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Graphic technology — Colour data exchange format (CxF/X) —

Part 3: Output target data (CxF/X-3)

Technologie graphique — Échange des données de couleur en utilisant CxF —

Partie 3: Données cibles sortantes

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see the following URL: www.iso.org/iso/foreword.html.

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

A list of all the parts in the ISO 17972 series can be found on the ISO website.

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Introduction

The ISO 17972 series defines methods for the use of CxF3 to exchange measurement data and associated metadata within the graphic arts industry and for the exchange of these files between graphic arts users. It is a multipart document where each part is intended to address different workflow requirements. The goal throughout the ISO 17972 series has been to maintain the degree of flexibility required while minimizing the uncertainty of the data exchanged.

ISO 17972-1 defines the use of the publicly available Color Exchange Format, version 3 (CxF3), for prepress data exchange and verification.

ISO 17972-2 defines the use of a CustomResource within the CxF/X structure for the creation of scanner target data.

This document covers the use of CxF3 when exchanging data from ISO 12642-1 and ISO 12642-2. This document is not designed to replace ISO 12642-2 but to define an updated and verifiable method of data exchange using CxF3, acting as a supplement to ISO 12642-2:2006, 4.3 and 4.4 and the informative information provided on layout of the targets. This document also provides a framework for reporting data and additional definitions that define the layout information of the target that is not defined in the ISO 12642 series. Provision has been made to extend the format beyond the ISO 12642 series targets, including those that have non-CMYK input values.

Output target data and the resultant measure of the printed target are some of the most commonly exchanged data in graphic arts and are used for calibration and characterization of all types of printing devices. Traditionally, data has been provided in ACSII format using a keyword file. The direct mapping of existing data to the updated CxF/X encoding was one of the primary concerns in writing this document. In addition, there have been a number of proprietary vendor-specific formats for these files. With the introduction of this document, it is hoped that a common format can be implemented across vendors. X-Rite Inc., the original creator of the CxF file format claims no intellectual property rights to the materials used in this document.

The following files are covered in this document and are included as electronic inserts:

— CxF3_Core.xsd;

— CxF3_Schema_Diagram.pdf;

— Example Chart 400 Patches 17972-3.cxf;

— Printer target CxF/X-3.cxf;

— Printer target CxF/X-3.txt.

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Graphic technology — Colour data exchange format (CxF/X) —

Part 3: Output target data (CxF/X-3)

1 Scope

This document defines an exchange format for target input values, colour and process control data relating output targets for printers of all types (and the associated metadata necessary for its proper interpretation) in electronic form. This document includes the use of a CustomResource element within the CXF framework to define a minimum set of data for exchange and identify the data as being part of the ISO 12642 series. If this same framework is used for another defined target, provision is made for that use as well.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

NOTE The spelling of terms and elements taken from Color Exchange Format v3.0 is not altered from that used in References [2], [3], [4] and [8]. A specific example is the word “color” instead of “colour”.

3.1
ColorSpecification
information about the *ColorValue* (3.2), including its source (measurement specifications), illuminant/observer calculation method (tristimulus specifications) and physical attributes of the *objects* (3.5) (size, quantity, finish, etc.)

[SOURCE: Color Exchange Format v3.0]

3.2
ColorValue
one of several defined colour space types that can hold values and associated information related to that specific type of device-independent colour space

[SOURCE: Color Exchange Format v3.0]

3.3
CustomResources
“extensible” part of *CxF3* (3.7)

Note 1 to entry: Additional information is not included in the CxF3 Core about colour objects and the file itself that is considered application-specific in nature and not generally of use to all other applications.

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[SOURCE: Color Exchange Format v3.0]

3.4
DeviceColorValue
one of several defined colour space types that can hold values and associated information related to that specific type of device-dependent colour space

[SOURCE: Color Exchange Format v3.0]

3.5
object
specific "colour item" that is being described

3.6
CxF/X
CxF3 (3.7) file which also conforms to requirements defined in this document

3.7
CxF3
exchange format for colour and process control data defined in Color Exchange Format v3.0

3.8
resources
information about each colour object that is of interest to all readers of the CxF file

Note 1 to entry: This is also referred to as the "CxF3 Core", defined by the CxF3-Core namespace schema.

3.9
schema
XML (3.10) document, conforming to the specifications established by the World Wide Web Consortium (W3C), that defines the structure of a class of XML documents

3.10
XML
Extensible Markup Language
set of rules for encoding documents electronically

3.11
XSD
XML schema definition
definition that specifies how to formally describe the elements in an *XML* (3.10) document that define a shared vocabulary

4 Symbols and abbreviated terms

The following documentation conventions are used.

— Names of XML elements are shown in bold type; for example, **Resources**.

— Names of XML attributes are shown in italics; for example, *SpotColorName*.

XML XPaths are used to identify XML elements. For example, **container**/**contained** refers to an element (**contained**) that is a child of another element (**container**).

Similarly, XML XPaths are used to refer to XML attributes. For example, **element1**/@*Name* refers to an attribute (*Name*) of an element (**element1**).

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