

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST ETS 300 347-1:1997/A1:1998

<https://standards.iteh.ai/catalog/standards/sist/440401d5-4acc-47e2-9020-d739273c6d1d/sist-ets-300-347-1-1997-a1-1998>



AMENDMENT

ETS 300 347-1

A1

May 1997

Source: ETSI TC-SPS

Reference: RE/SPS-03035-1

ICS: 33.020

Key words: V interface, V5 interface, LE, AN

**This amendment A1 modifies
the European Telecommunication Standard ETS 300 347-1 (1994)**

iTeh STANDARD PREVIEW
(standard not final)
Signalling Protocols and Switching (SPS);
V interfaces at the digital Local Exchange (LE);
V5.2 interface for support of Access Network (AN);
Part 1: V5.2 interface specification

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

Copyright Notification: No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1997. All rights reserved.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ETS 300 347-1:1997/A1:1998](https://standards.iteh.ai/catalog/standards/sist/440401d5-4acc-47e2-9020-d739273c6d1d/sist-ets-300-347-1-1997-a1-1998)

<https://standards.iteh.ai/catalog/standards/sist/440401d5-4acc-47e2-9020-d739273c6d1d/sist-ets-300-347-1-1997-a1-1998>

Foreword

This amendment to ETS 300 347-1 (1994) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This amendment contains changes of clauses, subclauses and annexes of ETS 300 347-1 (1994) as detailed below.

Transfer of V5.1 amendments (ETS 300 324-1/A1)

Annex C, item 5): According to annex C, item 5), the receiving entity of an unblock request message is allowed to send no response back because it does not agree with the unblock request. But then it is not possible for the sender of the unblock request to distinguish between such a disagreement and a mismatch of the port FSMs which has to be resolved by a block-unblock sequence.

Amendment: To avoid a situation where the FSMs stay undetected misaligned, the receiver of a MPH-UBR shall respond to an unblock request within a certain time limit.

Annex C, item 12): The text concerning re-provisioning verification is clarified.

Annex C, item 13): Initial state of the ISDN user port FSM, PSTN user port FSM and PSTN protocol after system start up is not defined clearly.

Amendment: The system startup procedure is clarified. The SDL diagrams in annex L are adapted accordingly.

It is stated that the interface and the variant ID shall be checked during system startup. No procedure exists for the case of an unsuccessful check.

Amendment: The treatment of a unsuccessful system startup is be the same as in the case of an unsuccessful restart (refer to annex C, item 14 b), last paragraph).

Annex C, item 14): This item defines an asymmetrical PSTN restart procedure (master-slave relationship). This leads to a lock-up situation if the restart is required from both sides at the same point in time.

Amendment: The restart procedure is defined in a symmetrical way. The SDL diagrams in annex L are adapted accordingly.

Annex C, item 17): If TC3 expires only on one side of the V5.1 interface, a mismatch of the PSTN protocol FSMs after a re-establishment of the PSTN_DL can persist.

Amendment: The PSTN restart procedure is added in case of a re-establishment of the PSTN_DL.

Annex C, table C.1: "Cause for start" of Timer TC2 is wrong.
Amendment: The cause for start is corrected.

Annex L, figure L.15.2: Figure L.15.2 is contradictory to annex C, item 13), which requires that the variant and interface ID shall be checked during system start-up. Figure L.15.2 shows only a check of the interface ID.

Amendment: Update the figure by adding a decision for the correct variant.

Editorial

- General: To be in line with existing definitions in the V5 standards, the "local manager" and "system manager" are changed to "system management" in several places.
- Clause 2: Update the normative reference to ETS 300 324-1 to include the amendment.
- Subclause 13.5: Incorrect reference given where the code sets are defined. Change to the same reference given by ETS 300 324-1.
- Subclause 15.3.3.3.4: Correction of the state "Access Operational" that should be changed to **Operational** to be in line with V5.1.
- Subclause 15.3.3.3.4: In third paragraph, change the action to go from one state to another as "return to" instead of "reset".
- Clause 16, figure 11: The invisible text is reconstituted from an earlier version.
- Subclause 16.2.4.5: A note is added about the sending of a notification to system management.
- Subclause 16.3.1.1: Reconstitute the missing part of the table.
- Subclause 16.3.2: The Link Control Function IE is defined differently in two separate places. The value given in table M.2 (00110000) is correct.
- Subclause 17.4.2.5: In table 42, the cause "V5 link unavailable (blocked)" missing. The cause with diagnostic and length is added.
- Subclause 17.4.2.6: An incorrect reference to subclause 17.5.8 is corrected.
- Subclause 17.4.2.7: There are inconsistencies in the specification of the BCC protocol specification element "Connection incomplete". The value in table 40 is correct and figure 24 is incorrect.
<https://standards.iteh.ai/catalog/standards/sist/440401d5-4acc-47e2-9020-4739273c611d/sist-ets-300-347-1-1997-a1-1998>
- Subclause 17.5.5.2: Delete the duplicated word "entity".
- Subclause 17.5.8: Subclause 17.5.8, third paragraph, states that a message with more than two optional information elements shall be considered as too long, but in subclause 17.3.8, up to three optional information elements are possible in the AUDIT COMPLETE message in order to indicate an extent complete connection.
- Subclause 17.5.8.4: Split the subclause in two subclauses, one for mandatory and another (new) for optional repeated information elements.
- Subclause 17.6: There are inconsistencies between table 46 and table 47 in the BCC protocol. Table 46 is changed to be consistent with table 47.
- Subclause 17.7: In table 47 an unnecessary state is included for event MDU-BCC (Allocation request) and state Bcc null (LEBcc0). Remove the "no state change" notation.
- Subclause 18.3.2: In table 49, MDU "reset SN req" is not used in AN. It is mentioned in the ETS only at this place and should therefore be deleted.
- Subclause 18.3.2: PROTOCOL_ERROR PDU is missing in table 49.
- Subclause 18.4.5: Table 56 contains a wrong reference for the IE Rejection Cause.
- Subclause 18.4.6: Table 57 contains wrong references for the IE Logical C-channel identification, Sequence number and Rejection Cause.

- Subclause 18.6.2.3.1: An incorrect reference to subclause 18.6.2.2 is given.
- Subclause 18.6.6.3: Change the subclause title by adding "mandatory" to be consistent with the text.
- Subclause 18.8.2: Undefined protection protocol messages: (Wrong message name)
- The message OS SWITCH-OVER REQ is defined in state SOLE0 and SOLE2 and can therefore be replaced by OS SWITCH-OVER COM.
- Subclause 18.8.2: In table 66, the action in the protection protocol FSM contradicts subclause 18.6.2.3.1 in state SOLE0 and event MDU-prot(OS-switch-over com). Replace "-" by "MDU-prot(reset SN error ind)".
- Annex L, figure L.6: Some MDU-Protection primitives are missing for SR_PROTECT_SYSMGT: reset SN com, reset SN ind, reset SN ack and Protocol error indication.
- Annex L, figure L.29: Some MDU-Protection primitives are missing for SR_PROTECT_SYSMGT: reset SN com, reset SN ind, reset SN ack, reset SN req and Protocol error indication.
- Annex L, figure L.33.2: In the bottom diagram, the symbol for the message LINK CONTROL ACK has the wrong direction.
- Annex L, figure L.36.4: The cause for start of timer TSO4 is misalignment of sequence numbers VP(S) or VP(R) and repetition at the first timeout. Initialization of the sequence numbers V(P) or V(P) is only done in the procedure for misaligned handling according to figure L.14. This procedure is applied at the AN side and LE side.
- When a misalignment is detected and TSO4 is running, there will be no further protocol messages apart from RESET SN COM. Therefore, the sequence numbers remain in their initialization values.
- Amendment: Both figures L.13.4 and L.36.4 are corrected with a task symbol to initialize VP(S) and V(P) before start of TSO4.
- Annex L, figure L.36.5: A stop of timer TSO2 is missing in the bottom left branch.
- Annex L, figure L.36.7: In the bottom diagram, the symbol for the message RESET SN ACK has the wrong direction.
- Annex M, table M.1: The following code points missing: RESET SN COM, RESET SN ACK and PROTOCOL ERROR. Table M.1 is inconsistent with table 51.
- Annex M, table M.2: The given values for EFaddr and V5DLaddr are not in line with table 1.

Technical

- Annex C, item 14): This item defines the PSTN restart procedure in an asymmetrical way. This can lead to a deadlock situation if the restart is requested from the AN and the LE at the same time. Therefore a symmetrical restart procedure is proposed to cope with this situation. For the V5.1 interface specification (ETS 300 324-1), the necessary changes have been introduced via an amendment. This amendment contains detailed text and SDL diagrams to provide the symmetrical PSTN restart procedure for the V5.2 interface specification.
- Amendment: The new text combines the two items 14 a) and 14 b) of annex C into one. Because of the proposed symmetry, the PSTN restart procedure becomes nearly independent of internal or external triggering. Internal triggering describes the PSTN restart within system start-up or after PSTN-DL failure. External triggering implies the PSTN restart after reception of a restart request from the control protocol entity.

As far as the SDL diagrams are concerned, the restart procedure appears as one of many other independent processes which make up the V5 system management. There are no global states for the system management (like in the V5.1 case). This independence of the triggering of the restart procedure makes it easier to cope with the necessary changes and to produce a clean version of the SDL diagrams.

Annex E, clause E.6: Link failure: In a number of exceptional cases where connections established in the AN are unusable it is not specified how the AN time slot resource manager behaves. In these cases, unnecessary messages used to de-allocate time slots may aggravate the situation due to limited processing and transfer capacity. The amendment intends to avoid different interpretation. It chooses the solution which requires the least number of messages to clear a critical situation.

Amendment: In case of a link failure recognized by the LE, the LE may block the link to make sure that the AN recognizes the situation. The AN's resource manager shall than de-allocate all time slots concerned internally. The LE does not need to send de-allocate commands for the individual time slots.

In case of AN internal fault reported by an AN FAULT message which contains both the time slot and the port layer 3 address (and, in case of ISDN, the B-channel), no de-allocate command is required to be sent by the LE. In case that the AN is not able to indicate both ends of the allocation (the AN FAULT message contains either only the time slot or the port's layer 3 address and, in case of ISDN, the B-channel) the LE shall send a de-allocate message for the allocation concerned to make sure that both ends are available for new allocations.

Enhancement of port unblocking

Subclause 3.1: Technical (Port state alignment procedure after interface start up):

Add a new definition of the relevant user port due to the accelerated port unblocking (refer to subclause 15.4).

Subclause 15.4: Technical (Port state alignment procedure after interface start up).

Transposition dates

Date of adoption of this amendment:	2 May 1997
Date of latest announcement of this amendment (doa):	31 August 1997
Date of latest publication or endorsement of this amendment (dop/e):	28 February 1998
Date of withdrawal of any conflicting National Standard (dow):	28 February 1998

Amendments

Page 16, clause 2

Replace normative reference [8] by:

- [8] ETS 300 324-1 (1994) including amendment A1 (1996): "Signalling Protocols and Switching (SPS); V interfaces at the digital Local Exchange (LE); V5.1 interface for the support of Access Network (AN); Part 1: V5.1 interface specification".

Page 18, subclause 3.1

Insert the following definition:

"**relevant user port:** A user port for which a layer 3 address has been assigned to."

Page 30

Insert a new subclause 8.7.4:

"8.7.4 Flow control using LAPV5-DL mechanisms

LAPV5-DL provides flow control mechanisms. Details are defined in subclause 10.4.

NOTE: LAPV5-DL, as specified in clause 10, provides flow control mechanisms for the V5 data links using e.g. RNR or RR frames. These procedures shall also be used to control the flow of V5 messages at layer 3. This means, if one side is not able to receive V5 messages at layer 3 this should be indicated to the peer side via the existing mechanisms at layer 2 (i.e. via RNR frames).

Furthermore, if the peer layer 2 entity indicates via existing mechanisms at layer 2 that the peer side is currently in an overload situation, layer 3 shall not initiate sending of new V5 messages, but wait until the overload situation has disappeared. This includes, that re-transmission timers shall not be started until the overload situation has disappeared.

The above mechanisms require co-ordination between layer 2 and layer 3 via system management."

Page 35, subclause 13.5

Change the reference from ETS 300 324-1 [8] to ETS 300 102-1 [6].

Page 42, subclause 15.3.3.3.4, second paragraph

Replace the state name "Operational" (AN2.0) to "Access Operational" (AN2.0).

Page 42, subclause 15.3.3.3.4, fourth paragraph

Replace the first sentence of the fourth paragraph by:

"For AN and LE, when in "Remote unblock" (AN1.2x, LE1.2x) state and receiving FE204 or FE203 respectively, the port state FSM is returned back to "Blocked" (AN1.0, LE1.0), and a MPH-BI sent to management."

Page 8

ETS 300 347-1: September 1994/A1: May 1997

Page 44, subclause 15.3.3.4, last paragraph

Change "local manager" to "system management".

Page 44, subclause 15.3.3.5, last paragraph

Change "local manager" to "system management".

Page 45, subclause 15.4 and table 9

Replace the complete text of subclause 15.4 by:

"15.4 Control protocol**15.4.1 Control protocol message definition and content**

The contents of this subclause are identical to subclause 14.4.1 of ETS 300 324-1 [8].

15.4.2 General message format and information element coding

The contents of this subclause are identical to subclause 14.4.2 of ETS 300 324-1 [8] with the exception of table 54 of ETS 300 324-1 [8] which is modified due to two additional Control function elements required for the ISDN primary rate port, and with the exception of table 55 of ETS 300 324-1 [8] which is modified due to five additional Control function Ids for the accelerated alignment procedure. Tables 9 and 9a show the modified tables 54 and 55 of ETS 300 324-1 [8], respectively.

Table 9: Coding of Control function element

Bits (octet 3)							Control function element
7	6	5	4	3	2	1	
0	0	0	0	0	0	1	FE101 (activate access)
0	0	0	0	0	1	0	FE102 (activation initiated by user)
0	0	0	0	0	1	1	FE103 (DS activated)
0	0	0	0	1	0	0	FE104 (access activated)
0	0	0	0	1	0	1	FE105 (deactivate access)
0	0	0	0	1	1	0	FE106 (access deactivated)
0	0	1	0	0	0	1	FE201/202 (unblock)
0	0	1	0	0	1	1	FE203/204 (block)
0	0	1	0	1	0	1	FE205 (block request)
0	0	1	0	1	1	0	FE206 (performance grading)
0	0	1	0	1	1	1	FE207 (D-channel block)
0	0	1	1	0	0	0	FE208 (D-channel unblock)
0	0	1	1	0	0	1	FE209 (TE out of service)
0	0	1	1	0	1	0	FE210 (failure inside network)

NOTE: All other values are reserved.

Table 9a: Coding of Control function ID

Bits (octet 3)							Control function ID	Optional information element considered mandatory
7	6	5	4	3	2	1		
0	0	0	0	0	0	0	Verify re-provisioning	Variant
0	0	0	0	0	0	1	Ready for reprovisioning	Variant
0	0	0	0	0	1	0	Not ready for reprovisioning	Variant, Rejection cause
0	0	0	0	0	1	1	Switch over to new variant	Variant
0	0	0	0	1	0	0	Re-provisioning started	Variant
0	0	0	0	1	0	1	Cannot re-provision	Variant, Rejection cause
0	0	0	0	1	1	0	Request variant and interface ID	-
0	0	0	0	1	1	1	Variant and Interface ID	Variant, Interface ID
0	0	0	1	0	0	0	Blocking started	-
0	0	1	0	0	0	0	Restart	-
0	0	1	0	0	0	1	Restart acknowledge	-
0	0	1	0	0	1	0	UNBLOCK ALL RELEVANT PORTS REQUEST	-
0	0	1	0	0	1	1	UNBLOCK ALL RELEVANT PORTS ACCEPTED	-
0	0	1	0	1	0	0	UNBLOCK ALL RELEVANT PORTS REJECTED	-
0	0	1	0	1	0	1	UNBLOCK ALL RELEVANT PORTS COMPLETED	-

NOTE: All other values are reserved.

15.4.3 State definition of the control protocol

The contents of this subclause are identical to subclause 14.4.3 of ETS 300 324-1 [8].

15.4.4 Control protocol procedures

The contents of this subclause are identical to subclause 14.4.4 of ETS 300 324-1 [8].

15.4.5 Accelerated alignment of the port related protocol entities and FSMs

Alternatively it is possible to align port states in AN and LE by the commands: "Unblock all relevant ports request". This can be accepted or rejected. After acceptance by the other side, all relevant ports are brought to the unblocked state on both sides except those considered unsuitable to be unblocked. After completion, MPH-BI is issued for each port considered to be unsuitable for unblocked state. See annex C for details."

Page 46, figure 11

Add the formerly "invisible" text to figure 11:

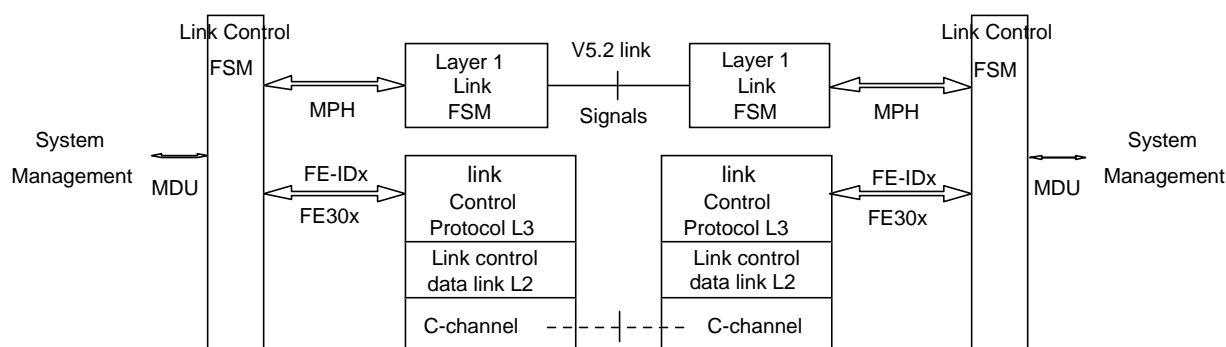


Figure 11: Link control functional model

Page 10

ETS 300 347-1: September 1994/A1: May 1997

Page 53, subclause 16.2.4.1, fourth paragraph

Change "managers" to "system management".

Page 59, subclause 6.2.4.4, second paragraph, first sentence

Change "system manager" to "system management".

Page 60, table 17

Add the following note:

"NOTE 5: Notification to system management about L1 fault."

Apply note 5 to state LE0.1 for events MDU-LUBR, FE302 and FE305.

Page 60, subclause 16.2.4.5, second paragraph, first sentence

Change "system manager" to "system management".

Page 61, table 19

Complete table 19 as follows:

Table 19: LINK CONTROL message content

Message Type: LINK CONTROL

Direction: both

Information element	Reference	Direction	Type	Length
Protocol Discriminator	13.2.1	both	M	1
Layer 3 Address	16.3.2.1	both	M	2
Message Type	13.2.3	both	M	1
Link Control Function	16.3.2.2	both	M	3

Page 62, subclause 16.3.2, table 21 and figure 14

Change the link control function coding from "00100001" to "00110000".

Page 79, subclause 17.4.1, third paragraph, last sentence

Replace "renerating" by "generating".

Page 83, subclause 17.4.2.5, second paragraph

Add the following text to the end of the second paragraph:

"(This is not checked by the LE)"

Page 85, table 42

Add the following row to table 42:

Cause	Diagnostic	Length
⋮	⋮	⋮
V5 link unavailable (blocked)	V5 time slot identification or Multi-slot map information element	4 or 11