SLOVENSKI STANDARD
oSIST prEN 300 392-3-12 V1.4.0:2026

01-maj-2026

Prizemni snopovni radio (TETRA) - Govor in podatki (V+D) - 3. del: Medsebojno delovanje na medsistemskem vmesniku (ISI) - 12. poddel: Neodvisnost transportnih plasti dodatne omrežne funkcije: posamezni klic (ANF-ISIIC)

Terrestrial Trunked Radio (TETRA) - Voice plus Data (V+D) - Part 3: Interworking at the Inter-System Interface (ISI) - Sub-part 12: Transport layer independent Additional Network Feature Individual Call (ANF-ISIIC)

Ta slovenski standard je istoveten z: **ETSI EN 300 392-3-12 V1.4.0 (2026-03)**

ICS:

33.070.10	Prizemni snopovni radio (TETRA)	Terrestrial Trunked Radio (TETRA)
35.100.40	Transportni sloj	Transport layer

oSIST prEN 300 392-3-12 V1.4.0:2026 **en**

Draft ETSI EN 300 392-3-12 V1.4.0 (2026-03)

EUROPEAN STANDARD

Terrestrial Trunked Radio (TETRA);
Voice plus Data (V+D);
Part 3: Interworking at the Inter-System Interface (ISI);
Sub-part 12: Transport layer independent
Additional Network Feature Individual Call (ANF-ISIIC)

Reference
REN/TCCE-03279

Keywords
ANF, interworking, TETRA, V+D

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Sous-Préfecture de Grasse (06) N° w061004871

Contents

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Foreword

This draft European Standard (EN) has been produced by ETSI Technical Committee TETRA and Critical Communications Evolution (TCCE), and is now submitted for the combined Public Enquiry and Vote phase of the ETSI EN Approval Procedure (ENAP).

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

The present document is part 3, sub-part 12 of a multi-part deliverable covering the Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D), as identified below:

Part 1: "General network design";

Part 2: "Air Interface (AI)";

Part 3: "Interworking at the Inter-System Interface (ISI)":

Sub-part 1: "General design";

Sub-part 2: "Additional Network Feature Individual Call (ANF-ISIIC)";

Sub-part 3: "Additional Network Feature Group Call (ANF-ISIGC)";

Sub-part 4: "Additional Network Feature Short Data Service (ANF-ISISDS)";

Sub-part 5: "Additional Network Feature for Mobility Management (ANF-ISIMM)";

Sub-part 6: "Speech format implementation for circuit mode transmission";

Sub-part 7: "Speech Format Implementation for Packet Mode Transmission";

Sub-part 8: "Generic Speech Format Implementation";

Sub-part 9: "Transport layer independent, General design";

Sub-part 10: "General design, PSS1 over E.1";

Sub-part 11: "General design, SIP/IP";

Sub-part 12: "Transport layer independent Additional Network Feature Individual Call (ANF-ISIIC)";

Sub-part 13: "Transport layer independent Additional Network Feature Group Call (ANF-ISIGC)";

Sub-part 14: "Transport layer independent Additional Network Feature Short Data Service (ANF-ISISDS)";

Sub-part 15: "Transport layer independent Additional Network Feature, Mobility Management (ANF-ISIMM)";

Part 4: "Gateways basic operation";

Part 5: "Peripheral Equipment Interface (PEI)";

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";

Part 15: "TETRA frequency bands, duplex spacings and channel numbering";

Part 16: "Network Performance Metrics";

Part 17: "TETRA V+D and DMO specifications";

Part 18: "Air interface optimized applications";

Part 19: "Interworking between TETRA and Broadband systems".

NOTE 1: Part 3, sub-parts 6 and 7 (Speech format implementation), part 4, sub-part 3 (Data networks gateway), 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.

NOTE 2: Some parts are also published as Technical Specifications such as ETSI TS 100 392-2 and those may be the latest version of the document.

The present document is based on ETSI EN 300 392-3-2 [i.9] "Interworking at the Inter-System Interface, Sub-part 2 Additional Network Feature for Individual Call (ANF-ISIIC)". The main changes are:

- Removal of any reference to the bearer protocol.
- Clean up of stage 2 descriptions.

For all sub-parts in the TETRA specification ETSI EN 300 392-3, "Interworking at the Inter-System Interface (ISI)", the terms ISI and TETRA ISI are equivalent.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

1 Scope

The present document defines the Terrestrial Trunked Radio (TETRA) system supporting Voice plus Data (V+D). It specifies:

- the interworking of individual calls between TETRA networks;
- the supplementary services interaction with individual calls between TETRA networks.

The TETRA V+D interworking - basic operation part defines the interworking between TETRA networks over the corresponding interface: the Inter-System Interface (ISI). It comprises the following sub-parts:

- Transport layer independent General design [2];
- General Design, PSS1 over E.1 [i.10];
- General Design, SIP/IP [i.11];
- Transport layer independent Additional Network Feature - ISI Individual Call (ANF-ISIIC) (the present document);
- Transport layer independent Additional Network Feature - ISI Group Call (ANF-ISIGC) [5];
- Transport layer independent Additional Network Feature - ISI Short Data service (ANF-ISISDS) [i.8];
- Transport layer independent Additional Network Feature - ISI Mobility Management (ANF-ISIMM) [6];
- Generic Speech Format Implementation [i.7].

The present document is the ANF-ISIIC sub-part.

Like all other Additional Network Feature (ANF) specifications, those of ANF-ISIIC are produced in three stages, according to the method described in Recommendation ITU-T I.130 [i.4]. The present document contains the stage 1 and 2 descriptions of ANF-ISIIC, and stage 3 description. The stage 1 description specifies the ANF as seen by its users, which are essentially the individual call control entities in both TETRA networks. The stage 2 description identifies the functional entities involved in the ANF and the information flows between them. And the stage 3 description of ANF-ISIIC specifies its protocol.

NOTE 1: According to Recommendation ITU-T I.130 [i.4], the stage 3 description of a bearer or tele-service addresses the network implementation aspects. Consequently, it comprises two steps: the specifications of all protocols at the various reference points involved in any of the service procedures (notably the service operation) are the first step of the stage 3 description, and the specifications of the functions of the corresponding network entities are its second step.

NOTE 2: The SDL diagrams have not been provided since they can be derived from the specification of the functional entity actions in the stage 2 description.

The present document applies to TETRA networks which support inter-TETRA individual calls. More specifically, it applies to their Circuit Mode Control Entities (CMCE), as defined in clause 14.2 of ETSI EN 300 392-2 [1], and to their ANF-ISIIC entities defined in the stage 2 description.

The relation between the ANF-ISIIC and the transport layer protocol is described in the General Design documents [2], [i.10] and [i.11].

2 References

2.1 Normative 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 referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found in the ETSI docbox.

NOTE 1: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long-term validity.

NOTE 2: Note that for the TETRA standards, the reference is always to a European Standard (ETSI EN 300 xxx) if such has been published, but the latest version of that standard can be either an EN or a Technical Specification (ETSI TS 100 xxx), even if this is not visible in the reference list.

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

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

[2] ETSI EN 300 392-3-9: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 9: Transport layer independent, General design".

[3] Void.

[4] Void.

[5] ETSI EN 300 392-3-13: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 13: Transport layer independent Additional Network Feature Group Call (ANF-ISIGC)".

[6] ETSI EN 300 392-3-15: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 15: Transport layer independent Additional Network Feature, Mobility Management (ANF-ISIMM)".

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

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

[9] ISO/IEC 11572: "Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Circuit mode bearer services — Inter-exchange signalling procedures and protocol".

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

2.2 Informative 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 referenced document (including any amendments) applies.

NOTE 1: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long-term validity.

NOTE 2: Note that for the TETRA standards, the reference is always to a European Standard (ETSI EN 300 xxx) if such has been published, but the latest version of that standard can be either an EN or a Technical Specification (ETSI TS 100 xxx), even if this is not visible in the reference list.

The following referenced documents may be useful in implementing an ETSI deliverable or add to the reader's understanding, but are not required for conformance to the present document.

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

[i.2] ETSI EN 300 392-10-19: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 19: Barring of Incoming Calls (BIC)".

[i.3] ETSI EN 300 395-2: "Terrestrial Trunked Radio (TETRA); Speech codec for full-rate traffic channel; Part 2: TETRA codec".

[i.4] Recommendation ITU-T I.130: "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".

[i.5] ETSI TR 102 300-5: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Designers' guide; Part 5: Guidance on numbering and addressing".

[i.6] Void.

[i.7] ETSI EN 300 392-3-8: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 8: Generic Speech Format Implementation".

[i.8] ETSI EN 300 392-3-14: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 14: Transport layer independent Additional Network Feature Short Data Service (ANF-ISISDS)".

[i.9] ETSI EN 300 392-3-2: "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)".

[i.10] ETSI EN 300 392-3-10: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 10: General design, PSS1 over E.1".

[i.11] ETSI EN 300 392-3-11: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 11: General design, SIP/IP".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI EN 300 392-3-9 [2] and the following apply:

called SwMI: Switching and Management Infrastructure to which ANF-ISIIC routes the first call attempt

controlling SwMI: Switching and Management Infrastructure responsible of the speech item management in half duplex individual calls

NOTE: During the call setup the originating SwMI is also the controlling SwMI. When the calling party migrates during a call the control of the call is transferred to that SwMI.

fleet call: call to a closed user group using a Fleet Specific Short Number

NOTE: Refer to ETSI TR 102 300-5 [i.5], clause 5.4.3.

forward switching: network routeing algorithm which performs the routeing from SwMI A to SwMI C by joining together the first connection, from SwMI A to SwMI B, and a second connection from SwMI B to SwMI C

home SwMI: SwMI which is the home of the MS (or LS) ITSI, i.e. to which the Mobile Network Identity (MNI) which is part of the ITSI belongs

loop connection: ISI connection which has both its ends in the same SwMI

originating SwMI: Switching and Management Infrastructure in which the calling user has registered when the call is set up

re-routeing: network routeing algorithm which performs the routeing from SwMI A to SwMI C by replacing the connection from SwMI A to SwMI B by another connection from SwMI A to SwMI C

SwMI A: Switching and Management Infrastructure in which the calling user has registered or in case of call forwarding SS where the call forwarding is performed