
**Information technology — Digitally
recorded media for information
interchange and storage — 120 mm
Single Layer (25,0 Gbytes per disk) and
Dual Layer (50,0 Gbytes per disk) BD
Recordable disk**

*Technologies de l'information — Supports enregistrés numériquement
pour échange et stockage d'information — Disques BD enregistrables
de 120 mm simple couche (25,0 Go par disque) et double couche (50,0
Go par disque)*

Withdrawn



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Withdrawn

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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

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

ISO/IEC 30190 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 23, *Digitally recorded media for information interchange and storage*.

Introduction

In March of 2002, 9 companies known as the Blu-ray Disc Founders, or BDF, came together to create optical-disk formats with the large capacity and high-speed transfer rates that would be needed for recording and reproducing high-definition video content.

Then, in October of 2004, more than 100 companies joined and the BDF became an open forum called the Blu-ray Disc Association (BDA). The BDA issued the first version of the Blu-ray Disc™ Recordable Format Part1 in October of 2005, and Version 1.3 of the Blu-ray Disc™ Recordable Format Part1 in April of 2008, which enabled the Recording Velocity up to 6x.

By the end of 2010, over 100 million Blu-ray Disc™ had already been shipped, and Blu-ray™ devices such as players, recorders, game consoles and PC drives were in use all over the world.

The BDA also conducts verification activities for the disks and devices and has established more than 10 Testing Centers in Asia, Europe and the USA.

The BDA gave consumer applications the highest priority in the first few years. But it was known, of course, that International Standardization would be required before many government entities and their contractors would be allowed to use Blu-ray Disc™. In February and January of 2011, the chair of ISO/IEC JTC 1/SC 23 and JIIMA (Japan Image & Information Management Association) formally requested the BDA to consider International Standardization. The reason for this was to enable the inclusion of writable BDs, along with DVDs and CDs, in an International Standard specifying test methods for the estimation of lifetime of optical storage media for long-term data storage. In October 2011, the president of the BDA responded that his organization had decided to pursue International Standard of the basic physical formats for the Recordable and Rewritable Blu-ray™ Format.

In December of 2011, the BDA sent project proposals for the International standardization of 4 formats to ISO/IEC JTC 1/ SC 23 via the Japan national body. They are 120 mm Single Layer (25,0 Gbytes per disk) and Dual Layer (50,0 Gbytes per disk) BD Recordable disks, 120 mm Single Layer (25,0 Gbytes per disk) and Dual Layer (50,0 Gbytes per disk) BD Rewritable disks, 120 mm Triple Layer (100,0 Gbytes per disk) and Quadruple Layer (128,0 Gbytes per disk) BD Recordable disks and a 120 mm Triple Layer (100,0 Gbytes per disk) BD Rewritable disk.

This International Standard specifies the mechanical, physical and optical characteristics of a 120 mm recordable optical disk with a capacity of 25,0 Gbytes or 50,0 Gbytes.

A few additional specifications are required in order to write and read video-recording applications, such as the BDMV and BDAV formats, which have been specified by the BDA for use on BD Recordable disks. These specifications, which are related to the Application, the file systems or the Content-protection system, are required for the disk, the generating system and the receiving system. For more information of the Application, the Content-protection system and the additional requirements for the Blu-ray™ Format specifications, see <http://www.blu-raydisc.info>.

The International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) draw attention to the fact that it is claimed that compliance with this document may involve the use of patents.

ISO and IEC take no position concerning the evidence, validity and scope of these patent rights.

The holders of these patent rights have assumed ISO and IEC that they are willing to negotiate licenses under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statements of holders of these patent rights are registered with ISO and IEC. Information may be obtained from:

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

ISO (www.iso.org/patents) and IEC (<http://patents.iec.ch>) maintain on-line databases of patents relevant to their standards. Users are encouraged to consult the databases for the most up to date information concerning patents.

NOTE Blu-ray™, Blu-ray Disc™ and the logos are trademarks of the Blu-ray Disc Association.

Information technology — Digitally recorded media for information interchange and storage — 120 mm Single Layer (25,0 Gbytes per disk) and Dual Layer (50,0 Gbytes per disk) BD Recordable disk

1 Scope

This International Standard specifies mechanical, physical and optical characteristics of a 120 mm recordable optical disk with a capacity of 25,0 Gbytes or 50,0 Gbytes. It specifies the quality of the recorded and unrecorded signals, the format of the data and the recording method, thereby allowing for information interchange by means of such disks. User data can be written once and read many times using a non-reversible method. This disk is identified as BD Recordable disk.

This International Standard specifies

- three related but different Types of this disk,
- the conditions for conformance,
- the environments in which the disk is to be operated and stored,
- the mechanical and physical characteristics of the disk, so as to provide mechanical interchange between data processing systems,
- the format of the information on the disk, including the physical disposition of the Tracks and Sectors,
- the error-correcting codes and the coding method used,
- the characteristics of the signals recorded on the disk, enabling data processing systems to read data from the disk.

This International Standard provides for interchange of disks between disk drives. Together with a standard for volume and file structure, it provides for full data interchange between data processing systems.

2 Conformance

2.1 Optical disk

A claim of conformance with this International Standard shall specify the Type implemented. An optical disk shall be in conformance with this International Standard if it meets all mandatory requirements specified for its Type.

2.2 Generating system

A generating system shall be in conformance with this International Standard if the optical disk it generates is in accordance with 2.1.

2.3 Receiving system

A receiving system shall be in conformance with this International Standard if it is able to handle all three Types of optical disk according to 2.1.

2.4 Compatibility statement

A claim of conformance by a Generating or Receiving system with this International Standard shall include a statement listing any other standards supported. This statement shall specify the numbers of the standards, the optical disk Types supported (where appropriate) and whether support includes reading only or both reading and writing.

3 Normative references

The following referenced documents are indispensable for the application 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 646:1991, *Information technology – ISO 7-bit coded character set for information interchange*

ISO 9352:1995, *Plastics – Determination of resistance to wear by abrasive wheels*

IEC 60068-2-2:1974, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-30:2005, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60950-1:2005, *Information technology equipment – Safety – Part 1: General requirements*