General methods of measurement for digital television receivers –
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FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.

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6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62028 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

<table>
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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.

Annexes A, B, and C form an integral part of this standard.

The committee has decided that the contents of this publication will remain unchanged until 2004.

At this date, the publication will be

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- withdrawn;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

IEC 62028 deals with the standard conditions and methods of measurement on digital television receivers which receive digital television broadcast transmissions.

IEC 62028 deals with the determination of performance and allows the comparison of equipment by listing the characteristics which are useful for specifications and by laying down uniform measuring methods of these characteristics. Performance requirements are not specified, since they are specified by other international, regional or domestic standards for the systems.

It does not include the measurements specific to the transmission system, such as:

- measurements on receivers for satellite transmission systems,
- measurements on receivers for terrestrial transmission systems,
- measurements on receivers for cable transmission systems,
- measurements specific to sound channels, and
- measurements specific to data channels.

IEC 62028 does not include methods of measurement on outdoor units and antennas for satellite reception, for which reference is required to other appropriate IEC standards.

IEC 62028 does not deal with general safety matters, for which reference is required to IEC 60065, or other appropriate IEC safety standards, nor with radiation and immunity, which will be dealt with by CISPR.

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 60107-1:1997, Methods of measurement on receivers for television broadcast transmissions – Part 1: General considerations – Measurements at radio and video frequencies


ITU-R BT.500-10:2000, Methodology for the subjective assessment of quality of television pictures
3 Terms, definitions and abbreviations

3.1 Terms and definitions
For the purposes of this publication, the following terms and definitions apply:

3.1.1 MPEG-2 refers to the ISO/IEC 13818 series. System coding is defined in part 1, video coding is defined in part 2, audio coding is defined in part 3.

3.1.2 multiplex stream of all the digital data carrying one or more services within a single physical channel.

3.1.3 service information (SI) digital data describing the delivery system, content and scheduling/timing of broadcast data streams etc. It includes MPEG-2 program specific information (PSI) together with independently defined extensions.

3.1.4 transport stream (TS) a data structure defined in ISO/IEC 13818-1.

3.2 Abbreviations
AGC Automatic Gain Controller
ARIB Association of Radio Industries and Business
ASCII American Standard Code for Information Interchange
ATM Asynchronous Transfer Mode
ATSC Advanced Television Systems Committee
BAT Bouquet Association Table
BEP Bit Error Probability
BER Bit Error Rate
BPSK Biphase Shift Keying
bslbf bit string, left bit first
CA Conditional Access
CAT Conditional Access Table