



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Q.21

**GENERAL RECOMMENDATIONS ON TELEPHONE
SWITCHING AND SIGNALLING**

**INTERNATIONAL AUTOMATIC AND
SEMI-AUTOMATIC WORKING**

**SYSTEMS RECOMMENDED FOR OUT-BAND
SIGNALLING**

ITU-T Recommendation Q.21

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation Q.21 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.21

SYSTEMS RECOMMENDED FOR OUT-BAND SIGNALLING

When Administrations wish to make mutual agreements to use out-band signalling systems, the CCITT considers it desirable, from the transmission viewpoint, for them to use one of the types of signalling systems (outside the speech band) defined in the following annexes:

Annex A: Normal carrier systems with 12 channels per group;

Annex B: Carrier systems with 8 channels per group.

ANNEX A

(to Recommendation Q.21)

Out-band signalling systems for carrier systems with 12 channels per group

(The signal levels are quoted in terms of absolute power level at a zero relative level point in dBm0.)

A.1 *Type I* (discontinuous signals)

Frequency: virtual carrier (zero frequency).

Level: high,

for example -3 dBm0.

A.2 *Type II*

1) (discontinuous signals)

Frequency: 3825 Hz.

Level: high,

for example - 5 dBm0.

2) (semi-continuous signals)

Frequency: 3825 Hz

Level: low,

for example -20 dBm0.

A.3 The *Type I* signalling system is compatible with only those group and supergroup reference pilots having a displacement from the virtual carrier frequency (zero frequency) of 140 Hz.

Types II-1 and II-2 are compatible with only those group and supergroup reference pilots having a displacement from the virtual carrier frequency (zero frequency) of 80 Hz.

ANNEX B

(to Recommendation Q.21)

Out-band signalling systems for carrier systems with 8 channels per group

[The signal levels are quoted in terms of absolute power level (reference 1 mW) at a zero relative level point.]

Frequency: 4.3 kHz \pm 10 Hz.

Level:

- discontinuous signals: -6 dBm0;
- semi-continuous signals: value between - 20 dBm0 and - 17.4 dBm0.