
Kabelska omrežja za televizijske in zvokovne signale ter interaktivne storitve - 101-1. del: RF-okablenje za dvosmerna domača omrežja z obremenitvami popolnoma digitaliziranih kanalov (IEC 60728-101-1:2023)

Cable networks for television signals, sound signals and interactive services - Part 101-1: RF cabling for two-way home networks with all-digital channels load (IEC 60728-101-1:2023)

Kabelnetze für Fernsehsignale, Tonsignale und interaktive Dienste - Teil 101-1: HF-Verkabelung für bidirektionale Heimnetze mit rein digitaler Kanallast (IEC 60728-101-1:2023)

Réseaux de distribution par câbles pour signaux de télévision, signaux de radiodiffusion sonore et services interactifs - Partie 101-1: Câblage RF pour réseaux domestiques bidirectionnels soumis à une charge de porteuses exclusivement numériques (IEC 60728-101-1:2023)

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**Cable networks for television signals, sound signals and
interactive services - Part 101-1: RF cabling for two-way home
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(IEC 60728-101-1:2023)**

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(IEC 60728-101-1:2023)

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Heimnetze mit rein digitaler Kanallast
(IEC 60728-101-1:2023)

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EN IEC 60728-101-1:2023 (E)**European foreword**

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This document is read in conjunction with EN 60728-101:2017.

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The text of the International Standard IEC 60728-101-1:2023 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60728-101-2 NOTE Approved as EN IEC 60728-101-2

IEC 61169-2 NOTE Approved as EN 61169-2

IEC 61169-24 NOTE Approved as EN IEC 61169-24

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60728-1	2014	Cable networks for television signals, sound signals and interactive services - Part 1: System performance of forward paths	EN 60728-1	2014
IEC 60728-101	2016	Cable networks for television signals, sound signals and interactive services - Part 101: System performance of forward paths loaded with digital channels only	EN 60728-101	2017
IEC 60728-3	2017	Cable networks for television signals sound signals and interactive services - Part 3: Active wideband equipment for coaxial cable networks	EN IEC 60728-3	2018
IEC 60728-10	-	Cable networks for television signals, sound signals and interactive services - Part 10: System performance of return paths	EN 60728-10	-
-	-	-	+ AC	2017-07
IEC 60966	series	Radio frequency and coaxial cable assemblies	EN IEC 60966	series
ISO/IEC/IEEE 8802-11	-	Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 11: Wireless LAN medium access control (MAC) and physical layer (PHY) specifications	-	-



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Part 101-1: RF cabling for two-way home networks with all-digital channels load**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CABLE NETWORKS FOR TELEVISION SIGNALS,
SOUND SIGNALS AND INTERACTIVE SERVICES –****Part 101-1: RF cabling for two-way home networks
with all-digital channels load**

FOREWORD

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IEC 60728-101-1 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. It is an International Standard.

This International Standard is to be used in conjunction with IEC 60728-101:2016.

The text of this standard is based on the following documents:

Draft	Report on voting
100/3904/FDIS	100/3945/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all 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 reader's attention is drawn to the fact that Annex F lists all of the "in-some-country" clauses on differing practices of a less permanent nature relating to the subject of this document.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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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 signal source inputs to the headend or other interface points to the network up to the terminal input 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.

The reception of television signals inside a building requires an outdoor antenna and a distribution network to convey the signal to the TV receivers.

This part of the IEC 60728 deals with the requirements and implementation guidelines for a home network that can be realised with different techniques. The following types of home networks (HN) are possible:

- passive coaxial home network;
- active coaxial home network;
- different home network types (cases A to D shown in Figure 1).

Figure 1 shows typical situations that are possible when considering RF home networks.

The RF home network can be realised using coaxial cables, balanced cables, optical cables or radio links.

This document considers digital signals only and is based on IEC 60728-101 dealing with system performance of forward paths loaded with digital channels only. For RF cable systems loaded with analogue and digital signals, refer to IEC 60728-1-1 ED2.

Figure 4 to Figure 9 have been amended to take into account the level requirement for digital signals only.

Although the upper frequency range of terrestrial broadcast signals depends on the allocation frequency plan of each region (e.g. in Europe it is 694 MHz, the 700 MHz and 800 MHz bands being assigned to telecommunication services), the upper frequency range into the cable networks can be maintained at 862 MHz in order to maximise the number of channels to be distributed in the cable networks, assuming that sufficient immunity (screening efficiency) to signals radiated in the 700 MHz and 800 MHz bands is provided.

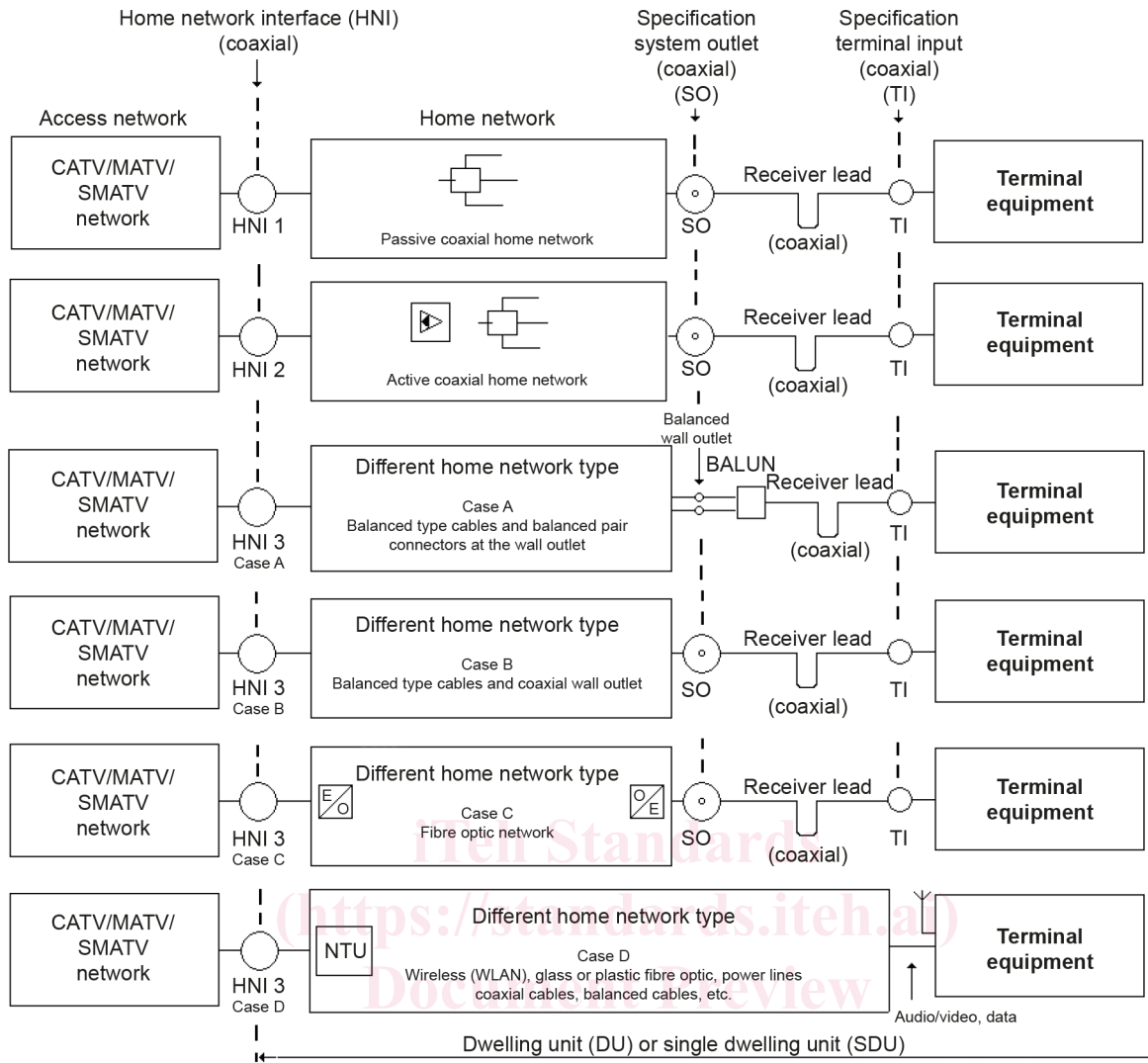


Figure 1 – Examples of RF home network types