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Configurable Car Infotainment Service (CCIS) - Part 1: General (IEC 63246-1:2021)

Konfigurierbare Fahrzeug-Infotainment-Dienste (CCIS) - Teil 1: Allgemeines (IEC 63246-1:2021)

Services d'infodivertissements configurables pour les véhicules (CCIS) - Partie 1: Généralités (IEC 63246-1:2021)

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Configurable car infotainment services (CCIS) - Part 1: General (IEC 63246-1:2021)

Services d'infodivertissements configurables pour les véhicules (CCIS) - Partie 1: Généralités (IEC 63246-1:2021)

Konfigurierbare Fahrzeug-Infotainment-Dienste (CCIS) - Teil 1: Allgemeines (IEC 63246-1:2021)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 100/3414/CDV, future edition 1 of IEC 63246-1, prepared by IEC/TC 100 “Audio, video and multimedia systems and equipment” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63246-1:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022–07–01
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IEC 63246-1

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INTERNATIONAL STANDARD

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colour inside

Configurable car infotainment services (CCIS) – Part 1: General

Services d'infodivertissements configurables pour les véhicules (CCIS) – Partie 1: Généralités

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONFIGURABLE CAR INFOTAINMENT SERVICES (CCIS) –

Part 1: General

FOREWORD

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International Standard IEC 63246-1 has been prepared by TA17: Multimedia systems and equipment for vehicles, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this International Standard is based on the following documents:

CDV	Report on voting
100/3414/CDV	100/3538/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 63246 series, published under the general title *Configurable car infotainment services (CCIS),* can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

The market for car infotainment services (also known as "in-vehicle infotainment systems") has been growing rapidly, as reflected by the growth of the associated industries. It is expected that a variety of car infotainment (or multimedia) devices and services will be developed in the future. Such devices include navigation, cameras, speakers, headrest displays, air-conditioners, thermometers, heated seats, and lights. It is also expected that some devices will be developed to provide 4-dimensional experiences for users.

Car infotainment systems typically include A/V features (such as standard radio and CD players), and two-way communications tools, as well as hands-free phone connections, vehicle voice commands, and other types of interactive audios or videos. Car infotainment systems have evolved to allow passengers to watch movies and other visual media (for example, DVD players installed on the rear seats). Another distinctive feature of future car infotainment systems is mobile device connectivity. Newer vehicles provide a wide range of systems that allow devices (e.g. smartphones and laptops) to be connected to a variety of services embedded in the vehicle.

From this observation, there is a crucial need for standardization to provide car infotainment users with more enhanced services so as to easily manage and control infotainment devices as well as content within a car.

The purpose of the IEC 63246 series is to specify the general considerations, requirements, framework, and protocols to provide car users with the functionality of managing and controlling device and content resources within a car.

The IEC 63246 series consists of the following parts:

– Part 1: General;
– Part 2: Requirements;
– Part 3: Framework; and
– Part 4: Protocol.

IEC 63246-1 describes the general considerations of CCIS, which includes the CCIS system model and the types of CCIS users with the associated service flows.

IEC 63246-2 describes the requirements for CCIS, which include the CCIS functional entities, the communication model, and the functional requirements.

IEC 63246-3 describes the CCIS framework, which includes the information flows between functional entities and the CCIS operations, such as registration, device monitoring and control, and data transfer.

IEC 63246-4 describes the CCIS protocol, which includes the protocol messages and parameters, protocol procedures, implementation guidelines, etc.

CONFIGURABLE CAR INFOTAINMENT SERVICES (CCIS) –

Part 1: General

1 Scope

This part of IEC 63246 describes the general considerations of CCIS, which include the system model of the CCIS and the types of CCIS clients with the associated service flows.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
CCIS
configurable car infotainment services
service to manage and use a variety of devices within a car and to provide device control functionality for clients

Note 1 to entry: This note applies to the French language only.

3.2
CCIS user
user that can use and control the CCIS devices within the car with the help of the CCIS master

Note 1 to entry: CCIS users are classified as follows: car owner, temporary owner, public client, and private client.

3.3
CCIS device
device within the car that can be controlled and managed by the CCIS master, which can be a device (smart phone, speaker, multimedia player, etc.) or content (music, video, etc.) on a device

Note 1 to entry: Each CCIS device may be shared by one or more CCIS users.

3.4
CCIS master
central device to provide overall management and control functions for CCIS services and users

3.5
CCIS content
content comprising information and experience that are directed towards a CCIS user, which can be video, audio, still images, graphics, and data streams taken together to form a single identifiable unit

3.6
CCIS profile
information (metadata of device, service level, etc.) and set of parameters in which pre-configured settings or the CCIS user can provide specific instructions to the CCIS device (destination of navigation, sound size, brightness, screen size, air conditioner temperature setting, etc.)

4 System model

The CCIS service or system provides the CCIS users with a communication interface to easily manage and control a variety of CCIS devices and CCIS profiles within the car, with the help of the CCIS master, as shown in Figure 1. The CCIS system may be equipped within the car as a built-in platform or by a software upgrade.

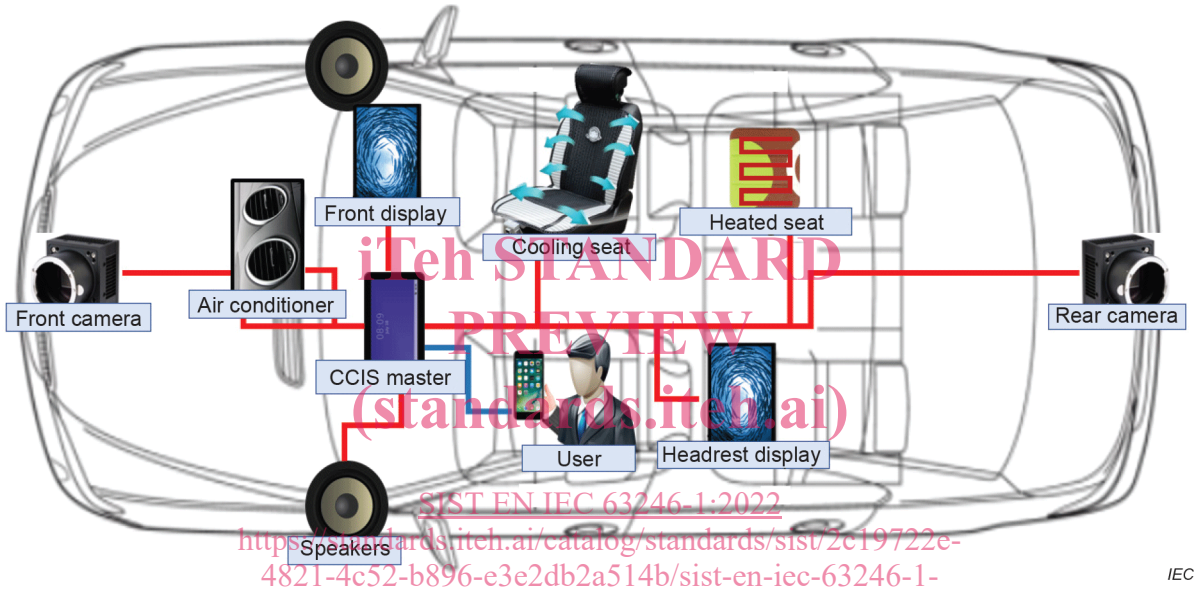

Figure 1 – CCIS environment

Figure 2 illustrates the system model of CCIS. The CCIS system connects the CCIS master to a variety of CCIS devices within a car to manage and control the CCIS devices. The CCIS users can use CCIS services through a communication interface with the CCIS master, in which a CCIS user can control a CCIS device or enjoy the CCIS content contained in the device. For this purpose, the CCIS master shall manage CCIS devices and CCIS profiles, such as device status and availability, and a CCIS user can access CCIS devices via appropriate registration and authentication processes with the CCIS master. A CCIS user can be categorized as follows: car owner, temporary owner, private client, and public client.