
**Information technology — Plenoptic
image coding system (JPEG Pleno) —**

**Part 1:
Framework**

*Technologies de l'information — Système de codage d'images
plénoptiques (JPEG Pleno) —*

Partie 1: Cadre





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Foreword

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A list of all parts in the ISO/IEC 21794 series can be found on the ISO website.

Introduction

This document is part of a series of standards for a system known as JPEG Pleno. This document defines the JPEG Pleno framework. It facilitates the capture, representation, exchange and visualization of plenoptic imaging modalities. A plenoptic image modality can be a light field, point cloud or hologram, which are sampled representations of the plenoptic function in the form of, respectively, a vector function that represents the radiance of a discretized set of light rays, a collection of points with position and attribute information, or a complex wavefront. The plenoptic function describes the radiance in time and in space obtained by positioning a pinhole camera at every viewpoint in 3D spatial coordinates, every viewing angle and every wavelength, resulting in a 7D function.

JPEG Pleno specifies tools for coding these modalities while providing advanced functionality at system level, such as support for data and metadata manipulation, editing, random access and interaction, protection of privacy and ownership rights.

Information technology — Plenoptic image coding system (JPEG Pleno) —

Part 1: Framework

1 Scope

This document specifies the plenoptic image coding system framework architecture and its instantiation via a generic file format for storage of plenoptic modalities as well as associated metadata descriptors.

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.

ISO/IEC 646, *Information technology — ISO 7-bit coded character set for information interchange*

ISO/IEC 15444-1:2019, *Information technology — JPEG 2000 image coding system — Part 1: Core coding system*

ISO/IEC 15444-2:2004, *Information technology — JPEG 2000 image coding system — Part 2: Extensions*

ISO/IEC 21794-2:—,¹⁾ *Information technology — Plenoptic image coding system (JPEG Pleno) — Part 2: Light field coding*

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