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ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

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

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Terminal Equipment (TE) Technical Committee of the European Telecommunications Standards Institute (ETSI). This ETS has been approved by the Network Aspects (NA) Technical Committee of ETSI.

This ETS defines the stage one of the syntax-based Videotex teleservice for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators. A Videotex teleservice is an interactive teleservice which provides, through appropriate access by standardised procedures, users of Videotex terminals the ability to communicate with databases and other computer based applications via telecommunications networks.

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1 Scope

This standard defines the stage one of the syntax-based Videotex teleservice for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators. Stage one is an overall service description from the user's point of view (see CCITT Recommendation I.130 [1]), but does not deal with the details of the human interface itself.

This standard defines the interworking requirements of private ISDNs with the public ISDN.

In addition this standard specifies the base functionality where the service is provided to the user via a private ISDN.

This standard does not specify the additional requirements where the service is provided to the user via a telecommunications network that is not an ISDN but does include interworking requirements of other networks with the public ISDN.

Charging principles are outside the scope of this standard.

The values of the general attributes are outside the scope of this standard.

A Videotex teleservice is an interactive teleservice which provides, through appropriate access by standardised procedures, users of Videotex terminals the ability to communicate with databases and other computer based applications via telecommunications networks.

This standard is applicable to the stage three standards for the syntax-based Videotex teleservice. The term "stage three" is also defined in CCITT Recommendation I.130 [1]. Where the text indicates the status of a requirement, i.e. as strict command or prohibition, as authorisation leaving freedom, as a capability or possibility, this shall be reflected in the text of the relevant stage three standard.

Furthermore, conformance to this standard is met by conforming to the stage three standards with the field of application appropriate to the equipment being implemented. Therefore no method of testing is provided for this standard.

2 Normative references

This standard 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 standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] CCITT Recommendation I.130 (1988): "Method for the characterisation of telecommunication services supported by an ISDN and network capabilities of an ISDN".

[2] CCITT Recommendation I.112 (1988): "Vocabulary of terms for ISDNs".

[3] CCITT Recommendation I.140 (1988): "Attribute technique for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".

[4] CCITT Recommendation I.210 (1988): "Principles of telecommunication services supported by an ISDN and the means to describe them".

[5] CCITT Recommendation F.300 (1988): "Videotex service".

[6] ETS 300 007: "Integrated Services Digital Network (ISDN); Support of packet-mode terminal equipment by an ISDN".

[7] ETS 300 079: "Integrated Services Digital Network (ISDN); Syntax-based videotex End-to-end protocols, circuit mode DTE-DTE".

[8] ETS 300 080: "Integrated Services Digital Network (ISDN); ISDN lower layer protocols for telematic terminals".

[9] ETS 300 102: "Integrated Services Digital Network (ISDN); User-network interface layer 3 Specifications for basic call control".

[10] ETS 300 125: "Integrated Services Digital Network (ISDN); User-network interface data link layer specification Application of CCITT Recommendations Q.920/I.440 and Q.921/I.441".

[11] ETS 300 218: "Integrated Services Digital Network (ISDN); Syntax-based videotex lower layer protocols for ISDN packet mode (X.31 Case A and Case B)".

[12] ETS 300 223: "Integrated Services Digital Network (ISDN); Syntax-based Videotex Common end-to-end protocols".

[13] ETSI-GSM Technical Specification GSM 03.43: "European digital cellular telecommunication system (phase 1); Technical Realization of Videotex".

3 Definitions

For the purposes of this standard, the following definitions apply.

Integrated Services Digital Network (ISDN): see CCITT Recommendation I.112 [2], § 2.3, definition 308.

Service; telecommunications service: see CCITT Recommendation I.112 [2], § 2.2, definition 201.

Teleservice: see CCITT Recommendation I.112 [2], § 2.2, definition 203.

Supplementary service: see CCITT Recommendation I.210 [4], § 2.4.

Retention timer: this timer specifies the amount of time that the network retains all of the information when supplied by the calling user when the call encounters busy or is terminated. Implementation of this timer is a network option. The value of this timer shall be greater than 15 seconds.

Videotex terminal: a terminal supporting the Videotex teleservice.

Videotex database: see CCITT Recommendation F.300 [5], § 2.4.12.

Access network: see ETS 300 223 [12] or ETS 300 079 [7], subclause 6.3.

4 Abbreviations

For the purposes of this standard, the following abbreviations apply.

GSM	Global System for Mobile communications
ISDN	Integrated Services Digital Network
PSPDN	Public Switched Packet Data Network
RPOA	Recognised Private Operating Agency

5 Description

The syntax-based Videotex teleservice shall allow communication between two users, one of which may be a Videotex database or access point or other computer based application.

The general principals of Videotex teleservices are given in CCITT Recommendation F.300 [5].

The precise form of the Videotex communication is outside the scope of this standard.

The communication shall be in accordance with ETS 300 079 [7] or ETS 300 223 [12]. This communication shall use either circuit mode (see ETS 300 080 [8]), or packet mode (see ETS 300 218 [11]).

6 Procedures

The syntax-based Videotex teleservice shall allow on-demand establishment of communication only.

6.1 Provision and withdrawal

Provision of the syntax-based Videotex teleservice shall be by prior arrangement with the administration or Recognised Private Operating Agency (RPOA).

As a network option, the syntax-based Videotex teleservice can be offered with several subscription options which shall apply separately to each ISDN number or group of ISDN numbers on the interface. For each subscription option, only one value may be selected.

NOTE 1: In this context an interface may consist of a group of physical interfaces.

Subscription options for the interface are summarised in table 1.

Table 1: Subscription options for the interface

Subscription option	Value
Maximum number of information channels available	- m, where m is not greater than the number of information channels on the interface.
Maximum number of total calls present	- n, where n is not greater than the number of information channels on the interface.

The user can be identified by an ISDN number or group of ISDN numbers on the interface.

NOTE 2: More than one ISDN number can be associated with the interface only as part of a supplementary service such as multiple subscriber number supplementary service. In the case of one ISDN number supplementary service, the option given above for the number of calls can only exceed the number of information channels in association with a supplementary service (e.g. the call waiting supplementary service).

As a network option, separate values may be specified for incoming and for outgoing calls for either or both of the limits.

6.2 Normal procedures

The network shall provide out-of-band messages to indicate call progress.

6.2.1 Originating the call (call establishment)

A call is originated by a served user requesting the syntax-based Videotex teleservice from the network. This request shall include an ISDN number identifying the called user. Other information, as required, for use by the network in the supplementary services provided to the called user (e.g. the calling line identification presentation supplementary service), may also be included.

The identity of the called user can be given to the network either en-bloc, containing all the required information, or not en-bloc.

6.2.2 Indications during call establishment

After initiating a call, the calling user shall receive an acknowledgement that the network can process the call. The called user shall receive an indication of the arrival of an incoming call of the syntax-based Videotex teleservice.

When an indication is received by the network that the called user is being informed of the call the calling user shall also be given an indication that the incoming call is being offered to the called user. When the connection is established, an indication of this shall be sent to the calling user. The called user may also provide other information for use by the network in supplementary services provided to other users (e.g. the connected line identification presentation supplementary service).

Once the connection is established, in the circuit mode, the B channel shall then be available for the transmission of 64 kbit/s signals supporting Videotex information in both directions. In case of packet mode, the B channel or the D channel shall be available for the transmission of 64 kbit/s and up to 16 kbit/s signals respectively, supporting Videotex information in both directions.

6.2.3 Terminating the call

The call may be terminated by either of the users by indicating this to the network. If one user terminates the call and the other user has not yet terminated the call, an appropriate indication shall be sent to the other user.

6.2.4 Videotex procedures

The Videotex procedures are described for the circuit mode in ETS 300 079 [7] (which references also ETS 300 080 [8]) and for packet mode in ETS 300 223 [12] (which references also ETS 300 218 [11]).

6.3 Exceptional procedures

6.3.1 Situations detected at the calling side

When the network receives an improper service request from a user, the network shall give that user the appropriate indication and the call establishment shall be ceased.

A user inputting an invalid ISDN number shall be given the appropriate indication by the network and the call establishment ceased.

When the network receives an incorrect ISDN number from a user the network shall give that user the appropriate indication and the call establishment shall be ceased.

Users can input network address information subsequent to the service request (i.e. overlap sending). In this case, if the user fails to enter address information or subsequent parts of the address within network determined intervals, the network shall give that user the appropriate indication and the call establishment shall be ceased.

6.3.2 Situations detected at the called side

A calling user attempting to establish a call to a user who is identified by the network to be busy (either network determined user busy or user determined user busy) shall be given the appropriate indication by the network.

A user attempting to establish a call to a user whose terminal equipment fails to respond shall be given the appropriate indication by the network and the call establishment shall be ceased.

On a call to a user whose terminal equipment has responded that the called user is being informed of the call, but has failed to establish the connection within a defined period of time, the calling user attempting to establish the call shall be given the appropriate failure indication by the network and the call establishment shall be ceased.

6.3.3 Situations due to network conditions

A user attempting to establish a call, but meeting problems due to network conditions (e.g. congestion) shall be given the appropriate indication by the network.

A user attempting to establish a call, but meeting problems due to network conditions (e.g. congestion) or called user state (e.g. network determined user busy or user determined user busy) can have service data retained for the duration of the retention timer. In this case, according to a network option, the network shall retain all of the information supplied by the calling user during the retention timer period.

6.3.4 Videotex procedures

The Videotex procedures are described for the circuit mode in ETS 300 079 [7] (which references also ETS 300 080 [8]) and for packet mode in ETS 300 223 [12] (which references also ETS 300 218 [11]).

7 Intercommunication considerations

7.1 Interworking with non-ISDNs

Interworking is required between the ISDN and the Public Switched Packet Data Network (PSPDN) for the syntax-based Videotex teleservice.

Calls using the syntax-based Videotex teleservice can be terminated in the PSPDN and the calling user shall be given an indication that interworking has occurred. The network shall perform the appropriate B channel encoding at the point of interworking between the ISDN and the PSPDN.

7.2 Interworking with private ISDNs

The situation where the communicating users are attached to a private ISDN and a public ISDN is detailed in Clauses 5 and 6.

In a private ISDN the information transfer can be provided from a S reference point. When this occurs, the information attributes at the S reference point and the T reference point are identical and shall be as given in subclause 9.1.

7.3 GSM interworking

For the use of the GSM network as an access network, refer to ETSI-GSM Technical Specification GSM 03.43 [13].

8 Interaction with supplementary services

Not applicable.

9 Static description of the service using attributes

The attributes are defined in CCITT Recommendation I.140 [3], Annex A, § A.1.1.

The values of the attributes are defined in CCITT Recommendation I.140 [3], Annex A, § A.2.

9.1 Low layer attributes

9.1.1 Information transfer attributes

The information transfer attributes of the syntax-based Videotex teleservice category are specified in table 2.

Table 2: Values of information transfer attributes

Attribute	Possible values in case of:	
	circuit mode	**packet mode**
Information transfer mode	- circuit	- packet
Information transfer rate	- 64 kbit/s	- 64 kbit/s (B channel) - up to 16 kbit/s (D channel)
Information transfer capability	- unrestricted	- unrestricted
Structure	- 8 kHz integrity	- 8 kHz integrity
Establishment of communication	- demand	- demand
Symmetry	- bidirectional symmetric	- bidirectional symmetric
Communication configuration	- point-to-point	- point-to-point

9.1.2 Access attributes

The access attributes of the syntax-based Videotex teleservice are specified in table 3.

Table 3: Values of access attributes

Attribute	Possible values in case of:	
	circuit mode	**packet mode**
Access channel and rate	User information - B channel (64 kbit/s) Signalling - D channel (16 kbit/s or 64 kbit/s)	User information - B channel (64 kbit/s) - D (up to 16 kbit/s) Signalling - D channel (16 kbit/s or 64 kbit/s)
Signalling access protocol, information access protocol	User information - ETS 300 079 [7] Signalling - ETS 300 125 [10], ETS 300 102 [9]	User information - ETS 300 223 [12] Signalling - ETS 300 007 [6]

9.2 High layer attributes

The high layer attributes of the syntax-based Videotex teleservice are specified in table 4.

Table 4: Values of high layer attributes

Attribute	Possible values
Type of user information	- Videotex
Layer 4 protocol functions	- not applicable
Layer 5 protocol functions	- not applicable
Layer 6 protocol functions	- not applicable
Layer 7 protocol functions	- ETS 300 223 [12] or ETS 300 079 [7]

9.3 General attributes

This standard does not provide values for general attributes.

10 Dynamic description

The dynamic description for the syntax-based Videotex teleservice is for further study.

History

Document history	
August 1993	First Edition
January 1996	Converted into Adobe Acrobat Portable Document Format (PDF)