



**SLOVENSKI STANDARD**  
**SIST EN 300 392-10-11 V1.3.1:2006**  
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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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*European Standard (Telecommunications series)*

**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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**ETSI**

650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

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## Foreword

This European Standard (Telecommunications series) has been produced by ETSI Project Terrestrial Trunked Radio (TETRA).

The present document is part 10, sub-part 11 of a multi-part deliverable covering the Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D), as identified below:

- EN 300 392-1: "General network design";
- EN 300 392-2: "Air Interface (AI)";
- EN 300 392-3: "Interworking at the Inter-System Interface (ISI)";
- ETS 300 392-4: "Gateways basic operation";
- EN 300 392-5: "Peripheral Equipment Interface (PEI)";
- EN 300 392-7: "Security";
- EN 300 392-9: "General requirements for supplementary services";
- EN 300 392-10: "Supplementary services stage 1";**
  - EN 300 392-10-1: "Call Identification (CI)";
  - ETS 300 392-10-2: "Call report";
  - ETS 300 392-10-3: "Talking Party Identification (TPI)";
  - EN 300 392-10-4: "Call Forwarding (CF)";
  - ETS 300 392-10-5: "List Search Call (LSC)";
  - EN 300 392-10-6: "Call Authorized by Dispatcher (CAD)";
  - ETS 300 392-10-7: "Short number addressing";
  - EN 300 392-10-8: "Area Selection (AS)";
  - ETS 300 392-10-9: "Access priority";
  - EN 300 392-10-10: "Priority Call (PC)";
  - EN 300 392-10-11: "Call Waiting (CW)";**
  - EN 300 392-10-12: "Call Hold (HOLD)";
  - ETS 300 392-10-13: "Call completion to busy subscriber";
  - EN 300 392-10-14: "Late Entry (LE)";

- ETS 300 392-10-15: "Transfer of control";
- ETS 300 392-10-16: "Pre-emptive Priority Call (PC)";
- EN 300 392-10-17: "Include Call (IC)";
- EN 300 392-10-18: "Barring of Outgoing Calls (BOC)";
- EN 300 392-10-19: "Barring of Incoming Calls (BIC)";
- ETS 300 392-10-20: "Discreet Listening (DL)";
- EN 300 392-10-21: "Ambience Listening (AL)";
- EN 300 392-10-22: "Dynamic Group Number Assignment (DGNA)";
- ETS 300 392-10-23: "Call completion on no reply";
- ETS 300 392-10-24: "Call Retention (CRT)";
- EN 300 392-11: "Supplementary services stage 2";
- EN 300 392-12: "Supplementary services stage 3";
- ETS 300 392-13: "SDL model of the Air Interface (AI)";
- ETS 300 392-14: "Protocol Implementation Conformance Statement (PICS) proforma specification";
- TS 100 392-15: "TETRA frequency bands, duplex spacing and channel numbering";
- TS 100 392-16: "Network Performance Metrics";
- TS 100 392-17: "TETRA V+D and DMO Release 1.1 specifications";

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Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 September 2004
Date of withdrawal of any conflicting National Standard (dow):	30 September 2004



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# 1 Scope

The present document 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 ITU-T 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.

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

Charging principles are outside the scope of the present document.

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# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

- [1] ITU-T 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: "Specification and Description Language (SDL)".
- [3] ETSI EN 300 392-2: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 2: Air Interface (AI)".
- [4] ETSI EN 300 392-9: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 9: General requirements for supplementary services".

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# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 300 392-9 [4] and the following apply:

**busy:** served user state in which no more a new call can be offered to him

NOTE 1: In the present document busy is only applicable for individual calls.

NOTE 2: If the user MS supports concurrent calls, then busy is defined independently for each basic service.

**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

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

NOTE: If the served user is engaged in a group call when he receives an incoming individual call, then user A may be any of the other participants in that group call.

**user B:** served user who has activated SS-CW and may invoke it

**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 the present document, the following general abbreviations apply:

ISDN	Integrated Services Digital Network
MS	Mobile Station
NDUB	Network Determined User Busy
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 the present document, the following supplementary service abbreviations apply:

AC	Advice of Charge
AL	Ambience Listening
AP	Access Priority
AS	Area Selection
BIC	Barring of Incoming Calls
BOC	Barring of Outgoing Calls
CAD	Call Authorized by Dispatcher
CCBS	Call Completion to Busy Subscriber
CCNR	Call Completion on No Reply
CFB	Call Forwarding on Busy
CFNRc	Call Forwarding on Not Reachable
CFNRy	Call Forwarding on No Reply
CFU	Call Forwarding Unconditional
CRT	Call Retention
CW	Call Waiting
DGNA	Dynamic Group Number Assignment
DL	Discreet Listening
HOLD	Call Hold
IC	Include Call
LSC	List Search Call
PC	Priority Call
PPC	Pre-emptive Priority Call
SNA	Short Authorized by Dispatcher
TC	Transfert of Control

## 4 SS-CW stage 1 specification

### 4.1 Description

#### 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 clause 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.