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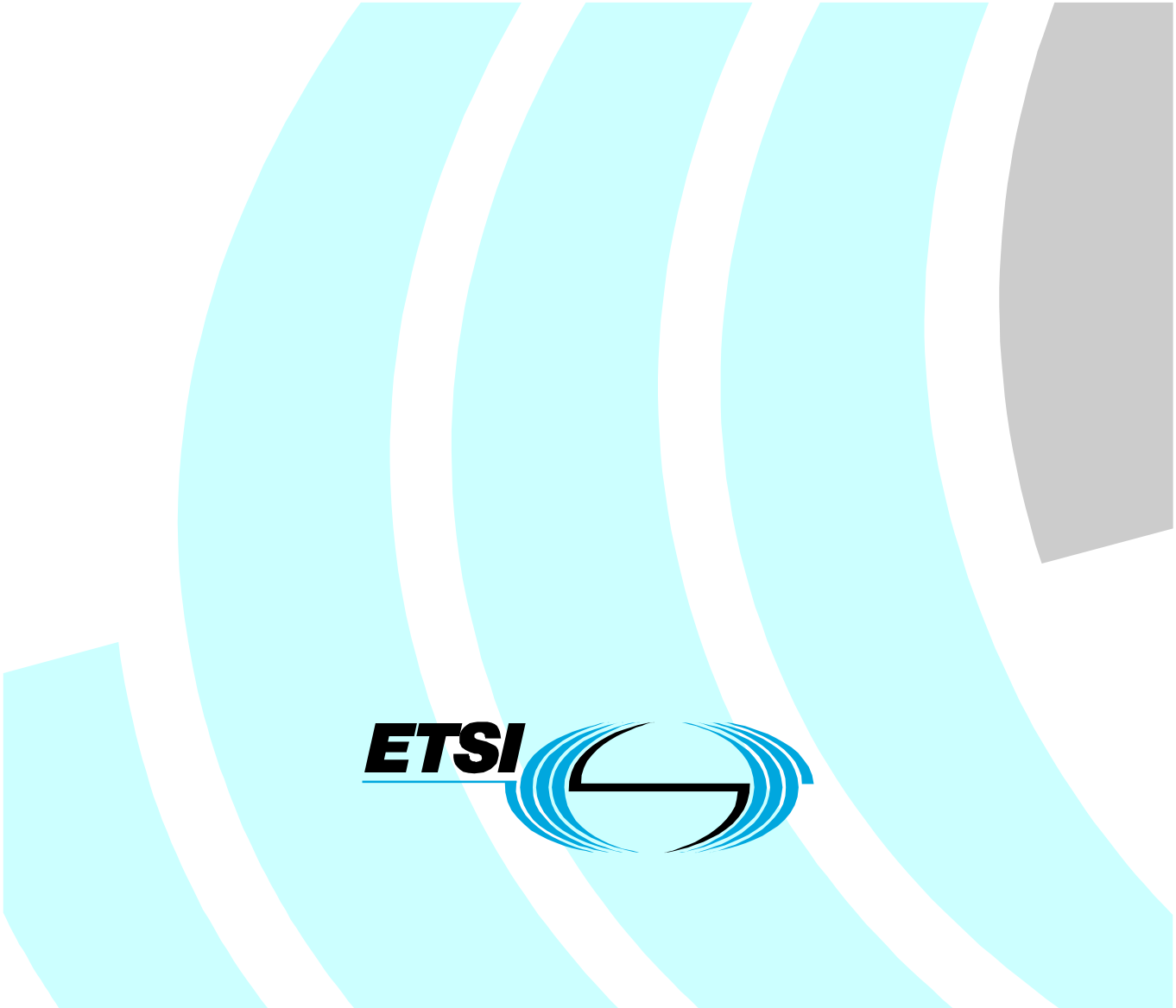
European Standard (Telecommunications series)

Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 10: Managed Direct Mode Operation (M-DMO)



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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 of a multi-part deliverable covering the Terrestrial Trunked Radio (TETRA); 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;

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

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

National transposition dates	
Date of adoption of this EN:	16 August 2002
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1 Scope

The multi-part deliverable ETS/EN 300 396 defines the Terrestrial Trunked Radio (TETRA) Direct Mode Operation (DMO). It specifies the basic air interface, the interworking between Direct Mode (DM) groups via repeaters, and interworking 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 defines TETRA Managed Direct Mode Operation (M-DMO).

M-DMO provides a means to restrict the use of Direct Mode Operation (DMO) by requiring prior authorization before a Direct Mode Mobile Station (DM-MS) is permitted to transmit on a radio frequency. This modifies the operation of DM-MSs from that specified in ETS 300 396-3 [3], EN 300 396-4 [4], ETS 300 396-5 [5] and EN 300 396-7 [7].

M-DMO provides a control mechanism by which radio frequencies (M-DMO frequencies) may be given for DMO use for a period of time; those frequencies are considered to be managed frequencies. All M-DMO devices operating on a managed frequency shall comply with the transmit restrictions defined in the present document.

An M-DMO DM-MS (M-DM-MS) may receive the authorization to transmit from a broadcast signal sent on the M-DMO frequency. Or, alternatively, it may obtain the authorization directly on the V+D side from the SwMI or from an M-DMO management station.

The authorizing unit which sends the broadcast signal on the M-DMO frequency is referred to as an M-DM-AUTH. It obtains the authorization to operate as an M-DM-AUTH from the V+D SwMI or from a management station that is authorized to allocate frequencies for M-DMO. An M-DM-AUTH may be a stand-alone unit (performing only the authorization function), or it may perform also the function of a DM-REP, DM-GATE or DM-REP/GATE.

The content of the present document is as follows:

- Clause 4: provides an overview of M-DMO;
- Clause 5: describes the procedures for M-DMO mobile stations;
- Clause 6: describes the procedures for M-DM-AUTHs;
- Clause 7: describes the operation of M-DMO frequencies;
- Clause 8: describes the usage of the authorization presence signal;
- Annex A: lists the timers and constants specific to M-DMO;
- Annexes B through F: describe the differences from ETS 300 396-3 [3], EN 300 396-4 [4], ETS 300 396-5 [5] and EN 300 396-7 [7] arising from M-DMO.

The present document assumes familiarity with operation of TETRA in a network environment as described in EN 300 392, and with operation of TETRA in Direct Mode as described in other parts of ETS/EN 300 396.

The present document does not define the process for deciding which frequencies are allocated to M-DMO use.