INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.322

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

SPECIFICATIONS OF SIGNALLING SYSTEM R1

REGISTER SIGNALLING

MULTIFREQUENCY SIGNAL SENDER

ITU-T Recommendation Q.322

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation Q.322 was published in Fascicle VI.4 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.

3.3 MULTIFREQUENCY SIGNAL SENDER

3.3.1 Signalling frequencies 700, 900, 1100, 1300, 1500 and 1700 Hz. A signal shall consist of a combination of any two of these six frequencies. The frequency variation shall not exceed ± 1.5% of each nominal frequency.

3.3.2 Transmitted signal level -7 ± 1 dBm0 per frequency. The difference in transmitted level between the two frequencies comprising a signal shall not exceed 0.5 dB.

3.3.3 Signal frequency leak and modulation products. The level of the signal leak current transmitted to the line should be at least:

a) 50 dB below the single frequency level when a multifrequency signal is not being transmitted;

b) 30 dB below the transmitted signal level of either of the two frequencies when a multifrequency signal is being transmitted. The modulation products of a signal shall be at least 30 dB below the transmitted level of either of the two frequencies comprising the signal.

3.3.4 *Signal durations*

KP signal: 100 ± 10 ms.

All other signals: 68 ± 7 ms.

Interval between all signals: 68 ± 7 ms.

3.3.5 *Compound signal tolerance*

The interval of time between the moments when the two frequencies comprising a signal are sent must not exceed 1 ms. The interval of time between the moments when the two frequencies cease must not exceed 1 ms.