

Cable networks for television signals, sound signals and interactive services - Part 7-2: Hybrid fibre coax outside plant status monitoring - Media access control (MAC) layer specification

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60728-7-2:2005 sisaldab Euroopa standardi EN 60728-7-2:2004 ingliskeelset teksti.

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Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 60728-7-2:2005 consists of the English text of the European standard EN 60728-7-2:2004.

This standard is ratified with the order of Estonian Centre for Standardisation dated 13.06.2005 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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The standard is available from Estonian standardisation organisation.

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English version

**Cable networks for television signals,
sound signals and interactive services**
**Part 7-2: Hybrid Fibre Coax Outside Plant Status Monitoring –
Media access Control (MAC) Layer Specification**
(IEC 60728-7-2:2003)

Réseaux de distribution par câbles
pour signaux de télévision, signaux
de radiodiffusion sonore et services
interactifs
Partie 7-2: Surveillance de l'état
des installations extérieures des réseaux
hybrides à fibre optique et câble coaxial -
Spécification de la couche du contrôle
d'accès au support
(CEI 60728-7-2:2003)

Kabelnetze für Fernsehsignale,
Tonsignale und interaktive Dienste
Teil 7-2: Zustandsüberwachung Hybrid-
Faser-Koax-Netze (HFC) –
Festlegung Steuerungsschicht
für Mediumzugriff (MAC)
(IEC 60728-7-2:2003)

This European Standard was approved by CENELEC on 2004-12-01. CENELEC 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.

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard IEC 60728-7-2:2003, prepared by technical area 5: Cable networks for television signals, sound signals and interactive services, of IEC TC 100, Audio, video and multimedia systems and equipment, was submitted to the formal vote and was approved by CENELEC as EN 60728-7-2 on 2004-12-01 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2005-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2007-12-01

Endorsement notice

The text of the International Standard IEC 60728-7-2:2003 was approved by CENELEC as a European Standard without any modification.

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INTERNATIONAL STANDARD

IEC
60728-7-2

First edition
2003-10

**Cable networks for television signals,
sound signals and interactive services –**

**Part 7-2:
Hybrid Fibre Coax Outside Plant
Status Monitoring –
Media access Control (MAC)
Layer Specification**



Reference number
IEC 60728-7-2:2003(E)

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Part 7-2: Hybrid Fibre Coax Outside Plant Status Monitoring – Media access Control (MAC) Layer Specification

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CABLE NETWORKS FOR TELEVISION SIGNALS,
SOUND SIGNALS AND INTERACTIVE SERVICES –**
**Part 7-2: Hybrid Fibre Coax Outside Plant status monitoring –
Media Access Control (MAC) layer specification**

FOREWORD

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International Standard IEC 60728-7-2 has been prepared by technical area 5: Cable networks for television signals, sound signals and interactive services, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This standard was submitted to the national committees for voting under the IEC Fast Track Procedure as the following documents:

CDV	Report on voting
100/577/CDV	100/684/RVC

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

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

The following differences exist in some countries:

The Japanese *de facto* standard (NCTEA S-006) concerning requirements for the HFC outside plant management, which was published in 1995, has already been available in Japan. The purpose of this standard is to support the design and implementation of interoperable management systems for HFC cable networks used in Japan.

INTRODUCTION

Standards of the IEC 60728 series deal with cable networks for television signals, sound signals and interactive services including equipment, systems and installations for

- head-end reception, processing and distribution of television and sound signals and their associated data signals, and
- processing, interfacing and transmitting all kinds of signals for interactive services

using all applicable transmission media.

All kinds of networks like

- CATV-networks,
- MATV-networks and SMATV-networks,
- individual receiving networks,

and all kinds of equipment, systems and installations installed in such networks, are within this scope.

The extent of this standardization work is from the antennas, special signal source inputs to the head-end or other interface points to the network up to the system outlet or the terminal input, where no system outlet exists.

The standardization of any user terminals (i.e. tuners, receivers, decoders, multimedia terminals, etc.) as well as any coaxial and optical cables and accessories therefore is excluded.

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CABLE NETWORKS FOR TELEVISION SIGNALS, SOUND SIGNALS AND INTERACTIVE SERVICES –

Part 7-2: Hybrid Fibre Coax Outside Plant status monitoring – Media Access Control (MAC) layer specification

1 Scope

This part of IEC 60728 specifies requirements for The Hybrid Fibre Coax (HFC) Outside Plant (OSP) Media Access Control (MAC) Layer. This standard is part of the series developed to support the design and implementation of interoperable management systems for evolving HFC cable networks. The HMS Media Access Control (MAC) layer specification describes the messaging and protocols implemented at the Data Link Layer (DLL), layer 2 in the 7 layer ISO-OSI reference model, that support reliable and efficient communications between HMS compliant transponders interfacing to managed OSP network elements (NEs) and a centralized head-end element (HE).

This standard describes the MAC layer protocols that must be implemented between all *Type 2* and *Type 3* compliant OSP transponders on the HFC plant and the controlling equipment in the head-end to support bandwidth management and reliable communications. Any exceptions to compliance with this standard will be specifically noted herein as necessary. Refer to Table 1 for a full definition of the type classifications.

Transponder type classifications referenced within the HMS series of standards are defined in Table 1.

Table 1 – Transponder type classifications

Type	Description	Application
Type 0	Refers to legacy transponder equipment, which is incapable of supporting the specifications	This transponder interfaces with legacy network equipment through proprietary means. This transponder could be managed through the same management applications as the other types through proxies or other means at the head-end.
Type 1	Refers to stand-alone transponder equipment (legacy or new), which can be upgraded to support the specifications	This transponder interfaces with legacy network equipment through proprietary means. Type 1 is a standards-compliant transponder (either manufactured to the standard or upgraded) that connects to legacy network equipment via a proprietary interface.
Type 2	Refers to a stand-alone, compliant transponder	This transponder interfaces with network equipment designed to support the electrical and physical specifications defined in the standards. It can be factory or field-installed. Its RF connection is independent of the monitored NE.
Type 3	Refers to a stand-alone or embedded, compliant transponder.	This transponder interfaces with network equipment designed to support the electrical specifications defined in the standards. It may or may not support the physical specifications defined in the standards. It can be factory-installed. It may or may not be field-installed. Its RF connection is through the monitored NE.

2 Normative references

None.