

Customer premises cabling for Information Technology —

Part 1: ISDN basic access

The European Standard EN 50098-1:1998, with the incorporation of amendment A1:2002, has the status of a British Standard

ICS 33.080.40; 33.080

National foreword

This British Standard is the English language version of EN 50098-1:1998, including amendment A1:2002 and Corrigendum January 2003. It supersedes BS EN 50098-1:1994 which is withdrawn.

CENELEC Corrigendum January 2003 replaces references to EN 50173 by EN 50173-1 throughout the text of this British Standard. The corrigendum also changes a reference in the scope of the standard.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**. Tags indicating changes to CENELEC text carry the number of the CENELEC amendment. For example, text altered by CENELEC amendment A1 is indicated by **A1** **A1**.

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- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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Summary of pages

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English version

Customer premises cabling for Information Technology — Part 1: ISDN basic access

(includes amendment A1:2002)

Cablages dans les locaux des usagers pour les
technologies de l'information —
Partie 1: Accès de base RNIS
(inclut l'amendement A1:2002)

Informationstechnische Verkabelung von
Gebäudekomplexen —
Teil 1: ISDN-Basisanschluß
(enthält Änderung A1:2002)

This European Standard was approved by CENELEC on 1998-10-01. Amendment A1 was approved by CENELEC on 2002-07-02. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This second edition of the European Standard has been prepared by CENELEC/TC 215, Electrotechnical aspects of telecommunication equipment. It has been developed with the cooperation of CENELEC/SC 46XC, Multicore, multipair and quad data communication cables, and ETSI/TM3, Architecture, functional requirements and interfaces of transmission networks, under the framework of the Mandates M/212 on “Telecommunication cables and cabling systems” and M/239 on “Air traffic management equipment and systems”.

The text of this European Standard was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50098-1 on 1998-10-01.

This European Standard supersedes EN 50098-1:1994.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1999-10-01
- latest date by which national standards conflicting with the EN have to be withdrawn (dow) 1999-10-01

This standard is the first of a series of European Standards for customer premises cabling.

EN 50098-1 (this standard) covers customer premises cabling for connection of basic access ISDN equipment.

EN 50098-2 covers customer premises cabling for connection of primary access ISDN equipment.

Other subjects that are covered by TC 215 are, e.g.:

- installation aspects of cabling systems;
- generic cabling systems.

The requirements in this standard have been derived from ETS 300 012-1, EN 28877, EN 60603-7-1 and ITU-T¹⁾ Recommendation I.430 (Blue Book). The reader is referred to EN 60950-1 for general safety requirements, and to EN 55022 for EMC requirements (see Bibliography).

Foreword to amendment A1

This amendment to the European Standard EN 50098-1:1998 was prepared by CENELEC TC 215, *Electrotechnical aspects of telecommunication equipment*, based upon a proposal of the ETSI Project Team Digital Terminals and Access, and with the co-operation of ETSI TM6, Access transmission systems on metallic cables.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A1 to EN 50098-1:1998 on 2002-07-02.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2003-07-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2003-07-01

This amendment replaces **6.6** of EN 50098-1:1998 by a generalized specification of the star configuration as another configuration option for dedicated ISDN wiring.

¹⁾ International Telecommunication Union — Telecommunications Standardization Sector (formerly CCITT).

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Introduction

This European Standard is intended for use by those designing, planning or procuring cabling for ISDN basic access within a customer's premises. The configurations in this standard are designed to be effective when either implemented with cabling having the recommended characteristics, or implemented with the components specified in Clause 7. In addition, guidance is given for the use of generic cabling according to EN 50173-1.

1 Scope

This European Standard defines the requirements for the design and configuration of customer premises cabling for the connection of basic access ISDN equipment.

It defines:

- design requirements for ISDN basic access with point-to-point and point-to-multipoint cabling configurations;
- minimum cabling requirements for the installation of new cabling;
- criteria for the use of generic cabling;
- criteria for the use of existing cabling.

The standard applies to the customer premises cabling. It describes the cabling requirements, needed to transmit ISDN basic access signals as defined by ITU-T Recommendation I.430. The requirements placed on the customer premises cabling are solely those necessary to enable terminal equipment conforming to ETS 300 012-1 to operate into the Network Termination (NT) via configurations defined in this standard.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 28877, *Information processing systems — Interface connector and contact assignments for ISDN basic access interface, located at reference points S and T*.
(ISO/IEC 8877:1992)

EN 50173-1, *Information technology — Generic cabling systems — Part 1: General requirements and office areas*.

EN 60603-7, *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 60603-7:1996)

ITU-T Rec I.430 (Blue Book), *ISDN user-network interface — Layer 1 recommendations*.

3 Definitions

The meaning of the term round trip delay can be found in ITU-T Recommendation I.430 (Blue Book), **A.2**. In clauses referring to generic cabling the definitions of EN 50173-1 apply.

Furthermore, for the purposes of this standard, the following definitions apply.

3.1

cabling

the assembly of all cables, connections, patch panels and other passive components which comprise the telecommunications infrastructure

3.2

network termination

the functional group on the network side of a user-network interface

NOTE A network termination always comprises a transmission part NT1 and optionally a switching part NT2.

3.3

power feeding

the function which provides for the capability to transfer power across the interface of the NT

3.4

terminal equipment

the functional group on the user side of a user-network interface

NOTE Terminal equipment includes terminal(s), terminal adapter(s) and, if any, NT2 functional group.

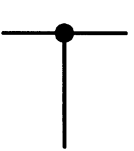
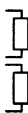
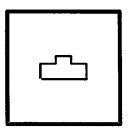
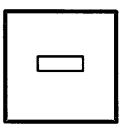
4 Abbreviations and symbols

4.1 Abbreviations

BD	building distributor
CD	campus distributor
FD	floor distributor
GC	generic cabling
ISDN	integrated services digital network
NEXT	near-end crosstalk loss
NT1	network termination 1
NT2	network termination 2
S	S reference point
S ₀	S ₀ interface
T	T reference point
TE	terminal equipment
TR	terminating resistor

NOTE The meanings of the abbreviations S, S₀ and T conform to ITU-T Recommendation I.430.

4.2 Symbols

	Cable
	Spur/tap with a junction to a cable which is the terminated bus
	Network Termination
	Terminating Resistors
	Telecommunications outlet according to EN 60603-7
	Plug according to EN 60603-7
	Telecommunications outlet according to EN 50173-1
	Plug according to EN 50173-1

5 Design requirements

5.1 General

Signals passing between the NT and TE(s) for the various configurations are subject to attenuation, delay and distortion. Cabling components (including extension cords, adapters, cross-connect components, telecommunications outlets, junction boxes, cables, spurs, etc.) and connected terminals all contribute to these effects. The design requirements for the cabling are dependent on the configuration chosen.

5.2 Insertion loss

The insertion loss is measured from the NT to the TR at 96 kHz with 100 Ω source and load impedances. The maximum insertion loss for each configuration is shown in Table 1.