INTERNATIONAL STANDARD

# ISO/IEC 9318-2

First edition
1990-12-15

## Information technology — Intelligent Peripheral Interface

## Part 2:
Device specific command set for magnetic disk drives



*Technologies de l'information — Interface pour les périphériques intelligents —*

*Partie 2: Jeu de commandes spécifiques appareil pour les unités disques magnétiques*



INTERNATIONAL ISO/IEC

Reference number
ISO/IEC 9318-2 : 1990 (E)

## Contents

## Figures

## Tables

## 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. 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.



International Standard ISO/IEC 9318-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.



ISO/IEC 9318 consists of the following parts, under the general title *Information technology — Intelligent Peripheral Interface*:



- *Part 1: Physical level*
- *Part 2: Device specific command set for magnetic disk drives*
- *Part 3: Device generic command set for magnetic and optical disk drives*
- *Part 4: Device generic command set for magnetic tape drives*

Annex A forms an integral part of this part of ISO/IEC 9318. Annexes B, C and D are for information only.

## Introduction

This part of ISO/IEC 9318 does not replace any existing standard, but it does complement other Intelligent Peripheral Interface (IPI) standards (see clause 2).

This part of ISO/IEC 9318 provides a definition of the device specific interface portion of a series of standards called the Intelligent Peripheral Interface (IPI) ISO/IEC 9318, a high performance, general-purpose parallel peripheral interface. This part of ISO/IEC 9318, responds to an industry market need (expressed both by users and manufacturers) to limit the increasing costs in hosts associated with changes in peripherals.

This page intentionally left blank

# Information technology — Intelligent Peripheral Interface

# Part 2:
# Device specific command set for magnetic disk drives

## 1 Scope

This part of ISO/IEC 9318 describes the Logical Level 2 (device level) Interface for disk drives. See clause 6 of ISO/IEC 9318-1 for explanation of the levels.

The physical, electrical, and configuration characteristics and the transmission protocol of this interface are in accordance with ISO/IEC 9318-1. The interface is capable of handling data rates from 0 to at least 10 Moctets/s, depending on driver and receiver classes.



The purpose of this part of ISO/IEC 9318 is to facilitate the development and utilization of a device level interface which permits the interconnection of disk slave peripherals to a controller.



This part of ISO/IEC 9318 does not replace any existing standard, but it does complement other Intelligent Peripheral Interface (IPI) standards (see clause 2).

This part of ISO/IEC 9318 provides a definition of the device specific portion of a family of standards called the Intelligent Peripheral Interface (IPI), a high performance, general-purpose parallel peripheral interface.

The intent of the IPI is to isolate the host (CPU), both hardware and software, from changes in peripherals by providing a "function generic" command set to allow the connection of multiple types of peripherals (disks, printers, tapes, communications). To smooth the transition from the current methods to the generic approach, the IPI supports device-specific command sets, such as this one, to aid in bridging the gap between the two approaches.

To accomplish this set of goals, the design of the IPI includes device-specific and device-generic command sets, both utilizing a common physical bus. The device-specific command set provides:

- Device-oriented control;
- Physical Data Addressing;
- Timing Critical Operations;
- Lower Device Cost.

The device-generic command set provides a higher level of functionality and portability. It includes:

- Host/Device Independence;
- Logical Data Addressing;
- Timing Independence;
- Command Queuing Capability.

A system is not restricted to the use of one level of command set or the other. It is possible that both levels of command sets will be utilized with a given system's architecture to balance such parameters as system performance, cost, and

peripheral availability. It is also possible for the host to provide for migration from device-specific to device-generic levels while still retaining the same physical interface.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 9318. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO/IEC 9318 are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 646:1983, *Information processing - ISO 7-bit coded character set for information interchange.*

ISO/IEC 9318-1:—[1] *Information technology - Intelligent Peripheral Interface Part 1: Physical Level*



1) To be published.