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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Cable networks for television signals, sound signals and interactive services – Part 13-1: Bandwidth expansion for broadcast signal over FTTH system

Réseaux de distribution par câbles pour signaux de télévision, signaux de radiodiffusion sonore et services interactifs – Partie 13-1: Extension de la largeur de bande pour les signaux de diffusion sur un système DFA

IEC 60728-13-1:2017 (en-fr)

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

Part 13-1: Bandwidth expansion for broadcast signal over FTTH system

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International Standard IEC 60728-13-1 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 second edition cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition.

- Transmission frequency was expanded in order to achieve satellite signal for 4 K video service. The transmission frequency over FTTH would be 3 300 MHz.
- High signal modulation case like 16 APSK and 32 APSK was added in order to correspond to transmission for 4 K video service.

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

FDIS	Report on voting
100/2927/FDIS	100/2959/RVD

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

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

A list of all parts in the IEC 60728 series, published 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 document will remain unchanged until the stability date indicated on the IEC website under "http://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- withdrawn,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.

The contents of the corrigendum of September 2017 have been included in this copy.

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

Standards and deliverables of the IEC 60728 series deal with cable networks including equipment and associated methods of measurement for headend reception, processing and distribution of television and sound signals and for processing, interfacing and transmitting all kinds of data signals for interactive services using all applicable transmission media. These signals are typically transmitted in networks by frequency-multiplexing techniques.

This includes for instance

- regional and local broadband cable networks,
- extended satellite and terrestrial television distribution systems,
- individual satellite and terrestrial television receiving systems,

and all kinds of equipment, systems and installations used in such cable networks, distribution and receiving systems.

The extent of this standardization work is from the antennas and/or special interfaces to the headend or other interface points to the network up to any terminal interface of the customer premises equipment.

The standardization work will consider coexistence with users of the RF spectrum in wired and wireless transmission systems.

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

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

Part 13-1: Bandwidth expansion for broadcast signal over FTTH system

1 Scope

The purpose of this part of IEC 60728 is the precise description of an FTTH (fibre to the home) system for expanding broadband broadcast signal transmission from CATV services only towards CATV plus broadcast satellite (BS) plus communication satellite (CS) services, additionally to other various signals such as data services.

The scope is limited to the RF signal transmission over FTTH systems.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60728-1:2014, *Cable networks for television signals, sound signals and interactive services – Part 1: System performance of forward paths*

IEC 60728-6:2011, *Cable networks for television signals, sound signals and interactive services – Part 6: Optical equipment*

IEC 60728-13:2010, *Cable networks for television signals, sound signals and interactive services – Part 13: Optical systems for broadcast signal transmissions*

IEC 60728-113:—, *Cable networks for television signals, sound signals and interactive services – Part 113: Optical systems for broadcast signal transmissions loaded with digital channels only*[1]

IEC 61280-1-3:2010, *Fibre optic communication subsystem test procedures – Part 1-3: General communication subsystems – Central wavelength and spectral width measurement*

ITU-T Recommendation G.694.1, *Spectral grids for WDM applications: DWDM frequency grid*

ITU-T Recommendation G.694.2, *Spectral grids for WDM applications: CWDM wavelength grid*

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

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

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1 Under preparation. Stage at the time of publication: IEC ACDV 60728-113: 2017.