SLOVENSKI STANDARD
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Prizemni snopovni radio (TETRA) - Tehnične zahteve za neposredni način delovanja (DMO) - 3. del: Protokol radijskega vmesnika (AI) od mobilne postaje do mobilne postaje (MS-MS)

Terrestrial Trunked Radio (TETRA) - Technical requirements for Direct Mode Operation (DMO) - Part 3: Mobile Station to Mobile Station (MS-MS) Air Interface (AI) protocol

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Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Terrestrial Trunked Radio (TETRA).

The present document is part 3 of a multi-part deliverable covering the Technical requirements for Direct Mode Operation (DMO), as identified below:

Part 1: "General network design";

Part 2: "Radio aspects";

Part 3: "Mobile Station to Mobile Station (MS-MS) Air Interface (AI) protocol";

Part 4: "Type 1 repeater air interface";

Part 5: "Gateway air interface";

Part 6: "Security";

Part 7: "Type 2 repeater air interface"; (Historical)

Part 8: "Protocol Implementation Conformance Statement (PICS) proforma specification"; (Historical)

Part 10: "Managed Direct Mode Operation (M-DMO)". (Historical)

NOTE: Part 7, part 8 and part 10 of this multi-part deliverable are of status "historical" and will not be updated according to this version of the standard.

National transposition dates	
Date of adoption of this EN:	22 December 2011
Date of latest announcement of this EN (doa):	31 March 2012
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 September 2012
Date of withdrawal of any conflicting National Standard (dow):	30 September 2012

1 Scope

The multi-part deliverable EN 300 396 defines the Terrestrial Trunked Radio (TETRA) Direct Mode Operation (DMO). It specifies the basic air interface, the inter-working between Direct Mode (DM) groups via repeaters, and inter-working with the TETRA Voice plus Data (V+D) system via gateways. It also specifies the security aspects in TETRA DMO, and the intrinsic services that are supported in addition to the basic bearer and teleservices.

The present document applies to the TETRA DMO Mobile Station - Mobile Station (MS-MS) air interface and contains the specifications of the Data Link Layer (DLL) and the network layer according to the ISO model.

It establishes the services, messages and protocols used for voice and circuit mode data calls and short data transfer, starting with the upper layers:

- it defines and specifies the protocol used by the layer 3 entity to communicate across the air interface;
- it defines and specifies the services and protocol used in the DLL.

The normative annexes mainly specify the parameter values used in the protocol.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

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

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

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

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

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

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

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

[8] ETSI ETS 300 396-3: "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 3: Mobile Station to Mobile Station (MS-MS) Air Interface (AI) protocol".

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

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] ETSI Directives: "ETSI Statutes; ETSI Rules of Procedure; ETSI Board Working Procedures; Powers and Functions of the Board; Terms of Reference of the Operational Co-ordination Group (OCG); ETSI Technical Working Procedures; ETSI Drafting rules".

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

[i.3] ETSI EN 300 396-10: "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 10: Managed Direct Mode Operation (M-DMO)". (Historical).

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in the ETSI Directives [i.1] and the following apply:

call: complete sequence of related call transactions between DM-MSs

NOTE 1: There are two types of call, individual call or group call. An individual call is a complete sequence of related call transactions between two DM-MSs. A group call is a complete sequence of related call transactions involving two or more DM-MSs. The number of participants in a group call is not fixed. Participants may join (late entry) and leave an ongoing call.

NOTE 2: For calls without presence check there is no guaranty that anyone is listening.

call transaction: all of the functions associated with a complete unidirectional transmission of information

NOTE: A call is made up of one or more sequential call transactions.

called user application: user application which receives an incoming call

calling user application: user application which initiates an outgoing call

changeover: within a call, the process of effecting a transfer of the master role (and hence transmitting MS) at the end of one call transaction so that another can commence

Direct Mode Call Control (DMCC): layer 3 entity responsible for setting up and maintaining a call in DMO

Direct Mode GATEway (DM-GATE): device that provides gateway connectivity between DM-MS(s) and the TETRA TMO network

NOTE: The gateway provides the interface between TETRA DMO and TETRA TMO. A gateway may provide only the gateway function (DM-GATE) or may provide the functions of both a DM repeater and a DM gateway during a call (DM-REP/GATE).