

Alarm systems - CCTV surveillance systems for use in security applications - Part 5-1: Video transmission - General video transmission performance requirements

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English version

**Alarm systems -
CCTV surveillance systems for use in security applications -
Part 5-1: Video transmission -
General video transmission performance requirements**

Systemes d'alarme – Systemes de surveillance CCTV à usage dans les applications de sécurité -
Partie 5-1: Exigences générales de performance pour la vidéo-transmission

Alarmanlagen -
CCTV-Überwachungsanlagen für Sicherungsanwendungen -
Teil 5-1: Allgemeine Leistungsanforderungen an die Videoübertragung

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CENELEC

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Comité Européen de Normalisation Electrotechnique
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Foreword

This document (EN 50132-5-1:2011) has been prepared by CLC/TC 79, "Alarm systems".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-10-31
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2014-10-31

This document, together with EN 50132-5-2 and future EN 50132-5-3, supersedes EN 50132-5:2001.

This document introduces new general requirements on video transmission.

EN 50132 consists of the following parts, under the generic title *Alarm systems – CCTV surveillance systems for use in security applications*

Part 1	System requirements
Part 5-1	General video transmission performance requirements
Part 5-2	IP video transmission protocols
Part 5-3	Video transmission – Analog and digital video transmission
Part 7	Application guidelines

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Introduction

The European Electrotechnical Standardisation Organisation for alarm systems together with many governmental organisations, test houses and equipment manufacturers has defined a common framework for surveillance video transmission in order to achieve interoperability between products.

This video transmission standard is divided into 3 independent parts and sections:

Part 1: General video transmission performance requirements

Part 2: IP video transmission protocols

Part 3: Analog and digital video transmission

Each part offers its own clauses on scope, references, definitions, requirements.

The purpose of the transmission system in a closed circuit television (CCTV) installation is to provide reliable transmission of video signals between the different types of CCTV equipment in security, safety and monitoring applications.

Today CCTV surveillance systems reside in security networks using IT infrastructure, equipment and connections within the protected site itself.

1 Scope

This European Standard introduces general requirements on video transmission. A detailed specification on analog video transmission over different media including signal and performance requirements is already defined in prEN 50132-5-3. For the growing number of surveillance applications based on IP video transmission the requirements are defined in 2 standards. This standard covers in the following clauses the general requirements for video transmissions on performance, security and conformance to basic IP connectivity, based on available, well-known, international standards. In areas where more detailed IP requirements are necessary additional specifications are given, in order to reach compatibility. In this European Standard no detailed and special CCTV protocols are defined. In Part 2 of this European Standard, a detailed video IP protocol, messages and commands on top of the general connectivity and performance requirements of Part 1 are defined. Part 2 defines an IP protocol for full interoperability (e.g. PTZ control, eventing, etc.) of video transmission devices used in surveillance applications.

The first section of this standard defines the minimum performance requirements on video transmission for security applications in IP networks. In surveillance applications, the requirements on timing, quality and availability are strict and defined in the last section of this standard. Guidelines for network architecture on how these requirements can be fulfilled are given.

The second section of this European Standard defines requirements on basic IP connectivity of video transmission devices to be used in security applications. If a video transmission device is used in security, certain basic requirements apply. First of all a basic understanding of IP connectivity needs to be introduced which requests the device to be compliant to fundamental network protocols. These could be requirements which may be applied to all IP security devices even beyond IP video. For this reason, requirements are introduced in a second step for compliance to basic streaming protocols, used in this standard for video streaming and stream control. Since security applications need high availability and reliability, general means for the transmission of the video status and health check events need to be covered. These are defined in general requirements on eventing and network device management. In security proper maintenance and setup is essential for the functioning of the video transmission device: Locating streaming devices and their capabilities is a basic requirement and covered in "device discovery and description".

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 50132-1, *Alarm systems — CCTV surveillance systems for use in security applications — Part 1: System requirements*

EN 50132-7, *Alarm systems — CCTV surveillance systems for use in security applications — Part 7: Application guidelines*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.1.1

adaptive jitter buffering

queuing of packets in switched networks exposed to unwanted variations in the communications signal to ensure the continuous video transmission over a network supported by the "Adaptive" ability to adjust the size of the jitter buffer based on the measured jitter in the network