

S5/8 serial interface for the interconnection of data processing equipment

Committees responsible for this Draft for Development

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Association for Payment Clearing Services
British Computer Society
British Telecommunications plc
Business Equipment Trade Association
Department of Trade and Industry (Information Technology Division)
Department of Trade and Industry (Information Technology Standards Unit)
Department of Trade and Industry (National Physical Laboratory)
Electricity Supply Industry in England and Wales
HM Treasury (Central Computer and Telecommunications Agency)
Information Technology Users' Standards Association
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Institution of Electrical Engineers
Inter-universities Computing Committee
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OFTEL (Office of Telecommunications)
Post Office
Telecommunication Engineering and Manufacturing Association (TEMA)
Telecommunications Managers' Association

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Foreword

This Draft for Development has been prepared under the direction of the Information Systems Technology Standards Policy Committee.

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 because the interface described is currently of an experimental nature. It should be applied on this provisional basis, so that information and experience of its practical application may be obtained.

A review of this Draft for Development will be carried out not later than two years after its publication. Notification of the start of the review period, with a request for the submission of comments from users of this Draft for Development, will be, made in an announcement in the appropriate issue of *BSI News*. According to the replies received, the responsible BSI committee will judge whether the Draft for Development can be converted into a British Standard or what other action should be taken.

Observations which it is felt should receive attention before the official call for comments will be welcomed.

These should be sent to the Secretary of BSI Technical Committee IST/6 at the BSI Head Office address as shown on the back cover.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

0 Introduction

0.1 General background

This Draft for Development describes the serial interface commonly known as “S5/8”, which stands for serial 5 V 8 pin, a reference to the voltage levels employed and the number of poles on the type of connector used.

It was developed not only to rationalize and simplify the interconnection of data processing equipment but also to allow substantially reduced power consumption and space requirements compared with existing interfacing practice, of particular importance for battery-operated, portable equipment.

0.2 Summary of features

The interface described in this Draft for Development has the following characteristics:

- a) single cable: only one type of interconnecting cable is needed;
- b) no options or variants: full interchangeability is assured;
- c) the circuitry and connectors are compact and light weight;
- d) low-power operation;
- e) peer-to-peer relationship: all interfaces are of equal rank;
- f) point-to-point operation;
- g) code-transparent transfer of binary octets in both directions;
- h) power supply provision for accessories;
- i) unbalanced operation;
- j) nominal data rate of 9 600 bits/s;
- k) short range application: the typical cable length is 10 m.

0.3 Future drafts

Amendments to this Draft for Development may subsequently be prepared to cover aspects such as character coding [using a subset of ISO 6937 (identical with BS 6692)], line flow control protocol and document interchange formats (using a subset of ISO 8613).

1 Scope and field of application

1.1 Scope

This Draft for Development describes a serial interface for the interconnection of data processing equipment. It covers functional, electrical and mechanical aspects.

1.2 Field of application

The interface described in this Draft for Development is primarily intended for low-cost equipment, especially portable microcomputers and peripherals, where its low power and compactness is of particular advantage, but can be applied to any local interconnection requirement where a simple and easy-to-use interface is required.

2 References

ISO 1177, *Information processing — Character structure for start/stop and synchronous character oriented transmission*.

ISO 2382-9, *Data processing — Vocabulary — Part 09: Data communication*.

IEC 20, *Free eight-pin connector for microphone and other applications*.

IEC 21, *Fixed eight-socket connector for microphone and other applications*.

NOTE IEC 20 and IEC 21 are both contained in IEC publication 130-9B:1978 “Connectors for frequencies below 3 MHz. Part 9 Second supplement”.

IEC 130-2, *Connectors for frequencies below 3 MHz — Part 2: Connectors for radio receivers and associated sound equipment*.

3 Definitions

NOTE Some of the definitions are taken from ISO 2382-9 and some are taken from CCITT Definitions (Red Book). The rest are specific to this Draft for Development.

For the purposes of this Draft for Development the following definitions apply.

3.1 interface

a shared boundary between two functional units, defined by functional characteristics, common physical interconnection characteristics, signal characteristics and other characteristics, as appropriate

3.2 device

a functional unit of data processing equipment equipped with an S5/8 interface, through which it can interchange data with other similar devices

3.3 data transmission

the conveying of data from one place for reception elsewhere by telecommunicational means

3.4 data communication

transfer of information between functional units by means of data transmission according to a protocol