TECHNICAL REPORT

IEC TR 60728-6-1

First edition
2006-12

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

Part 6-1: System guidelines for analogue optical transmission systems



Reference number
IEC/TR 60728-6-1:2006(E)

Publication numbering

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International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE X

For price, see current catalogue

CONTENTS

FOREWORD 4
INTRODUCTION 6

1 Scope 7
2 Normative references 7
3 Terms, definitions, symbols and abbreviations 7
3.1 Symbols 7
3.2 Abbreviations 7
4 Topologies used for optical transmission systems in cable networks 8
4.1 Point-to-point system 8
4.2 Point-to-multi-point system 8
4.3 Multi-point-to-point system 9
4.4 Real wavelength division multiplex system 10
4.5 Combinations 10
5 Influences of equipment and fibre parameters on the system performance 10
6 Optical modulation index 11
6.1 Single wavelength system 12
6.2 WDM systems 13
6.3 Choosing the right input level at the transmitter 13
7 Carrier-to-noise ratio 14
7.1 Short-haul links with a single transmitter 14
7.2 Long-haul point-to-point link 15
7.3 Multiple transmitter systems (WDM) 16
7.4 Transmission systems with optical fibre amplifier 16
8 Linearity 17
8.1 Composite second order (CSO) 18
8.2 Composite triple beat (CTB) 20
9 Flatness 21
10 Output level 21

Annex A (informative) Brillouin scattering in optical fibres 22
Annex B (informative) Noise sources of optical transmission systems 24
Annex C (informative) Non-linear distortion in optical transmission systems 29

Bibliography 44

Figure 1 – Point-to-point system 8
Figure 2 – Point-to-multi-point system 9
Figure 3 – Multipoint-to-point system 9
Figure 4 – Real wavelength division multiplex system 10
Figure 5 – Definition of OMI for an optical transmitter 12
Figure C.1 – Distortion of Volterra series expansion 30

Figure C.2 – Weighted second- and third-order distortion repartition for the 42 carriers frequency allocation map defined in Table C.1 of IEC 60728-3 (software window capture) 31
Figure C.3 – Polarization-mode dispersion in single-mode fibre 33
Figure C.4 – Static curve of a laser showing the clipping effect 34
Figure C.5 – Transmitted and back-scattered power in the range of the Brillouin threshold 35
Figure C.6 – Cause of self-phase modulation 35
Figure C.7 – CSO caused by laser chirping and chromatic dispersion 37
Figure C.8 – CSO degradation without PDL 38
Figure C.9 – CSO degradation with PDL = 0,5 dB [12] 38
Figure C.10 – Simulated and measured intermodulation due to laser clipping 39
Figure C.11 – Zoom on a CTB 43

Table 1 – Interdependencies between equipment and system properties and performance parameters 11
Table C.1 – Weightings of HD2, HD3, IMD2 and IMD3 30

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 6-1: System guidelines for analogue optical transmission systems

FOREWORD

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IEC 60728-6-1, which is a technical report, 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.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
100/1078/DTR	100/1142A/RVC

Full information on the voting for the approval of this technical report 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.

A list of all the parts of the IEC 60728 series, under the general title *Cable networks for television signals, sound signals and interactive services*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

A bilingual version of this publication may be issued at a later date.

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 sound and television signals and their associated data signals;
- 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 terminal input.

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 thereof is excluded.

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

Part 6-1: System guidelines for analogue optical transmission systems

1 Scope

This part of IEC 60728 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 IEC 60728-6 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.

IEC 60728-1, *Cable networks for television signals, sound signals and interactive services – Part 1: Methods of measurement and system performance*

IEC 60728-3, *Cable networks for television signals, sound signals and interactive services – Part 3: Active wideband equipment for coaxial cable networks*

IEC 60728-6, *Cable networks for television signals, sound signals and interactive services – Part 6: Optical equipment*

IEC 60793-2, *Optical fibres – Part 2: Product specifications – General*

IEC 61931, *Fibre optics – Terminology*

3 Terms, definitions, symbols and abbreviations

For the purposes of this document, the terms, definitions, symbols and abbreviations given in IEC 60728-1, IEC 60728-6 and IEC/TR 61931 apply.

3.1 Symbols

In addition to the symbols given in the above-mentioned references, the following graphical symbol is used in the figures of this technical report.

WDM wavelength division multiplexer

3.2 Abbreviations

In addition to the abbreviations given in the above-mentioned references, the following abbreviations are used in this technical report.

2HD second harmonic distortion