ETSI

ETSI TECHNICAL REPORT

ETR 205

September 1995

Source: ETSI TC-SPS

Reference: DTR/SPS-00001-6

ICS: 33.020

Key words: PSTN, DTMF

Public Switched Telephone Network (PSTN); Multifrequency push-button receiver at subscriber's premises

[CEPT Recommendation T/CS 34-09 E (1983)]

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

*

Foreword

This ETSI Technical Report (ETR) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

ETRs are informative documents resulting from ETSI studies which are not appropriate for European Telecommunication Standard (ETS) or Interim European Telecommunication Standard (I-ETS) status. An ETR may be used to publish material which is either of an informative nature, relating to the use or the application of ETSs or I-ETSs, or which is immature and not yet suitable for formal adoption as an ETS or an I-ETS.

This work was initiated by the restructuring of CEPT (Conférence Européenne des administrations des Postes et des Télécommunications) and the creation of ETSI. As reported to the 16th Technical Assembly of ETSI, CEPT has proposed to transfer some Recommendations to ETSI which pertain to standardization.

Technical Committee SPS decided to convert these Recommendations into ETRs without any modification. The reader should note that undated references may no longer be relevant.

Endorsement notice

The text of CEPT Recommendation T/CS 34-09 E (1983) was approved by ETSI as an ETR without any modification.

NOTE: Due to the unavailability of the endorsed CEPT Recommendation, it is reproduced on the following pages of this ETR.

Recommendation T/CS 34-09 (Cannes 1983)

MFPB-RECEIVER AT THE SUBSCRIBERS PREMISES

Recommendation proposed by Working Group T/WG 11 "Switching and Signalling" (CS)

Text of the Recommendation adopted by the "Telecommunications" Commission:

"The European Conference of Postal and Telecommunications Administrations,

considering

— that introduction of MFPB-telephone sets in the telephone network allows simple one-way signal transmission at speeds up to about 8 characters per second;

— that the MFPB signalling system offers the possibility of transmitting 16-character combinations;

— that various special terminals (e.g. telephone for handicapped people) use MFPB signals via the switched telephone network,

recommends,

that the members of the CEPT recognise that MFPB-receivers at the subscriber premises meet the requirements specified below."

Blank page

1. AREA OF APPLICATION

1.1. This recommendation deals with the receiver or receiver function placed at a subscriber's premises for terminal to terminal transmission using MFPB.

1.2. The receiver shall respond to signals received over a line from a distant sender in conformity to Recommendations T/CS 46-02 [1] and T/CS 34-08 [2].

The receiver may be utilized with only 10 discrete signals, in which case the signals designated ★, #, A, B, C and D will not be used; or with 12 discrete signals, in which case the signals A, B, C and D will not be used.

2. OPERATING CONDITIONS

The requirements specified in Recommendation T/TR 02-06 [3] shall be met.

3. OPERATE AND NON-OPERATE REQUIREMENTS

3.1. Signal condition

The signal condition is defined as the state of the line at the input of the receiver when the electrical signals on it correspond to a genuine signal (as specified in Recommendation T/CS 46-02 [1], section 1.2.) accompanied by an acceptable amount of other unwanted frequencies. The exact definition of the components concerned is given in paragraph 3.3.1.

3.2. Character recognition condition

The *character recognition condition* is defined as the functional state which the receiver is in, when the signal condition and time requirements (as specified in paragraph 3.4.1.) are satisfied. This functional state causes the correct one of the 16 possible signal codes (as specified in Recommendation T/CS 46-02 [1], section 1.2.) to be output. When required the receiver will also output information on the beginning and end of the caracter recognition condition.

3.3. Signal condition requirements

3.3.1. The signal condition as defined in paragraph 3.1. and in accordance with the system utilisation as described in paragraph 3.2., exists if, on the line at the functional input of the receiver:

(a) two of the signalling frequencies are present, one of each of the low and high frequency groups as specified in Recommendation T/CS 46-02 [1], section 1.2.;

(b) each of these signalling frequencies is within ± (1,5% + 5 Hz) of the nominal value;

(c) the level of each of these two signalling frequencies is within the range of −45 dBm to −4 dBm;

(d) the difference in level of these two signalling frequencies is less than 8 dB;

(e) these 2 frequencies are accompanied by other frequencies not exceeding:

i) in the range 15-480 Hz, an individual level of +20 dB at 15 Hz until 33 Hz then falling at 20 dB per octave until 300 Hz. From 300-480 Hz at a level of −60 dBm.
Also when dialtone protection is present in the receiver a total level of −5 dBm in the range 300-480 Hz shall additionally apply to cover interference from this source,

ii) in the range 480-3,400 Hz, a total level of 20 dB below the level of the "low" group signalling frequency, or −61 dBm whichever is the higher,

iii) in the range over 3,400 Hz, an individual level of −36 dBm at 3,400 Hz rising at 6 dB per octave to a level of +10 dBm.

3.3.2. The signal condition as defined in paragraph 3.1. does not exist if, on the line of the functional input of the receiver:

— the level of one of the 2 signalling frequencies is less than −54 dBm. This non-existence of the signal condition is also known as the pause condition.

3.4. **Character recognition requirements**

3.4.1. The character recognition condition as defined in paragraph 3.2. shall exist if:

(a) the corresponding signal condition is preceded by the continuous non-existence of a signal condition for more than 40 ms, or (optionally) by a different character recognition condition, and

(b) the signal condition then exists continuously for more than 40 ms. However, when this signal condition exists for less than 20 ms, this character recognition condition shall not exist.

3.4.2. Once the character recognition condition exists, it shall be unaffected by an interval of less than 20 ms between two signal conditions corresponding to the same signal code (as specified in Recommendation T/CS 46-02 [1], section 1.2.) the interval consists either:

(a) of any break in the signal condition, or
(b) of a signal condition corresponding to a different signal code.

4. SPEECH IMMUNITY PERFORMANCE

For further study.

5. ELECTRICAL CHARACTERISTICS

The receiver should satisfy the relevant parts of Recommendation T/CS 30-02 [4] on private attachments.

References

[1] Recommendation T/CS 46-02. *Multifrequency signalling system to be used for push-button telephones.*

[2] Recommendation T/CS 34-08. *Automatic sender for push-button multifrequency signalling.*

[3] Recommendation T/TR 02-06. *Environmental Conditions for Telecommunication Equipment, Conditions for Telecommunication Equipment at Weather-Protected Locations (excluding Telecommunication Centres with Temperature and Humidity Controls) and in the Open Air.*

[4] Recommendation T/CS 30-02. *Technical requirements for privately owned equipment at subscriber premises connected to the public switched telephone network.*

History

Document history	
September 1995	First Edition

ISBN 2-7437-0168-4
Dépôt légal : Septembre 1995