SLOVENSKI STANDARD
SIST ETS 300 300 E2:2003

01-december-2003

Širokopasovno digitalno omrežje z integriranimi storitvami (B-ISDN) – Omrežni dostop za uporabnika sinhrone digitalne hierarhije (SDH) – Vmesniki uporabnik-omrežje (UNI) na fizični plasti za hitrosti 155 520 kbit/s in 622 080 kbit/s – Aplikacije v sistemu B-ISDN z asinhronim prenosnim načinom (ATM)

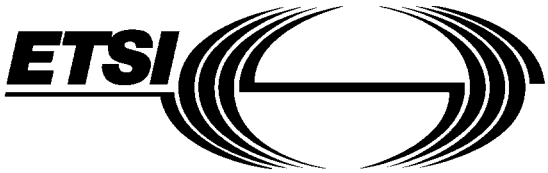
Broadband Integrated Services Digital Network (B-ISDN); Synchronous Digital Hierarchy (SDH) based user network access; Physical layer User Network Interfaces (UNI) for 155 520 kbit/s and 622 080 kbit/s Asynchronous Transfer Mode (ATM) B-ISDN applications

Ta slovenski standard je istoveten z: **ETS 300 300 Edition 2**

ICS:

33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)

SIST ETS 300 300 E2:2003 **en**



EUROPEAN TELECOMMUNICATION STANDARD

ETS 300 300

April 1997

Second Edition

Source: ETSI TC-TM

Reference: RE/TM-03029

ICS: 33.020

Key words: B-ISDN, ISDN, UNI, ATM, SDH, interface, access

Broadband Integrated Services Digital Network (B-ISDN); Synchronous Digital Hierarchy (SDH) based user network access; Physical layer User Network Interfaces (UNI) for 155 520 kbit/s and 622 080 kbit/s Asynchronous Transfer Mode (ATM) B-ISDN applications

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 4 92 94 42 00 - Fax: +33 4 93 65 47 16

Contents

Blank page

Foreword

This second edition European Telecommunication Standard (ETS) has been produced by the Transmission and Multiplexing (TM) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS has been established as a revision to the existing ETS 300 300, which defines the Synchronous Digital Hierarchy (SDH) based user network access physical layer interfaces to be applied on the T_B, S_B reference points of the reference configurations of the Broadband Integrated Services Digital Network (B-ISDN) User-Network Interface (UNI), for B-ISDN applications.

Edition 1 of ETS 300 300 was produced by the Network Aspects (NA) Technical Committee of ETSI.

Transposition dates	
Date of adoption:	4 April 1997
Date of latest announcement of this ETS (doa):	31 July 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 January 1998
Date of withdrawal of any conflicting National Standard (dow):	31 January 1998

Blank page

1 Scope

This second edition European Telecommunication Standard (ETS) defines the physical layer interface to be applied to the S_B and T_B reference points of the reference configurations of the Broadband Integrated Services Digital Network (B-ISDN) Synchronous Digital Hierarchy (SDH) based User-Network Interface (UNI) at 155 520 kbit/s and 622 080 kbit/s. It addresses separately the physical media and the transmission system used at these interfaces and addresses also the implementation of UNI related Operation Administration and Maintenance (OAM) functions.

The selection of the physical medium for the interfaces at the S_B and T_B reference points should take into account that optical fibre is agreed as the preferred medium to be used to cable customer equipment. However, in order to accommodate existing cabling of customer equipment, other transmission media (e.g. coaxial cables) should not be precluded. Also, implementations should allow terminal interchangeability.

This ETS reflects in its structure and content the desire to take care of such early configurations and introduces a degree of freedom when choosing a physical medium at the physical layer.

Edition 2 of this ETS defines newly considered points since the publication of edition 1, dealing particularly with jitter characteristics at the B-UNI, sub-rates of STM-1 applied at the S_B and T_B reference points of the reference configurations of the B-ISDN SDH - based UNI (if required in this ETS), enhanced definitions concerning the cell delineation algorithm and changes of the SDH overhead octet allocation at the B-UNI.

The production of this ETS has taken into account the recommendations given in ITU-T Recommendation I.432.1 and I.432.2 [7].

2 Normative references

This ETS incorporates by dated and 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 ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] ITU-T Recommendation G.652: "Characteristics of a single-mode optical fibre cable".

[2] ETS 300 166 (1993): "Transmission and Multiplexing (TM); Physical and electrical characteristics of hierarchical digital interfaces for equipment using the 2048 kbit/s - based plesiochronous or synchronous digital hierarchies".

[3] ETS 300 232 Amendment 1 (1996): "Transmission and Multiplexing (TM); Optical interfaces for equipments and systems relating to the Synchronous Digital Hierarchy (SDH) [ITU-T Recommendation G.957 (1995), modified]".

[4] ITU-T Recommendation I.113: "Vocabulary of terms for broadband aspects of ISDN".

[5] ITU-T Recommendation I.321: "B-ISDN protocol reference model and its application".

[6] ITU-T Recommendation I.361: "B-ISDN ATM layer specification".

[7] ITU-T Recommendation I.432.1 (1995): "B-ISDN user-network interface - Physical layer specification, General Characteristics".

ITU-T Recommendation I.432.2 (1995): "B-ISDN user-network interface - Physical layer specification for 155 520 kbit/s and 622 080 kbit/s".

[8] ITU-T Recommendation I.610 (1992): "B-ISDN operation and maintenance principles and functions".

[9] ITU-T Recommendation X.200: "Information technology - Open Systems Interconnection - Basic reference model: The basic model".

[10] I-ETS 300 404: "Broadband Integrated Services Digital Network (B-ISDN); B-ISDN Operation And Maintenance (OAM) principles and functions".

[11] IEC 825-1: "Safety of laser products: Part 1: Equipment classification requirements and user's guide".

[12] IEC 950: "Safety of information technology equipment, including electrical business equipment".

[13] ITU-T Recommendation G.707: "Network Node Interfaces for the Synchronous Digital Hierarchy (SDH)".

[14] ITU-T Recommendation G.783: "Characteristics of synchronous digital hierarchy (SDH) equipment functional blocks".

[15] ITU-T Recommendation G.825: "The control of jitter and wander within digital networks which are based on the synchronous digital hierarchy (SDH)".

[16] ITU-T Recommendation G.958: "Digital line systems based on the synchronous digital hierarchy for use on optical fibre cables".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the definitions given in ITU-T Recommendation I.113 [4] apply, in particular for the definitions of **idle cell**, **valid cell** and **invalid cell**. In addition, the following definition applies:

to be defined: These items or values are not yet specified.

3.2 Abbreviations

For the purposes of this ETS, the following abbreviations apply:

AIS	Alarm Indication Signal
ATM	Asynchronous Transfer Mode
AU	Administrative Unit
B-ISDN	Broadband Integrated Services Digital Network
B-NT	B-ISDN Network Termination
B-TA	B-ISDN Terminal Adaptor
B-TE	B-ISDN Terminal Equipment
BER	Bit Error Ratio
BIP	Bit Interleaved Parity
B-UNI	Broadband integrated services digital network User Network Interface
CATV	CAble TeleVision
CLP	Cell Loss Priority
CMI	Coded Mark Inversion
CRC	Cyclic Redundancy Check
EMC	Electro-Magnetic Compatibility
EMI	Electro-Magnetic Interference
HEC	Header Error Control
ISDN	Integrated Services Digital Network
LAN	Local Area Network
LCD	Loss of Cell Delineation
LOF	Loss Of Frame
LOP	Loss Of Pointer
LOS	Loss Of Signal
LSB	Least Significant Bit
MA	Medium Adaptor

MPH	Management Physical Header
MSB	Most Significant Bit
NNI	Network Node Interface
NRZ	Non Return to Zero
OAM	Operation Administration and Maintenance
OCD	Out of Cell Delineation
OSI	Open System Interconnection
p.p.m	part per million
PH	Physical Header
PM	Physical Medium
POH	Path Overhead
PDU	Protocol Data Unit
PRBS	Pseudo Random Binary Sequence
PTR	Pointer
RDI	Remote Defect Indication
REI	Remote Error Indication
SDH	Synchronous Digital Hierarchy
SOH	Section Overhead
STI	Surface Transfer Impedance
STM	Synchronous Transport Module
TC	Transmission Convergence
TFV	Terminal Failure Voltage
UNA	User Network Access
UNI	User Network Interface
VC	Virtual Container

4 Reference configuration at the user-network interface

4.1 Functional groups and reference points

The reference configurations defined for Integrated Services Digital Network (ISDN) basic access and primary access are considered general enough to be applicable to all aspects of the B-ISDN accesses.

Figure 1 shows the B-ISDN reference configurations which contain the following:

- functional groups: B-NT1, B-NT2, B-TE1, TE2, B-TE2, and B-TA;
- reference points: T_B, S_B and R.

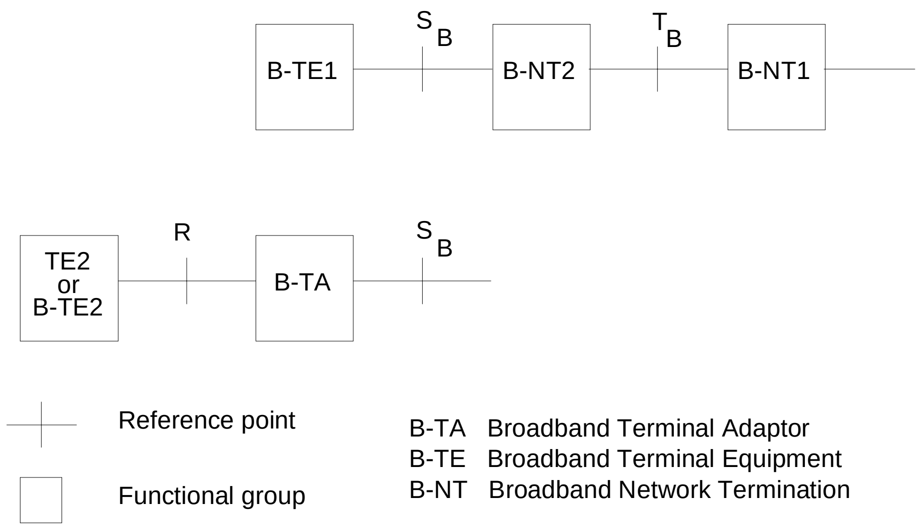


Figure 1: B-ISDN reference configurations