BS EN ISO 17264:2009+A1:2019

BSI Standards Publication

Intelligent transport systems - Automatic vehicle and equipment identification - Interfaces

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National foreword

This British Standard is the UK implementation of EN ISO 17264:2009+A1:2019. It is identical to ISO 17264:2009, incorporating amendment 1:2019. It supersedes BS EN ISO 17264:2009, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee EPL/278, Intelligent transport systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Amendments/corrigenda issued since publication

Date	Text affected
31 March 2019	Implementation of ISO amendment 1:2019 with CEN endorsement A1:2019

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 17264:2009/A1

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English Version

Intelligent transport systems - Automatic vehicle and equipment identification - Interfaces

Systèmes intelligents de transport - Identification automatique des véhicules et de leurs équipements - Interfaces

Intelligente Transportsysteme - Automatische Identifikation von Fahrzeugen und Ausrüstungen - Schnittstellen

This European Standard was approved by CEN on 28 October 2009.

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European foreword

This document (EN ISO 17264:2009) has been prepared by Technical Committee CEN/TC 278 “Road transport and traffic telematics”, the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 204 "Intelligent transport systems".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2010, and conflicting national standards shall be withdrawn at the latest by May 2010.

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Foreword to amendment A1

This document (EN ISO 17264:2009/A1:2019) has been prepared by Technical Committee ISO/TC 204 "Intelligent transport systems" in collaboration with Technical Committee CEN/TC 278 “Intelligent transport systems” the secretariat of which is held by NEN.

This Amendment to the European Standard EN ISO 17264:2009 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

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Endorsement notice

The text of ISO 17264:2009/Amd 1:2019 has been approved by CEN as EN ISO 17264:2009/A1:2019 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 17264 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 278, *Road transport and traffic telematics*, in collaboration with Technical Committee ISO/TC 204, *Intelligent transport systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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Introduction

This International Standard provides requirements for interoperable ITS transactions in an “Automatic Vehicle Identification” (AVI), “Automatic Equipment Identification” (AEI) or “Electronic Registration Identification” (ERI) context. An AVI/AEI transaction is based on defined sets of AVI/AEI functions and data attributes as specified in this International Standard.

NOTE The principal definitions of AVI, AEI, ERI are to be found in ISO 14814, ISO 14815, ISO 14816, ISO 17261, ISO/TS 17262, ISO 17263, ISO/TS 24534 (all parts) and ISO 24535.

This International Standard specifies an application interface for AVI/AEI systems, based on standardized air interface protocols enabling interoperability between different AVI/AEI service providers.

In order to achieve full interoperability, AVI/AEI service providers will additionally have to agree on issues such as:

— protocol implementation conformance statements from manufacturers, detailing which optional features in the AVI/AEI transaction and air interface protocol are actually being implemented and used;

— any contractual agreements needed between AVI/AEI service providers in order to regulate the handling of different AVI/AEI transactions.

NOTE The definitions and examples provided in this International Standard may also be used in an ERI context, and those interested in this context are advised to also refer to ISO 24534 (all parts) and ISO 24535.

This International Standard has the following structure:

— Clauses 1 to 5 comprise the Scope, Conformance, Normative references, Terms and definitions, and Abbreviated terms.

— In Clause 6, the AVI/AEI transaction requirements are defined, which are independent of any air interface protocol.

— In Annex A, the AVI/AEI application interface architecture is described in terms of its relation to the DSRC communication architecture, based on EN 12834/ISO 15628.

— In Annex B, the AVI/AEI application interface architecture is described in terms of its relation to the air interfaces defined by the ISO/IEC 18000 series.

— In Annex C, AVI/AEI transaction examples are provided.

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Intelligent transport systems — Automatic vehicle and equipment identification — Interfaces

1 Scope

This International Standard provides the specifications of:

— common AVI/AEI transaction requirements, which define the common steps of any AVI/AEI transaction;

— AVI/AEI application interface to standardized wireless protocols (referred to as the "Air Interface") supporting the AVI transaction requirements, so as to enable interoperability.

In Figure 1 the conceptual architecture model is shown for AVI transactions between "On-board Equipment" and "Fixed Equipment". The air interface concerns the reference point DELTA in ISO 14814.

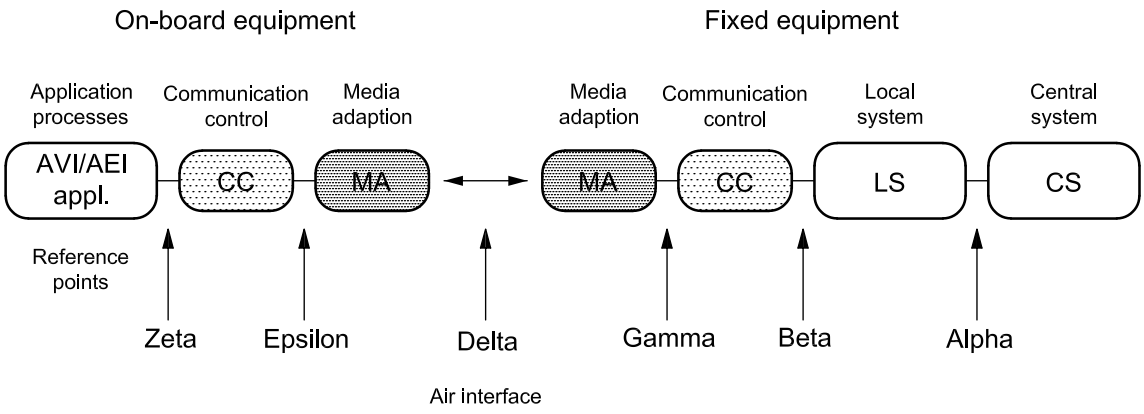

Figure 1 — Overall conceptual reference architecture model showing the context of AVI/AEI (ISO 14814)

This is an interface standard, adhering to the open systems interconnection (OSI) philosophy (ISO/IEC 7498-1), and it is as such not concerned with the implementation choices to be realized at either side of the air interface between the "Fixed Equipment" and "OBE".

2 Conformance

Conformance may be claimed where equipment conforms to the provisions of this International Standard.

No specific performance tests are defined within this International Standard.

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3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 8824-1, *Information technology — Abstract Syntax Notation One (ASN.1): Specification of basic notation — Part 1*

ISO 14816, *Road transport and traffic telematics — Automatic vehicle and equipment identification — Numbering and data structure*

ISO 15628, *Road transport and traffic telematics — Dedicated short range communication (DSRC) — DSRC application layer*

ISO/TS 17262, *Automatic vehicle and equipment identification — Intermodal goods transport — Numbering and data structures*

ISO/IEC 18000-3, *Information technology — Radio frequency identification for item management — Part 3: Parameters for air interface communication at 13,56 MHz*

ISO/IEC 18000-4, *Information technology — Radio frequency identification for item management — Part 4: Parameters for air interface communication at 2,45 GHz*

ISO/IEC 18000-6, *Information technology — Radio frequency identification for item management — Part 6: Parameters for air interface communications at 860 MHz to 960 MHz*

ISO/IEC 18000-7, *Information technology — Radio frequency identification for item management — Part 7: Parameters for active air interface communications at 433 MHz*

CEN ISO/TS 24534-3, *Automatic vehicle and equipment identification — Electronic Registration Identification (ERI) for vehicles — Part 3: Vehicle data*

EN 12834, *Road Transport and Traffic Telematics — Dedicated Short Range Communication (DSRC) — DSRC application layer*

4 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

4.1
action
function that an application process resident at the **roadside equipment** can invoke in order to make the on-board equipment execute a specific operation during the **AVI/AEI transaction**

4.2
air interface
conductor-free medium between an **OBE** and the reader/interrogator through which the linking of the **OBE** to the reader/interrogator is achieved by means of electro-magnetic signals

[ISO 14814:2006, definition 3.2]

4.3
attribute
application information formed by one or by a sequence of data elements, and managed by different actions used for implementation of an **AVI/AEI transaction**

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