INTERNATIONAL STANDARD

ISO/IEC 11801

Edition 1.2

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Edition 1:1995 consolidated with amendments 1.1999 and 2:1999

Information technology – Generic cabling for customer premises

Technologies de l'information – Câblage générique des locaux d'utilisateurs

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FOREWORD

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialised 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 11801 was prepared by the Joint Technical Committee ISO/IEC JTC 1, Information Technology, Subcommittee 25, Interconnection of Information Technology Equipment.

This International Standard has taken into account requirements specified in application standards listed in annex G. It refers to International Standards for components and test methods whenever an appropriate International Standard was available.

This consolidated version of ISO/IEC 11801 is based on the first edition (1995), its amendments 1 (1999) and 2 (1999) and the corrigendum 1 (December 1996) and the corrigendum 2 (June 1997).

It bears the edition number 1.2.

A vertical line in the margin shows where the base publication has been modified by amendments 1 and 2, and corrigenda 1 and 2.

Annexes A, B and C form an integral part of this International Standard.
Annexes D, E, F, G, H and J are for information only.

INTRODUCTION

Within customer premises, the importance of the cabling infrastructure is similar to that of other fundamental building utilities such as heating, lighting and mains power. As with other utilities, interruptions to service can have serious impact. Poor quality of service due to lack of design foresight, use of inappropriate components, incorrect installation, poor administration or inadequate support can threaten an organisation's effectiveness.

Historically, the cabling within a premises comprised both application specific and multipurpose networks. Appropriate use of this International Standard will enable a controlled migration to generic cabling. Certain circumstances may warrant the introduction of application specific cabling; these instances should be minimised.

This International Standard provides:

a) users with an application independent generic cabling system and an open market for cabling components;

b) users with a flexible cabling scheme such that modifications are both easy and economical;

c) building professionals (for example, architects) with guidance allowing the accommodation of cabling before specific requirements are known; that is, in the initial planning either for construction or refurbishment;

d) industry and applications standardisation bodies with a cabling system which supports current products and provides a basis for future product development.

This International Standard specifies a multi-vendor cabling, and is related to:

a) International Standards for cabling components developed by committees of the IEC; for example, copper cables IEC/TC 46 [1], copper connectors IEC/TC 48, optical fibre cables and connectors IEC/TC 86;

b) applications developed by the sub-committees of ISO/IEC JTC 1 [2] and study groups of ITU-T [3]: for example, LANs: ISO/IEC JTC 1/SC 6 and SC 25/WG 4 [4]; ISDN: ITU-T SG 13 [5];

c) planning and installation guides for the implementation and use of generic cabling systems.

The applications listed in annex G have been analysed to determine the requirements for a generic cabling system. These requirements, together with statistics concerning premises geography from different countries and the model described in 6.1.1, have been used to develop the requirements for cabling components and to stipulate their arrangement into cabling systems. As a result, generic cabling defined within this International Standard is targeted at, but not limited to, the general office environment.

It is anticipated that the generic cabling system defined by this International Standard will have a life expectancy in excess of 10 years.

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1) International Electrotechnical Commission – Technical Committee 46

2) International Organization for Standardization/International Electrotechnical Commission – Joint Technical Committee 1

3) International Telecommunication Union – Telecommunications

4) Subcommittee 25 – Working Group 4

5) Study Group 13

INFORMATION TECHNOLOGY – GENERIC CABLING FOR CUSTOMER PREMISES

1 Scope

International Standard ISO/IEC 11801 specifies generic cabling for use within commercial premises, which may comprise single or multiple buildings on a campus.

The International Standard is optimised for premises having a geographical span of up to 3 000 m, with up to 1 000 000 m² of office space, and a population between 50 and 50 000 persons. It is recommended that the principles of this International Standard be applied to installations that do not fall within this range.

Cabling defined by this International Standard supports a wide range of services including voice, data, text, image and video.

This International Standard specifies:

a) the structure and minimum configuration for generic cabling [1)] ,

b) implementation requirements,

c) performance requirements for individual cabling links and

d) conformance requirements and verification procedures.

Although safety (electrical, fire, etc.) and Electromagnetic Compatibility (EMC) requirements are outside the scope of this International Standard, and may be covered by other standards and regulations, information given in this International Standard may be of assistance in meeting these requirements.

1) Cables and cords used to connect application specific equipment to the generic cabling system are outside of the scope of this standard. Since they have significant effect on the transmission characteristics of the channel, assumptions and guidance are provided on their performance and length.

2 Normative references

The following normative documents contain provisions that, through reference in this text, constitute provisions of ISO/IEC 11801. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60068-1:1988, *Basic environmental testing procedures – Environmental testing – Part 1: General and guidance*

IEC 60068-2-2:1974, *Basic environmental testing procedures – Part 2: Tests – Tests B: Dry heat*

IEC 60068-2-6:1982, *Basic environmental testing procedures – Part 2: Tests – Tests Fc and guidance: Vibration (sinusoidal)*

IEC 60068-2-14:1984, *Basic environmental testing procedures – Part 2: Tests – Test N: Change of temperature*

IEC 60068-2-38:1974, *Basic environmental testing procedures – Part 2: Tests – Test Z/AD: Composite temperature/humidity cyclic test*

IEC 60068-2-60 TTD:1990, *Basic environmental testing procedures – Part 2: Tests – Test Ke: Corrosion tests in artificial atmosphere at very low concentration of polluting gas(es)* [Technical Trend Document]

IEC 60096-1:1986, *Radio-frequency cables – Part 1: General requirements and measuring methods*

IEC 60189-1:1986, *Low-frequency cables and wires with p.v.c. insulation and p.v.c. sheath – Part 1: General test and measuring methods*

IEC 60227-2:1979, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 2: Test methods*

IEC 60512-1:1994, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 1: General*

IEC 60512-2:1985, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests*
Amendment 1 (1988)

IEC 60603-7:1990, *Connectors for frequencies below 3 MHz for use with printed boards – Part 7: Detail specification for connectors, 8 way, including fixed and free connectors with common mating features*

IEC 60708-1:1981, *Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath – Part 1: General design details and requirements*

IEC 60793-1:1992, *Optical fibres – Part 1: Generic specification*

IEC 60793-1 (all parts), *Optical fibres – Part 1: Generic specification*