

**INTERNATIONAL
STANDARD**

**ISO/IEC
11518-6**

Second edition
2000-10

**Information technology –
High-Performance Parallel Interface –
Part 6:
Physical Switch Control (HIPPI-SC)**



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INFORMATION TECHNOLOGY – HIGH-PERFORMANCE PARALLEL INTERFACE –

Part 6: Physical Switch Control (HIPPI-SC)

FOREWORD

- 1) ISO (International Organization for Standardization) and IEC (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.
- 2) In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC1. 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.
- 3) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO/IEC 11518-6 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

This second edition cancels and replaces the first edition published in 1996. The changes are upward compatible and consist mainly of a local address self-discovery method detailed in annex B.3.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

ISO/IEC 11518 consists of the following parts, under the general title *Information technology – High-Performance Parallel Interface*:

- *Part 1: Mechanical, electrical, and signalling protocol specification (HIPPI-PH)*
- *Part 2: Framing Protocol (HIPPI-FP)*
- *Part 3: Encapsulation of ISO/IEC 8802-2 (IEEE Std 802.2) Logical Link Control Protocol Data Units (HIPPI-LE)*
- *Part 4: Mapping of HIPPI to IPI device generic command sets (HIPPI-IPI)*
- *Part 5: Memory Interface (HIPPI-MI)*
- *Part 6: Physical Switch Control (HIPPI-SC)*
- *Part 8: Mapping to Asynchronous Transfer Mode (HIPPI-ATM)*
- *Part 9: Serial Specification (HIPPI-Serial)*

Annexes A and B are for information only.

INTRODUCTION

This part of ISO/IEC 11518 defines the control for HIPPI physical layer switches. HIPPI by itself is an efficient simplex high-performance point-to-point interface. The physical switch control allows the interconnection of multiple HIPPI based equipments with HIPPI physical layer switches.

Characteristics of this HIPPI physical switch control protocol include:

- support for both source routing and destination addresses;
- I-Fields and CCIs can span multiple physical layer switches within a fabric;
- when a Destination end-point receives a packet, it can easily manipulate the I-Field received to return a reply packet to the Source;
- support for physical layer switches with differing numbers of ports, all within the same fabric;
- specified reserved addresses to aid address self-discovery, switch management, and switch control.

INFORMATION TECHNOLOGY – HIGH-PERFORMANCE PARALLEL INTERFACE –

Part 6: Physical Switch Control (HIPPI-SC)

1 Scope

This part of ISO/IEC 11518 specifies a control for physical layer switches using the High-Performance Parallel Interface (HIPPI), a high-performance point-to-point interface between data-processing equipment. This part of ISO/IEC 11518 does not protect against errors introduced by intermediate devices interconnecting multiple HIPPI-PHs.

The purpose of this part of ISO/IEC 11518 is to facilitate the development and use of the HIPPI in computer systems by providing common physical switch control. It provides switch control structures for physical layer switches interconnecting computers, high-performance display systems, and high-performance, intelligent block-transfer peripherals. This part of ISO/IEC 11518 also applies to point-to-point HIPPI topologies.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 11518. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO/IEC 11518 are encouraged to investigate the possibility of applying the most recent edition of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO/IEC 11518-1:1995, *Information technology – High-Performance Parallel Interface – Part 1: Mechanical, electrical, and signalling protocol specification (HIPPI-PH)*

3 Definitions and conventions

3.1 Definitions

For the purposes of this part of ISO/IEC 11518, the following definitions apply.

3.1.1

connection

condition of the HIPPI-PH when data transfers from a Source end-point to a Destination end-point are possible

3.1.2

connection control information (CCI)

a parameter sent as part of the sequence of operations establishing a connection from a Source to a Destination

3.1.3

end-point

the equipment at either end of the fabric for a particular connection

3.1.4

destination

the equipment at the end of the interface that receives the data