INTERNATIONAL TELECOMMUNICATION UNION

CCITT

Q.784

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

SPECIFICATIONS
OF SIGNALLING SYSTEM No. 7

ISUP BASIC CALL TEST SPECIFICATION

Recommendation Q.784

Geneva, 1991

FOREWORD

The CCITT (the International Telegraph and Telephone Consultative Committee) is a permanent organ of the International Telecommunication Union (ITU). CCITT 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 Plenary Assembly of CCITT which meets every four years, establishes the topics for study and approves Recommendations prepared by its Study Groups. The approval of Recommendations by the members of CCITT between Plenary Assemblies is covered by the procedure laid down in CCITT Resolution No. 2 (Melbourne, 1988).

Recommendation Q.784 was prepared by Study Group XI and was approved under the Resolution No. 2 procedure on the 15 of February 1991.

CCITT NOTE

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

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ISUP BASIC CALL TEST SPECIFICATION

1 Introduction

This Recommendation contains a detailed set of tests for the Signalling System No. 7 integrated services digital network User Part (ISUP). Thiese tests are intended to validate the protocol specified in the Blue Book (1988) Recommendations Q.761-Q.764. Most tests contained in this Recommendation are applicable to the Recommendation Q.767 (1990). This Recommendation conforms to Recommendation Q.780 which describes the basic rules of the test specification.

2 Objective of the test specification

The objective of the test specification is to provide:

Validation – A level of confidence that a given implementation conforms to the Recommendations Q.761-Q.764 for S.S. No. 7 ISUP.

Compatibility – A level of confidence that two implementations of S.S. No. 7 ISUP are compatible.

In order to ensure that this test specification meets this objective, the following criteria are used:

1) The test specification is not intended to provide exhaustive testing of all aspects of the S.S. No. 7 ISUP.

2) All tests should add value in meeting the objective stated above. For example, the testing of timers of which the only function is to alert maintenance staff on expiry may not be useful.

3) All tests should be of a practical nature and implementable using the available technology.

4) The test list should concentrate on the testing of normal signalling sequence. Testing of abnormal signalling procedures will only be identified where this is regarded as particularly useful.

3 Scope of the test list

The test list is composed based on the Blue Book Recommendations Q.761-Q.764. However, only stable and clearly specified procedures in the Blue Book Recommendation Q.764 are included, i.e. confusion procedures and congestion control/user flow control procedures are for further study.

4 General principles of tests

The tests are described as “Validation” tests or “Validation” and “Compatibility” tests. Each test description indicates in the field “type of test” whether the test is a “Validation” test or a “Validation” and “Compatibility” test. In addition to signalling protocol testing, some call control functions are also verified, e.g. the transfer of speech/information is possible.

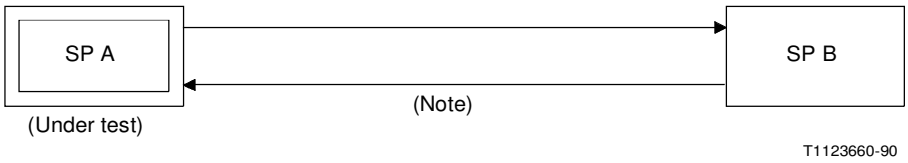
5 Test environment

5.1 *Signalling relation*

A stable signalling relation is required between "SP A" and "SP B" in order to carry out effective tests. A tested MTP signalling link should be used for compatibility tests. In addition, telephony/data circuits are required for some of the tests.

5.2 *Configuration*

Only one configuration is required for the performance of these tests as shown in Figure 1/Q.784.



Note – The arrows indicate a signalling relation, and any necessary telephone/data circuits.

FIGURE 1/Q.784

Test configuration for ISUP basic call tests – Configuration 1

For some tests, the sentence "Repeat the test in the reverse direction" in the test description portion indicates that the "signalling point under test" becomes SP B.

6 ISUP test list

All tests may be validation tests. Tests marked "*" are compatibility tests. Tests marked "f" are for further study.

1 Circuit supervision

* 1.1 Non-allocated circuits

1.2 Reset of circuits

1.2.1 RSC received on an idle circuit

1.2.2 RSC sent on idle circuit

1.2.3 RSC received on a locally blocked circuit

1.2.4 RSC received on a remotely blocked circuit

1.2.5 Circuit group reset received

1.2.6 Circuit group reset sent

1.2.7 Circuit group reset received on remotely blocked circuits

2 **Recommendation Q.784**

	1.3	Blocking of circuits
	1.3.1	Circuit group blocking/unblocking
*	1.3.1.1	CGB and CGU received
*	1.3.1.2	CGB and CGU sent
	1.3.2	Circuit blocking/unblocking
*	1.3.2.1	BLO received
*	1.3.2.2	BLO sent
*	1.3.2.3	Blocking from both ends; removal of blocking from one end
*	1.3.2.4	IAM received on a remotely blocked circuit
	1.4	Continuity check test call
*	1.4.1	CCR received: successful
*	1.4.2	CCR sent: successful
	1.4.3	CCR received: unsuccessful
	1.4.4	CCR sent: unsuccessful
	1.4.5	CCR received: unsuccessful; verify T27 timer
	1.5	Receipt of unreasonable signalling information messages
	1.5.1	Receipt of unexpected messages
	1.5.2	Receipt of unexpected messages during call setup
	1.5.3	Receipt of unexpected messages during a call
f	1.5.4	Confusion procedures
2	**Normal call setup – Ordinary speech calls**	
	2.1	Both way circuit selection
*	2.1.1	IAM sent by controlling SP
*	2.1.2	IAM sent by non-controlling SP
	2.2	Called address sending
*	2.2.1	“en bloc” operation
*	2.2.2	Overlap operation (with SAM)
	2.3	Successful call setup
*	2.3.1	Ordinary call (with various indications in ACM)
*	2.3.2	Ordinary call (with ACM, CPG, and ANM)
*	2.3.3	Ordinary call (with various indications in CON)
*	2.3.4	Call switched via satellite
*	2.3.5	Echo control procedure for call setup
*	2.3.6	Blocking and unblocking during a call (initiated)
*	2.3.7	Blocking and unblocking during a call (received)

3 Normal call release

* 3.1 Calling party clears before address complete

* 3.2 Calling party clears before answer

* 3.3 Calling party clears after answer

* 3.4 Called party clears after answer

* 3.5 Suspend initiated by the network

3.6 Suspend and resume initiated by a calling party

3.7 Suspend and resume initiated by a called party

* 3.8 Collision of REL messages

4 Unsuccessful call setup

* 4.1 Validate a set of known causes for release

5 Abnormal situation during a call

5.1 Inability to release in response to a REL after ANM

5.2 Timers

5.2.1 T7: waiting for ACM or CON

* 5.2.2 T9: waiting for an answer message

5.2.3 T1 and T5: failure to receive a RLC

5.2.4 T6: waiting for RES (Network) message

5.2.5 T8: waiting for COT message if applicable

5.2.6 T12 and T13: failure to receive a BLA

5.2.7 T14 and T15: failure to receive a UBA

5.2.8 T16 and T17: failure to receive a RLC

5.2.9 T18 and T19: failure to receive a CGBA

5.2.10 T20 and T21: failure to receive a CGUA

5.2.11 T22 and T23: failure to receive a GRA

5.3 Reset of circuits during a call

* 5.3.1 Of an outgoing circuit

* 5.3.2 Of an incoming circuit

6 Special call setup

6.1 Continuity check call

* 6.1.1 Continuity check required

* 6.1.2 COT applied on previous circuit

6.1.3 Calling party clears during a COT

* 6.1.4 Delay of through connect

6.1.5 COT unsuccessful

6.2 Automatic repeat attempt

* 6.2.1 Dual seizure for non-controlling SP

6.2.2 Blocking of a circuit

6.2.3 Circuit reset

6.2.4 Continuity check failure

6.2.5 Reception of unreasonable signalling information

6.3 Dual seizure

* 6.3.1 Dual seizure for controlling SP

6.4 Semi-automatic operation

6.4.1 FOT sent following a call to a subscriber

6.4.2 FOT received following a call to a subscriber

6.4.3 FOT sent following a call via codes 11 and 12

6.4.4 FOT received following a call via codes 11 and 12

7 Bearer services

7.1 64 kbit/s unrestricted

* 7.1.1 Successful call setup

* 7.1.2 Unsuccessful call setup

* 7.1.3 Dual seizure

7.2 3.1 kHz audio

* 7.2.1 Successful call setup

8 Congestion control and user flow control

Further study.

ISUP Basic Call Test Specification

TEST NUMBER: 1.1		
REFERENCE:		
TITLE: Circuit supervision		
SUBTITLE: Non-allocated circuits		
PURPOSE: To verify that on receipt of a CIC relating to a circuit which does not exist, SP A will discard the message and alert the maintenance system		
PRE-TEST CONDITIONS: Arrange the data in signalling point B such that the CIC identifies a circuit that does not exist between SP A and SP B		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
	<– – – – – – – – – – –	IAM

	TEST DESCRIPTION
1	Arrange for SP B to send an initial address message. Record the message sequence using a signal monitor.
2	CHECK A: WAS THE MESSAGE SEQUENCE AS SHOWN ABOVE? . . .
3	CHECK B: WAS THE INDICATION GIVEN TO THE MAINTENANCE SYSTEM? . . .

TEST NUMBER: 1.2.1		
REFERENCE: Q.764 Section 2.10.3.1 a), b)		
TITLE: Reset of circuits		
SUBTITLE: RSC received on an idle circuit		
PURPOSE: To verify that on receipt of a reset circuit message SP A will respond by sending a release complete message		
PRE-TEST CONDITIONS: The circuit is idle		
CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
	<– – – – – – – – – – –	RSC
RLC	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Arrange for SP B to send a reset-circuit message. Record the message sequence using a signal monitor.
2	CHECK A: IS THE CIRCUIT IDLE? . . .
3	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

ISUP Basic Call Test Specification

TEST NUMBER: 1.2.2		
REFERENCE: Q.764 Section 2.10.3.1		
TITLE: Reset of circuits		
SUBTITLE: RSC sent on an idle circuit		
PURPOSE: To verify that SP A is able to generate reset-circuit message		
PRE-TEST CONDITIONS: The circuit is idle		
CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
RSC	---------->	
	<----------	RLC

	TEST DESCRIPTION
1	Arrange for SP A to send a reset-circuit message. Record the message sequence using a signal monitor.
2	CHECK A: IS THE CIRCUIT IDLE? . . .
3	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

ISUP Basic Call Test Specification

TEST NUMBER: 1.2.3

REFERENCE: Q.764 Section 2.10.3.1 c)

TITLE: Reset of circuits

SUBTITLE: RSC received on a locally blocked circuit

PURPOSE: To verify that on receipt of a reset circuit message while in its locally blocked state, SP A will respond by sending blocking and release complete messages

PRE-TEST CONDITIONS: The circuit is idle

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

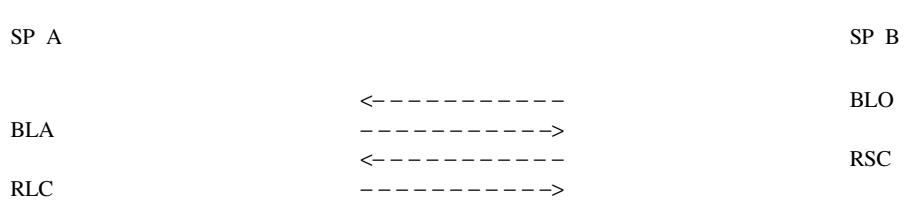
SP A		SP B
BLO	––––––––––>	
	<––––––––––	BLA
	<––––––––––	RSC
BLO	––––––––––>	
RLC (Note)	––––––––––>	
	<––––––––––	BLA (Note)

	TEST DESCRIPTION
1	Arrange for SP A to send a blocking message. Record the message sequence using a signal monitor.
2	Arrange for SP B to send a reset-circuit message.
3	CHECK A: DOES THE CIRCUIT REMAIN IN THE LOCALLY BLOCKED STATE? . . .
4	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – The message sequence for RLC and BLA may occur in reverse sequence.

ISUP Basic Call Test Specification

TEST NUMBER: 1.2.4		
REFERENCE: Q.764 Section 2.10.3.1 d)		
TITLE: Reset of circuits		
SUBTITLE: RSC received on a remotely blocked circuit		
PURPOSE: To verify that SP A is able to react to a reset-circuit message for a remotely blocked circuit		
PRE-TEST CONDITIONS: The circuit is idle		
CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Arrange for SP B to send a blocking message. Record the message sequence using a signal monitor.
2	Arrange for SP B to send a reset-circuit message.
3	CHECK A: IS THE CIRCUIT IDLE? . . .
4	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

TEST NUMBER: 1.2.5		
REFERENCE: Q.764 Section 2.10.3.2		
TITLE: Reset of circuits		
SUBTITLE: Circuit group reset received		
PURPOSE: To verify that on receipt of one circuit group reset message SP A will respond by sending a circuit group reset acknowledge message		
PRE-TEST CONDITIONS: All circuits are idle		
CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
	<– – – – – – – – – – –	GRS
GRA	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Arrange for SP B to send a circuit group reset message. Record the message sequence using a signal monitor.
2	CHECK A; ARE THE CIRCUITS IDLE? . . .
3	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
4	CHECK C: ARE THE STATUS BITS IN GRA SET CORRECTLY?
5	CHECK D: IF RANGE=0, GRS IS DISCARDED AND GRA IS NOT SENT.
6	CHECK E: IF RANGE>31, GRS IS DISCARDED AND GRA IS NOT SENT.

TEST NUMBER: 1.2.6		
REFERENCE: Q.764 Section 2.10.3.2		
TITLE: Reset of circuits		
SUBTITLE: Circuit group reset sent		
PURPOSE: To verify that SP A is able to generate a circuit group reset message		
PRE-TEST CONDITIONS: All circuits are idle		
CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
GRS	– – – – – – – – – – –>	
	<– – – – – – – – – – –	GRA

	TEST DESCRIPTION
1	Arrange for SP A to send a circuit group reset message. Record the message sequence using a signal monitor.
2	CHECK A: ARE THE CIRCUITS IDLE? . . .
3	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

TEST NUMBER: 1.2.7

REFERENCE: Q.764 Section 2.10.3.2 d)

TITLE: Reset of circuits

SUBTITLE: Circuit group reset received on remotely blocked circuits

PURPOSE: To verify that SP A is able to react to a circuit group reset message correctly for remotely blocked circuits

PRE-TEST CONDITIONS: All circuits are idle

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
	<– – – – – – – – – – –	BLO (CIC=x)
BLA	– – – – – – – – – – –>	
	<– – – – – – – – – – –	BLO (CIC=y)
BLA	– – – – – – – – – – –>	
	<– – – – – – – – – – –	GRS (including CIC=x,y)
GRA	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Arrange for SP B to send a circuit group reset message including the blocked circuits x and y. Record the message sequence using a signal monitor.
2	CHECK A: ARE THE CIRCUITS IDLE? . . .
3	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

ISUP Basic Call Test Specification

TEST NUMBER: 1.3.1.1

REFERENCE: Q.764 Section 2.9.2

TITLE: Circuit group blocking/unblocking

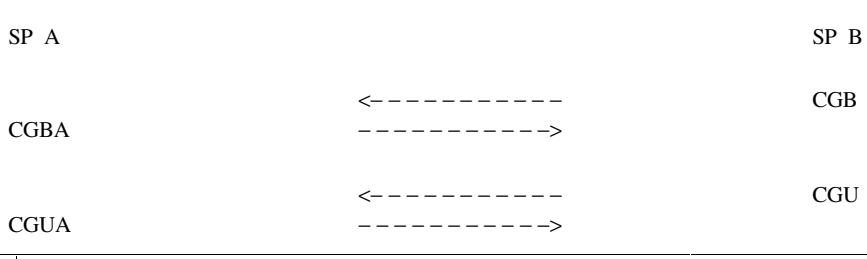
SUBTITLE: CGB and CGU received

PURPOSE: To verify that the circuit group blocking feature can be correctly initiated

PRE-TEST CONDITIONS: All circuits are idle

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Arrange for SP B to send a circuit group blocking message with the circuit group supervision message type indicator set to “maintenance oriented”. Record the message sequence using a signal monitor.
2	CHECK A: VERIFY THAT A CALL CANNOT BE ORIGINATED FROM SP A ON THE CIRCUITS INDICATED BY THE RANGE AND STATUS PARAMETER IN THE CGB MESSAGE.
3	Arrange for SP B to send one circuit group unblocking message with circuit group supervision message type set to “maintenance oriented”.
4	CHECK B: VERIFY THAT A CALL CAN BE ORIGINATED FROM EITHER SP ON THE CIRCUITS INDICATED BY THE RANGE FIELD.
5	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
6	CHECK D: If RANGE=0, CGB is discarded and CGBA is not sent.
7	CHECK E: If RANGE>31, CGB is discarded and CGBA is not sent.
8	Repeat steps 1-7 with the circuit group supervision message type indicator set to “hardware failure oriented”. *Note* – A CPC=“test call” should not be used in CHECK A and CHECK B.

TEST NUMBER: 1.3.1.2

REFERENCE: Q.764 Section 2.9.2

TITLE: Circuit group blocking/unblocking

SUBTITLE: CGB and CGU sent

PURPOSE: To verify that SP A is able to generate one circuit group blocking message and one circuit group unblocking message

PRE-TEST CONDITIONS: All circuits are idle

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
CGB	––––––––––>	
	<––––––––––	CGBA
CGU	––––––––––>	
	<––––––––––	CGUA

	TEST DESCRIPTION
1	Arrange for SP A to send a circuit group blocking message with the circuit group supervision message type indicator set to “maintenance oriented”. Record the message sequence using a signal monitor.
2	Arrange for SP A to send a circuit group unblocking message with the circuit group supervision message type indicator set to “maintenance oriented”.
3	CHECK A: VERIFY THAT A CALL CAN BE ORIGINATED FROM EITHER SP ON THE CIRCUITS INDICATED BY THE RANGE FIELD.
4	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
5	Repeat steps 1-4 with the circuit group supervision message type indicator set to “hardware failure oriented”. *Note* – A CPC=“test call” should not be used in CHECK A.

ISUP Basic Call Test Specification

TEST NUMBER: 1.3.2.1		
REFERENCE: Q.764 Section 2.9.2		
TITLE: Circuit blocking/unblocking		
SUBTITLE: BLO received		
PURPOSE: To verify that the blocking/unblocking procedure can be correctly initiated		
PRE-TEST CONDITIONS: The circuit is idle		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
	<– – – – – – – – – – –	BLO
BLA	– – – – – – – – – – –>	
	<– – – – – – – – – – –	UBL
UBA	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Arrange for SP B to send a blocking message. Record the message sequence using a signal monitor.
2	CHECK A: VERIFY THAT A CALL CANNOT BE ORIGINATED FROM SP A ON THIS CIRCUIT.
3	Arrange for SP B to send an unblocking message.
4	CHECK B: VERIFY THAT A CALL CAN BE ORIGINATED FROM EITHER SP ON THIS CIRCUIT.
5	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – A CPC="test call" should not be used in CHECK A and CHECK B.

ISUP Basic Call Test Specification

TEST NUMBER: 1.3.2.2		
REFERENCE: Q.764 Section 2.9.2		
TITLE: Circuit blocking/unblocking		
SUBTITLE: BLO sent		
PURPOSE: To verify that SP A is able to generate blocking messages		
PRE-TEST CONDITIONS: The circuit is idle		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
BLO	––––––––––>	
	<––––––––––	BLA
UBL	––––––––––>	
	<––––––––––	UBA

	TEST DESCRIPTION
1	Arrange for SP A to send a blocking message. Record the message sequence using a signal monitor.
2	Arrange for SP A to send an unblocking message.
3	CHECK A: VERIFY THAT A CALL CAN BE ORIGINATED FROM EITHER SP ON THIS CIRCUIT.
4	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . . *Note* – A CPC="test call" should not be used in CHECK A.

ISUP Basic Call Test Specification

TEST NUMBER: 1.3.2.3

REFERENCE: Q.764 Section 2.9.2

TITLE: Circuit blocking/unblocking

SUBTITLE: Blocking from both ends; removal of blocking from one end

PURPOSE: To verify that the blocking/unblocking procedure can be correctly initiated

PRE-TEST CONDITIONS: The circuit is idle

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
BLO	––––––––––>	
	<––––––––––	BLA
	<––––––––––	BLO
BLA	––––––––––>	
UBL	––––––––––>	
	<––––––––––	UBA
	<––––––––––	UBL
UBA	––––––––––>	

	TEST DESCRIPTION
1	Arrange for SP A to send a blocking message. Record the message sequence using a signal monitor.
2	Arrange for SP B to send an unblocking message.
3	CHECK A: VERIFY THAT A CALL CANNOT BE ORIGINATED ON THIS CIRCUIT BY EITHER SP.
4	Arrange for SP A to send an unblocking message.
5	CHECK B: VERIFY THAT A CALL CANNOT BE ORIGINATED BY SP A.
6	Arrange for SP B to send an unblocking message.
7	CHECK C: VERIFY THAT A CALL CAN BE ORIGINATED ON THIS CIRCUIT BY EITHER SP.
8	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – A CPC="test call" should not be used in CHECKs A, B, and C.

ISUP Basic Call Test Specification

TEST NUMBER: 1.3.2.4		
REFERENCE: Q.764 Section 2.9.2.3 xiv)		
TITLE: Circuit blocking/unblocking		
SUBTITLE: IAM received on a remotely blocked circuit		
PURPOSE: To verify that an IAM will unblock a remotely blocked circuit		
PRE-TEST CONDITIONS: The circuit is idle		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
	<– – – – – – – – – – –	BLO
BLA	– – – – – – – – – – –>	
	<– – – – – – – – – – –	IAM
ACM	– – – – – – – – – – –>	
ANM	– – – – – – – – – – –>	
Connectivity	– – – – – – – – – –	Connectivity
	<– – – – – – – – – – –	REL
RLC	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Arrange for SP B to send a blocking message. Record the message sequence using a signal monitor.
2	CHECK A: VERIFY THAT A CALL CANNOT BE ORIGINATED FROM SP A ON THIS CIRCUIT.
3	Arrange for SP B to send an initial address message (non-test call).
4	CHECK B: VERIFY THAT THE CALL IS PROCESSED NORMALLY AT SP A AND THE BLOCKING STATUS FOR THIS CIRCUIT IS REMOVED AT SP A.
5	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – A CPC="test call" should not be used in CHECK A.

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TEST NUMBER: 1.4.1		
REFERENCE: Q.764 Section 2.1.8		
TITLE: Continuity check test call		
SUBTITLE: CCR received: successful		
PURPOSE: To verify that the continuity test call procedure can be correctly performed		
PRE-TEST CONDITIONS: The circuit is idle		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

	TEST DESCRIPTION
1	Initiate the continuity test call procedure at SP B. Record the message sequence using a signal monitor.
2	CHECK A: IS THE CIRCUIT IDLE? . . .
3	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

ISUP Basic Call Test Specification

TEST NUMBER: 1.4.2

REFERENCE: Q.764 Section 2.1.8

TITLE: Continuity check test call

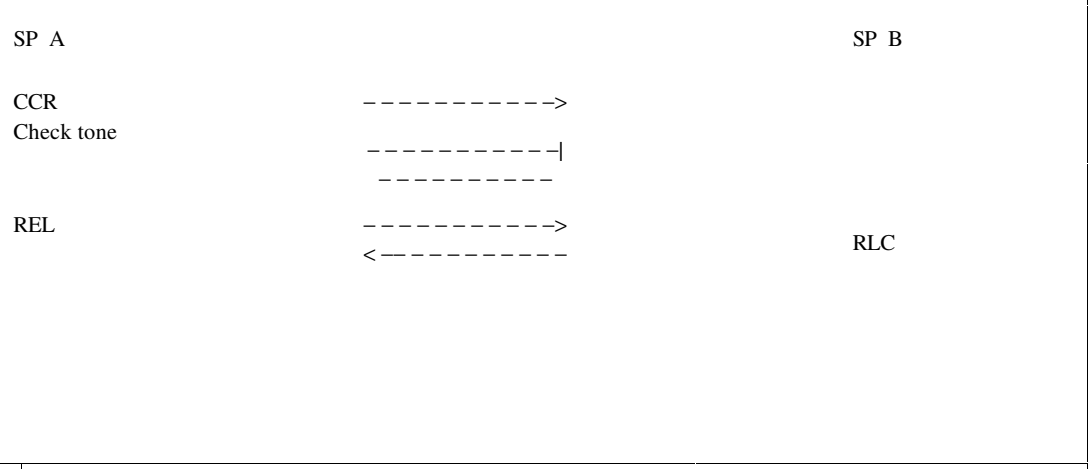
SUBTITLE: CCR sent: successful

PURPOSE: To verify that the continuity test call procedure can be correctly performed

PRE-TEST CONDITIONS: The circuit is idle

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

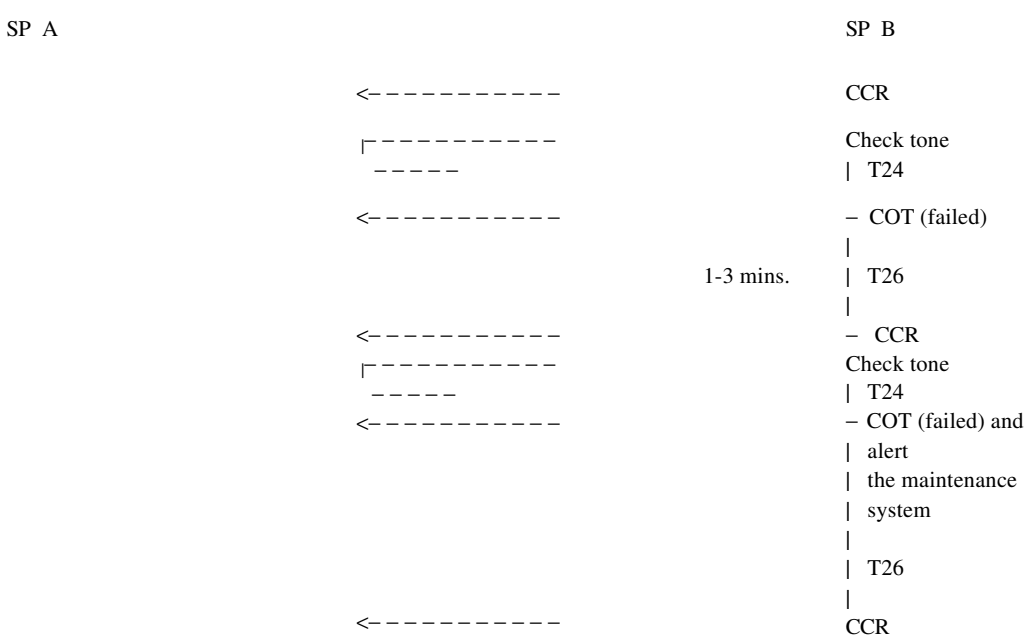
EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Initiate the continuity test call procedure at SP A. Record the message sequence using a signal monitor.
2	CHECK A: IS THE CIRCUIT IDLE? . . .
3	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

TEST NUMBER: 1.4.3		
REFERENCE: Q.764 Section 2.1.8		
TITLE: Continuity check test call		
SUBTITLE: CCR received: unsuccessful		
PURPOSE: To verify that the messages associated with continuity check procedure can be correctly received		
PRE-TEST CONDITIONS: Ensure that no backward check tone is detected within the specified time out		
CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Initiate the continuity test call procedure at SP B. Record the message sequence using a signal monitor.
2	CHECK A: WAS THE SECOND CONTINUITY CHECK INITIATED WITHIN 1-3 MINUTES . . .
3	CHECK B: WAS THE MAINTENANCE SYSTEM ALERTED ON FAILURE OF THE SECOND CONTINUITY CHECK? . . .
4	CHECK C: WAS THE CHECK REPEATED AT INTERVALS OF 1 TO 3 MINUTES? . . .
5	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

ISUP Basic Call Test Specification

TEST NUMBER: 1.4.4

REFERENCE: Q.764 Section 2.1.8

TITLE: Continuity check test call

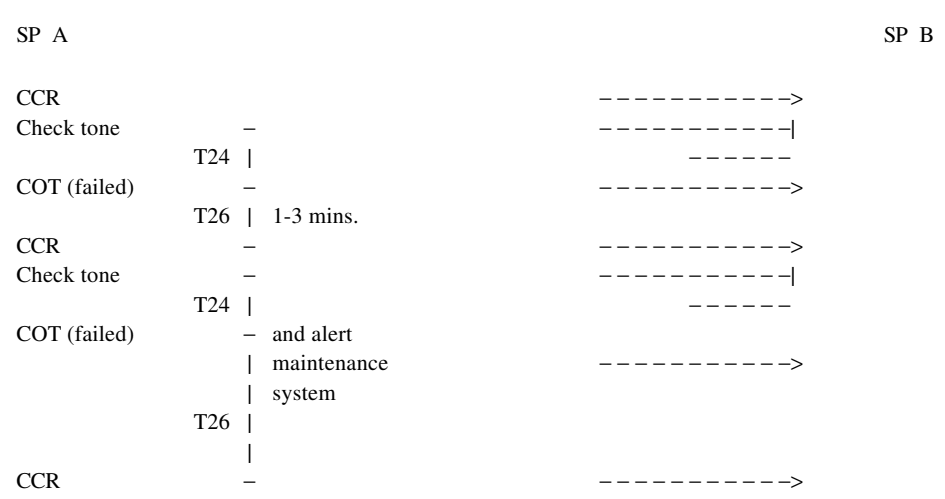
SUBTITLE: CCR sent: unsuccessful

PURPOSE: To verify that the continuity check procedure can be correctly invoked

PRE-TEST CONDITIONS: Ensure that no backward check tone is detected within the specified time out

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Initiate the continuity test call procedure at SP A. Record the message sequence using a signal monitor.
2	CHECK A: WAS THE SECOND CONTINUITY CHECK INITIATED WITHIN 1-3 MINUTES . . .
3	CHECK B: WAS THE CHECK REPEATED AT INTERVALS OF 1 TO 3 MINUTES? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

ISUP Basic Call Test Specification

TEST NUMBER: 1.4.5

REFERENCE: Q.764 Section 2.1.8

TITLE: Continuity check test call

SUBTITLE: CCR received: unsuccessful; verify T27 timer

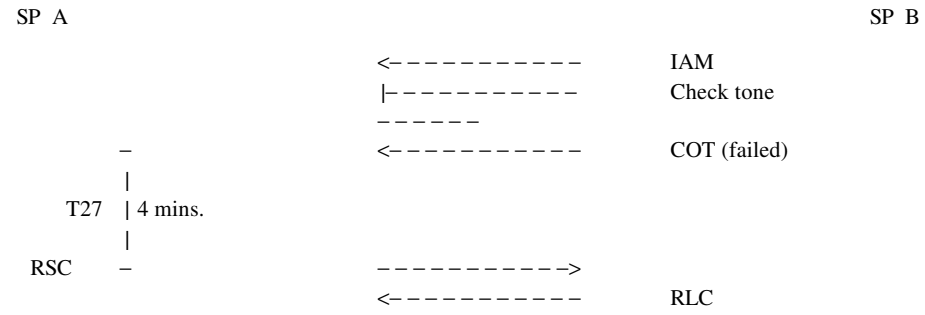
PURPOSE: To verify that the continuity check procedure can be correctly received

PRE-TEST CONDITIONS:

a) Continuity check is required.
b) Ensure that no backward check tone is detected within the specified time out.
c) The data in SP B is arranged such that a second CCR is not generated.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Make a call from SP B to SP A. Record the message sequence using a signal monitor.
2	CHECK A: IS T27 INITIATED AT SP A TO WAIT FOR CCR?
3	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

TEST NUMBER: 1.5.1

REFERENCE: Q.764 Section 2.10.5.1 a), b), d)

TITLE: Receipt of unreasonable signalling information messages

SUBTITLE: Receipt of unexpected messages

PURPOSE: To verify that the action taken by a signalling point upon receipt of unexpected messages is as stated in Q.764 Section 2.10.5.1

PRE-TEST CONDITIONS:

a) Arrange the data in signalling point B such that REL, RLC and other unreasonable messages may be initiated.
b) The circuit should be idle and unblocked.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
a)		
	<– – – – – – – – – – –	REL
RLC	– – – – – – – – – – –>	
b)		
	<– – – – – – – – – – –	RLC
c)	<– – – – – – – – – – –	XXX (Note 1)
RSC	– – – – – – – – – – –>	
	<– – – – – – – – – – –	RLC
d)	<– – – – – – – – – – –	YYY

	TEST DESCRIPTION
1	Arrange for SP B to send a release message.
2	CHECK A: IS THE CIRCUIT IDLE? . . .
3	CHECK B: WAS THE MESSAGE SEQUENCE AS IN a) ABOVE? . . .
4	Arrange for SP B to send a release complete message.
5	CHECK C: IS THE CIRCUIT IDLE? . . .
6	CHECK D: WAS THE MESSAGE SEQUENCE AS IN b) ABOVE? . . .
7	Arrange for SP B to send an unreasonable message XXX.
8	CHECK E: IS THE CIRCUIT IDLE? . . .
9	CHECK F: WAS THE MESSAGE SEQUENCE AS IN c) ABOVE? . . .
10	Arrange for SP B to send an unreasonable message YYY.
11	CHECK G: WAS YYY DISCARDED AS IN d) ABOVE? . . .
	Note 1 – Not all the unresonable messages will cause an RSC message to be sent.
	Note 2 – This test covers only some of the ambiguous messages which could be received.

ISUP Basic Call Test Specification

TEST NUMBER: 1.5.2

REFERENCE: Q.764 Section 2.10.5.1 d)

TITLE: Receipt of unreasonable signalling information messages

SUBTITLE: Receipt of unexpected messages during call setup

PURPOSE:

a) To verify that the action taken by a signalling point upon receipt of unexpected messages is as stated in Q.764 Section 2.10.5.1.

b) The circuit should be idle and unblocked.

PRE-TEST CONDITIONS:

a) Arrange the data in signalling point B such that other unreasonable messages may be initiated.

b) The circuit should be idle and unblocked.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
a)		
IAM	––––––––––>	
	<––––––––––	ACM
	<––––––––––	XXX (Note)
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC
b)		
	<––––––––––	IAM
	<––––––––––	YYY (Note)
RSC	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Arrange for SP B to send an unreasonable message XXX after the address complete message. Record the message sequence using a signal monitor.
2	CHECK A: IS THE CONNECTION ESTABLISHED?
3	CHECK B: WAS THE MESSAGE SEQUENCE AS IN a) ABOVE? . . .
4	Make a call from SP B to SP A. Arrange for SP B to send an unreasonable message YYY immediately after sending the initial address message.
5	CHECK C: IS THE CIRCUIT IDLE? . . .
6	CHECK D: WAS THE MESSAGE SEQUENCE AS IN b) ABOVE? . . .
	Note – Messages other than the call control messages will be used for XXX and YYY.

ISUP Basic Call Test Specification

TEST NUMBER: 1.5.3

REFERENCE: Q.764 Section 2.10.5.1 c), d)

TITLE: Receipt of unreasonable signalling information messages

SUBTITLE: Receipt of unexpected messages during a call

PURPOSE: To verify that the action taken by a signalling point upon receipt of unexpected messages is as stated in Q.764 Section 2.10.5.1

PRE-TEST CONDITIONS:

a) Arrange the data in signalling point B such that an unexpected RLC and other unreasonable messages may be initiated.

b) The circuit should be idle and unblocked.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
a)		
IAM	––––––––––>	
	<––––––––––	ACM
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
	<––––––––––	RLC
REL	––––––––––>	
	<––––––––––	RLC
b)		
IAM	––––––––––>	
	<––––––––––	ACM
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
	<––––––––––	XXX (Note)
Connectivity	–– –– –– –– ––	Connectivity
	<––––––––––	REL
RLC	––––––––––>	

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: IS THE CONNECTION ESTABLISHED?
3	Arrange for SP B to send a release complete message.
4	CHECK B: IS THE CIRCUIT IDLE? . . .
5	Make a call from SP A to SP B.
6	CHECK C: IS THE CONNECTION ESTABLISHED?
7	Arrange for SP B to send an unreasonable message XXX.
8	CHECK D: IS THE CONNECTION STILL ESTABLISHED?
9	CHECK E: WAS THE MESSAGE SEQUENCE AS IN b) ABOVE? . . .
	Note – Messages other than REL, RLC, RSC and SUS will be used for XXX.

ISUP Basic Call Test Specification

TEST NUMBER: 2.1.1

REFERENCE: Q.764 Section 2.1

TITLE: Both way circuit selection

SUBTITLE: IAM sent by controlling SP

PURPOSE: To verify that signalling point A can initiate an outgoing call on a circuit capable of bothway operation when the controlling SP is A

PRE-TEST CONDITIONS:

a) Called termination is free.

b) Circuit selected is capable of bothway operation.

c) SP A is the controlling signalling point.

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	–––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE?
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE?

ISUP Basic Call Test Specification

TEST NUMBER: 2.1.2

REFERENCE: Q.764 Section 2.1

TITLE: Both way circuit selection

SUBTITLE: IAM sent by non-controlling SP

PURPOSE: To verify that signalling point A can initiate an outgoing call on a circuit capable of bothway operation when the non-controlling SP is A

PRE-TEST CONDITIONS:

a) Called termination is free.

b) Circuit selected is capable of bothway operation.

c) SP A is the non-controlling signalling point.

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	ACM
	– – – – – – – – – – –	Ringing tone
	<– – – – – – – – – – – –	ANM
Connectivity	– – – – – – – – – – –	Connectivity
	<– – – – – – – – – – – –	REL
RLC	– – – – – – – – – – – –>	

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE?
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE?

ISUP Basic Call Test Specification

TEST NUMBER: 2.2.1

REFERENCE: Q.764 Sections 2.1.1, 2.1.4, 2.1.7, 2.3

TITLE: Called address sending

SUBTITLE: "en bloc" operation

PURPOSE: To verify that a call can be successfully established (all digits included in the IAM)

PRE-TEST CONDITIONS:

a) Called termination is free.

b) The exchange data is arranged such that all digits are included in the IAM.

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	–––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
8	For validation testing repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 2.2.2

REFERENCE: Q.764 Section 2.1.2

TITLE: Called address sending

SUBTITLE: Overlap operation (with SAM)

PURPOSE: To verify that signalling point A can initiate a call using an IAM followed by a SAM

PRE-TEST CONDITIONS:

a) Called termination is free.

b) The signalling point data is arranged such that digits are generated in an IAM followed by a SAM

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
SAM	––––––––––>	
	<––––––––––	ACM
	–––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE?
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
8	For validation testing repeat this test in the reverse direction. Where SP A is in a position to know by digit analysis that the final digit has been sent. Confirm that an end-of-pulsing (ST) signal is included in the last address message. *Note* – Multiple SAMs may be used.

ISUP Basic Call Test Specification

TEST NUMBER: 2.3.1		
REFERENCE: Q.764 Sections 2.1.4.1, 2.1.7		
TITLE: Successful Call setup		
SUBTITLE: Ordinary call (with various indications in ACM)		
PURPOSE: To verify that a call can be successfully completed using various indications in address complete messages		
PRE-TEST CONDITIONS: Called termination is free		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	–––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
8	Repeat steps 1-7 with the following combinations of backward call indicators in the address complete message: – Called party status indicator=“subscriber free”, or, “no indication”. – ISDN access indicator=“ISDN” or “NON ISDN”.
9	Repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 2.3.2		
REFERENCE: Q.764 Sections 2.1.5		
TITLE: Successful Call setup		
SUBTITLE: Ordinary call (with ACM, CPG, and ANM)		
PURPOSE: To verify that a call can be successfully completed using address complete message, call progress message and answer message		
PRE-TEST CONDITIONS: Called termination is free		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	<––––––––––	CPG
	–––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
8	Repeat steps 1-7 with the event indicator=“alerting” or “progress” or “in-band information or an appropriate pattern is now available” set in the event information parameter in CPG.
9	Repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 2.3.3		
REFERENCE: Q.764 Sections 2.1.4.2		
TITLE: Successful Call setup		
SUBTITLE: Ordinary call (with various indications in CON)		
PURPOSE: To verify that a call can be successfully completed using various indications in the connect message		
PRE-TEST CONDITIONS: Called termination is free. A connect message is returned instead of an answer message from SP B		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	CON
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	The called party should answer the call.
3	CHECK A: IS THE CONNECTION ESTABLISHED? . . .
4	The calling party should answer the call.
5	CHECK B: IS THE CIRCUIT IDLE? . . .
6	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
7	Repeat steps 1-6 with the following combinations of backward call indicators in the connect message: – Called party status indicators = “subscriber free” or, “no indication”. – ISDN access indicators = “ISDN” or “NON ISDN”.
8	Repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 2.3.4

REFERENCE: Q.764 Section 2.1

TITLE: Successful Call setup

SUBTITLE: Call switched via a satellite

PURPOSE: To verify the satellite indicator in the initial address message is correctly set

PRE-TEST CONDITIONS:

a) Called termination is free.

b) The signalling point data is arranged such that the call is switched via a satellite connection or has a satellite connection already included in the path

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
8	CHECK E: WAS THE SATELLITE INDICATOR “BA” BIT IN THE NATURE OF CONNECTION INDICATORS IN THE IAM SET TO “01”? . . .
9	For validation testing repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 2.3.5

REFERENCE: Q.764 Section 2.8

TITLE: Successful Call setup

SUBTITLE: Echo control procedure for call set up

PURPOSE: To verify that a call can be successfully established with the inclusion of echo control devices

PRE-TEST CONDITIONS:

a) Called termination is free.

b) The signalling point data is arranged such that the call is routed over a route requiring echo control devices or already has an echo control device included in the connection.

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B with the echo control indicator set. Record the message sequence using a signal monitor.
2	CHECK A: IS THE ECHO CONTROL DEVICE INDICATOR BIT “E” (OUTGOING HALF ECHO DEVICE INCLUDED) IN NATURE OF CONNECTION INDICATORS IN THE IAM SET TO “1”? . . .
3	CHECK B: IS THE ECHO CONTROL DEVICE INDICATOR BIT “N” (INCOMING HALF ECHO DEVICE INCLUDED) IN THE BACKWARD CALL INDICATORS IN THE ACM SET TO “1”? . . .
4	CHECK C: CAN RINGING TONE BE HEARD? . . .
5	The called party should answer the call.
6	CHECK D: IS THE CONNECTION ESTABLISHED? . . .
7	CHECK E: ARE THE ECHO DEVICES OPERATING CORRECTLY? . . .
8	The calling party should clear the call.
9	CHECK F: IS THE CIRCUIT IDLE? . . .
10	CHECK G: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
11	For validation testing repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 2.3.6

REFERENCE: Q.764 Section 2.9.2.1

TITLE: Successful Call setup

SUBTITLE: Blocking and unblocking during a call (initiated)

PURPOSE: To verify that the circuit blocking and unblocking procedure can be correctly initiated during a call

PRE-TEST CONDITIONS: Called termination is free

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	---------->	
	<----------	ACM
	----------	Ringing tone
	<----------	ANM
Connectivity	-- -- -- -- --	Connectivity
BLO	---------->	
	<----------	BLA
REL	---------->	
	<----------	RLC
UBL	---------->	
	<----------	UBA

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	SP A should initiate circuit blocking relating to the circuit used for this call.
6	CHECK C: IS THE CONNECTION STILL ESTABLISHED? . . .
7	The calling party should clear the call.
8	CHECK D: VERIFY THAT A CALL CANNOT BE ORIGINATED ON THIS CIRCUIT BY SP B.
9	SP A should send an unblocking signal.
10	CHECK E: VERIFY THAT A CALL CAN BE SUCCESSFULLY ORIGINATED FROM EITHER SP.
11	CHECK F: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
12	Repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 2.3.7

REFERENCE: Q.764 Section 2.9.2.1

TITLE: Successful Call setup

SUBTITLE: Blocking and unblocking during a call (received)

PURPOSE: To verify that the circuit blocking and unblocking procedure can be correctly received during a call

PRE-TEST CONDITIONS: Called termination is free

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	---------->	
	<----------	ACM
	----------	Ringing tone
	<----------	ANM
Connectivity	-- -- -- -- --	Connectivity
	<----------	BLO
BLA	---------->	
REL	---------->	
	<----------	RLC
	<----------	UBL
UBA	---------->	

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	SP B should initiate circuit blocking relating to the circuit used for this call.
6	CHECK C: IS THE CONNECTION STILL ESTABLISHED? . . .
7	The calling party should clear the call.
8	CHECK D: VERIFY THAT A CALL CANNOT BE ORIGINATED ON THIS CIRCUIT BY SP A? . . .
9	SP B should send an unblocking signal.
10	CHECK E: VERIFY THAT A CALL CAN BE SUCCESSFULLY ORIGINATED FROM EITHER SP.
11	CHECK F: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
12	Repeat this test in the reverse direction.

TEST NUMBER: 3.1

REFERENCE: Q.764 Section 2.3

TITLE: Normal call release

SUBTITLE: Calling party clears before any backward messages

PURPOSE: To verify that the calling party can successfully release a call prior to receipt of any backward message

PRE-TEST CONDITIONS: The circuit is idle

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	The calling party should clear the call prior to receipt of any backward messages.
3	CHECK A: IS THE CIRCUIT IDLE? . . .
4	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
5	Repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 3.2		
REFERENCE: Q.764 Section 2.3		
TITLE: Normal call release		
SUBTITLE: Calling party clears before answer		
PURPOSE: To verify that the calling party can successfully release a call prior to receipt of answer		
PRE-TEST CONDITIONS: Called termination is free		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	––––––––––	Ringing tone
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The calling party should clear the call prior to receipt of an answer message.
4	CHECK B: IS THE CIRCUIT IDLE? . . .
5	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
6	For validation testing this test should be repeated in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 3.3		
REFERENCE: Q.764 Section 2.3		
TITLE: Normal call release		
SUBTITLE: Calling party clears after answer		
PURPOSE: To verify that the calling party can successfully release a call after answer		
PRE-TEST CONDITIONS: Called termination is free		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	–––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
8	For validation testing this test should be repeated in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 3.4		
REFERENCE: Q.764 Section 2.3		
TITLE: Normal call release		
SUBTITLE: Called party clears after answer		
PURPOSE: To verify that a call be successfully released in the backward direction		
PRE-TEST CONDITIONS: Called termination is free		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	–––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
	<––––––––––	REL
RLC	––––––––––>	

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The called party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
8	For validation testing this test should be repeated in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 3.5		
REFERENCE: Q.764 Section 2.5.1.3		
TITLE: Normal call release		
SUBTITLE: Suspend initiated by the network		
PURPOSE: To verify that a called subscriber can successfully clear and reanswer a call		
PRE-TEST CONDITIONS: Called termination is free		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
	<––––––––––	SUS (network) (Note)
	<––––––––––	RES (network) (Note)
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The called party should clear the call.
6	The called party should reanswer the call.
7	CHECK C: IS THE CONNECTION STILL ESTABLISHED? . . .
8	The calling party should clear the call.
9	CHECK D: IS THE CIRCUIT IDLE? . . .
10	CHECK E: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
11	For validation testing this test should be repeated in the reverse direction.
	Note – In order to generate these messages, an ISDN-PSTN interworking arrangement may be needed.

ISUP Basic Call Test Specification

TEST NUMBER: 3.6

REFERENCE: Q.764 Section 2.5.1.1, 2.5.2.1

TITLE: Normal call release

SUBTITLE: Suspend and resume initiated by a calling party

PURPOSE: To verify that the calling subscriber can successfully suspend and resume a call

PRE-TEST CONDITIONS: Called termination is free

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
SUS (User initiated)	––––––––––>	
RES (User initiated)	––––––––––>	
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should suspend the call.
6	The calling party should resume the call.
7	CHECK C: IS THE CONNECTION STILL ESTABLISHED? . . .
8	The calling party should clear the call.
9	CHECK D: IS THE CIRCUIT IDLE? . . .
10	CHECK E: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
11	Repeat this test in the reverse direction. *Note* – An end-to-end ISDN arrangement is needed for this test.

ISUP Basic Call Test Specification

TEST NUMBER: 3.7

REFERENCE: Q.764 Section 2.5.1.2, 2.5.2.2

TITLE: Normal call release

SUBTITLE: Suspend and resume initiated by a called party

PURPOSE: To verify that the called subscriber can successfully suspend and resume a call

PRE-TEST CONDITIONS: Called termination is free

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	–––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
	<––––––––––	SUS (User initiated)
	<––––––––––	RES (User initiated)
Connectivity	–– –– –– –– ––	Connectivity
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The called party should suspend the call.
6	The called party should resume the call.
7	CHECK C: IS THE CONNECTION STILL ESTABLISHED? . . .
8	The calling party should clear the call.
9	CHECK D: IS THE CIRCUIT IDLE? . . .
10	CHECK E: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
11	Repeat this test in the reverse direction.
	Note – An end-to-end ISDN arrangement is needed for this test.

ISUP Basic Call Test Specification

TEST NUMBER: 3.8

REFERENCE: Q.764 Section 2.3.1 e)

TITLE: Normal call release

SUBTITLE: Collision of REL messages

PURPOSE: To verify that a release message may be received at an exchange from a succeeding or preceding exchange after the release of the switch path is initiated

PRE-TEST CONDITIONS: Called termination is free

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	–––––––––––	Ringing tone
	<––––––––––	ANM
Connectivity	–– –– –– –– ––	Connectivity
REL	–––––> <–––––	REL
RLC (Note)	––––––––––>	
	<––––––––––	RLC (Note)

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: IS RINGING TONE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling and called parties should clear the call at the same time.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – The RLC messages may occur in the reverse sequence.

ISUP Basic Call Test Specification

TEST NUMBER: 4.1

REFERENCE: Q.764 Section 2.2

TITLE: Unsuccessful call setup

SUBTITLE: Validate a set of known causes for release

PURPOSE: To verify that the call will be immediately released by the outgoing signalling point if a release message with a given cause is received and the correct indication is given to the calling party

PRE-TEST CONDITIONS: Arrange the data in signalling point B such that a release message with a given cause is returned to the request

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
a)		
IAM	––––––––––>	
	<––––––––––	REL (cause = xxx)
RLC	––––––––––>	
b)		
IAM	––––––––––>	
	<––––––––––	ACM
	<––––––––––	REL (cause = xxx)
RLC	––––––––––>	

	TEST DESCRIPTION
1	Attempt to make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: IS THE APPROPRIATE TONE OR ANNOUNCEMENT RETURNED TO THE CALLING PARTY? . . .
3	CHECK B: IS THE CIRCUIT IDLE? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
5	Not all the cause values are required to be tested. The suggested causes are: unallocated number, no circuit available, and switching equipment congestion. *Note* – It may not be possible to confirm that the appropriate tone is returned to the calling party. In this case it must be verified that the signalling point under test transmits the signal received.

ISUP Basic Call Test Specification

TEST NUMBER: 5.1

REFERENCE: Q.764 Section 2.10.8.1

TITLE: Abnormal situation during a call

SUBTITLE: Inability to release in response to a REL after ANM

PURPOSE: To verify that if the signalling point is unable to return a circuit to the idle condition in response to a release message, the circuit will be blocked

PRE-TEST CONDITIONS: Arrange the data in signalling point A such that it is unable to return the circuit to the idle condition in response to a release message

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
	<– – – – – – – – – – –	IAM
ACM	– – – – – – – – – – –>	
Ringing tone	– – – – – – – – – – –	
ANM	– – – – – – – – – – –>	
Connectivity	– – – – – – – – – –	Connectivity
	<– – – – – – – – – – –	REL
BLO and alert the maintenance system	– – – – – – – – – – –>	
	<– – – – – – – – – – –	BLA
RLC	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Make a call from SP B to SP A. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD
3	The calling party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should release the call.
6	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
7	Repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 5.2.1

REFERENCE: Q.764 Section 2.10.8.3

TITLE: Timers

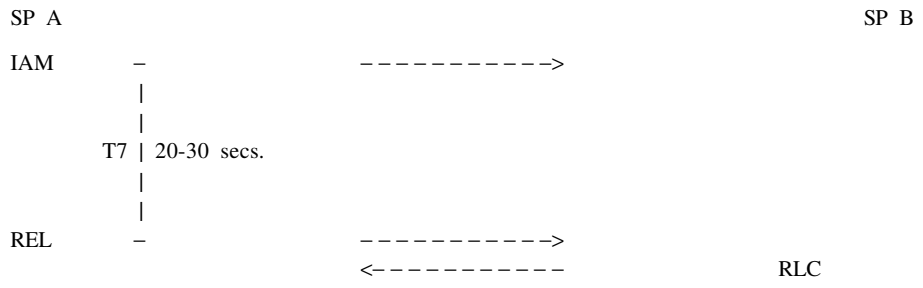
SUBTITLE: T7: waiting for ACM or CON

PURPOSE: To check that at the expiration of T7 the circuit will be released

PRE-TEST CONDITIONS: Arrange the data in signalling point B such that an address complete message is not returned to the call request

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Attempt to make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: WAS THE RELEASE MESSAGE SENT AFTER 20-30 SECONDS? . . .
3	CHECK B: IS THE CIRCUIT IDLE? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

ISUP Basic Call Test Specification

TEST NUMBER: 5.2.2

REFERENCE: Q.764 Section 2.10.8.3 a)

TITLE: Timers

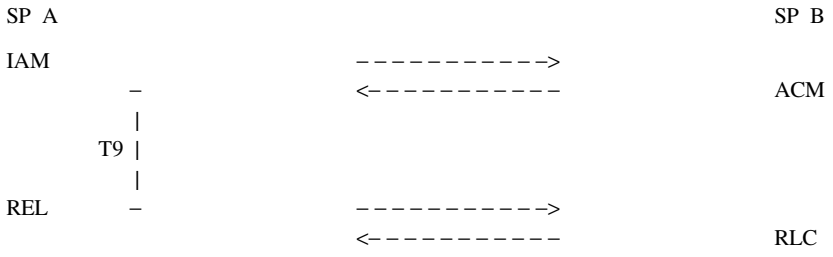
SUBTITLE: T9: waiting for an answer message

PURPOSE: To verify that if an answer message is not received within T9 after receiving an address complete message the connection is released by the outgoing signalling point

PRE-TEST CONDITIONS; The called party should not answer the call

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Attempt to make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should NOT answer the call.
4	CHECK B: WAS THE RELEASE MESSAGE SENT WITHIN A PERIOD OF T9? . . .
5	CHECK C: IS THE CIRCUIT IDLE? . . .
6	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – The timer needs only be run at the outgoing international exchange or national controlling exchange.

TEST NUMBER: 5.2.3

REFERENCE: Q.764 Sections 2.2 and 2.10.6

TITLE: Timers

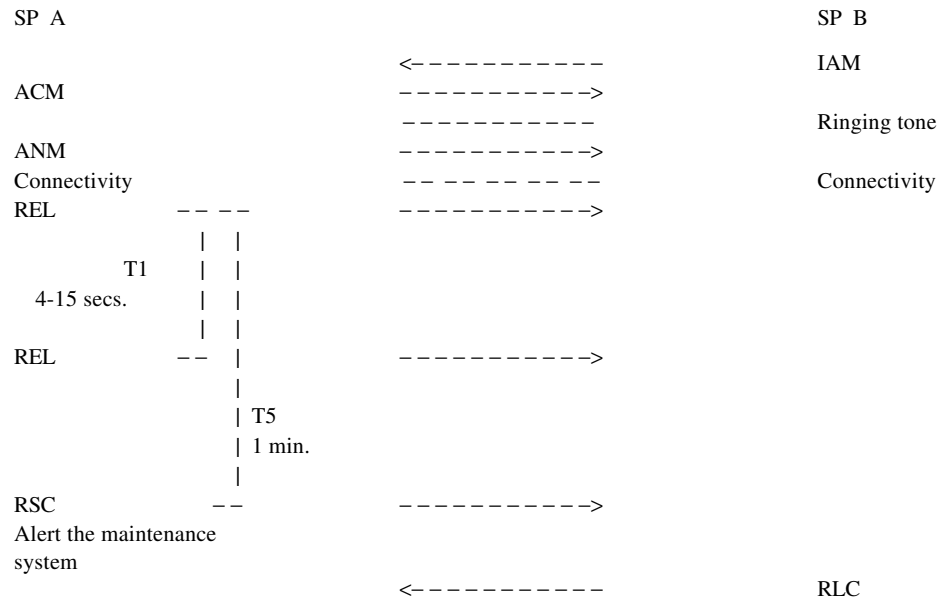
SUBTITLE: T1 and T5: failure to receive a RLC

PURPOSE: To verify that appropriate actions take place at the expiration of timers T1 and T5

PRE-TEST CONDITIONS: Arrange the data in signalling point B such that a release complete message is not returned in response to a release message

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Make a call from SP B to SP A. Record the message sequence using a signal monitor.
2	The called party at SP A should clear the call.
3	CHECK A: WAS A RELEASE MESSAGE SENT BETWEEN 4-15 SECONDS AFTER SENDING OF THE INITIAL RELEASE MESSAGE? . . .
4	CHECK B: WAS A RESET CIRCUIT MESSAGE SENT AT 1 MINUTE AFTER SENDING OF THE INITIAL RELEASE MESSAGE? . . .
5	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – T1 is repeated and REL is retransmitted during T5 interval.

TEST NUMBER: 5.2.4

REFERENCE: Q.764 Sections 2.5.1.3, 2.5.2.3, and 2.5.3

TITLE: Timers

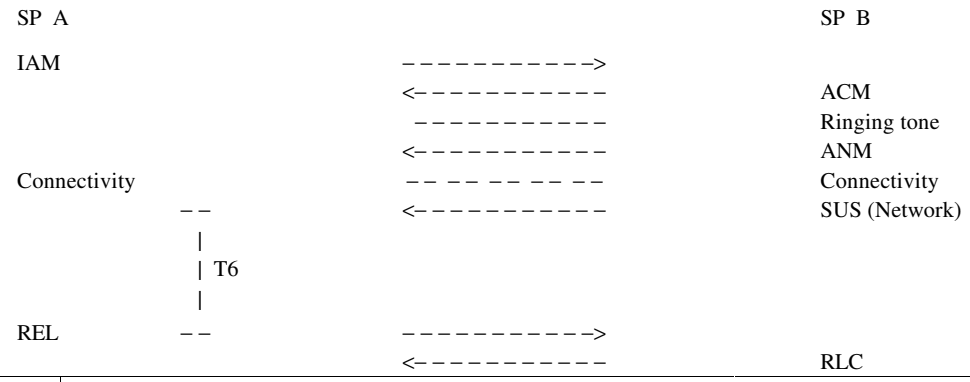
SUBTITLE: T6: waiting for RES (Network) message

PURPOSE: To verify that the call is released at the expiration of timer T6

PRE-TEST CONDITIONS: Arrange the data in signalling point B such that it is unable to return a resume message (called party will not re-answer)

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	Arrange SP B to send a suspend message.
6	CHECK C: WAS A RELEASE MESSAGE SENT WITHIN A PERIOD OF T6 TIMER? . . .
7	CHECK D: IS THE CIRCUIT IDLE? . . .
8	CHECK E: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – T6 timer needs only to be run at the international or national controlling exchange.

TEST NUMBER: 5.2.5

REFERENCE: Q.764 Section 2.10.8.3

TITLE: Timers

SUBTITLE: T8: waiting for COT message if applicable

PURPOSE: To verify that when the IAM indicates that the continuity check:

– is required, or,
– is performed on the previous circuit,

and the COT message is not received within T8, the connection is released by the incoming signalling point.

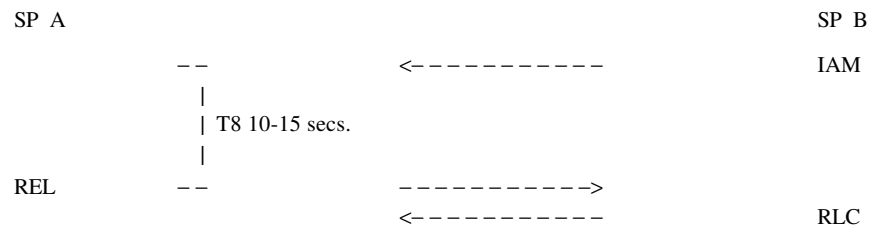
PRE-TEST CONDITIONS: Arrange the data in signalling point B such that:

a) the signalling information in the IAM indicates that a continuity check has been performed on a previous circuit or continuity check is required on this circuit

b) it does not send a continuity message.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Attempt to make a call from SP B to SP A. Record the message sequence using a signal monitor.
2	CHECK A: WAS THE RELEASE MESSAGE SENT WITHIN 10 TO 15 SECONDS? . . .
3	CHECK B: IS THE CIRCUIT IDLE? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

TEST NUMBER: 5.2.6

REFERENCE: Q.764 Section 2.10.4

TITLE: Timers

SUBTITLE: T12 and T13: failure to receive a BLA

PURPOSE: To verify that appropriate actions take place at the expiration of timers T12 and T13

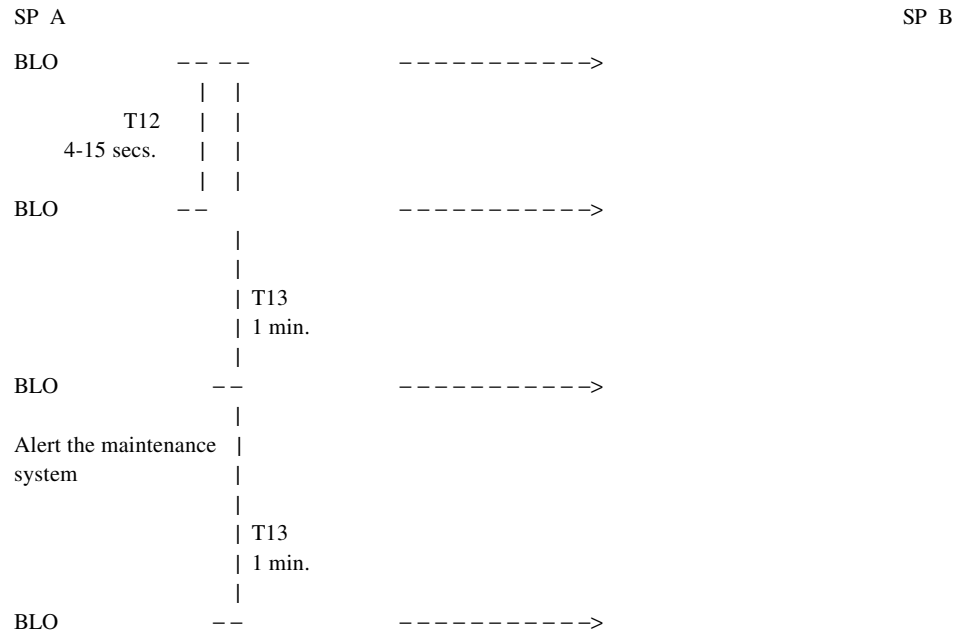
PRE-TEST CONDITIONS:

a) Circuit is idle.

b) Arrange the data in signalling point B such that a blocking acknowledgement message is not returned in response to a blocking message.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Send a blocking message from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: WAS A BLOCKING MESSAGE SENT BETWEEN 4-15 SECONDS AFTER SENDING OF THE INITIAL BLOCKING MESSAGE? . . .
3	CHECK B: WAS A BLOCKING MESSAGE SENT AT 1 MINUTE AFTER SENDING OF THE INITIAL BLOCKING MESSAGE? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . . *Note* – T12 is repeated and BLO is retransmitted during the first T13 interval.

TEST NUMBER: 5.2.7

REFERENCE: Q.764 Section 2.10.4

TITLE: Timers

SUBTITLE: T14 and T15: failure to receive a UBA

PURPOSE: To verify that appropriate actions take place at the expiration of timers T14 and T15

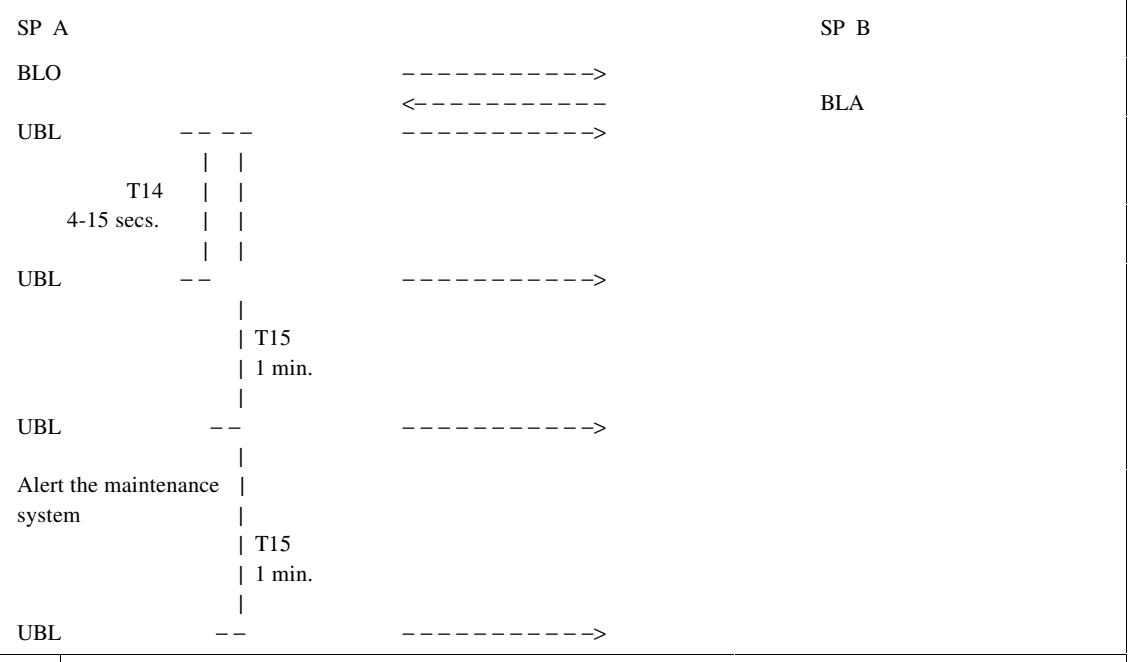
PRE-TEST CONDITIONS:

a) Circuit is idle.

b) Arrange the data in signalling point B such that an unblocking acknowledgement message is not returned in response to an unblocking message.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Send a blocking and unblocking message from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: WAS AN UNBLOCKING MESSAGE SENT BETWEEN 4-15 SECONDS AFTER SENDING OF THE INITIAL UNBLOCKING MESSAGE? . . .
3	CHECK B: WAS AN UNBLOCKING MESSAGE SENT AT 1 MINUTE AFTER SENDING OF THE INITIAL UNBLOCKING MESSAGE? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – T14 is repeated and UBL is retransmitted during the first T15 interval.

TEST NUMBER: 5.2.8

REFERENCE: Q.764 Section 2.10.3.1

TITLE: Timers

SUBTITLE: T16 and T17: failure to receive a RLC

PURPOSE: To verify that appropriate actions take place at the expiration of timers T16 and T17

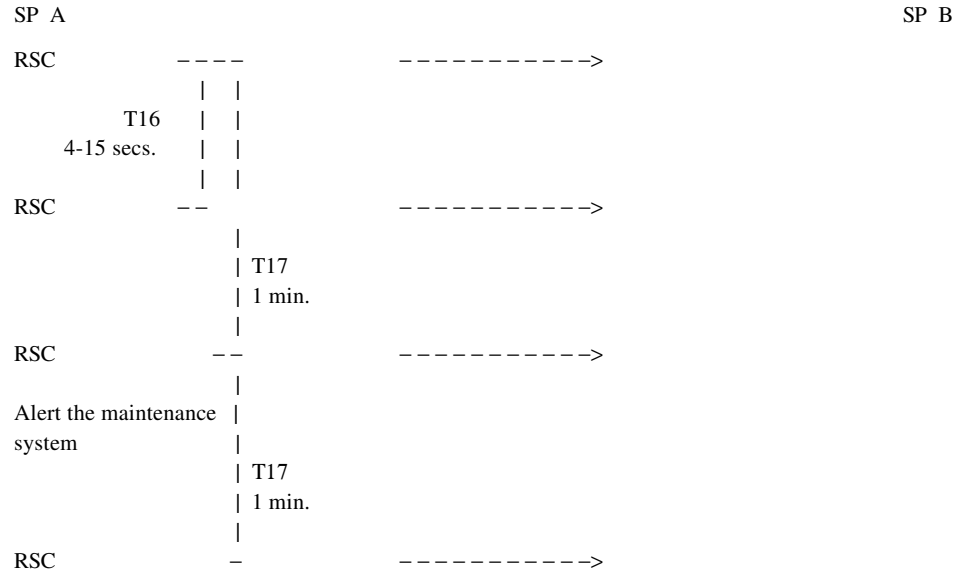
PRE-TEST CONDITIONS:

a) Circuit is idle.

b) Arrange the data in signalling point B such that a release complete message is not returned in response to a reset circuit message.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Send a reset circuit message from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: WAS A RESET CIRCUIT MESSAGE SENT BETWEEN 4-15 SECONDS AFTER SENDING OF THE INITIAL RESET CIRCUIT MESSAGE? . . .
3	CHECK B: WAS A RESET CIRCUIT MESSAGE SENT AT 1 MINUTE AFTER SENDING OF THE INITIAL RESET CIRCUIT MESSAGE? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . . *Note* – T16 is repeated and RSC is retransmitted during the first T17 interval.

TEST NUMBER: 5.2.9

REFERENCE: Q.764 Section 2.10.4

TITLE: Timers

SUBTITLE: T18 and T19: failure to receive a CGBA

PURPOSE: To verify that appropriate actions take place at the expiration of timers T18 and T19

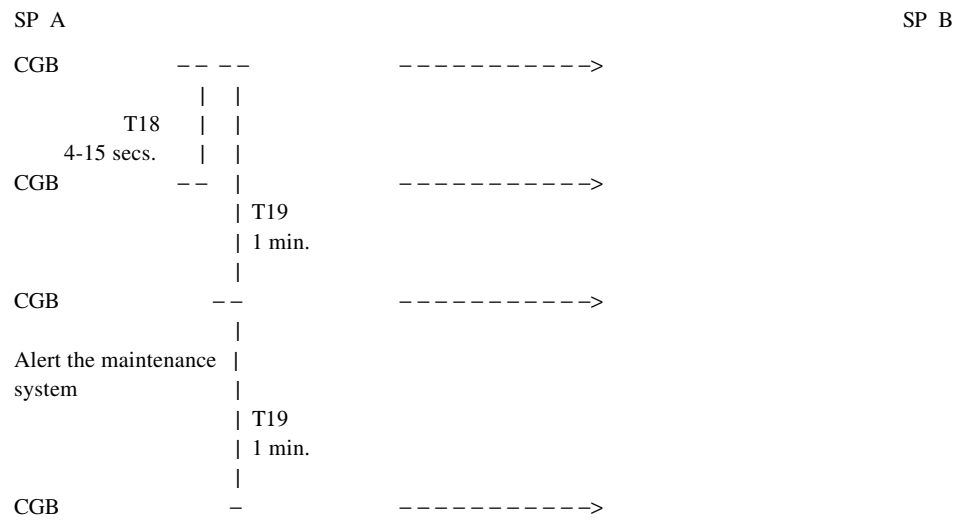
PRE-TEST CONDITIONS:

a) Circuit is idle.

b) Arrange the data in signalling point B such that a circuit group blocking acknowledgement message is not returned in response to a circuit group blocking message.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Send a circuit group blocking message from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: WAS A CIRCUIT GROUP BLOCKING MESSAGE SENT BETWEEN 4-15 SECONDS AFTER SENDING OF THE INITIAL CIRCUIT GROUP BLOCKING MESSAGE? . . .
3	CHECK B: WAS A CIRCUIT GROUP BLOCKING MESSAGE SENT AT 1 MINUTE AFTER SENDING OF THE INITIAL CIRCUIT GROUP BLOCKING MESSAGE? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – T18 is repeated and CGB is retransmitted during the first T19 interval.

TEST NUMBER: 5.2.10

REFERENCE: Q.764 Section 2.10.4

TITLE: Timers

SUBTITLE: T20 and T21: failure to receive a CGUA

PURPOSE: To verify that appropriate actions take place at the expiration of timers T20 and T21

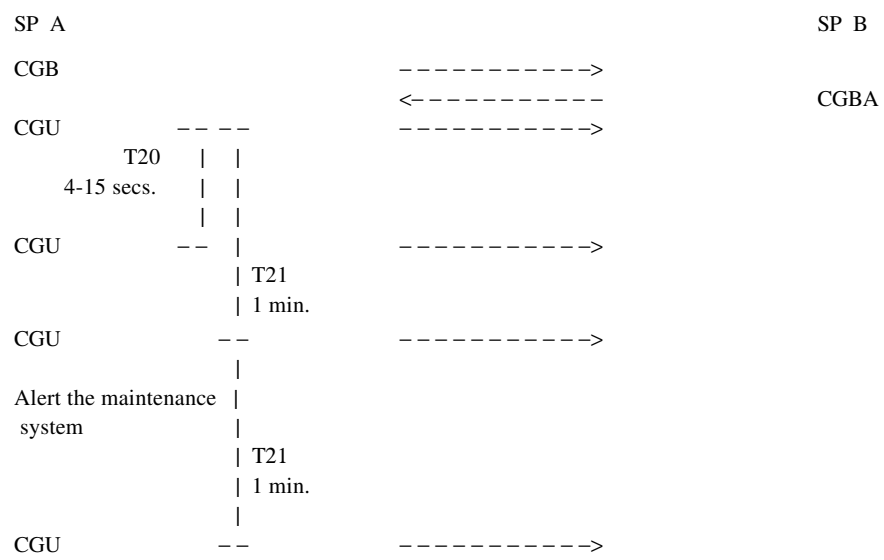
PRE-TEST CONDITIONS:

a) Circuit is idle.

b) Arrange the data in signalling point B such that a circuit group unblocking acknowledgement message is not returned in response to a circuit group unblocking message.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Send a circuit group blocking and unblocking message from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: WAS A CIRCUIT GROUP UNBLOCKING MESSAGE SENT BETWEEN 4-15 SECONDS AFTER SENDING OF THE INITIAL CIRCUIT GROUP UNBLOCKING MESSAGE? . . .
3	CHECK B: WAS A CIRCUIT GROUP UNBLOCKING MESSAGE SENT AT 1 MINUTE AFTER SENDING OF THE INITIAL CIRCUIT GROUP UNBLOCKING MESSAGE? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . . *Note* – T20 is repeated and CGU is retransmitted during the first T21 interval.

TEST NUMBER: 5.2.11

REFERENCE: Q.764 Section 2.10.4

TITLE: Timers

SUBTITLE: T22 and T23: failure to receive a GRA

PURPOSE: To verify that appropriate actions take place at the expiration of timers T22 and T23

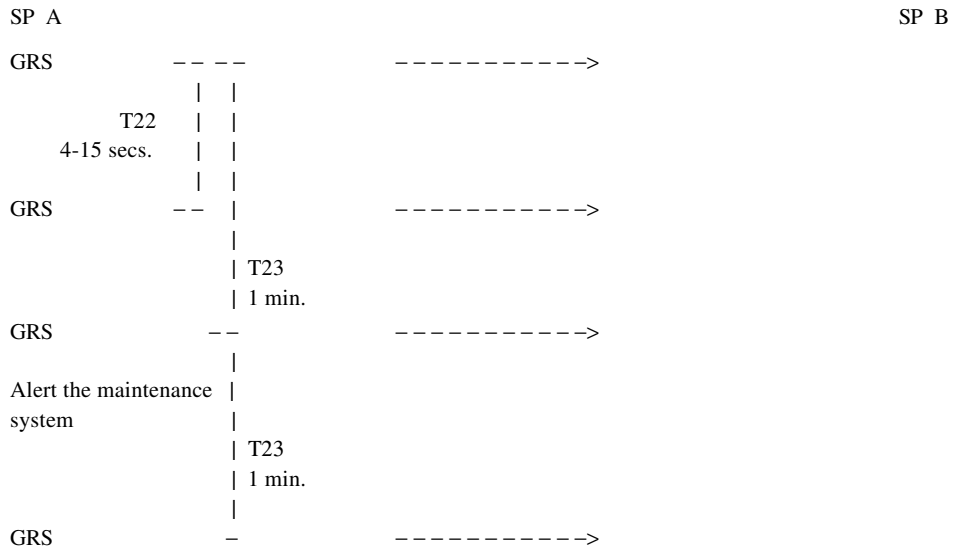
PRE-TEST CONDITIONS:

a) Circuit is idle.

b) Arrange the data in signalling point B such that a circuit group reset acknowledgement message is not returned in response to a circuit group reset message.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Send a circuit group reset message from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: WAS A CIRCUIT GROUP RESET MESSAGE SENT BETWEEN 4-15 SECONDS AFTER SENDING OF THE INITIAL CIRCUIT GROUP RESET MESSAGE? . . .
3	CHECK B: WAS A CIRCUIT GROUP RESET MESSAGE SENT AT 1 MINUTE AFTER SENDING OF THE INITIAL CIRCUIT GROUP RESET MESSAGE? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . . *Note* – T22 is repeated and GRS is retransmitted during the first T23 interval.

ISUP Basic Call Test Specification

TEST NUMBER: 5.3.1		
REFERENCE: Q.764 Section 2.10.3.1 a)		
TITLE: Reset of circuits during a call		
SUBTITLE: Of an outgoing circuit		
PURPOSE: To verify that on receipt of a reset message the call is immediately released - outgoing call		
PRE-TEST CONDITIONS: Called termination is free		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	ACM
	– – – – – – – – – – – –	Ringing tone
	<– – – – – – – – – – – –	ANM
Connectivity	– – – – – – – – – – – –	Connectivity
	<– – – – – – – – – – – –	RSC
RLC	– – – – – – – – – – – –>	

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	Arrange for SP B to send a reset-circuit message.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

ISUP Basic Call Test Specification

TEST NUMBER: 5.3.2		
REFERENCE: Q.764 Section 2.10.3.1 a)		
TITLE: Reset of circuits during a call		
SUBTITLE: Of an incoming circuit		
PURPOSE: To verify that on receipt of a reset message the call is immediately released - incoming call		
PRE-TEST CONDITIONS: Called termination is free		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
	<– – – – – – – – – – –	IAM
ACM	– – – – – – – – – – –>	
Ringing tone	– – – – – – – – – – –	
ANM	– – – – – – – – – – –>	
Connectivity	– – – – – – – – – – –	Connectivity
	<– – – – – – – – – – –	RSC
RLC	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Make a call from SP B to SP A. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	Arrange for SP B to send a reset-circuit message.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

ISUP Basic Call Test Specification

TEST NUMBER: 6.1.1		
REFERENCE: Q.764 Section 2.1.8		
TITLE: Continuity check call		
SUBTITLE: Continuity check required		
PURPOSE: To verify that a call can be set up on a circuit requiring a continuity check		
PRE-TEST CONDITIONS: Arrange the data in signalling point A such that a continuity check is required on this circuit		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	– – – – – – – – – – – –>	
Check tone	– – – – – – – – – – – –	
	– – – – – – – – – – –	
COT (successful)	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	ACM
	– – – – – – – – – – –	Ringing tone
	<– – – – – – – – – – – –	ANM
Connectivity	– – – – – – – – – – –	Connectivity
REL	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B with the continuity check indicator bits “DC” in the Nature of Connection indicators in the IAM set to '01'. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
8	Repeat this test in the reverse direction.

TEST NUMBER: 6.1.2

REFERENCE: Q.764 Section 2.1.8

TITLE: Continuity check call

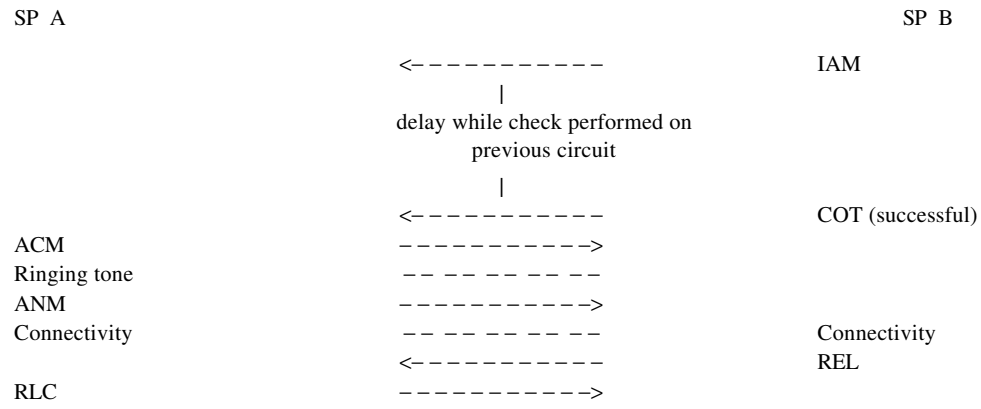
SUBTITLE: COT applied on a previous circuit

PURPOSE: To verify that if a continuity check is being performed on a previous circuit, a backward message is delayed until receipt of the COT message

PRE-TEST CONDITIONS: Arrange the data in signalling point B such that the signalling information in the IAM indicates that a continuity check has been performed on a previous circuit

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Make a call from SP B to SP A with the continuity check indicator bits in the Nature of Connection indicators in the IAM set to '10'. Record the message sequence using a signal monitor.
2	Arrange for signalling point B to send a COT message.
3	CHECK A: CAN RINGING TONE BE HEARD? . . .
4	The called party should answer the call.
5	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
6	The calling party should clear the call.
7	CHECK C: IS THE CIRCUIT IDLE? . . .
8	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .

ISUP Basic Call Test Specification

TEST NUMBER: 6.1.3

REFERENCE: Q.764 Section 2.3

TITLE: Continuity check call

SUBTITLE: Calling party clears during a COT

PURPOSE: To verify that the calling party can successfully clear the call during the continuity check phase

PRE-TEST CONDITIONS:

a) Arrange the data in signalling point A such that a continuity check is applied on this call.

b) Calling party will release the call within 2 seconds.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
Check tone	––––––––––	
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	The calling party should clear the call during the continuity check phase.
3	CHECK A: IS THE CIRCUIT IDLE? . . .
4	CHECK B: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
5	For validation testing repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 6.1.4

REFERENCE: Q.764 Section 2.1.8

TITLE: Continuity check call

SUBTITLE: Delay of through connect

PURPOSE: To verify that the switching through of the speech path is delayed until the residual check-tone has propagated through the return of the speech path

PRE-TEST CONDITIONS:

a) The called termination is free.

b) Arrange the data in signalling point A such that a continuity check is applied on this circuit.

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	---------->	
Check tone	----------¬	

COT (successful)	---------->	
	<----------	ACM
	----------	Ringing tone
	<----------	ANM
Connectivity	-- -- -- -- --	Connectivity
REL	---------->	
	<----------	RLC

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: WAS THE CONTINUITY CHECK TONE HEARD BY EITHER CALLED OR CALLING PARTY? . . .
3	CHECK B: CAN RINGING TONE BE HEARD? . . .
4	The called party should answer the call.
5	CHECK C: IS THE CONNECTION ESTABLISHED? . . .
6	The calling party should clear the call.
7	CHECK D: IS THE CIRCUIT IDLE? . . .
8	CHECK E: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
9	For validation testing repeat this test in the reverse direction.

ISUP Basic Call Test Specification

TEST NUMBER: 6.1.5

REFERENCE: Q.764 Section 2.1.8

TITLE: Continuity check call

SUBTITLE: COT unsuccessful

PURPOSE: To verify that a repeat attempt of the continuity check is made on the failed circuit

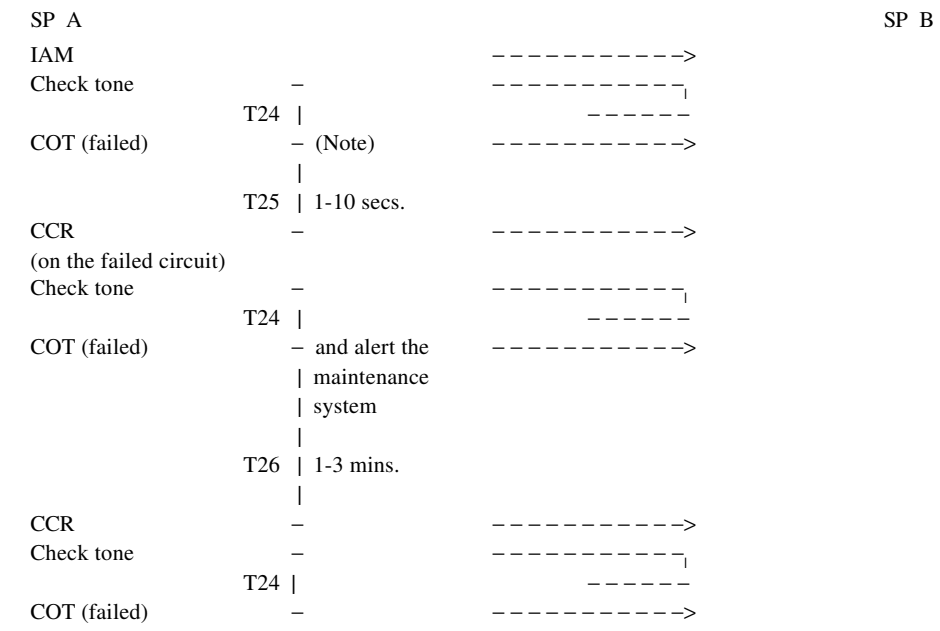
PRE-TEST CONDITIONS:

a) Arrange data in SP A such that a COT is applied on this circuit.

b) Ensure that no backward tone is detected within the specified time out

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: WAS THE CONTINUITY CHECK INITIATED WITHIN 1-10 SECONDS? . . .
3	CHECK B: WAS THE MAINTENANCE SYSTEM ALERTED ON FAILURE OF THE SECOND CONTINUITY CHECK? . . .
4	CHECK C: WAS THE CHECK REPEATED AT INTERVALS OF 1-3 MINUTES? . . .
5	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – The call should be re-attempted.

TEST NUMBER: 6.2.1

REFERENCE: Q.764 Section 2.9.1 i)

TITLE: Automatic repeat attempt

SUBTITLE: Dual seizure for non-controlling SP

PURPOSE: To verify that an automatic repeat attempt will be made on detection of a dual seizure

PRE-TEST CONDITIONS: Arrange the signalling point data such that SP B is the controlling exchange for cic = x

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM (cic = x)	– – – – –> < – – – – –	IAM (cic = x)
ACM (cic = x)	– – – – – – – – – – –>	
Ringing tone	– – – – – – – – – – –	
ANM (cic = x)	– – – – – – – – – – –>	
Connectivity	– – – – – – – – – – –	Connectivity
IAM (cic = y)	– – – – – – – – – – –>	
	<– – – – – – – – – – –	ACM (cic = y)
	– – – – – – – – – – –	Ringing tone
	<– – – – – – – – – – –	ANM (cic = y)
Connectivity	– – – – – – – – – – –	Connectivity
REL (cic = y)	– – – – – – – – – – –>	
	<– – – – – – – – – – –	RLC (cic = y)
	<– – – – – – – – – – –	REL (cic = x)
RLC (cic = x)	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Simultaneously transmit an IAM (containing the same value of cic) from each end of the link for a both way circuit. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD ON THE CALL ORIGINATED FROM SP B? . . .
3	The called party at SP A should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	CHECK C: WAS A REPEAT ATTEMPT MADE BY SP A, WITH A DIFFERENT VALUE OF CIC IN THE IAM? . . .
6	CHECK D: CAN RINGING TONE BE HEARD ON THE CALL ORIGINATED FROM SP A? . . .
7	The called party at SP B should answer the call.
8	CHECK E: IS THE CONNECTION STILL ESTABLISHED? . . .
9	Clear both calls down.
10	CHECK F: ARE THE CIRCUITS IDLE? . . .
11	CHECK G: WAS THE MESSAGE SEQUENCE AS ABOVE? . . . *Note* – The message sequence may not be as shown above.

ISUP Basic Call Test Specification

TEST NUMBER: 6.2.2

REFERENCE: Q.764 Section 2.9.1 ii)

TITLE: Automatic repeat attempt

SUBTITLE: Blocking of a circuit

PURPOSE: To verify that an automatic repeat attempt will be made on receipt of the blocking message after sending of an initial address message and before any backward messages have been received

PRE-TEST CONDITIONS: Arrange the data in signalling point B such that a blocking message is returned in response to the initial address message of the first call request.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM (cic = x)	––––––––––>	
	<––––––––––	BLO (cic = x)
BLA (cic = x)	––––––––––>	
REL (cic = x)	––––––––––>	
	<––––––––––	RLC(cic = x)
IAM (cic = y)	––––––––––>	
	<––––––––––	ACM (cic = y)
	–––––––––––	Ringing tone
	<––––––––––	ANM (cic = y)
Connectivity	–– –– –– –– ––	Connectivity
REL (cic = y)	––––––––––>	
	<––––––––––	RLC (cic = y)

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT (CIC = y) IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – The message sequence may not be as shown above.

TEST NUMBER: 6.2.3

REFERENCE: Q.764 Section 2.9.1 iii)

TITLE: Automatic repeat attempt

SUBTITLE: Circuit reset

PURPOSE: To verify that an automatic repeat attempt will be made on receipt of the circuit reset after sending of an initial address message and before a backward message has been received

PRE-TEST CONDITIONS:

a) Arrange the data signalling point B such that a circuit reset signal is sent in response to the initial address message of the first call request.

b) The called termination should be free.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM (cic = x)	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	RSC (cic = x)
RLC (cic = x)	– – – – – – – – – – – –>	
IAM (cic = y)	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	ACM (cic = y)
	– – – – – – – – – – – –	Ringing tone
	<– – – – – – – – – – – –	ANM (cic = y)
Connectivity	– – – – – – – – – – – –	Connectivity
REL (cic = y)	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	RLC (cic = y)

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: ARE THE CIRCUITS IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note – The message sequence may not be as shown above.

ISUP Basic Call Test Specification

TEST NUMBER: 6.2.4

REFERENCE: Q.764 Section 2.9.1 iv)

TITLE: Automatic repeat attempt

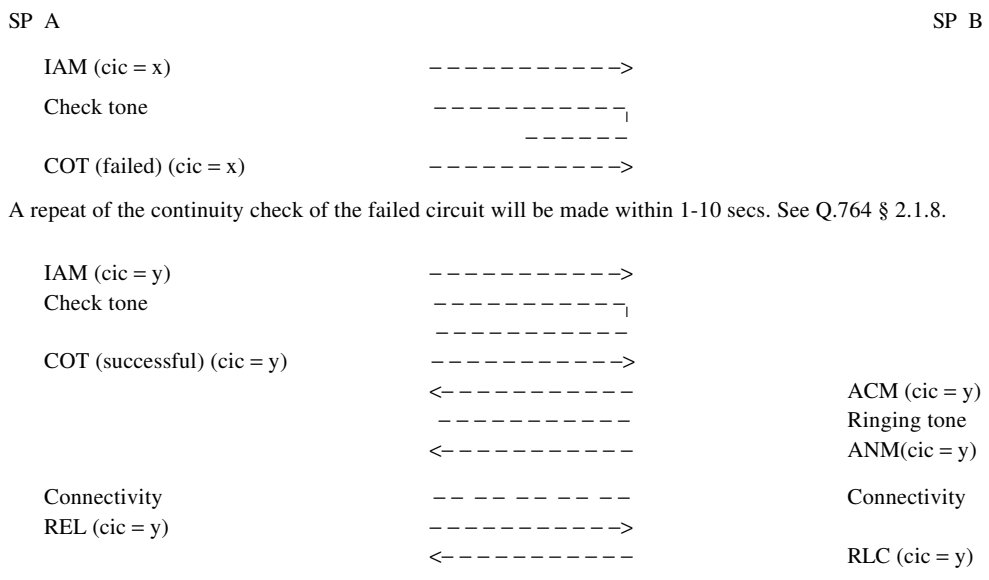
SUBTITLE: Continuity check failure

PURPOSE: To verify that an automatic repeat attempt will be made on continuity check failure

PRE-TEST CONDITIONS: Arrange the data in signalling point B such that check tone is not returned within the specified limits to the first call request

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:



	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . . *Note* – The message sequence may not be as shown above.

TEST NUMBER: 6.2.5

REFERENCE: Q.764 Section 2.9.1 v), 2.10.5.1 d)

TITLE: Automatic repeat attempt

SUBTITLE: Reception of unreasonable signalling information

PURPOSE: To verify that an automatic repeat attempt will be made on receipt of unreasonable signalling information after sending the initial address message and before one of the backward signals has been received

PRE-TEST CONDITIONS:

a) Arrange the data in signalling point B such that unreasonable signalling information (see Note 1 below) is returned in response to the initial address message of the first call request.

b) The called termination should be free.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM (cic = x)	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	see Note 1 below (cic = x)
RSC (cic = x)	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	RLC (cic = x)
IAM (cic = y)	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	ACM(cic = y)
	– – – – – – – – – – –	Ringing tone
	<– – – – – – – – – – – –	ANM (cic = y)
Connectivity	– – – – – – – – – – –	Connectivity
REL (cic = y)	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	RLC (cic = y)

	TEST DESCRIPTION
1	Make a call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD? . . .
3	The called party should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party should clear the call.
6	CHECK C: ARE THE CIRCUITS IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note 1 – This may be any message that if received at this point would be either ambiguous or inappropriate. For example, SUS or RES messages.
	Note 2 – The message sequence may not be as shown above.

ISUP Basic Call Test Specification

TEST NUMBER: 6.3.1

REFERENCE: Q.764 Section 2.10.1.4

TITLE: Dual seizure

SUBTITLE: Dual seizure for controlling SP

PURPOSE: To verify that on detection of dual seizure, the call initiated by the controlling signalling point is completed and the non-controlling signalling point is backed off

PRE-TEST CONDITIONS: Arrange the signalling point data such that SP A is the controlling signalling point

CONFIGURATION: 1	TYPE OF TEST: VAT; CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	– – – – –> <– – – – –	IAM (Note)
	<– – – – – – – – – – –	ACM
	– – – – – – – – – – –	Ringing tone
	<– – – – – – – – – – –	ANM
Connectivity	– – – – – – – – – –	Connectivity
REL	– – – – – – – – – – –>	
	<– – – – – – – – – – –	RLC

	TEST DESCRIPTION
1	Simultaneously transmit an IAM (containing the same value of cic) from each end of the link for a both way circuit. Record the message sequence using a signal monitor.
2	CHECK A: CAN RINGING TONE BE HEARD ON THE CALL ORIGINATED FROM SP A? . . .
3	The called party at SP B should answer the call.
4	CHECK B: IS THE CONNECTION ESTABLISHED? . . .
5	The calling party at SP A should clear the call.
6	CHECK C: IS THE CIRCUIT IDLE? . . .
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
8	Repeat this test in the reverse direction. *Note* – The call initiated by SP B should be re-attempted, see test number 6.2.1

ISUP Basic Call Test Specification

TEST NUMBER: 6.4.1

REFERENCE: Q.764 Section 2.1.12

TITLE: Semi-automatic operation

SUBTITLE: FOT sent following a call to a subscriber

PURPOSE: To verify that the FOT is correctly sent

PRE-TEST CONDITIONS:

a) FOT message is generated at SP A.

b) A controlling operator is at SP A.

c) Arrange the data so that an assistant operator is at SP B.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	ACM
	<– – – – – – – – – – – –	ANM
Connectivity (controlling operator)	– – – – – – – – – – – –	Connectivity (subscriber)
FOT	– – – – – – – – – – – –>	
Connectivity (controlling operator)	– – – – – – – – – – – –	Connectivity (assistant operator) (Note 2)
REL	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	RLC

	TEST DESCRIPTION
1	Make a call from controlling operator at SP A to SP B.
2	Record the message sequence using a signal monitor.
3	The called party should answer the call.
4	CHECK A: IS THE CONNECTION ESTABLISHED BETWEEN A CONTROLLING OPERATOR AND A SUBSCRIBER? . . .
5	CHECK B: IS FOT MESSAGE SENT BY SP A? . . .
6	CHECK C: IS THE CONNECTION ESTABLISHED BETWEEN CONTROLLING AND ASSISTANT OPERATORS? . . . (Note 2)
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note 1 – FOT may be sent between ACM and REL.
	Note 2 – The support of the FOT message in the international interface does not impose that the related functions are implemented in each gateway (e.g., language assistance).

ISUP Basic Call Test Specification

TEST NUMBER: 6.4.2

REFERENCE: Q.764 Section 2.1.12

TITLE: Semi-automatic operation

SUBTITLE: FOT received following a call to a subscriber

PURPOSE: To verify that the FOT is correctly received

PRE-TEST CONDITIONS:

a) FOT message is generated at SP B.

b) Arrange the data so that a controlling operator is at SP B.

c) An assistant operator is at SP A.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
	<– – – – – – – – – – –	IAM
ACM	– – – – – – – – – – –>	
ANM	– – – – – – – – – – –>	
Connectivity (subscriber)	– – – – – – – – – –	Connectivity (controlling operator)
	<– – – – – – – – – – –	FOT
Connectivity (assistant operator) (Note 2)	– – – – – – – – – –	Connectivity (controlling operator)
	<– – – – – – – – – – –	REL
RLC	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Make a call from controlling operator at SP B to SP A.
2	Record the message sequence using a signal monitor.
3	The called party at should answer the call.
4	CHECK A: IS THE CONNECTION ESTABLISHED BETWEEN A CONTROLLING OPERATOR AND A SUBSCRIBER? . . .
5	CHECK B: IS THE FOT MESSAGE RECEIVED BY SP A? . . .
6	CHECK C: IS THE CONNECTION ESTABLISHED BETWEEN CONTROLLING AND ASSISTANT OPERATORS? . . . (Note 2)
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note 1 – FOT may be received between ACM and REL.
	Note 2 – The support of the FOT message in the international interface does not impose that the related functions are implemented in each gateway (e.g., language assistance).

TEST NUMBER: 6.4.3

REFERENCE: Q.764 Section 2.1.12

TITLE: Semi-automatic operation

SUBTITLE: FOT sent following a call via codes 11 and 12

PURPOSE: To verify that a FOT is correctly sent

PRE-TEST CONDITIONS:

a) FOT message is generated at SP A.

b) A controlling operator is at SP A.

c) Arrange the data so that an incoming operator is at SP B.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	––––––––––>	
	<––––––––––	ACM
	<––––––––––	ANM
Connectivity (controlling operator)	–– –– –– –– ––	Connectivity (incoming operator) ↓
Connectivity (controlling operator)	–– –– –– –– ––	Connectivity (subscriber)
FOT	––––––––––>	
Connectivity (controlling operator)	–– –– –– –– ––	Connectivity (incoming operator) (Nota 2)
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a call from controlling operator at SP A to an incoming operator at SP B via codes 11 and 12.
2	Record the message sequence and parameters using a signal monitor.
3	The incoming operator should answer the call and make a call to a called user. The called user should answer the call.
4	CHECK A: IS THE CONNECTION ESTABLISHED BETWEEN A CONTROLLING OPERATOR AND A SUBSCRIBER? . . .
5	CHECK B: IS FOT MESSAGE SENT BY SP A? . . .
6	CHECK C: IS THE CONNECTION RE-ESTABLISHED BETWEEN CONTROLLING AND INCOMING OPERATORS? . . . (Note 2)
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note 1 – FOT may be sent between ACM and REL.
	Note 2 – The support of the FOT message in the international interface does not impose that the related functions are implemented in each gateway (e.g., language assistance).

TEST NUMBER: 6.4.4

REFERENCE: Q.764 Section 2.1.12

TITLE: Semi-automatic operation

SUBTITLE: FOT received following a call via codes 11 and 12

PURPOSE: To verify that a FOT is correctly received

PRE-TEST CONDITIONS:

a) FOT message is generated at SP B.

b) A controlling operator is at SP B.

c) Arrange the data so that an incoming operator is at SP A.

CONFIGURATION: 1	TYPE OF TEST: VAT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
	<– – – – – – – – – – –	IAM
ACM	– – – – – – – – – – –>	
ANM	– – – – – – – – – – –>	
Connectivity (incoming operator) ↓	– – – – – – – – – – –	Connectivity (controlling operator)
Connectivity (subscriber)	– – – – – – – – – – –	Connectivity (controlling operator)
	<– – – – – – – – – – –	FOT
Connectivity (incoming operator) (Note 2)	– – – – – – – – – – –	Connectivity (controlling operator)
	<– – – – – – – – – – –	REL
RLC	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Make a call from controlling operator at SP B to an incoming operator at SP A via codes 11 and 12.
2	Record the message sequence using a signal monitor.
3	The incoming operator should answer the call and make a call to a called user. The called user should answer the call.
4	CHECK A: IS THE CONNECTION ESTABLISHED BETWEEN A CONTROLLING OPERATOR AND A SUBSCRIBER? . . .
5	CHECK B: IS FOT MESSAGE RECEIVED CORRECTLY BY SP A? . . .
6	CHECK C: IS THE CONNECTION RE-ESTABLISHED BETWEEN CONTROLLING AND INCOMING OPERATORS? . . . (Note 2)
7	CHECK D: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
	Note 1 – FOT may be received between ACM and REL.
	Note 2 – The support of the FOT message in the international interface does not impose that the related functions are implemented in each gateway (e.g., language assistance).

ISUP Basic Call Test Specification

TEST NUMBER: 7.1.1

REFERENCE: Q.764 Section 2.1

TITLE: 64 kbit/s unrestricted

SUBTITLE: Successful call setup

PURPOSE: To verify that a 64 kbit/s call can be successfully completed using appropriate transmission medium requirement and user service information parameters

PRE-TEST CONDITIONS: Called termination is free

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM (TMR, USI)	––––––––––>	
	<––––––––––	ACM
	<––––––––––	ANM
Data	–– –– –– –– ––	Data
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a 64 kbit/s call from SP A to SP B.
2	CHECK A: IS THE TMR SET TO “64 kbit/s UNRESTRICTED”? . . .
3	CHECK B: DOES THE USI IF INCLUDED HAVE APPROPRIATE INFORMATION? . . . FOR EXAMPLE, USI HAS TWO OCTETS FOR 64 kbit/s AND AT LEAST FOUR OCTETS FOR ANY SUBRATE.
4	CHECK C: IS THE “ECHO CONTROL DEVICE INDICATOR” IN NATURE OF CONNECTION INDICATORS PARAMETER SET TO “NOT INCLUDED”? . . .
5	CHECK D: IS THE ECHO CONTROL DEVICE DISABLED OR IS A NON-ECHO CONTROLLED CIRCUIT SELECTED? . . .
6	The called party should answer the call.
7	CHECK E: IS IT POSSIBLE TO PASS DATA BETWEEN SP A AND SP B? . . .
8	The calling party should clear the call.
9	CHECK F: IS THE CIRCUIT IDLE? . . . FOR CIRCUITS EQUIPPED WITH ECHO CONTROL, IS THE ECHO CONTROL DEVICE RE-ENABLED? . . .
10	CHECK G: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
11	Repeat this test for any subrate calls.
12	Repeat this test in the reverse direction.
	Note – To check the contents of USI parameter is optional.

ISUP Basic Call Test Specification

TEST NUMBER: 7.1.2		
REFERENCE: Q.764 Section 2.2		
TITLE: 64 kbit/s unrestricted		
SUBTITLE: Unsuccessful call setup		
PURPOSE: To verify that the call will be immediately released by the outgoing signalling point if a release message with a given cause is received and, for circuits equipped with echo control, the echo control device is enabled		
PRE-TEST CONDITIONS: Arrange the data in signalling point B such that a release message with a given cause is returned to the request		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM	– – – – – – – – – – – –>	
	<– – – – – – – – – – – –	REL (cause = xxx)
RLC	– – – – – – – – – – – –>	

	TEST DESCRIPTION
1	Attempt to make a 64 kbit/s call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: IS THE APPROPRIATE CAUSE RETURNED TO THE CALLING PARTY? . . .
3	CHECK B: IS THE CIRCUIT IDLE? . . . FOR CIRCUITS EQUIPPED WITH ECHO CONTROL, IS THE ECHO CONTROL DEVICE RE-ENABLED? . . .
4	CHECK C: WAS THE MESSAGE SEQUENCE AS ABOVE? . . .
5	Repeat steps 1-4 with “xxx” set to various causes which are based on bilateral agreements. The suggested causes are: unallocated number, no circuit available, bearer capability not authorized, bearer capability not presently available, and bearer capability not implemented.

TEST NUMBER: 7.1.3

REFERENCE: Q.764 Section 2.9.1 i)

TITLE: 64 kbit/s unrestricted

SUBTITLE: Dual seizure

PURPOSE: To verify that an automatic repeat attempt will be made on detection of a dual seizure

PRE-TEST CONDITIONS: Arrange the signalling point data such that SP B is the controlling exchange for cic = x

CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM (cic = x)	– – – – –> < – – – – –	IAM (cic = x)
ACM (cic = x)	– – – – – – – – – – –>	
ANM(cic = x)	– – – – – – – – – – –>	
Data	– – – – – – – – – –	Data
IAM (cic = y)	– – – – – – – – – – –>	
	<– – – – – – – – – – –	ACM (cic = y)
	<– – – – – – – – – – –	ANM (cic = y)
Data	– – – – – – – – – –	Data
REL (cic = y)	– – – – – – – – – – –>	
	<– – – – – – – – – – –	RLC (cic = y)
	<– – – – – – – – – – –	REL (cic = x)
RLC(cic = x)	– – – – – – – – – – –>	

	TEST DESCRIPTION
1	Simultaneously transmit an IAM (containing the same value of cic) from each end of the link for a both way circuit. Both IAMs have appropriate indicators set for TMR and USI. Record the message sequence using a signal monitor.
2	CHECK A: IS THE ECHO CONTROL DEVICE DISABLED FOR CIC=x? . . .
3	The called party at SP A should answer the call.
4	CHECK B: IS IT POSSIBLE TO PASS DATA BETWEEN SP A AND SP B? . . .
5	CHECK C: WAS A REPEAT ATTEMPT MADE BY SP A, WITH A DIFFERENT VALUE OF CIC IN THE IAM? . . .
6	CHECK D: IS THE ECHO CONTROL DEVICE DISABLED FOR CIC=y? . . .
7	The called party at SP B should answer the call.
8	CHECK E: IS IT STILL POSSIBLE TO PASS DATA BETWEEN SP A AND SP B? . . .
9	Clear both calls down.
10	CHECK F: ARE THE CIRCUITS IDLE? . . .
11	CHECK G: WAS THE MESSAGE SEQUENCE AS ABOVE? . . . *Note* – The message sequence may not be as shown above.

ISUP Basic Call Test Specification

TEST NUMBER: 7.2.1		
REFERENCE: Q.764 Section 2.1		
TITLE: 3.1 kHz audio		
SUBTITLE: Successful call setup		
PURPOSE: To verify that a 3.1 kHz audio call can be successfully completed using appropriate transmission medium requirement and user service information parameters		
PRE-TEST CONDITIONS: Called termination is free		
CONFIGURATION: 1	TYPE OF TEST: VAT and CPT	TYPE OF SP: SP

EXPECTED MESSAGE SEQUENCE:

SP A		SP B
IAM (TMR, USI)	––––––––––>	
	<––––––––––	ACM
	<––––––––––	ANM
Data/Speech	–– –– –– –– ––	Data/Speech
REL	––––––––––>	
	<––––––––––	RLC

	TEST DESCRIPTION
1	Make a 3.1 kHz audio call from SP A to SP B. Record the message sequence using a signal monitor.
2	CHECK A: IS THE TMR SET TO “3.1 kHz AUDIO”? . . .
3	CHECK B: DOES THE USI IF INCLUDED HAVE APPROPRIATE INFORMATION? . . . FOR EXAMPLE, USI HAS TWO OR THREE OCTETS FOR 3.1 kHz AUDIO.
4	The called party should answer the call.
5	CHECK C: IS DATA/SPEECH POSSIBLE? . . .
6	The calling party should clear the call.
7	CHECK D: IS THE CIRCUIT IDLE? . . .
8	CHECK E: WAS THE MESSAGE AS ABOVE? . . .
9	Repeat the test in the reverse direction. *Note* – To check the contents of the USI parameter is optional.