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IEC 61947-2:2001:2008

DRAFT TANZANIA STANDARD

(Draft for comments only)

Electronic Projection-Measurement and documentation of key performance criteria-Part: Variable resolution projectors

TANZANIA BUREAU OF STANDARDS

First Edition 2023

1 National Foreword

This draft Tanzania Standard is being prepared by the Telecommunications and Information Technology Technical Committee, under the supervision of the Electrotechnical divisional standards committee (EDC)

This draft Tanzania Standard is an adoption of the International Standard **IEC 61947-2:2001:2008** Electronic Projection-Measurement and documentation of key performance criteria-Part: Variable resolution projectors, which has been prepared by the International Electrotechnical Commission

2 Terminology and conventions

Some terminologies and certain conventions are not identical with those used in Tanzania standards; attention is drawn especially to the following: -

1) The comma has been used as a decimal marker for metric dimensions. In Tanzania Standards, it is current practice to use “full point” on the baseline as the decimal marker.

2) Where the words “International Standard(s)” appear, referring to this standard they should read “Tanzania Standard(s)”.

IEC 61947-2

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Electronic projection – Measurement and documentation of key performance criteria – Part 2: Variable resolution projectors

Projection électronique – Mesure et documentation des critères principaux de performance – Partie 2: Projecteurs à résolution variable

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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.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

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 61947-2 has been prepared by subcommittee 100C: Audio, video and multimedia subsystems and equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This bilingual version (2013-03) corresponds to the monolingual English version, published in 2001-09.

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

FDIS	Report on voting
100/268/FDIS	100/418/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.

The French version of this standard has not been voted upon.

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

Annexes C, E, F, H, I and J are for information only.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

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.

INTRODUCTION

This standard was developed to ensure a common, meaningful description of key performance parameters for variable resolution projectors (for example, CRT or laser projectors). The measurement methods and test signals correlate closely to typical uses involving computer-generated text and graphics displays. These measurements evaluate the actual viewable image that emanates from variable resolution projectors. The resulting performance specifications are conservative in nature and allow any display device to be used beyond its rated specifications with degraded performance. The point at which this degraded performance is no longer useful is highly subjective and strongly affected by the environment and the application.

This standard is designed to specify a means of measuring and quantifying the performance of variable resolution projectors and is not intended to provide design goals for manufacturers of such equipment.

ELECTRONIC PROJECTION – MEASUREMENT AND DOCUMENTATION OF KEY PERFORMANCE CRITERIA –

Part 2: Variable resolution projectors

1 Scope

This part of IEC 61947 specifies requirements for measuring and documenting key performance parameters for CRT and laser-based projectors and other variable resolution projectors that are capable of multiple variable resolutions and in which the image is raster-scanned.

The provisions of this standard are designed to codify the measurement of the performance of variable resolution projectors and are not intended to provide design goals for manufacturers of such equipment.

This standard is intended for variable resolution projectors (including projection displays that are capable of multiple variable resolutions) that are designed for use with primarily discrete colour (RGB) raster-scanned video, text, and graphics signals generated by computer equipment.

NOTE These devices may also accept composite or component television video signals encoded to NTSC/RS170A, PAL, SECAM, or future HDTV, or ATV standards, which are fully described in their respective documentation and are not within the scope of this part of IEC 61947. In this part of IEC 61947, all of these signals are referred to as television video (TV video) (see IEC 60107-1 [27]).

Displays with fixed resolutions (i.e. individual pixel light sources or matrix displays such as liquid crystal, DMD, plasma, or electroluminescent panels), are not fully addressed by this standard, and reference should be made to IEC 61947-1.

Factors outside the scope of this standard that may have a bearing on projector performance are listed in annex E. A discussion of considerations informing the development of standard appears in annex C.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61947. 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 61947 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 60050(845):1987, *International Electrotechnical Vocabulary (IEV) – Chapter 845: Lighting*

IEC 61947-1, *Electronic projection – Measurement and documentation of key performance criteria – Part 1: Fixed resolution projectors*[1)]

1) To be published.

ISO 3741:1999, *Acoustics – Determination of sound power levels of noise sources using sound pressure – Precision methods for reverberation rooms*

ISO 7779:1999, *Acoustics – Measurement of airborne noise emitted by information technology and telecommunications equipment*

3 Definitions

For the purposes of this part of IEC 61947, the following definitions apply.

3.1
active matrix display
display that uses switches at each pixel to select those pixels to which a voltage will be applied

3.2
active viewing area
horizontal and vertical dimensions in millimetres (inches) of the boundary of the array of pixels. It may also be expressed in square millimetres or square inches

3.3
aperture ratio (fill factor)
light transmitting/reflecting area of a pixel times the number of pixels divided by the active viewing area (light transmitting area and light blocking area)

3.4
aspect ratio
proportions of a projected picture area, for example, the width compared to the height. It is usually expressed in standard ratios such as 4:3, 16:9, or others

3.5
blanking
process of the beam turning off (blanking) which occurs during horizontal and vertical retrace (flyback)

3.6
CIE
Commission Internationale de l'Eclairage (International Commission on Illumination)

NOTE The CIE is an organization devoted to international cooperation and exchange of information among its member countries on all matters relating to the art and science of lighting.

3.7
CIE chromaticity values
Cartesian coordinates used to define a colour in CIE colour space

NOTE The 1931 chromaticity values are designated x and y. In 1976, the CIE defined a more uniform colour space. The 1976 CIE chromaticity values are u′ and v′.

3.8
colour mapping
means for accurately displaying colour signals or altering sets of colour signals in a controlled manner

3.9
contrast ratio
luminance or illuminance ratio of a light area of the image to the dark area of the same image