SLOVENSKI STANDARD
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Poslovne telekomunikacije (BTC) - Digitalni zakupljeni vodi za prenosno hitrost 64 kbit/s brez omejitev za prenašane signale in z ohranjanjem oktetov (D64U) - Omrežni vmesnik

Business TeleCommunications (BTC); 64 kbit/s digital unrestricted leased line with octet integrity (D64U); Network interface presentation

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Business TeleCommunications (BTC) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS resulted from a mandate from the Commission of the European Community (CEC) to provide harmonised standards for the support of the Directive on Open Network Provision (ONP) of leased lines (92/44/EEC).

There are two other standards directly related to this ETS:

ETS 300 289: "Business TeleCommunications (BTC); 64 kbit/s digital unrestricted leased line with octet integrity (D64U), Connection characteristics";

ETS 300 290: "Business TeleCommunications (BTC); 64 kbit/s digital unrestricted leased line with octet integrity (D64U), Terminal equipment interface";

This ETS is based on information from CCITT Recommendations and ETSI publications and the relevant documents are quoted where appropriate.

Introduction

The Council Directive on the application of Open Network Provision (ONP) to leased lines (92/44/EEC) concerns the harmonisation of conditions for open and efficient access to, and use of, the leased lines provided over public telecommunications networks and the availability throughout the Community (EEC) of a minimum set of leased lines with harmonised technical characteristics.

Other countries outside the EEC may also choose to provide leased lines according to the standards produced to support the Directive (of which this ETS is one of the set).

The consequence of the Directive is that Telecommunications Organisations within the EEC shall make available a set of leased lines between points in these countries with specified connection characteristics and specified interfaces. Under the Second Phase Directive (91/263/EEC), terminal equipment for connection to these leased lines will be required to fulfil certain essential requirements.

ETS 300 166 and CCITT Recommendation G.703 are used as the basis for the interface presentation requirements.

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1 Scope

This ETS specifies the technical requirements and test principles for the network interface presentations of Open Network Provision (ONP) 64 kbit/s digital unrestricted leased lines with octet integrity. These presentations are codirectional.

A connection is presented via interfaces at Network Termination Points (NTP). This ETS defines the network interface presented by the leased line provider and should be used in conjunction with the companion standard, ETS 300 289 [6], which specifies the connection characteristics between the NTPs of the leased line. Together, these documents describe the service offered.

This ETS is applicable to leased lines, including part time leased lines, whose establishment or release does not require any protocol exchange or other intervention at the NTP.

This ETS covers the physical, mechanical and electrical characteristics of the network interface and specifies the conformance tests for equipment of the kind that provides the interface presentation. Some of the tests described in this ETS are not designed to be applied to the interface of an installed leased line; such tests may be applied to equipment of the kind used to provide the interface. This ETS does not include details concerning the implementation of the tests nor does it include information on any regulations concerning testing. There is no requirement for each leased line to be tested in accordance with this ETS before it is brought into, or returned into, service.

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 O.152 (1988): "Error performance measuring equipment for 64 kbit/s paths".

[3] EN 60950 (1992): "Safety of information technology equipment including electrical business equipment".

[4] ETS 300 046-4 (1992): "Integrated Services Digital Network (ISDN); Primary rate access - safety and protection, Part 4: Interface Ib - safety".

[5] ETS 300 046-5 (1992): "Integrated Services Digital Network (ISDN); Primary rate access - safety and protection, Part 5: Interface Ib - protection".

[6] ETS 300 289 (1994): "Business TeleCommunications (BTC); 64 kbit/s digital unrestricted leased line with octet integrity (D64U), Connection characteristics".

[7] ISO/IEC 10173 (1991): "Information technology - Integrated Services Digital Network (ISDN) primary access connector at reference points S and T".

NOTE: This ETS also contains a number of informative references which have been included to indicate the sources from which various material has been derived, hence they do not have an associated normative reference number. Details of these publications are given in Annex C. In some cases the same publication may have been referenced in both a normative and an informative manner.

3 Definitions

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

Leased lines: the telecommunications facilities provided by a public telecommunications network that provide defined transmission characteristics between network termination points and that do not include switching functions that the user can control (e.g. on-demand switching).

Network Termination Point (NTP): all physical connections and their technical access specifications which form part of the public telecommunications network and are necessary for access to and efficient communication through that public network.

Safety Extra-Low Voltage (SELV) circuit: a secondary circuit which is so designed and protected that under normal and single fault conditions, the voltage between any two accessible parts and, for class 1 equipment, between any accessible part and the equipment protective earthing terminal does not exceed a safe value (subclause 1.2.8.5 of EN 60950 [3]).

Terminal Equipment (TE): equipment intended to be connected to the public telecommunications network, i.e.:

a) to be connected directly to the termination of a public telecommunication network; or

b) to interwork with a public telecommunications network being connected directly or indirectly to the termination of a public telecommunications network,

in order to send, process, or receive information.

4 Symbols and abbreviations

For the purposes of this ETS, the following abbreviations apply:

D64U	64 kbit/s digital unrestricted ONP leased line with octet integrity
dc	direct current
EMC	Electro-Magnetic Compatibility
NTP	Network Termination Point
ONP	Open Network Provision
ppm	parts per million
PRBS(2^{11}-1)	Pseudo Random Bit Sequence (as defined in § 2.1 of CCITT Recommendation O.152 [2])
rms	root mean square
RX	Receive (a signal input at either the leased line interface or the test equipment, see figure 1)
SELV	Safety Extra-Low Voltage
TE	Terminal Equipment
TX	Transmit (a signal output at either the leased line interface or the test equipment, see figure 1)

5 Requirements

The 64 kbit/s unrestricted leased line provides a bidirectional, point-to-point digital leased line with a usable bit rate of 64 kbit/s and octet integrity, where the output timing is provided from the network. The interface timing arrangements are codirectional.

NOTE: If equipment providing the interface requires a mains supply, the leased line provider should bring this to the attention of the user so that the user can provide mains supply back-up facilities, if required.

5.1 Physical characteristics

The physical connection arrangements shall be by a socket; however at the request of the user, and with agreement of the leased line provider, an alternative means of connection may be provided, which shall consist of a hardwired connection using insulation displacement connectors.

The use on the terminal equipment side of the interface of shielded cables may be necessary to meet radiation and immunity requirements defined in Electro-Magnetic Compatibility (EMC) standards. Therefore, the NTP may provide a point, or points, to which the shield, or shields, of the cable on the terminal equipment side of the interface can be connected.

NOTE: The purpose of these points (if present) is to provide a path from the shield to a common reference. The common reference point does not necessarily have to be earthed.

5.1.1 Connector specification

Requirement: Where a connector is specified as the means of termination of the leased line, the network interface shall provide an 8-contact socket of the type specified in ISO/IEC 10173 [7] with contact assignments as specified in table 1.

Table 1: Contact assignment

Contact	Network interface
1 & 2	Transmit pair
3	Shield reference point (if present)
4 & 5	Receive pair
6	Shield reference point (if present)
7	Unused
8	Unused
NOTE: The transmit pair is the output from the network interface. The receive pair is the input to the network interface, as shown in figure 1. Where the terms "output" and "input" are used without qualification in this ETS, they refer to the network interface.	

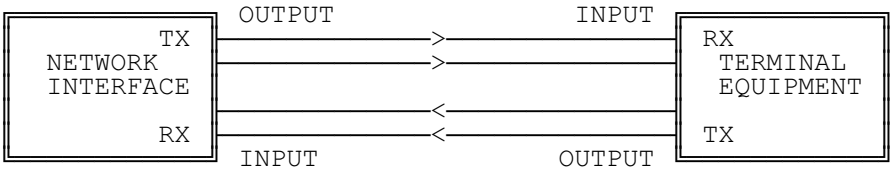

Figure 1

Test: There shall be a visual inspection that the socket is of the correct type. The contact assignments are tested indirectly through the tests given in Annex A.