

# Understanding Telecommunications

Part B  
PSTN

Chapter 1  
User services and terminals

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#### B.1.3.1 The PSTN bearer service

The PSTN has only one bearer service: "the PSTN bearer service". In terms of transfer, the network utilises circuit mode and is designed and optimised for voice transmission in the 300-3,400 Hz interval.

The best level of transparency is provided by duplex operation; in other words, voice (as well as other information) can be transmitted simultaneously in both directions.

The network of the 1960s that we have just described is significantly different from the PSTN frequently referred to in Volume 1 and exhaustively described in the following. The most significant difference lies in the fact that current networks are digitised, an ongoing process in the majority of today's countries. The change-over to new techniques has had the effect of making the PSTN bearer service heterogeneous. For a long time, the networks have involved numerous analog-to-digital conversions and many generations of signalling systems. The result is wide variation in call set-up time and uneven transmission quality.

#### B.1.3.2 Teleservices

#### Terminals

We will first take a look at what is connected to the PSTN.


Equipment (terminals or the equivalent)	Generated information (analog/digital)
Fixed telephone	analog (= voice)
Cordless telephone	analog with an A/D converter in the terminal
Fax	digital (= data), with a built-in modem providing an analog signal
Computer	digital (= data), connected via a modem
Pay phone (PSTN type)	analog
PBX (PSTN type)	A/D conversion normally in the business network (digital interface to the local exchange)

Figure B.1.7 Terminals connected to the PSTN

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