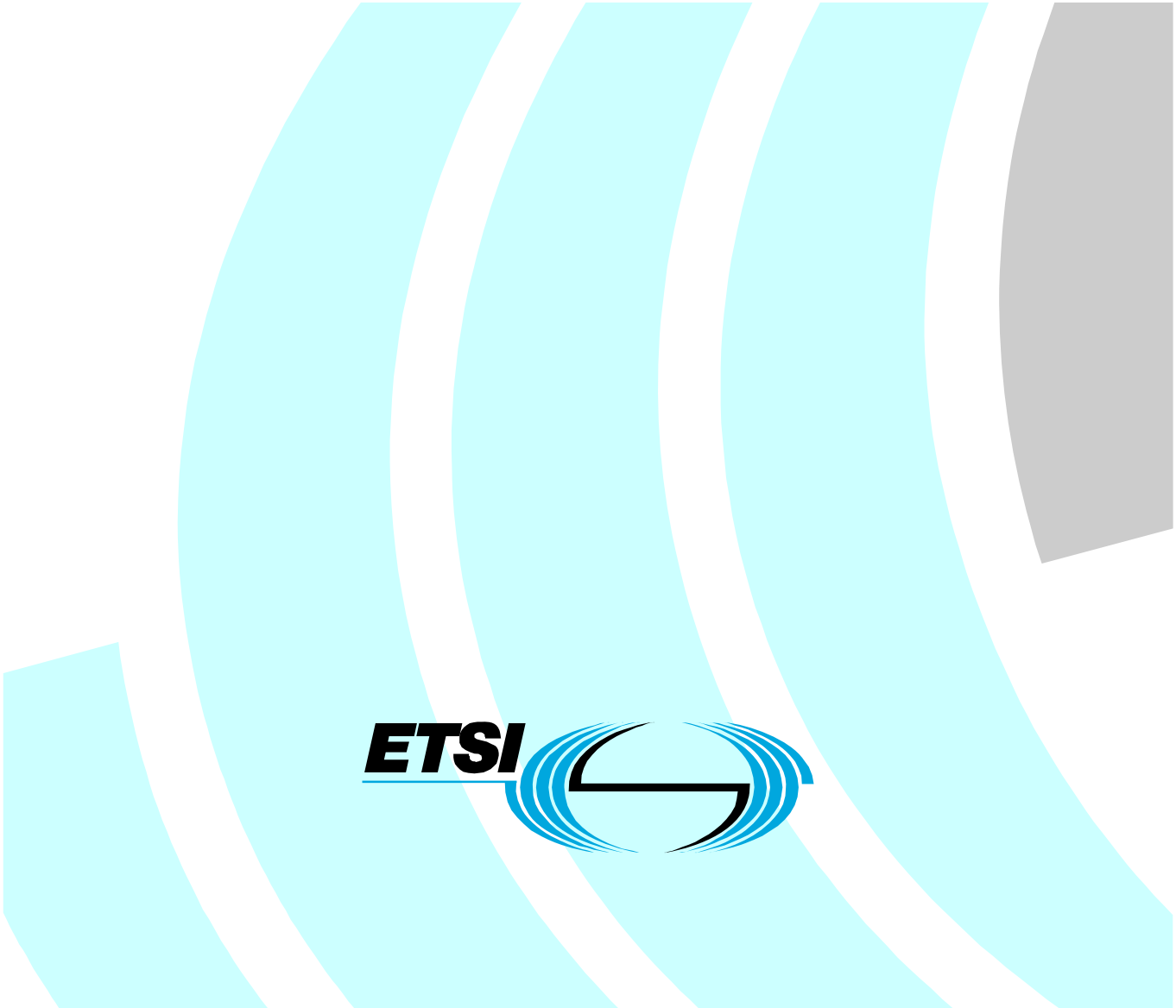
ETSI TS 105 388 V1.1.1 (2008-04)

Technical Specification

Transmission and Multiplexing (TM);
Access transmission systems on metallic access cables;
Asymmetric Digital Subscriber Line (ADSL2plus) -
European specific requirements
[ITU-T Recommendation G.992.5 modified]



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Contents

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Access, Terminals, Transmission and Multiplexing(ATTM).

The present document, in conjunction with ITU-T Recommendation G.992.5 [1] and amendments 1 [2], 2 [3] and 3 [4], provides the European specifications for ADSL2plus, to the exclusion in annex C of G.992.5.

1 Scope

The present document specifies European requirements for ADSL2plus.

The present document endorses ITU-T Recommendation G.992.5 [1] and amendments 1 [2], 2 [3] and 3 [4], the contents of which apply together with the addition of the modifications being covered herein, to the exclusion of annex C of G.992.5. In particular the aspects covered by the present document are related to:

1) Define INP values as mandatory.

2) Define specific European tests.

3) Define mandatory S&D values.

4) Define mandatory support of extended interleaving memory.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
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NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

[1] ITU-T Recommendation G.992.5 (01/05): "Asymmetric digital subscriber line (ADSL) transceivers - extended bandwidth ADSL2 (ADSL2plus)".

[2] ITU-T Recommendation G.992.5 (07/05): Amendment 1, "Asymmetric digital subscriber line (ADSL) transceivers - extended bandwidth ADSL2 (ADSL2plus)".

[3] ITU-T Recommendation G.992.5 (06/06) Amendment 2: "Asymmetric digital subscriber line (ADSL) transceivers - extended bandwidth ADSL2 (ADSL2plus)".

[4] ITU-T Recommendation G.992.5 (07/02) Amendment 3: "Asymmetric digital subscriber line (ADSL) transceivers - extended bandwidth ADSL2 (ADSL2plus)".

[5] DSL Forum TR-100 (2007): "ADSL2/ADSL2plus Performance test plan".

[6] ETSI TS 101 388 (V1.4.1): "Access Terminals Transmission and Multiplexing (ATTM); Access transmission systems on metallic access cables; Asymmetric Digital Subscriber Line (ADSL) - European specific requirements [ITU-T Recommendation G.992.1 modified]".

[7] ITU-T Recommendation G.992.3 (09/05) Amendment 1: "Asymmetric digital subscriber line (ADSL) transceivers".

2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area**.** For non-specific references, the latest version of the referenced document (including any amendments) applies.

Not applicable.

3 Abbreviations

3.1 Abbreviations

For the purposes of the present document, the following abbreviations apply:

DSL	Digital Subscriber Line
INP	Impulse Noise Protection
REIN	Repetitive Electrical Impulse Noise

4 Test methods

All test methods shall be as defined in TS 101 388 [6], and DSL Forum Technical report TR 100 [5], as required by test definitions in clause 5.

5 Other specific requirements

5.1 European specific tests

This clause contains European specific tests. Other performance requirements are for further study.

5.1.1 Repetitive Electrical Impulse Noise (REIN) test

The test method shall be identical to the section 7.2.2 of DSL Forum TR-100 [5].

Additional European requirements are for further study.

5.2 Reach requirements

This clause contains European specific reach requirements.

5.2.1 Reach requirements for FDD ADSL2plus from cabinet in "FD" noise

Shall meet the requirements of A.3.1 (rate adaptive) and A.3.2 (fixed rate) in DSL Forum TR-100 [5]. Additional European requirements are for further study.

5.3 Framing related requirements

This clause contains European specific requirements related to framing parameter and framing parameter control.

5.3.1 Requirements for INP

The mandatory values for Impulse Noise Protection (INP) for upstream and downstream transmission in European ADSL2plus transmission systems are 0, 1/2, 1, 2, 4, 8, and 16.

The choice of values for INP_min and Delay_max can dramatically affect the resulting net data rate of the transmission system. This is illustrated in Tables K.3a/G.992.5 and K.3b/G.992.5 of ITU-T Recommendation G.992.5 [1] for upstream and downstream transmission.

5.3.2 Requirements for interleaving memory

From January 1st, 2009, the extended interleaving memory of 24 000 bytes, that can be negotiated as defined in ITU-T Recommendation G.992.5 amendment 3 [4], shall be mandatory.

5.3.3 Requirements for S&D framing parameters

5.3.3.1 Requirement for use in conjunction with 16 002 bytes interleaving memory

The mandatory framing configurations are extended as follows:

The mandatory downstream framing control parameter support for the mandatory latency path 0 is extended as follows (extension of table 7-9/G.992.3 amendment 1 [7]). The values in the table shall be supported in the transmitter and receiver.

Table 1: Mandatory downstream control parameter support for latency path #0 in conjunction with 16 002 bytes interleaving memory

Parameter	Capability
D_0	1, 2, 4, 8, 16, 32, 64, 96, 128, 160, 192, 224, 256, 288, 320. Support of the mandatory D_0 values above 64 shall be indicated during initialization, through individual indication with 1 bit per value. Support of additional optional D_0 values is indicated during initialization. All indicated values of D_0 shall be supported.
S_0	$1/11 \leq S_0 < 64$. Support of these mandatory S_0 values shall be indicated during initialization, through $S_{0\,min}$, with $S_{0\,min} \leq 1/11$. Support of additional optional S_0 values is indicated during initialization, through $S_{0\,min}$, with $1/16 \leq S_{0\,min} < 1/11$. All values of S_0, with $S_{0\,min} \leq S_0 \leq 1/11$, shall be supported.

5.3.3.2 Requirement for use in conjunction with 24 000 bytes interleaving memory

From January 1st, 2009, in conjunction with the 24 000 bytes interleaving memory defined in clause 5.3.2, the mandatory downstream framing control parameter support for the mandatory latency path 0 will be extended as follows (extension of table 7-9/G.992.3 amendment 1 [7]). The values in the table shall be supported in the transmitter and receiver.

Table 2: Mandatory downstream control parameter support for latency path #0 in conjunction with 24 000 bytes interleaving memory

Parameter	Capability
D_0	1,2,4,8,16,32,64,96,128,160,192,224,256,288,320, 352, 384 Support of the mandatory D_0 values above 64 shall be indicated during initialization, through individual indication with 1 bit per value. Support of additional optional D_0 values is indicated during initialization. All indicated values of D_0 shall be supported.
S_0	$1/11 \leq S_0 < 64$. Support of these mandatory S_0 values shall be indicated during initialization, through $S_{0\ min}$, with $S_{0\ min} \leq 1/11$. Support of additional optional S_0 values is indicated during initialization, through $S_{0\ min}$, with $1/16 \leq S_{0\ min} < 1/11$. All values of S_0, with $S_{0\ min} \leq S_0 \leq 1/11$, shall be supported.

History

Document history		
V1.1.1	April 2008	Publication