INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.112

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

GENERAL RECOMMENDATIONS ON TELEPHONE SWITCHING AND SIGNALLING

CLAUSES APPLICABLE TO ITU-T STANDARD SYSTEMS

SIGNAL LEVELS AND SIGNAL RECEIVER SENSITIVITY

ITU-T Recommendation Q.112

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation Q.112 was published in Fascicle VI.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.

Recommendation Q.112

2.1 SIGNAL LEVELS AND SIGNAL RECEIVER SENSITIVITY

2.1.1 *Standardized transmitted power*

The values of the standardized transmitted power for the different line and interregister signals are defined in the relevant parts of the specifications for the CCITT Systems No. 4, No. 5, R1 and R2.

Note - The level of leak current which might be transmitted to line, for example when static modulators are used for signal transmission, should be considerably below signal level, as specified.

2.1.2 *Variations of the absolute power level of received signals*

The standardized absolute power level of the signalling current to be transmitted is fixed at the maximum value compatible with circuit transmission requirements and the extreme values of absolute power level, between which received signalling currents may lie, depend on three factors:

1) the overall loss and the variation with time of this loss of the international circuit (link-by-link signalling) or of the chain of international circuits (end-to-end signalling) at 800 Hz;

2) the variation with frequency of the overall loss of these circuits, in relation to the nominal value at 800 Hz;

3) the tolerance on the transmitted absolute power level in relation to the nominal value.

The operate level range of the signal receivers about a nominal value should take account of these three factors. In System No. 4, the operate range (± 9 dB) is appropriate for end-to-end signalling. The maximum number of circuits in the end-to-end signalling situation is normally three but more may be possible depending upon the actual conditions. In System No. 5 the operate range, (± 7 dB) for line signals and for register signals is appropriate for each circuit in link-by-link signalling. For the other CCITT systems see the relevant parts of their specifications.

2.1.3 *Maximum sensitivity of the signal receiver*

It is desirable to limit the maximum sensitivity of the signal receiver, particularly on account of crosstalk between the GO and RETURN paths of a 4-wire circuit, leak currents, etc.