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A1

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This amendment A1 modifies
the European Telecommunication Standard ETS 300 133-3 (1992)

Paging Systems (PS);
European Radio Message System (ERMES)
Part 3: Network aspects

ETSI

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New presentation - see History box

Foreword

This Amendment to ETS 300 133-3 (1992) has been produced by the Paging Systems (PS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This Amendment contains changes to the following pages of Edition 1 of ETS 300 133-3:

17, 34, 37, 38, 40, 68, 80, 120, 124, 125, 129, 130, 133, 144, 145, 165, 166, 196, 208, 209, 210, 211, 212, 213, 221, 222, 261, 262, 263, 265, 268, 269, 276, 278, 279, 280, 281.

Amendments

Page 17, amendment to Clause 2

Add the following reference after reference [37]:

[38]   ISO 646 (1991): "Information technology - ISO 7-bit coded character set for information exchange".

Page 34, amendment to subclause 7.1.1

Replace the second sentence on page 34, which reads "The PNC-I also converts ... to the calling party.", by the following sentence:

The PNC-I also converts, according to the rules described in subclauses 8.1.4 and 13.8, the national character set to the ERMES character set and sends back an acknowledgement to the calling party.

Page 37, amendment to subclause 7.1.2.2

Add the following to the end of the paragraph in subclause 7.1.2.2:

Calls cannot be accepted if information about "low network status" has been received.

Page 38, amendment to subclause 7.1.2.7

Delete the last sentence of the first paragraph of subclause 7.1.2.7 which reads "Since the network status when ... without call acceptance criteria.", and replace it with the following sentence:

Calls cannot be accepted if information about "low network status" has been received.

Page 40, amendment to subclause 7.1.3.8

Delete the third paragraph of subclause 7.1.3.8 which reads "The network status when ... without call acceptance criteria.", and replace it with the following sentence:

Calls cannot be accepted if information about "low network status" has been received.

Page 68, amendment to subclause 8.1.4

Replace subclause 8.1.4 by the following:

8.1.4   Character conversion

Character conversion is applicable for numeric and alphanumeric services and applies only to the message part.

> NOTE: The access method may limit access to the complete ERMES character set.

Each PNC shall have a character conversion table for each access method supported by the PNC. The character conversion tables shall be defined by the operator according to national requirements.

The conversion of the characters of the message shall be done according to the following rules.

If there is an agreement between the PNC-I network operator and the PNC-H network operator (or if PNC-I = PNC-H): then PNC-I provides access method(s) with the possibility of choosing a different character set used in the home network's receiver. From the access method, the PNC-I knows the character set selected by the calling party. For example, this information is known from the dialogue or from a specific access number.

If the chosen character set is not the ERMES character set, then the PNC-I has to verify that the receiver of the mobile subscriber supports the corresponding character set (according to the parameters of the database) in its list. This information is included in the data given in the Pager information result operation. If it is supported, then the message is sent to the PNC-H with the appropriate conversion, according to the character set code, and with this character set code included in the Page request operation.

The message is sent to the PNC-T with the character set code included in the Transmit operation. The message is then transmitted through the I1 interface according to the corresponding procedure (I1 with possible choice of character set for the receiver).

Receiving the message and the character set code, the receiver can display this message according to the chosen alphabet.

If there is no agreement between the PNC-I network operator and the PNC-H network operator:
then the PNC-I sends the message without conversion (transparently) to the PNC-H. The Page request operation will then include the character set code.

The conversion can then be done by the PNC-H which sends the message to the PNC-T.

The PNC-T transmits the message with the character set code given by the PNC-H in the transmit operation. Receiving the message and the character set code, the receiver can display this message according to the chosen alphabet.

If a calling party inputs a character which is not mapped by the operator to the ERMES character set then that character shall be rejected and the calling party shall be notified.

Page 80, amendment to subclause 8.3.3.4.1

Add the following service identification code as the first listed item in subclause 8.3.3.4.1:

-70   Management of the legitimization for all calls by mobile subscribers

Page 120, amendment to subclause 9.2.5

Add the following option after option number 21:

      22   Call input operation with specific character set

Page 120, amendment to subclause 9.2.5.1.1

Add the following parameter after parameter "LUM":

LRE	Char. '1' or '0'	O	Leg. code for repetition requested.

Page 124, amendment to subclause 9.2.5.5

Delete the entry for parameter "OAdC" and replace with the following:

OAdC	String of num. char.	O	Address code.

Page 124, amendment to subclause 9.2.5.5.1

Delete the entry for parameter "GAdC" and replace with the following:

GAdC	String of num. char.	E	Group address code with which the address list are registered.

Page 125, amendment to subclause 9.2.5.6

Delete the entry for parameter "OAdC" and replace with the following:

OAdC	String of num. char.	O	Address code.

Page 129, amendment to subclause 9.2.5.15

Replace subclause 9.2.5.15 by the following text (leaving subclauses 9.2.5.15.1 and 9.2.5.15.2 unchanged):

9.2.5.15   Message retrieval operation

The operation is used by a MS to request retransmission or retrieval on stored messages. The following operations' negative result are listed in subclause 9.2.7.

Parameter	Type	Presence	Description
AdC	String or num char	E	AdC for the mobile subscription to which messages are stored.
AC	String of char.	E	Authentication code.
MNo	1 String of num char. 2 String of num char. separated with ','	E	Message number to be retrieved or the first and last message numbers to be retrieved or retrieval of the last stored message, second last stored message, etc. where 0 = last stored message, -1 = second last stored message, etc. or an interval of stored messages (e.g. -2,0 = interval from the third last stored message to the last stored message, where 0 is the highest number).
R/T	Char. 'R' (52hex) or Char. 'T' (54hex)	E	Retrieval with positive result or retransmit on radio channel.

Page 130, amendment to subclause 9.2.5.15.1

Change description of parameter "Msg:s" to read as follows:

Msg:s	See below:	O	List of parameters. Each parameter consists of 5 items separated with ',' which are described below:
MN	String of numeric char		Message number of the retrieved message.
MT	One num. char. (1-4)		Message type.
SDT	10 num. char.		Stored date and time (DDMMYYhhmm)
MP	String of char.		Message part encoded according to the type of message.
NB	String of numeric char.		Number of bits in Transparent Data (TD) message.

Page 133, addition of new subclauses 9.2.5.23, 9.2.5.23.1 and 9.2.5.23.2

Add the following subclauses after subclause 9.2.5.22.2:

9.2.5.23   Call input operation with specific character set

The operation is used for call input when no SSs are requested by the calling party and when a specific character set is used. The following list shows the parameters used in the operation data field.

Parameter	Type	Presence	Description
AdC	String or num char.	E	Address code, recipient.
AOdC	String or num char.	O	Address code, originator.
AC	String or char.	O	Authentication code, originator.
MT	1 numeric char. (1-4)	E	Message type, associated parameters depend on the value of the message type.
alternative 1:			Tone only: no additional parameters used.
alternative 2: NMsg	String of char.	O	Numeric message.
alternative 3: AMsg	String of char.	O	Alphanumeric message.
alternative 4: NB	String of num. char.	E	Number of bits in the TD message.
TMsg	String of char.	O(1)	TD message encoded into IA5 characters.
CS	1 numeric char.	E	Code of character set used.

9.2.5.23.1   Call input operation with specific character set (positive result)

The following list shows the parameters used in the positive result data field.

Parameter	Type	Presence	Description
ACK	Char. 'A'	E	Positive acknowledgement
SM	String of char.	O	System message

9.2.5.23.2   Call input operation with specific character set (negative result)

Negative result parameters, see subclause 9.2.5.1.2. Error codes which may be returned in the operations negative result are listed in subclause 9.2.7.

Page 144, amendment to subclause 11.2.1.1

Add the following line after the line "Paging category":

Character set code

Page 145, amendment to subclause 11.2.1.2

Add the following line after the line "Paging category":

Character set code

Page 165, amendment to subclause 13.2.1

Add the following line after line "E   RIC":

    O   MSI

Page 166, amendment to subclause 13.2.1

Add the following 2 lines after the line "E Type of receiver":

    O   Additional character set
       -        list of character set codes

Page 196, amendment to figure B.1

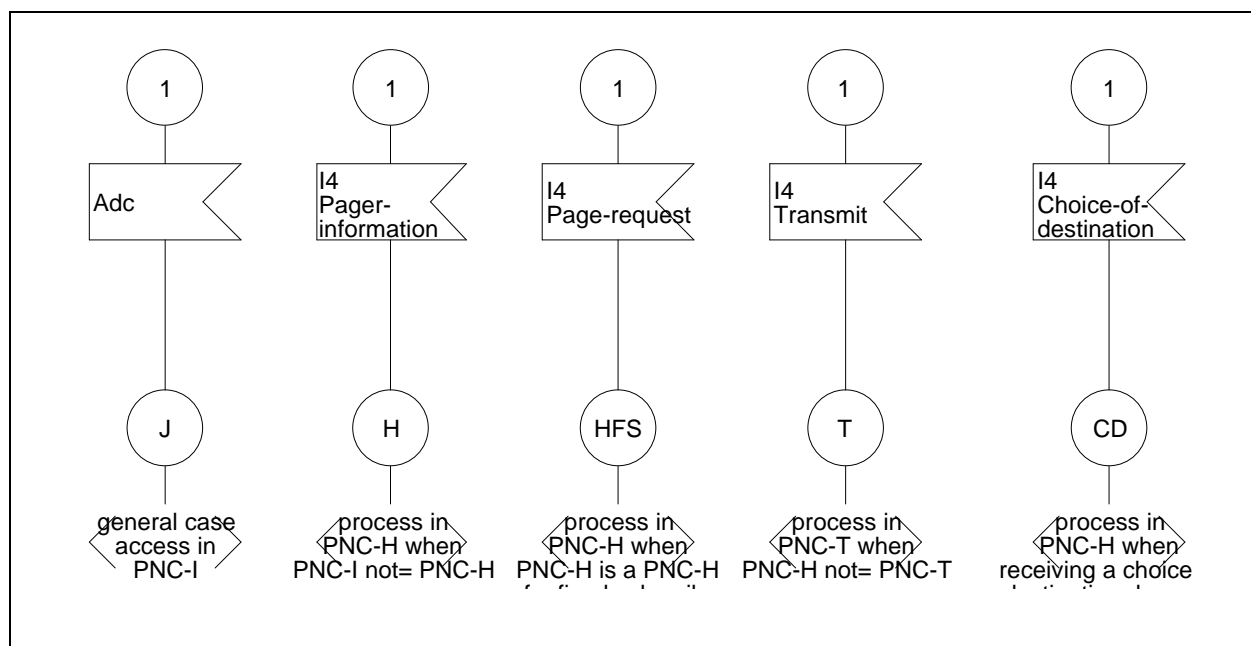Replace figure B.1 by the following SDL diagram:

Figure B.1: Call processing for page input

Page 208, amendment to figure B.4 (sheet 1 of 6)

Replace sheet 1 of figure B.4 by the following SDL diagram:
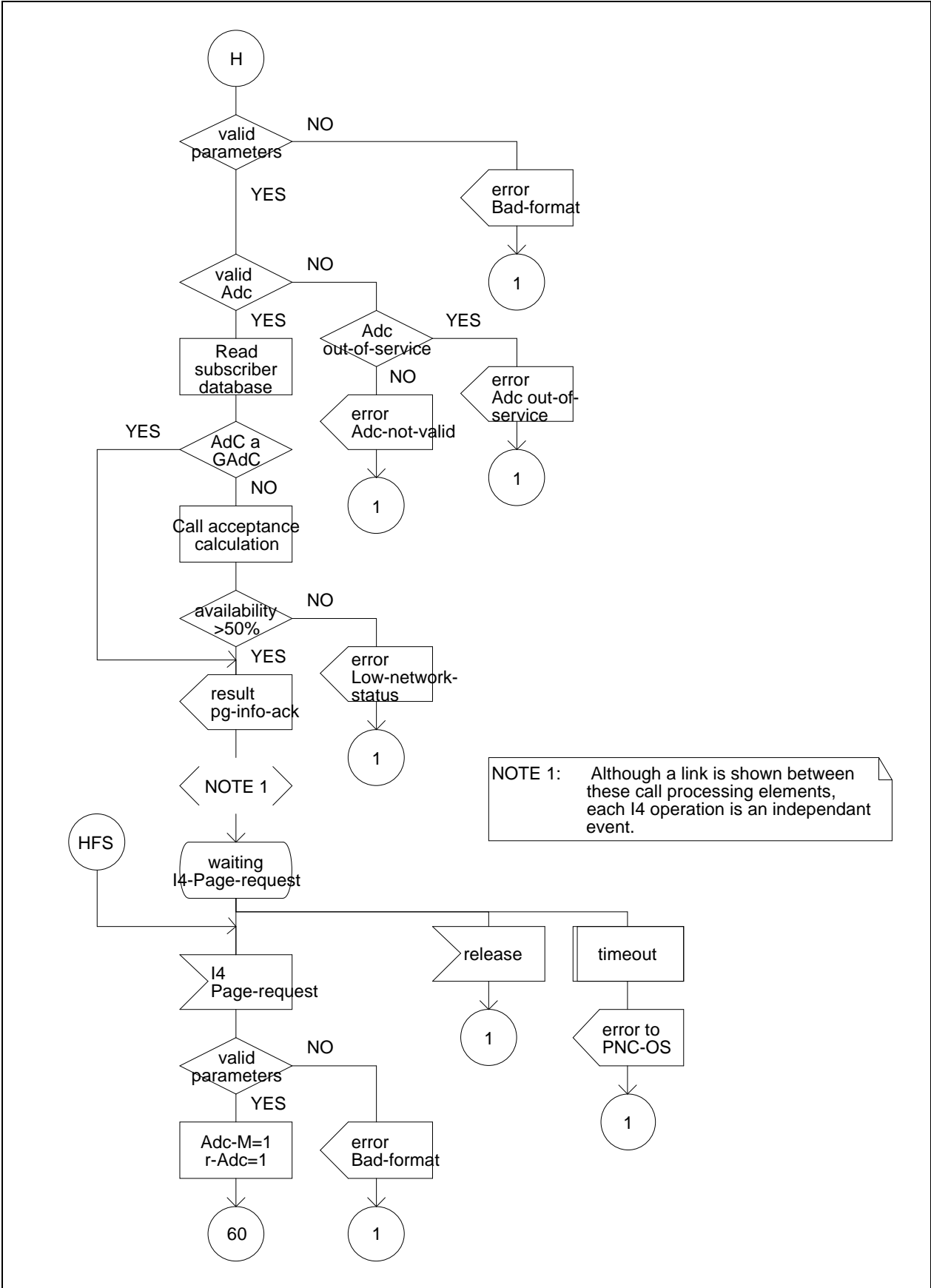
Figure B.4 (sheet 1 of 5): Call processing for page input - distant call, PNC-H

Page 209, amendment to figure B.4 (sheet 2 of 6)

Replace sheet 2 of figure B.4 by the following SDL diagram:

Figure B.4 (sheet 2 of 5): Call processing for page input - distant call, PNC-H

Page 210, amendment to title of figure B.4 (sheet 3 of 6)

Replace the figure title by the following:

Figure B.4 (sheet 3 of 5): Call processing for page input - distant call, PNC-H

Page 211, amendment to title of figure B.4 (sheet 4 of 6)

Replace the figure title by the following:

Figure B.4 (sheet 4 of 5): Call processing for page input - distant call, PNC-H

Page 212, amendment to figure B.4 (sheet 5 of 6)

Delete sheet 5 of figure B.4.

Page 213, amendment to figure B.4 (sheet 6 of 6)

Replace sheet 6 of figure B.4 by the following SDL diagram:
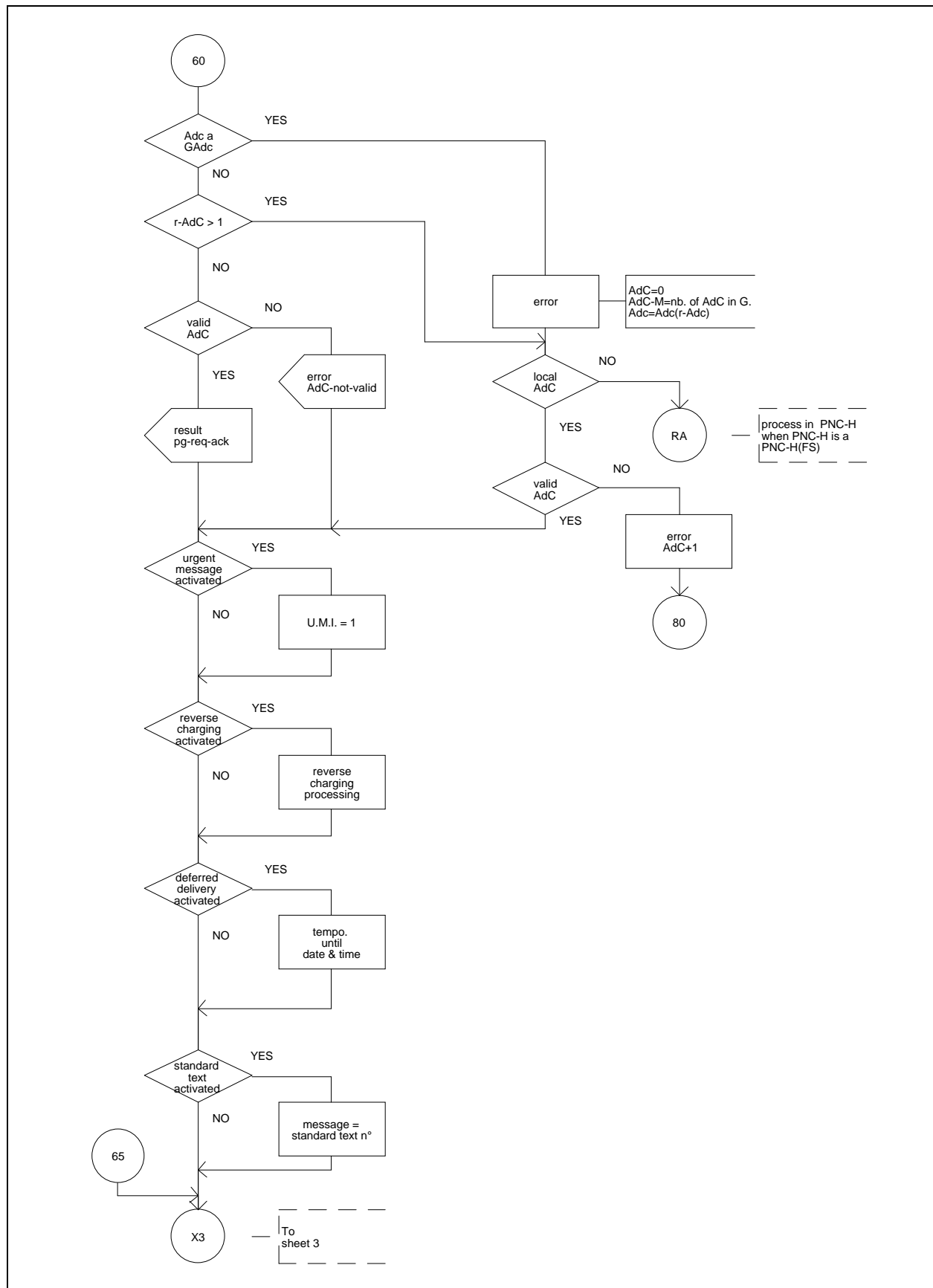

Figure B.4 (sheet 5 of 5): Call processing for page input - distant call, PNC-H

Page 220, amendment to title of figure B.9 (sheet 1 of 6)

Replace the figure title by the following:

Figure B.9 (sheet 1 of 5): Call processing for roaming - distant call, PNC-I

Page 221, amendment to figure B.9 (sheet 2 of 6)

Replace sheet 2 of figure B.9 with the following SDL diagram:

Figure B.9 (sheet 2 of 5): Call processing for roaming - distant call, PNC-I

Page 222, amendment to figure B.9 (sheet 3 of 6)

Delete sheet 3 of figure B.9.

Page 223, amendment to title of figure B.9 (sheet 4 of 6)

Replace the figure title by the following:

Figure B.9 (sheet 3 of 5): Call processing for roaming - distant call, PNC-I

Page 224, amendment to title of figure B.9 (sheet 5 of 6)

Replace the figure title by the following:
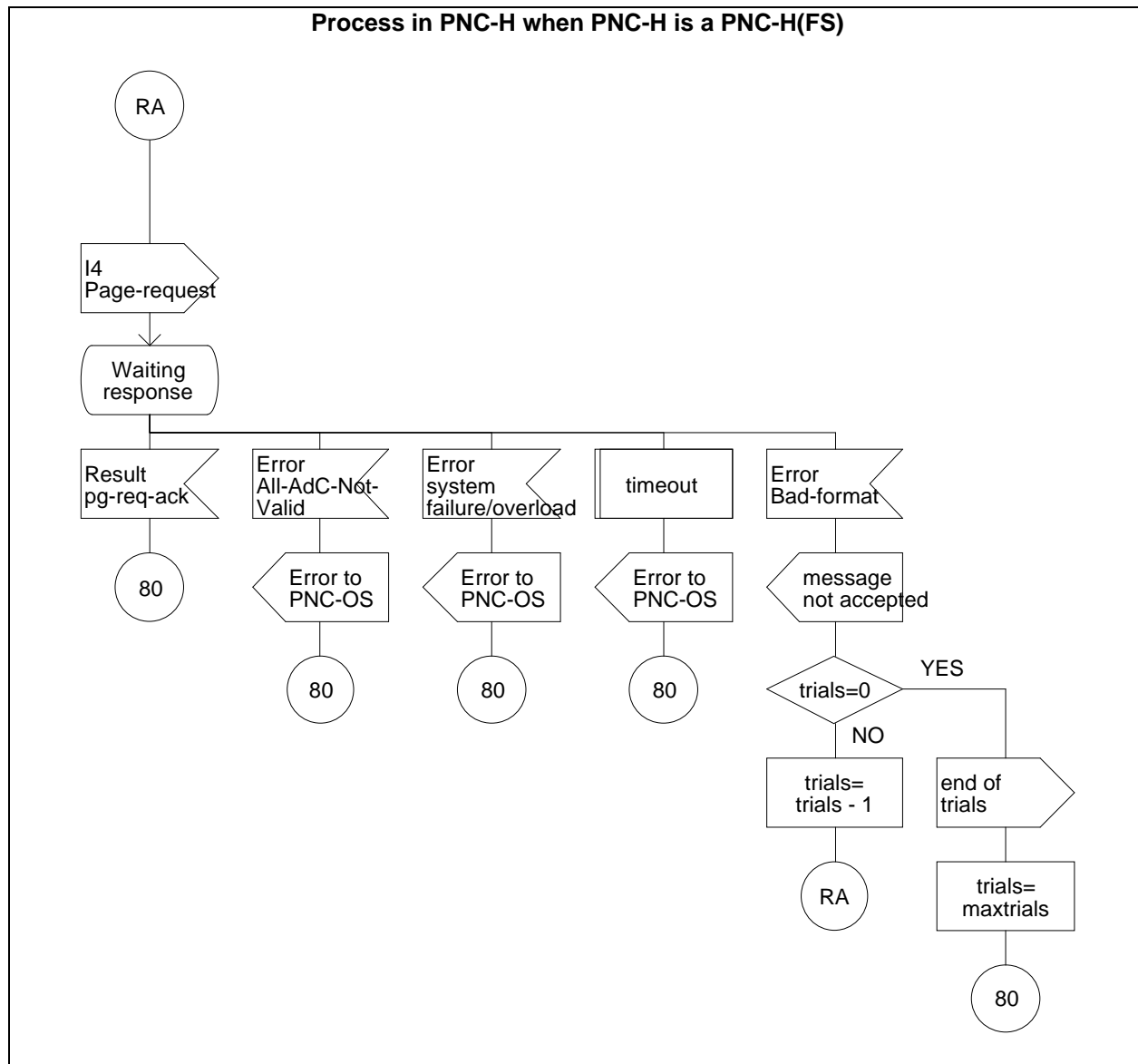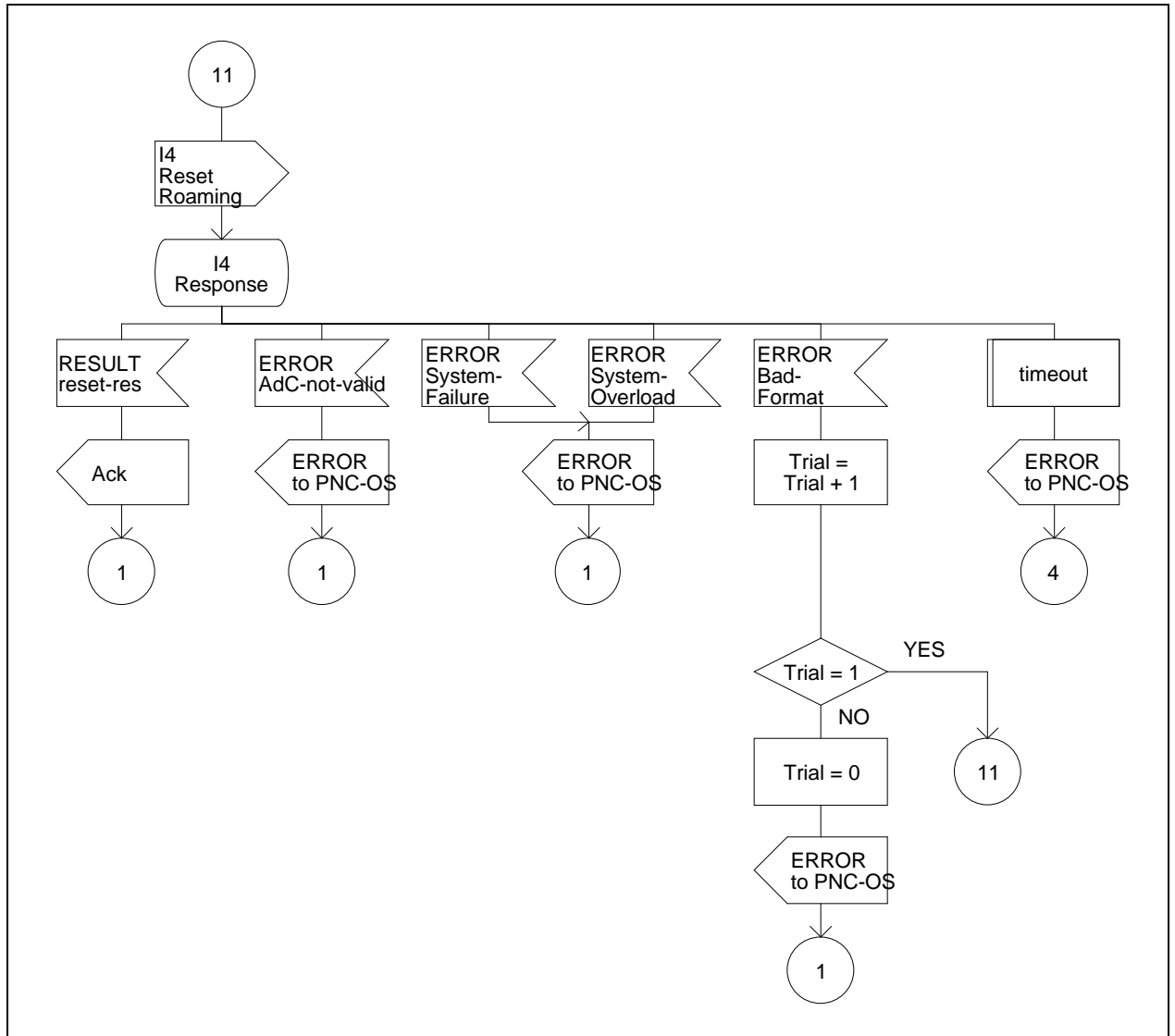
Figure B.9 (sheet 4 of 5): Call processing for roaming - distant call, PNC-I

Page 225, amendment to title of figure B.9 (sheet 6 of 6)

Replace the figure title by the following:

Figure B.9 (sheet 5 of 5): Call processing for roaming - distant call, PNC-I

Page 261, amendment to table E.3

Delete the line in table E.3 which contains the parameter "CD".

Page 261, amendment to table E.3

Add the following table entry after the table entry for parameter "PT":

	CS	Intg.	Y LCS	O	Possible character set or list of character sets (NOTE 7)

Page 262, amendment to subclause E.1.1.1

Delete NOTE 3.

Page 262, amendment to subclause E.1.1.1

Add the following after NOTE 6:

> NOTE 7: The CS parameter shall be present if the receiver has other character sets than the ERMES character set.

Page 263, amendment to table E.4

Add the following table entry before the table entry for parameter "LCL":

LCS	CS	O	Character set or list of character sets of the receiver

Page 263, amendment to table E.4

Add the following table entry after the table entry for parameter "RCL":

PR3L	PR3	O	Legitimisation code (for priority 3)

Page 265, amendment to table E.7

Add the following table entry after the table entry for parameter "PT":

CS		Intg.	O	Chosen character set for message (NOTE 4)

Page 265, amendment to subclause E.1.3

Replace NOTE 3 by the following:

> NOTE 3: Standard text messages and reverse charging are possible for page request operations for a GAdC, but are not possible for a page request operation to individual AdCs within a group list (also in the case that the group list has only one AdC in an external network, it will be placed in the parameter "AdCn" and not in the parameter "AdC1").

Page 265, amendment to subclause E.1.3

Add the following after NOTE 3:

> NOTE 4: The CS parameter shall be present if the character set corresponding to the message is not the ERMES character set.

Page 268, amendment to table E.8

Add the following table entry after the table entry for parameter "PT":

	CS	Intg.	O	Chosen character set for message (NOTE 7)

Page 269, amendment to subclause E.1.4

Add the following after NOTE 6:

> NOTE 7: The CS parameter shall be present if the character set corresponding to the message is not the ERMES character set.

Page 276, subclause E.1.11.2

Add the following item as the third listed item of subclause E.1.11.2:

Call diversion already activated — An indication that the AdC has already activated a call diversion.

Page 276, addition of Clause E.3

Add the following Clause after Clause E.2:

E.3   Presentation of the parameters

PM corresponds to the message sent by the calling party. The message can be a numeric, an alphanumeric or a transparent data message:

-    if the message is a numeric message, each numeric character is coded in ISO 646 [38] (and corresponds to the ERMES character);

-    if the message is an alphanumeric message, each character is an ERMES character coded according to the table described in Annex B of ETS 300 133-2 [2];

-    if the message is a transparent data message, data will be grouped into octets. The end of a message follows the procedure described in ETS 300 133-4 [3], subclause 6.5.3.

Page 278, amendment to Clause F.2

Replace the record "ERROR   ::= INTEGER" by the following record:

ERROR ::= INTEGER
            {
                    adc-Not-Valid   (1),
                    adc-Out-Of-Service   (2),
                    paging-Msg-Error   (3),
                    system-Failure   (4),
                    system-Overload   (5),
                    bad-Format   (6),
                    all-Adc-Not-Valid   (7),
                    all-Ric-Not-Valid   (8),
                    gas-Not-Valid   (9),
                    authentic-Fail   (10),
                    low-Network-Status   (11),
                    adc-From-Not-Valid   (12),
                    adc-To-Not-Valid   (13),
                    error-On-Gas-Add   (14),
                    error-On-Gas-Del   (15),
                    error-On-Start-Time   (16),
                    error-On-Stop-Time   (17),
                    diversion-Already-Activated   (18)
            }

Page 278, amendment to Clause F.2

Add the following after the title "I4 ROSE OPERATIONS":

```
ID ::= OBJECT IDENTIFIER
pagingDomain            ID ::= (ccitt (0)  identified organisation (4) etsi (0) pagingDomainId (1))

--      Root for all I4 allocations:

        i4              ID ::= { pagingDomain ermesI4Id (1)}

--      categories

        id-mod          ID ::= { i4   1 }
        id-ac           ID ::= { i4   2 }
        id-ase          ID ::= { i4   3 }
        id-as           ID ::= { i4   4 }

--      modules

        i4-UsefulDefinitions   ID ::= { id-mod   0 }
        i4-Service             ID ::= { id-mod   1 }
        i4-Protocol            ID ::= { id-mod   2 }

--      application contexts

        id-ac-I4        ID ::= { id-ac   0 }

--      application service elements

        id-ase-I4       ID ::= { id-ase   0 }

--      abstract syntaxes

        id-as-I4        ID ::= { id-as   0 }
```

Page 279, amendment to Clause F.2

Replace the record "PG-REq-Par   ::= SEQUENCE" by the following record:

```
PG-Req-Par     ::=  SEQUENCE
        {
                adc-1            [0] Address-Code,
                adc-n            [1] IMPLICIT SEQUENCE OF Address-Code OPTIONAL,
                pager-type       [2] Pager-Type,
                character-set    [3] INTEGER OPTIONAL,
                message          [4] Pager-Message,
                gas              [5] Geo-Areas OPTIONAL,
                priority         [6] INTEGER
                                        {
                                        prio1          (1),
                                        not-used       (2),
                                        prio3          (3)
                                        } OPTIONAL,
                urgent-indic     [7] BOOLEAN OPTIONAL,
                def-delivery     [8] I4-Time OPTIONAL,
                repeat           [9] BOOLEAN OPTIONAL,
                rev-charging     [10] BOOLEAN OPTIONAL
        }
```

Page 280, amendment to Clause F.2

Replace the record "Transmit-Par   ::= SEQUENCE" by the following record:

```
Transmit-Par   ::= SEQUENCE
        {
                ric-1            [0] Ric-Record,
                ric-n            [1] IMPLICIT SEQUENCE OF Ric-Record OPTIONAL,
                ecn              [2] INTEGER,
                pt               [3] Pager-Type,
                character-set    [4] INTEGER OPTIONAL,
                pm               [5] Transmit-Message
        }
```

Page 280, amendment to Clause F.2

Replace the record "Pager   ::= SEQUENCE" by the following record:

```
Pager           ::= SEQUENCE
        {
                pager-type          [0]     Pager-Type,
                character-set       [1]     List-Char-Set           OPTIONAL,
                max-length          [2]     INTEGER                 OPTIONAL,
                status              [3]     BOOLEAN,
                legitim-req         [4]     Legim-Value             OPTIONAL,
                priority-1          [5]     Priority-1              OPTIONAL,
                priority-3          [6]     BOOLEAN                 OPTIONAL,
                urgent-indic        [7]     Urgent                  OPTIONAL,
                deferred-delivery   [8]     Def-Del                 OPTIONAL,
                ms-invoke-def-del   [9]     Ms-Def-Delivery OPTIONAL,
                standard-text       [10]    Standard Text           OPTIONAL,
                repetition          [11]    Repetition              OPTIONAL,
                reverse-charging    [12]    Rev-Charge              OPTIONAL,
                group-flag          [13]    BOOLEAN                 OPTIONAL
        }
```

Page 281, amendment to Clause F.2

Add the following record before record "Legim-Value   ::= SEQUENCE":

```
List-Char-Set           ::= SEQUENCE
        {
        list-char       [0]     IMPLICIT SEQUENCE OF INTEGER
        }
```

History

Document history	
January 1994	First edition
December 1995	Converted into Adobe Acrobat Portable Document Format (PDF)
Note:	The references to the changed pages in the standard refer to an old presentation. See history box at the end of the standard itself. The new presentation format, applied from 1 December 1995, might have different page numbering. The clause numbering has not changed.