

Road transport and traffic telematics (RTTT) - Dedicated shortrange communication - Profiles for RTTT applications

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13372:2004 sisaldab Euroopa standardi EN 13372:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 26.10.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13372:2004 consists of the English text of the European standard EN 13372:2004.</p> <p>This document is endorsed on 26.10.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This European Standard specifies DSRC profiles which provide coherent sets of communication tools for applications based on DSRC. These sets consist of subsets of functionality described in prEN 12253, EN 12795 and EN 12834, out of which a minimum subset is mandatory.</p>	<p>Scope:</p> <p>This European Standard specifies DSRC profiles which provide coherent sets of communication tools for applications based on DSRC. These sets consist of subsets of functionality described in prEN 12253, EN 12795 and EN 12834, out of which a minimum subset is mandatory.</p>
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Võtmesõnad:

English version

Road Transport and Traffic Telematics (RTTT) - Dedicated short-range communication - Profiles for RTTT applications

Télématique des transports routiers - Communication à courte portée véhicule/infrastructure - Profils pour les applications de télématique routière

Straßentransport- und Verkehrstelematik (RTTT) - Nahbereichskommunikation Fahrzeug-Infrastruktur (DSRC) - DSRC-Profil für RTTT-Anwendungen

This European Standard was approved by CEN on 23 April 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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Foreword

This document (EN 13372:2004) has been prepared by Technical Committee CEN/TC 278, "Road Transport and Traffic Telematics", the secretariat of which is held by NEN.

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 January 2005, and conflicting national standards shall be withdrawn at the latest by January 2005.

This document supersedes ENV 13372:1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

This document replaces ENV 13372. In order to facilitate migration from European Pre-standard (ENV) to European Standard, equipment procured and installed in accordance with ENV 13372 has been considered when drafting this European Standard. Operation of such equipment and procurement of additional equipment for systems based on such equipment can continue with reference to Directive 93/36/EEG Article 8 item 3c.

This document forms part of a series of European Standards defining the framework of a Dedicated Short Range Communication (DSRC) link in the Road Transport and Traffic Telematics (RTTT) environment.

The communication requirements of many RTTT applications can be fulfilled by DSRC. The DSRC Standards enable compliant communication systems to serve multiple RTTT applications in parallel.

The small service areas and severe real-time constraints require a specific protocol architecture leading to the reduced protocol stack shown in Figure 1, consisting of the Application Layer, the Data Link Layer, and the Physical Layer. Such an architecture is very common for real-time environments.

This document deals with the interlayer management of the DSRC protocol stack.

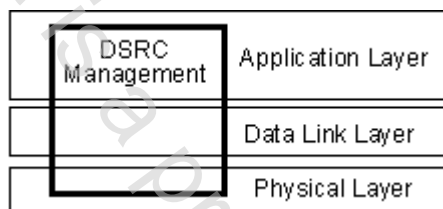


Figure 1 — DSRC protocol stack

The following set of documents for the DSRC link is issued by CEN:

EN 12253	Road transport and traffic telematics - Dedicated short-range communication - Physical layer using microwave at 5,8 GHz
EN 12795	Road transport and traffic telematics - Dedicated ShortRange Communication (DSRC) – DSRC data link layer - medium access and logical link control
EN 12834	Road transport and traffic telematics - Dedicated Short Range Communication (DSRC) – DSRC application layer
EN 13372	Road Transport and Traffic Telematics (RTTT) – Dedicated short-range communication - Profiles for RTTT applications

1 Scope

This document specifies DSRC profiles which provide coherent sets of communication tools for applications based on DSRC. These sets consist of subsets of functionality described in EN 12253, EN 12795 and EN 12834, out of which a minimum subset is mandatory.

The DSRC Standards EN 12253, EN 12795 and EN 12834, which together form a three-layered architecture for DSRC, are designed to encompass a wide range of services for different purposes in order to make the basic DSRC architecture suited for many different applications and for a wide range of possible products and systems.

DSRC systems can be built using one-way (downlink) or two-way (interactive) communication. The DSRC profiles described in this document are intended for interactive DSRC systems based on two-way communication and DSRC systems using one-way communication (broadcast services).

While EN 12253 contains very little variation, EN 12795 and especially EN 12834 describe a wide range of communication services. It has not been considered feasible to assume that any one piece of equipment is designed to implement all of these services. It is often the case that the functionality of the on board unit is more limited than the functionality of the roadside unit.

This document covers

- Physical Layer parameter values
- Data Link Layer subsets
- Application Layer subsets
- Initialisation procedures
- Late response procedures
- Termination procedures

2 Normative references

The following 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.

EN 12253	<i>Road transport and traffic telematics - Dedicated short-range communication - Physical layer using microwave at 5,8 GHz</i>
EN 12795	<i>Road transport and traffic telematics - Dedicated Short Range Communication (DSRC) - DSRC data link layer: medium access and logical link control</i>
EN 12834	<i>Road transport and traffic telematics - Dedicated Short Range Communication (DSRC) - DSRC application layer</i>
prEN ISO 14906	<i>Road transport and traffic telematics - Electronic fee collection - Application interface definition for dedicated short-range communication (ISO/DIS 14906:2004)</i>

3 Terms and definitions

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

3.1

Application

set of processes including related functions and structured data that uses the services offered by the DSRC communication stack

3.2

Beacon service table

data structure transmitted by the RSU to indicate available services