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Technical Report

**Digital Terminals and Access (DTA);
Definitions, abbreviations and symbols**

ETSI

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Foreword

This Technical Report (TR) has been produced by ETSI Project Digital Terminals and Access (DTA).

1   Scope

The present document presents a list of the definitions, abbreviations and symbols used in the documents prepared by ETSI Project Digital Terminals and Access (DTA).

The purpose of the present document is primarily to give guidance to DTA rapporteurs in the preparation of their documents, and to assist the usability of these documents through the use of a consistent terminology. Furthermore it is intended to align as far as possible the definitions abbreviations and symbols with the corresponding ones from ITU and make them available within ETSI for other Technical Bodies, membership and clients.

The definitions, abbreviations and symbols given are not intended to be exclusive. Other definitions, abbreviations and symbols different from those given here may be found in some EP-DTA documents. However, the definitions given in the present document are generally to be preferred.

2   References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

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

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1]   CCITT Recommendation I.412: "ISDN user-network interfaces - Interface structures and access capabilities".

[2]   CCITT Recommendation V.22: "1200 bits per second duplex modem standardized for use in the general switched telephone network and on point-to-point 2-wire leased telephone-type circuits".

[3]   EN 41003: "Particular Safety Requirements for Equipment to be Connected to Telecommunication Networks ".

[4]   ETS 300 012: "Integrated Services Digital Network (ISDN); Basic user-network interface; Layer 1 specification and test principles".

[5]   ETS 300 111: "Integrated Services Digital Network (ISDN); Telephony 3,1 kHz teleservice; Service description".

[6]   TBR 3: "Integrated Services Digital Network (ISDN); Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access".

[7]   IEC 60651: "Sound level meters"

[8]   IEC 60664-1: "Insulation coordination for equipment within low-voltage systems; Part 1: Principles, requirements and tests".

[9]   ISO/IEC 8208: "Information technology - Data communications - X.25 Packet Layer Protocol for Data Terminal Equipment".

[10]   ITU-T Recommendation I.112: "Vocabulary of terms for ISDNs".

[11]   ITU-T Recommendation I.122: "Framework for frame mode bearer services".

[12]   ITU-T Recommendation I.210: "Principles of telecommunication services supported by an ISDN and the means to describe them".

[13]   ITU-T Recommendation I.233: "Frame mode bearer services".

[14]   ITU-T Recommendation I.370: "Congestion management for the ISDN frame relaying bearer service".

[15]   ITU-T Recommendation I.411: "ISDN user-network interfaces - Reference configurations".

[16]   ITU-T Recommendation I.430: "Basic user-network interface - Layer 1 specification".

[17]   ITU-T Recommendation I.555: "Frame Relaying Bearer Service interworking".

[18]   ITU-T Recommendation K.22: "Overvoltage resistibility of equipment connected to an ISDN T/S bus".

[19]   ITU-T Recommendation V.24: "List of definitions for interchange circuits between data terminal equipment (DTE) and data circuit-terminating equipment (DCE)".

[20]   Void.

[21]   ITU-T Recommendation X.3: "Packet Assembly/Disassembly facility (PAD) in a public data network".

[22]   ITU-T Recommendation X.25: "Interface between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit".

[23]   ITU-T Recommendation X.28: "DTE/DCE interface for a start-stop mode Data Terminal Equipment accessing the Packet Assembly/Disassembly facility (PAD) in a public data network situated in the same country".

[24]   ITU-T Recommendation X.29: "Procedures for the exchange of control information and user data between a Packet Assembly/Disassembly (PAD) facility and a packet mode DTE or another PAD".

[25]   ITU-T Recommendation X.200: "Information technology - Open Systems Interconnection - Basic reference model: The basic model".

[26]   ISO 31-0: "Quantities and units; Part 0: General principles".

[27]   ITU-T Recommendation Z.100: "CCITT Specification and description language (SDL)".

3   Definitions

3,1 kHz telephony terminal: a terminal that supports the telephony 3,1 kHz teleservice as described in ETS 300 111 [5].

Acoustic Reference Level (ARL): the acoustic level which gives -10 dBm0 at the digital interface.

answer mode: when calls are established with automatic facilities, a standard answer mode shall be used by the modem at the answering station. This mode consists of conventional characteristics (e.g. use of high channel carrier frequency or particular scrambler generating polynomial) complementary to those used in the standard call mode by the modem at the calling station, in order to ensure proper connection and inter-working.

If calls are established on the PSTN by operators, or for leased line operation, bilateral agreement on the use of call mode and answer mode shall be necessary.

B-channel: a 64 kbit/s channel accompanied by timing intended to carry a wide variety of user information streams. A B-channel does not carry signalling information for circuit switching by the ISDN.

basic access: a user-network access arrangement that corresponds to the interface structure composed of two B-channels and one D-channel. The bit rate of the D-channel for this type of access is 16 kbit/s ITU-T Recommendation I.430 [16].

basic telecommunications service: a telecommunications service which is either a teleservice or a bearer service.

bearer service: a type of telecommunication service that provides the capability for the transmission of signals between user-network interfaces ITU-T Recommendation I.112 [10].

> NOTE 1: The ISDN connection type used to support a bearer service may be identical to that used to support other types of telecommunication service.

built-in modem: a functionally separate internal modem which is mechanically combined with a terminal.

call mode: when calls are established with automatic facilities, a standard call mode shall be used by the modem at the calling station. This mode consists of conventional characteristics (e.g. use of low channel carrier frequency or particular scrambler generating polynomial) complementary to those used in the standard answer mode by the modem at the answering station, in order to ensure proper connection and interworking.

If calls are established on the PSTN by operators, or for leased line operation, bilateral agreement on the use of call mode and answer mode shall be necessary.

compliance criterion: permitted level of malfunction or damage caused by a test. Where compliance criterion A or B is specified, it is defined as follows:

> Criterion A: equipment shall operate properly within the specified limits after the test without:

> - the need for resetting the fault protection facilities;

> - the need to change any hardware component;

> - reloading of data other than data of a type declared in the operating instructions to be unprotected data.

> Criterion B: no fire hazard shall arise in the equipment as a result of the tests.

> NOTE 2: These definitions for criteria A and B are based on those used in ITU-T K-series of Recommendations.

connection management entity: an entity for the purpose of management of resources that have an impact on an individual data link connection.

controlled situation: a situation in which the mains electric supply to the equipment conforms with IEC 60664 [8], installation category II (maximum impulse voltage 2,5 kV peak).

> NOTE 3: The use of the word "controlled" does not necessarily imply that protective measures are necessary to obtain a controlled situation. The necessary control is normally achieved by the capacitances and inductances of the mains electric supply wiring. This is known as an inherently controlled situation.

D-channel: a channel primarily intended to carry signalling information for circuit switching by the ISDN.

Data Terminal Equipment (DTE): the expression "DTE" used to define the origin and destination of signals present at the digital interface of a modem. This expression does not require that a "commercial data terminal" be present to receive or generate such signals; a tester or any other suitable device may monitor or generate such signals.

degree of start-stop distortion: in start-stop transmission the ratio of the maximum measured difference, irrespective of sign, between the actual and theoretical intervals separating any significant instant from the significant instant of the start element immediately preceding it, to the unit interval.

The highest absolute value of degrees of individual distortion of the significant instants of a stop-start signal is reached within a specific time interval.

The degree of distortion of start-stop modulation, restitution or signal shall be expressed as a percentage.

The result of measurement shall be completed by an indication of the period of the observation. The start-stop distortion shall be considered positive when the significant instant occurs after the ideal instant and conversely, negative when it occurs before.

degree of synchronous start-stop distortion: the degree of start-stop distortion determined when the assumed unit interval is that appropriate to the actual modulation rate.

The degree of synchronous start-stop distortion shall be measured by adjusting the scanning rate of the distortion measuring set.

The start-stop distortion shall be considered positive when the significant instant occurs after the ideal instant and conversely, negative when it occurs before.

For the determination of the actual mean modulation rate, account shall only be taken of those significant instants of modulation (or restitution) that correspond to a change on the same sense as that occurring at the beginning of the start element.

designated terminal: the terminal which is permitted to draw power from power source 1 under restricted power conditions as specified in TBR 3 [6].

excessive voltage: as given in EN 41003 [3].

extra-strength equipment: equipment which meets enhanced requirements and is declared as such by its manufacturer.

frame alignment: this function provides information to enable the TE or Network Termination (NT) to recover the time-division multiplexed channels.

Frame Relay network: one which offers an ITU-T Recommendation I.555 [17] Data Terminal Equipment (DTE) / Data Circuit-terminating Equipment (DCE) interface providing the facilities for user classes of service as defined in ITU-T Recommendations I.122 [11], I.233 [13] and I.370 [14].

initial carrier mode: a mode in which the Answer Mode Modem (AMM) transmits its carrier signal immediately after the end of the auto answer sequence, and the Call Mode Modem (CMM) remains silent until it receives a carrier signal from the AMM.

initiation and Acknowledgement Signal (S1): a comprises an unscrambled repetitive double dibit pattern of '00' and '11' at 1200 bit/s.

integrated modem: an internal modem which is functionally and physically merged with the terminal.

Integrated Services Digital Network (ISDN): a network that provides or supports a range of different telecommunications services and provides digital connections between user-network interfaces.

interface: a shared physical boundary between two functional units across which electrical signals originating from either of the units may pass to the other.

interface I_a: user side of the ISDN user-network interface.

interface I_b: network side of the ISDN user-network interface.

internal modem: a modem which is physically incorporated in a terminal equipment and which takes its electrical power supply from the terminal.

Different types of internal modems are defined: built-in, plug-in and integrated modems.

inter-operability: the ability to exchange across an interface electrical signals which convey information to/or from a terminal equipment and a network.

inter-working: the action of exchanging electrical signals which convey information between two or more terminals, all of which are connected to each other by means of intervening networks and associated interfaces.

intracharacter signalling rate: the intracharacter signalling rate of a message is the signalling rate of the start element and data elements within each character of this message.

layer management entity: an entity for the purpose of management of resources that have layer-wide impact.

modem: a functional unit that modulates and demodulates signals in order to enable digital data to be transmitted over analogue transmission facilities.

Modem Conformance Tester (MCT): essentially a modem to the same recommendation as the modem under test, but the individual sub-systems within it are both accessible (e.g. provide test points and permit functions to be enabled or disabled when required) and externally controllable (e.g. permit sequences such as the start up procedure to be selectively repeated). The sub-systems within a conformance tester may be constructed as discrete items of equipment, so as to permit their assembly into varying configurations required to suit the tests (e.g. the asynchronous to synchronous

converter may be simply applied to a synchronous CCITT Recommendation V.22 [2] conformance tester to achieve an asynchronous V.22 conformance tester).

As an interim measure, until the conformance tester is defined, its definition agreed to be appropriate by ETSI, and such a tester is available, a modem used for reference may be used in its place. In the absence of previous approval to Category II of the modem used for reference, in the relevant modes of use / operation, the testing authority shall ensure that the modem used for reference complies with the relevant EN to the extent necessary for the performance of the test.

modes of operation: modes specified in a modem specific standard, that have an influence upon line signals present at the PSTN interface.

modes of use: modes specified in a modem specific standard, that have an influence upon conditions present at a digital interface e.g. a "conventional" ITU-T Recommendation V.24 interface [19] or a PC bus interface in the case of an integral modem .

modem used for reference: a modem used for some of the tests specified in a modem specific standard. A modem used for reference may, at the discretion of the applicant, be provided by the testing authority or by himself. It shall be designed:

- to meet the requirements of the same ITU-T Recommendation(s) as the modem under test, to the extent necessary for performing the tests;

- to provide the functionality's for a modem used for reference that are specified in the relevant testing clauses; and

- to provide an interface which is accessible and of a type suitable for use in the tests (e.g. ITU-T Recommendation V.24 [19]).

Where the applicant has provided the modem used for reference and the test fails, the testing authority may not be in a position to determine the precise reason for failure.

multimedia terminal: a terminal that simultaneously supports two or more media.

multiservice terminal: a terminal that supports two or more teleservices.

Network Termination (NT): an equipment providing Interface I_b.

NOTE 4: This term is used to indicate network-terminating aspects of Network Termination type 1 (NT1), Network Termination type 2 (NT2) and Power Source 1 (PS1) functional groups where these have an I_b Interface. For definitions of these terms see ITU-T Recommendation I.411 [15].

Network Termination type 1 (NT1): this functional group includes functions broadly equivalent to Layer 1 (physical) of the Open Systems Interconnection (OSI) reference model. These functions are associated with the proper physical and electromagnetic termination of the network. NT1 functions are:

- line transmission termination;

- layer 1 maintenance functions and performance monitoring;

- timing;

- power transfer;

- layer 1 multiplexing;

- interface termination, including multidrop termination;

- employing Layer 1 contention resolution.

Network Termination type 2 (NT2): this functional group includes functions broadly equivalent to Layer 1 and higher layers of the ITU-T Recommendation X.200 [25] reference model. Private Automatic Branch Exchanges (PABXs), Local Area Networks (LANs), and terminal controllers are examples of equipment or combinations of equipment that provide NT2 functions. NT2 functions include:

- layer 2 and 3 protocol handling;

- layer 2 and 3 multiplexing;

- switching;

- concentration;

- maintenance functions;

- interface termination and other Layer 1 functions.

Non-designated terminal: a terminal which is only permitted to draw power from Power Source 1 (PS1) under normal power conditions as specified in TBR 3 [6].

normal conditions: conditions where both a controlled situation concerning mains and an unexposed environment concerning interfaces I_a and I_b exist.

normal power condition: the condition indicated by the normal polarity of the phantom voltage at the access leads, i.e. where the voltage of the transmit leads c and d on the TE is positive with respect to the voltage on the receive leads e and f as specified in TBR 3 [6].

normal power source (PS1 normal): for definition see ETS 300 012 [4].

On-line state: an electrical condition into which, when connected to the network, a modem is placed such that it draws enough current to be capable of activating the exchange.

NOTE 5:   Usually, a modem in the on-line state is potentially capable of sending or receiving speech-band information to or from the network.

Packet Assembly / Disassembly facility (PAD): the logical entity that is capable of using logical connections via a ITU-T Recommendation X.25 [22] packet level protocol or ISO/IEC 8208 [9] packet level entity to a packet mode DTE supporting application services and to a start-stop mode DTE according to ITU-T Recommendations X.3 [21], X.28 [23] and X.29 [24].

packet mode DTE: the logical entity that is capable of using logical connections via a ITU-T Recommendation X.25 [22] packet level protocol or ISO/IEC 8208 [9] packet level entity to an application according to ITU-T Recommendations X.3 [21] and X.29 [24].

PAD default profile: the PAD profile assumed by a PAD if no specific PAD initial profile is set as a result of a PAD service request signal.

PAD initial profile: the PAD profile with which a PAD operates when a connection is first established between the start-stop mode DTE and the PAD. This may be set as a result of a ITU-T Recommendation X.28 [23] service request signal, or by default.

PAD profile: any combination of parameter values of the PAD parameters (each parameter shall have one of its permitted values), constitute a PAD profile.

NOTE 6:   There is a distinction between this use of the word "profile" and its use in describing option selection by a functional standard.

PAD standard profile: any PAD profile that can be invoked by a reference name.

period of silence: measured using start and finish criteria defined below. The levels refer to signals which, in the relevant frequency band, have an inband power level and are expressed with respect to the normal transmitted signal level of the modem under test recorded at the point of observation.

Point of Control and Observation (PCO): a point, defined for an abstract test method, at which the occurrence of test events is controlled and observed, as specified in test cases for that test method.

Power Source 1 (PS1): power source for the provision of remote power feeding of TE from NT via a phantom circuit of the interface wires ETS 300 012 [4].

Power Source (PS): power source used to simulate PS1 for test purposes.

primary rate access: a user-network arrangement that corresponds to the primary rate of 2 048 kbit/s. The bit rate of the D-channel for this type of access is 64 kbit/s. The typical primary rate interface structures are as given in CCITT Recommendation I.412 [1].

plug-in modem: a physically and functionally separate internal modem which is interchangeable from a terminal.

restricted power condition: the condition indicated by the reversed polarity of the phantom voltage at the access leads, i.e. where the voltage of the receive leads e and f on the TE is positive with respect to the voltage on the transmit leads c and d as specified in TBR 3 [6].

NOTE 7: For some networks restricted power condition will be the normal operating mode.

service; telecommunications service: that which is offered by an Administration to its customers in order to satisfy a specific telecommunication requirement ITU-T Recommendation I.112 [10], subclause 2.2, definition 2a.

NOTE 8: Bearer service and teleservice are types of telecommunications services other types of telecommunication services may be identified in the future.

silence: signals which in the relevant frequency band have an in-band power level which is at least 30 dB below the level of the transmitted signal at the point of measurement. This term is used to describe periods where signals are not transmitted during the hand-shaking sequences.

start of the period of silence: the instant at which the transmitted signal level drops below a level that is 6 dB below the normal transmit level. The period of silence ends the instant the transmitted signal rises above a level that is 6 dB below the normal transmit level. During the period of silence at least one instant is observed where the signal level is at least 30 dB below the normal transmit level.

start-stop mode DTE: the logical entity that is capable of using a connection to a PAD according to ITU-T Recommendation X.28 [23].

supplementary service: see ITU-T Recommendation I.210 [12], subclause 2.4.

techno-regulatory: a description of any technical matter which of itself also has implications of a legal or regulatory kind.

Terminal Adapter (TA): an equipment with Interface I_a and one or more auxiliary interfaces that allow non-ISDN terminals to be served by an ISDN user-network interface.

Terminal Coupling Loss (TCL): the frequency dependent coupling loss between the receiving port and the sending port of a terminal due to:

- acoustical coupling at the user interface;

- electrical coupling due to crosstalk in the handset cord or within the electrical circuits;

- seismic coupling through the mechanical parts of the terminal.

NOTE 9: The receiving port and the sending port of a digital voice terminal is a 0 dBr point.

NOTE 10: The coupling at the user interface depends on the conditions of use.

Terminal Equipment (TE): equipment having terminal-terminating aspects of TE1, TA or NT2 functional groups, where these have an I_a interface. For definitions of these terms see ITU-T Recommendation I.411 [15].

Terminal Equipment type 1 (TE1): a functional group which includes functions belonging to the functional group TE, and with an interface that complies with the ISDN user-network interface standard.

unexposed environment: an environment in which interface I_a or I_b does not normally experience conditions in excess of those represented in the tests defined in ITU-T Recommendation K.22 [18], paragraph 7.

weighted Terminal Coupling loss (TCLw): the weighted terminal coupling loss using the weighting of ITU-T Recommendation G.122 [10].

4 Abbreviations

AAL	ATM Adaptation Layer
AALM	AAL Management

ABM	Asynchronous Balanced Mode
ac	alternating current
AC	Alternating Current
ADPCM	Adaptive Differential Pulse Code Modulation
AFI	Authority and Format Identifier
Ai	Action indicator
AIS	Alarm Indication Signal
AL	Alignment
ANSI	American National Standards Institute
ARL	Acoustic Reference Level
ARM	Asynchronous Response Mode
ASP	Assignment Source Point
ATM	Asynchronous Transfer Mode
AU	Administrative Unit
BC	Bearer Capability
BCD	Binary Coded Decimal
BER	Bit Error Ratio
BIP	Bit Interleaved Parity
B-ISDN	Broadband Integrated Services Digital Network
B-NT	Broadband Network Termination
BR	Backward Reporting
B-TE	Broadband Terminal Equipment
C/R	Command / Response field bit
CAC	Connection Admission Control
CATV	TV Cable Distribution
CBR	Constant Bit Rate
CC	Continuing Check
CCITT	Comité Consultatif International Télégraphique et Téléphonique
CDV	Cell Delay Variation
CEC	Commission of the European Communities
CEN	Comité Européen de Normalization
CENELEC	Comité Européen de Normalization Electrotechnique
CEPT	Comité Européen des Postes et Télécommunications
CES	Connection Endpoint Suffix
CI	Congestion Indication
CL	Total effective capacitance associated with the load
CLP	Cell Loss Priority
CMI	Coded Mark Inversion
CMM	Call Mode Modem
CPCS	Common Part CS
CPI	Common Part Indicator
CRC	Cyclic Redundancy Check
CRI	Call request with the number identification
CRN	Call request with number provided
CRS	Call request with memory address provided
CS	Convergence Sublayer
CSI	Convergence Sublayer Indication
CSPDN	Circuit Switched Public Data Network
CTR	Common Technical Regulation
CUG	Closed User Group
dc	direct current
DC	Direct Current
DCE	Data Circuit Terminating Equipment
DDI	Direct Dialling in
DIAG	DIAGnostic element
DISC	DISConnect
DLCI	Data Link Connection Identifier
DM	Disconnected Mode
DSP	Domain Specific Part
DTE	Data Terminal Equipment

DTS	Digital Test Sequence
EA	Address Field Extension bit
EMC	ElectroMagnetic Compatibility
EMI	ElectroMagnetic Interference
EN	European Standard (Norme Européene)
ERP	Ear Reference Point
ESD	Electrostatic Discharge
ET	Exchange Termination
EUT	Equipment Under Test
FCS	Frame Check Sequence
FEC	Forward Error Correction
FM	Forward Monitoring
FRMR	Frame Reject
GFC	Generic Flow Control
GPA	General Polynomial Answer mode modem
GPC	General Polynomial Call mode modem
HDLC	High-level Data Link Control
HEC	Header Error Control
hex	hexadecimal
HLC	High Layer Compatibility
I_a	Interface point a
I_b	Interface point b
IC	Integrated Circuit
ID	IDentity element
IDI	Initial Domain Identifier
IDU	Interface Data Unit
IEC	International Electrotechnical Committee
ISDN	Integrated Services Digital Network
ISO	International Standards Organization
ITU	International Telecommunications Union
IUT	Implementation Under Test
LAN	Local Area Network
LAPB	Link Access Procedure Balanced (Modulo 8 operation)
LAPB Extended	Link Access Procedure Balanced (Modulo 128 operation)
LAPD	Link Access Procedure on the D-channel
LCD	Loss of Cell Delineation
LCL	Longitudinal Conversion Loss
LI	Length Indicator
LLC	Low Layer Compatibility
LLI	Logical Link Identifier
LmeST	Sidetone path loss
LP	Loss Priority
LRGP	Loudness Rating Guard-ring Position
LSB	Least Significant Bit
LSTR	Listener SideTone Rating
MA	Medium Adapter
MCT	Modem Conformance Tester
MFPB	Multi Frequency PushButton
MHS	Message Handling System
MM	Message Mode
MPH	Management Physical Header
MPH-II(c)	MPH-INFORMATION INDICATION (connected)
MPH-II(d)	MPH-INFORMATION INDICATION (disconnected)
MRP	Mouth Reference Point
MSB	Most Significant Bit
MSN	Multiple Subscriber Number
NIC	Network Independent Clock
NNI	Network Node Interface
NPI	Numbering Plan Indicator
NRM	Normal Response Mode

NRZ	Non Return to Zero
NSAP	Network Service Access Point
NT	Network Termination
NTP	Network Termination Point
NUI	Network User Identification
OAM	Operation And Maintenance
OCD	Out of Cell Delineation
OSI	Open Systems Interconnection
PABX	Private Automatic Branch eXchange
PAD	Packet Assembly / Disassembly facility
PBX	Private Branch eXchange
PCI	Protocol Control Information
PCR	Peak Cell Rate
PDH	Plesiochronous Digital Hierarchy
PDN	Public Data Network
PDU	Protocol Data Unit
PE	Public Enquiry
PH	Physical Header
PH-AI	PH-ACTIVATE INDICATION
PH-AR	PH-ACTIVATE REQUEST
PH-DI	PH-DEACTIVATE INDICATION
Ph-SAP	Physical layer - Service Access Point
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PM	Physical Medium
PNIC	Private data Network Indicator Code
POH	Path Overhead
ppm	parts per million
PS	Power Source
PS1	Power Source 1
PS1 normal	Normal power source
PS1 restricted	Restricted power source
PSN	Public Switched Network
PSPDN	Packet Switched Public Data Network
PSTN	Public Switched Telephone Network
PT	Payload Type
PTI	Payload Type Identifier
PTN	Public Telecommunication Network
PTR	Pointer
QoS	Quality of Service
RDI	Remote Defect Indication
RDTD	Restricted Differential Time Delay
REI	Remote Error Indication
REJ	Reject
RFS	Ready For Sending
Ri	Reference number
RL	Total effective resistance associated with the load
RLR	Receiving Loudness Ratings
rms	root mean square
RNR	Receiver Not Ready
RR	Receiver Ready
RTS	Residual Time Stamp
Rx	Receive
SABM	Set Asynchronous Balanced Mode
SABME	Set Asynchronous Balanced Mode Extended
SAP	Service Access Point
SAPI	Service Access Point Identifier
SAR	Segmentation And Reassembly (sublayer)
SAR	Static Attachment Requirements
SC	Sequence Count

SCR	Static Conformance Requirement
SDH	Synchronous Digital Hierarchy
SDL	Specification and Description Language
SDT	Structured Data Transfer
SDU	Service Data Unit
SELV circuit	Safety Extra Low Voltage circuit
SIG	SIGnature element
SLP	Single Link Procedure
SLR	Sending Loudness Ratings
SN	Sequence Number
SNP	Sequence Number Protection
SOH	Section Overhead
SSCOP	Service Specific Connection Oriented Protocol
SSCS	Service Specific CS
ST	Segment Type
STI	Surface Transfer Impedance
STM	Synchronous Transport Module
STMR	SideTone Masking Rating
SUB	SUBaddressing
SVC	Signalling Virtual Channel
TA	Terminal Adapter
TC	Transmission Convergence
TCL	Terminal Coupling Loss
TCLw	Weighted Terminal Coupling Loss
TE	Terminal Equipment
TEI	Terminal Endpoint Identifier
TFV	Terminal Failure Voltage
TNV circuit	Telecommunication Network Voltage circuit
TOA	Type Of Address
TR	Terminating Resistor
TS	Test Suite
TTCN	Tree and Tabular Combined Notation
Tx	Transmit
UA	Unnumbered Acknowledgement
UI	Unit Interval (Layer 1)
UI	Unnumbered Information (Layer 2)
UNA	User Network Access
UNI	User Network Interface
VADS	Value Added Data Service
VBR	Variable Bit Rate
VC	Virtual Channel
VCC	Virtual Channel Connection
VCI	Virtual Channel Identifier
WDM	Wavelength Division Multiplex
V_o	Open-circuit generator voltage
VP	Virtual Path
VPC	Virtual Path Connection
VPI	Virtual Path Identifier
XID	eXchange IDentification

5 Symbols

∗	The Star on the standard 3 x 4 keypad array, see ITU-T Recommendation E.161. Also known as the asterisk.
#	The Square on the standard 3 x 4 keypad array, see ITU-T Recommendation E.161. Also known as the hash, sharp, or number sign ("pound" in the USA).
Ω	Omega, the symbol for resistance (expressed in Ohms).
dB(A)	Sound level relative to 20 mPa measured using the A-weighting defined in IEC 60651 [7].
dBm	Absolute power level expressed in decibels relative to 1 mW.
dBPa	Sound pressure level relative to 1 Pa (no weighting).
dBPa(A)	Sound level relative to 1 Pa measured using the A-weighting defined in IEC 60651 [7].
dBV	Absolute voltage level expressed in decibels relative to 1 volt.

Within DTA's documents the symbols used within Specification and Description Language (SDL) figures or diagrams are defined in ITU-T Recommendation Z.100 [27].

In DTA's documents, similarly to other ETSI documents, the symbols and abbreviations defined by ISO for units in the international system of units and measures, SI, are used. They are therefore not included in the above list. See further ISO 31-0 [26].

Bibliography

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

- Directive 98/13/EC of the European Parliament and of the Council of 12 February 1998 relating to telecommunications terminal equipment and satellite earth station equipment, including the mutual recognition of their conformity.

- IEC 60050-722 (1993): "International Electrotechnical Vocabulary - Chapter 722: Telephony".

- ITU-T Recommendation E.161: "Arrangement of digits, letters and symbols on telephones and other devices that can be used for gaining access to a telephone network".

- ITU-T Recommendation P.10: "Vocabulary of terms on telephone transmission quality and telephone sets".

- ITU-T Recommendation X.2: "International data transmission services and optional user facilities in public data networks and ISDNs".

History

Document history		
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