



**NSAI**  
Standards

Irish Standard  
I.S. EN 62216:2011

# Digital terrestrial television receivers for the DVB-T system (IEC 62216:2009 (EQV))

## I.S. EN 62216:2011

*Incorporating amendments/corrigenda issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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English version

**Digital terrestrial television receivers for the DVB-T system**  
(IEC 62216:2009)

Récepteur de télévision numérique  
terrestre pour le système DVB-T  
(CEI 62216:2009)

Fernsehempfänger für das digitale  
terrestrische DVB-T-System  
(IEC 62216:2009)

This European Standard was approved by CENELEC on 2011-01-02. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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**I.S. EN 62216:2011**

EN 62216:2011

- 2 -

**Foreword**

The text of document 100/1449/CDV, future edition 1 of IEC 62216, prepared by technical area 1, Terminals for audio, video and data services and contents of IEC TC 100, Audio, video and multimedia systems and equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62216 on 2011-01-02.

This European Standard supersedes EN 62216-1:2002.

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

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) 2011-10-02
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2014-01-02

Annex ZA has been added by CENELEC.

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**Endorsement notice**

The text of the International Standard IEC 62216:2009 was approved by CENELEC as a European Standard without any modification.

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
-	-	Domestic and similar electronic equipment interconnection requirements: Peritelevision connector	EN 50049-1	-
-	-	Common interface specification for conditional access and other digital video broadcasting decoder applications	EN 50221	-
IEC 60958-1	-	Digital audio interface - Part 1: General	EN 60958-1	-
IEC 61169-2	-	Radio-frequency connectors - Part 2: Sectional specification - Radio frequency coaxial connectors of type 9,52	EN 61169-2	-
IEC 61937	Series	Digital audio - Interface for non-linear PCM encoded audio bitstreams applying IEC 60958	EN 61937	Series
ISO/IEC 6937	-	Information technology - Coded graphic character set for text communication - Latin alphabet	-	-
ISO/IEC 8859-9	-	Information technology - 8-bit single-byte coded graphic character sets - Part 9: Latin alphabet No. 5	-	-
ISO/IEC 11172-2	-	Information technology - Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s - Part 2: Video	-	-
ISO/IEC 13818-1	-	Information technology - Generic coding of moving pictures and associated audio information: Systems	-	-
ISO/IEC 13818-2	-	Information technology - Generic coding of moving pictures and associated audio information - Part 2: Video	-	-
ISO/IEC 13818-3	-	Information technology - Generic coding of moving pictures and associated audio information - Part 3: Audio	-	-
ISO/IEC 14496-3	-	Information technology - Coding of audio-visual objects - Part 3: Audio	-	-
ISO/IEC 14496-10	-	Information technology - Coding of audio-visual objects - Part 10: Advanced Video Coding	-	-

**I.S. EN 62216:2011**

EN 62216:2011

- 4 -

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 639-2	-	Codes for the representation of names of languages - Part 2: Alpha-3 code	-	-
ETSI EN 300 744	-	Digital Video Broadcasting (DVB): Framing structure, channel coding and modulation for digital terrestrial television	-	-
ETSI EN 300 468	-	Digital Video Broadcasting (DVB): Specification for Service Information (SI) in DVB systems	-	-
ETS EN 300 743	-	Digital Video Broadcasting (DVB) - Subtitling systems	-	-
ETSI EN 300 706	-	Enhanced teletext specification	-	-
ETSI EN 300 472	-	Digital Video Broadcasting (DVB) - Specification for conveying ITU-R system B teletext in DVB bitstreams	-	-
ETSI EN 300 294	-	Television systems - 625 line television Wide Screen Signalling (WSS)	-	-
ETSI EN 301 775	-	Digital Video Broadcasting (DVB) - Specification for the carriage of Vertical Blanking Information (VBI) data in DVB bitstreams	-	-
ETSI EN 300 231	-	Television systems - Specification of the domestic video Programme Delivery Control system (PDC)	-	-
ETSI TS 101 154	-	Digital Video Broadcasting (DVB); Specification for the use of Video and Audio Coding in Broadcasting Applications based on the MPEG-2 Transport Stream	-	-
ETSI TS 102 366	-	Digital Audio Compression (AC-3, Enhanced AC-3)	-	-
ETSI TS 101 699	-	Digital Video Broadcasting (DVB) - Extensions to the common interface specification	-	-
ETSI TR 101 211	-	Digital Video Broadcasting (DVB); Guidelines on implementation and usage of Service Information (SI)	-	-
ETSI TS 102 006	-	Digital Video Broadcasting (DVB); Specification for System Software Update in DVB Systems	-	-
ETR 289	-	Digital Video Broadcasting (DVB) - Support for use of scrambling and Conditional Access (CA) within digital broadcasting systems	-	-
ETR 162	-	Digital broadcasting systems for television sound and data services - Allocation of Service Information (SI) codes for Digital Video Broadcasting (DVB) systems	-	-
ITU-R BS.775-2	-	Multichannel stereophonic sound system with and without accompanying picture	-	-
ITU-R BT.470-7	-	Conventional analogue television systems	-	-

**I.S. EN 62216:2011**

- 5 -

EN 62216:2011

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ITU-R BT.1119-2	-	Wide-screen signalling for broadcasting (Signalling for wide-screen and other enhanced television parameters)	-	-
ITU-R BT.1359-1	-	Relative timing of sound and vision for broadcasting	-	-
R 206-001	-	Guidelines for implementation and use of the common interface for DVB decoder applications	-	-
CEA 770.3	-	High definition TV analog component video interface	-	-
CEA 861	-	A DTV Profile for Uncompressed High Speed Digital Interfaces	-	-

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## CONTENTS

FOREWORD.....	8
INTRODUCTION.....	10
1 Scope and object.....	11
2 Normative references .....	11
3 Abbreviations and symbols.....	13
4 Receiver capabilities .....	15
4.1 Frequency spectrum.....	15
4.2 Conditional access .....	15
4.3 Return path .....	15
4.4 EPG (SI) .....	15
4.5 Auto installation.....	16
4.6 Teletext carried in digital streams.....	16
4.7 Content protection/copy management.....	16
4.8 Services .....	16
4.9 API.....	16
4.10 Over-air software update .....	16
4.11 Audio and video codecs .....	16
4.12 Future versions of this standard .....	17
5 Video system characteristics .....	17
5.1 General.....	17
5.2 Essential requirements.....	17
5.2.1 Standard services.....	17
5.2.2 Advanced services .....	17
5.3 Constraints and extensions .....	17
5.3.1 Support for rapid channel acquisition.....	17
5.3.2 Picture types .....	18
5.3.3 Compatibility.....	18
5.3.4 User data .....	19
5.3.5 Video alignment.....	19
5.3.6 Chroma sampling location .....	20
6 Video display formatting .....	21
6.1 General.....	21
6.2 Video format.....	21
6.2.1 General .....	21
6.2.2 Requirements for DVB compliance .....	21
6.3 Recommendations for signalling in the video stream .....	22
6.3.1 Sequence header .....	22
6.3.2 Sequence display extension .....	22
6.3.3 Constraints on the use of the picture display extension .....	23
6.3.4 Format switching .....	23
6.4 Video format signalling extensions .....	24
6.4.1 General .....	24
6.4.2 MPEG signalling.....	24
6.4.3 DVB signalling.....	24
6.4.4 Active format description .....	24
6.5 Recommendations for ISO/IEC 13818-1 signalling.....	32

6.6	Alignment of SD video and graphics .....	32
6.6.1	Video with graphics .....	32
6.6.2	Uncertainty of position of graphics over video .....	32
6.7	Alignment of HD video and graphics .....	33
7	Audio system characteristics .....	33
7.1	General .....	33
7.2	Essential requirements .....	33
7.2.1	Requirements .....	34
7.2.2	Synchronisation .....	34
7.2.3	Audio metadata .....	34
7.2.4	Decoding requirements .....	34
7.3	Constraints and extensions .....	35
7.3.1	Digitally coded .....	35
7.3.2	Surround sound .....	35
7.3.3	AC-3 and Enhanced AC-3 audio .....	35
7.3.4	ISO/IEC 14496-3 audio .....	36
7.3.5	Receiver downmix .....	36
7.3.6	Digital audio output .....	36
7.4	Audio description .....	36
7.4.1	Background .....	36
7.4.2	Receiver implementation minima .....	37
7.4.3	Receiver mix AD signalling .....	37
7.4.4	Constraints on audio description stream coding .....	41
7.4.5	Receiver mix AD implementation notes .....	41
7.4.6	SI/PSI signalling .....	43
7.5	Audio only services .....	45
8	Multiplex and transport stream characteristics .....	45
8.1	Scope .....	45
8.2	Essential requirements .....	45
8.2.1	Multiplexing .....	45
8.2.2	Demultiplexing .....	46
8.3	Constraints and extensions .....	46
8.3.1	Multicomponent programs .....	46
9	Service and program specific information .....	47
9.1	General .....	47
9.1.1	General requirements .....	47
9.1.2	General receiver requirements .....	47
9.1.3	General broadcaster requirements .....	48
9.1.4	Notation .....	49
9.2	SI and PSI specification .....	49
9.2.1	Summary .....	49
9.2.2	Program association table .....	51
9.2.3	Program map table .....	51
9.2.4	Conditional access table .....	53
9.2.5	Network information table .....	54
9.2.6	Bouquet association table .....	56
9.2.7	Service description table .....	56
9.2.8	Event information table .....	59
9.2.9	Time and date table and time offset table .....	62

9.2.10	Running status table .....	62
9.2.11	Private data .....	62
9.2.12	Overview of service-variation options .....	68
9.3	Receiver functions .....	69
9.3.1	Information typically available to the user .....	69
9.3.2	Service change .....	69
9.3.3	Parental control .....	72
9.3.4	Receiver behaviour when a service stops .....	72
9.4	Establishing and maintaining the network connection .....	73
9.4.1	Use of SI identifiers .....	73
9.4.2	Auto installation .....	74
9.4.3	Network evolution .....	76
9.4.4	Logical channel numbers (LCN) .....	78
9.4.5	Recommendation for robust SI acquisition .....	82
9.5	User interface .....	84
9.5.1	Presentation of text .....	84
9.5.2	Information presentation .....	85
9.5.3	Service navigation .....	87
9.5.4	Display of time .....	88
9.6	Recording devices .....	88
9.6.1	General .....	88
9.6.2	Programming .....	88
9.6.3	Execution of recording .....	88
9.6.4	Control of analogue recorders .....	89
10	Subtitles .....	89
10.1	General .....	89
10.2	Broadcast specifications .....	89
10.2.1	DVB subtitles .....	89
10.2.2	Signalling .....	90
10.2.3	DDS .....	90
10.2.4	Recommendation .....	90
10.3	Receiver functions .....	90
10.3.1	Background .....	90
10.3.2	User control of receiver behaviour .....	91
10.3.3	Support for DDS .....	91
11	VBI based services .....	91
11.1	General .....	91
11.2	Broadcast specifications .....	91
11.3	Receiver functions .....	92
11.3.1	Processing capabilities .....	92
11.3.2	Control .....	92
11.4	Extended VBI format support .....	92
11.4.1	VPS .....	93
11.4.2	WSS .....	93
11.4.3	Teletext and teletext subtitles .....	93
12	RF-part and channel decoder .....	93
12.1	General .....	93
12.2	Frequencies and channel bandwidth .....	93
12.3	DVB-T modes .....	93

12.4	Tuning procedure .....	94
12.5	Change of modulation parameters .....	94
12.6	Connector .....	94
12.7	Performance.....	94
12.7.1	Failure point criteria.....	94
12.7.2	C/N performance .....	94
12.7.3	Minimum receiver signal input levels .....	95
12.7.4	Maximum input level.....	95
12.7.5	Immunity to analogue and/or digital signals in other channels.....	95
12.7.6	Immunity to co-channel interference from analogue TV signals.....	96
12.7.7	Guard interval utilisation in single frequency networks.....	97
12.7.8	MFN multipath performance.....	97
13	Conditional access and the common interface .....	98
13.1	General.....	98
13.2	Minimum requirements .....	98
13.2.1	Analogue Copy Protection Resource .....	98
14	System software update .....	99
14.1	General.....	99
14.2	Minimum requirements .....	99
14.3	Recommendations for SSU operators.....	99
15	Application Programming Interface (API).....	99
16	Connectors.....	100
16.1	Standard receivers .....	100
16.2	Advanced receivers.....	100
16.2.1	Without display.....	100
16.2.2	With display.....	101
Annex A	(normative) SI character set.....	102
Annex B	(normative) DVB-SI PDC descriptor .....	111
Annex C	(normative) Subtitling .....	113
Annex D	(informative) An example of frequencies and offsets.....	130
Annex E	(informative) Noise model .....	131
Annex F	(informative) An example of C/N-performance with a practical transmitter.....	132
Annex G	(informative) Practical 6-path channel models for fixed and portable channels.....	133
Annex H	(informative) Interfering analogue signals .....	134
Bibliography	.....	135
Figure 1	– Relationship between digital video and analogue video .....	19
Figure 2	– Receiver and display format processing reference model .....	26
Figure 3	– HD Receiver and display format processing reference model.....	27
Figure 4	– Uncertainty of positioning graphics over video.....	33
Figure 5	– Illustration of control of audio level.....	38
Figure 6	– Mapping of pan byte onto sound presentation .....	41
Figure 7	– Example of PMT extract for main programme audio .....	44
Figure 8	– Example of PMT extract for audio description .....	44
Figure 9	– Service regionalisation .....	79
Figure C.1	– High level bitstream organisation.....	114

Figure C.2 – Region depth selection .....	116
Figure C.3 – Mapping code strings to pixels in “requested” depth region.....	117
Figure C.4 – Mapping code strings to pixels.....	118
Figure C.5 – Subtitle reference decoder model .....	120
Figure C.6 – The two modelled decoding phases .....	121
Figure C.7 – Detail of data decoding phase .....	122
Figure C.8 – Disruption to display at start of new epoch.....	122
Figure E.1 – Tuner noise model .....	131
Figure H.1 – PAL interfering signals.....	134
Figure H.2 – SECAM L interfering signal.....	134
Table 1 – Broadcast overscan flags .....	20
Table 2 – Receiver overscan behaviour .....	20
Table 3 – Overscan signalling on HDMI .....	20
Table 4 – Horizontal scaling where format is signalled by the sequence header alone .....	22
Table 5 – Pan scan window .....	23
Table 6 – Non “full screen” .....	23
Table 7 – Formats described by the active_format description .....	25
Table 8 – Processing by STB connected to 4:3 TV.....	28
Table 9 – User options for displaying 16:9 on 4:3.....	29
Table 10 – User options for displaying >16:9 on 4:3.....	29
Table 11 – Processing by STB connected to 16:9 TV.....	30
Table 12 – WSS codes for aspect ratio .....	31
Table 13 – Values for other WSS bits .....	31
Table 14 – Audio description descriptor .....	38
Table 15 – Illustration of PES packet header .....	40
Table 16 – Key to symbols.....	49
Table 17 – Summary of required tables.....	50
Table 18 – Program descriptors .....	51
Table 19 – Elementary stream descriptors .....	51
Table 20 – Network descriptors (first loop).....	54
Table 21 – Transport stream descriptors (second loop).....	55
Table 22 – Service descriptors.....	57
Table 23 – Event information descriptors .....	60
Table 24 – Time offset table descriptors .....	62
Table 25 – Private SI recognised by this standard .....	63
Table 26 – Syntax of the eacem stream identifier descriptor .....	63
Table 27 – Syntax of the logical channel descriptor .....	64
Table 28 – Logical channel number .....	65
Table 29 – Syntax of the preferred name list descriptor .....	65
Table 30 – Syntax of the preferred name identifier descriptor .....	66
Table 31 – HD simulcast logical channel descriptor .....	67
Table 32 – Subtitle preference modes defined .....	70

Table 33 – Receiver response to missing SI tables .....	83
Table 34 – Text field lengths .....	85
Table 35 – Delta values between picture failure point and reference BER .....	94
Table 36 – C/N (dB) for reference BER .....	95
Table 37 – Immunity to analogue signals on other channels .....	96
Table 38 – Immunity to digital signals on other channels .....	96
Table 39 – Immunity to co-channel interference from analogue signals .....	96
Table 40 – Long echo test profile .....	97
Table 41 – Short echo test profile .....	97
Table A.1 – Allowed character codes in SI text fields .....	103
Table B.1 – Syntax of the PDC descriptor .....	111
Table C.1 – Additional display update budget for page/region operations .....	123
Table C.2 – Example subtitle system performance .....	126
Table F.1 – C/N (dB) for reference BER .....	132
Table G.1 – Approximate 6-tap channel for fixed reception (Ricean channel) .....	133
Table G.2 – Approximate 6-tap channel for portable reception (Rayleigh channel) .....	133

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**DIGITAL TERRESTRIAL TELEVISION RECEIVERS  
FOR THE DVB-T SYSTEM**
**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 62216-1 has been prepared by technical area 1, Terminals for audio, video and data services and contents, of IEC technical committee 100: Audio, video and multimedia systems and equipment

This standard cancels and replaces IEC 62216-1, published in 2001. This first edition constitutes a technical revision.

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

CDV	Report on voting
100/1449/CDV	100/1541/RVC

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.

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– 9 –

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

A bilingual version of this publication may be issued at a later date.



## INTRODUCTION

Television has evolved over the last half century from an up-market entertainment medium to becoming the major information tool around the world. Television is available to virtually all people around the globe, be it individually or in a community setting.

The advent of the “personal computer”, enabling global reach and instant interaction has escalated the demand for more and more information and the ability to respond to it instantly. It is thus that the broadcasters and content providers set out to seek new means of delivering higher levels of content, be it in volume or quality using existing or new transport mechanisms available.

Digitalisation, taken from the world of information technology was the obvious choice. It further brought the added benefits of efficient use of spectrum and energy. Terrestrial television has to migrate from analogue to digital in order to survive in the new information society.

Governments are keen to switch off the inefficient analogue broadcasts for a number of obvious reasons, but only will be able to do so when consumers are confident that the new proposition is attractive and affordable.

Due to the multitude of communities, sometimes single operators, often on a country by country basis dealing with the parameters and standards options of launching Digital Terrestrial services based on DVB, there is a natural tendency to create a variety of incompatible platforms tied to particular TV operators, and this in turn does not allow for economy of scale for all parties concerned, be it content providers, broadcasters, network providers or equipment manufacturers.

In 2000, after over two years of requirement capture in DigiTAG (Digital Television Action Group) EACEM (European Association of Consumer Electronics Manufacturers), which has evolved into EICTA (European Information, Communications and Consumer Electronics Technology Industry Associations), decided to address this situation by developing a basic specification as a minimum platform, providing secure reception of broadcast content and associated services. This resulted in the first revision of this standard. It has been used as a basis in many countries to deploy Digital Terrestrial TV (DTT) with great success.

In 2007, with a new wave of High Definition services being considered to be launched due to the availability of MPEG4 components, EICTA and the French “Forum HD” decided to collaborate to create an update for High Definition, and make some minor adjustments that were due after 7 years of practice with Standard Definition terrestrial TV in the market. The new standard improvements are taking into account contributions and comments from a.o. UK DTG (draft HD D-Book), Nordig and DGTVi. This standard does not yet address new generations of channel coding (DVB-T2) now being considered by DVB. Extensions of this standard in this domain may be foreseen in the future.

## DIGITAL TERRESTRIAL TELEVISION RECEIVERS FOR THE DVB-T SYSTEM

### 1 Scope and object

This International Standard specifies both Standard Definition and High Definition receivers for the DVB-T system.

It concerns:

- broadcasters, and
- receiver manufacturers.

The objective is to define:

- how to provide broadcasts that are understood by all receivers and enable receivers to provide good facilities to their users;
- the behaviour required from receivers to work well with these broadcasts and to be attractive to consumers.

To avoid doubt, the words “shall”, “should”, etc. are used in the traditional way to distinguish issues that are mandatory versus those that are optional. A baseline receiver will support the mandatory features but not all the optional features in this standard. Inclusion of optional features is part of the marketing strategy of the manufacturer.

Subtitling and teletext are considered to be components of TV services. Standalone teletext services (without associated video content) are not part of this standard.

This standard primarily addresses terrestrial delivery of digital transmissions.

This standard primarily addresses deployment in countries that use European Latin script based languages.

Two types of systems are considered:

- standard systems where services are all SD and use well-established codecs. Standard receivers which can decode standard services are suitable for these systems;
- advanced systems where some services may use advanced codecs, for example to provide HD video. Advanced receivers which can decode advanced services are suitable for these systems.

Where the term “receiver” or “broadcast” is used without a qualifier, the statement is applicable equally to both types of systems.

### 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.

IEC 61169-2, *Radio-frequency connectors – Part 2: Sectional specification – Radio frequency coaxial connectors of type 9,52*

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