



**SLOVENSKI STANDARD**  
**SIST ETS 300 392-10-11 E2:2003**  
**01-december-2003**

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Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 11: Call Waiting (CW)

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**ICS:**

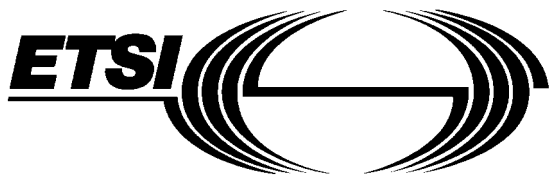
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Part 10: Supplementary services stage 1;  
Sub-part 11: Call Waiting (CW)**

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## Foreword

This European Telecommunication Standard (ETS) has been produced by the Terrestrial Trunked Radio (TETRA) Project of the European Telecommunications Standards Institute (ETSI).

This ETS is a multi-part standard and will consist of the following parts:

- Part 1: "General network design";
- Part 2: "Air Interface (AI)";
- Part 3: "Interworking at the Inter-System Interface (ISI)";
- Part 4: "Gateways basic operation";
- Part 5: "Peripheral Equipment Interface (PEI)";
- Part 6: "Line connected Station (LS)";
- Part 7: "Security";
- Part 9: "General requirements for supplementary services";
- Part 10: "Supplementary services stage 1";**
- Part 11: "Supplementary services stage 2";
- Part 12: "Supplementary services stage 3";
- Part 13: "SDL model of the Air Interface (AI)";
- Part 14: "Protocol Implementation Conformance Statement (PICS) proforma specification".

Transposition dates	
Date of adoption of this ETS:	14 January 2000
Date of latest announcement of this ETS (doa):	30 April 2000
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 October 2000
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## 1 Scope

This European Telecommunication Standard (ETS) defines the stage 1 description of the call waiting supplementary service (SS-CW) for the Terrestrial Trunked Radio (TETRA) as provided by European operators. The stage 1 description is an overall service description from the user point of view but does not deal with the details of the human interface itself (see CCITT Recommendation I.130 [1]).

SS-CW permits a called user to acknowledge an incoming individual call while he is already busy. Subsequently that user shall have the choice to accept, reject or ignore that incoming call.

This ETS specifies the service description of the supplementary service and the procedures to be expected with successful and unsuccessful outcomes. In addition this ETS specifies the interactions with other TETRA supplementary services and inter-working considerations.

Charging principles are outside the scope of this ETS.

## 2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] CCITT Recommendation I.130: "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [2] ITU-T Recommendation Z.100: "CCITT Specification and description language (SDL)".
- [3] ETS 300 392-2: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 2: Air Interface (AI)".
- [4] ETS 300 392-9: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 9: General requirements for supplementary services".

## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of this ETS, the definitions of ETS 300 392-9 [4] apply, except for that of served user, which is given below together with other ones which also apply:

**served user:** user who may invoke the supplementary service (i.e. acknowledge an incoming individual while he is busy, instead of clearing it).

**timer T2:** measures the waiting time for the offered call from user C to be either accepted or cleared by the served user B after SS-CW has been invoked. This timer is a network basic call timer. It corresponds to the basic call timer T304 on the called user side (see clause 14 of ETS 300 392-2 [3]).

**user A:** user engaged in an individual call with the served user (this call can be in any state).

NOTE: There is no user A when the call in which the served user is engaged when he receives an incoming individual call is a group call.

**user C:** user who has originated an individual call to the served user while that served user is busy (i.e. the served user may invoke the call waiting supplementary service for the call from user C).

### 3.2 Abbreviations

#### 3.2.1 General abbreviations

For the purposes of this ETS, the following general abbreviations apply:

ISDN	Integrated Services Digital Network
MS	Mobile Station
SDL	(Functional) Specification and Description Language
SS	Supplementary Service

NOTE: The abbreviation SS is only used when referring to a specific supplementary service.

#### 3.2.2 Supplementary service abbreviations

For the purposes of this ETS, the following supplementary service abbreviations apply:

CAD	Call Authorized by Dispatcher
CCBS	Call Completion to Busy Subscriber
CFB	Call Forwarding on Busy
CFNRc	Call Forwarding on Not Reachable
CFNRy	Call Forwarding on No Reply
CFU	Call Forwarding Unconditional
CW	Call Waiting

## 4 SS-CW stage 1 specification

### 4.1 Description

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#### 4.1.1 General description

SS-CW permits a called user to acknowledge an incoming individual call while he is already busy. That call shall then be qualified as a waiting call. Subsequently that user shall have the choice to accept, reject or ignore the waiting call.

#### 4.1.2 Qualifications on applicability to telecommunication services

This supplementary service shall be applicable to all circuit mode individual teleservices and bearer services.

### 4.2 Procedures

#### 4.2.1 Provision/withdrawal

The provision of SS-CW shall be on a per individual subscriber basis, or as a network option general for all (TETRA) individual subscribers. The corresponding subscriptions shall be valid for all basic services for which SS-CW applies (see subclause 4.1.2).

The supplementary service shall be withdrawn by the service provider:

- for administrative purposes; or
- at the request of the served user, if individually provided.

No specific information shall then be given to the subscribers by the network.

**4.2.2 Normal procedures****4.2.2.1 Activation, deactivation, definition, registration, interrogation and cancellation****4.2.2.1.1 Activation/Deactivation**

The CW supplementary service shall be activated by the service provider upon provision.

The CW supplementary service shall be deactivated by the service provider upon withdrawal.

The served user should also be able to activate/deactivate the service after provision.

**4.2.2.1.2 Definition**

Not applicable.

**4.2.2.1.3 Registration**

Not applicable.

**4.2.2.1.4 Interrogation**

Not applicable.

**4.2.2.1.5 Cancellation**

Not applicable.

**4.2.2.2 Invocation**

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If SS-CW has been activated for the served user, when a new individual call is addressed to that user and the network has determined that such user is already engaged in a call (i.e. that user is then in the busy state whether he participates in an individual call or in a group call), the network shall offer that call to him unless it has already reached the maximum number of such additional calls.

NOTE 1: In ISDN, the case just addressed (where the network cannot present a new additional call when the called user is busy) is one of those corresponding to the situation defined as "Network Determined User Busy" (NDUB).

When the served user is offered such incoming individual call (from user C) while being busy, he shall be able to invoke SS-CW. He shall do so in sending a positive response to the offered call within the same predefined period of time as for sending a basic call response.

The same shall apply if the network offers a new incoming individual call to the served user without knowing that he is in the busy state.

NOTE 2: The served user may be in the busy state without the network knowing it when the served user participates in a group call.

The served user may be able to invoke SS-CW for more than one incoming individual call. However the maximum number of waiting calls at any one time per busy subscriber shall be a network option, and it is recommended that that maximum number be one.

**4.2.2.3 Operation**

When the called user has invoked SS-CW for a call (incoming individual):

- except for specific applications if the initial values of the basic call timers T304 (see clause 14 of ETS 300 392-2 [3]) in his terminal equipment and T2 in the network are less than 30 seconds, they should be set at least to 30 seconds;
- the network shall apply the individual basic call procedure for informing user C that: