

HKTA 2202
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**NETWORK CONNECTION SPECIFICATION
FOR NETWORK-TO-NETWORK
CONNECTION OF
THE PUBLIC TELECOMMUNICATIONS
NETWORKS (PTNs) IN HONG KONG
BASED ON ITU-T SIGNALLING SYSTEM NO. 7**



**TELECOMMUNICATIONS AUTHORITY
HONG KONG**

FOREWORD

1. In Hong Kong, the Public Telecommunications Networks (PTNs) operated by operators of Fixed Telecommunications Network Services (FTNS) and Public Mobile Radiotelephone Services (PMRS) / Personal Communications Services (PCS) as well as holders of fixed carrier licence and mobile carrier licence (hereafter referred to as "the operators") are required to use a standardised network-to-network interface so as to allow transparent interworking of basic telecommunications services among the networks.
2. Pursuant to Section 32D of the Telecommunications Ordinance (Cap. 106), the Telecommunications Authority (TA) may prescribe standards and specifications of telecommunications networks, systems, installations, customer equipment and services. This specification defines the standard for network-to-network connection of the PTNs using Signalling System No. 7 (C7) which is based on ITU-T Recommendations. This specification shall be observed by the operators using C7 for interconnection. The specification shall also be complied by equipment or platforms which are permitted by the Telecommunications Authority (TA) to be interconnected with the PTNs using C7.
3. The TA reserves the right to revise the contents of this specification without prior notice. Amendments or re-issues of this specification may not be distributed automatically to equipment suppliers and it will be the responsibility of the suppliers to ensure that their equipment conforms to the latest requirements.
4. The TA accepts no responsibility for the satisfactory end-to-end performance of terminal equipment connected to the networks of the operators. This specification does not address performance, reliability or quality-of-service parameters.
5. The HKTA series specifications and information notes issued by the TA can be obtained through one of the following methods:-

- downloading direct through the OFTA's Internet Home Page. The Home Page address is <http://www.ofta.gov.hk>;
- making a request for hard copies to :-

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6. Enquiries about this specification may be directed to :

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Amendment Table

Item	Issue No.	Paragraph	Descriptions
1.	Issue 2	Section II Part II Chapter II-4 (Q.704) Item 2.3.1 - Information for message routing information	The description is amended as "Only NI='10' is used at the network interface and the service indicator is not used for routing purposes".
2.	Issue 2	Section II Part III Chapter III-2 (Q.762) Item 2.35 - End-to-end Information Indicator	The description is amended as "End-to-end Information Indication (national use)".
3.	Issue 2	Section II Part III Chapter III-3 (Q.763) Item 3.8 - Calling Party Number	The additional note "The nature of address indicator should be coded to 'subscriber number' " is deleted.
4.	Issue 2	Section II Part III Chapter III-2 (Q.762) Item 1.37 - Subsequent Address Message (SAM)	Compliance status is changed to "Complied to ITU-T with additional notes" column. The note is amended as "Enbloc digit sending mode is used in the network interface. This message is used to support the conveying of additional called party number."
5.	Issue 2	Section II Part III Chapter III-3 (Q.763) Item 3.32 - Subsequent Number	Compliance status is changed to "Compiled to ITU-T with additional notes" column.
6.	Issue 2	Section II Part III Chapter III-3 (Q.763) Table 3/Q.763	The "<not support>" for "Subsequent address" is deleted.
7.	Issue 2	Section II Part III Chapter III-3 (Q.763) Table 4/Q.763	The "<not support>" for "Subsequent number" is deleted.
8.	Issue 2	Section II Part III Chapter III-3 (Q.763) Table 19/Q.763	The table content for message type - "Subsequent address" is defined.
9.	Issue 3	Foreword	The scope is amended to apply to interconnection of fixed and mobile networks using C7. Equipment or platforms permitted to be interconnected with the PTNs using C7 shall also comply with this specification. Other editorial changes are included.
10.	Issue 3	Section I – Clause 1	Change in scope similar to item 9 is included.
11.	Issue 3	Section I – Clause 3	The requirement for electrical safety is referred to HKTA 2001.
12.	Issue 3	Section I – Clauses 5 and 6	The two clauses are restructured.
13.	Issue 3	Section II Part I	New clause 3 on "Compliance with ITU-T Recommendations" is added.
14.	Issue 3	Section II Part II	Compliance status of some items is changed from

Item	Issue No.	Paragraph	Descriptions
			"Under study" to "Not supported".
15.	Issue 3	Section II Part III Chapter III-1	Compliance status of item 4 is changed from "Under study" to "Not supported".
16.	Issue 3	Section II Part III Chapter III-2	Compliance status of some items is changed from "Under Study" to "Not supported" or "Optional". Compliance status of item 2.53 (National / International Call Indicator) is changed from "Complied to ITU-T" to "Complied to ITU-T with additional notes". Compliance status of item 2.57 (Original Called Number) and item 2.65 (Redirecting Number) is changed from "Under study" to "Complied to ITU-T with additional notes".
17.	Issue 3	Section II Part III Chapter III-3	Compliance status of some items is changed from "Under Study" to "Not supported" or "Optional". Additional notes are added for item 3.9 (Calling Party's Category) and item 3.20 (Forward Call Indicators). Compliance status of item 3.26 (Original Called Number) and item 3.28 (Redirecting Number) is changed from "Under study" to "Complied to ITU-T with additional notes". Tables 3 to 21 are updated to align with the compliance status for items in Q.762 and Q.763.
18.	Issue 3	Section II Part III Chapter III-4 (Q.764) Item 2.6	Compliance status of some items is changed from "Under Study" to "Not supported" or "Optional".
19.	Issue 4	Foreword	Editorial amendments.
20.	Issue 4	Section II Part III Chapter III-2 (Q.762) Item 2.54	Additional notes are added for "Nature of Address Indicator".
21.	Issue 4	Section II Part III Chapter III-2 (Q.762) Item 2.64	Compliance status of code 100 of "Redirecting Indicator" is changed from "Not supported" to "Optional".
22.	Issue 4	Section II Part III Chapter III-3 (Q.763)	Additional notes are added for item 3.7 "Called Party Number", item 3.8 "Calling Party Number", item 3.26 "Original Called Number" and item 3.28 "Redirecting Number".
23.	Issue 4	Section II Part III Chapter III-3 (Q.763) Item 3.29	Compliance status of code 100 of "Redirecting Indicator" is changed from "Not supported" to "Optional".

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Compliance with ITU-T Recommendation Q.763
- Chapter III-4 Specification of ISDN-UP Signalling Procedures
Compliance with ITU-T Recommendation Q.764

SECTION I - GENERAL

1. SCOPE

This Network Connection Specification defines the technical requirements for network-to-network connection of the Public Telecommunications Networks (PTNs) in Hong Kong using Signalling System No. 7 (C7) which is based on ITU-T Recommendations. The technical requirements shall also be complied by equipment or platform permitted to be interconnected with the PTNs using C7.

The signalling system defined is based on the ITU-T Q-Series Recommendations Q.701-704, Q.707, Q.761-764 (1988 version). All definitions and descriptions contained in these Recommendations apply, except for where contradicted by this and associated documents.

2. ORGANISATION OF DOCUMENT

This Specification is organized into 2 sections. Section I is a general part. Section II contains 3 parts describing the signalling system based on ITU-T recommendations for Signalling System No. 7.

Part I Overview of the Signalling System based on ITU-T Signalling System No. 7 (C7)

Part II Specification of the Message Transfer Part (MTP) of C7

Chapter II-1 Functional Description of the Message Transfer Part of Signalling System No. 7 (Q.701)

Chapter II-2 Specification of Signalling Data Link Layer (Q.702)

Chapter II-3 Specification of Signalling Link Layer (Q.703)

Chapter II-4 Specification of Signalling Network Functions and Messages (Q.704)

Chapter II-5 Specification of Testing and Maintenance Message and Functions (Q.707)

Part III Specification of the Integrated Services Digital Network User Part (ISDN-UP) of C7

Chapter III-1 Functional Description of the ISDN-UP of C7 (Q.761)

Chapter III-2 Specification of General Function of Messages and Signals of ISDN-UP (Q.762)

Chapter III-3 Specification of ISDN-UP Formats and Codes (Q.763)

Chapter III-4 Specification of ISDN-UP Signalling Procedures (Q.764)

3. ELECTRICAL SAFETY

3.1 PRINCIPLE OF PROTECTION

In order to safeguard operating personnel, users, and plant, it is essential to prevent the transmission of excessive voltages from any terminal equipment or terminating network / platform into the PTNs in Hong Kong.

3.2 SAFETY REQUIREMENTS

Equipment connected with the PTNs in Hong Kong shall comply with the electrical safety requirements specified in HKTA 2001 " Compliance Test Specification Safety and Electrical Protection Requirements for Subscriber Equipment Connected to the Public Telecommunications Networks in Hong Kong" issued by the Telecommunications Authority (TA).

4. INTERCONNECT POINT

Interconnection takes place at gateways which can be toll exchanges, tandem exchanges, local exchanges or dedicated interconnection gateways. The interconnection interface in this document is defined with respect to a Point of Interconnection (POI) which is a notional point in the middle of the link connecting two networks or connecting a network with a platform as shown in Figure 1. The physical location and method of interconnection at the POI will be subject to mutual agreement between the two operators.

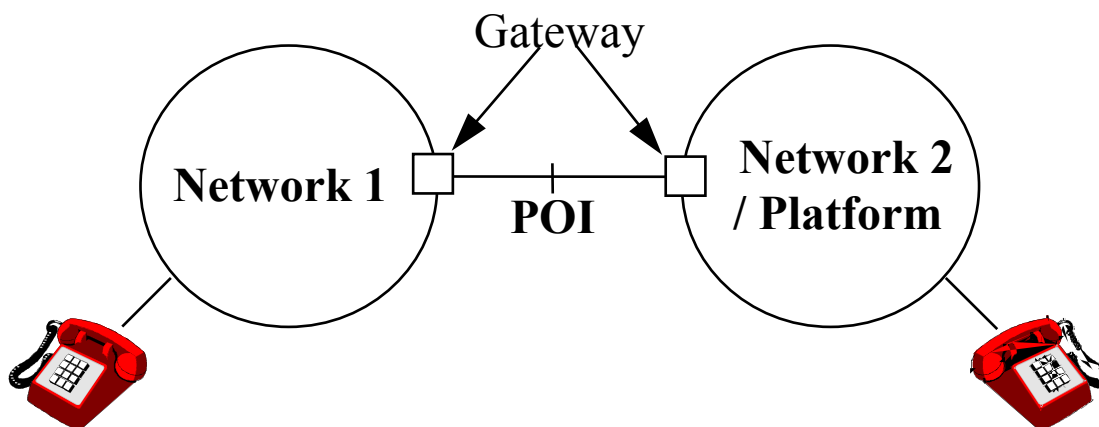


Figure 1 Point of Interconnection (POI)

5. DIGITAL INTERFACE REQUIREMENTS

5.1 CODING OF ANALOGUE SIGNALS BY PULSE CODE MODULATION

Where digital interfaces are employed at the POI using hierarchical bit rates based on a first level bit rate of 1544 kbit/s, all analogue signals are encoded and decoded in accordance with the μ -law defined in Section 3.2 of ITU-T Recommendation G.711 "Pulse Code Modulation (PCM) of Voice Frequencies".

Where digital interfaces are employed at the POI using hierarchical bit rates based on a first level bit rate of 2048 kbit/s, all analogue signals are encoded and decoded in accordance with the A-law defined in Section 3.2 of ITU-T Recommendation G.711 "Pulse Code Modulation (PCM) of Voice Frequencies".

Provision and rules for conversion between different encoding laws shall be in accordance with ITU-T Recommendation G.711.

5.2 NETWORK SYNCHRONIZATION

5.2.1 General

Network synchronization is required in a digital network. Reliable synchronization depends entirely on receiving a time reference that is phase-locked to an equal or higher quality clock. To increase the availability of a timing reference, the digital interface equipment are preferred to be capable of accepting more than a single synchronization reference source (e.g., one primary and one or more secondary). An automatic means is desirable to switch over from a facility carrying the primary reference source to another facility carrying the secondary reference.

5.2.2 Basic Requirements on Synchronization

(a) Synchronization Method

The digital interface equipment of one network or platform must be able to synchronize (as a slave) to the digital interface equipment of the network to be interconnected (as a master) using master-slave synchronization method¹.

(b) Capability of External Synchronization

It is preferable that the digital interface clock should be capable of external synchronization via a feedback mechanism from at least two external PCM links under a multi-link configuration. The digital interface equipment should be able to select and extract the timing signal from the incoming bit stream of a normal traffic-carrying link, and preferably be able to select between the primary and secondary links under a multi-link configuration (see Figure 2). Synchronization by other methods (e.g. dedicated clock distribution link) is subject to agreement by the interconnecting operators.

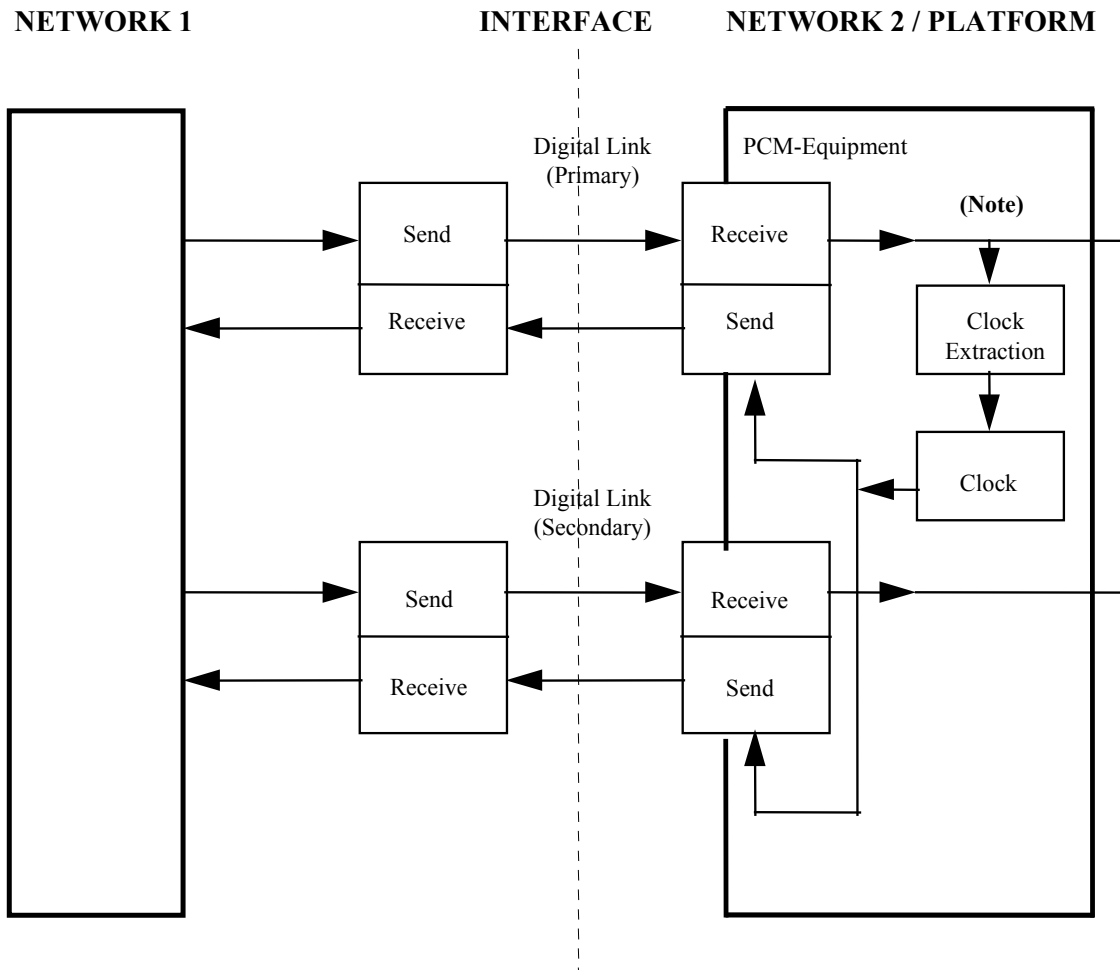
(c) Clock Requirements

The clocks are receivers of timing and must meet the following requirements.

Item Description	Note	Requirement of Clock
Minimum Accuracy	1	+/- 4.6 x 10 ⁻⁵
Minimum Stability (Per 24 hrs)	2	+/- 3.7 x 10 ⁻⁷
Pull-In Range	3	Must be capable of synchronizing to clock with accuracy of +/- 4.6 x 10 ⁻⁵

¹ Synchronization mode of operation is normally adopted for the local networks in Hong Kong. Plesiochronous mode of operation is an option subject to agreement between the interconnecting operators.

- Note 1 : Minimum accuracy represents the maximum long-term (e.g., 20 years) deviation from the nominal frequency with no external frequency reference.
- Note 2 : Minimum stability or drift rate represents the maximum rate of change of the clock frequency with respect to time upon loss of all frequency references.
- Note 3 : Pull-in range is a measure of the maximum input frequency deviation from the nominal clock rate that can be overcome by a clock to pull itself into synchronization with another clock.



Note : The digital interface equipment should be able to select and extract the timing signal from the incoming bit stream of a normal traffic-carrying link, and preferably be able to switch between the primary and secondary links under a multi-link configuration.

Figure 2 Preferred Synchronisation Method at the Digital Interface

5.3. ELECTRICAL CHARACTERISTICS

5.3.1 Digital Interface at 1544 kbit/s

Where digital links are employed at the POI at 1544 kbit/s, the following characteristics shall be adopted:

- (a) The physical/electrical characteristics of the 1544 kbit/s digital interface shall be in accordance with section 2 of ITU-T Recommendation G.703;
- (b) The basic frame structure and characteristics of the 1544 kbit/s digital interface shall be in accordance with section 2.1 and 3.1 of ITU-T Recommendation G.704;
- (c) The control of jitter and wander for the 1544 kbit/s digital interface shall comply with ITU-T Recommendation G.824.

5.3.2 Digital Interface at 2048 kbit/s

Where digital links are employed at the POI at 2048 kbit/s, the following characteristics shall be adopted:

- (a) The physical/electrical characteristics of the 2048 kbit/s digital interface shall be in accordance with section 6 of ITU-T Recommendation G.703;
- (b) The basic frame structure and characteristics of the 2048 kbit/s digital interface shall be in accordance with section 2.3 and 5.1 of ITU-T Recommendation G.704;
- (c) The control of jitter and wander for the 2048 kbit/s digital interface shall comply with ITU-T Recommendation G.823.

5.3.3 Digital Interface at Other Hierarchy Bit Rates

Where digital links are employed at the POI using digital hierarchy bit rates other than 1544 kbit/s and 2048 kbit/s, the technical characteristics shall be mutually agreed between the operators to be interconnected and shall be based on internationally accepted standards.

6. GENERAL CHARACTERISTICS OF FIXED NETWORKS

Additional requirements for the general characteristics of the fixed networks to be interconnected can be found in the HKTA 2201 specification.

7. SIGNALLING SYSTEM

7.1 GENERAL

The Signalling System No. 7 (C7) based on the ITU-T Q.700 series of Recommendations for Message Transfer Part (MTP) and Integrated Services Digital Network User Part (ISDN-UP) shall be adopted. The C7 to be implemented by individual operators for interconnection at the POI shall comply with the specifications as set out in Section II of this HKTA document.

7.2 SERVICE SCOPE

The Signalling System shall be able to support interworking of basic telecommunications services across networks in a transparent manner to customers. Initially the scope of the basic telecommunications services shall include:

- (a) Basic voice services :
 - Basic Telephone Calls;
 - Calling Line Identification Presentation;
 - Calling Line Identification Restriction; and
 - Malicious Call Trace²

- (b) Basic ISDN services
 - Basic voice and data communications by using the B channels;
 - Calling Line Identification Presentation;
 - Calling Line Identification Restriction;
 - Multiple Subscriber Number;
 - Subaddressing; and
 - Group 4 fax transmission

The signalling capabilities may be enhanced at the discretion of the operators to support interworking of enhanced services.

8. REFERENCE DOCUMENTS

- [1] ITU-T Recommendation G.121 - Loudness ratings (LRs) of national systems.
- [2] ITU-T Recommendation G.122 - Influence of national systems on stability and talker echo in international connections.
- [3] ITU-T Recommendation G.703 - Physical/electrical characteristics of hierarchical digital interfaces.
- [4] ITU-T Recommendation G.704 - Functional characteristics of interfaces associated with network nodes.
- [5] ITU-T Recommendation G.711 - Pulse code modulation (PCM) of voice frequencies.
- [6] ITU-T Recommendation G.823 - The control of jitter and wander within digital networks which are based on the 2048 kbit/s hierarchy.
- [7] ITU-T Recommendation G.824 - The control of jitter and wander within digital networks which are based on the 1544 kbits hierarchy.
- [8] ITU-T Recommendation Q.700 - Introduction to the ITU-T Signalling System No. 7
- [9] ITU-T Recommendation Q.701-704, 706, 707 - The Message Transfer Part of the ITU-T Signalling System No. 7

² Malicious Call Trace (MCT) may be implemented initially by manual means, and automatic means of MCT is subject to further study and agreement among the network operators.

- [10] ITU-T Recommendation Q.761-764, 766 - The Integrated Services Digital Network User Part (ISDN-UP) of the ITU-T Signalling System No. 7
- [11] HKTA 2201 - General Technical Characteristics of Fixed Telecommunications Networks in Hong Kong.
- [12] HKTA 3204 – Standardisation Guide for Implementation of Mandatory Network-to-Network Connection Specifications
- [13] HKTA 3205 – Standardisation Guide for Interconnection of External Telecommunications Services (ETS) Platforms with the Public Telecommunications Networks (PTNs) using Signalling System No. 7

SECTION II
PART I

OVERVIEW OF THE SIGNALLING SYSTEM
BASED ON ITU-T SIGNALLING SYSTEM NO. 7 (C7)

1. GENERAL CHARACTERISTICS OF THE ITU-T SIGNALLING SYSTEM NO. 7

The ITU-T Signalling System No. 7 (C7) is an internationally standardised signalling system based on the following objectives:-

- optimised for operation in digital telecommunications networks in conjunction with stored program controlled exchanges;
- optimised for operation over 64 kbit/s digital channels;
- provides a reliable means of transfer of information, e.g., signalling information, in correct sequence and without loss or duplication;
- meet the requirements of information transfer within telecommunications networks for call control or other applications.

2. ARCHITECTURE OF THE SIGNALLING SYSTEM NO. 7

The following C7 functional blocks are specified for the signalling system defined in this Section II of the specification:-

- Message Transfer Part (MTP)
- ISDN User Part (ISDN-UP)

2.1 MESSAGE TRANSFER PART (MTP) LEVEL 1-3

An overview of the MTP is given in Part II Chapter II-1. The MTP is defined in Chapters II-2 to II-5.

2.1.1 Signalling Data Link Functions (Level 1)

Level 1 defines the physical, electrical and functional characteristics of a signalling data link and the means to access it. The level 1 element provides a bearer for a signalling link.

The detailed requirements for signalling data links are specified in Chapter II-2.

2.1.2 Signalling Link Functions (Level 2)

Level 2 defines the functions and procedures for and relating to the transfer of signalling messages over one individual signalling data link. The level 2 functions together with level 1 signalling data link as a bearer, provides a signalling link for reliable transfer of signalling messages between two points.

A signalling message delivered by the higher levels is transferred over the signalling link in variable length signal units. For proper operation of the signalling link, the signal unit comprises transfer control information in addition to the information content of the signalling message.

The detailed requirements for signalling link functions are given in Chapter II-3.

2.1.3 Signalling Network Functions (Level 3)

Level 3 in principle defines those transport functions and procedures that are common to and independent of the operation of individual signalling links. These functions fall into two major categories:

- a) Signalling message handling functions - these are functions that, at the actual transfer of the message, direct the message to the proper signalling link or User Part;
- b) Signalling network management functions - these are functions that, on the basis of predetermined data and information about the status of the signalling network, control the current message routing and configuration of the signalling network facilities. In the event of changes in the status, they also control the reconfigurations and other actions to preserve or restore the normal message transfer capability.

The detailed requirements for signalling network functions are given in Chapter II-4.

2.2 ISDN USER PART (ISDN-UP)

The ISDN-UP signalling messages and procedures are defined in Chapters III-1 to III-4 to support following service options:-

- Basic telephone calls;
- G4 fax transmission;
- Speech and 3.1 kHz audio calls;
- 64 kbit/s unrestricted data calls;
- Calling Line Identification Presentation;
- Calling Line Identification Restriction;
- Subaddressing;
- Malicious Call Trace (Note 1)

Note 1 : Malicious Call Trace (MCT) may be implemented initially by manual means, and automatic means of MCT is subject to further study and agreement among the operators.

2.3 SIGNALLING POINTS

To provide basic telephone call communication between two network nodes using C7, each of these nodes is required to implement the necessary 'within node' features as specified in this Specification making that node a signalling point with the capability to exchange C7 signalling information. These signalling points are interconnected in a point-to-point (associated mode) fashion by means of signalling links which convey the signalling information. The signalling traffic is load shared between the signalling links. Quasi-associated mode of signalling relation is subject to further study.

Each signalling point connected is identified by a unique national signalling point code.

3. COMPLIANCE WITH ITU-T RECOMMENDATIONS

The technical requirements for the signalling system are specified in this Section by defining the status of compliance with the relevant ITU-T Recommendations for MTP and ISDN-UP in Part II Chapters II-1 to II-5 and Part III Chapters III-1 to III-4 respectively according to the following :

Compliance Status	Interpretation
A. Complied with ITU-T	All operators shall fully support the relevant requirements as defined in the ITU-T Recommendation
B. Complied with ITU-T with additional notes	All operators shall support the relevant requirements as contained in the ITU-T Recommendation and implementation specific to the local environment for the non-mandatory elements is described in additional notes
C. Partially complied with ITU-T	All operators shall support the relevant requirements which are in partial compliance with the ITU-T Recommendation with the variations as described in additional notes.
D. Not supported	Operators should in general not support the relevant requirements as contained in the ITU-T Recommendation. Operators which choose to implement the concerned requirements, subject to agreement with individual operators, shall be responsible for preventing problems in interworking with other operators.
E. Optional	It is optional for operators to support the relevant requirements as contained in the ITU-T Recommendation. Operators which choose to implement the concerned requirements should take necessary measures to prevent problems in interworking with other operators. Operators which do not implement the concerned requirements should, upon reception of the respective messages and parameters classified under the "Optional" status, take necessary measures to handle or discard the concerned messages and parameters without affecting normal progress of the call.
F. Descriptive text only	The subject clauses of the ITU-T Recommendation are descriptive text only and do not constitute requirements to be implemented.

PART II

SPECIFICATION OF MESSAGE TRANSFER PART OF SIGNALLING SYSTEM NO.7

- Chapter II-1 Functional Description of the Message Transfer Part (MTP) of Signalling System No.7 (Q.701)
- Chapter II-2 Specification of Signalling Data Link Layer (Q.702)
- Chapter II-3 Specification of Signalling Link Layer (Q.703)
- Chapter II-4 Specification of Signalling Network Functions and Messages (Q.704)
- Chapter II-5 Specification of Testing and Maintenance Messages and Functions (Q.707)

PART II
CHAPTER II-1

FUNCTIONAL DESCRIPTION OF THE MESSAGE TRANSFER PART (MTP)
OF SIGNALLING SYSTEM NO.7 (Q.701)

Compliance with ITU-T Recommendation Q.701

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1							<u>INTRODUCTION</u>
1.1						O	<u>General</u>
1.2			O				<u>Objectives</u> Initially, ISDN user part is the only 'user' of MTP in the interconnection interface.
1.3	O						<u>General characteristics</u>
1.3.1	O						<u>Method of description</u>
1.3.2	O						<u>Primitives</u>
1.3.3	O						<u>Peer-to-peer communication</u>
1.3.4			O				<u>Contents of Recommendation Q.701 to Q.707 series relating to the MTP</u> <ul style="list-style-type: none"> - Chapter II-1 (Q.701) contains a functional description and overview of the Message Transfer Part of the C7 at the interconnection interface. - Chapter II-2 (Q.702) details the requirements of a signalling data link to support the C7 at the interconnection interface. - Chapter II-3 (Q.703) describes the signalling link functions. - Chapter II-4 (Q.704) describes signalling network functions and messages. - Chapter II-5 (Q.707) describes the testing and maintenance functions applicable to the MTP.
2							<u>SIGNALLING SYSTEM STRUCTURE</u>
2.1			O				<u>Basic functional division</u> The term "user" in this specification refers to the ISDN-UP or other user parts which may be introduced in the future that utilizes the transport capability provided by the MTP.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.701

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2.2							<u>Functional levels</u>
2.2.1	O						<u>General</u>
2.2.2			O				<u>Signalling data link functions (level 1)</u> The following items are not supported:- - automatic allocation of signalling links, - types of data links other than 64 kbit/s digital paths.
2.2.3	O						<u>Signalling link functions (level 2)</u>
2.2.4	O						<u>Signalling network functions (level 3)</u>
2.2.5			O				<u>User Part functions (level 4)</u> Only ISDN-UP is supported initially.
2.3			O				<u>Signalling message</u> Only the indication of "national" application of the User Part in the service indicator will be supported.
2.4	O						<u>Functional interface</u>
3							<u>MESSAGE TRANSFER PART AND THE SIGNALLING NETWORK</u>
3.1	O						<u>General</u>
3.1.1			O				<u>Signalling network components</u> - Partitioning the common channel signalling functions at a (physical) node into logically separate entities is not applicable. - The use of more than one link set between two signalling points is not supported. - Two signalling points that are not directly interconnected are not applicable in the interconnection interface.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.701

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
3.1.2			O				<u>Signalling modes</u> Only associated mode of signalling will be used in the interconnection interface. Quasi-associated mode of signalling is subject to further study.
3.1.3			O				<u>Signalling point modes</u> For the associated mode of operation at the interconnection interface, the interconnected signalling points function as originating and destination points for the messages exchanged in the two directions between them. The signalling transfer point functions are subject to further study.
3.1.4			O				<u>Message labelling</u> A unique point code number will be assigned conforming to the signalling point code plan for each node which requires to be interconnected. Furthermore, the following sentences are excluded:- "Messages labelled according to international and national code plans are discriminated by means of an indication in the service information octet included in each message. The standard routing label is suitable for national applications also. However, the signalling system includes the possibility of using different routing labels nationally."
3.2							<u>Signalling message handling functions</u>
3.2.1			O				<u>Message routing</u> As point-to-point associated mode of operation would be employed for signalling connection in the interconnection interface, only one link set without signalling transfer points would constitute the single signalling route between the signalling nodes in the interconnecting networks / platforms. Therefore, traffic distribution is limited to different links within a link set.
3.2.2	O						<u>Message distribution</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.701

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
3.2.3			O				<u>Message discrimination</u> As point-to-point connection is adopted at the interconnection interface, the destination code in the routing label of the messages sent through the interface should be set to the signalling point of the connected signalling node.
3.3							<u>Signalling network management functions</u>
3.3.1			O				<u>Signalling traffic management</u> As point-to-point associated mode of signalling connection is used in the interconnection interface, procedures which are specific to Quasi-associated mode of operation, e.g. forced rerouting and controlled rerouting, and procedures relating signalling route management function at a signalling transfer point are not applicable.
3.3.2			O				<u>Signalling link management</u> The arrangement of automatic allocation of signalling data link is not supported.
3.3.3				O			<u>Signalling route management</u>
3.4	O						<u>Testing and maintenance functions</u>
3.5							<u>Use of the signalling network</u>
3.5.1			O				<u>Signalling network structure</u> At the interconnection interface, the provision of the signalling system is planned purely on a per signalling basis, i.e. the interworking signalling network is based on associated signalling.
3.5.2			O				<u>Provision of signalling facilities</u> <ul style="list-style-type: none"> - Redundancy in signalling terminal devices is not provided. - Redundancy in signalling routes for each destination is not applicable to associated mode of operation. - Redundancy in signalling data link reserved for automatic allocation is not supported. - Dedication of certain parts of a signalling network to signalling traffic related to a particular user is not supported.
3.5.3			O				<u>Application of signalling network functions</u> The interworking nodes at the interconnection interface boundary will not function as a signalling transfer point.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.701

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
4							<u>MESSAGE TRANSFER CAPABILITY</u>
4.1			O				<u>General</u> The specification of MTP in this document specifies methods by which associated mode of signalling network can be established at the interconnection interface. The requirements for the MTP have primarily been determined by the requirements of call control signalling for the telephone and circuit switched data services.
4.2	O						<u>User location in system structure</u>
4.3							<u>Message content</u>
4.3.1	O						<u>Code transparency</u>
4.3.2	O						<u>Service information</u>
4.3.3	O						<u>Message label</u>
4.3.4	O						<u>Message length</u>
4.4			O				<u>User accessibility</u> As only associated mode of signalling is employed in the interconnection interface, only user functions located at adjacent signalling points may be accessed.
4.5							<u>Transport service performance</u> The actual figures are subject to actual measurement at the interworking points.
4.5.1	O						<u>Message transfer delay</u>
4.5.2			O				<u>Message transfer failures</u> User function which requires a reliability of the transport service that cannot be guaranteed by the MTP is not supported. In addition, mis-sequencing of messages is not applicable to the associated mode of operation.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.701

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
5				O			<u>DIFFERENCES FROM THE RED BOOK</u>
6							<u>COMPATIBILITY IN THE MESSAGE TRANSFER PART</u>
6.1							<u>Unreasonable Information</u>
6.1.1			O				<u>Messages containing an unallocated SIO value</u> The part related to the STP function is not applicable in the interconnection interface.
6.1.2	O						<u>Messages containing an unallocated H0/H1 code</u>
6.1.3	O						<u>Messages containing an unallocated value in a recognized field</u>
6.2			O				<u>Treatment of spare fields</u> The part related to the STP function is not applicable at the interconnection interface.
6.3	O						<u>Lack of acknowledgement</u>
7				O			<u>INTERWORKING OF YELLOW, RED AND BLUE MTP IMPLEMENTATION</u>
8	O						<u>PRIMITIVES AND PARAMETERS OF THE MESSAGE TRANSFER PART</u>
8.1	O						<u>Transfer</u>
8.2	O						<u>Pause</u>
8.3	O						<u>Resume</u>
8.4			O				<u>Status</u> The remote User Part unavailable option is not supported.
8.5	O						<u>Restart</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

PART II
CHAPTER II-2

SPECIFICATION OF SIGNALLING DATA LINK LAYER (Q.702)

Compliance with ITU-T Recommendation (Q.702)

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1			O				<u>GENERAL</u> The digital transmission channels used for signalling data link are derived from a digital multiplex signal at 1544 kbit/s or 2048 kbit/s and it will be operated over terrestrial links.
2							<u>SIGNALLING BIT RATE</u>
2.1	O						<u>General</u> The standard bit rate on a digital bearer will be 64 kbit/s, other bit rates are not supported.
2.2				O			<u>Use of bit rates lower than 64 kbit/s</u>
3	O						<u>ERROR CHARACTERISTICS AND AVAILABILITY</u>
4			O				<u>INTERFACE SPECIFICATION POINTS</u> Interface requirements for the interworking digital signalling data link will be specified at Point C in accordance with the specific multiplex structure used. Implementations should also take into account those requirements that are specified for testing and maintenance actions which require communication between the two ends of a data link.
5							<u>DIGITAL SIGNALLING DATA LINK</u>
5.1	O						<u>Signalling data link derived from the 2048-kbit/s digital path</u>
5.2				O			<u>Signalling data link derived from the 8448-kbit/s digital path</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation (Q.702)

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
5.3		O					<p><u>Signalling data link derived from the 1544-kbit/s digital path</u> The interface requirements should comply with Recommendations G.703 for the electric characteristics and G.704 for the functional characteristics, in particular the frame structure.</p> <p>The signalling bit rate shall be 64 kbit/s.</p> <p>The channel time slot for the use of a signalling data link is normally time slot 24. When time slot 24 is not available or more than one signalling data link is to be accommodated in the same PCM system, another channel time slot available for 64 kbit/s transmission may be used.</p> <p>Bit inversion is normally performed.</p>
5.4				O			<u>SDL established over a digital path made up by digital sections based on different digital hierarchies</u>
5.5				O			<u>Signalling data link established over data circuits</u>
6				O			<u>ANALOGUE SIGNALLING DATA LINK</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

PART II
CHAPTER II-3

SPECIFICATION OF SIGNALLING LINK LAYER (Q.703)

Compliance with ITU-T Recommendation Q.703

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1							<u>GENERAL</u>
1.1	O						<u>Introduction</u>
1.2	O						<u>Signal unit delimitation and alignment</u>
1.3	O						<u>Error detection</u>
1.4			O				<u>Error correction</u> At the interconnection interface, the basic error correction method is provided. The preventive cyclic retransmission method is not supported.
1.5	O						<u>Initial alignment</u>
1.6	O						<u>Signalling link error monitoring</u>
1.7	O						<u>Link state control functions</u>
1.8	O						<u>Flow control</u>
2							<u>BASIC SIGNAL UNIT FORMAT</u>
2.1	O						<u>General</u>
2.2	O						<u>Signal unit format</u>
2.3							<u>Function and codes of the signal unit fields</u>
2.3.1	O						<u>General</u>
2.3.2	O						<u>Flag</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.703

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2.3.3	O						<u>Length indicator</u>
2.3.4	O						<u>Service information octet</u>
2.3.5	O						<u>Sequence numbering</u>
2.3.6	O						<u>Indicator bits</u>
2.3.7	O						<u>Check bits</u>
2.3.8	O						<u>Signalling information field</u>
2.3.9	O						<u>Status field</u>
2.3.10	O						<u>Spare fields</u>
2.4	O						<u>Order of bit transmission</u>
3							<u>SIGNAL UNIT DELIMITATION</u>
3.1	O						<u>Flags</u>
3.2	O						<u>Zero insertion and deletion</u>
4							<u>ACCEPTANCE PROCEDURE</u>
4.1	O						<u>Acceptance of alignment</u>
4.2	O						<u>Error detection</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.703

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
5							<u>BASIC ERROR CORRECTION METHOD</u>
5.1	O						<u>General</u>
5.2							<u>Acknowledgements (positive acknowledgement and negative acknowledgement)</u>
5.2.1	O						<u>Sequence numbering</u>
5.2.2	O						<u>Signal unit sequence control</u>
5.2.3	O						<u>Positive acknowledgement</u>
5.2.4	O						<u>Negative acknowledgement</u>
5.3							<u>Retransmission</u>
5.3.1	O						<u>Response to a positive acknowledgement</u>
5.3.2	O						<u>Response to a negative acknowledgement</u>
5.3.3	O						<u>Repetition of message signal units</u>
6				O			<u>ERROR CORRECTION BY PREVENTIVE CYCLIC RETRANSMISSION</u>
7							<u>INITIAL ALIGNMENT PROCEDURE</u>
7.1	O						<u>General</u>
7.2	O						<u>Initial alignment status indicators</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.703

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
7.3	O						<u>Initial alignment procedure</u>
7.4			O				<u>Proving periods</u> The proving periods are 8.2s and 0.5s respectively.
8	O						<u>PROCESSOR OUTAGE</u>
9							<u>LEVEL 2 FLOW CONTROL</u>
9.1	O						<u>General</u>
9.2	O						<u>Detection of congestion</u>
9.3	O						<u>Procedure in the congestion situation</u>
9.4			O				<u>Congestion abatement procedure</u> Positive acknowledgement in case of the PCR method is not applied.
10							<u>SIGNALLING LINK ERROR MONITORING</u>
10.1	O						<u>General</u>
10.2			O				<u>Signal unit error rate monitor</u> Figure for bit rates lower than 64 kbit/s is not applied.
10.3			O				<u>Alignment error rate monitor</u> The values of the four parameters apply only for a rate of 64 kbit/s.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.703

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
11							<u>LEVEL 2 CODES AND PRIORITIES</u>
11.1			O				<u>Link status signal unit</u> The format of two-octet status field is not supported.
11.2			O				<u>Transmission priorities within level 2</u> The transmission priorities for the preventive cyclic retransmission method are not supported.
12			O				<u>STATE TRANSITION DIAGRAMS AND TIMERS</u> The SDL diagrams should be amended according to the requirements as above.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

PART II
CHAPTER II-4

SPECIFICATION OF SIGNALLING NETWORK FUNCTIONS AND MESSAGES (Q.704)

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1							<u>INTRODUCTION</u>
1.1			O				<p><u>General characteristics of the signalling network functions</u> The signalling points in this case refer to the nodes of the signalling network interconnecting the operators.</p> <p>Action taken in case of failure of signalling transfer point is not applicable.</p>
1.2			O				<p><u>Signalling message handling</u> The message delivery via one or more intermediate signalling transfer points is not applicable to the point-to-point associated signalling network at the interconnection interface.</p>
1.3			O				<p><u>Signalling network management</u> Reconfiguration of the network in case of failures in the signalling transfer point is not applicable to the associated mode of signalling network between signalling nodes of the operators.</p> <p>Moreover, the procedures, i.e. link set activation, automatic allocation of signalling terminals and signalling links, pertaining to the signalling link management function are not supported. The procedures pertaining to the signalling route management function are also not applicable to associated mode of signalling connection.</p>
2							<u>SIGNALLING MESSAGE HANDLING</u>
2.1			O				<p><u>General</u> - Unauthorized use of the message transfer capability in the interconnection interface is not applicable.</p>
2.2			O				<p><u>Routing label</u> - The numbering scheme for the coding of the fields will be supplied by OFTA and the structures of modified label are not applicable. - In case of the circuit related messages of, say, the ISDN-UP, the SLS field is an independent field in accordance with the criteria stated in item 2.2.5.</p>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2.3							<u>Message routing function</u>
2.3.1			O				<u>Information for message routing function</u> Only NI='10' is used at the interconnection interface and the service indicator is not used for routing purposes.
2.3.2			O				<u>Methods of load sharing</u> Load sharing between links not belonging to the same link set is not applicable in the interface.
2.3.3			O				<u>Updating of routing information</u> The example related to the unavailability of a signalling route and the action relevant to signalling transfer point are not applicable.
2.3.4	O						<u>Handling of level 3 messages</u>
2.3.5			O				<u>Handling of messages under signalling link congestion</u> In the interface signalling network, the decision to discard under congestion is only made within each User Part. Message discard will only occur in the MTP should there be an extreme resource limitation (for the MTP without congestion priority). Moreover, the procedures in national signalling network using multiple congestion priorities are not supported.
2.4			O				<u>Message discrimination and distribution functions</u> The use of network indicator to determine label structure and international and national numbering scheme and the procedures pertaining to signalling point with transfer capability and User Part Unavailable are not supported.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
3							<u>SIGNALLING NETWORK MANAGEMENT</u>
3.1			O				<u>General</u> - Diversion of traffic to other signalling points in the signalling network (i.e. signalling points to which no faulty links are connected) is not applicable to the associated mode of connection. - Procedures pertaining to the signalling route management function are not applicable. - Automatic allocation of signalling data link is not supported.
3.2	O						<u>Status of signalling links</u>
3.3	O						<u>Procedures used in connection with link status changes</u>
3.3.1							<u>Signalling link failed</u>
3.3.1.1	O						<u>Signalling traffic management</u>
3.3.1.2			O				<u>Signalling link management</u> The signalling link management function is used to restore a signalling link and to make it available for signalling.
3.3.1.3				O			<u>Signalling route management</u>
3.3.2			O				<u>Signalling link restored</u> The signalling link and signalling route management functions are not applicable.
3.3.3			O				<u>Signalling link deactivated</u> The signalling link and signalling route management functions are not applicable.
3.3.4			O				<u>Signalling link activated</u> The signalling link and signalling route management functions are not applicable.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
3.3.5			O				<u>Signalling link blocked</u> The national option for signalling traffic management function is not supported and the signalling route management function is not applicable.
3.3.6			O				<u>Signalling link unblocked</u> The signalling route management function is not applicable.
3.3.7			O				<u>Signalling link inhibited</u> The signalling link management function is not applicable.
3.3.8			O				<u>Signalling link uninhibited</u> The signalling link and signalling route management functions are not applicable.
3.4				O			<u>Status of signalling routes</u>
3.5				O			<u>Procedures used in connection with route status changes</u>
3.6							<u>Status of signalling points</u>
3.6.1			O				<u>Signalling point unavailability</u> An adjacent signalling point becomes unavailable when all signalling links connected to the adjacent signalling point are unavailable for the associated mode of signalling connection.
3.6.2			O				<u>Signalling point availability</u> An adjacent signalling point becomes available when at least one signalling link connected to the adjacent signalling point becomes available for the associated mode of signalling connection.
3.7				O			<u>Procedure used in connection with point status changes</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
3.8							<u>Signalling network congestion</u>
3.8.1		O					<u>General</u> For the associated mode of operation, the following congestion procedures are of local significance and do not require the transfer of signalling message (e.g. TFC) across the interface.
3.8.2		O					<u>Congestion status of signalling links</u> Implementation method of the congestion status transition of signalling link is of local significance to a signalling point. Procedures pertaining to the signalling route management should not be activated under associated mode of operation.
3.8.3				O			<u>Procedure used in connection with link congestion status changes</u>
3.8.4							<u>Congestion status of signalling route sets</u> Signalling route set in the interconnection interface refers to the associated linkset directly connecting the two networks / platforms.
3.8.4			O				<u>a). International Method</u> The transfer-controlled procedure is not applicable for the associated mode of operation in the interconnection interface.
			O				<u>b). National method with multiple congestion levels</u> The transfer-controlled procedure and the signalling route set congestion test procedure are not applicable to the associated mode of operation in the interconnection interface.
				O			<u>c). National method using multiple congestion levels without congestion priority</u>
3.8.5			O				<u>Procedures used in connection with route set congestion status changes</u> Procedure related to signalling route management is not applicable.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
4							<u>SIGNALLING TRAFFIC MANAGEMENT</u>
4.1			O				<p><u>General</u> As associated mode of signalling connection is employed, the following signalling route traffic management functions are not applicable in the interconnection interface:-</p> <ul style="list-style-type: none"> - signalling route unavailability, - signalling route availability, and - signalling route restricted. <p>Moreover, the diversion of traffic in the case of restriction of signalling links is not supported.</p>
4.2			O				<p><u>Normal routing situation</u> At the interconnection interface the associated mode of operation is used. Signalling traffic is routed via the single link set defined between the two signalling points at the interconnection interface. Within the link set, the traffic is load shared among the available signalling links.</p> <p>For each signalling link, the remaining signalling links in the link set are alternative links. Under normal conditions, all signalling links of a link set are arranged in equal priority order to carry signalling traffic. However, signalling traffic between two signalling points routed over different signalling paths is not applicable.</p>
4.3			O				<p><u>Signalling link unavailability</u> Procedure related to more than one link set is not applicable in the interconnection interface.</p>
4.4			O				<p><u>Signalling link availability</u> Procedure related to combined link sets is not applicable in the interconnection interface.</p>
4.5				O			<p><u>Signalling route unavailability</u></p>
4.6				O			<p><u>Signalling route availability</u></p>
4.7				O			<p><u>Signalling route restriction</u></p>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
4.8					O		<u>Signalling point availability</u>
5							<u>CHANGEOVER</u>
5.1	O						<u>General</u>
5.2			O				<u>Network configurations for changeover</u> - Diversion of traffic to one or more different link sets is not supported. - At the interconnection interface, only the traffic flow of the changeover procedure shown in figure 9/Q.704 is applied.
5.3			O				<u>Changeover initiation and actions</u> The following procedures are not applicable in the interconnection interface:- - diversion of traffic to an alternative signalling link terminating in an STP is not applicable in the interconnection interface, - procedures related to the signalling route management function.
5.4	O						<u>Buffer updating procedure</u>
5.5	O						<u>Retrieval and diversion of traffic</u>
5.6							<u>Emergency changeover procedures</u>
5.6.1	O						<u>Emergency changeover order</u>
5.6.2				O			<u>Time-controlled changeover</u>
5.6.3	O						<u>Failure in message retrieval</u>
5.7	O						<u>Procedures in abnormal conditions</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
6							<u>CHANGEBACK</u>
6.1	O						<u>General</u>
6.2			O				<u>Changeback initiation and actions</u> The following procedures are not applicable in the interconnection interface:- <ul style="list-style-type: none"> - changeback procedures related to signalling transfer point, - procedures pertaining to the signalling route management, - procedures pertaining to a restricted destination, and - time controlled diversion.
6.3	O						<u>Sequence control procedure</u>
6.4				O			<u>Time-controlled diversion procedure</u>
6.5	O						<u>Procedures in abnormal conditions</u>
7				O			<u>FORCED REROUTING</u>
8				O			<u>CONTROLLED REROUTING</u>
9				O			<u>SIGNALLING POINT RESTART</u>
10							<u>MANAGEMENT INHIBITING</u>
10.1	O						<u>General</u>
10.2		O					<u>Inhibiting initiation and actions</u> Full compliance is required except change over procedure is used instead of time-controlled change over during inhibit action.
10.3	O						<u>Uninhibiting initiation and actions</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
10.3.1	O						<u>Management-initiated uninhibiting</u>
10.3.2	O						<u>Signalling routing control initiated uninhibiting</u>
10.4	O						<u>Receipt of unexpected management inhibition messages</u>
10.5	O						<u>Management inhibited link status and processor recovery</u>
10.6	O						<u>Inhibit test procedure</u>
11							<u>SIGNALLING TRAFFIC FLOW CONTROL</u>
11.1	O						<u>General</u>
11.2		O					<u>Flow control indications</u> The signalling route set in this specification refers to the direct route (i.e. associated link) between signalling nodes of the operators.
11.2.1	O						<u>Signalling route set unavailability</u>
11.2.2	O						<u>Signalling route set availability</u>
11.2.3			O				<u>Signalling route set congestion (International signalling network)</u> Procedures related to signalling transfer point and the action taken at the reception of a transfer controlled message are not applicable.
11.2.4				O			<u>Signalling route set congestion (National option with congestion priorities)</u>
11.2.5	O						<u>Signalling route set congestion (National options without congestion priorities)</u>
11.2.6		O					<u>Signalling point/signalling transfer point congestion</u> The detection of congestion onset and abatement is implementation dependent.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
11.2.7				O			<u>MTP user flow control</u>
11.2.8				O			<u>User part congestion</u>
12							<u>SIGNALLING LINK MANAGEMENT</u>
12.1			O				<u>General</u> At the interconnection interface, only basic signalling link management procedures are used. Automatic allocation of signalling data link is not supported, however, the automatic allocation of signalling terminal is not restricted provided that the procedure is of local significance and does not involve any exchange of signalling message.
12.2		O					<u>Basic signalling link management procedures</u> The inactive signalling links in a link set includes newly installed signalling link, deactivated signalling links or signalling link puts out of service for maintenance purpose, etc.
12.3				O			<u>Signalling link management procedures based on automatic allocation of signalling terminals</u> This procedure is of local significance and implementation dependent. The relevant ITU-T recommendation should be followed if this procedure is implemented.
12.4				O			<u>Signalling link management procedures based on automatic allocation of SDLs and signalling terminals</u>
12.5				O			<u>Automatic allocation of signalling terminals</u> This procedure is of local significance and implementation dependent. The relevant ITU-T recommendations should be followed if this procedure is implemented.
12.6				O			<u>Automatic allocation of signalling data links</u>
12.7	O						<u>Different signalling link management procedures at the two ends of a link set</u>
13				O			<u>SIGNALLING ROUTE MANAGEMENT</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
14							<u>COMMON CHARACTERISTICS OF MESSAGE SIGNAL UNIT FORMATS</u>
14.1	O						<u>General</u>
14.2	O						<u>Service information octet</u>
14.2.1			O				<u>Service indicator</u> The following service indicator codes are not supported for the signalling network between the operators:- 0011 SCCP 0100 Telephone User Part 0110 Data User Part (call and circuit related messages) 0111 Data User Part (facility registration and cancellation messages) 1000 Reserved for MTP Testing User Part
14.2.2			O				<u>Sub-service field</u> Only the network indicator code of '10', i.e. National network, is supported at the interface.
14.3	O						<u>Label</u>
15							<u>FORMATS AND CODES OF SIGNALLING NETWORK MANAGEMENT MESSAGES</u>
15.1	O						<u>General</u>
15.2	O						<u>Label</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
15.3			O				<u>Heading code (H0)</u> The following Heading codes (H0) are not supported:- 0011 Transfer controlled and signalling route set congestion messages 0100 Transfer-prohibited-allowed-restricted messages 0101 Signalling-route-set-test messages 0111 Traffic restart allowed message 1000 Signalling-data-link-connection messages 1010 User part flow control messages
15.4	O						<u>Changeover message</u>
15.5	O						<u>Changeback message</u>
15.6	O						<u>Emergency changeover message</u>
15.7				O			<u>Transfer-prohibited message</u>
15.8				O			<u>Transfer-allowed message</u>
15.9				O			<u>Transfer restricted message (national option)</u>
15.10				O			<u>Signalling-route-set-test message</u>
15.11	O						<u>Management inhibit message</u>
15.12				O			<u>Traffic restart allowed message</u>
15.13				O			<u>Signalling-data-link-connection-order message</u>
15.14				O			<u>Signalling-data-link-connection acknowledgement message</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.704

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
15.15				O			<u>Transfer controlled message</u>
15.16				O			<u>Signalling-route-set-congestion-test message (national option)</u>
15.17				O			<u>User part unavailable message</u>
16			O				<p><u>STATE TRANSITION DIAGRAM</u> The following SDL diagrams are not applicable:-</p> <ul style="list-style-type: none"> - figures 29a, 32 and 33/Q.704 which are related to the signalling route management function, - figures 41 and 42/Q.704 which are related to signalling terminal allocation and signalling data link allocation respectively, - figures 43 to 46/Q.704 which are related to signalling route management function.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

PART II
CHAPTER II-5

SPECIFICATION OF TESTING AND MAINTENANCE MESSAGES AND FUNCTIONS (Q.707)

Compliance with ITU-T Recommendation Q.707

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1	O						<u>GENERAL</u>
2							<u>TESTING</u>
2.1	O						<u>Signalling data link test</u>
2.2			O				<u>Signalling link test</u> After receiving a signalling link test message, a signalling point responds with a signalling link test acknowledgement message on the signalling link using the same SLC. In case if signalling link test is applied periodically, the management system is to be informed.
3			O				<u>FAULT LOCATION</u> Tests requiring provision of messages are not supported.
4	O						<u>SIGNALLING NETWORK MONITORING</u>
5	O						<u>FORMATS AND CODES OF SIGNALLING NETWORK TESTING AND MAINTENANCE MESSAGES</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

PART III

SPECIFICATION OF ISDN USER PART OF SIGNALLING SYSTEM NO.7

- Chapter III-1 Functional Description of the ISDN-UP Of Signalling System No.7 (Q.761)
- Chapter III-2 Specification of General Function of Messages and Signals of ISDN-UP (Q.762)
- Chapter III-3 Specification of ISDN-UP Formats and Codes (Q.763)
- Chapter III-4 Specification of ISDN-UP Signalling Procedures (Q.764)

PART III
CHAPTER III-1

FUNCTIONAL DESCRIPTION OF THE ISDN-UP OF SIGNALLING SYSTEM NO.7 (Q.761)

Compliance with ITU-T Recommendation Q.761

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1						O	<p><u>GENERAL</u> ISUP does not make use of the Signalling Connection Control Part (SCCP) initially.</p> <p>In the interconnection interface, single-way circuit operation is being adopted.</p>
2			O				<p><u>SERVICES SUPPORTED BY THE ISDN USER PART</u> In the interconnection interface, the ISDN-UP protocol supports interworking of the following services if the concerned services are offered by the interconnecting operators :-</p> <ul style="list-style-type: none"> i) Basic telephone calls ii) G4 fax transmission iii) Speech and 3.1 kHz audio calls iv) 64 kbit/s unrestricted data calls v) Calling line identification presentation vi) Calling line identification restriction vii) Sub-addressing viii) Malicious call trace (Note 1) <p>Note 1: Malicious Call Trace (MCT) may be implemented initially by manual means, and automatic means of MCT is subject to further study and agreement among the operators.</p>
3	O						<p><u>SERVICE ASSUMED FROM THE MTP</u></p>
4				O			<p><u>END-TO-END SIGNALLING</u> No end-to-end signalling (including pass-along and SCCP method) is required to support initially.</p>
5	O						<p><u>FUTURE ENHANCEMENTS</u></p>

A : Complied with ITU-T B : Complied to ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

PART III
CHAPTER III-2

SPECIFICATION OF GENERAL FUNCTION OF MESSAGES AND SIGNALS OF ISDN-UP (Q.762)

Compliance with ITU-T Recommendation Q.762

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1							<u>SIGNALLING MESSAGES</u>
1.1	O						<u>Address Complete Message (ACM)</u>
1.2	O						<u>Answer Message (ANM)</u>
1.3	O						<u>Blocking Message (BLO)</u>
1.4	O						<u>Blocking Acknowledgement Message (BLA)</u>
1.5				O			<u>Call Modification Completed Message (CMC)</u> In call modification procedure is not used in general.
1.6				O			<u>Call Modification Reject Message (CMRJ)</u> In call modification procedure is not used in general.
1.7				O			<u>Call Modification Request Message (CMR)</u> In call modification procedure is not used in general.
1.8	O						<u>Call Progress Message (CPG)</u>
1.9				O			<u>Charge Information Message (CRG) (national use)</u>
1.10	O						<u>Circuit Group Blocking Message (CGB)</u>
1.11	O						<u>Circuit Group Blocking Acknowledgement Message (CGBA)</u>
1.12	O						<u>Circuit Group Reset Message (GRS)</u>
1.13	O						<u>Circuit Group Reset Acknowledgement Message (GRA)</u>
1.14	O						<u>Circuit Group Unblocking Message (CGU)</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.762

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1.15	O						<u>Circuit Group Unblocking Acknowledgement Message (CGUA)</u>
1.16				O			<u>Circuit Group Query Message (CQM)</u>
1.17				O			<u>Circuit Group Query Response Message (CQR)</u>
1.18	O						<u>Confusion Message (CFN)</u>
1.19	O						<u>Connect Message (CON)</u>
1.20		O					<u>Continuity Message (COT)</u> Continuity check procedure will not be used at the interconnection interface and continuity message will not be sent from the operator's network / platform regardless of whether continuity check has been performed on preceding circuits or not. If continuity check request on previous circuit is sent from the operator side, it must be followed by a continuity message within T8. The setting up of the connection to the called party must be prevented until a successful continuity check indication has been received in a continuity message.
1.21				O			<u>Continuity Check Request Message (CCR)</u>
1.22				O			<u>Delayed Release Message (DRS) (national use)</u> In general, DRS should not be sent by originating switches. Until end of 2002, some existing switches in the PTNs may still send DRS. Terminating switches should be able to handle DRS received in a proper manner (see notes in Part III Chapter III-4 (Q.764) Item 2.6).
1.23				O			<u>Facility Accepted Message (FAA)</u>
1.24				O			<u>Facility Reject Message (FRJ)</u>
1.25				O			<u>Facility Request Message (FAR)</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.762

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1.26				O			<u>Forward Transfer Message (FOT)</u>
1.27	O						<u>Information Message (INF)</u>
1.28	O						<u>Information Request Message (INR)</u>
1.29	O						<u>Initial Address Message (IAM)</u>
1.30				O			<u>Loop Back Acknowledgement Message (LPA) (national use)</u>
1.31				O			<u>Overload Message (OLM) (national use)</u>
1.32				O			<u>Pass-along Message (PAM)</u>
1.33			O				<u>Release Message (REL)</u> In case the call was forwarded or is to be rerouted, the appropriate indicator is carried in the message. However, the redirection and redirecting addresses will not be included.
1.34	O						<u>Release Complete Message (RLC)</u>
1.35	O						<u>Reset Circuit Message (RSC)</u>
1.36	O						<u>Resume Message (RES)</u>
1.37		O					<u>Subsequent Address Message (SAM)</u> Enbloc digit sending mode is used in the interconnection interface. This message is used to support the conveying of additional called party number information.
1.38	O						<u>Suspend Message (SUS)</u>
1.39	O						<u>Unblocking Message (UBL)</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.762

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1.40	O						<u>Unblocking Acknowledgement Message (UBA)</u>
1.41				O			<u>Unequipped Circuit Identification Code Message (UCIC) (national use)</u>
1.42				O			<u>User-to-user Information Message (USR)</u>
2							<u>SIGNALLING INFORMATION</u>
2.1			O				<u>Access Transport</u> This information is supported in IAM for the sub-addressing service.
2.2		O					<u>Address Presentation Restricted Indicator</u> The use of this indicator to indicate the address cannot be ascertained is not supported.
2.3			O				<u>Address Signal</u> Code 11 and code 12 are not supported.
2.4				O			<u>Automatic Congestion Level</u> This parameter will be discarded at the interface gateway exchange when it is received.
2.5	O						<u>Call Forwarding May Occur Indicator</u>
2.6				O			<u>Call Identity</u>
2.7				O			<u>Call Reference</u>
2.8		O					<u>Called Party Number</u> For international calls or special service calls originated from the operator to the interface gateway exchange, international access code or service access prefix should normally be included in the called party number (unless agreed otherwise by the interconnecting operators).
2.9	O						<u>Called Party's Category Indicator</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.762

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2.10	O						<u>Called Party's Status Indicator</u>
2.11		O					<u>Calling Party Number</u> The calling party number will be sent across the interconnection interface if available.
2.12		O					<u>Calling Party Address Request Indicator</u> Available calling party address will always be sent in IAM. This parameter shall not be sent from the interface gateway exchange. "Requested address not available" will be sent in response to a request for the calling party address.
2.13		O					<u>Calling Party Address Response Indicator</u> Available calling party address will always be sent in IAM. "Requested address not available" will be sent in response to a request for the calling party address.
2.14		O					<u>Calling Party Number Incomplete Indicator</u> A special use of this indicator at the interconnection interface is to indicate that the calling party number is not for transmission to the called party in the terminating network / platform.
2.15	O						<u>Calling Party's Category</u>
2.16	O						<u>Calling Party's Category Request Indicator</u>
2.17	O						<u>Calling Party's Category Response Indicator</u>
2.18			O				<u>Cause Value</u> The cause values of 2, 55, 70, 87 and 91 will not be supported.
2.19		O					<u>Charge Indicator</u> This information is set to "charge" on sending (see Q.763.3.4). Cases where the information is set to "no charge" are subject to further study.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.762

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2.20				O			<u>Charge Information Request Indicator (national use)</u>
2.21				O			<u>Charge Information Response Indicator (national use)</u>
2.22		O					<u>Circuit Group Supervision Message Type Indicator</u> The "hardware failure oriented" type will not be sent from the network or platform. (see Q.763.3.11)
2.23	O						<u>Circuit Identification Code</u>
2.24				O			<u>Circuit State Indicator</u>
2.25					O		<u>Closed User Group Call Indicator</u>
2.26					O		<u>Closed User Group Interlock Code</u>
2.27			O				<u>Coding Standard</u> Only ITU-T standardized coding is supported.
2.28					O		<u>Connected Number</u>
2.29				O			<u>Connection Request</u>
2.30			O				<u>Continuity Check Indicator</u> Setting of "continuity check required on this circuit" is not supported. (see Q.763.3.23)
2.31		O					<u>Continuity Indicator</u> This information will not be sent from the network or platform. (see Q.763.3.16)
2.32				O			<u>Credit</u>
2.33				O			<u>Diagnostic</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.762

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2.34			O				<u>Echo Control Device Indicator</u> Echo control device indicator sets to "outgoing half echo control device included" and "incoming half echo control device included" are not supported.
2.35			O				<u>End-to-end Information Indicator (national use)</u> End-to-end information indicator set to "end-to-end information available" is not supported.
2.36			O				<u>End-to-end Method Indicator</u> Only the end-to-end method indicator set to "no end-to-end method available" is supported.
2.37	O						<u>Event Indicator</u>
2.38			O				<u>Event Presentation Restricted Indicator</u> Event presentation restricted indicator set to "presentation restricted" is not supported.
2.39	O						<u>Extension Indicator</u>
2.40				O			<u>Facility Indicator</u>
2.41					O		<u>Holding Indicator (national use)</u>
2.42					O		<u>Hold Provided Indicator (national use)</u>
2.43	O						<u>In-band Information Indicator</u>
2.44			O				<u>Internal Network Number Indicator</u> Internal network number indicator is always set to "routing to internal network number allowed".
2.45	O						<u>Interworking Indicator</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.762

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2.46	O						<u>ISDN Access Indicator</u>
2.47	O						<u>ISDN User Part Indicator</u>
2.48	O						<u>ISDN User Part Preference Indicator</u>
2.49				O			<u>Local Reference</u>
2.50	O						<u>Location</u>
2.51					O		<u>Malicious Call Identification Request Indicator (national use)</u>
2.52				O			<u>Modification Indicator</u>
2.53		O					<u>National/International Call Indicator</u> This indicator shall be set for an incoming external call by the "landing" C7 network / platform which has direct connection by international private leased circuits (IPLCs) with locations external to Hong Kong. The indicator shall be passed transparently among the local networks for necessary call processing.
2.54		O					<u>Nature of Address Indicator</u> The nature of address indicator for called party number, original called number and redirecting number should be set to "000001" (subscriber number), "000011" (national number), "0000100" (international number) or "111000" (nationally defined as unknown) whichever is applicable. The nature of address indicator for calling party number should be set to "000001" (subscriber number), "000011" (national number) or "0000100" (international number) whichever is applicable.
2.55			O				<u>Numbering Plan Indicator</u> Only ISDN (Telephony) numbering plan will be supported.
2.56	O						<u>Odd/Even Indicator</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.762

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2.57		O					<u>Original Called Number</u> See Note 1/Q.762.
2.58	O						<u>Original Redirection Reason</u>
2.59				O			<u>Point Code</u>
2.60				O			<u>Protocol Class</u>
2.61			O				<u>Protocol Control Indicator</u> The end-to-end method indicator, the end-to-end information indicator and the SCCP method indicator are restricted to the settings described in items 2.35, 2.36 and 2.71 respectively.
2.62			O				<u>Range</u> Range "0" is not required initially.
2.63			O				<u>Recommendation Indicator</u> Only Rec. Q.763 is supported initially.
2.64			O		O		<u>Redirecting Indicator</u> Codes 010, 101, 110 are not supported initially. Code 100 can be supported on an optional basis.
2.65		O					<u>Redirecting Number</u> See Note 1/Q.762.
2.66	O						<u>Redirecting Reason</u>
2.67	O						<u>Redirection Counter</u>
2.68					O		<u>Redirection Number</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.762

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2.69	O						<u>Routing Label</u>
2.70			O				<u>Satellite Indicator</u> Only the satellite indicator set to "no satellite circuit in the connection" is supported.
2.71			O				<u>SCCP Method Indicator</u> Only the SCCP method indicator set to "no indication" is supported.
2.72	O						<u>Screening Indicator</u>
2.73				O			<u>Signalling Point Code (national use)</u>
2.74			O				<u>Solicited Information Indicator</u> Unsolicited information shall not be sent initially.
2.75	O						<u>Status</u>
2.76	O						<u>Suspend/Resume Indicator</u>
2.77				O			<u>Temporary Trunk Blocking after Release (national use)</u>
2.78				O			<u>Transit Network Selection (national use)</u>
2.79			O				<u>Transmission Medium Requirement</u> Coding 00000000 (speech), 00000010 (64 kbit/s unrestricted) and 00000011 (3.1 kHz audio) will be adopted.
2.80				O			<u>User Service Information</u>
2.81				O			<u>User-to-user Indicators</u>
2.82				O			<u>User-to-user Information</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.762

Note 1/Q.762 : Unless approved otherwise by the TA, the Redirecting Number (RGN) and Original Called Number (OCN) shall be supported in interconnection using C7 and exchanged in call forwarding calls not later than 1 April 2003 by C7 switches / equipment. The interface gateway exchange shall pass the parameters transparently not later than the same date.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

PART III
CHAPTER III-3

SPECIFICATION OF ISDN-UP FORMATS AND CODES (Q.763)

Compliance with ITU-T Recommendation Q.763

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1						O	<u>GENERAL</u>
1.1	O						<u>Routing Label</u>
1.2			O				<u>Circuit Identification Code</u> Only the circuit identification codes allocation for the 2048 kbit/s digital path is supported. The 4 spare bits of CIC are not used.
1.3	O						<u>Message Type Code</u>
1.4	O						<u>Formatting Principles</u>
1.5	O						<u>Mandatory Fixed Part</u>
1.6	O						<u>Mandatory Variable Part</u>
1.7	O						<u>Optional Part</u>
1.8	O						<u>End of Optional Parameters Octet</u>
1.9	O						<u>Order of Transmission</u>
1.10	O						<u>Coding of Spare Bits</u>
1.11	O						<u>National Message Types and Parameters</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.763

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2							<u>PARAMETER FORMATS AND CODES</u>
2.1			O				<u>Message Type Codes</u> Refer to table 3/Q.763 in end of this Chapter for detailed description.
2.2	O						<u>Coding of the Length Indicator</u>
2.3	O						<u>Coding of the Pointers</u>
3							<u>ISDN USER PART PARAMETERS</u>
3.1			O				<u>Parameter Names</u> Refer to table 4/Q.763 in end of this Chapter for detailed description.
3.2			O				<u>Access Transport</u> This information is supported in IAM for the sub-addressing service.
3.3				O			<u>Automatic Congestion Level</u> This parameter will be discarded at the interface gateway exchange when received.
3.4			O				<u>Backward Call Indicators</u> <ul style="list-style-type: none"> - Charge indicator (bits BA) will be, if required, converted to "10" when coding "01" is received. - Called party's status indicator (bits DC) coded as "10", "connect when free" is not supported initially. - End-to-end method indicator (bits HG) is not supported by the network / platform. - End-to-end information indicator (bit J) is not supported by the network / platform. - Holding indicator (bit L) is subject to further study. - Echo control device indicator (bit N) coding shall always be set to "0", indicating incoming echo-control device is not included. - SCCP method indicator (bits PO) is not supported by the network / platform.
3.5				O			<u>Call Modification Indicators</u>
3.6				O			<u>Call Reference</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.763

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
3.7			O				<p><u>Called Party Number</u></p> <ul style="list-style-type: none"> - The nature of address indicator should be coded as "0000001" (subscriber number), "0000011" (national number), "0000100" (international number) or "1110000" (nationally defined as unknown) whichever is applicable in the interconnection interface. - Routing to internal network number indicator is always allowed. This bit should be coded as "0". - Only ISDN (Telephony) numbering plan is supported for numbering plan indicator initially. However, other numbering plans should be supported when interworking with international or national networks is required in the future. - Code 11 and code 12 are not supported in address signal for domestic application. - For international calls or special service calls originated from the operator to the interface gateway exchange, international access code or service access prefix should normally be included in the called party address (unless agreed otherwise by the interconnecting operators).
3.8		O					<p><u>Calling Party Number</u></p> <p>The calling party number will be presented at the interconnection interface if available.</p> <p>A special use of the calling party number incomplete indicator (NI) at the interconnection interface is to indicate that the calling party number is not for transmission to the called party in the terminating network / platform. If NI=1, then irrespective of the value of the address presentation restricted indicator, the calling party number shall not be delivered to the called party.</p> <ul style="list-style-type: none"> - Only ISDN (Telephony) numbering plan is supported for Numbering plan indicator initially. - Address presentation restricted indicator values 00/01/10 are supported. - Code 11 and code 12 are not supported in address signal for domestic application. - The nature of address indicator should be set to "0000001" (subscriber number), "0000011" (national number) or "0000100" (international number) whichever is applicable.
3.9		O					<p><u>Calling Party's Category</u></p> <p>On reception of the CPC of "calling party's category unknown at this time", "calling subscriber with priority", "data call (voice band data)", the network or platform will, if required, map to "ordinary calling subscriber" and handle these calls in the same way as ordinary calling subscriber.</p> <p>The CPC shall be set to "payphone" ('0F' hex) by the fixed network operator which delivers a call originated from a payphone access line connected to its network.</p> <p>The CPC shall be set to "operator" ('02' hex by default) for an incoming-operator assisted call by a "landing" network / platform which has direct connection by international private leased circuits (IPLCs) with locations external to Hong Kong and which interconnects with the PTNs by C7 according to this Specification.</p>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.763

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
3.10			O				<u>Cause Indicators</u> - Only Q.763 recommendation is supported for the Recommendation field. - Only ITU-T standard is supported for the Coding standard field. - Depending on the location of the users, the public network serving the local user may be the same network serving the remote user. - Cause values should be implemented as below:- i) all cause values should be passed on reception, ii) the cause values of 2, 55, 70, 87, and 91 in the network side will not be supported initially. - Diagnostic field is not included.
3.11		O					<u>Circuit Group Supervision Message Type Indicator</u> Bits BA = "01" is not sent from network side but will be recognized when received.
3.12				O			<u>Circuit State Indicator</u>
3.13					O		<u>Closed User Group Interlock Code</u>
3.14					O		<u>Connected Number</u>
3.15				O			<u>Connection Request</u>
3.16			O				<u>Continuity Indicators</u> Continuity indicator is not sent from network side. (see also item Q.762.1.20)
3.17	O						<u>End of Optional Parameters Indicator</u>
3.18			O				<u>Event Information</u> The Event presentation restricted indicator (Bit H) will be ignored by the network / platform.
3.19				O			<u>Facility Indicator</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.763

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
3.20			O				<u>Forward Call Indicators</u> - End-to-end method indicator (bits CB), End-to-end information indicator (bit E) and SCCP method indicator (bits KJ) are not supported by the network / platform. - The national / international call indicator (bit A) shall be set for an incoming external call by the "landing" network / platform which has direct connection by international private leased circuits (IPLCs) with locations external to Hong Kong and which interconnects with the PTNs by C7 according to this Specification. The indicator shall be passed transparently among the local networks for necessary call processing.
3.21			O				<u>Information Indicators</u> - Calling party address response indicator (bits BA) is always coded as "00" when sent from network side (see Q.762.2.13). - Hold provided indicator (bit C) is subject to further study. - Charge information response indicator (bit G) will be set to "0" at the initial stage, i.e. charge information is not included. - Solicited information indicator (bit H) is set to "0" i.e. Solicited.
3.22			O				<u>Information Request Indicators</u> - Calling party address request indicator (bit A) will be treated as "0" regardless of the setting received. (see Q.762.2.12) - Holding indicator (bit B) is subject to further study. - Charge information request indicator (bit E) will be set to "0" i.e. charge information is not requested. - Malicious call identification request indicator (bit H) is subject to further study.
3.23			O				<u>Nature of Connection Indicators</u> - Satellite indicator (bits BA) is set to "00", i.e. no satellite circuit in the connection. - Continuity check indicator (bits DC) should normally be coded as "00". If DC = "10" is sent from the operator side, it must be followed by a continuity message within T8. From network side, DC = "00" is always sent. - Echo control device indicator (bit E) is set to "0", i.e. outgoing half echo control device is not included.
3.24	O						<u>Optional Backward Call Indicators</u>
3.25				O			<u>Optional Forward Call Indicators</u>
3.26		O					<u>Original Called Number</u> - See Note 1/Q.763. - The nature of address indicator should be set to "0000001" (subscriber number), "0000011" (national number), "0000100" (international number) or "1110000" (nationally defined as unknown) whichever is applicable.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.763

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
3.27			O				<u>Range and Status</u> Range "0" is not required initially.
3.28		O					<u>Redirecting Number</u> - See Note 1/Q.763. - The nature of address indicator should be set to "0000001" (subscriber number), "0000011" (national number), "0000100" (international number) or "1110000" (nationally defined as unknown) whichever is applicable.
3.29			O		O		<u>Redirection Information</u> For the redirecting indicator : - Coding of bits CBA as values 010, 101, 110 is not supported. - Coding of bits CBA as 100 can be supported on an optional basis.
3.30					O		<u>Redirection Number</u>
3.31				O			<u>Signalling Point Code (national use)</u>
3.32		O					<u>Subsequent Number</u> The subsequent number is used to carry additional called party number information.
3.33	O						<u>Suspend/Resume Indicators</u>
3.34				O			<u>Transit Network Selection (national use)</u>
3.35			O				<u>Transmission Medium Requirement</u> Only coding "00000000" (speech), "00000010" (64 kbit/s unrestricted) and "00000011" (3.1 kHz audio) will be adopted.
3.36				O			<u>User Service Information</u>
3.37				O			<u>User-to-user Indicators</u>
3.38				O			<u>User-to-user Information</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.763

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
4		O					<p><u>ISDN USER PART MESSAGES AND CODES</u> Full compliance is required in accordance with ITU-T recommendations and the comments above for signals and information elements.</p>

Note 1/Q.763 : Unless approved otherwise by the TA, the Redirecting Number (RGN) and Original Called Number (OCN) shall be supported in interconnection using C7 and exchanged in call forwarding calls not later than 1 April 2003 by C7 switches / equipment. The interface gateway exchange shall pass the parameters transparently not later than the same date.

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

TABLE 3/Q.763

Message Type	Reference (Table / Q.763)	Code
Address complete	5	0000110
Answer	6	00001001
Blocking	23	00010011
Blocking acknowledgement	23	00010101
Call modification completed	<not supported>	24
Call modification request	<not supported>	24
Call modification reject	<not supported>	24
Call progress	7	00101100
Circuit group blocking	25	00011000
Circuit group blocking acknowledgement	25	00011010
Circuit group query	<not supported>	26
Circuit group query response	<not supported>	8
Circuit group reset	26	00010111
Circuit group reset acknowledgement	9	00101001
Circuit group unblocking	25	00011001
Circuit group unblocking acknowledgement	25	00011011
Charge information (national use)	<not supported>	Note
Confusion	10	00101111
Connect	11	00000111
Continuity	12	00000101
Continuity check request	<not supported>	23
Delay release (national use)	<not supported>	21
Facility accepted	<not supported>	27
Facility reject	<not supported>	13
Facility request	<not supported>	27
Forward transfer	<not supported>	21
Information	14	00000100
Information request	15	00000011
Initial address	16	00000001
Loop back acknowledgement (national use)	<not supported>	23
Overload (national use)	<not supported>	23
Pass-along	<not supported>	28
Release	17	00001100
Release complete	18	00010000
Reset circuit	23	00010010
Resume	22	00001110
Subsequent address	19	00000010
Suspend	22	00001101
Unblocking	23	00010100
Unblocking acknowledgement	23	00010110
Unequipped CIC (national use)	<not supported>	23
User-to-user information	<not supported>	20
Reserved codes		00001010
		00001011
		00001111
		00100010
		00100011
		00100101
		00100110

Note - The format of this message is a national matter.

TABLE 4/Q.763

Parameter Name	Reference (Section)	Code
Access transport	3.2	00000011
Automatic congestion level	<not supported>	00100111
Backward call indicators	3.4	00010001
Call modification indicators	<not supported>	00010111
Call reference	<not supported>	00000001
Called party number	3.7	00000100
Calling party number	3.8	00001010
Calling party's category	3.9	00001001
Cause indicators	3.10	00010010
Circuit group supervision message type indicator	3.11	00010101
Circuit state indicator	<not supported>	00100110
Closed user group interlock code	3.13	00011010
Connected number	3.14	00100001
Connection request	<not supported>	00001101
Continuity indicators	3.16	00010000
End of optional parameters	3.17	00000000
Event information	3.18	00100100
Facility indicator	<not supported>	00011000
Forward call indicators	3.20	00000111
Information indicators	3.21	00001111
Information request indicators	3.22	00001110
Nature of connection indicators	3.23	00000110
Optional backward call indicators	3.24	00101001
Optional forward call indicators	3.25	00001000
Original called number	3.26	00101000
Range and status	3.27	00010110
Redirecting number	3.28	00001011
Redirection information	3.29	00010011
Redirection number	3.30	00001100
Signalling point code (Note)	<not supported>	00011110
Subsequent number	3.32	00000101
Suspend/Resume indicators	3.33	00100010
Transit network selection (Note)	<not supported>	00100011
Transmission medium requirement	3.35	00000010
User service information	<not supported>	00011101
User-to-user indicators	<not supported>	00101010
User-to-user information	<not supported>	00100000
Reserved Code		00010100
		00011001
		00011011
		00011100
		00011111
Reserved for Multi-slot identifier		00100101

Note - For national use only

Legend for Tables 5/Q.763 - 28/Q.763

- F = mandatory fixed length parameter;
- V = mandatory variable length parameter;
- O = optional parameter of fixed or variable length;
- NS = optional parameter not supported;

TABLE 5/Q.763

Message type: Address complete

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Backward call indicators	3.4	F	2
Optional backward call indicators	3.24	O	3
Cause indicators	3.10	O	4-?
Connected number	3.14	O	4-12
Call reference	3.6	NS	7
User-to-user indicators	3.37	NS	3
User-to-user information (Note 1)	3.38	NS	3-131
Access transport	3.2	O	3-?
End of optional parameters	3.17	O	1

Note 1 - Some networks / platforms may only support up to 35 octets.

TABLE 6/Q.763

Message type: Answer

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Backward call indicators	3.4	O	4
Optional backward call indicators	3.24	O	3
Call reference	3.6	NS	7
User-to-user indicators number	3.37	NS	3
User-to-user information (Note 1)	3.38	NS	3-131
Connected number	3.14	O	4-12
Access transport	3.2	O	3-?
End of optional parameters	3.17	O	1

Note 1 - Some networks / platforms may only support up to 35 octets.

TABLE 7/Q.763

Message type: Call progress

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Event information	3.18	F	1
Cause indicators	3.10	O	4-?
Call reference	3.6	NS	7
Backward call indicators	3.4	O	4
Optional backward call indicators	3.24	O	3
Access transport	3.2	O	3-?
User-to-user indicators	3.37	NS	3
User-to-user information (Note 1)	3.38	NS	3-131
Redirection number	3.30	O	5-12
End of optional parameters	3.17	O	1

Note 1 - Some networks / platforms may only support up to 35 octets.

TABLE 8/Q.763

Message type: Circuit group query response

<Circuit group query response message is not supported.>

TABLE 9/Q.763

Message type: Circuit group reset acknowledgement

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Range and status	3.27	V	3-34

TABLE 10/Q.763

Message type: Confusion

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Cause indicators	3.10	V	3-?
End of optional parameters (Note 1)	3.17	O	1

Note 1 - "End of optional parameters" is not required in Confusion message since there is no optional parameter exists in the message.

TABLE 11/Q.763

Message type: Connect

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Backward call indicators	3.4	F	2
Optional backward call indicators	3.24	O	3
Connected number	3.14	O	4-12
Call reference	3.6	NS	7
User-to-user indicators	3.37	NS	3
User-to-user information (Note 1)	3.38	NS	3-131
Access transport	3.2	O	3-?
End of optional parameters (Note 1)	3.17	O	1

Note 1 - Some networks / platforms may only support up to 35 octets.

TABLE 12/Q.763

Message type: Continuity

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Continuity indicators	3.16	F	1

TABLE 13/Q.763

Message type: Facility reject

<Facility reject message is not supplied.>

TABLE 14/Q.763

Message type: Information

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Information indicators	3.21	F	2
Calling party's category	3.9	O	3
Calling party number	3.8	O	5-12
Call reference	3.6	NS	7
Connection request	3.15	NS	7-9
Access transport	3.2	NS	4-?
End of optional parameters	3.17	O	1

TABLE 15/Q.763

Message type: Information request

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Information request indicators	3.22	F	2
Call reference	3.6	NS	7
End of optional parameters (Note 1)	3.17	O	1

Note 1 - "End of optional parameter" is not required in Information required message since the optional call reference parameter is not supported.

TABLE 16/Q.763

Message type: Initial address

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Nature of connection indicators	3.23	F	1
Forward call indicators	3.20	F	2
Calling party's category	3.9	F	1
Transmission medium requirement	3.35	F	1
Called party number	3.7	V	4-11
Transit network selection (Note 2)	3.34	NS	4-?
Call reference	3.6	NS	7
Calling party number	3.8	O	4-12
Optional forward call indicators	3.25	O	3
Redirecting number	3.28	O	4-12
Redirection information	3.29	O	3-4
Closed user group interlock code	3.13	O	6
Connection request	3.15	NS	7-9
Original called number	3.26	O	4-12
User-to-user information (Note 1)	3.38	NS	3-131
Access transport	3.2	O	3-?
User service information (Note 3)	3.36	NS	4-13
User-to-user indicators	3.37	NS	3
End of optional parameters	3.17	O	1

Note 1 - Some networks / platforms may only support up to 35 octets.

Note 2 - For national use only.

Note 3 - This parameter can be repeated in case of an alternate bearer service, in which case the initial parameter represents the initial establishment mode.

TABLE 17/Q.763

Message type: Release

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Cause indicators	3.10	V	3-?
Redirection information	3.29	O	3-4
Redirection number	3.30	O	5-12
Signalling point code (Note 1)	3.31	NS	4
Access transport	3.2	NS	3-?
User-to-user information (Note 2)	3.38	NS	3-131
Automatic congestion level	3.3	NS	3
End of optional parameters	3.17	O	1

Note 1 - For national use only.

Note 2 - Some networks / platforms may only support up to 35 octets.

TABLE 18/Q.763

Message type: Release complete

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Cause indicators	3.10	O	5-?
End of optional parameters	3.17	O	1

TABLE 19/Q.763

Message type: Subsequent address

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Subsequent number	3.32	V	3-10
End of optional parameters	3.17	O	1
- No new optional parameters are allowed in the subsequent message			

TABLE 20/Q.763

Message type: User-to-user information
<User-to-user information message is not supported>

TABLE 21/Q.763

Message type: Delayed release (national use)
<Delayed release message is not supported.>
Forward transfer
<Forward transfer message is not supported.>

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Call reference	3.6	NS	7
End of optional parameters (Note 1)	3.17	O	1

Note 1 - "End of optional parameters" is not required in Delayed Release message since the optional call reference parameter is not supported.

TABLE 22/Q.763

Message type: Suspend
Resume

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Suspend/Resume indicators	3.33	F	1
Call reference	3.6	NS	7
End of optional parameters (Note 1)	3.17	O	1

Note 1 - "End of optional parameters" is not required in Suspend and Resume message since the optional call reference parameter is not supported.

TABLE 23/Q.763

Message type: Blocking
Blocking acknowledgement
Continuity check request
Loop back acknowledgement (nation use)
Overload (nation use)
Reset circuit
Unblocking
Unblocking acknowledgement
Unequipped circuit identification code (nation use)
<Continuity check request message, loop back acknowledgement message, overload message and unequipped circuit identification code message are not supported.>

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1

TABLE 24/Q.763

Message type: Call modification completed
Call modification request
Call modification reject
<Call modification completed message, Call modification request message and Call modification reject message are not supported.>

TABLE 25/Q.763

Message type: Circuit group blocking
Circuit group blocking acknowledgement
Circuit group unblocking
Circuit group unblocking acknowledgement

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Circuit group supervision message type indicator	3.11	F	1
Range and status	3.27	V	3-34

TABLE 26/Q.763

**Message type: Circuit group reset
Circuit group query
<Circuit group query message is not supported.>**

Parameter	Reference section	Type	Length (octets)
Message type	2.1	F	1
Range and status (Note)	3.27	V	2

Note - The status subfield is not present.

TABLE 27/Q.763

**Message type: Facility accepted
Facility request
<Facility accepted message and facility request message are not supported.>**

TABLE 28/Q.763

**Message type: Pass-along
<Pass-along message is not supported.>**

(TO CHAPTER III-3)

INTERPRETATION OF SPARE CODES

TABLE A-1/Q.763
Fields and their default interpretations

Field Name with Unrecognized Code	Default Interpretation
Charge indicator	Charge
Called party's status indicator	No indication
Called party's category indicator	No indication
Calling party category	Handle as an ordinary call
Address presentation restricted indicator	Presentation restricted
Cause indicator-location	Note
Cause value (unextended)	Unspecified: within class xxx
Cause value (extended)	Unspecified: interworking class
Satellite indicator	No satellite
Continuity check indicator	Continuity check not required
Redirecting reason indicator	Unknown/unavailable
Redirection counter	Maximum redirections
Original redirection reason indicator	Unknown/unavailable
Redirecting indicator	Call forwarded

Note- If a network / platform receives an unrecognized location field from other networks / platforms, the default interpretation of this field will be the location of the network / platform which sends the unrecognized location, otherwise the default interpretation is "beyond an interworking point".

TABLE A-2/Q.763
Fields with no default interpretations

Uninterpretable Field
Nature of address
Numbering plan
Address signal
Cause indicator-coding standard (Note)
Cause indicator-recommendation (Note)
Transmission medium requirement
Event indicator
Circuit group supervision message type

Note- Cause value interpreted as if coded "unspecified: interworking class" (1111111) and the Location field interpreted as if coded "beyond interworking point" (1010)

PART III
CHAPTER III-4

SPECIFICATION OF ISDN-UP SIGNALLING PROCEDURES (Q.764)

Compliance with ITU-T Recommendation Q.764

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
1							<u>GENERAL</u>
1.1						O	<u>Relationship with other recommendations</u>
1.2			O				<u>Numbering (ref. Recommendations E.163, E.164)</u> The numbering range will be assigned by OFTA.
1.3			O				<u>Address signalling</u> The call set-up procedure is for connection using en-bloc address signalling. Overlap address signalling is not supported.
1.4	O						<u>Basic procedures</u>
1.5			O				<u>Signalling methods</u> No end-to-end signalling method is required to support initially.
1.6						O	<u>Layout of Q.764</u>
1.7	O						<u>Interworking with other Signalling Systems or User Parts</u>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.764

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2			O				<p><u>BASIC CALL CONTROL AND SIGNALLING PROCEDURES</u> The originating exchange is the exchange to which the calling party is attached. The destination exchange is the exchange to which the called party is attached. However, the intermediate exchange mentioned in this specification included all tandem exchanges and interface gateway exchanges located at the two ends of the interconnection interface.</p>
2.1							<p><u>Successful call set-up</u></p>
2.1.1							<p><u>Forward address signalling - en bloc operation</u></p>
2.1.1.1							<p><u>Actions required at originating exchange</u></p>
			O				<p><u>a). Circuit selection</u> At the interconnection interface, only 'speech', '3.1 kHz audio' and '64 kbit/s unrestricted' connection types are supported. Moreover, the use of remote database for routing information storage is an implementation-dependent matter.</p>
			O				<p><u>b). Address information sending sequence</u> For outgoing international calls, the international access codes should normally be included in the address sending sequence (unless agreed otherwise by the interconnecting operators). On national connections, the address information is the local number. Moreover, code 11 and code 12 calls are not supported.</p>
			O				<p><u>c). Initial Address Message</u> SCCP related matters are not applicable.</p>
			O				<p><u>d). Transfer of information not included in the Initial Address Message</u> Transportation of the user facility information via SCCP and Pass-along end-to-end methods are not supported.</p>
	O						<p><u>e). Completion of transmission path</u> Through connection of the transmission path in the forward direction will occur normally after the address complete message has been received.</p>
	O						<p><u>f). Network protection timer</u></p>

A : Complied with ITU-T B : Complied with ITU-T with additional notes C : Partially complied with ITU-T D : Not supported E : Optional F : Descriptive text only

Compliance with ITU-T Recommendation Q.764

Item No.	Compliance						Descriptions / Notes
	A	B	C	D	E	F	
2.1.1.2			O				<u>Actions required at an intermediate exchange</u> <u>a). Circuit selection</u> At the interconnection interface, only 'speech', '3.1 kHz audio' and '64 kbit/s unrestricted' connection types are supported. Moreover, the use of remote database for routing information storage is an implementation-dependent matter. <u>b). Parameters in the Initial Address Message</u> No end-to-end method is required to support initially. <u>c). Completion of transmission path</u> Through connection of transmission path in both directions at an intermediate exchange will be completed immediately after reception of address complete message. Through connection after sending of initial address message at the intermediate exchange is subject to further study.
2.1.1.3			O				<u>Actions required at the destination exchange</u> <u>a). Selection of called party</u> The use of end-to-end method to obtain call set-up information from the originating or controlling exchange is not required at the initial stage. Moreover, if a continuity check has to be performed on the previous circuit(s), setting up of the connection to the called party must be prevented until a successful continuity check indication has been received in a Continuity message.
2.1.2				O			<u>Forward Address Signalling - Overlap operation</u>
2.1.3		O					<u>Calling Party Number</u> Available calling party number will be sent in the initial address message. The procedure of calling party number request by the destination exchange is not applicable.
2.1.4							<u>Address Complete Message, Connect Message and Call Progress Message</u>
2.1.4.1	O						<u>Return of Address Complete Message from destination exchange</u> <u>1). Terminating access is Non-ISDN</u> <u>2). Terminating access is ISDN</u>

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	A	B	C	D	E	F	
2.1.4.2	O						<u>Return of Connect Message from the destination exchange</u>
2.1.4.3	O						<u>Receipt of Address Complete Message or Connect Message at an intermediate exchange</u>
2.1.4.4	O						<u>Receipt of Address Complete Message or the Connect Message at the originating exchange</u>
2.1.4.5	O						<u>Through Connection and Awaiting Answer Indication at the destination exchange</u>
2.1.4.6		O					<u>Address Complete Message with charging information</u> The ACM carries a "charge indicator" which is normally set to "charge". Initially, the charge information will not be used to determine whether the call is to be charged or not at the interconnection interface.
2.1.4.7		O					<u>Address Complete Message with other information</u> The requirement will depend on the implementation of supplementary service.
2.1.4.8			O				<u>Return of Address Complete Message in interworking situations</u> The execution of cross office check before the sending of the ACM is implementation dependent. Moreover, procedures which are related to overlap mode of operation and handling abnormal delay in the receipt of address complete signal from the succeeding international network are not applicable at the interconnection interface.
2.1.4.9				O			<u>Return of sub-address information in Address Complete Message, Connect Message or Call Progress Message</u>
2.1.5	O						<u>Call Progress</u>
2.1.5.1	O						<u>Return of Call Progress Message from the destination exchange</u>
2.1.5.2	O						<u>Action at an intermediate exchange</u>
2.1.5.3	O						<u>Actions at the originating exchange</u>

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	A	B	C	D	E	F	
2.1.6							<u>Information Message</u>
2.1.6.1			O				<u>Requesting information</u> An information request message sent in the forward call establishment direction is not supported.
2.1.6.2		O					<u>Sending information</u> Full compliance is required. In addition, a new item is added:- "iv) if calling party address request and charge information request are received by the network / platform, a negative response, i.e. "information not included", will be sent."
2.1.6.3				O			<u>Sending Unsolicited Information</u>
2.1.6.4	O						<u>Receiving an Information Message</u>
2.1.7							<u>Answer Message</u> Not relevant at the interconnection interface.
2.1.7.1			O				<u>Return of Answer Message from destination exchange</u> The following sentence is excluded:- "If the destination exchange is the exchange controlling charging, then charging may begin."
2.1.7.2			O				<u>Receipt of Answer Message at intermediate exchange</u> The following sentence is excluded:- "if this is the exchange controlling charging, charging may begin, and timer (T9) is stopped."

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	A	B	C	D	E	F	
2.1.7.3			O				<p><u>Receipt of Answer Message at originating exchange</u> The following sentence is excluded:-</p> <p>"If the originating exchange is the exchange controlling charging, charging may begin if applicable."</p>
2.1.7.4	O						<p><u>Return of answer from automatic terminals</u></p>
2.1.7.5			O				<p><u>Answer with charging information</u> Charge indicator indicating "No charge" should not be sent from the interface gateway exchange.</p>
2.1.8			O				<p><u>Continuity-check</u> Continuity check will not be required to support initially.</p> <p>For calls other than international incoming, the continuity check indicator (bits DC of nature of connection indicator) should be set to 00, indicating continuity check is not required.</p> <p>If an IAM indicating "continuity check performed on a previous circuit" is sent over the interconnection interface, continuity message should be sent subsequently to indicate continuity check success/failure condition.</p>
2.1.9							<p><u>Special procedures at an interworking point</u></p>
2.1.9.1			O				<p><u>Completion of transmission path at an interworking exchange</u> Procedure relating to continuity check is not applicable at the interconnection interface.</p>
2.1.9.2			O				<p><u>Alerting of called party</u> Only case (a), i.e. SS No.7 -> any non No.7 signalling system, is supported.</p>
2.1.10				O			<p><u>Cross office check</u></p>

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	A	B	C	D	E	F	
2.1.11							<u>Charging procedures</u>
2.1.11.1							<u>Basic call charging</u> Not relevant at the interconnection interface.
2.1.11.2				O			<u>Network Charging Messages (national option)</u>
2.1.12				O			<u>Forward Transfer Message</u>
2.1.13				O			<u>Transit Network Selection (national option)</u>
2.2							<u>Unsuccessful call set-up</u>
2.2.1	O						<u>Actions at exchange initiating a Release Message</u>
2.2.2	O						<u>Actions at intermediate exchange</u>
2.2.3			O				<u>Actions at the controlling exchange</u> The option for attempting to re-route the call set-up is not supported at the initial stage.
2.2.4			O				<u>Tones and Announcements</u> The address complete message will not include cause parameter.
2.3		O					<u>Normal call release</u> The provisional value for T_{cu} is 110 ms.
2.3.1		O					<u>Release initiated by a calling party</u> For international calls, the International Toll Exchange will stop charging on receipt of a request to release the call. The interface gateway exchange will stop trunk usage interconnect charging on receipt of a request to release the call.
2.3.2	O						<u>Release initiated by a called party</u>

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	A	B	C	D	E	F	
2.3.3	O						<u>Release initiated by the network</u>
2.3.4			O				<u>Storage and release of IAM information</u> Storage and release of IAM information is implementation dependent. Therefore, this section should be treated as guidelines only.
2.4							<u>Transfer of User-to-user Information</u>
2.4.1				O			<u>Requirements for transfer of User-to-user data</u>
2.5							<u>Suspend, Resume</u>
2.5.1	O						<u>Suspend</u>
2.5.1.1					O		<u>Suspend initiated by a calling party</u>
2.5.1.2	O						<u>Suspend initiated by a called party</u>
2.5.1.3	O						<u>Suspend initiated by the network</u>
2.5.2	O						<u>Resume</u>
2.5.2.1					O		<u>Resume initiated by a calling party</u>
2.5.2.2	O						<u>Resume initiated by a called party</u>
2.5.2.3	O						<u>Resume initiated by the network</u>
2.5.3	O						<u>Expiration of timer T2 or timer T6</u>

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2.6				O			<p><u>Delayed Release (national option)</u> In general, delayed release procedure is not supported by the originating switches. However, use of the delayed release procedure in the forward direction to support interworking with non-C7 signalling system is supported by some existing switches in the PTNs:</p> <p>In the transition period before DRS is completely phased out in the PTNs, the terminating switches should be able to handle any DRS received in a proper manner. If DRS is received by a terminating switch, it may implement one of the following options for call release procedure:</p> <p>(a) The terminating switch will initiate a release procedure on reception of DRS and respond to the original switch with a RELEASE (REL) message without waiting for the called party to disconnect (Preferred approach); or</p> <p>(b) The terminating switch will activate a network timer on reception of DRS and upon timer expiry it will respond to the originating switch with a REL message; or</p> <p>(c) The terminating switch will treat DRS as a normal REL message and respond to the originating switch with a RELEASE COMPLETE (RLC) message; or</p> <p>(d) The terminating switch will initiate a called party controlled release procedure on reception of DRS and respond to the original switch with a REL message when the called party disconnects. To avoid prolonged call holding by the called party, the terminating switch may also implement option (b).</p>
2.7				O			<u>In Call Modification</u>
2.8					O		<u>Echo control procedure</u>
2.9							<u>Network features</u>
2.9.1				O			<p><u>Automatic repeat attempt</u> Since single-way operation is adopted at the interconnection interface and continuity check is not performed at the interface, automatic repeat attempt on i) detection of dual seizure and ii) on failure of continuity check are not applied.</p>
2.9.2				O			<p><u>Blocking and unblocking of circuits and circuit groups</u> Actions relevant to both-way circuit operation is not applied at the interconnection interface.</p>

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	A	B	C	D	E	F	
2.9.2.1	O						<u>Other actions on receipt of a Blocking Message</u>
2.9.2.2	O						<u>Circuit Group Blocking and Unblocking Messages</u>
2.9.2.3			O				<u>Abnormal blocking and circuit group blocking procedures</u> Full compliance is required except for item (xiv):- "The remotely blocked state of a circuit will only be removed by an unblock message. This applies to blocking due to maintenance reason, hardware or both."
2.9.3				O			<u>Circuit Group Query</u>
2.10							<u>Abnormal conditions</u>
2.10.1					O		<u>Dual Seizure</u> If only single-way operation is adopted at the interconnection interface, dual seizure and the relevant action will not be applicable.
2.10.2	O						<u>Transmission alarm handling for digital inter-exchange circuits</u>
2.10.3	O						<u>Reset of circuits and circuit groups</u>
2.10.3.1	O						<u>Reset Circuit Message</u>
2.10.3.2	O						<u>Circuit Group Reset Message</u>
2.10.3.3			O				<u>Abnormal Circuit Group Reset Message procedures</u> If a circuit group reset message is received for circuits including those that are not controlled by ISDN-UP, only those circuits controlled by ISDN-UP would be reset and a group reset acknowledgement would be returned.
2.10.4	O						<u>Failure in the blocking/unblocking sequence</u>
2.10.5	O						<u>Receipt of unreasonable and unrecognized signalling information message</u>
2.10.5.1		O					<u>Handling of Unexpected Messages</u> If a Release complete message is received relating to a busy circuit for which a Release message has not been sent, the circuit will be released and a Release message will be sent (the connection will not be maintained).

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	A	B	C	D	E	F	
2.10.5.2			O				<u>General requirements on receipt of unrecognized signalling information messages and parameters</u> Procedures and messages related to facility request and facility reject as well as the diagnostic field are not supported.
2.10.5.3			O				<u>Procedures for the handling of the unrecognized messages or parameters</u> Procedures and messages related to facility request and facility reject as well as the diagnostic field are not supported. If a Facility Request Message is received, the message is discarded and a Confusion Message is returned including the cause "unrecognized message".
2.10.6	O						<u>Failure to receive a Release Complete Message - Timer T1 and T5</u>
2.10.7			O				<u>Failure to receive a response to an Information Request Message</u> The maintenance system is not informed.
2.10.8							<u>Other Failure Conditions</u>
2.10.8.1	O						<u>Inability to release in response to a Release Message</u>
2.10.8.2	O						<u>Call-failure</u>
2.10.8.3		O					<u>Abnormal release conditions</u> In this specification, the procedures "Outgoing international or national controlling exchange" and "Incoming international exchange" are now applied to "Outgoing exchange at the interconnection interface" and "Incoming exchange at the interconnection interface".
2.10.8.4				O			<u>Message loss during end-to-end transfer</u>
2.10.8.5				O			<u>Expiration of the call supervision timer for calls involving SCCP</u>
2.10.9				O			<u>Temporary Trunk Blocking (TTB) (national use)</u>
2.10.10				O			<u>Temporary Trunk Blocking before release of call (use of discrete overload message)</u>

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	A	B	C	D	E	F	
2.11			O				<u>ISDN User Part Signalling Congestion Control</u> The method of implementation, the number of steps of traffic reduction and the type and/or amount of increase/decrease of traffic load at the various steps are considered to be implementation dependent.
2.12				O			<u>Automatic Congestion Control</u>
2.13				O			<u>Unequipped Circuit Identification Code Message (national option)</u>
3				O			<u>END-TO-END SIGNALLING</u>

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