



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

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STANDARDIZATION SECTOR
OF ITU

R.103

TELEGRAPHY

TELEGRAPH TRANSMISSION

**CODE AND SPEED - DEPENDANT
TDM 600 BIT/S SYSTEM FOR USE
IN POINT - TO - POINT OR BRANCH - LINE
MULDEX CONFIGURATIONS**

ITU-T Recommendation R.103

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation R.103 was published in Fascicle VII.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.

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Recommendation R.103

CODE AND SPEED-DEPENDANT TDM 600 BIT/S SYSTEM FOR USE IN POINT-TO-POINT OR BRANCH-LINE MULDEX CONFIGURATIONS

(Melbourne, 1988)

The CCITT,

considering

- (a) that telex subscribers are often geographically located in small groups;
- (b) that TDM multiplexing systems are economical for the transmission of large numbers of channels;
- (c) that certain telex switches handle TDM frames in accordance with Series-R Recommendations directly and that frame fill should be optimized;
- (d) that telex switches handle channels at 50 bauds and a 7.5 unit code;
- (e) that a facility for regenerating start-stop signals is used in new TELEX networks;
- (f) that the branch-line multiplexing system should be capable of accepting and regenerating all the signals of the TELEX signalling system;
- (g) that the minimum signal transfer delay through TDM systems is achieved by the transmission of interleaved elements,

recommends

that, where branch-line remote or low multiplex capacity TDM systems are to be used for telegraphy, the equipment shall comply with the following standards:

1 System capacity

The system shall be capable of multiplexing up to 8 channels at 50 bauds (7.5 bits including a stop element of 1.5 units).

2 Start-stop channel inputs

2.1 The modulation rate tolerance that shall be accepted on incoming 50 baud start-stop signals with a stop element of 1.4 units shall be at least $\pm 1.4\%$.

2.2 When receiving characters at 50 bauds having nominally 1.5-unit stop elements, the system shall be capable of transmitting without error isolated incoming characters that have a 1-unit stop element, occurring at a maximum rate of one per second.

2.3 The minimum interval between start elements of undistorted successive continuous characters that may be presented at the channel input when the nominal modulation rate is 50 bauds shall be 145 5/6 ms.

2.4 There shall be no restriction on the continuous transmission of all characters (including combination No. 32 of International Telegraph Alphabet No. 2) when they are presented at the maximum permitted rate.

2.5 The effective net margin on all channel inputs when undistorted signals are received from a transmitter having a nominal character length and rate shall be at least 40%.

2.6 At the nominal modulation rate of 50 bauds, an input character start element shall be rejected if it is less than 0.4 units duration and shall be accepted if it is more than 0.6 units duration.

2.7 Elements corresponding to start polarity (at the distant multiplexer output) shall be inserted in the aggregate stream if the channels are unequipped.

2.8 In the case of an open-circuit line condition at the start-stop channel input, it shall be possible to choose to transmit elements corresponding to a steady start or stop polarity in the aggregate bit stream, according to the availability polarity selected.