



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

V.23

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

DATA COMMUNICATION OVER THE TELEPHONE NETWORK

600/1200-BAUD MODEM STANDARDIZED FOR USE IN THE GENERAL SWITCHED TELEPHONE NETWORK

ITU-T Recommendation V.23

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation V.23 was published in Fascicle VIII.1 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression “Administration” is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

© ITU 1988, 1993

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the ITU.



Documents
Document Sharing Hub

Recommendation V.23

600/1200-BAUD MODEM STANDARDIZED FOR USE IN THE GENERAL SWITCHED TELEPHONE NETWORK

(Geneva, 1964; amended at Mar del Plata, 1968, Geneva, 1972, 1976 and 1980,
Malaga-Torremolinos, 1984 and at Melbourne, 1988)

Note - The modem, designed for use on connections set up by switching in the general telephone network, can obviously be used on leased lines.

1 The principal characteristics recommended for a modem to transmit data at medium speed in the general switched telephone network are as follows:

- use of modulation rates up to 600/1200 bauds on the communication channel (see Recommendation V.5);
- frequency modulation with synchronous or asynchronous mode of operation;
- inclusion of a backward channel at modulation rates up to 75 bauds for error control, use of this channel being optional.

2 Modulation rates and characteristic frequencies for the forward data-transmission channel

	F_0	F_Z (symbol 1, mark)	F_A symbol 0, space)
Mode 1: up to 600 bauds	1500 Hz	1300 Hz	1700 Hz
Mode 2: up to 1200 bauds	1700 Hz	1300 Hz	2100 Hz

It is understood that the modem would be used in mode 1 when the presence of long loaded cables and/or the presence on some connections of signalling receivers operating close to 2000 Hz would prevent satisfactory transmission in mode 2. The modem could be used in mode 2 on suitable connections.

3 Tolerances on the characteristic frequencies for the forward channel

It should be possible with all rates of modulation to permit a tolerance, at the transmitter, of ± 10 Hz on both the F_A and F_Z frequencies. This tolerance should be considered as a limit.

Acceptance of these tolerances would give a tolerance of ± 10 Hz for the mean-frequency $F_0 = (F_A + F_Z)/2$.

The tolerance on the frequency difference $F_A - F_Z$ with regard to the nominal value would be ± 20 Hz.

A maximum frequency drift of ± 6 Hz has been assumed in the connection between the modems which might consist of several carrier circuits connected in tandem. This would make the tolerances on the mark and space frequencies at the receiving modem ± 16 Hz.