INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.138

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

SPECIFICATIONS OF SIGNALLING SYSTEM No. 4

INSTRUMENTS FOR CHECKING EQUIPMENT AND MEASURING SIGNALS

ITU-T Recommendation Q.138

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation Q.138 was published in Fascicle VI.2 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.

5.6 INSTRUMENTS FOR CHECKING EQUIPMENT AND MEASURING SIGNALS

5.6.1 *General*

For local checks of correct equipment and for readjusting the equipment, international exchanges should have available instruments of the following two types:

a) calibrated signal generator;

b) signal measuring apparatus.

These instruments should have the following characteristics:

5.6.2 *Calibrated signal generator*

Duration of sent signals to be adjustable between the extreme limits given in the equipment specifications, i.e. 3 to 500 ms.

The accuracy required in the duration of sent signals should be the higher of the following two values:

± 1 ms or ± 1% of the nominal value of the sent signal.

Frequency:

The sent frequency shall not differ by more than ± 5 Hz from the nominal value and shall not vary during the time required for testing.

Level of the sent signals to be variable between the extreme limits given in the equipment specifications and able to be set to a particular fixed value equal to the nominal value as defined in these specifications.

Tolerances on the reading of the level of the sent signalling frequencies to be ± 0.2 dB.

5.6.3 *Signal-measuring equipment*

Duration of signals to be measured to be between the extreme limits given in the equipment specifications, i.e. 3 to 500 ms.

The accuracy required in the duration of the measured signals should be the higher of the following two values:

± 1 ms or ± 1% of the nominal value of the received signal.

Signal frequency to be measured to be between the extreme limits set by the specifications, the reading being made with an accuracy of ± 1 Hz.

Level of the signalling frequencies to be measured to be adjustable between the extreme limits set by the specifications, the reading being made with an accuracy of ± 0.2 dB.