AS/NZS IEC 62676.3:2020
IEC 62676-3:2013

AS/NZS IEC 62676.3:2020

Australian/New Zealand Standard™

Video surveillance systems for use in security applications

Part 3: Analog and digital video interfaces

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AS/NZS IEC 62676.3:2020

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Australian Digital & Telecommunications Industry Association
Australian Federal Police
Australian Industry Group
Australian Security Industry Association
Engineers Australia
Fire Protection Association Australia
Insurance Council of Australia
New Zealand Security Association
NSW Police Force
Queensland Police Service
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Australian/New Zealand Standard™

Video surveillance systems for use in security applications

Part 3: Analog and digital video interfaces

First published as AS/NZS IEC 62676.3:2020.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-031, Intruder Alarm Equipment and Installations.

The objective of this Standard is to specify physical, electrical and software interface (non-IP) specifications of analogue and digital video interface in video surveillance systems (so far called CCTV) applications. Video interfaces are used both for connection and transmission of surveillance video, audio and control signals. Through video interfaces, video surveillance systems can be put together by connection various components such as image capturing devices, image handling devices, etc. This Standard ensures interoperability among various video surveillance components.

This Standard applies strictly to Video Surveillance Systems. This Standard is based on broadcast television standards and other standards, and it defines the minimum requirements for analogue and digital video interfaces to meet VSS's requirements, interoperability and de facto practice.

This Standard is identical with, and has been reproduced from, IEC 62676-3:2013, *Video surveillance systems for use in security applications — Part 3: Analogue and digital video interfaces*.

As this document has been reproduced from an International Standard, the following applies:

(a) In the source text "this Part of IEC 62676" should read "this Australian/New Zealand Standard".

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NOTES

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 3: Analog and digital video interfaces

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62676-3 has been prepared by technical committee 79: Alarm and electronic security systems.

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

FDIS	Report on voting
79/417/FDIS	79/429/RVD

Full information on the voting for the approval of this standard 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 parts in the IEC 62676 series, published under the general title *Video surveillance systems for use in security applications*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

INTRODUCTION

The IEC Technical Committee 79 in charge of alarm and electronic security systems together with many governmental organizations, test houses and equipment manufacturers has defined a common framework for video surveillance transmission in order to achieve interoperability between products.

The IEC 62676 series of standards on video surveillance systems is divided into four independent parts:

Part 1: System requirements

Part 2: Video transmission protocols

Part 3: Analog and digital video interfaces

Part 4: Application guidelines

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

This IEC Standard Part 3 of IEC 62676 specifies physical, electrical interface and software specifications of analog and digital video interfaces in Video Surveillance Systems (VSS), so far called Closed Circuit Television (CCTV).

For analog video interfaces, analog video signal such as Composite Video is still the most commonly used interface among Video Surveillance Systems equipment. Though broadcast television industry has adopted composite video standards (e.g. NTSC, PAL), they have not been consistently applied for Video Surveillance Systems applications and it is important to standardize the interface to ensure interoperability between Video Surveillance Systems.

Also, as broadcast is moving towards digital, there are many possibilities to improve the performance with these new Video Interfaces compared to conventional Analog Video Interface, and thus it is important to standardize those new Analog Video interface and also Digital Video Interface to ensure interoperability among Video Surveillance Systems using these new interfaces.

For digital video interface, IEC 62676-1-2, IEC 62676-2-1, IEC 62676-2-2 and IEC 62676-2-3 focus on video transmission and compressed IP video transmissions by specifying internet (IP) and higher layers. IEC 62676-3 completes the communication layer specification by describing uncompressed digital video and two lowest layer protocols such as physical and network access.

VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 3: Analog and digital video interfaces

1 Scope

This Part of IEC 62676 specifies physical, electrical and software interface (non-IP) specifications of analog and digital video interface in video surveillance systems (so far called CCTV) applications. Video interfaces are used both for connection and transmission of surveillance video, audio and control signals. Through video interfaces, video surveillance systems can be put together by connecting various components such as image capturing devices, image handling devices, etc. This International Standard ensures interoperability among various video surveillance components.

This International Standard applies strictly to Video Surveillance Systems. This standard is based on broadcast television standards and other standards, and it defines the minimum requirements for analog and digital video interfaces to meet VSS's requirements, interoperability and de facto practice.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

IEC 62315-1:2003, *DTV profiles for uncompressed digital video interfaces – Part 1: General*

VESA Industry Standards & Guidelines for Computer Display Monitor Timing (DMT) Version 1 Revision 11

VESA Video Signal Standard (VSIS) Version 1, Rev. 2

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
analog
a form of information that is represented by a continuous and smoothly varying amplitude or frequency changes over a certain range

3.1.2
analog bandwidth
the difference between the upper and lower frequencies in a contiguous set of frequencies

Note 1 to entry: It is expressed in cycles per second, or Hertz (Hz).