ETSI TR 100 392-17-3 V1.2.1 (2006-06)

Technical Report

Terrestrial Trunked Radio (TETRA);
Voice plus Data (V+D);
Part 17: TETRA V+D and DMO specifications;
Sub-part 3: Release 1.3

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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Terrestrial Trunked Radio (TETRA).

The present document is part 17, sub-part 3 of a multi-part deliverable covering the 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 300 392-11:   "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 spacings and channel numbering";

TS 100 392-16:   "Network Performance Metrics";

TR 100 392-17:   "TETRA V+D and DMO specifications";

- Sub-part 1:   "Release 1.1";

- Sub-part 2:   "Release 1.2";

- **Sub-part 3:   "Release 1.3".**

TS 100 392-18:   "Air interface optimized applications".

   NOTE: Part 10, sub-part 15 (Transfer of control), part 13 (SDL) and part 14 (PICS) of this multi-part deliverable are in status "historical" and are not maintained.

Introduction

The TETRA standard was developed to satisfy the unique user requirements of PMR/PAMR which, when combined, cannot be met by any other existing or planned ETSI standard. TETRA is a technology that offers a unique range of services and features that are not available from other systems.

TETRA Releases 1.x are defined in the original Terms of Reference of ETSI Project TETRA and are continuously maintained. The work continues according to the revised Terms of Reference for TETRA Release 2 [1].

1 Scope

The present document identifies ETSI specifications for TETRA V+D and DMO Release 1.3.

Release 1.3 specifications were functionally frozen after the 26th TC TETRA meeting in October 2005.

NOTE 1: Functionally frozen means that no further functionality/features may be incorporated into the set of specifications, and that only corrective Change Requests (CRs) are to be accepted and agreed.

NOTE 2: It can be expected that corrective CRs will be introduced into the Release 1.3 specifications.

NOTE 3: Some of the CRs that will be produced will be for the next Release as they add new functionalities/features.

NOTE 4: Some of the documents were in Public Enquiry, One step Approval or National Voting stage at the publication of the present document. Due to those stages editorial modifications may be performed and the version number of the document may step up in the last digit in addition to the normal step-up due to publication or voting. The resulting version is also a part of the present Release 1.3.

2 References

For the purposes of this Technical Report (TR) the following reference applies:

[1] Terms of Reference of ETSI Technical Committee TETRA:
http://portal.etsi.org/tetra/TETRA_ToR.asp

3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AI	Air Interface
AL	Ambience Listening
AMR	Adaptive Multi-Rate
ANF-ISIGC	Additional Network Feature - Inter-System Interface Group Call
ANF-ISIIC	Additional Network Feature - Inter-System Interface Individual Call
ANF-ISIMM	Additional Network Feature - Inter-System Interface Mobility Management
ANF-ISISDS	Additional Network Feature - Inter-System Interface Short Data Service
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
CF	Call Forwarding
CI	Call Identification
CR	Change Request
CRT	Call Retention
CW	Call Waiting
DGNA	Dynamic Group Number Assignment
DL	Discreet Listening
DMO	Direct Mode Operation
EMC	ElectroMagnetic Compatibility
HOLD	Call Hold
IC	Include Call
IC	Integrated Circuit
ISDN	Integrated Services Digital Network

ISI	Inter-System Interface	
LE	Late Entry	
LI	Lawful Interception	
LIP	Location Information Protocol	
LSC	List Search Call	
M-DMO	Managed Direct Mode Operation	
MS-MS	Mobile Station to Mobile Station	
PAMR	Public Access Mobile Radio	
PC	Priority Call	
PEI	Peripheral Equipment Interface	
PMR	Private Mobile Radio,	
PMR	Professional Mobile Radio	
PPC	Pre-emptive Priority Call	
PSTN	Public Switched Telephone Network	
RF	Radio Frequency	
SIM-ME	Subscriber Identity Module to Mobile Equipment	
SNA	Short Number Addressing	
TPI	Talking Party Identification	
UICC	Universal Integrated Circuit Card	
V+D	Voice plus Data	

4   Specifications of TETRA Release 1.3

The following clauses contain ETSI deliverables included in TETRA V+D and DMO Release 1.3.

NOTE: When both EN or ES and TS versions are available, then the TS is listed separately only, if the version number of the TS is greater than the latest EN or ES version number.

4.1   Voice plus Data (V+D)

EN 300 392-1 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 1: General network design".

EN 300 392-2 (V2.5.2): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 2: Air Interface (AI)".

TS 100 392-2 (V2.6.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 2: Air Interface (AI)".

EN 300 392-3-1 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 1: General design".

EN 300 392-3-2 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 2: Additional Network Feature Individual Call (ANF-ISIIC)".

EN 300 392-3-3 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 3: Additional Network Feature Group Call (ANF-ISIGC)".

EN 300 392-3-4 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 4: Additional Network Feature Short Data Service (ANF-ISISDS)".

EN 300 392-3-5 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 5: Additional Network Feature for Mobility Management (ANF-ISIMM)".

TS 100 392-3-6 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 6: Speech Format Implementation for Circuit Mode Transmission".

TS 100 392-3-7 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 7: Speech Format Implementation for Packet Mode Transmission".

ETS 300 392-4-1 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 4: Gateways basic operation; Sub-part 1: Public Switched Telephone Network (PSTN)".

ETS 300 392-4-2 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 4: Gateways basic operation; Sub-part 2: Integrated Services Digital Network (ISDN) gateway".

EN 300 392-5 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 5: Peripheral Equipment Interface (PEI)".

EN 300 392-7 (V2.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 7: Security".

EN 300 392-9 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 9: General requirements for supplementary services".

EN 300 392-10-1 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 1: Call Identification (CI)".

ETS 300 392-10-2 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 2: Call report".

ETS 300 392-10-3 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 3: Talking Party Identification (TPI)".

EN 300 392-10-4 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 4: Call Forwarding (CF)".

ETS 300 392-10-5 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 5: List Search Call (LSC)".

EN 300 392-10-6 (V1.4.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 6: Call Authorized by Dispatcher (CAD)".

ETS 300 392-10-7 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 7: Short number addressing".

EN 300 392-10-8 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 8: Area Selection (AS)".

ETS 300 392-10-9 (1998): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 9: Access priority".

EN 300 392-10-10 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-Part 10: Priority Call (PC)".

EN 300 392-10-11 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-Part 11: Call Waiting (CW)".

EN 300 392-10-12 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-Part 12: Call Hold (HOLD)".

ETS 300 392-10-13 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 13: Call completion to busy subscriber".

EN 300 392-10-14 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 14: Late Entry (LE)".

EN 300 392-10-16 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 16: Pre-emptive priority call".

EN 300 392-10-17 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 17: Include Call (IC)".

EN 300 392-10-18 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Part 10-18: Barring of Outgoing Calls (BOC)".

EN 300 392-10-19 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 19: Barring of Incoming Calls (BIC)".

ETS 300 392-10-20 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 20: Discreet Listening (DL)".

EN 300 392-10-21 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 21: Ambience Listening (AL)".

EN 300 392-10-22 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 22: Dynamic Group Number Assignment (DGNA)".

ETS 300 392-10-23 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 23: Call completion on no reply".

ETS 300 392-10-24 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 10: Supplementary services stage 1; Sub-part 24: Call Retention (CRT)".

EN 300 392-11-1 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 1: Call Identification (CI)".

ETS 300 392-11-2 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 2: Call Report (CR)".

ETS 300 392-11-3 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 3: Talking Party Identification (TPI)".

EN 300 392-11-4 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 4: Call Forwarding (CF)".

ETS 300 392-11-5 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 5: List Search Call (LSC)".

EN 300 392-11-6 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 6: Call Authorized by Dispatcher (CAD)".

ETS 300 392-11-7 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 7: Short Number Addressing (SNA)".

EN 300 392-11-8 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 8: Area Selection (AS)".

ETS 300 392-11-9 (1998): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 9: Access Priority (AP)".

EN 300 392-11-10 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-Part 10: Priority Call (PC)".

ETS 300 392-11-11 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-Part 11: Call Waiting (CW)".

EN 300 392-11-12 (V1.1.2): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-Part 12: Call Hold (HOLD)".

ETS 300 392-11-13 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 13: Call Completion to Busy Subscriber (CCBS)".

EN 300 392-11-14 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 14: Late Entry (LE)".

EN 300 392-11-16 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 16: Pre-emptive Priority Call (PPC)".

EN 300 392-11-17 (V1.1.2): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 17: Include Call (IC)".

EN 300 392-11-18 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 18: Barring of Outgoing Calls (BOC)".

EN 300 392-11-19 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 19: Barring of Incoming Calls (BIC)".

ETS 300 392-11-20 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 20: Discreet Listening (DL)".

EN 300 392-11-21 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 21: Ambience Listening (AL)".

ETS 300 392-11-22 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 22: Dynamic Group Number Assignment (DGNA)".

ETS 300 392-11-23 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 23: Call Completion on No Reply (CCNR)".

ETS 300 392-11-24 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 11: Supplementary services stage 2; Sub-part 24: Call Retention (CRT)".

EN 300 392-12-1 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 1: Call Identification (CI)".

ETS 300 392-12-2 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 2: Call Report (CR)".

EN 300 392-12-3 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 3: Talking Party Identification (TPI)".

EN 300 392-12-4 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 4: Call Forwarding (CF)".

ETS 300 392-12-5 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 5: List Search Call (LSC)".

EN 300 392-12-6 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 6: Call Authorized by Dispatcher (CAD)".

ETS 300 392-12-7 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 7: Short Number Addressing (SNA)".

EN 300 392-12-8 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 8: Area Selection (AS)".

ETS 300 392-12-9 (1998): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 9: Access Priority (AP)".

EN 300 392-12-10 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-Part 10: Priority Call (PC)".

ETS 300 392-12-11 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-Part 11: Call Waiting (CW)".

EN 300 392-12-12 (V1.1.2): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-Part 12: Call Hold (HOLD)".

ETS 300 392-12-13 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 13: Call Completion to Busy Subscriber (CCBS)".

EN 300 392-12-14 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 14: Late entry (LE)".

EN 300 392-12-16 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 16: Pre-emptive Priority Call (PPC)".

EN 300 392-12-17 (V1.1.2): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 17: Include Call (IC)".

EN 300 392-12-18 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 18: Barring of Outgoing Calls (BOC)".

EN 300 392-12-19 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 19: Barring of Incoming Calls (BIC)".

ETS 300 392-12-20 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 20: Discreet Listening (DL)".

EN 300 392-12-21 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 21: Ambience Listening (AL)".

EN 300 392-12-22 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 22: Dynamic Group Number Assignment (DGNA)".

ETS 300 392-12-23 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 23: Call Completion on No Reply (CCNR)".

ETS 300 392-12-24 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 12: Supplementary services stage 3; Sub-part 24: Call Retention (CRT)".

TS 100 392-15 (V1.3.1): "Terrestrial Trunked Radio (TETRA) Voice plus DATA (V+D)
Part 15: TETRA frequency bands, duplex spacings and channel numbering".

TS 100 392-16 (V1.1.1): " Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D);
Part 16: Network Performance Metrics".

TS 100 392-18-1 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D) and Direct Mode Operation
(DMO); Part 18: Air interface optimized applications; Sub-part 1: Location Information Protocol (LIP)".

4.2   Conformance testing

EN 300 394-1 (V2.4.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 1: Radio".

4.3   Speech codec

EN 300 395-1 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Speech codec for full-rate traffic channel;
Part 1: General description of speech functions".

EN 300 395-2 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Speech codec for full-rate traffic channel;
Part 2: TETRA codec".

EN 300 395-3 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Speech codec for full-rate traffic channel;
Part 3: Specific operating features".

EN 300 395-4 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Speech codec for full-rate traffic channel;
Part 4: Codec conformance testing".

4.4 Direct Mode Operation (DMO)

ETS 300 396-1 (1998): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 1: General network design".

EN 300 396-2 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 2: Radio aspects".

EN 300 396-3 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 3: Mobile Station to Mobile Station (MS-MS) Air Interface (AI) protocol".

EN 300 396-4 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 4: Type 1 repeater air interface".

ETS 300 396-5 (2000): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 5: Gateway air interface".

EN 300 396-5 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 5: Gateway air interface".

EN 300 396-6 (V1.3.1): "Terrestrial Trunked Radio (TETRA); Direct Mode Operation (DMO); Part 6: Security".

EN 300 396-7 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 7: Type 2 repeater air interface".

TS 100 396-7 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 7: Type 2 repeater air interface".

EN 300 396-10 (V1.1.2): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 10: Managed Direct Mode Operation (M-DMO)".

TS 100 396-10 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 10: Managed Direct Mode Operation (M-DMO)".

4.5 Subscriber Identity Module (SIM)

ES 200 812-1 (V2.2.5): "Terrestrial Trunked Radio (TETRA); Subscriber Identity Module to Mobile Equipment (TSIM-ME) interface; Part 1: Universal Integrated Circuit Card (UICC); Physical and logical characteristics".

ES 200 812-2 (V2.4.2): "Terrestrial Trunked Radio (TETRA); Subscriber Identity Module to Mobile Equipment (TSIM-ME) interface; Part 2: Universal Integrated Circuit Card (UICC); Characteristics of the TSIM application".

EN 300 812-3 (V2.3.1): "Terrestrial Trunked Radio (TETRA); Subscriber Identity Module to Mobile Equipment (SIM-ME) interface; Part 3: Integrated Circuit (IC); Physical, logical and TSIM application characteristics".

4.6 Regulatory

EN 301 489-18 (V1.3.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 18: Specific conditions for Terrestrial Trunked Radio (TETRA) equipment".

EN 303 035-1 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Harmonized EN for TETRA equipment covering essential requirements under article 3.2 of the R&TTE Directive; Part 1: Voice plus Data (V+D)".

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4.7 Other specifications

TS 101 747 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); IP Interworking (IPI)".

TS 101 789-1 (V1.1.1): "Terrestrial Trunked Radio (TETRA); TMO Repeaters; Part 1: Requirements, test methods and limits".

EN 302 109 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Security; Synchronization mechanism for end-to-end encryption".

ES 202 109 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Security; Synchronization mechanism for end-to-end encryption".

EN 301 040 (V2.1.1): "Terrestrial Trunked Radio (TETRA); Security; Lawful Interception (LI) interface".

4.8   Technical reports / ETSI guides

ETR 300-4 (1997): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Designers' guide; Part 4: Network management".

TR 101 052 (V1.1.1): "Security Algorithms Group of Experts (SAGE);Rules for the management of the TETRA standard authentication and key management algorithm set TAA1".

TR 101 053-1 (V1.1.1): "Security Algorithms Group of Experts (SAGE);Rules for the management of the TETRA standard encryption algorithms; Part 1: TEA1".

TR 101 053-2 (V2.2.1): "Security Algorithms Group of Experts (SAGE);Rules for the management of the TETRA standard encryption algorithms; Part 2: TEA2".

TR 101 053-3 (V1.1.1): "Security Algorithms Group of Experts (SAGE);Rules for the management of the TETRA standard encryption algorithms; Part 3: TEA3".

TR 101 053-4 (V1.1.1): "Security Algorithms Group of Experts (SAGE);Rules for the management of the TETRA standard encryption algorithms; Part 4: TEA4".

TR 101 448 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Functional requirements for the TETRA ISI derived from Three-Country Pilot Scenarios".

TR 101 661 (V1.1.1): "Terrestrial Trunked Radio (TETRA);Technical requirements specification; Managed Direct Mode Operation (DMO)".

TR 101 975 (V1.1.1): "Terrestrial Trunked Radio (TETRA); RF Sensitive Area Mode".

TR 101 977 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Study of the suitability of the GSM Adaptive Multi-Rate (AMR) speech codec for use in TETRA".

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TR 102 021-2 (V1.2.1): "Terrestrial Trunked Radio (TETRA); User Requirement Specification TETRA Release 2; Part 2: High Speed Data".

TR 102 021-3 (V1.1.1): "Terrestrial Trunked Radio (TETRA); User Requirement Specification TETRA Release 2; Part 3: Codec".

TR 102 021-4 (V1.2.1): "Terrestrial Trunked Radio (TETRA); User Requirement Specification TETRA Release 2; Part 4: Air Interface Enhancements".

TR 102 021-5 (V1.1.1): "Terrestrial Trunked Radio (TETRA); User Requirement Specification TETRA Release 2; Part 5: Interworking and roaming".

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TR 102 300-3 (V1.2.1): "Terrestrial Trunked Radio (TETRA);Voice plus Data (V+D); Designers' guide; Part 3: Direct Mode Operation (DMO)".

TR 102 300-5 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Designers' guide; Part 5: Guidance on Numbering and addressing".

History

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