



INTERNATIONAL TELECOMMUNICATION UNION

# ITU-T

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

# Q.2962 F

(12/2000)

SERIES Q: SWITCHING AND SIGNALLING

Broadband ISDN – B-ISDN application protocols for  
access signalling

---

**Digital subscriber signalling system No. 2 –  
Connection characteristics negotiation during  
call/connection establishment phase: Abstract  
test suite (ATS) and partial protocol  
implementation extra information for testing  
(PIXIT) proforma for the network**

ITU-T Recommendation Q.2962 F

(Formerly CCITT Recommendation)

---

ITU-T Q-SERIES RECOMMENDATIONS  
**SWITCHING AND SIGNALLING**

SIGNALLING IN THE INTERNATIONAL MANUAL SERVICE	Q.1–Q.3
INTERNATIONAL AUTOMATIC AND SEMI-AUTOMATIC WORKING	Q.4–Q.59
FUNCTIONS AND INFORMATION FLOWS FOR SERVICES IN THE ISDN	Q.60–Q.99
CLAUSES APPLICABLE TO ITU-T STANDARD SYSTEMS	Q.100–Q.119
SPECIFICATIONS OF SIGNALLING SYSTEMS No. 4 AND No. 5	Q.120–Q.249
SPECIFICATIONS OF SIGNALLING SYSTEM No. 6	Q.250–Q.309
SPECIFICATIONS OF SIGNALLING SYSTEM R1	Q.310–Q.399
SPECIFICATIONS OF SIGNALLING SYSTEM R2	Q.400–Q.499
INTERWORKING OF SIGNALLING SYSTEMS	Q.600–Q.699
SPECIFICATIONS OF SIGNALLING SYSTEM No. 7	Q.700–Q.849
DIGITAL SUBSCRIBER SIGNALLING SYSTEM No. 1	Q.850–Q.999
INTERWORKING WITH SATELLITE MOBILE SYSTEMS	Q.1100–Q.1199
INTELLIGENT NETWORK	Q.1200–Q.1699
SIGNALLING REQUIREMENTS AND PROTOCOLS FOR IMT-2000	Q.1700–Q.1799
BROADBAND ISDN	Q.2000–Q.2999
General aspects	Q.2000–Q.2099
Signalling ATM adaptation layer (SAAL)	Q.2100–Q.2199
Signalling network protocols	Q.2200–Q.2299
Common aspects of B-ISDN application protocols for access signalling and network signalling and interworking	Q.2600–Q.2699
B-ISDN application protocols for the network signalling	Q.2700–Q.2899
<b>B-ISDN application protocols for access signalling</b>	<b>Q.2900–Q.2999</b>

*For further details, please refer to the list of ITU-T Recommendations.*

## **Digital subscriber signalling system No. 2 – Connection characteristics negotiation during call/connection establishment phase: Abstract test suite (ATS) and partial protocol implementation extra information for testing (PIXIT) proforma for the network**

### **Summary**

This Recommendation specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the network at the  $T_B$  reference point or coincident  $S_B$  and  $T_B$  reference point (as defined in ITU-T I.413 [6]) of implementations conforming to the procedures for the handling of the connection characteristics negotiation during call/connection establishment phase of the Digital Subscriber Signalling System No. 2 (DSS2) protocol for the Broadband Integrated Services Digital Network (B-ISDN), ITU-T Q.2962 [1].

Other Recommendations of the Q.2962 family specify the Protocol Implementation Conformance Statement (PICS) proforma and Test Suite Structure and Test Purposes (TSS & TP) based on this Recommendation.

NOTE – This Recommendation related to protocol conformance is published only in English; it is based on an external SDO's standard published in English.

### **Source**

ITU-T Recommendation Q.2962 F was prepared by ITU-T Study Group 11 (2001-2004) and approved under the WTSA Resolution 1 procedure on 6 December 2000.

## FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

## NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

## INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

© ITU 2001

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from ITU.

## CONTENTS

	<b>Page</b>
1 Scope .....	1
2 References.....	1
3 Endorsement.....	2
4 Coverage .....	2
5 Modifications .....	2
5.1 General modifications.....	2
5.2 Technical modifications.....	3
5.2.1 AAL parameters IE.....	3
Appendix I – Bibliography.....	3

### **Digital subscriber signalling system No. 2 – Connection characteristics negotiation during call/connection establishment phase: Abstract test suite (ATS) and partial protocol implementation extra information for testing (PIXIT) proforma for the network**

#### **1 Scope**

This Recommendation specifies the Test Suite Structure and Test Purposes (TSS & TP) for the network at the  $T_B$  reference point or coincident  $S_B$  and  $T_B$  reference point (as defined in ITU-T I.413 [6]) of implementations conforming to the procedures for the handling of the connection characteristics negotiation during call/connection establishment phase of the Digital Subscriber Signalling System No. 2 (DSS2) protocol for the Broadband Integrated Services Digital Network (B-ISDN), ITU-T Q.2962 [1].

Other Recommendations of the Q.2962 family specify the Protocol Implementation Conformance Statement (PICS) proforma and Test Suite Structure and Test Purposes (TSS & TP) based on this Recommendation.

This Recommendation is applicable to equipment, supporting connection characteristics negotiation during call/connection establishment phase, to be attached at either side of a  $T_B$  reference point or coincident  $S_B$  and  $T_B$  reference point when used as an access to the public B-ISDN.

The ATS realizes test purposes identified in the TSS & TP part of the Recommendation and groups them according to the test suite structure given in the TSS & TP. Test purposes defined in the TSS & TP part but not testable are identified in this Recommendation.

The supplier of a protocol implementation that is claimed to conform to ITU-T Q.2962 [1] is required to complete a copy of the PICS proforma and the PIXIT proforma provided by the testlab. The PIXIT proforma shall contain the tables identified in the partial PIXIT proforma part of this Recommendation and may contain additional information required by the testlab to be able to appropriately execute the test campaign.

#### **2 References**

The following Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of currently valid ITU-T Recommendations is regularly published.

- [1] ITU-T Q.2962 (1998), *Digital subscriber signalling system No. 2 – Connection characteristics negotiation during call/connection establishment phase.*
- [2] ITU-T Q.2962 B (2000), *Digital subscriber signalling system No. 2 – Connection characteristics negotiation during call/connection establishment phase: Protocol implementation conformance statement (PICS) proforma.*
- [3] ITU-T Q.2962 E (2000), *Digital subscriber signalling system No. 2 – Connection characteristics negotiation during call/connection establishment phase: Test suite structure and test purposes (TSS & TP) for the network.*
- [4] ITU-T Q.2931 (1995), *Digital subscriber signalling system No. 2 – User-network interface (UNI) layer 3 specification for basic call/connection control.*

- [5] ITU-T Q.2931 B (2000), Broadband integrated services digital network (B-ISDN) – Digital subscriber signalling system No. 2 (DSS2) – User-network interface (UNI) layer 3 specification for basic call/connection control: Protocol implementation conformance statement (PICS) proforma.
- [6] ITU-T I.413 (1993), *B-ISDN user-network interface*.
- [7] ETSI EN 301 067-6 V2.1.1 (2000), *Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Negotiation during call/connection establishment phase; Part 6: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the network*.

### 3 Endorsement

The text of ETSI EN 301 067-6 [7] was approved by ITU-T as Recommendation Q.2962 F with agreed modifications as given below.

NOTE – Underlining and/or strike-out is used to highlight new or deleted text where detailed indication of modifications is necessary.

### 4 Coverage

This Recommendation covers ITU-T Q.2962 [1].

### 5 Modifications

#### 5.1 General modifications

Throughout the text of ETSI EN 301 067-6 [7] replace references and text as shown in the following table:

Reference in ETSI EN 301 067-6	Modified reference
EN 300 443-1	ITU-T Q.2931
EN 300 443-2	ITU-T Q.2931 B
EN 301 067-1	ITU-T Q.2962
EN 301 067-2	ITU-T Q.2962 B
EN 301 067-5	ITU-T Q.2962 E
EN 301 067-6	ITU-T Q.2962 F
Standard	Recommendation

#### Page 5, Intellectual Property Rights

Delete the whole section.

#### Page 5, Foreword

Delete the whole Foreword.

NOTE 1 – It is replaced by the Foreword of this Recommendation.

#### Page 6, Clause 1 Scope

Replace the whole clause with the following:

## "1 Scope

See clause 1 Scope of this Recommendation above."

## Page 21, Bibliography

Delete the whole clause "Bibliography".

NOTE 2 – Replaced by Appendix I "Bibliography" of this Recommendation.

## Page 22, History

Delete the whole clause "History".

## 5.2 Technical modifications

NOTE – Modifications in the TTCN part of this Recommendation are described in terms of changes in the TTCN.GR representation.

### 5.2.1 AAL parameters IE

In the TTCN, Declarations Part, Test Suite Type Definitions, ASN.1 Type Definitions alter definition for the type "AAL\_contents" as below:

"OCTET STRING(SIZE(1..20 ~~17~~))".

NOTE – This limitation may be removed in later versions of the TTCN part.

## APPENDIX I

### Bibliography

- [A] ETSI EN 300 443-1 V1.3.5 (1998), *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.*
- [B] ETSI EN 301 067-1 V1.1.3 (1999), *Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Negotiation during call/connection establishment phase; Part 1: Protocol specification.*
- [C] ETSI 301 067-2 V1.1.3 (1999), *Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Negotiation during call/connection establishment phase; Part 2: Protocol Implementation Conformance Statement (PICS) proforma.*
- [D] ETSI EN 301 067-3 V1.2.1 (2000), *Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Negotiation during call/connection establishment phase; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification for the user.*
- [E] ETSI EN 301 067-4 V2.1.1 (2000), *Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Negotiation during call/connection establishment phase; Part 4: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the user.*



- [F] ETSI EN 301 067-5 V1.2.1 (2000), Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Negotiation during call/connection establishment phase; Part 5: Test Suite Structure and Test Purposes (TSS&TP) specification for the network.
- [G] ETSI ETS 300 406 (1995), *Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology.*

## **SERIES OF ITU-T RECOMMENDATIONS**

Series A	Organization of the work of ITU-T
Series B	Means of expression: definitions, symbols, classification
Series C	General telecommunication statistics
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	TMN and network maintenance: international transmission systems, telephone circuits, telegraphy, facsimile and leased circuits
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
<b>Series Q</b>	<b>Switching and signalling</b>
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks and open system communications
Series Y	Global information infrastructure and Internet protocol aspects
Series Z	Languages and general software aspects for telecommunication systems