ENDORSED BY SANZ

AS 3619—1989
ISO 8482:1987

WITHDRAWN TAS
FEBRUARY 1999

Australian Standard®

# Information processing systems—

# Data communication—Twisted pair multipoint interconnections


STANDARDS AUSTRALIA

E

This Australian Standard was prepared by Committee IS/1, Information Processing Systems. It was approved on behalf of the Council of Standards Australia on 7 February 1989 and published on 10 April 1989.

---

The following interests are represented on Committee IS/1:

Australian Association of Permanent Building Societies
Australian Bankers' Association
Australian Bureau of Statistics
Australian Computer Equipment Manufacturers Association
Australian Computer Society
Australian Computer Users Association
Australian Computing Services Association
Australian Information Industry Association
CSIRO
CSIRONET
Department of Defence
Department of Industry, Technology and Commerce
Life Insurance Federation of Australia
Public Service Board, N.S.W.
Telecom Australia
Universities and colleges

Additional interests participating in the preparation of this Standard:

Computer consultants

---

AS 3619—1989

Australian Standard®

# Information processing systems—

# Data communication—Twisted pair multipoint interconnections

First published as AS 3619—1989.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY NSW
ISBN 0 7262 5543 2

# PREFACE

This Standard was prepared by Standards Australia's Committee on Information Processing Systems. It is identical with and has been reproduced from International Standard ISO 8482:1987.

This Standard specifies the physical medium characteristics for twisted pair multipoint interconnections in either 2-wire or 4-wire network topology in order to provide for half duplex or duplex data transmission capability, respectively, a binary and bidirectional signal transfer of the interconnected endpoint system, the electrical and mechanical design of the endpoint system branch cables and the common trunk cable, which may be up to 500 m in length, the component measurements of the integrated circuit type generators and receivers within the endpoint systems and the applicable data signalling rate up to 1 Mbit/s.

The Standard is one of a series of Open Systems Interconnection (OSI) Standards which are currently under development. Since OSI Standards are developmental, there may be some minor difficulties encountered in their implementation. For this reason, Standards Australia will be providing a limited interpretation service to coordinate and disseminate information concerning difficulties which are identified in using this Standard.

For the purpose of this Australian Standard, the text of the ISO Standard given herein should be modified in that the words 'Australian Standard' should replace the words 'International Standard' wherever they appear.

# Information processing systems — Data communication — Twisted pair multipoint interconnections

## 1 Scope and field of application

**1.1** This International Standard specifies the physical medium characteristics for

— twisted pair multipoint interconnections in either 2-wire or 4-wire network topology in order to provide for half duplex or duplex data transmission capability, respectively;

— a binary and bidirectional signal transfer of the interconnected endpoint systems;

— the electrical and mechanical design of the endpoint system branch cables and the commmon trunk cable, which may be up to 500 m in length;

— the component measurements of the integrated circuit type generators and receivers within the endpoint systems;

— the applicable data signalling rate up to 1 Mbit/s.

**1.2** The defined electrical component characteristics and measurements are in close conformance with the twisted pair point-to-point characteristics given in CCITT Recommendation V.11.

**1.3** This International Standard does not describe a complete physical interface and has no functional interface characteristics, such as

— number of interchange data and control circuits;

— type, size and pin allocation of the endpoint system branch cable connectors;

— data and control signal encoding;

— time relations between signals on the interchange circuits;

— mode of synchronous or asynchronous transmission;

— signal quality for transmission and reception.

**1.4** This International Standard does not specify special environmental conditions, such as galvanic isolation, electromagnetic interference (EMI), radio frequency interference (RFI), and human safety. This may form the subject of a future addendum.

**1.5** This International Standard is primarily a component specification. It is not sufficiently specified for satisfactory interoperations in all possible configurations. It is the responsibility of implementors to ensure that their intended configuration will allow satisfactory interoperation.

**1.6** This International Standard may be combined with any appropriate set of functional and additional environmental characteristics so as to meet the practical data transmission requirements in the field of local or wide area networks.

## 2 Reference

CCITT Recommendation V.11, *Electrical characteristics for balanced double-current interchange circuits for general use with integrated circuit equipment in the field of data communications.*

## 3 Definitions

The definitions of the specified electrical characteristics are given in annex B.

## 4 Symbolic representation of an interchange circuit (see figure 1)

The symbolic representation of an interchange circuit is in principle as given in CCITT Recommendation V.11.

However, the generator of this International Standard includes an additional control to place the device into the active state or the inactive, high impedance zero voltage state. This addition is shown in the symbolic representation reproduced in figure 1.