CONTENTS

Revision No. 1

LIST OF FIGURES

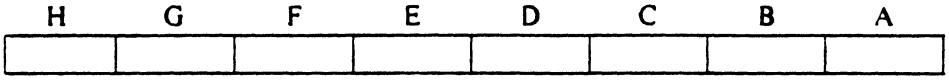
1. INTRODUCTION

This Recommendation provides the formats and encodings for TCAP messages. It is based on the encoding rules provided in CCITT Recommendation X.409 and is consistent with that Recommendation, although it does not use the X.409 formal description language. Use of the formal description language to specify this Recommendation beyond Issue 1 is for further study. Possible use of the formal description language does not imply changes to this Recommendation.

2. DATA ELEMENT ENCODING

Each data element in a TCAP message is encoded using a sequence of octets logically divided into an Identifier, Length of Contents, and Contents. The specification of the Contents is an integral part of this standard. Therefore, only those fields and values specified in this Recommendation, may be used as part of the standard message set.

Bits are labeled as follows, with bit A the least significant and the first transmitted:



2.1 Identifier. All Identifiers use the two most significant bits to indicate the Identifier class. These bits are coded as follows:

Class	Bit Assignment (Bits HG)	Usage in this Specification
Universal	00	Universal
Application-wide	01	International TCAP
Context-specific	10	Context Specific
Private Use	11	National TCAP/Private TCAP

The Universal class is used for Identifiers that are standardized in CCITT Recommendation X.409 and are application-independent types. Application-wide types are standardized for a particular application. In this protocol, the bit assignment 01 will refer to the international standardized TCAP. Context-specific Identifiers are defined within an application and are distinct within a limited context (e.g., a particular message type). The Private Use class is reserved for private use. In this standard, Private Use Identifiers are shared between this national (internetwork) TCAP specification and private TCAP specifications. This Recommendation specifies the codings for national TCAP use. The national Identifier codes not assigned by this Recommendation are reserved for future use. Privately assigned Identifier codes must be specified in the context of a private class TCAP data type.

Bit F is used to indicate whether the data element is "Primitive" or "Constructor." A primitive element is one whose structure is atomic (i.e., one value only). A constructor type is one whose content is a series of data elements (i.e., a recursive definition of a single value or a sequence of values).

An asterisk '*' indicates a change from the CCITT Red Book, Vol. VI, that is specific to U.S. Networks.

A bar † indicates a change from Issue 1 of Bell Communications Research Specification of Signalling System Number 7, Vol. 1 and 2.

Form	Bit F
Primitive	0
Constructor	1

Bits A to E of the Identifier octet represent an Identifier code that distinguishes one data type from another of the same class. Identifier codes in the range 00000 to 11110 are provided in one octet.

The extension mechanism is to code bits A to E as 11111. If bit H of the extension octet is set to 0, then no further octets for this Identifier are used. All preceding Identifier extension octets must have bit H set to 1. The resultant Identifier consists of bits A to G of each extension octet, with the first extension octet being the most significant.

When the Private Use Class is specified, bits A to E of the first Identifier octet are reserved for national TCAP use only. The extended formats are shared between private TCAP and national TCAP usage. If bit G of the second octet is set to 0, a nationally assigned Identifier is implied. If Bit G is set to 1, a privately assigned Identifier is implied.

2.2 Length Of Contents. The Length of Contents field is coded to indicate the number of octets in the contents. The length does not include the Identifier or the Length of Contents.

When the contents are less than 128 octets long, lengths are encoded as a binary number using bits A to G. Bit H is reserved and is coded 0.

When the contents are longer than 127 octets, the long form of the Length of Contents is used. The long form is from 2 to 127 octets long. Bit H of the first octet has the value 1. Bits A to G of the first octet encode a number one less than the size of the Length of Contents field in octets as an unsigned binary number whose most significant (MSB) and least significant (LSB) bit are Bit G and Bit A respectively. The length itself is encoded as an unsigned binary number whose MSB and LSB are Bit H of the second octet and Bit A of the last octet, respectively. This binary number shall be encoded in the fewest possible octets, with no leading octets having the value 0.

The maximum value that may be encoded is constrained by the network (e.g., MTP and SCCP) message size limitations.

2.3 TCAP Message Structure. A TCAP message consists of a Transaction Portion and one or more Components.

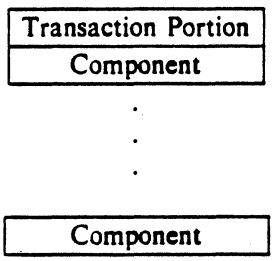


Figure 1/Q.773 - TCAP Message Structure

The Transaction Portion consists of:

TRANSACTION PORTION	Mandatory Indication
Package Type Identifier Total TCAP Message Length	MAN
Transaction IDs Identifier Transaction IDs Length Transaction IDs	MAN*
Component Sequence Identifier Component Sequence Length	MAN

A MAN following the indicated data element indicates that its presence is mandatory and may not be null. An element marked by MAN* must be present, but its content may be empty (i.e., it may have a length equal to zero). An element marked by OPT is optional, but, if present, its content may not be empty.

The Component Types, specified in Section 4.1, have the structure specified below:

INVOKE COMPONENT	Mandatory Indication
Component Type Identifier Component Length	MAN
Component ID Identifier Component ID Length Component IDs	MAN*
Operation Code Identifier Operation Code Length Operation Code	MAN
Parameter Set Identifier Parameter Set Length Parameter Set	MAN*

RETURN RESULT COMPONENT	Mandatory Indication
Component Type Identifier Component Length	MAN
Component ID Identifier Component ID Length Component IDs	MAN*
Parameter Set Identifier Parameter Set Length Parameter Set	MAN*

RETURN ERROR COMPONENT	Mandatory Indication
Component Type Identifier Component Length	MAN
Component ID Identifier Component ID Length Component IDs	MAN*
Error Code Identifier Error Code Length Error Code	MAN
Parameter Set Identifier Parameter Set Length Parameter Set	MAN*

REJECT COMPONENT	Mandatory Indication
Component Type Identifier Component Length	MAN
Component ID Identifier Component ID Length Component IDs	MAN*
Problem Code Identifier Problem Code Length Problem Code	MAN
Parameter Set Identifier Parameter Set Length Parameter Set	MAN*

The following shows the structure of a single parameter. A Parameter Set is composed of zero of more Parameters.

PARAMETER	Mandatory Indication
Parameter Identifier Parameter Length Parameter Contents	OPT

The detailed message structure and Parameter Set structure is shown in Figures 2/Q.773 and 3/Q.773.

3. TRANSACTION PORTION

3.1 Package Type Identifier. This field consists of one octet and is mandatory for all TCAP messages. Package Type Identifiers are coded national, constructor as follows:

Package Type Identifiers	H	G	F	E	D	C	B	A
Unidirectional	1	1	1	0	0	0	0	1
Query With Permission	1	1	1	0	0	0	1	0
Query Without Permission	1	1	1	0	0	0	1	1
Response	1	1	1	0	0	1	0	0
Conversation With Permission	1	1	1	0	0	1	0	1
Conversation Without Permission	1	1	1	0	0	1	1	0

3.2 Total TCAP Message Length. This length field indicates total message length.

3.3 Transaction ID Identifier. Transaction IDs are assigned to a TCAP message to permit transaction association. The Transaction ID Identifier is coded national, primitive with Identifier code 7, i.e.,

	H	G	F	E	D	C	B	A
Transaction ID Identifier	1	1	0	0	0	1	1	1

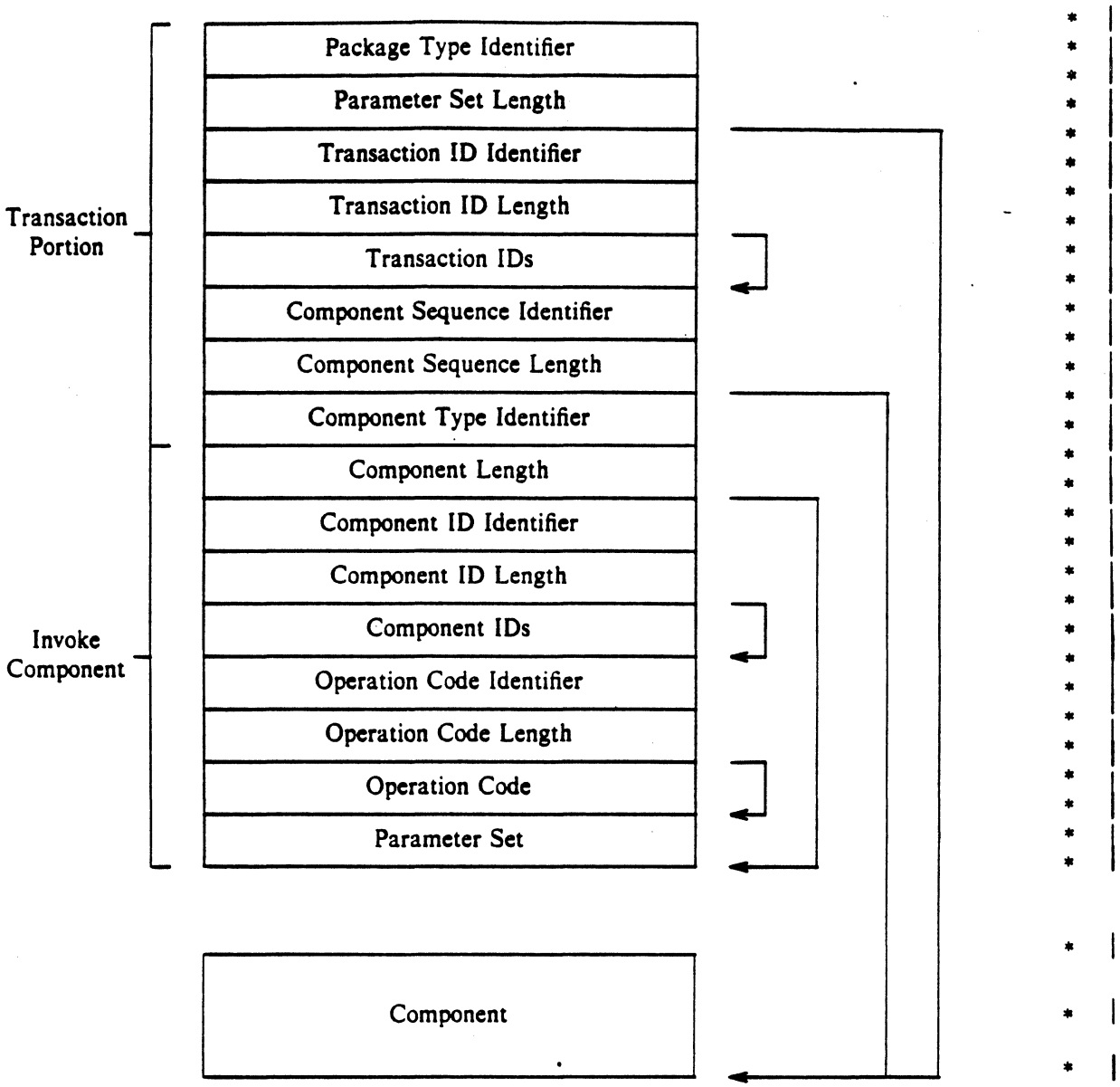


Figure 2/Q.773 - Detailed TCAP Message Structure With An Invoke Component

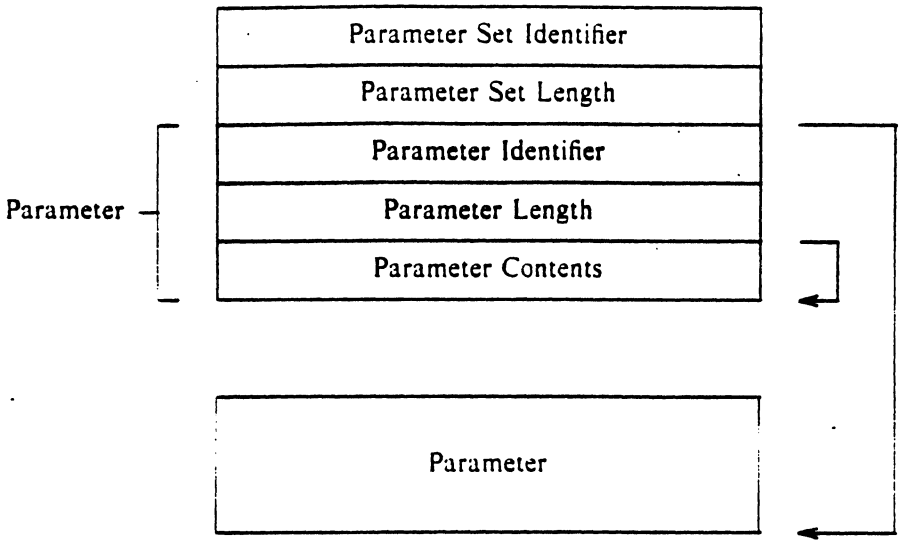


Figure 3/Q.773 - Detailed TCAP Parameter Set Structure

3.4 Transaction ID Length. Transaction ID length is the total length in octets used by the Transaction IDs in a TCAP message. The value of this length is determined by the length of the Originating and Responding Transaction IDs combined. It may be 0, 4, or 8 octets.

3.5 Transaction IDs. Zero or more IDs may be required depending upon the Package Type Identifier used. The following table depicts this relationship.

Package Type Identifier	Originating ID	Responding ID
Unidirectional	No	No
Query With Permission	Yes	No
Query Without Permission	Yes	No
Response	No	Yes
Conversation With Permission	Yes	Yes
Conversation Without Permission	Yes	Yes

3.5.1 Originating Transaction ID. This field contains the Transaction ID assigned by the originator. When present, it consists of four octets and is the first of the Transaction IDs (when both an Originating and a Responding Transaction ID are present).

3.5.2 Responding Transaction ID. This field contains the Transaction ID assigned by the responder. The Responding Transaction ID is a reflection of the Originating Transaction ID and has the same length.

3.6 Component Sequence Identifier. This field identifies the following Component Sequence and is coded national, constructor with Identifier code 8, i.e.,

	H	G	F	E	D	C	B	A
Component Sequence Identifier	1	1	1	0	1	0	0	0

3.7 Component Sequence Length. This field encodes the total length in octets of the Component Sequence.

4. COMPONENT

4.1 Component Type Identifier. The Component Type Identifier is coded national, constructor as follows:

Component Type Identifier	H	G	F	E	D	C	B	A
Invoke (Last)	1	1	1	0	1	0	0	1
Return Result (Last)	1	1	1	0	1	0	1	0
Return Error	1	1	1	0	1	0	1	1
Reject	1	1	1	0	1	1	0	0
Invoke (Not Last)	1	1	1	0	1	1	0	1
Return Result (Not Last)	1	1	1	0	1	1	1	0

4.2 Component Length. This field specifies how many additional octets are in this Component.

4.3 Component ID Identifier. The Component ID Identifier is coded as national, primitive with Identifier code 15, i.e.

	H	G	F	E	D	C	B	A
Component ID Identifier	1	1	0	0	1	1	1	1

4.4 Component ID Length. The Component ID Length indicates the total length of the Component IDs. It may be 0, 1, or 2 octets.

4.5 Component IDs. The number of Component IDs is determined by the Component Type and is shown below.

Component Type	Invoke ID	Correlation ID
Invoke	Optional *	Reflected
Return Result	Absent	Reflected
Return Error	Absent	Reflected
Reject	Absent	Reflected

* Mandatory when Correlation ID present

Where the reflected status is indicated for Correlation IDs, the IDs are mandatory only if an Invoke ID was present in the corresponding Invoke.

4.5.1 Invoke ID. The Invoke ID is assigned to a Component initiating an Operation. It is optional and is one octet long, if present.

4.5.2 Correlation ID. The Correlation ID is assigned to Components sent in response to another Component. It is mandatory when the received Component had an Invoke ID. It is one octet long, if present.

4.6 Operation Code Identifier. This Operation Code Identifier identifies the Operation Code that follows as being either National TCAP or Private TCAP. It is coded national, primitive, as follows:

Operation Code Identifier	H	G	F	E	D	C	B	A
National TCAP	1	1	0	1	0	0	0	0
Private TCAP	1	1	0	1	0	0	0	1

4.7 Operation Code Length. This field specifies the length of the Operation Code. It is always 2 octets.

4.8 Operation Code. The Operation Code is partitioned into an Operation Family followed by a Specifier associated with each Operation Family member. The length of the Operation Family field and Specifier field are one octet each.

4.8.1 Operation Family.

For national use, the Operation Family values are coded as follows:

Operation Family	G	F	E	D	C	B	A
Not used	0	0	0	0	0	0	0
Parameter	0	0	0	0	0	0	1
Charging	0	0	0	0	0	1	0
Provide Instructions	0	0	0	0	0	1	1
Connection Control	0	0	0	0	1	0	0
Caller Interaction	0	0	0	0	1	0	1
Send Notification	0	0	0	0	1	1	0
Network Management	0	0	0	0	1	1	1
Procedural	0	0	0	1	0	0	0
Spare							
Miscellaneous	1	1	1	1	1	1	0
Reserved	1	1	1	1	1	1	1

Bit H is used to distinguish between Operations that require a reply and those that do not.

Bit H	Reply Required
1	Yes
0	No

When a reply is required, a reply must be sent. When a reply is not required, a reply may be sent based on the outcome of the Operation or other criteria.

4.8.2 Operation Specifier The Operation Specifier indicates a specific operation to be performed within a family. Other Specifiers for each family are possible and the codes not stated below are for further study.

Family Name	Specifier	H	G	F	E	D	C	B	A
All families	Reserved	1	1	1	1	1	1	1	1
	Not used	0	0	0	0	0	0	0	0
Parameter	Provide Value	0	0	0	0	0	0	0	1
	Set Value	0	0	0	0	0	0	1	0
Charging	Bill Call	0	0	0	0	0	0	0	1
Provide Instruction	Start	0	0	0	0	0	0	0	1
	Assist	0	0	0	0	0	0	1	0
Connection Control	Connect	0	0	0	0	0	0	0	1
	Temporary Connect	0	0	0	0	0	0	1	0
	Disconnect	0	0	0	0	0	0	1	1
	Forward Disconnect	0	0	0	0	0	1	0	0
Caller Interaction	Play announcement	0	0	0	0	0	0	0	1
	Play announcement & collect digits	0	0	0	0	0	0	1	0
Send Notification	Event	*							
Network Management	Automatic Call Gap	0	0	0	0	0	0	0	1
Procedural	Temporary Handover	0	0	0	0	0	0	0	1
Miscellaneous	*	*							

* For Further Study.

4.9 Error Code Identifier. This Error Code Identifier identifies the Error Code that follows as being either National TCAP or Private TCAP. It is coded national, primitive, as follows:

Error Code Identifier	H	G	F	E	D	C	B	A
National TCAP	1	1	0	1	0	0	1	1
Private TCAP	1	1	0	1	0	1	0	0

4.10 Error Code Length. This field specifies the length of the error code. The Error Code is always one octet long.

4.11 Error Code. This field identifies the reason an operation failed. These Error Codes are used when the Error Code Identifier indicates that a national TCAP Error Code follows. It is coded as follows:

Error Code	H	G	F	E	D	C	B	A
Not used	0	0	0	0	0	0	0	0
Unexpected Component Sequence	0	0	0	0	0	0	0	1
Unexpected Data Value	0	0	0	0	0	0	1	0
Unavailable Network Resource	0	0	0	0	0	0	1	1
Missing Customer Record	0	0	0	0	0	1	0	0
Reply Overdue	0	0	0	0	0	1	0	1
Data Unavailable	0	0	0	0	0	1	1	0

4.12 Problem Code Identifier.

This field indicates that a Problem Code follows. It is coded national, primitive with Identifier code 21, i.e.,

	H	G	F	E	D	C	B	A
Problem Code Identifier	1	1	0	1	0	1	0	1

4.13 Problem Code Length. This field specifies the length of the Problem Code. It is always 2 octets.

4.14 Problem Code. This field indicates the reason the Component or Transaction Portion was rejected. The Problem Code is partitioned into a Problem Type followed by a Problem Specifier associated with each Problem Type. The length of the Problem Type field and Problem Specifier field are one octet each. These two fields follow the Problem Code Length.

4.14.1 Problem Type. The Problem Type values are coded as follows:

Problem Type	H	G	F	E	D	C	B	A
Not used	0	0	0	0	0	0	0	0
General	0	0	0	0	0	0	0	1
Invoke	0	0	0	0	0	0	1	0
Return Result	0	0	0	0	0	0	1	1
Return Error	0	0	0	0	0	1	0	0
Transaction Portion	0	0	0	0	0	1	0	1

4.14.2 Problem Specifier. The Problem Specifier indicates a specific problem found within the type. *

Problem Type	Problem Specifier	H	G	F	E	D	C	B	A
All families	Reserved	1	1	1	1	1	1	1	1
	Not used	0	0	0	0	0	0	0	0
General	Unrecognized Component	0	0	0	0	0	0	0	1
	Incorrect Component Portion	0	0	0	0	0	0	1	0
	Badly Structured Component Portion	0	0	0	0	0	0	1	1
Invoke	Duplicate Invoke ID	0	0	0	0	0	0	0	1
	Unrecognized Operation Code	0	0	0	0	0	0	1	0
	Incorrect Parameter	0	0	0	0	0	0	1	1
	Unrecognized Correlation ID	0	0	0	0	0	1	0	0
Return Result	Unrecognized Correlation ID	0	0	0	0	0	0	0	1
	Unexpected Return Result	0	0	0	0	0	0	1	0
	Incorrect Parameter	0	0	0	0	0	0	1	1
Return Error	Unrecognized Correlation ID	0	0	0	0	0	0	0	1
	Unexpected Return Error	0	0	0	0	0	0	1	0
	Unrecognized Error	0	0	0	0	0	0	1	1
	Unexpected Error	0	0	0	0	0	1	0	0
	Incorrect Parameter	0	0	0	0	0	1	0	1
Transaction Portion	Unrecognized Package Type	0	0	0	0	0	0	0	1
	Incorrect Transaction Portion	0	0	0	0	0	0	1	0
	Badly Structured Transaction Portion	0	0	0	0	0	0	1	1
	Transaction Portion Unrecognized Transaction ID	0	0	0	0	0	1	0	0

4.15 Parameter Set Identifier. This field indicates that a set of Parameters is to follow. It is coded as national, constructor with Identifier code 18, i.e., *

	H	G	F	E	D	C	B	A
Parameter Set Identifier	1	1	1	1	0	0	1	0

4.16 Parameter Set Length. This length indicates the total length in octets of the Parameter Set. *

5. PARAMETERS

This Parameter Identifier uniquely identifies a particular parameter. The Parameter Length encodes the length of the particular parameter being described. Finally, the contents encodes the actual value of the parameter.

5.1 Automatic Call Gap Indicators. The Automatic Call Gap (ACG) Indicator Identifier is coded contextual (in the context of the Parameter Set), primitive, with Identifier code 1, i.e.,

	H	G	F	E	D	C	B	A
ACG Indicators Identifier	1	0	0	0	0	0	0	1

The ACG Indicators Length is 3 octets. The contents are coded as follows:

Control Cause Indication
Duration
Gap

The Control Cause Indication field is coded as follows:

Control Cause Indication	H	G	F	E	D	C	B	A
Not used	0	0	0	0	0	0	0	0
Vacant Code	0	0	0	0	0	0	0	1
Out-of-Band	0	0	0	0	0	0	1	0
Database Overload	0	0	0	0	0	0	1	1
Destination Mass Calling	0	0	0	0	0	1	0	0
OSS Initiated	0	0	0	0	0	1	0	1

The Duration field is coded as follows:

Duration	H	G	F	E	D	C	B	A
Not used	0	0	0	0	0	0	0	0
1 Second	0	0	0	0	0	0	0	1
2 Seconds	0	0	0	0	0	0	1	0
4 Seconds	0	0	0	0	0	0	1	1
8 Seconds	0	0	0	0	0	1	0	0
16 Seconds	0	0	0	0	0	1	0	1
32 Seconds	0	0	0	0	0	1	1	0
64 Seconds	0	0	0	0	0	1	1	1
128 Seconds	0	0	0	0	1	0	0	0
256 Seconds	0	0	0	0	1	0	0	1
512 Seconds	0	0	0	0	1	0	1	0
1024 Seconds	0	0	0	0	1	0	1	1
2048 Seconds	0	0	0	0	1	1	0	0

The Gap field is coded as follows:

Gap	H	G	F	E	D	C	B	A
Remove Gap Control	0	0	0	0	0	0	0	0
0.00 Seconds	0	0	0	0	0	0	0	1
0.10 Seconds	0	0	0	0	0	0	1	0
0.25 Seconds	0	0	0	0	0	0	1	1
0.50 Seconds	0	0	0	0	0	1	0	0
1.00 Seconds	0	0	0	0	0	1	0	1
2.00 Seconds	0	0	0	0	0	1	1	0
5.00 Seconds	0	0	0	0	0	1	1	1
10.00 Seconds	0	0	0	0	1	0	0	0
15.00 Seconds	0	0	0	0	1	0	0	1
30.00 Seconds	0	0	0	0	1	0	1	0
60.00 Seconds	0	0	0	0	1	0	1	1
120.00 Seconds	0	0	0	0	1	1	0	0
300.00 Seconds	0	0	0	0	1	1	0	1
600.00 Seconds	0	0	0	0	1	1	1	0
Stop All Calls	0	0	0	0	1	1	1	1

5.2 Standard Announcement. The Standard Announcement Identifier is coded contextual (in the context of the Parameter Set), primitive, with Identifier code 2, i.e.,

	H	G	F	E	D	C	B	A
Standard Announcement Identifier	1	0	0	0	0	0	1	0

The Standard Announcement Length is 1 octet. The contents are coded as follows:

Standard Announcement	H	G	F	E	D	C	B	A
Not used	0	0	0	0	0	0	0	0
Out-of-Band	0	0	0	0	0	0	0	1
Vacant Code	0	0	0	0	0	0	1	0
Disconnected Number	0	0	0	0	0	0	1	1
Reorder (120 IPM)	0	0	0	0	0	1	0	0
Busy (60 IPM)	0	0	0	0	0	1	0	1
No Circuit Available	0	0	0	0	0	1	1	0

5.3 Customized Announcement. The Customized Announcement Identifier is coded contextual (in the context of the Parameter Set), primitive, with Identifier code 3, i.e.,

	H	G	F	E	D	C	B	A
Customized Announcement Identifier	1	0	0	0	0	0	1	1

The Customized Announcement Length and contents are for further study.

5.4 Digits. The Digits Identifier is coded contextual (in the context of the Parameter Set), primitive, with Identifier code 4, i.e.,

	H	G	F	E	D	C	B	A
Digits Identifier	1	0	0	0	0	1	0	0

The Digits Length is variable. The contents are coded as follows:

Type of Digits	
Nature of Number	
Numbering Plan	Encoding
Number of Digits	
Digits	

The Type of Digits field is coded as follows:

Type of Digits	H	G	F	E	D	C	B	A
Not used	0	0	0	0	0	0	0	0
Dialled (Called)	0	0	0	0	0	0	0	1
ANI (Calling)	0	0	0	0	0	0	1	0
Caller Interaction	0	0	0	0	0	0	1	1
Routing Number	0	0	0	0	0	1	0	0
Billing Number	0	0	0	0	0	1	0	1
Destination Number	0	0	0	0	0	1	1	0
LATA	0	0	0	0	0	1	1	1
Carrier	0	0	0	0	1	0	0	0

The Nature of Number field is coded as follows:

Nature of Number	H	G	F	E	D	C	B	A
Not Applicable	0	0	0	0	0	0	0	0

Further values are for further study.

The Encoding field is coded as follows:

Encoding	D	C	B	A
Not used	0	0	0	0
BCD	0	0	0	1

The Numbering Plan field is coded as follows:

Numbering Plan	H	G	F	E
Unknown or Not Applicable	0	0	0	0
ISDN Numbering	0	0	0	1
Telephony Numbering	0	0	1	0
Data Numbering	0	0	1	1
Telex Numbering	0	1	0	0
Maritime Mobile Numbering	0	1	0	1
Land Mobile Numbering	0	1	1	0

The Number of Digits field is binary coded to indicate the number of digits in the Digits field.

If the Encoding is set to BCD, the digits are coded as follows:

2nd Digit	1st Digit
.	
.	
.	
nth Digit	n-1st Digit

The (BCD) digits are coded as follows:

Digit	H/D	G/C	F/B	E/A
Digit 0 or filler	0	0	0	0
Digit 1	0	0	0	1
Digit 2	0	0	1	0
Digit 3	0	0	1	1
Digit 4	0	1	0	0
Digit 5	0	1	0	1
Digit 6	0	1	1	0
Digit 7	0	1	1	1
Digit 8	1	0	0	0
Digit 9	1	0	0	1
Spare	1	0	1	0
Code 11	1	0	1	1
Code 12	1	1	0	0
*	1	1	0	1
#	1	1	1	0
ST	1	1	1	1

5.5 Standard User Error Code. The Standard User Error Code is coded contextual (in the context of the Parameter Set), primitive, with Identifier code 5, i.e.,

	H	G	F	E	D	C	B	A
Standard User Error Code Identifier	1	0	0	0	0	1	0	1

The Standard Error Code Length is 1 octet. The contents are coded as follows:

Standard User Error Code	H	G	F	E	D	C	B	A
Not used	0	0	0	0	0	0	0	0
Caller Abandon	0	0	0	0	0	0	0	1
Improper Call Response	0	0	0	0	0	0	1	0

5.6 Problem Data. The Problem Data Identifier is coded contextual (in the context of the Parameter Set), primitive, with Identifier code 6, i.e.,

	H	G	F	E	D	C	B	A
Problem Data Identifier	1	0	0	0	0	1	1	0

The Problem Data Length is variable. The contents are the Identifier, Length of Contents, and Contents of the incorrect data element.

5.7 SCCP Calling Party Address. The SCCP Calling Party Address Identifier is coded contextual (in the context of the Parameter Set), primitive, with Identifier code 7, i.e.,

	H	G	F	E	D	C	B	A
SCCP Calling Party Address Identifier	1	0	0	0	0	1	1	1

The SCCP Calling Party Address Length is variable. The contents are coded as specified in Section 3.5 of Q.713.

5.8 Transaction ID. The Transaction ID Identifier is coded contextual (in the context of the Parameter Set), primitive, with Identifier code 8, i.e.,

	H	G	F	E	D	C	B	A
Transaction ID Identifier	1	0	0	0	1	0	0	0

The Transaction ID Length is 4 octets. The contents are coded as specified in Section 3.5.1.

5.9 Package Type. The Package Type Identifier is coded contextual (in the context of the Parameter Set), primitive, with Identifier code 9, i.e.,

	H	G	F	E	D	C	B	A
Package Type Identifier	1	0	0	0	1	0	0	1

The Package Type Length is 1 octet. The contents are coded as specified in Section 3.1.

5.10 Service Key. The Service Key Identifier is coded contextual (in the context of the Parameter Set), constructor, with Identifier code 10, i.e.

	H	G	F	E	D	C	B	A
Service Key Identifier	1	0	1	0	1	0	1	0

The Service Key Length is variable. The contents are one or more Parameters.

6. SUMMARY OF IDENTIFIERS

The following table highlights the currently assigned identifiers.

TRANSACTION PORTION IDENTIFIERS	H	G	F	E	D	C	B	A
Unidirectional Package Type	1	1	1	0	0	0	0	1
Query With Permission Package Type	1	1	1	0	0	0	1	0
Query Without Permission Package Type	1	1	1	0	0	0	1	1
Response Package Type	1	1	1	0	0	1	0	0
Conversation With Permission Package Type	1	1	1	0	0	1	0	1
Conversation Without Permission Package Type	1	1	1	0	0	1	1	0
Transaction ID	1	1	0	0	0	1	1	1
Component Sequence	1	1	1	0	1	0	0	0
COMPONENT IDENTIFIERS								
Invoke Component (Last)	1	1	1	0	1	0	0	1
Return Result Component (Last)	1	1	1	0	1	0	1	0
Return Error Component	1	1	1	0	1	0	1	1
Reject Component	1	1	1	0	1	1	0	0
Invoke Component (Not Last)	1	1	1	0	1	1	0	1
Return Result Component (Not Last)	1	1	1	0	1	1	1	0
Component ID	1	1	0	0	1	1	1	1
National TCAP Operation Code	1	1	0	1	0	0	0	0
Private TCAP Operation Code	1	1	0	1	0	0	0	1
Parameter Set	1	1	1	1	0	0	1	0
National TCAP Error Code	1	1	0	1	0	0	1	1
Private TCAP Error Code	1	1	0	1	0	1	0	0
Problem Code	1	1	0	1	0	1	0	1
PARAMETER IDENTIFIERS								
ACG Indicators	1	0	0	0	0	0	0	1
Standard Announcement	1	0	0	0	0	0	1	0
Customized Announcement	1	0	0	0	0	0	1	1
Digits	1	0	0	0	0	1	0	0
Standard User Error Code	1	0	0	0	0	1	0	1
Problem Data	1	0	0	0	0	1	1	0
SCCP Calling Party Address	1	0	0	0	0	1	1	1
Transaction ID	1	0	0	0	1	0	0	0
Package Type	1	0	0	0	1	0	0	1
Service Key	1	0	1	0	1	0	1	0