INTERNATIONAL TELECOMMUNICATION UNION

ITU-T B.14

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

MEANS OF EXPRESSION

TERMS AND ABBREVIATIONS FOR INFORMATION QUANTITIES IN TELECOMMUNICATIONS

ITU-T Recommendation B.14

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation B.14 was published in Fascicle I.3 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 B.14 [1)]

TERMS AND ABBREVIATIONS FOR INFORMATION QUANTITIES IN TELECOMMUNICATIONS

The CCITT,

considering

(a) that in telecommunications data transmission is more and more widely used;

(b) that the ISO is the international organization concerned with standardization in the field of data processing;

(c) that IEC Technical Committee No. 25 has requested the CMV to assist with the definition of letter symbols for terms and units used in data communication,

recommends

(1) that the CCIs should use the terms "bit, "baud", "shannon", "byte" and "N-bit byte" with the definitions established by the ISO and the ITU and appearing in Annex A;

(2) that the term "bit" is synonymous with "binary digit" and is also used in the letter symbol for this unit; the term being an abbreviation of the English term "binary digit" and being adopted also in French and Spanish; for multiples of this unit and for derived units the letter symbols kbit, Mbit, kbit/s should be used;

(3) that the unit "baud" should have as its letter symbol Bd with possible multiples of kBd and MBd;

(4) that the unit "shannon" should have as its letter symbol Sh;

(5) that for the terms "byte" it is the task of the ISO to provide the letter symbol it judges to be necessary. In the meantime this term and its multiples should be written in full in the documents and texts of the CCIs. For example 10 kilo- bytes, 1 mega-byte. The term "N-bit byte" has no multiples.

ANNEX A

(to Recommendation B.14)

A.1 **binary digit, bit**

F: élément binaire, bit

S: digito binario, bit

A member of a set of two elements commonly used to represent information.

Note – In the interest of clarity, it is recommended that the term "bit" shall not be used in two-condition start-stop modulation instead of "unit-element".

A.2 **binary digit rate, bit rate**

F: débit binaire

S: velocidad binaria

The number of binary elements transferred in a time interval divided by that time.

Note: – The binary digit rate is expressed in bits per second (bit/s) and multiples of this unit.

[1)] A similar text will be submitted to the CCIR as a revision of Recommendation 607-1.

A.3 **baud (symbol: Bd)**

F: baud (symbole: Bd)

S: baudio (símbolo: Bd)

The unit of modulation rate in telegraphy and data communication or the unit of line digit rate in digital transmission; when expressed in terms of this unit, the modulation rate or line digit rate equals the reciprocal of the duration in seconds of the shortest signal element or of the unit interval in a digital signal composed of signal elements of constant duration.

Example – If the duration of the unit interval is 20 milliseconds, the modulation rate is 50 bauds.

A.4 **shannon**

F: shannon

S: shannon

A unit of logarithmic measure of information equal to the decision content of a set of two mutually exclusive events expressed as a logarithm to base two.

Example: The decision content of a character set of eight characters equals 3 shannons ($\log_2 8 = 3$).

A.5 **byte octet, 8-bit byte**

F: octet

S: octeto (byte)

An ordered set of 8 binary digits operated upon as an entity.

A.6 **n-bit byte**

F: multiplet n-uplet

S: multibit n-bit

An ordered set of a specified number of binary digits operated upon as an entity.

Note – This definition is compatible with the definition of ISO (Data Processing – Vocabulary, Part 4: Data Organization).