Second edition
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# Graphic technology — Prepress digital data exchange — Tag image file format for image technology (TIFF/IT)

*Technologie graphique — Échange de données numériques de préimpression — Format de fichier d'image d'étiquette pour la technologie d'image*

Reference number
ISO 12639:2004(E)

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# Contents

Page

# Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 12639 was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

This second edition cancels and replaces the first edition (ISO 12639:1998), which has been technically revised to add new capabilities, as well as a new constrained conformity level call Profile 2 (P2) to supplement the previously defined Profile 1 (P1), which is unchanged.

New capabilities include the following:

— expanded LW palette to support up to 65 535 colours;

— support for up to 32 separations;

— new file format “SD” for copydot data with CCITT G4 compression;

— new compression schemes: Flate and JPEG;

— “FP” file format is now defined as normative.

# Introduction

The goal of ISO/TC 130 in developing the initial version of ISO 12639 was to enable the interchange of various types of rasterized colour and monochrome image data among electronic digital systems used in prepress image processing, graphic arts design and related document creation and production operations. It was, and is, intended for use as a media-independent means for such interchange, and therefore is applicable to facilitate interchange through a variety of mechanisms such as, but not limited to, network, magnetic and optical media. Both ISO 12639:1998 and this second edition are based on the Adobe TIFF, Version 6.0 file format, and both extend and restrict the technical features of that format.

This second edition of ISO 12639, though based on ISO 12639:1998, specifies new capabilities, as well as a new constrained conformity level called Profile 2 (P2) to supplement the previously defined Profile 1 (P1), which is unchanged. The key added capabilities include a normative final page (FP) format; a new SD file format with optional G4 compression for copydot data; definitive ways to use RGB and CIELAB colour spaces in CT, as well as 16-bit-per-channel data in CT; JPEG compression in CT and MP; Flate compression in all formats except LW, HC and BL; spot colours (colours other than cyan, magenta, yellow and black) in LW, CT, HC, MP, BP, BL, and SD; and support for up to 65 535 colours in LW colour palettes. The new P2 compliance level incorporates all features of P1 and defines a constrained compliance level for these new capabilities.

All of the features of ISO 12639:1998, including the constrained level of conformity called Profile 1 (P1), have been retained. It should be noted that the P1 formats for CT (Colour Picture), MP (Monochrome Picture), and BP (Binary Picture) files are compatible with the popular TIFF 6.0 files for CMYK (Separated) Images, Monochrome Images and Bilevel Images respectively. The P1 formats for HC (High-Resolution Continuous-Tone), LW (Line-Art) and BL (Binary Line-Art), though not compatible with TIFF 6.0, are designed to be easier to implement within desktop systems by limiting the range of options and selections. The Profile 1 and 2 formats allow for a broader usage of this International Standard by allowing conformance to simplified, restricted subsets of functionality supported by many popular application software systems used in the prepress, graphic arts document processing and computer graphics and imaging industries. A P2-compliant reader will also read all P1-compliant files.

As a historical note, ISO 12639:1998 was based on the American National Standard ANSI IT8.8, *Graphic technology — Prepress digital data exchange — Tag image file format for image technology (TIFF/IT)*.