# INTERNATIONAL STANDARD

# IEC 62216-1

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## Digital terrestrial television receivers for the DVB-T system –

## Part 1: Baseline receiver specification



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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## FOREWORD

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International Standard IEC 62216-1 has been prepared by technical area 1, Digital receiving equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment

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

| CDV | Report on voting |
|---|---|
| 100/211/CDV | 100/267/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 3.

Annexes A, B and D form an integral part of this standard. Annexes C, E, F and G are for information only.

The committee has decided that this publication remains valid until 2003. At this date, in accordance with the committee's decision, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

# 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, not to mention interaction through a return path.

Terrestrial television has to migrate from analogue to digital in order to survive in the new information society.

Without any doubt, all means of information and content dissemination technology will merge over time, provided that sound business models find uptake by consumers at large.

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.

Business models are being developed to promote the uptake of digital receivers, however this activity up to now is mainly led by private enterprises targeting the public sector willing to pay for services in addition to those available from established public broadcasters.

This in itself is fine, but will not enable the migration from analogue to digital of all broadcasts, however funded.

The more so as it is tied to 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.

After over two years of requirement capture in DigiTAG (Digital Television Action Group) and other fora, EACEM (European Association of Consumer Electronics Manufacturers) decided to address this situation by developing a basic specification as a minimum platform, providing secure reception of broadcast content and associated services. This includes both free to air as well as pay TV services by means of the DVB common interface.

This is in order to provide a stable base from which new applications and services can be built up, and ensuring backwards compatibility for products in the market based on this specification, thus ensuring that the consumer will continue to receive the services they have grown accustomed to.

EACEM has taken into consideration all other documents and specifications that were freely available from various bodies (NorDig Group, ANIEL, etc.) in order to develop a pan European specification.

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

## Part 1: Baseline receiver specification

## 1 Scope

This part of IEC 62216 specifies the baseline receiver 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 important versus those that are optional. The term “shall” is also used to identify mandatory requirements that are inherited from other specifications that have greater force.

This specification does not consider interactive applications and the data broadcasting that would support them. Subtitling and teletext are considered to be components of TV services. Standalone teletext services are not part of this standard.

This specification primarily addresses terrestrial delivery of digital transmissions.

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

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 62216. For dated references, subsequent amendments to or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 62216 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60169-2, *Radio-frequency connectors - Part 2: Coaxial unmatched connector*

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: Video*

ISO/IEC 13818-3, *Information technology – Generic coding of moving pictures and associated audio information: Audio*

ITU-R BT.470-6, *Conventional television systems*

ITU-R BS.775-1, *Multichannel stereophonic sound system with and without accompanying picture*

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*

EN 50049-1, *Domestic and Similar Electronic Equipment Interconnection Requirements: Peritelevision Connector*

EN 50221, *Common Interface Specification for Conditional Access and Other Digital Video Broadcasting Decoder Applications*

EN 300 468, *Digital Video Broadcasting (DVB) - Specification for Service Information (SI) in DVB systems*

EN 300 744, *Digital Video Broadcasting (DVB) - Framing structure, channel coding and modulation for digital terrestrial television (DVB-T)*

EN 301 775, *Digital Video Broadcasting (DVB) - Specification for the carriage of Vertical Blanking Information (VBI) data in DVB bitstreams*

ETR 289, *Digital Video Broadcasting (DVB) - Support for Use of Scrambling and Conditional Access (CA) within digital broadcasting systems*

ETR 154, *Digital Video Broadcasting (DVB) - Implementation guidelines for the use of MPEG-2 Systems, Video and Audio in satellite, cable and terrestrial broadcasting applications*

ETR 162, *Digital Broadcasting Systems for Television Sound and Data services; Allocation of Service Information (SI) codes for Digital Video Broadcasting (DVB) systems*

ETR 211, *Digital Video Broadcasting (DVB) - Guidelines on implementation and usage of Service Information (SI)*

ETS 300 231, *Television Systems - Specification of the domestic video Programme Delivery Control system (PDC)*

ETS 300 294, *Television Systems; 625 - Line television Wide Screen Signalling (WSS)*

ETS 300 472, *Digital Video Broadcasting (DVB) - Specification for conveying ITU-R System B Teletext in DVB bitstreams*

ETS 300 706, *Enhanced Teletext specification*

ETS 300 743, *Digital Video Broadcasting (DVB) - Subtitling systems*

R206-001, *Guidelines for Implementation and Use of the Common Interface for DVB Decoder Applications*

TS 101 699, *Digital Video Broadcasting (DVB) - Extensions to the Common Interface Specification*