



SLOVENSKI STANDARD
SIST ETS 300 010-1 E2:2003
01-december-2003

Prenos in multipleksiranje (TM) – Oprema za sinhrono prespajanje za 64 kbit/s in n x 64 kbit/s za dostopovne porte s hitrostjo prespajanja 2 048 kbit/s – 1. del: Jedrne funkcije in karakteristike

Transmission and Multiplexing (TM); Synchronous cross connect equipment; 64 kbit/s and n x 64 kbit/s cross connection rate 2 048 kbit/s access ports; Part 1: Core functions and characteristics

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33.040.20 Prenosni sistem Transmission systems

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2 048 kbit/s access ports;
Part 1: Core functions and characteristics**

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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 produced in order to meet the requirements of network operators and equipment manufacturers for the deployment and design of synchronous cross connect equipment to be used in synchronous digital leased line networks.

This ETS consists of 2 parts as follows:

Part 1: "Core functions and characteristics".

Part 2: "Management" (DE/TM-01014-3).

NOTE: Part 2 of this ETS (ETS 300 010-2) is under development within ETSI TC-TM.

The corresponding ETS for equipment for cross connection of sub-rate signals is under development.

Proposed transposition dates	
Date of latest announcement of this ETS (doa):	31 August 1995
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 August 1995
Date of withdrawal of any conflicting National Standard (dow):	29 February 1996

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1 Scope

This European Telecommunication Standard (ETS) describes requirements of cross connect equipment for use in synchronous digital leased line networks. It covers equipment having 2 048 kbit/s access ports and is limited to the basic functions, external characteristics and performance of the equipment. Requirements for the management of the equipment are to be covered in ETS 300 010-2 which should be used in conjunction with this part of the ETS.

NOTE: ETS 300 010-2 is under development within ETSI TC-TM.

Some network operators may have additional requirements and these are provided in normative annexes A to C.

2 Normative references

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

- [1] CCITT Recommendation G.703 (1991): "Physical/electrical characteristics of hierarchical digital interfaces".
- [2] CCITT Recommendation G.704 (1988): "Synchronous frame structures used at primary and secondary hierarchical levels".
- [3] CCITT Recommendation G.706 (1991): "Frame alignment and cyclic redundancy check (CRC) procedures relating to basic frame structures defined in CCITT Recommendation G.704".
- [4] CCITT Recommendation G.732 (1991): "Characteristics of primary PCM multiplex equipment operating at 2 048 kbit/s".
- [5] CCITT Recommendation G.735 (1988): "Characteristics of primary PCM multiplex equipment operating at 2 048 kbit/s and offering synchronous digital access at 384 and/or 64 kbit/s".
- [6] CCITT Recommendation G.736 (1988): "Characteristics of a synchronous digital multiplex equipment operating at 2 048 kbit/s".
- [7] CCITT Recommendation G.773 (1988): "Protocol suites for Q interface for management of transmission systems".
- [8] CCITT Recommendation G.811 (1988): "Timing requirements at the outputs of primary reference clocks suitable for pliesochronous operation of international digital links".
- [9] CCITT Recommendation G.812 (1988): "Timing requirements at the outputs of slave clocks suitable for pliesochronous operation of international digital links".
- [10] CCITT Recommendation G.822 (1988): "Controlled slip rate objectives on an international digital connection".
- [11] CCITT Recommendation G.823 (1988): "The control of jitter and wander within digital networks which are based on the 2 048 kbit/s hierarchy".
- [12] CCITT Recommendation M.20 (1988): "Maintenance philosophy for telecommunication networks".
- [13] CCITT Recommendation M.2100 (1992): "Performance limits for bringing into service and maintenance of digital paths, sections and line sections".

- [14] CCITT Recommendation M.3010 (1988): "Principles for a telecommunication management network".
- [15] CCITT Recommendation O.162: "Specifications for an instrument to monitor the frame alignment signal of frame structures (frame alignment signal monitor)".
- [16] CEPT Recommendation T/TR 02-02, edition 3 (1987): "Rack/telecommunication centre power supply interfaces".

NOTE: This CEPT Recommendation is to be replaced by prETS 300 132 ("Equipment Engineering (EE); Power supply interface at the input to the telecommunications equipments (DE/EE-2001)") when available.

3 Definitions

For the purposes of this ETS, the following definitions apply.

synchronous cross connect equipment: A device which accepts a number of signals comprising synchronously multiplexed lower bit rate signals and cross connects the constituent lower bit rate signals.

blocking factor: The existence of cross connections in a cross connect equipment can block the establishing of any new cross connection. The blocking factor is the probability that a new cross connection cannot be made, expressed as a decimal fraction of 1.

synchronization signal: A clock control signal obtained from a synchronization network.

access port: Access ports of a cross connect equipment are input and output ports used to terminate 2 048 kbit/s signals transporting synchronous 64 and $n \times 64$ kbit/s signals to be cross connected.

cross connection capacity: This comprises the maximum number of equivalent channels at 64 kbit/s which can be cross connected as equivalent to a 64 kbit/s channel.

NOTE: Cross connection of Time Slot 0 (TS 0) (or bits 1 to 8) or Time Slot 16 (TS 16) information according to CCITT Recommendation G.704 [2] should be considered as equivalent to a 64 kbit/s channel.