

Final draft **ETSI EN 300 443-1** V2.0.1 (2000-12)

European Standard (Telecommunications series)

**Broadband Integrated Services Digital Network (B-ISDN);
Digital Subscriber Signalling System No. two (DSS2) protocol;
B-ISDN user-network interface layer 3 specification
for basic call/bearer control;
Part 1: Protocol specification**

[ITU-T Recommendation Q.2931 (1995), modified]



Reference

REN/SPAN-05143-1

Keywordsbasic, B-ISDN, broadband, DSS2, ISDN, layer 3,
protocol, UNI**ETSI**

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

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

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN), and is now submitted for the Vote phase of the ETSI standards Two-step Approval Procedure.

The present document is part 1 of a multi-part deliverable covering the specification of the Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; B-ISDN user-network interface layer 3 specification for basic call/bearer control, as described below:

- Part 1:** "**Protocol specification [ITU-T Recommendation Q.2931 (1995), modified]**";
- Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification";
- Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification for the user";
- Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user";
- Part 5: "Test Suite Structure and Test Purpose (TSS&TP) specification for the network";
- Part 6: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network".

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

Endorsement notice

The elements of ITU-T Recommendation Q.2931 (1995) and its amendments 1 [91], 2 [92], 3 [93] and 4 [94] apply, with the following modifications:

- NOTE: New or modified text is indicated using sidebars. In addition, underlining and/or strike out are used to highlight detailed modifications where necessary.

Clause 1

Replace clause 1 (excluding subclauses 1.1 to 1.3) by:

1 Scope

The present document specifies the stage three of on-demand connection-oriented release 1 basic telecommunication services for the pan-European Broadband Integrated Services Digital Network (B-ISDN) as provided at the T_B reference point or coincident S_B and T_B reference point (as defined in ITU-T Recommendation I.413 [19]) by means of the Digital Subscriber Signalling System No. two (DSS2) protocol. Stage three identifies the protocol procedures and switching functions needed to support a telecommunications service (see CCITT Recommendation I.130 [84]).

In addition, the present document specifies the protocol requirements at the T_B reference point where the service is provided to the user via a private B-ISDN.

NOTE 1: Procedures at the T_B reference point, to support the access of a private B-ISDN to the public B-ISDN, are **not** explicitly identified in the present document, however, some procedures are applicable only at the T_B reference point.

The present document also specifies the particular features required to provide 64 kbit/s based circuit-mode ISDN services in B-ISDN and to support access interworking between B-ISDN and N-ISDN.

A basic telecommunications service is a fundamental type of service. It forms the basis on which supplementary services may be added.

NOTE 2: Specific requirements of individual B-ISDN connection-oriented basic telecommunication services are not covered by the present document.

Further parts of the present document provide the method of testing and detailed application specific requirements to determine conformance to the present document.

The present document is applicable to equipment supporting connection-oriented basic B-ISDN telecommunication services, to be attached at either side of a T_B reference point or coincident S_B and T_B reference points when used as an access to the public B-ISDN.

Subclause 1.1

Replace the text of subclause 1.1 by:

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.

NOTE: Reference numbers less than [84] appear in the endorsed ITU-T recommendation.

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

[85] ETS 300 402-2: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Data link layer; Part 2: General protocol specification [ITU-T Recommendation Q.921 (1993), modified]".

- [86] EN 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".
- [87] ETS 300 436-1: "Broadband Integrated Services Digital Network (B-ISDN); Signalling ATM Adaptation Layer (SAAL); Service Specific Connection Oriented Protocol (SSCOP); Part 1: Protocol specification [ITU-T Recommendation Q.2110 (1995), modified]".
- [88] ETS 300 437-1: "Broadband Integrated Services Digital Network (B-ISDN); Signalling ATM Adaptation Layer (SAAL); Service Specific Co-ordination Function (SSCF) for support of signalling at the User-Network Interface (UNI); Part 1: Specification of SSCF at UNI [ITU-T Recommendation Q.2130 (1995), modified]".
- [89] ETS 300 486-1: "Broadband Integrated Services Digital Network (B-ISDN); Meta-signalling protocol; Part 1: Protocol specification [ITU-T Recommendation Q.2120 (1995), modified]".
- [90] EN 301 068-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; ATM transfer capability and traffic parameter indication; Part 1: Protocol specification [ITU-T Recommendations Q.2961.1 (1995), Q.2961.2 to Q.2961.4 (1997), modified]".
- [91] Revised ITU-T Recommendation Q.2931: "Broadband ISDN - B-ISDN application protocols for access signalling - Digital Subscriber Signalling System No. 2 - User-network interface (UNI) layer 3 specification for basic call/connection control - Amendment 1" (Geneva, 1997)
- [92] Revised ITU-T Recommendation Q.2931: "Broadband ISDN - B-ISDN application protocols for access signalling - Digital Subscriber Signalling System No. 2 - User-network interface (UNI) layer 3 specification for basic call/connection control" - Amendment 2 (Geneva, 1999) and Corrigendum 1 to Amendment 2 (Geneva, 06/2000)
- [93] Revised ITU-T Recommendation Q.2931: "Broadband ISDN - B-ISDN application protocols for access signalling - Digital Subscriber Signalling System No. 2 - User-network interface (UNI) layer 3 specification for basic call/connection control - Amendment 3" (Geneva, 1999)
- [94] Revised ITU-T Recommendation Q.2931: "Broadband ISDN - B-ISDN application protocols for access signalling - Digital Subscriber Signalling System No. 2 - User-network interface (UNI) layer 3 specification for basic call/connection control - Amendment 4" (expected: Geneva, 1999)
- [95] Endorsement of ITU-T Recommendation Q.2965.1 (1999): "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Quality of Service indications; Part 1: Protocol specification [ITU-T Recommendations Q.2965.1 (1999), modified]".

NOTE: Not yet published.

- [96] Endorsement of ITU-T Recommendation Q.2965.2 (1999): "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; End-to-End Transit Delay indications; Part 1: Protocol specification [ITU-T Recommendations Q.2965.2 (1999), modified]".

NOTE: Not yet published.

Throughout the text of ITU-T Recommendation Q.2931 and its amendments 1, 2, 3 and 4:

Replace references as shown in the following table.

Reference in ITU-T Recommendation Q.2931	Modified reference
ITU-T Recommendation Q.921	ITU-T Recommendation Q.921 as modified by ETS 300 402-2 [85]
ITU-T Recommendation Q.931	ITU-T Recommendation Q.931 as modified by EN 300 403-1 [86]
ITU-T Recommendation Q.2110	ITU-T Recommendation Q.2110 as modified by ETS 300 436-1 [87]
ITU-T Recommendation Q.2120	ITU-T Recommendation Q.2120 as modified by ETS 300 486-1 [89]
ITU-T Recommendation Q.2130	ITU-T Recommendation Q.2130 as modified by ETS 300 437-1 [88]
ITU-T Recommendation Q.2961.2	ITU-T Recommendation Q.2961.2 as modified by EN 301 068-1 [90]
ITU-T Recommendation Q.2965.1	ITU-T Recommendation Q.2965.1 as modified by [95]
ITU-T Recommendation Q.2965.2	ITU-T Recommendation Q.2965.2 as modified by [96]

3 Definitions and abbreviations

Definitions and abbreviations are provided in clauses J.1 and J.2, respectively.

Table 3-8/Q.2931, note 5

Add the following text to note 5:

The maximum length of this information element is 25 octets.

Table 3-8/Q.2931, note 7

Add the following text to note 7:

Not included in the network-to-user direction for basic call control, but may be included for some supplementary services. The maximum length of this information element is 26 octets.

Table 3-8/Q.2931, note 8

Add the following text to note 8:

Not included in the network-to-user direction for basic call control, but may be included for some supplementary services.

Table 3-8/Q.2931, note 13

Replace note 13 by:

NOTE 13:It is mandatory for the user to include the Broadband sending complete information element when *en bloc* sending procedures are used. On its receipt, the network shall apply the *en bloc* sending procedure.

It is mandatory for the network to include the Broadband sending complete information element. If the Broadband sending complete information element is not included, the called user shall not apply the missing mandatory element error handling procedures.

Table 3-19/Q.2931, note 2

Add the following text to note 2:

The maximum length of this information element is 25 octets.

Table 3-19/Q.2931, note 4

Add the following text to note 4:

Not included in the network-to-user direction for basic call control, but may be included for some supplementary services. The maximum length of this information element is 26 octets.

Table 3-19/Q.2931, note 5

Add the following text to note 5:

Not included in the network-to-user direction for basic call control, but may be included for some supplementary services.

Subclause 4.5.6, second paragraph

Insert the following note after the second paragraph:

NOTE: When the user requires the use of end-to-end OAM F5 flows, it is recommended that this is declared explicitly within the OAM traffic descriptor information element (see subclause 4.5.24) in order to enable the network to identify the actual user plane information rates. Currently this is needed when the user expects the separate policing and shaping functions (when applied as a network option) of the user plane information flow and of the end-to-end user originated OAM F5 flow to be performed by the network. Other cases may be identified in the future.

Subclause 4.5.9, third paragraph:

Insert after the third paragraph:

Octet groups 5 (layer 1 id), 6 (layer 2 id) and 7 (layer 3 id) of the Broadband low layer information element are not position independent, but if present at all, shall be sent in the order as specified in figure 4-16/Q.2931.

Subclause 4.5.11, third paragraph

Replace the third paragraph by:

The maximum length of this information element is 25 octets.

Figure 4-18/Q.2931, note 2

Delete note 2 related to "NSAP address octets". This field is not supported.

Table 4-12/Q.2931, note 2

Replace note 2 by:

NOTE 2: The type of number "unknown" is used when the user or the network have no knowledge of the type of number (e.g. international number, national number, etc.). In this case, the number digits field is organized according to the network dialling plan; e.g. prefix or escape digits might be present.

Table 4-12/Q.2931, "Addressing/numbering plan (octet 5)"

Change codepoint "0 0 1 0" to "reserved" and delete the related note 9.

Subclause 4.5.13

Replace the second sentence by:

The maximum length of this information element is 26 octets.

Page 65, figure 4-20/Q.2931

Delete note 2 related to "NSAP address octets". This field is not supported.

Table 4-14/Q.2931, note 2

Replace note 2 by:

NOTE 2: The type of number "unknown" is used when the user or the network have no knowledge of the type of number (e.g. international number, national number, etc.). In this case, the number digits field is organized according to the network dialling plan; e.g. prefix or escape digits might be present.

Table 4-14/Q.2931, "Addressing/numbering plan (octet 5)" and note 9

Change codepoint "0 0 1 0" to "reserved" and delete the related note 9.

Subclause 4.5.24, first paragraph

Insert the following note after the first paragraph:

NOTE: Future enhancements to the present document may lead to extensions to this information element (or the definition of other means) to allow explicit declaration of end-to-end user originated OAM F5 flow to accommodate other user management requirements.

Clause 5, note

Delete the note. Annex H does not form part of the present document.

Subclause 5.2.1, second paragraph

Replace the second sentence by:

In this case, the SETUP message shall contain the Broadband sending complete information element.

Subclause 5.2.1, fourth paragraph

Replace the fourth paragraph by:

If the SETUP includes the Broadband sending complete information element, the *en bloc* receiving procedure shall be followed. Therefore, on its receipt, the user shall apply the *en bloc* receiving procedure.

Table 7-3/Q.2931, T301

The implementation of user side timer T301 shall be optional.

Annex A

Annex A has the status of a normative annex.

The user side SDL extensions for symmetric call operation are not supported.

The network side SDL extensions for symmetric call operation are not supported.

Annex B

Annex B has the status of a normative annex.

Annex C

Annex C has the status of a normative annex.

Annex D

Annex D has the status of a normative annex.

Annex E

Annex E has the status of a normative annex.

Annex F

Annex F has the status of a normative annex.

Annex G

Delete annex G. It does not form part of the present document.

Annex H

Delete annex H. It does not form part of the present document.

Annex I

Annex I has the status of a normative annex.

Annex J

Annex J has the status of a normative annex.

Clause J.1

Add the following note:

NOTE: ITU-T Recommendation Q.2931 frequently uses the term "connection". ETSI has decided to use the term "bearer" instead (i.e. if this term is used in the context of a bearer for a connection-oriented bearer service).

Annex K

Annex K has the status of a normative annex.

Annex L

Annex L has the status of an informative annex.

Appendix I

Appendix I has the status of an informative annex.

Appendix II

Appendix II has the status of an informative annex.

Appendix III

Delete appendix III. It does not form part of the present document.

Annex Z.A (informative): Identification of changes from previous standards

Z.A.1 Identification of changes from ETS 300 443-1 edition 1 to the present document

The latest version of the standard has been produced to incorporate the amendments 1 (1997), 2, 3 and 4 (all 1999) to ITU-T Recommendation Q.2931 into the ETSI endorsement. This change provides for the following:

(1) According to the amendment 1 to ITU-T Recommendation Q.2931, the following applies:

In subclause 4.5.7 (Broadband bearer capability) of ITU-T Recommendation Q.2931 (1995), the contents of the subclause (including figure 4-14/Q.2931 and table 4-8/Q.2931) is to be replaced with "see ITU-T Recommendation Q.2961.2."

The amendment 1 to ITU-T Recommendation Q.2931 has been prepared to allow the creation of ITU-T Recommendation Q.2961.2 to contain all the information on the encoding of the Broadband bearer capability information element in a manner that is consistent with the second edition of ITU-T Recommendation I.371. This amendment 1 has been issued in conjunction with ITU-T Recommendation I.2961.2, which is designed to be compatible with implementations conforming to the 1st edition of ITU-T Recommendation I.371 and ITU-T Recommendation Q.2931 (1995).

Within ITU-T Recommendation Q.2961.2, the changes from ITU-T Recommendation Q.2931 (1995) are as follows:

- Octet 5a of the Broadband bearer capability information element was restructured to support ATM transfer capabilities (ATCs) specified in the second edition of ITU-T Recommendation I.371. This restructuring is backward compatible with the first edition of ITU-T Recommendation Q.2931 (i.e. values of octet 5a defined in the first edition of ITU-T Recommendation Q.2931 still have the same meaning). These values may be either those used on transmission and reception, those not generated by terminal equipment complying with ITU-T Recommendation Q.2961.2, or those that are reserved.

(2) According to the amendments 2, 3 and 4 to the ITU-T Recommendation Q.2931, the following applies:

Page 6, subclause 1.3.11

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 5).

Page 6, subclause 1.3.12

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 5).

Page 8, subclause 3.1

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 7).

Page 9, subclause 3.1.1

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 8).

Page 10, subclause 3.1.3

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 9).

Page 13, subclause 3.1.7

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 11).

Page 18, after subclause 3.1.10

A new subclause 11 is added with entire text as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 14).

NOTE: The table for the new CONNECTION AVAILABLE message is numbered 3-24 because ITU-T decided to keep the present numbering sequence in Recommendation Q.2931.

Page 19, subclause 3.2

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 15).

Page 20, subclause 3.2.1

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 16).

Page 21, subclause 3.2.3

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 17).

Page 22, subclause 3.2.7

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 19).

Page 34, subclause 4.4.1

Table 4-2/Q.2931 is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 22).

Page 37, subclause 4.5.1

Table 4-3/Q.2931 is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 24).

Page 44, subclause 4.5.5

All text of subclause 4.5.5 of ITU-T Recommendation Q.2931 is replaced by text for revised subclause 4.5.5 from amendment 2 for ITU-T Recommendation Q.2931 [92] (begins on page 24).

Page 49, subclause 4.5.6, second paragraph

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 25).

NOTE: The note from ETSI inserted on page 49, subclause 4.5.6, after the second paragraph shall be kept.

Page 53, subclause 4.5.8

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 28).

Page 54, subclause 4.5.9

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 30).

NOTE: On page 54, the note to be inserted into subclause 4.5.9, after the third paragraph shall be kept as indicated in the main part of the present document.

Page 60, subclause 4.5.11

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 37).

NOTE: On page 60, the third paragraph in subclause 4.5.11 shall stay replaced as indicated in the main body of the present document.

Page 63, subclause 4.5.12

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 40).

Page 64, subclause 4.5.13

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 42).

NOTE: On page 64, the second sentence in the second paragraph of subclause 4.5.13 shall stay replaced as indicated in the main body of the present document.

Page 67, subclause 4.5.14

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 46).

Page 71, subclause 4.1.17

Entire contents as of subclause is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 48).

Page 73, subclause 4.5.18

The entire contents of subclause 4.5.18 is replaced as described in the text of amendment 3 for revised ITU-T Recommendation Q.2931 [93].

Page 75, subclause 4.5.22

Table 4-21/Q.2931 is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 50).

Page 76, subclause 4.5.23

Text is modified as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 52).

Page 78, after subclause 4.5.24

A new subclause 4.5.25 is added as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 53).

Page 78, subclause 4.6

The entire contents of subclause 4.6 is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 55).

Page 85, subclause 5.1.3

The entire contents of subclause 5.1.3 is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 58).

NOTE: The new text for subclause 5.1.3 includes text for this subclause in amendment 3 [93].

Page 91, subclause 5.2.3

The entire contents of subclause 5.2.3 is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 59).

Page 93, subclause 5.2.4

The entire contents of subclause 5.2.4 is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 61).

NOTE: The new text for subclause 5.2.4 includes the text for this subclause in amendment 3 [93].

Page 99, subclause 5.6.3

The entire contents of subclause 5.6.3 is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 62).

Page 101, subclause 5.6.8

The entire contents of subclause 5.6.8 is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 63).

Page 103, subclause 5.7.2

The entire contents of subclause 5.6.8 is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 65).

Page 106, after subclause 6.3.5

A new subclause 6.3.6 is added as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 67).

Page 108, subclause 6.4.5

The entire contents of subclause 6.4.5 is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 68).

Page 108, after subclause 6.4.5

A new subclause 6.4.6 is added as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 69).

Page 109, subclause 6.6.2

The entire contents of subclause 6.6.2 is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 70).

Page 109, after subclause 6.7.2

A new subclause 6.8 is added as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 71).

Page 208, annex C

The entire contents of annex C is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 72).

Page 211, annex E

The entire contents of annex E is replaced as described in the text of amendment 4 for revised ITU-T Recommendation Q.2931 [94] (begins on page 74).

Page 218, annex F

The entire text of annex F is replaced by the text for revised annex F from amendment 4 for ITU-T Recommendation Q.2931 [94] (begins on page 82).

NOTE: The new text for annex F, subclauses F.1 through F.6 includes the text for annex 2 in amendment 2 [92].

Page 226, subclause J.3

The entire text of subclause J.3 in ITU-T Recommendation Q.2931 is replaced by the text for revised subclause J.3 from amendment 4 for ITU-T Recommendation Q.2931 [94] (which begins on page 86).

Page 229, annex K

The entire text of annex K in ITU-T Recommendation Q.2931 is replaced by the text for revised clause K from amendment 4 for ITU-T Recommendation Q.2931 [94] (which begins on page 90).

Page 233, after present annex L

A new annex M is inserted with full text from of amendment 4 for ITU-T Recommendation Q.2931 [94] (which begins on page 93).

A new annex N is inserted with full text from of amendment 4 for ITU-T Recommendation Q.2931 [94] (which begins on page 95).

Page 234, appendix I

Changes are inserted as described in amendment 4 for ITU-T Recommendation Q.2931 [94] (begins on page 103).

History

Document history		
Edition 1	April 1996	Publication as ETS 300 443-1
V1.3.5	October 1998	Publication
V2.0.1	January 2000	Public Enquiry PE 200020: 2000-01-19 to 2000-05-19
V2.0.1	December 2000	Vote V 20010223: 2000-12-25 to 2001-02-23