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Measurement methods – High dynamic range video

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National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC TR 62935, which is a technical report, has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
100/2642/DTR	100/2703/RVC

Full information on the voting for the approval of this technical report 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 stability date indicated on the IEC website 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- withdrawn,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

The market for the production and delivery of moving images has transitioned from film through analogue standard-definition video through digital HD video and now to 4K Ultra HD video. As the increase in resolution continues to 8K, the opportunity exists to increase the dynamic range of the video, including brighter peak luminance levels. This, in conjunction with wide colour gamut, increases the volume of possible levels and colours, resulting in more realistic and hyper-realistic presentations.

IEC TC 100 AGS SS9 (HDR) has identified a standardization opportunity related to measurement methods and test signals for HDR video. This Technical Report sets the groundwork for such an activity.

MEASUREMENT METHODS – HIGH DYNAMIC RANGE VIDEO

1 Scope

This document introduces the concept of High Dynamic Range (HDR) video, lists some of the related standards and activities, provides information about HDR in the marketplace, and proposes areas of HDR measurement that could be standardized.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
high dynamic range
HDR
span of image luminances that is larger than normally possible for standard, high definition, and ultra HD video

3.2
standard dynamic range
SDR
span of image luminances that is normally possible for standard and high definition video

Note 1 to entry: Standard definition, high definition, and ultra HD video systems are normally capable of producing luminances of 10 times that of an average mid-tone at the top (white) end of the range, and of 0,01 times that of an average mid-tone at the bottom (black) end of the range.

3.3
wide colour gamut
WCG
range of colours in a colour space that covers a large percentage of visible colours

EXAMPLE ITU-R BT.2020 [2][1] is considered to provide WCG while BT.709 [3] does not.

[1] Numbers in square brackets refer to the Bibliography.