

INTERNATIONAL STANDARD

Terrestrial digital multimedia broadcasting (T-DMB) receivers –
Part 1: Basic requirement

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**TERRESTRIAL DIGITAL MULTIMEDIA
BROADCASTING (T-DMB) RECEIVERS –**

Part 1: Basic requirement

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International Standard IEC 62516-1 has been prepared by by technical area 1: Terminals for audio, video and data services and content, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

FDIS	Report on voting
100/1490/FDIS	100/1521/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.

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

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TERRESTRIAL DIGITAL MULTIMEDIA BROADCASTING (T-DMB) RECEIVERS –

Part 1: Basic requirement

1 Scope

This part of IEC 62516 specifies the characteristics and minimum required performance for terrestrial digital multimedia broadcasting (T-DMB) receivers. The contents of this standard include T-DMB system information, video, audio, and MPEG-4 BIFS data.

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 62104:2003, *Characteristics of DAB receivers*

ISO/IEC 10918-1, *Information technology – Digital compression and coding of continuous-tone still images: Requirements and guidelines*

ISO/IEC 11172-3, *Information technology – Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s – Part 3: Audio*

ISO/IEC 13818-1:2000, *Information technology – Generic coding of moving pictures and associated audio information: Systems*

ISO/IEC 13818-3:1998, *Information technology – Generic coding of moving pictures and associated audio information – Part 3: Audio*

ISO/IEC 14496-1:2001, *Information technology – Coding of audio-visual objects – Part 1: Systems*
Amendment 3 (2003)

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*

ISO/IEC 14496-11:2005, *Information technology – Coding of audio-visual objects – Part 11: Scene description and application engine*

ISO/IEC 15444-1, *Information technology – JPEG 2000 image coding system: Core coding system*

ITU-T Recommendation H.264, *Advanced video coding for generic audiovisual services*

ETSI TR 101 496-2, *Digital Audio Broadcasting (DAB); Guidelines and rules for implementation and operation – Part 2: System features*

ETSI TS 102 427 V1.1.1, *Digital Audio Broadcasting (DAB); Data Broadcasting –MPEG-2 TS streaming*

ETSI TS 102 428 V1.1.1, *Digital Audio Broadcasting (DAB); DMB video service; User Application Specification*

ETSI EN 300 401 V1.3.3, *Radio Broadcasting Systems; Digital Audio Broadcasting (DAB) to mobile, portable and fixed receivers*

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

T-DMB receiver

terminal that can receive and process the programs transmitted following this T-DMB receiver standard

3.1.2

minimum required performance

lowest performance level allowed for a receiver in order to be called a T-DMB receiver

3.2 Abbreviations

AAC	Advanced Audio Coding
ASO	Arbitrary Slice Order
AU	Access Unit
AV	Audio/Video
AVC	Advanced Video Coding
BIFS	Binary Format for Scene
BSAC	Bit-Sliced Arithmetic Coding
CAVLC	Context Adaptive Variable Length Coding
CTS	Composition Time Stamp
CIF	Common Interchange Format
DAB	Digital Audio Broadcasting
DP	Data Partitioning
ES	Elementary Stream
FIC	Fast Information Channel
FMO	Flexible Macroblock Ordering
IMDCT	Inverse Modified Discrete Cosine Transform
IDR	Instantaneous Decoder Refresh
IOD	Initial Object Descriptor
IP	Internet Protocol
JPEG	Joint Photographic Experts Group
MCI	Multiplex Configuration Information
MOT	Multimedia Object Transfer
MPEG-2	Motion Picture Experts Groups-2
MPEG-4	Motion Picture Experts Groups-4
MS	Mid/Side
MSC	Main Service Channel
NAL	Network Abstraction Layer
OCR	Object Clock Reference
OD	Object Descriptor
OFDM	Orthogonal Frequency Division Multiplexing
OTB	Object Time Base
OTC	Object Time Clock
PAT	Program Association Table
PCR	Program Clock Reference
PCM	Pulse Code Modulation
PES	Packetized Elementary Stream

PID	Program Identifier
PMT	Program Map Table
PNG	Portable Network Graphics
PNS	Perceptual Noise Substitution
PS	Parametric Stereo
PSI	Program Specific Information
PTS	Presentation Time Stamp
QCIF	Quarter CIF
QMF	Quadrature Mirror Filter
QVGA	Quarter VGA
RS	Redundant Slice
RS-coded	Reed-Solomon coded
SBR	Spectral Band Replication
SEI	Supplement Enhancement Information
SI	Service Information
SL	Synchronization Layer
ScF-CRC	Scale Factor Cyclic Redundancy Check
STC	System Time Clock
T-DMB	Terrestrial Digital Multimedia Broadcasting
TNS	Temporal Noise Shaping
TS	Transport Stream
TwinVQ	Transform domain Weighted Interleave Vector Quantization
VCL	Video Coding Layer
VGA	Video Graphics Array
WDF	Wide DMB Format

4 Summary of receiver implementation

4.1 General

This part of IEC 62516 provides the characteristics and minimum required performance specifications necessary in implementing T-DMB receivers in order to minimize flaws due to misunderstandings of the relevant standard. This clause provides just a summary of this specification. Normative characteristics and requirements are provided in detail in Clauses 5 to 10.

4.2 Basic operation of a T-DMB transmitter

As shown in Figure 1 the T-DMB system is an extension of the existing DAB system by adding a video multiplexer before the stream mode channel.