SLOVENSKI STANDARD
SIST ETS 300 232 E1:2003

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Prenos in multipleksiranje (TM) ï Optiļ ni vmesniki za opremo in sisteme v zvezi s sinhrono digitalno hierarhijo

Transmission and Multiplexing (TM); Optical interfaces for equipments and systems relating to the Synchronous Digital Hierarchy [ITU-T Recommendation G.957 (1993), modified]

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ICS:

33.040.20	Prenosni sistem	Transmission systems
33.180.01	Sistemi z optiļ nimi vlakni na sploġno	Fibre optic systems in general

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Transmission and Multiplexing (TM); Optical interfaces for equipments and systems relating to the Synchronous Digital Hierarchy

[ITU-T Recommendation G.957 (1993) modified]

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Foreword

This European Telecommunication Standard (ETS), providing modifications to ITU-T Recommendation G.957 (1993) [1], was prepared by the Transmission and Multiplexing (TM) Technical Committee of the European Telecommunications Standards Institute (ETSI).

The text of

ITU-T Recommendation G.957 (1993) [1] has been approved by ETSI as an ETS with the agreed common modifications as given below.

Common modifications

1) Insert the following text as the scope for this ETS.

1 Scope

This ETS specifies the optical interfaces for equipment and systems relating to the Synchronous Digital Hierarchy (SDH).

2) Add the following normative references Clause.

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 by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] ITU-T Recommendation G.957 (1993): "Optical interfaces for equipments and systems relating to the Synchronous Digital Hierarchy".

3) Insert the following definitions and abbreviations Clause.

3 Definitions and abbreviations

For the purpose of this ETS the definitions and abbreviations given in ITU-T Recommendation G.957 [1] apply.

4) Add the following "Optical interfaces" Clause.

4 Optical interfaces

The optical interfaces are defined in ITU-T Recommendation G.957 [1], together with the following statements and modifications.

As ITU-T Recommendation G.957 [1] was written as a Recommendation, table 1 also gives an indication of the status of each requirement (i.e., normative, informative or not relevant to this ETS).

The normative requirements, as described in table 1, shall only be met when the possibility of transverse compatibility of SDH systems on elementary cable sections is required. In the case of longitudinal compatibility or joint engineering the normative elements, listed in table 1, need not be met.

Key to table 1:

N - Normative: elements which shall be complied with in order to be able to claim compliance with this ETS.

I - Informative: sections/subsections present to assist the user in understanding the purpose and use of this ETS.

N/R - Not Relevant: sections/subsections not being relevant to this ETS.

Table 1: Modifications and statements to ITU-T Recommendation G.957 [1]

Section	Title	For ETS
1	Introduction	N
1.1	Abbreviations	N
2	Classification of optical interfaces (including Table 1/G.957)	N
3	Parameter definitions (including Figure 1/G.957)	N
3.1	System operating wavelength range	N
3.2	Transmitter	
3.2.1	Nominal source type	I
3.2.2	Spectral width	N
3.2.3	Mean launched power	N
3.2.4	Extinction ratio	N
3.2.5	Eye pattern mask (including Figure 2/G.957)	N
3.3	Optical path	N
3.3.1	Attenuation	N
3.3.2	Dispersion	N
3.3.3	Reflections	N
3.4	Receiver	N
3.4.1	Receiver sensitivity Normative with the exception of the final two sentences: "Typical margins between a beginning-of-life, nominal temperature receiver and its end-of-life, worst-case counterpart are desired to be in the 2 to 4 dB range. An example of a measurement method for determining aging effects on receiver sensitivity is given in Appendix III"	N I
3.4.2	Receiver overload	N
3.4.3	Receiver reflectance	N
3.4.4	Optical path power penalty	N
4	Optical parameter values for SDH applications (including Tables 2, 3 and 4/G.957)	N
5	Optical engineering approach	N
5.1	Design assumptions	N
5.2	Worst-case design approach (including figure 3/G.957)	N
5.3	Statistical design approach	I
5.4	Upgradability considerations	I

(continued)

Table 1: Modifications and statements to ITU-T Recommendation G.957 [1] (concluded)

ANNEX A	System operating wavelength considerations:	
A1	Operating wavelength ranges determined by fibre attenuation (including Figure A-1/G.957)	I
A2	Operating wavelength ranges determined by fibre dispersion (including figures A-2/G.957 and A-3/G.957) Change the third sentence of the second paragraph from: "The G.653 fibres can be used also in the 1 310 nm region, for which the maximum dispersion coefficient is comparatively large". to "The G.653 fibres might be used also in the 1 310 nm region, for which the maximum dispersion coefficient is comparatively large".	I
APPENDIX I	Measurement of the mask of the eye diagram of the optical transmit signal (including Tables I-1/G.957 and I-2/G.957 and Figures I-1/G.957 and I-2/G.957)	N
APPENDIX II	Methods for measuring reflections (including Figures II-1/G.957 and II-2/G.957)	I
APPENDIX III	Possible method for evaluating aging margin contribution in receiver sensitivity specifications, (including Figures III-1/G.957, III-2/G.957, III-3/G.957 and III-4/G.957)	I
APPENDIX IV	Upgradability examples Example 1 Example 2 (including Table IV-1/G.957 and Figure IV-1/G.957)	 I N/R