

## **Satellite signal distribution over a single coaxial cable in single dwelling installations**

Satellite signal distribution over a single coaxial  
cable in single dwelling installations

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 50494:2007 sisaldab Euroopa standardi EN 50494:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.12.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 50494:2007 consists of the English text of the European standard EN 50494:2007.</p> <p>This document is endorsed on 18.12.2007 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> This European Standard describes: - the system physical structure; - the system control signals, which implement an extension of the DiSEqC set of commands described in the DiSEqC Bus Functional Specifications Version 4.2, February 25, 1998; - the definition of identified configurations; - management of the potential collisions in the control signals traffic.</p>	<p><b>Scope:</b> This European Standard describes: - the system physical structure; - the system control signals, which implement an extension of the DiSEqC set of commands described in the DiSEqC Bus Functional Specifications Version 4.2, February 25, 1998; - the definition of identified configurations; - management of the potential collisions in the control signals traffic.</p>
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ICS 33.060.30, 33.160.01

Võtmesõnad:

English version

**Satellite signal distribution over a single coaxial cable  
in single dwelling installations**

Distribution de signaux satellites  
sur un seul câble coaxial  
dans les résidences individuelles

Signalverteilung von Satellitensignalen  
über ein einziges koaxiales  
Kabelverteilstnetz

This European Standard was approved by CENELEC on 2007-03-01. 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.

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**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 the Technical Committee CENELEC TC 206, Consumer equipment for entertainment and information and related sub-systems.

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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) 2008-05-01
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## Introduction

In EN 61319-1:1995 the interfaces for the control and command of the devices associated with the satellite receivers are described in the following clauses:

- Clause 4: Interfaces requirements for polarizer and polar switchers;
- Clause 5: Interfaces requirements for low-noise block converters (LNB).

In these clauses, analogue techniques are described for controlling the LNB and polar switchers.

In EN 61319-1/A11, the “Digital Satellite Equipment Control Bus” (called DiSEqC) is introduced as a single method of communication between the satellite and the peripheral equipment, using only the existing coaxial cables.

The purpose of this document is to introduce a complete system for distributing via a single coaxial cable signals issued from different bands and polarizations to several satellite receivers.

The presented system is intended for single dwelling installation (individual subscriber installations) but in Clause 9 of this document there is also described an optional extension for multiple dwelling installations.

The presented system is scaled for installations in which the number of demodulators is limited to a maximum number of 8 units per output of the Single Cable Interface (hereafter referred to as SCIF) device.

## 1 Scope

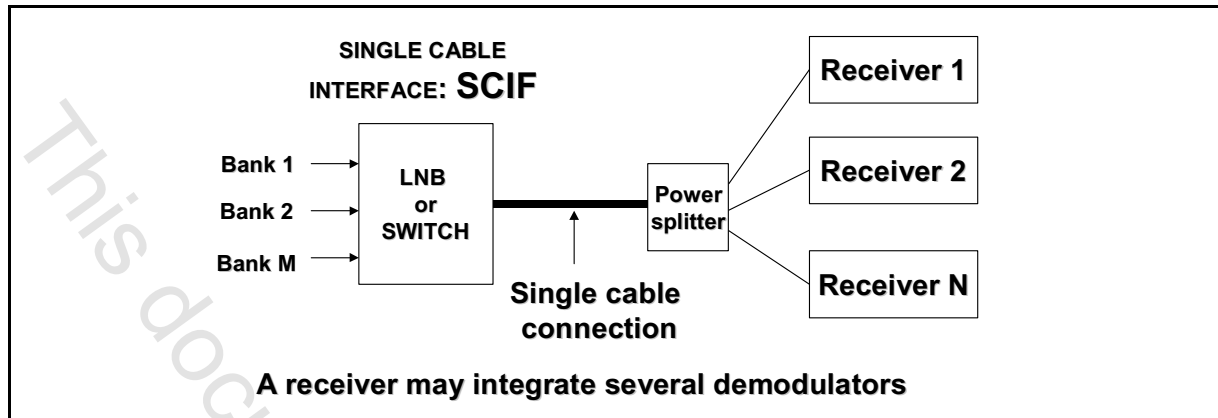
This European Standard describes:

- the system physical structure;
- the system control signals, which implement an extension of the DiSEqC set of commands described in the DiSEqC bus functional specification;
- the definition of identified configurations;
- management of the potential collisions in the control signals traffic.

Figure 1 illustrates the physical system configuration considered in this European Standard.

Several satellite signal demodulators can receive signals from any of the input signal banks of the LNB or the switch; the signals selected by the demodulators (or receivers) are transported via a single cable to these demodulators (receiver 1, receiver 2, receiver N).

To achieve these single cable distributions, the Single Cable Interface (SCIF) (likely embedded in a LNB or a Switch) features some specific functions and characteristics.



**Figure 1 – General architecture of the single cable distribution**

## 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 50083-4                    | Cable networks for television signals, sound signals and interactive services – Part 4: Passive wideband equipment for coaxial cable networks |
| EN 61319-1:1996<br>+ A11:1999 | Interconnections of satellite receiving equipment – Part 1: Europe (IEC 61319-1:1995)   |
| EN ISO/IEC 13818-1            | Information technology – Generic coding of moving pictures and associated audio information – Part 1: Systems (ISO/IEC 13818-1)               |

“DiSEqC™” Bus Functional Specification Version 4.2, February 25, 1998  
[http://www.eutelsat.com/satellites/4\\_5\\_5.html](http://www.eutelsat.com/satellites/4_5_5.html)

## 3 Acronyms and definitions

### 3.1 Acronyms

CW	Continuous Wave
DiSEqC	Digital Satellite Equipment Control
LNB	Low Noise Block
LUT	Look-up Table
MDU	Multiple Dwelling Unit
MSB	Most significant bit
ODU	Out-door Unit
PCR	Program clock reference
PWK	Pulse Width Keying
SCIF	Single Cable Interface