

Photography and graphic technology — Extended colour encodings for digital image storage, manipulation and interchange —

Part 2: Reference output medium metric RGB colour image encoding (ROMM RGB)

ICS 37.040.99; 37.100.01

National foreword

This Draft for Development was published by BSI. It is the UK implementation of ISO/TS 22028-2:2006.

This publication is not to be regarded as a British Standard.

It is being issued in the Draft for Development series of publications and is of a provisional nature. It should be applied on this provisional basis, so that information and experience of its practical application can be obtained.

Comments arising from the use of this Draft for Development are requested so that UK experience can be reported to the international organization responsible for its conversion to an international standard. A review of this publication will be initiated not later than 3 years after its publication by the international organization so that a decision can be taken on its status. Notification of the start of the review period will be made in an announcement in the appropriate issue of *Update Standards*.

According to the replies received by the end of the review period, the responsible BSI Committee will decide whether to support the conversion into an international Standard, to extend the life of the Technical Specification or to withdraw it. Comments should be sent to the Secretary of the responsible BSI Technical Committee at British Standards House, 389 Chiswick High Road, London W4 4AL.

The UK participation in its preparation was entrusted to Technical Committee CPW/42, Photography.

A list of organizations represented on CPW/42 can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

This Draft for Development was published under the authority of the Standards Policy and Strategy Committee on 29 September 2006

© BSI 2006

ISBN 0 580 49207 9

Amendments issued since publication

Amd. No.	Date	Comments

TECHNICAL SPECIFICATION

ISO/TS 22028-2

First edition
2006-08-15

Photography and graphic technology — Extended colour encodings for digital image storage, manipulation and interchange —

Part 2: Reference output medium metric RGB colour image encoding (ROMM RGB)

*Photographie et technologie graphique — Codages par couleurs
étendues pour stockage, manipulation et échange d'image
numérique —*

*Partie 2: Codage d'image en couleurs RVB par référence de sortie par
voie métrique*



Reference number
ISO/TS 22028-2:2006(E)

AVA Documents
Document Sharing Hub

Contents		Page
Foreword.....		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions.....	1
4	Requirements	5
4.1	General.....	5
4.2	Reference viewing environment.....	5
4.3	Reference medium.....	6
4.4	ROMM RGB colour image encoding.....	7
4.5	Inverse ROMM RGB transformation	9
Annex A (informative) Selection of ROMM RGB colour encoding.....		11
Annex B (informative) Conversion between ROMM RGB and video RGB		15
Bibliography		17

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.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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/TS 22028-2 was prepared by Technical Committee ISO/TC 42, *Photography*, in collaboration with Technical Committee ISO/TC 130, *Graphic technology*.

ISO/TS 22028 consists of the following parts, under the general title *Photography and graphic technology — Extended colour encodings for digital image storage, manipulation and interchange*:

- *Part 1: Architecture and requirements*
- *Part 2: Reference output medium metric RGB colour image encoding (ROMM RGB)* [Technical Specification]
- *Part 3: Reference input medium metric RGB colour image encoding (RIMM RGB)* [Technical Specification]

Introduction

This part of ISO 22028 has been developed in order to meet the industry need for a complete, fully-documented, publicly-available definition of a wide-primary output-referred extended gamut red-green-blue (RGB) colour image encoding. This colour image encoding provides a way to represent output-referred images that does not limit the colour gamut to those colours capable of being displayed on a CRT monitor, such as that represented by the standard RGB (sRGB) colour encoding, or require the use of negative RGB colorimetry co-ordinates, such as with extended sRGB colour encodings like bg-sRGB.

An extended colour-gamut colour encoding is particularly desirable for professional photography applications. For example, colours used for company logos can be outside a monitor gamut and would therefore need to be clipped or compressed to a less saturated colour. Similarly, scanned photographic prints that are to be duplicated can contain colours outside a monitor RGB colour gamut. By using a standard output-referred extended gamut colour image encoding, images containing such colours can be stored, interchanged, manipulated, and later printed, without limiting or distorting the colours of the final output.

The Reference output medium metric RGB (ROMM RGB) colour image encoding specified in this part of ISO 22028 meets the needs of these types of applications.

This part of ISO 22028 is prepared as a Technical Specification to provide sufficient documentation, consistent with the definitions of ISO 22028-1, to allow the imaging community adequate opportunity for implementation and evaluation of this colour image encoding. It is anticipated that, when there is sufficient implementation of and practical experience in the use of ROMM RGB, this Technical Specification can be revised as an International Standard.

