TECHNICAL REPORT

ISO/IEC TR 23091-4

Third edition
2021-05

Information technology — Coding-independent code points —

Part 4: Usage of video signal type code points

Reference number
ISO/IEC TR 23091-4:2021(E)

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Published in Switzerland

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Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information* in collaboration with ITU-T (as ITU-T Series H Supplement 19 (04/2021)).

This third edition cancels and replaces the second edition (ISO/IEC 23091-4:2020), which has been technically revised.

The main changes compared to the previous edition are as follows:

— clarity and terminology have been improved;

— an error in the value of the registration identifier for the MasteringDisplayMinimumLuminance parameter of SMPTE ST 2067-21 for the BT709x100n05 tag combination has been corrected.

A list of all parts in the ISO/IEC 23091 series can be found on the ISO and IEC websites.

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Introduction

This document discusses video signal property description code points and their combinations that are widely used in production and video content workflows. Video properties and values are usually expressed in "metadata" that can exist across production and distribution workflows. Knowledge of these properties and their combinations has value as content is processed in the end-to-end production-to-distribution workflow chain.

The combinations of all possible expressible video properties as code point values can hypothetically result in hundreds or thousands of permutations; but many of those combinations are rarely or never used in practice. For example, it is highly unlikely that perceptual quantization (PQ) transfer characteristics function specified in Rec. ITU-R BT.2100 would be combined with the colour primaries specified in Rec. ITU-R BT.601. Only a small subset of the possible combinations is used in practice.

This document is written to provide information to help the producers of various content processing tools to avoid processing mistakes that can cause video quality degradation due to having incorrect assumptions made about video property combinations. There are only a few limited sets of video property combinations that are widely used in present-day video production and distribution equipment chains. This document describes these limited sets of combinations that are currently widely used and describes how the associated signal type metadata is carried to aid in the automation of content workflows across various domains of capture, production, and distribution. Lastly, this document aims to help its readers, especially toolset developers, to repurpose tools to work properly across several domains (e.g. capture, production, production distribution, and service distribution) where similar video conversion functions (e.g. chroma subsampling or colour space conversions) can be performed.