# IEC 62889

Edition 2.0 2024-02

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

colour inside

## Digital video interface – Gigabit video interface for multimedia systems

**Interface vidéo numérique – Interface vidéo gigabit pour les systèmes multimédias**



IEC 62889:2024-02(en-fr)



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CONTENTS

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# DIGITAL VIDEO INTERFACE – GIGABIT VIDEO INTERFACE FOR MULTIMEDIA SYSTEMS

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IEC 62889 has been prepared by Technical Area 4: Digital system interfaces and protocols, of IEC Technical Committee 100: Audio, video and multimedia systems and equipment. It is an International Standard.

JEITA CP-6101B served as a basis for the elaboration of this document.

This second edition cancels and replaces the first edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Addition of a new technology interface, GVIF2.

The text of this International Standard is based on the following documents:

| Draft | Report on voting |
|---|---|
| 100/3912/CDV | 100/4040/RVC |

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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# INTRODUCTION

This International Standard is based on JEITA CP-6101B: *Digital monitor interface GVIF*, which was originally specified by the Japan Electronics and Information Technology Industries Association (JEITA).

The Gigabit Video InterFace (GVIF) is a serial point-to-point interface supporting uncompressed digital video links that was designed to address the needs of automotive navigation and entertainment systems, etc., to transport baseband digital video information. GVIF applies low-voltage differential signalling (LVDS) technology and makes use of a thin cable consisting of a single shielded twisted pair of conductors that exhibits high noise immunity and low EMI, and is optimized for small size and low weight. GVIF supports display resolutions ranging from WQVGA through WUXGA with a maximum of 24 bits per pixel colour video data, and can transmit a baseband video signal over cable lengths over 10 m. Optionally, GVIF supports audio data transmission and user data transmission.

Gigabit Video InterFace 2(GVIF2) is a baseband transmission method for digital video information that applies serial data transmission technology. In the downstream transmission from GVIF2 TX to GVIF2 RX, the high-bandwidth data for video information (GHDS) and the device control signal (GLDS) are transmitted by using the time-division multiplexing method. In the upstream transmission from GVIF2 RX to GVIF2 TX, the control signal GLUS is transmitted. The upstream transmission and downstream transmission occur in full duplex. Optionally, GVIF2 also supports audio data transmission and user data transmission.

Also optionally, when paired with high-bandwidth digital content protection (HDCP), the GVIF's standard functions and features address all of the requirements for delivering content-protected video from a source to a video display monitor.

This document describes the GVIF family that consists of GVIF2 in the main body and Annex A, and GVIF in Annex B and Annex C.

GVIF2 has the following features:

- transmission by a differential shielded twisted-pair cable or coaxial cable,
- to enable multiple video and audio content transmission using time-division multiplexing,
- possibility to use audio transmission, bi-direction user communication, and HDCP (high-bandwidth digital content protection) technology (optional),
- availability for daisy chain transmission (optional).

The Association of Radio Industries and Businesses (ARIB) refers to GVIF and GVIF2 in its standard ARIB STD-B21 as being authorized digital video output interfaces.