

**Cable networks for television signals,  
sound signals and interactive services  
- Part 9: Interfaces for CATV/SMATV  
headends and similar professional  
equipment for DVB/MPEG-2 transport  
streams**

Cable networks for television signals, sound signals  
and interactive services - Part 9: Interfaces for  
CATV/SMATV headends and similar professional  
equipment for DVB/MPEG-2 transport streams

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 50083-9:2003 sisaldab Euroopa standardi EN 50083-9:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 12.03.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 50083-9:2003 consists of the English text of the European standard EN 50083-9:2002.</p> <p>This document is endorsed on 12.03.2003 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><b>Käsitlusala:</b></p> <p>This standard describes physical interfaces for the interconnection of signal processing devices for professional CATV/SMATV headend equipment or for similar systems, such as in uplink stations. Especially this document specifies the transfer of MPEG-2 data signals in the standardized transport layer format between devices of different signal processing functions</p>	<p><b>Scope:</b></p> <p>This standard describes physical interfaces for the interconnection of signal processing devices for professional CATV/SMATV headend equipment or for similar systems, such as in uplink stations. Especially this document specifies the transfer of MPEG-2 data signals in the standardized transport layer format between devices of different signal processing functions</p>
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ICS 33.060.40

Võtmesõnad:

English version

**Cable networks for television signals,  
sound signals and interactive services  
Part 9: Interfaces for CATV/SMATV headends and similar  
professional equipment for DVB/MPEG-2 transport streams**

Réseaux de distribution par câbles  
destinés aux signaux de radiodiffusion  
sonore, de télévision et aux services  
interactifs  
Partie 9: Interfaces pour les têtes  
de réseaux pour antennes  
communautaires, antennes collectives  
par satellite et matériels professionnels  
analogues pour les flux transport  
DVB/MPEG-2

Kabelnetze für Fernsehsignale,  
Tonsignale und interaktive Dienste  
Teil 9: Schnittstellen  
für CATV-/SMATV-Kopfstellen und  
vergleichbare professionelle Geräte  
für DVB/MPEG-2-Transportströme

This European Standard was approved by CENELEC on 2002-07-01. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

# CENELEC

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

This European Standard was prepared by CENELEC Technical Committee TC 209, "Cable networks for television signals, sound signals and interactive services" on the basis of EN 50083-9:1998 and a draft amendment to which was submitted to the Unique Acceptance Procedure.

The amendment was approved by CENELEC on 2002-07-01 to be published as part of a third edition of EN 50083-9.

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) 2003-07-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2005-07-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A and B are normative and annexes C, D, E, F and G are informative.

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## **1 Scope**

### **1.1 General**

Standards of EN 50083 series deal with cable networks for television signals, sound signals and interactive services including equipment, systems and installations

- for headend reception, processing and distribution of television and sound signals and their associated data signals and
- for 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 headend 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 of any coaxial and optical cables and accessories therefor is excluded.

### **1.2 Specific scope of this part 9**

This standard describes physical interfaces for the interconnection of signal processing devices for professional CATV/SMATV headend equipment or for similar systems, such as in uplink stations. Especially this document specifies the transfer of DVB/MPEG-2 data signals in the standardized transport layer format between devices of different signal processing functions.

RF interfaces and interfaces to telecom networks are not covered in this document.

In addition references are made to all other parts of EN 50083 series (Cable networks for television signals, sound signals and interactive services) and in particular for RF, video and audio interfaces to part 5: "Headend equipment".

For connections to telecom networks a special Data Communication Equipment (DCE) is necessary to adapt the serial or parallel interfaces specified in this document to the bitrates and transmission formats of the public Plesiochronic Digital Hierarchy (PDH) networks. Other emerging technologies such as Connectionless Broadband Data Services (CBDS), Synchronous Digital Hierarchy (SDH), Asynchronous Transfer Mode (ATM) etc. can be used for transmitting MPEG-2 Transport Streams (TS) between remote locations. ATM is particularly suitable for providing bandwidth on demand and it allows for high data rates.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 50083		Cable networks for television signals, sound signals and interactive services
EN 50083-1 + A1 + A2	1993 1997 1997	Part 1: Safety requirements
EN 50083-2	2001	Part 2: Electromagnetic compatibility for equipment
EN 50083-3	2002	Part 3: Active wideband equipment for coaxial cable networks
EN 50083-4	1998	Part 4: Passive wideband equipment for coaxial cable networks
EN 50083-5	2001	Part 5: Headend equipment
EN 50083-6	1997	Part 6: Optical equipment
EN 50083-7 + A1	1996 2000	Part 7: System performance
EN 50083-8	2002	Part 8: Electromagnetic compatibility for networks
EN 60793-2-10	2002	Optical fibres - Part 2-10: Product specifications - Sectional specification for category A1 multimode fibres (IEC 60793-2-10:2002)
EN 60793-2-50	2002	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres (IEC 60793-2-50:2002)
EN ISO/IEC 13818-1	1997	Information technology - Generic coding of moving pictures and associated audio information - Part 1: Systems (ISO/IEC 13818-1:1996)
EN ISO/IEC 13818-9	2000	Information technology - Generic coding of moving pictures and associated audio information - Part 9: Extension for real-time interface for systems decoders (ISO/IEC 13818-9:1996)
EN 300 421	1997	Digital Video Broadcasting (DVB) - Framing structure, channel coding and modulation for 11/12 GHz satellite services
EN 300 429	1997	Digital Video Broadcasting (DVB) - Framing structure, channel coding and modulation for cable systems



EN 300 473	1997	Digital Video Broadcasting (DVB) - Satellite Master Antenna Television (SMATV) distribution systems
ETR 290	1997	Digital Video Broadcasting (DVB) - Measurement guidelines for DVB systems
IEC 60169-8	1978	Radio frequency connectors - Part 8: RF coaxial connectors with inner diameter of outer conductor 6,5 mm (0,25 in) with bayonet lock - Characteristic impedance 50 $\Omega$ (type BNC)
IEC 60793-2	series	Optical fibres - Part 2: Product specifications
IEC 60874-14	1993	Connectors for optical fibres and cables - Part 14: Sectional specification for fibre-optic connector - Type SC
ISO 2110	1989	Information technology - Data communication, 25 pole DTE/DCE interface connector and contact number assignments
ISO/IEC 14165-111	<sup>1)</sup>	Information technology - Fibre Channel - Part 111: Physical and signalling interface (FC-PH)
ITU-R Rec. BT.656-4	1998	Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:2:2 level of recommendation ITU-R BT.601
ITU-T Rec. G.654	2002	Characteristics of cut-off shifted single-mode optical fibre and cable
ITU-T Rec. G.703	2001	Physical/electrical characteristics of hierarchical digital interfaces
ITU-T Rec. G.957	1999	Optical interfaces for equipments and systems relating to the synchronous digital hierarchy

### 3 Terms, definitions and abbreviations

#### 3.1 Terms and definitions

##### 3.1.1

##### **headend**

equipment which is connected between receiving antennas or other signal sources and the remainder of the cable distribution system to process the signals to be distributed

NOTE The headend may, for example, comprise antenna amplifiers, frequency converters, combiners, selectors and generators.

##### 3.1.2

##### **Satellite Master Antenna Television system (SMATV)**

a system which is designed to provide sound and television signals to the households of a building or group of buildings

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<sup>1)</sup> In preparation