

TECHNICAL REPORT

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**Cable networks for television signals,  
sound signals and interactive services –  
System guidelines for analogue optical transmission systems**

Réseaux de distribution par câbles  
pour signaux de télévision, signaux de  
radiodiffusion sonore et services  
interactifs –  
Lignes directrices pour les systèmes de  
transmission optique analogiques

Kabelnetze für Fernsehsignale, Tonsignale  
und interaktive Dienste –  
System-Leitfaden für analoge optische  
Übertragungssysteme

This Technical Report was approved by CENELEC on 2005-05-21.

CENELEC members are the national electrotechnical committees 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.

**CENELEC**

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

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## Foreword

Standards are very important sources of information on terms, definitions and minimum requirements for technical products. EN 60728-6 is such a standard for optical equipment used in cable networks for television signals, sound signals and interactive services. However, a lot of additional information and knowledge is needed for designing and planning complete optical transmission systems. This kind of information is not suitable for a standard because system engineers need freedom in their methods of finding economical solutions for special needs. CENELEC TC 209 therefore decided to develop this Technical Report which provides guidelines in how to use EN 60728-6 for planning analogue optical transmission systems.

This Technical Report was prepared by the Technical Committee CENELEC TC 209, Cable networks for television signals, sound signals and interactive services.

The text of the draft was submitted to the formal vote and was approved by CENELEC as CLC/TR 50460 on 2005-05-21.

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# 1 Scope

## 1.1 General

Standards of the EN 50083 and EN 60728 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 sound and television 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- 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 standardisation work is from the antennas, special signal source inputs to the headend or other interface points to the network up to the terminal input.

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

## 1.2 Scope of this Technical Report

This Technical Report provides guidelines and procedures for determining the overall performance of optical transmissions systems used in cable networks for television signals, sound signals and interactive services. It is based on the requirements for optical equipment defined in the standard EN 60728-6 (Cable networks for television signals, sound signals and interactive services – Part 6: Optical equipment) and should be used together with this standard. The information provided is meant to help field engineers and network planners (system designers) in planning and designing optical systems. Though this content is less dense than in a standard, basic knowledge about system parameters of cable networks is needed.

## 2 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.

EN 50083-3	2002	Cable networks for television signals, sound signals and interactive services - Part 3: Active wideband equipment for coaxial cable networks
EN 50083-7 + A1	1996 2000	Cable networks for television signals, sound signals and interactive services - Part 7, System performance
EN 60728-6	2003	Cable networks for television signals, sound signals and interactive services - Part 6, Optical equipment (IEC 60728-6:2003)
EN 60793-2	2004	Optical fibres - Part 2: Product specifications - General (IEC 60793-2:2003)
IEC/TR 61931	1998	Fibre optics – Terminology