



# TECHNICAL REPORT

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**Multicore and symmetrical pair/quad cables for digital communications –  
Part 1-2: Electrical transmission characteristics and test methods of  
symmetrical pair/quad cables**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

PRICE CODE



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ICS 33.120.20

ISBN 2-8318-1044-3

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL  
COMMUNICATIONS –  
PART 1-2: ELECTRICAL TRANSMISSION CHARACTERISTICS AND TEST  
METHODS OF SYMMETRICAL PAIR/QUAD CABLES**

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IEC 61156-1-2, which is a technical report, has been prepared by subcommittee 46C: Wires and symmetric cables, of IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
46C/853/DTR	46C/889/RVC

Full information on the voting for the approval of this technical report can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61156 series, under the general title: *Multicore and symmetrical pair/quad cables for digital communications*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

# MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS – PART 1-2: ELECTRICAL TRANSMISSION CHARACTERISTICS AND TEST METHODS OF SYMMETRICAL PAIR/QUAD CABLES

## 1 Scope

This technical report is a revision of the symmetrical pair/quad electrical transmission characteristics present in IEC 61156-1:2002 (Edition 2) and not carried into IEC 61156-1:2007 (Edition 3).

This technical report includes the following topics from IEC 61156-1:2002:

- the characteristic impedance test methods and function fitting procedures of 3.3.6;
- Annex A covering basic transmission line equations and test methods;
- Annex B covering the open/short-circuit method;
- Annex C covering unbalance attenuation.

## 2 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.

IEC 60050-726, *International Electrotechnical Vocabulary – Part 726: Transmission lines and waveguides*

IEC 61156-1:2007, *Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*

IEC/TR 62152, *Background of terms and definitions of cascaded two-ports*