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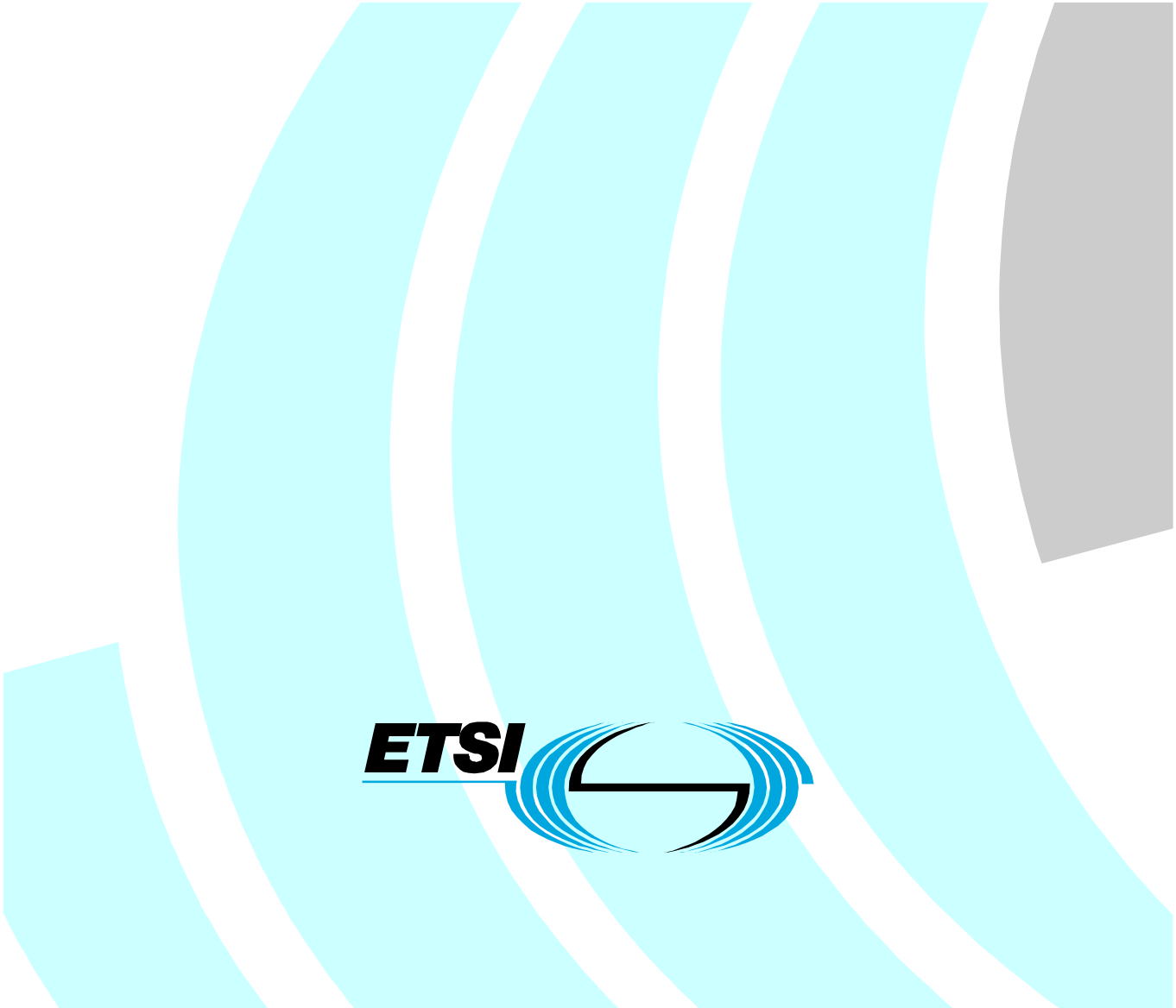
Technical Specification

Transmission and Multiplexing (TM);
Integrated Services Digital Network (ISDN) basic rate access;
Digital transmission system on metallic local lines



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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

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

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Transmission and Multiplexing (TM).

The present update includes an additional normative annex for ISDN-BA systems that includes an additional low pass filter in order to allow either ADSL or VDSL on the same pair.

1 Scope

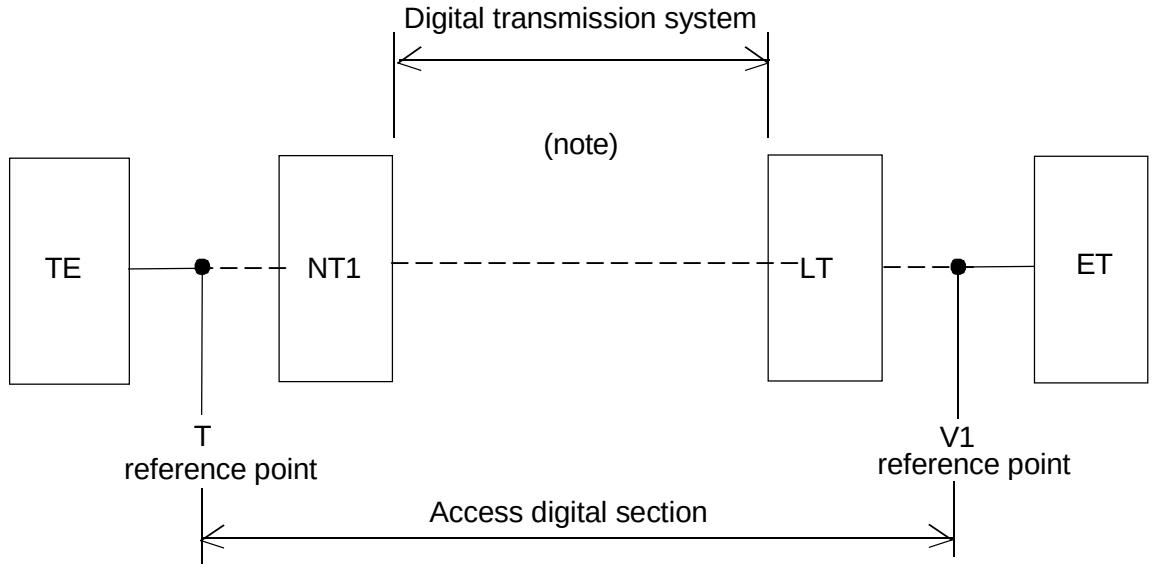
The present document covers the characteristics and parameters of a digital transmission system at the network side of the NT1 to form part of the access digital section for the Integrated Services Digital Network (ISDN) basic rate access using echo cancellation method.

The present document specifies support for:

- full duplex; and
- bit sequence independent;

transmission of two B-channels and one D-channel as defined in ITU-T Recommendation I.412 [11] and the supplementary functions of the access digital section defined in ETR 001 [6].

The line codes of systems specified in the present document are 2B1Q (2 Binary 1 Quaternary) and MMS 43-code (Modified Monitoring State 43-code). Systems using a 2B1Q line code are covered in annex A. Systems using a MMS line code are covered in annex B. Only one of the line codes has to be realized in a transmission system. Figure 1 shows the boundaries of the digital transmission system in relation to the access digital section.



NOTE: In the present document, digital transmission system refers to a line system using metallic local lines. The use of one intermediate regenerator (REG) may be required.

Figure 1: Access digital section and transmission system boundaries

The concept of the access digital section is used in order to allow a functional and procedural description and a definition of the network requirements.

NOTE: The reference points T and V_1 are not identical and therefore the access digital section is not symmetric.

The concept of a digital transmission system is used in order to describe the characteristics of an implementation, using a specific medium, in support of the access digital section.

The Annex D defines the characteristics and parameters for an ISDN-BA system that includes an additional low pass part of a splitter to work on the same pair with a VDSL or an ADSL system. Both ISDN linecodes 2B1Q (2 Binary 1 Quaternary) and MMS 43-code (Modified Monitoring State 43-code) are considered.