

ISUP UK

ND1007:2007/01

STATEMENT OF COMPLIANCE

**Copyright**

© Ericsson AB 2010 – 2012. All rights reserved. No part of this document may be reproduced in any form without the written permission of the copyright owner.

**Disclaimer**

The contents of this document are subject to revision without notice due to continued progress in methodology, design and manufacturing. Ericsson shall have no liability for any error or damage of any kind resulting from the use of this document.



# Contents

<b>1</b>	<b>General</b>	<b>1</b>
1.1	Introduction	1
1.2	Concept	1
<b>2</b>	<b>Compliance Lists</b>	<b>3</b>
2.1	Integrated Services Digital Network (ISDN) User Part, ITU - 1997	3
2.1.1	Q.761, Functional Description of the Integrated Services Digital Network (ISDN) User Part	3
2.1.2	UK Additions	8
2.1.3	Q.762, General Function of Messages and Signals	8
2.1.4	UK Additions	24
2.1.5	Q.763, Formats and Codes	25
2.1.6	Q.764, Signaling Procedures	31
2.2	Monitoring and Measurements for SS7 Networks, ITU Q.752 - 1997	43
<b>3</b>	<b>Notes and Comments</b>	<b>53</b>
	<b>Reference List</b>	<b>57</b>





# 1 General

## 1.1 Introduction

This document contains a compliance statement for the UK ISUP module versus ND1007:2007/01. The compliance will be made versus ITU-T rec. with additions from ND1007:2007/01 since ND1007:2007/01 [7] contains differences from ITU-T recommendations.

The functionality or compliance of the Call Control application [5] is not addressed in this document (Note 26).

## 1.2 Concept

The terms that will be used are:

C	EIN module complies with the specified paragraph in the standard.
N	EIN module does not comply with the specified paragraph in the standard.
P	EIN module complies partly with the specified paragraph in the standard. Specify in a note what in the module that does comply and what that does not.
-	There is nothing to implement in the referred paragraph (used in column "C").





## 2 Compliance Lists

### 2.1 Integrated Services Digital Network (ISDN) User Part, ITU - 1997

#### 2.1.1 Q.761, Functional Description of the Integrated Services Digital Network (ISDN) User Part

See Q.761 standard for details

Table 1 Q.761

References	C	N	P	Comments
<b>1 General</b>			X	Note 1 Page 53
<b>2 Introduction to ISUP signaling procedures</b>				Title
2.1 Address signaling	X			
2.2 Basic procedures	X			
2.3 Signaling methods			X	Note 3 Page 53
2.4 Interworking				Title
2.4.1 ISUP interworking	X			
2.4.2 Interworking with other signaling systems or user parts	-			
<b>3 Capabilities supported by the ISUP</b> (Table 1)				Title
Basic call				Title
Speech/3.1 kHz audio	X			
64 kbits/s unrestricted	X			

Table 1 Q.761

References	C	N	P	Comments
En bloc address signaling	X			
Overlap address signaling	X			
Suspend and resume	X			
Signaling procedures for connection type allowing fallback capability	X			Note 4 Page 53
Automatic repeat attempt			X	Note 2 Page 53
Blocking and unblocking of circuits and circuit groups	X			
Dual seizure	X			
Transmission alarm handling for digital inter-exchange circuits		X		
Reset of circuits and circuit groups	X			
Receipt of unreasonable signaling information	X			
Compatibility procedure	X			Note 5 Page 53
Simple segmentation	X			
Tones and announcements	X			Note 4 Page 53
MTP pause and resume	X			
Access delivery information	X			Note 4 Page 53





Table 1 Q.761

References	C	N	P	Comments
Transportation of User teleservice information	X			Note 4 Page 53
ISDN User Part signaling congestion control	X			
Automatic congestion control	X			
Interaction between ISUP and INAP		X		
Overlength messages	X			
Temporary Alternative Routing (TAR)			X	Note 4 Page 53
Hop counter procedure			X	Note 4 Page 53
ISDN user part availability control		X		
Generic signaling procedures for supplementary services (table 2)				Title
Generic number transfer	X			Note 4 Page 53
Generic notification procedure	X			Note 4 Page 53
Simple service activation procedure	X			Note 4 Page 53
Supplementary services				Title
DDI			X	Note 4 Page 53
MSN			X	Note 4 Page 53
CLIP/CLIR			X	Note 4 Page 53
COLP/COLR			X	Note 4 Page 53

Table 1 Q.761

References	C	N	P	Comments
MCID			X	Note 4 Page 53
Sub-addressing			X	Note 4 Page 53
Call Forwarding Busy			X	Note 4 Page 53
Call Forwarding No Reply			X	Note 4 Page 53
Call Forwarding Unconditional			X	Note 4 Page 53
Call Deflection			X	Note 4 Page 53
Explicit Call Transfer		X		
Call Waiting			X	Note 4 Page 53
Call HOLD			X	Note 4 Page 53
Completion of Calls to Busy Subscriber			X	
Completion of Calls on No Reply			X	
Terminal Portability			X	Note 4 Page 53
Conference calling			X	Note 4 Page 53
Three-Party Service			X	Note 4 Page 53
CUG			X	Note 4 Page 53
Global Virtual Network Service (GVNS)		X		
International telecommunication charge card (ITCC)		X		
Reverse charging		X		
UUS, Service 1 (implicit)	X			Note 4 Page 53
UUS, Service 1 (explicit)	X			Note 4 Page 53
UUS, Service 2	X			Note 4 Page 53



Table 1 Q.761

References	C	N	P	Comments
UUS, Service 3	X			Note 4 Page 53 Note 6 Page 53
3.1 Internationall y applicable class	X			
3.2 National use class	X			
<b>4 Services assumed from the MTP</b>				Title
4.1 General	X			
4.2 Description of primitives	X			
4.2.1 Transfer	X			
4.2.2 Pause	X			
4.2.3 Resume	X			
4.2.4 Status	X			
<b>5 End-to-end signaling</b>				Title
5.1 General			X	Note 3 Page 53
5.3 Pass-along method of end-to-end signaling	X			
<b>6 Future enha ncements and Compatibility procedure</b>	X			
6.1 Version compatibilty	X			
6.2 Additional coding guidelines for compatibility of ISDN User Parts				Title
6.2.1 Messages	X			
6.2.2 Parameters	X			Note 5 Page 53

## 2.1.2 UK Additions

Table 2

References	C	N	P	Comments
<b>UK basic Call features</b>			X	Note 1 Page 53
Partial Calling Line Identity	X			
Basic Service and facility marks	X			
Priority calls		X		

## 2.1.3 Q.762, General Function of Messages and Signals

See Q.762 standard for details

Table 3

Reference	C	N	P	Comments
General	-			
<b>2 Signaling messages</b>				
2.1 Address complete message (ACM)	X			
2.2 Answer message (ANM)			X	
2.3 Blocking message(BLO)	X			
2.4 Blocking acknowledgement message (BLA)	X			
2.5 Call progress message (CPG)	X			
2.6 Charge information message (CRG)	X			Note 4 Page 53
2.7 Circuit group blocking message (CGB)	X			



Table 3

Reference	C	N	P	Comments
2.8 Circuit group blocking acknowledgement message (CGBA)	X			
2.9 Circuit group reset message (GRS)	X			
2.10 Circuit group reset acknowledgement message (GRA)	X			
2.11 Circuit group unblocking message (CGU)	X			
2.12 Circuit group unblocking acknowledgement message (CGUA)	X			
2.14 Circuit group query response message (CQR) (national use)			X	Note 8 Page 53
2.15 Confusion message (CFN)	X			
2.16 Connect message (CON)	X			
2.19 Facility accepted message (FAA)	X			Note 4 Page 53 Note 37 Page 55
2.20 Facility message (FAC) (national use)	X			Note 4 Page 53 Note 11 Page 53
2.21 Facility reject message (FRJ)	X			Note 4 Page 53 Note 37 Page 55
2.22 Facility request message (FAR)	X			Note 4 Page 53 Note 12 Page 53
2.23 Forward transfer message (FOT)			X	Note 10 Page 53

Table 3

Reference	C	N	P	Comments
2.24 Identification request message (IDR)	X			Note 4 Page 53 Note 11 Page 53
2.25 Identification response message (IRS)	X			Note 4 Page 53 Note 11 Page 53
2.26 Information message (INF) (national use)	X			Note 13 Page 53 Note 25 Page 54
2.27 Information request message (INR) (national use)	X			Note 13 Page 53
2.28 Initial address message (IAM)	X			
2.29 Loop back acknowledgment message (LPA) (national use)	X			
2.30 Loop Prevention (LOP)		X		
2.32 Overload message (OLM) (national use)			X	Note 14 Page 53
2.33 Pass-along message (PAM)	X			
2.34 Release message (REL)	X			
2.35 Release complete message (RLC)	X			
2.36 Reset circuit message (RSC)	X			
2.37 Resume message (RES)	X			
2.38 Segmentation message (SGM)	X			



Table 3

Reference	C	N	P	Comments
2.39 Subsequent address message (SAM)	X			
2.40 Suspend message (SUS)	X			
2.41 Unblocking message (UBL)	X			
2.42 Unblocking acknowledge ment message (UBA)	X			
2.44 User part available message (UPA)	X			
2.45 User part test message (UPT)	X			
2.46 User-to-user information message (USR)	X			Note 4 Page 53 Note 6 Page 53
<b>3 Signaling parameters</b>			X	Note 15 Page 54
3.1 Access delivery information			X	
3.2 Access transport	X			
3.3 Automatic congestion level	X			
3.4 Backward call indicators	X			
3.5 Backward GVNS			X	
3.6 Call diversion information	X			
3.7 Call diversion treatment indicators			X	
3.8 Call history information	X			

Table 3

Reference	C	N	P	Comments
3.9 Call offering treatment indicators			X	
3.10 Call reference	X			
3.11 Call transfer number			X	
3.12 Call transfer reference			X	
3.13 Called IN number			X	
3.14 Called party number	X			
3.15 Calling party number	X			
3.16 Calling party\qs category	X			
3.17 Cause indicators	X			
3.18 CCSS			X	
3.19 Charged party indicator identification			X	
3.20 Circuit assignment map	X			
3.21Circuit group supervision message type indicator	X			
3.22 Circuit state indicator	X			Note 8 Page 53
3.23 Closed user group interlock code	X			
3.24 Collect call request			X	
3.25 Conference treatment indicators			X	





Table 3

Reference	C	N	P	Comments
3.26 Connected number	X			
3.27 Connection request	X			
3.28 Continuity indicators	X			
3.29 Correlation id			X	
3.30 Display information			X	
3.31 Echo control information	X			
3.32 End of optional parameters	X			
3.33 Event information	X			
3.34 Facility indicator	X			
3.35 Forward call indicators	X			
3.36 Forward GVNS			X	
3.37 Generic digits (national use)	X			
3.38 Generic notification	X			
3.39 Generic number	X			
3.40 Generic reference (reserved)	X			
3.41 Hop counter			X	
3.42 Information indicators	X			
3.43 Information request indicators	X			

Table 3

Reference	C	N	P	Comments
3.44 Location number	X			
3.45 Loop prevention indicators		X		
3.46 MCID request indicator	X			
3.47 MCID response indicator	X			
3.48 Message compatibility information	X			
3.49 MLPP precedence	X			
3.50 Nature of connection indicators	X			
3.51 Network management controls			X	
3.52 Network specific facilities (national use)	X			
3.53 Optional backward call indicators	X			
3.54 Optional forward call indicators	X			
3.55 Original called number	X			
3.56 Origination ISC point code	X			
3.57 Parameter compatibility information parameter	X			
3.58 Propagation delay counter	X			



Table 3

Reference	C	N	P	Comments
3.59 Range and status	X			
3.60 Redirect capability	X			
3.61 Redirect counter		X		
3.62 Redirecting number	X			
3.63 Redirection information	X			
3.64 Redirection number	X			
3.65 Redirection number restriction indicator	X			
3.66 Remote operations (national use)	X			
3.67 SCF id	X			
3.68 Service activation parameter (national use)	X			
3.69 Signaling point code (national use)	X			
3.70 Subsequent number	X			
3.71 Suspend/Resume indicator	X			
3.72 Transit network selection (national use)	X			
3.73 Transmission medium requirement	X			
3.74 Transmission medium requirement prime	X			

Table 3

Reference	C	N	P	Comments
3.75 Transmission medium used	X			
3.76 UID action indicators			X	
3.77 UID capability indicators			X	
3.78 User service information	X			
3.79 User service information prime	X			
3.80 User teleservice information	X			
3.81 User-to-user indicators	X			
3.82 User-to-user information	X			
<b>4 Parameter information</b>			X	
4.1 Access delivery indicator	X			
4.2 Address presentation restricted indicator	X			
4.3 Address signal	X			
4.4 Binary code	X			
4.5 Call diversion may occur indicator	X			
4.6 Call identity	X			
4.7 Call to be offered indicator		X		
4.8 Call to be offered indicator		X		



Table 3

Reference	C	N	P	Comments
4.9 Called party\qs category indicator	X			
4.10 Called party\qs status indicator	X			
4.11 Calling party address request indicator	X			
4.12 Calling party address response indicator	X			
4.13 Calling party\qs category request indicator	X			
4.14 Calling party\qs category response indicator	X			
4.15 Cause value	X			
4.16 CCSS call indicator				
4.17 Charge indicator	X			
4.18 Charge information request indicator (national use)		X		Note 13 Page 53
4.19 Charge information response indicator (national use)			X	Note 13 Page 53
4.20 Circuit identification code	X			
4.21 Closed user group call indicator	X			
4.22 Coding standard	X			

Table 3

Reference	C	N	P	Comments
4.23 Component ID tag		X		
4.24 Component type	X			
4.25 Component type tag		X		
4.26 Conference acceptance indicator		X		
4.27 Connected line identity request indicator	X			
4.28 Continuity check indicator	X			
4.29 Credit	X			
4.30 Diagnostic	X			
4.31 Discard message indicator	X			
4.32 Discard parameter indicator	X			
4.33 Echo control device indicator	X			
4.34 Encoding scheme	X			
4.35 End-to-end information indicator	X			
4.36 End-to-end method indicator	X			
4.37 Error code	X			
4.38 Event indicator	X			
4.39 Event presentation restricted indicator	X			



Table 3

Reference	C	N	P	Comments
4.40 Extension indicator	X			
4.41 GVNS user group identification		X		
4.42 Feature code	X			
4.43 Filler	X			
4.44 Holding indicator (national use)		X		Note 13 Page 53
4.45 Hold provided indicator (national use)			X	Note 13 Page 53
4.46 In-band information indicator	X			
4.47 Incoming half echo control device request indicator	X			
4.48 Incoming echo control device response indicator	X			
4.49 Instruction indicator	X			
4.50 Internal network number	X			
4.51 Interworking indicator	X			
4.52 Invoke ID (national use)	X			
4.53 ISDN access indicator	X			
4.54 ISDN user part indicator	X			
4.55 ISDN user part preference indicator	X			

Table 3

Reference	C	N	P	Comments
4.56 Length (of each component or of an information element)	X			
4.57 Linked ID (national use)	X			
4.58 Local reference	X			
4.59 Location	X			
4.60 Look for busy (LFB)	X			
4.61 MLPP service domain	X			
4.62 MLPP user indicator	X			
4.63 More instructions indicator	X			
4.64 National/international call indicator	X			
4.65 Nature of address indicator	X			
4.66 Network discard indicator	X			
4.67 Network identification plan (national use)	X			
4.68 Network identification (national use)	X			
4.69 Network identity (national use)	X			
4.70 Network specific facilities indicator (national use)	X			





Table 3

Reference	C	N	P	Comments
4.71 Notification indicator	X			
4.72 Notification subscription option	X			
4.73 Nth upgraded parameter name		X		
4.74 Number incomplete indicator	X			
4.75 Numbering plan indicator	X			
4.76 Number qualifier indicator	X			
4.77 Odd/even indicator	X			
4.78 Operation code	X			
4.79 Original redirection reason	X			
4.80 Originating participating service provider indicator		X		
4.81 Outgoing echo control device request indicator	X			
4.82 Outgoing echo control device information indicator	X			
4.83 Parameter tag				
4.84 Pass on not possible indicator	X			
4.85 Precedence level	X			

Table 3

Reference	C	N	P	Comments
4.86 Problem code	X			
4.87 Protocol class	X			
4.88 Protocol profile	X			
4.89 Protocol control indicator	X			
4.90 Range	X			
4.91 Redirecting indicator	X			
4.92 Redirecting reason	X			
4.93 Redirection counter	X			
4.94 Redirection possible indicator	X			
4.95 Release call indicator	X			
4.96 Routing label	X			
4.97 Satellite indicator	X			
4.98 SCCP method indicator	X			
4.99 Screening indicator	X			
4.100 Send notification indicator	X			
4.101 Sequence (national use)	X			
4.102 Set (national use)	X			
4.103 Signaling point code (national use)	X			



Table 3

Reference	C	N	P	Comments
4.104 Simple segmentation indicator	X			
4.105 Solicited information indicator	X			
4.106 Status	X			
4.107 T9 timer indicator		X		
4.108 T9 timer instruction indicator		X		
4.109 Temporary alternative routing indicator		X		
4.110 Terminating access indicator		X		
4.111 Terminating network routing number		X		
4.112 Through connection indicator		X		
4.113 Through connection instruction indicator		X		
4.114 Transit at intermediate exchange indicator	X			
4.115 Type	X			
4.116 Type of digits (national use)	X			
4.117 Type of network identification (national use)	X			

## 2.1.4 UK Additions

Table 4

References	C	N	P	Comments
<b>UK specific parameters</b>			X	Note 1 Page 53
National Forward Call Indicators	X			
National Forward Call Indicators (Link by link)	X			
Presentation Number	X			
Last Diverting Line Identity	X			
Partial Calling Line Identity	X			
Called Subscriber's Basic Service Marks	X			
Called Subscriber's Basic Service Marks	X			
Calling Subscriber's Originating Facility Marks	X			
Called Subscriber's Terminating Facility Marks	X			
National Information Request Indicators	X			
National Information Indicators	X			
UK Parameter Compatibility Information			X	
UK Additional Routeing Information			X	



## 2.1.5 Q.763, Formats and Codes

See Q.763 standard for details

Table 5

References	C	N	P	Comments
<b>1 General</b>	X			
1.1 Routing label	X			
1.2 Circuit identification code	X			
1.3 Message type code	X			
1.4 Formatting principles	X			
1.5 Mandatory fixed part	X			
1.6 Mandatory variable part	X			
1.7 Optional part	X			
1.8 End of optional parameters octet	X			
1.9 Order of transmission	X			
1.10 Coding of spare bits	X			
1.11 National message types and parameters			X	Note 16
1.12 Rules for the allocation of message types codes and parameter name codes	X			
1.13 Meaning of “spare” codes and “reserved” codes	X			
<b>2 Parameter formats and codes</b>				Title

Table 5

References	C	N	P	Comments
2.1 Message type codes			X	
2.2 Coding of the length indicator	X			
2.3 Coding of the pointers	X			
<b>3 ISDN User Part parameters</b>				Title
3.1 Parameter names			X	Note 15 Page 54
3.2 Access delivery information (open)	X			
3.2 Access delivery information (open)	X			
3.3 Access transport	X			
3.4 Automatic congestion level	X			
3.5 Backward call indicators	X			
3.6 Call diversion information	X			
3.7 Call history information	X			
3.8 Call reference	X			
3.9 Called party number				
3.10 Calling party number				
3.11 Calling party\qs category	X			
3.12 Cause indicators	X			



Table 5

References	C	N	P	Comments
3.13 Circuit group supervision message type indicator	X			
3.14 Circuit state indicator	X			
3.15 Closed user group interlock code	X			
3.16 Connected number	X			
3.17 Connection request (open)	X			
3.20 End of optional parameters indicator	X			
3.21 Event information	X			
3.22 Facility indicator	X			
3.23 Forward call indicator	X			
3.24 Generic digits	X			
3.25 Generic notification indicator	X			
3.26 Generic number	X			
3.27 Generic reference (reserved)	X			
3.28 Information indicators	X			
3.29 Information request indicators	X			
3.30 Location number	X			

Table 5

References	C	N	P	Comments
3.31 MCID request indicators	X			
3.32 MCID response indicators	X			
3.33 Message compatibility information	X			
3.35 Nature of connection indicators	X			
3.36 Network specific facility	X			
3.37 Optional backward call indicators	X			
3.38 Optional forward call indicators	X			
3.39 Original called number	X			
3.40 Origination ISC point code	X			
3.41 Parameter compatibility information	X			
3.42 Propagation delay counter	X			
3.43 Range and status	X			
3.44 Redirecting number	X			
3.45 Redirection information	X			
3.46 Redirection number	X			
3.47 Redirection number restriction parameter	X			





Table 5

References	C	N	P	Comments
3.49 Service activation	X			
3.50 Signaling point code	X			
3.51 Subsequent number	X			
3.52 Suspend/resume indicators	X			
3.53 Transit network selection	X			
3.54 Transmission medium requirement	X			
3.55 Transmission medium requirement prime	X			
3.56 Transmission medium used	X			
3.57 User service information	X			
3.58 User service information prime	X			
3.59 User teleservice information	X			
3.60 User-to-user indicators	X			
3.61 User-to-user information	X			
3.62 Backward GVNS			X	
3.63 CCSS			X	
3.64 Call transfer number			X	
3.65 Call transfer reference			X	

Table 5

References	C	N	P	Comments
3.66 Forward GVNS			X	
3.67 Loop prevention indicators		X		
3.68 Network management controls			X	
3.69 Circuit assignment map	X			
3.70 Correlation id			X	
3.71 SCF id		X		
3.72 Call diversion treatment indicators			X	
3.73 Called IN number			X	
3.74 Call offering treatment indicators		X		
3.75 Charged party identification (national use)			X	
3.76 Conference treatment indicators			X	
3.77 Display information			X	
3.78 UID action indicators			X	
3.79 UID capability indicators			X	
3.80 Hop counter			X	
3.81 Collect call request			X	



Table 5

References	C	N	P	Comments
<b>4 ISDN user part messages and codes</b>			X	Note 7 Page 53 Note 8 Page 53 Note 11 Page 53
<b>Annex A</b>				Title
Interpretation of spare codes	X			Note 15 Page 54
Tables for handling of unrecognized parameter values			X	Note 15 Page 54
Type A exchanges			X	Note 22 Page 54
Type B exchanges		X		Note 22 Page 54
<b>Annex B</b>				Title
General description of component encoding rules	X			Note 4 Page 53

### 2.1.6 Q.764, Signaling Procedures

See Q.764 standard for details

Table 6

References	C	N	P	N relev	Comments
<b>1 General</b>	X				
<b>2 Basic call control and signaling procedures</b>			X		Note 17 Page 54 Note 18 Page 54 Note 41 Page 55
2.1 Successful call set-up	X				

Table 6

References	C	N	P	N relev	Comments
2.1.1 Forward address signaling - En bloc operation			X		
2.1.1.1 Actions required at the originating exchange	X				
2.1.1.2 Actions required at an intermediate national exchange		X			
2.1.1.6 Actions required at the destination exchange	X				
2.1.2 Forward address signaling - Overlap operation			X		Note 18 Page 54
2.1.2.1 Actions required at the originating exchange	X				
2.1.2.2 Actions required at an intermediate national exchange		X			
2.1.2.6 Actions required at the destination exchange	X				
2.1.3 Calling party number	X				



Table 6

References	C	N	P	N relev	Comments
2.1.4 Address complete message or connect message			X		Note 18 Page 54
2.1.4.1 Actions required at the destination exchange	X				
2.1.4.2 Actions required at an intermediate national exchange		X			
2.1.4.6 Actions required at the originating exchange	X				
2.1.4.7 Through-connection and awaiting answer indication at the destination exchange	X				Note 19 Page 54
2.1.4.8 Return of address complete message in interworking situations		X			
2.1.4.9 Access delivery indication	X				Note 19 Page 54
2.1.5 Call progress (basic call)			X		Note 36 Page 55 Note 41 Page 55

Table 6

References	C	N	P	N relev	Comments
2.1.5.1 Actions required at the destination exchange	X				
2.1.5.2 Actions required at an intermediate national, outgoing international, intermediate international and incoming international exchange		X			
2.1.5.3 Actions required at the originating exchange	X				
2.1.6 Information messages			X		Note 13 Page 53 Note 20 Page 54
2.1.6.1 Requesting information	X				
2.1.6.2 Sending solicited information	X				
2.1.6.3 Receiving solicited information message	X				
2.1.7 Answer message			X		Note 18 Page 54
2.1.7.1 Actions required at the destination exchange	X				



Table 6

References	C	N	P	N relev	Comments
2.1.7.2 Actions required at an intermediate national exchange		X			
2.1.7.6 Actions requ ired at the originating exchange	X				
2.1.7.7 Return of answer from autom atic terminals	X				
2.1.9 Chargin g			X		Note 4 Page 53
2.1.11 Transit network selection (national use)			X		Note 4 Page 53
2.1.12 Simple segmentation	X				
2.1.12.1 Interworking with Q.767 and Blue Book (1988 version) ISDN-User Parts	X				
2.2 Unsuccess ful call set-up			X		Note 18 Page 54
2.2.1 Actions at exchange initiating a release message	X				
2.2.2 Actions at intermediat e exchange		X			

Table 6

References	C	N	P	N relev	Comments
2.2.3 Actions at the controlling exchange (i.e. the exchange controlling the call	X				
2.2.4 Tones and announcements	X				Note 4 Page 53
2.2.5 Address incomplete	X				
2.3 Normal call release			X		Note 18 Page 54
2.3.1 Release initiated by a calling party	X				
2.3.2 Release initiated by a called party	X				
2.3.3 Release initiated by the network	X				
2.3.4 Storage and release of IAM information	X				
2.4 Suspend, resume			X		Note 18 Page 54
2.4.1 Suspend	X				
2.4.2 Resume	X				
2.4.3 Expiration of timer (T6) or timer (T38)	X				
2.5 Signaling procedures for connection type allowing fallback			X		Note 4 Page 53 Note 18 Page 54





Table 6

References	C	N	P	N relev	Comments
2.8 Network features			X		
2.8.1 Automatic repeat attempt			X		Note 2 Page 53
2.8.2 Blocking and unblocking of circuits and circuit groups	X				
2.8.2.1 Other actions on receipt of a blocking message	X				
2.8.2.2 Circuit group blocking and unblocking messages	X				
2.8.2.3 Abnormal blocking and circuit group blocking procedures	X				
2.8.3 Circuit group query (national use)					Title
2.8.3.1 General			X		Note 8 Page 53
2.8.3.2 Interpretation of circuit states			X		Note 8 Page 53
2.9 Abnormal conditions			X		
2.9.1 Dual seizure	X				
2.9.1.1 Unguarded interval	X				

Table 6

References	C	N	P	N relev	Comments
2.9.1.2 Detection of dual seizure	X				
2.9.1.3 Preventive action			X		Note 21 Page 54
2.9.1.4 Action to be taken on detection of dual seizures	X				
2.9.2 Transm ission alarm handling for digital inte r-exchange circuits		X			
2.9.3 Reset of circuits and circuit groups	X				
2.9.3.1 Reset circuit message	X				
2.9.3.2 Circuit group reset message	X				
2.9.3.3 Abnormal circuit group reset message procedures	X				
2.9.4 Failure in the blockin g/unblocking sequence	X				
2.9.5 Receipt of unreasona ble signaling information messages			X		



Table 6

References	C	N	P	N relev	Comments
2.9.5.1 Handling of unexpected messages			X		Note 36 Page 55  Note 39 Page 55
2.9.5.2 General requirements on receipt of unrecognized signaling information messages and parameters			X		Note 22 Page 54  Note 40 Page 55
2.9.5.3 Procedures for the hand ling of the unrecognized messages or parameters			X		Note 22 Page 54  Note 40 Page 55
2.9.5.3.1 Unrecognized messages			X		Note 22 Page 54
2.9.5.3.2 Unrecognized parameters			X		Note 22 Page 54
2.9.5.3.3 Unrecognized parameter values			X		Note 5 Page 53  Note 15 Page 54  Note 22 Page 54
2.9.5.4 Proce dures for the handling of responses indicating unrecognized information has been sent					Title

Table 6

References	C	N	P	N relev	Comments
2.9.5.4.1 Type A exchanges			X		Note 4 Page 53 Note 22 Page 54
2.9.5.4.2 Type B exchanges		X			Note 22 Page 54
2.9.5.5 Procedures for handling unreasonable information	X				Note 4 Page 53
2.9.6 Failure to receive a "release complete" message - Timer T1 and T5	X				
2.9.7 Failure to receive a response to an information request message	X				
2.9.8 Other failure conditions					Title
2.9.8.1 Inability to release in response to a release message	X				
2.9.8.2 Call-failure	X				
2.9.8.3 Abnormal release conditions	X				
2.9.9 Temporary trunk blocking (TTB) (national use)			X		Note 14 Page 53



Table 6

References	C	N	P	N relev	Comments
2.9.9.1 Procedures	X				
2.10 ISDN User Part signaling congestion control	X				
2.10.1 General	X				
2.10.2 Procedures	X				
2.11 Automatic congestion control	X				Note 23 Page 54
2.11.1 Receipt of a release message containing an automatic congestion level parameter	X				
2.11.2 Actions taken during overload	X				
2.12 Unequipped circuit identification code message (national use)	X				
2.13 ISDN User Part availability control	X				
2.13.1 General	X				
2.13.2 Procedures	X				
2.14 MTP Pause/Resume	X				

Table 6

References	C	N	P	N relev	Comments
2.15 Overlength messages	X				
2.16 Support for Temporary Alternative Routing (TAR)			X		Note 4 Page 53
2.17 Hop counter procedure			X		Note 4 Page 53
2.17.1 Actions at the initiating exchange			X		
2.17.2 Actions at an intermediate exchange		X			
2.17.3 Actions at the destination local exchange			X		
Annex A			X		Note 24 Page 54
Annex B	X				
Annex C			X		Note 4 Page 53 Note 22 Page 54 Note 38 Page 55
Annex D			X		Note 4 Page 53 Note 22 Page 54
Annex E			X		Note 4 Page 53
Annex F	X				
Annex G	X				

**Note:** Chapters not supported by UK were removed



## 2.2 Monitoring and Measurements for SS7 Networks, ITU Q.752 - 1997

See Q.752 standard for details

Table 7

References	C	N	P	Comments
1 Introduction	-			
1.1 General	-			
1.1.1 <no heading\>	X			
1.1.2 <no heading\>		X		
1.2 Network view	-			
1.2.1 <no heading\>	-			
1.3 Guidelines for uses of measurements	-			
1.3.1 <no heading\>	-			
1.4 Grouping of measurements	-			
1.4.1 <no heading\>			X	Note 27 Page 54
1.4.2 <no heading\>			X	Note 27 Page 54
1.5 Collection of measurements	-			
1.6 Definition of terms	-			
1.6.1 fault (F)			X	Note 28 Page 54
1.6.2 configuration (C)	X			
1.6.3 performance (P)	X			
1.6.4 accounting (A)	-			

Table 7

References	C	N	P	Comments
1.6.5 network planning and administration (N)	X			
1.6.6 near real time measurements (R)	X			
1.7 Listing of measurements	-			
1.7.1 General	-			
1.7.1.1 <no heading\>	-			
1.7.1.2 <no heading\>	X			
1.7.1.3 <no heading\>			X	Note 29 Page 54
1.7.1.4 <no heading\>	X			
1.7.1.5 <no heading\>	X			
1.7.1.6 <no heading\>		X		Note 29 Page 54
1.7.1.7 <no heading\>		X		Note 29 Page 54
1.7.2 Intervals for measurements		X		Note 29 Page 54
2 MTP monitoring and measurements	-			
3 SCCP monitoring and measurements	-			
4 ISDN-UP monitoring and measurements	-			
4.1 General	X			
4.2 Table 10				





Table 7

References	C	N	P	Comments
4.2.1 <no heading\>	-			
4.2.2 <no heading\>	-			
4.2.3 <no heading\>	-			
4.2.4 <no heading\>	-			
4.2.5 <no heading\>	-			
4.3 Table 11				
4.3.1 <no heading\>	-			
4.4 Table 12				
4.4.1 <no heading\>	-			
4.4.2 <no heading\>	-			
4.4.3 <no heading\>	-			
4.4.4 <no heading\>	-			
4.4.5 <no heading\>	-			
4.4.6 <no heading\>	-			
5 TC monitoring and measurements	-			
6 Uses of measurements	-			
6.1 Introduction	-			
6.2 Message transfer part (MTP)	-			
6.3 Signaling connection control part (SCCP)	-			

Table 7

References	C	N	P	Comments
6.3.1 SCCP fault management	-			
6.3.1.1 Routing failures	X			
6.3.1.2 SCCP unavailability		X		
6.3.2 SCCP configuration management		X		Note 7 Page 53
6.3.3 SCCP performance	-			
6.3.3.1 Utilization			X	Note 1 Page 53
6.3.3.2 SCCP Quality of Service			X	Note 1 Page 53
6.4 Integrated services digital network user part (ISDN-UP)	-			
6.5 Transaction Capabilities (TC)	-			
6.6 Preparation of traffic forecasts	-			
6.7 Network planning	-			
6.8 Evaluation of maintenance force effectiveness	-			
Table 1 MTP Signaling Link Faults and Performance	-			
Table 2 MTP Signaling Link Availability	-			
Table 3 MTP Signaling Link Utilization	-			



Table 7

References	C	N	P	Comments
Table 4 MTP Signaling Link Set and Route Set Availability	-			
Table 5 MTP Signaling Point Status	-			
Table 6 MTP Signaling Traffic Distribution (Signaling Route Utilization)	-			
Table 7 SCCP Error Performance	-			
Table 8 SCCP Subsystem Availability	-			
Table 9 SCCP Utilization	-			
Table 10 ISDN User Part Availability	-			
Table 10.1 Start of local ISDN UP unavailable - failure			X	Note 30 Page 55
Table 10.2 Start of local ISDN User Part unavailable - busy			X	Note 30 Page 55
Table 10.3 ISDN User Part available			X	Note 30 Page 55
Table 10.4 Total duration of ISDN UP unavailable			X	Note 30 Page 55

Table 7

References	C	N	P	Comments
Table 10.5 Start of local ISDN User Part congestion			X	Note 30 Page 55
Table 10.6 Stop of local ISDN User Part congestion		X		
Table 10.7 Duration of local ISDN User Part congestion		X		
Table 10.8 Start of remote ISDN User Part unavailable		X		Note 31 Page 55
Table 10.9 Stop of remote ISDN User Part unavailable		X		Note 31 Page 55
Table 10.10 Duration remote of ISDN UP unavailable		X		Note 31 Page 55
Table 10.11 Start of remote ISDN User Part congestion		X		Note 31 Page 55
Table 10.12 Stop of remote ISDN User Part congestion		X		Note 31 Page 55
Table 10.13 Duration of remote ISDN User Part congestion		X		Note 31 Page 55
Table 11 ISDN User Part Utilization	-			
Table 11.1 Total ISDN UP messages sent			X	Note 32 Page 55



Table 7

References	C	N	P	Comments
Table 11.2 Total ISDN UP messages received			X	Note 32 Page 55
Table 12 ISDN User Part errors	-			
Table 12.1 No ack for cct reset within T17			X	Note 33 Page 55
Table 12.2 No GRA received for GRS within T23			X	Note 33 Page 55
Table 12.3 -	-			
Table 12.4 -	-			
Table 12.5 RLC not received within T5	X			
Table 12.6 Release initiated due to abnormal conditions		X		
Table 12.7 Circuit BLO (excessive errors detected by CRC)		X		
Table 12.8 Missing blocking ack in CGBA for previous CGB	X			
Table 12.9 Miss ing unblocking ack in CGUA for previous CGU	X			
Table 12.10 Abnormal blocking ack in CGBA for previous CGB	X			

Table 7

References	C	N	P	Comments
Table 12.11 Abnormal unblocking ack in CGUA for previous CGU	X			
Table 12.12 Unexpected CGBA with abnormal blocking ack	X			
Table 12.13 Unexpected CGUA with abnormal unblocking ack	X			
Table 12.14 Unexpected BLA with abnormal blocking ack	X			
Table 12.15 Unexpected UBA with abnormal unblocking ack	X			
Table 12.16 No BLA received for BLO within T13			X	Note 34 Page 55
Table 12.17 No UBA received for UBL within T15			X	Note 34 Page 55
Table 12.18 No CGBA received for CGB within T19			X	Note 34 Page 55
Table 12.19 No CGUA received for CGU within T21			X	Note 34 Page 55
Table 12.20 Message format error			X	Note 35 Page 55
Table 12.21 Unexpected message rxcvd.			X	Note 35 Page 55



Table 7

References	C	N	P	Comments
Table 12.22 Release due to unrecognised info.		X		
Table 12.23 Inability to release a circuit		X		
Table 13 Local TC Utilization	-			
Table 14 TC Fault Measurements	-			







### 3 Notes and Comments

- Note 1:** Using Signalling Connection Control Part (SCCP) as a service provider is not supported.
- Note 2:** Automatic repeat attempt on continuity check failure is not supported.
- Note 3:** The Pass-along end-to-end signalling method is supported, but not the SCCP method.
- Note 4:** Procedures necessary to fully support this function/service is the responsibility of the Call Control application.
- Messages and parameters involved are transparently handled by this ISUP.
- Note 5:** Compatibility information regarding parameters is handled by Call Control.
- Note 6:** The USR message is allowed during all states of a call, even though the Facility request message will always be answered with Facility reject.
- Note 7:** CMC, CMRJ and CMR are not supported, and will cause a Confusion message(CFN) to be sent.
- Note 8:** A received CQR is correctly answered with a CQM. This ISUP never sends CQR.
- Note 10:** FOT can be sent by this ISUP, but discarded if received.
- Note 11:** FAC, IDR, IRS and NRM are either passed transparently to Call Control, or handled according to supplied compatibility information.
- Note 12:** Can be sent or received by this ISUP if configured as National message. Can be answered with FRJ without the delivering to the Call Control if configured.
- Note 13:** INR can be used only to request the Calling party number. Other indicators are always ignored. The Call control application is not engaged.
- Note 14:** OLM message used in Temporary Trunk Blocking is never sent by this ISUP.

- Note 15:** All parameters and indicators are handled by this ISUP module or passed transparently to/from the Call Control application, except those contained in unsupported messages.
- Note 16:** National messages are, if defined in the ISUP module configuration file, passed transparently to/from the Call control application. National parameters are always passed transparently.
- Note 17:** Multirate connection types are not supported.
- Note 18:** Only action at the national originating and destination exchange is supported.
- Note 19:** Depends on the functionality of the Call control application above ISUP.
- Note 20:** This ISUP can be configured to send an INR when 'Calling party number' is missing in the received IAM. The call will be held until an INF is received or timer T33 expires.
- Note 21:** Additional methods are available.
- Note 22:** Gateway exchange and Transit exchange roles are not supported.
- Note 23:** Load control may be applied by the Call control application and/or the Management function, in which case the ACC parameter will be included in outgoing Release messages.
- An incoming ACC parameter is handled by this ISUP.
- Note 24:** The time-out values are defined in the configuration file
- Note 25:** An unsolicited INF will be passed transparently to the Call control application.
- Note 26:** Recommendations Q.731-Q.737 are not addressed in this document, since they describe functionality only applicable to a Call control application.
- Note 27:** ISUP support most of the definition rules of the groups, but has not grouped them together.
- Note 28:** Every fault or measurement is reported on occurrence instead of the first occurrence and then the number of occurrences in some interval.
- Note 29:** Timestamps on events reported on occurrence are not supported by the ISUP module.



- Note 30:** Unavailability measurements are architecturally dependent and are optional in the ITU standard. An indication of the module availability is reported.
- Note 31:** Remote measurements are only necessary at gateway signalling points.
- Note 32:** Measurements are not provided periodically but can be retrieved on-demand by an external management application.
- Note 33:** Timeout of individual and group circuit reset (T17 and T23) is a combined measurement - no individual measure is available.
- Note 34:** No distinction is made between individual and group circuit blocking therefore a combined measurement is used. i.e. T19 and T21 are used instead of T13 and T15.
- Note 35:** A number of individual alarms are raised on unexpected and incorrectly formatted errors. These can be combined by an external management agent to obtain a single alarm where required.
- Note 36:** If CPG message is received before reception of ACM message (unexpected CPG) during outgoing call setup phase it is configurable to release the call in this situation or not.
- Note 37:** Can be sent or received by ISUP if configured as National message only. Otherwise will be discarded.
- Note 38:** Enhanced echo control signaling procedures are not supported.
- Note 39:** If the circuit is seized by a call, and unexpected message is received before receipt of a backward message required for the call set-up, Reset Circuit Message is not sent.
- Note 40:** ISUP on receipt of unrecognized messages and/or parameters doesn't include diagnostic field, dependent on the cause value, containing the message type code and/or parameter name(s).
- Note 41:** If CPG message is received before reception of ACM message (unexpected CPG) during outgoing call setup phase then the call will not be released. CPG also can't be sent before answer for outgoing call and discarded if received before answer for incoming calls.





## Reference List

- [1] ITU Standard rec. Functional Description of the Integrated Services Digital Network (ISDN) User Part of Signalling System No. 7 (SS7), Q.761.
- [2] Integrated Services Digital Network (ISDN) User Part of Signalling System No. 7 (SS7). General Function of Messages and Signals, Q.762.
- [3] Integrated Services Digital Network (ISDN) User Part of Signalling System No. 7 (SS7). Formats and Codes, Q.763.
- [4] Integrated Services Digital Network (ISDN) User Part of Signalling System No. 7 (SS7). Signalling Procedures, Q.764.
- [5] ISDN Supplementary Services, Q.730.
- [6] Monitoring and Measurements for Signalling System No 7 Networks, ITU Q.752 - 1997.
- [7] UK Standard rec. ND1007:2007/01 TSG/SPEC/007