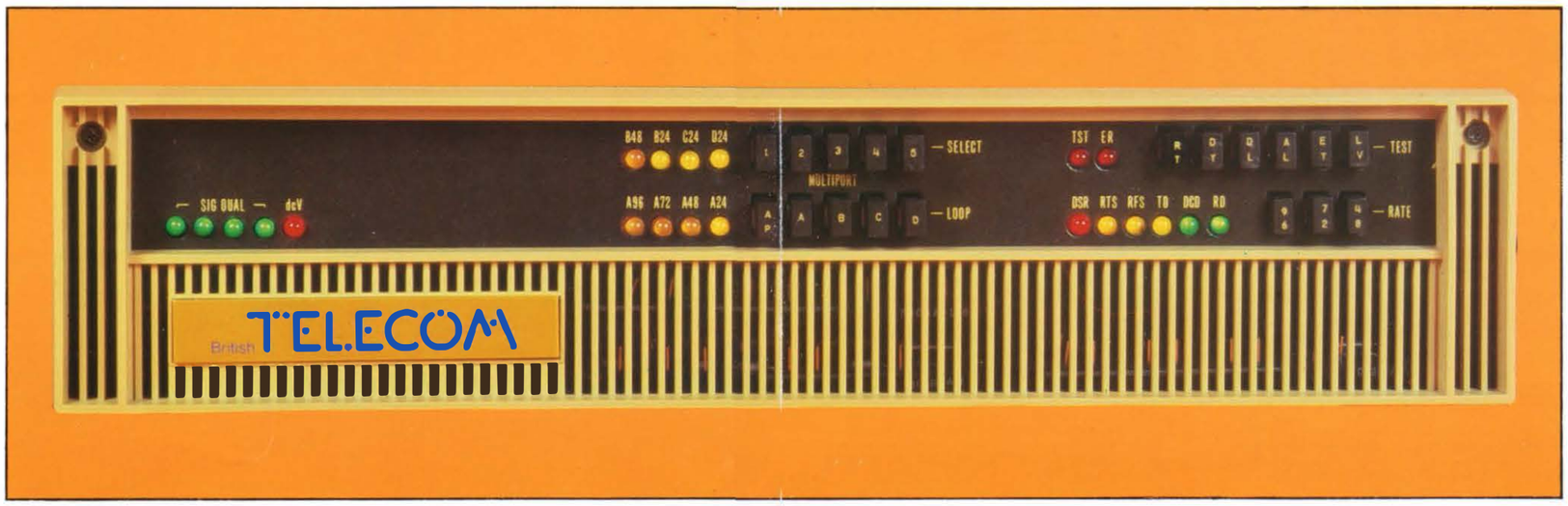
Port or Channel Combination		Data Rate
A	(Note 1)	9600 bit/s or 7200 bit/s or 4800 bit/s
A B	(Note 2)	4800 bit/s 4800 bit/s
A B	(Note 2)	7200 bit/s or 4800 bit/s or 2400 bit/s 2400 bit/s
A B C	(Note 2)	4800 bit/s or 2400 bit/s 2400 bit/s 2400 bit/s
A B C D	(Note 2)	2400 bit/s 2400 bit/s 2400 bit/s 2400 bit/s

Note 1: Singleport or Multiport model
Note 2: Multiport Model

Automatic answering
Local and Remote diagnostics
Choice of timing options
Multipoint Operation with fast synchronisation time.



Single Port Model



Multiport Model

How it operates

Before data transmission can take p[illegible]e, it is necessary to connect the n[illegible]em to line. There are 2 methods of achieving connexion with Datel 9600:-

a) Connexion controlled from the customer's Data Terminal Equipment in conjunction with buttons on British Telecom equipment.

b) Connexion controlled by buttons on British Telecom equipment.

The advantages of using these line connexion methods devised by British Telecom include:

- Standby switching from private circuit to PSTN controlled from the telephone.
- Telephone handsets are independent of data control buttons.
- Status lamps on telephone indicate when the modem is connected to the PSTN or private circuit.
- When working to a private circuit, the modem is directly connected to line as soon as the power is switched on.
- When the PSTN is used, a satisfactory speech connexion is initially established and then the modem is switched to line. The system is then operational.

Notes

1) Terminal equipment suppliers will advise on the method of connexion most suitable for their equipment.

2) British Telecom will supply an Operating Handbook with each installation, which details call set-up and call termination procedures.

Interface circuits

All circuits conform to CCITT V24 and V28 recommendation. Automatic answering conforms to CCITT V25 recommendation.

Interface connexions

Connexion of Data Terminal Equipment to the modem is effected by means of a 25-pin D-Type connector. The specification for the connector is available on request.

Transmission path

- 4-wire point-to-point or multipoint circuit
- 2 PSTN lines
- 4-wire private circuit with 2 PSTN lines standby.

Delay options

Synchronous duplex or synchronous half duplex 'Ready for Sending' delay options

- 0 ms Constant carrier
- 2-5 ms Simulated switched carrier
- 15 ms Simulated switched carrier
- 30 ms Multipoint networks

Channel equalisation

Automatic adaptive digital equaliser.

Test facilities

To assist in initial diagnostic procedures, the modem contains a number of test functions. These are controlled from switches on the front panel and via appropriate interchange circuits.

- Local analogue loop
- Remote analogue and digital loops
- End to end test
- Received line signal level check
- Test and simulation of switched carrier operation
- Signal quality indication.

Technical information

Dimensions and weights
Modem units

	Desk Top Model
Width	394 mm
Depth	483 mm
Height	94 mm
Weight	11.34 kg

Line switching unit

Width	394 mm
Depth	457 mm
Height	94 mm
Weight	5.2 kg

Environmental conditions

Operating ambient temperature 5°C to 30°C. Relative humidity 20-90% non-condensing (max).

Power

200 to 240V ac, 50 Hz ± 5%
Power consumption 60 watts maximum.

Modulation method

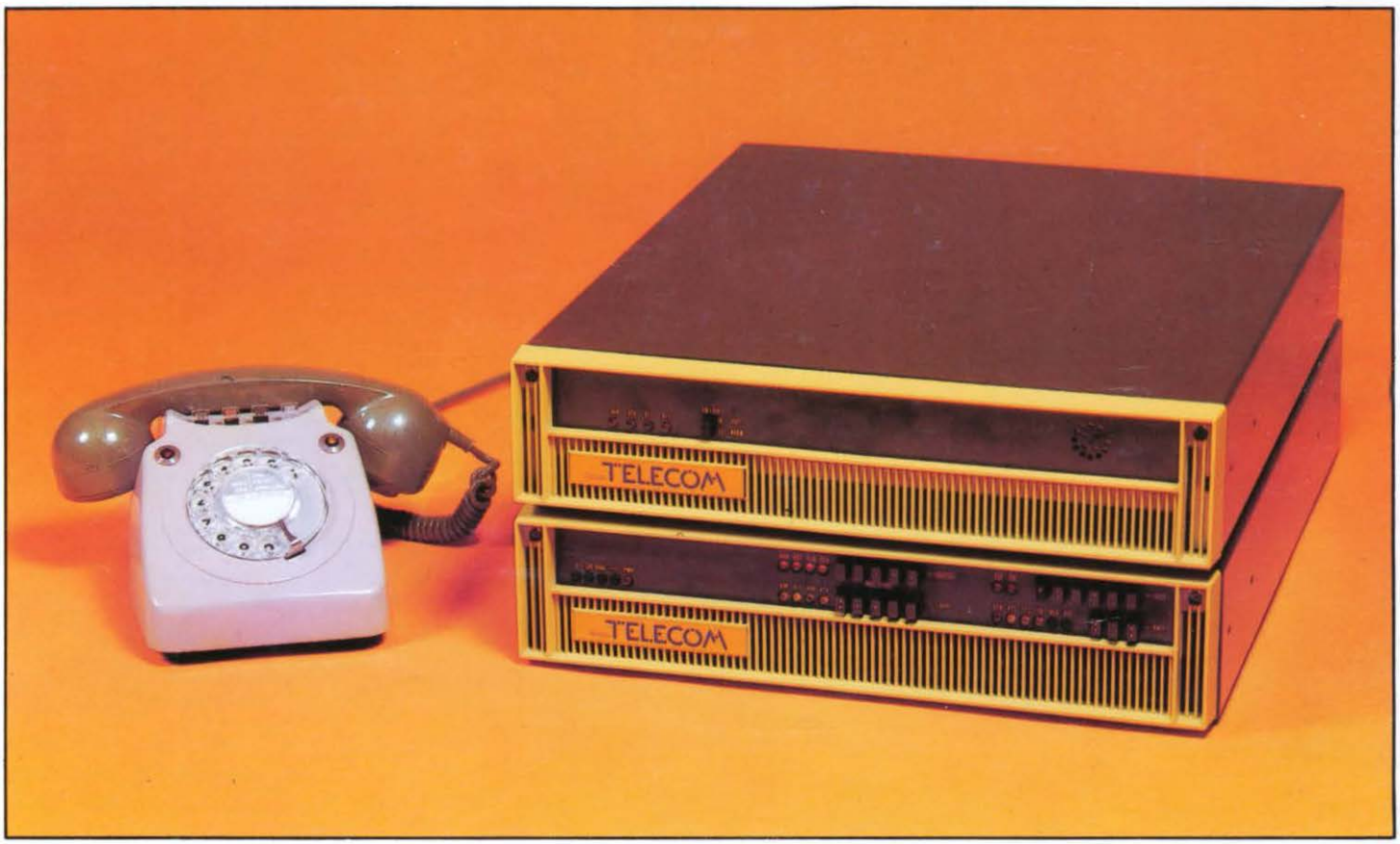
Differential phase and amplitude modulation as defined in CCITT recommendation V29. This results in 16, 8 or 4 states of the line signal for data rates of 9600 bit/s, 7200 bit/s and 4800 bit/s respectively.

Data transfer rate

9600 bit/s with fallback rates of 7200 and 4800 bit/s. With Multiport option, up to 4 ports, using various data rate combinations of 9600, 7200, 4800 and 2400 bit/s (see table).

General

The tariff for the modem, which consists of a connexion charge and an annual rental, includes all normal maintenance charges. Maintenance support for Datel Services is, generally, available anywhere within the United Kingdom, both during and outside normal business hours.



Multiport Model and Line Switching Unit

DLZ922

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.

For any further information or details of any changes in the information in this leaflet since it went to print contact the Datel Sales Enquiry Point of your loc. Telephone Sales Office. The address, telex and telephone numbers are shown in the preface of your Telephone Directory.

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