

# ETSI TS 103 388 V1.1.1 (2008-05)

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*Technical Specification*

## **Transmission and Multiplexing (TM); Access transmission systems on metallic access cables; Asymmetric Digital Subscriber Line (ADSL2) - European specific requirements**

[ITU-T Recommendation G.992.3 modified]

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## Foreword

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

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# 1 Scope

The present document specifies European requirements for ADSL2.

The present document endorses ITU-T Recommendation G.992.3 [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 in ITU-T Recommendation G.992.3 [1]. In particular the aspects covered by the present document are related to:

- 1) Define INP values as mandatory.
- 2) Define European specific tests.
- 3) Define mandatory S&D values.

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# 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.
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## 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.992.3 (01/05): "Asymmetric digital subscriber line (ADSL) transceivers (ADSL2)".     |
| [2] | ITU-T Recommendation G.992.3 (09/05) Amendment 1: "Asymmetric digital subscriber line (ADSL) transceivers". |
| [3] | ITU-T Recommendation G.992.3 (03/06) Amendment 2: "Asymmetric digital subscriber line (ADSL) transceivers". |
| [4] | ITU-T Recommendation G.992.3 (02/07) Amendment 3: "Asymmetric digital subscriber line (ADSL) transceivers". |

- [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]".

## 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.

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## 3 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

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## 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.

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## 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].

### 5.2 Framing related requirements

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

#### 5.2.1 Requirements for INP

The mandatory values for Impulse Noise Protection (INP) for upstream and downstream transmission in European ADSL2 transmission systems are 0, ½, 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.992.3 and K.3b/G.992.3 of ITU-T Recommendation G.992.3 [1] for upstream and downstream transmission.

## 5.2.2 Requirements for S&D framing parameters

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 of ITU-T Recommendation G.992.3 amendment 1 [2]). The values in the table shall be supported in the transmitter and receiver.

**Table 1: Mandatory downstream control parameter support for latency path #0**

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.

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