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Javno komutirano telefonsko omrežje (PSTN) ï Registrski priklic [priporoļ ilo CEPT T/CS 20-09 E (1980)]

Public Switched Telephone Network (PSTN); Register-recall [CEPT Recommendation T/CS 20-09 E (1980)]

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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 20-09 E (1980) 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 20-09 (Brussels 1980)

REGISTER-RECALL

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 in automatic working, services provided to the subscriber should be operated from the terminal equipment by means of uniform, simple and clear user control procedures;

— that standardisation of the signalling between terminal equipment and the network favours harmonisation of user control procedures, systems and equipment,

recommends

to the members of the CEPT to design the named *register-recall feature* as specified below."

1. **DEFINITION**

Register-Recall is defined as the ability of the network to accept a command from terminal equipment at any time during a call (except during the call set-up phase)

— either initiating association of the subscriber's line with register logic which will receive, store and act upon processing and address information, or

— initiating a switching order.

2. **GENERAL DESCRIPTION**

The network must be capable of recognising a register-recall signal indicating that the subscriber has depressed the button for which the recall function has been allocated and then, of accepting possible further instructions from the subscriber. The feature is required for both originating and terminating calls. The network may have the capability of checking the signals received and of ignoring unreasonable signals. Whether or not a register-recall signal needs be transmitted and recognised in a given phase of a user/network operation is specified in the user/network control protocol adopted for the operation concerned.

2.1. **Register recall with auxiliary button (R button)**

If the exchange associates the subscriber's line with a multifrequency receiver only at the beginning of a call (*Note 1*), commands from the push-buttons during a call, i.e. outside the period when the exchange is prepared to receive the initial service request information, cannot be recognised without special measures. A discrete recognisable signal from the telephone set is then used to provoke reassociation of a receiver, should push-button multifrequency signalling be required while the call is in progress.

The auxiliary button R must be provided on the telephone set to originate this discrete signal to the exchange.

The meaning of the discrete signal sent by depression of the R button may be changed depending upon the state of the call. The R button, therefore, can be used for commands directly initiating a switching order. In these cases, depression of the R button is immediately followed by the controlled action and no dial tone is returned.

2.2. **Systems without auxiliary button (R button)**

Switching systems can provide an alternative method of associating a multifrequency receiver with the subscriber's line (*Note 2*). In this case, the exchange has the ability to recognise, during a call, switching order signals sent from the calling or called terminal equipment and to perform the operation indicated by such a signal immediately after this recognition.

Note: The studies on this series (T/CS 20) of Recommendations for the features in an analogue environment has now been terminated. A continuation of the studies has started with the aim to amend these existing features, where necessary, and to specify new features for the ISDN. These Recommendations will be gathered in a new series of Recommendations.

Note 1: This applies in the case where the basic multifrequency signalling system according to CEPT Recommendation T/CS 46-02 [1] is used.

Note 2: This applies when the subscriber multifrequency signalling system according to CEPT Recommendation T/CS 46-03 [2]

The procedure operates in any state of the call, i.e. recognition of push-button commands is possible at any time, and no auxiliary button for register recall need be provided on the telephone set.

By convention, the ★ button is used to represent the same functions as the auxiliary button. However, the commands directly initiating switching orders provided by the auxiliary button can be sent by any of the buttons of the key pad.

3. TECHNICAL CHARACTERISTICS OF THE REGISTER-RECALL FEATURE IN CONJUNCTION WITH THE BASIC MULTIFREQUENCY PUSH-BUTTON SIGNALLING SYSTEM

3.1. General

This Section 3 deals with register recall arrangements for use with the signalling system specified in Recommendation T/CS 46-02 [1].

The sender is for use in terminal equipment connected to both public exchanges but may also be used in terminal equipment connected to private automatic branch exchanges.

The register-recall signal consists of a timed break in the subscriber's line loop conditions.

The register-recall receiver is considered to be an integral part of the exchange system. Although the operate and non-operate times of the receiver need to be specified, this is left for the individual Administrations. This is because the detailed specifications of these times will depend on the feeding arrangements of the exchange and the electrical conditions of the local network.

In general, the recognition and acceptance of the register-recall signal results in:

- association of a multifrequency push-button signal receiver for further commands, directly initiating a switching order, or
- return of the dial tone, to indicate completion of the association and readiness to receive call information.

A register-recall signal received during the period in which the exchange is prepared to receive dialling, shall not be interpreted as a valid register recall.

Note: The use of the register-recall signal and the corresponding reaction of the exchange, during the different phases of a call, is under study.

3.2. Register-recall sender

3.2.1. *Time requirements for the register-recall signal*

The timed break signal generated by the sender shall have a maximum duration of not greater than 130 ms, and a minimum duration of not less than 50 ms (when the latter is controlled directly by the sender).

With some designs of sender, the duration of the timed break is affected, to a certain extent, by the length of time the user operates the register recall button. If this results in a timed break of less than 50 ms being generated, then it need not be recognised as a valid signal at the exchange.

3.2.2. *Requirements for electrical specifications*

During the timed break, the leakage current of the telephone instrument shall be less than:
2.5 mA – Option 1
0.1 mA – Option 2
when the steady state voltage across it is consistent with the battery voltages used by the various Administrations and given in Note 2 of Recommendation T/CS 46-02, Section 2.4.6. [1].

Immediately before and/or after the timed break, it is permissible that an additional voltage drop of less than:
2.5 volts – Option 1
1.0 volts – Option 2
may be introduced into the loop conditions. During this period, the audio frequency transmission requirements need not be met by the telephone instrument.

At all other times, the line current feeding conditions of the various Administrations (given in Note 2 referred to above) and the audio frequency transmission requirements of the Administrations, shall be met by the telephone instrument.

3.2.3. *Power feed*

The sender shall be powered by the line current feed. The sender shall function correctly with either normal or reversed current feed.

3.2.4. *Overvoltage protection*

The sender shall be adequately protected, in accordance with national requirements, against overvoltage due to external causes (e.g. lightning) with the button either operated or unoperated.

The sender shall be adequately protected against transients caused by any break in the loop, whether caused by the sender itself or by any other means.

3.3. **Register recall button**

The register recall signal shall be sent when the subscriber operates an auxiliary button, designated with the symbol "R" (capital) on or next to the button. The button should be clearly distinguishable and spatially separated from the standard 12- or 16-button array.

4. TECHNICAL CHARACTERISTICS OF THE REGISTER RECALL FEATURE IN THE COMBINED BASIC MULTIFREQUENCY PUSH-BUTTON AND DIRECT CURRENT SIGNALLING SYSTEM

This section refers to the signalling system specified in Recommendation T/CS 46-03 [2].

In this case, each button provides a discrete signal which associates, after a very short delay, the subscriber's line with a multifrequency push-button receiver, while the button is depressed. The normal button depression time and the association time are sufficient for a multifrequency signal, accompanying the discrete current signal, to be recognised by the temporarily associated receiver. For more detailed technical characteristics see the reference.

Reference

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

[2] CEPT Recommendation T/CS 46-03. *Signalling for push-button telephones combining basic multifrequency signalling with direct current signalling.*

History

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