

#### 4.5.17 *Keypad facility*

The purpose of the Keypad facility information element is to convey IA5 characters, e.g., entered by means of a terminal keypad.

The Keypad facility information element is coded as shown in Figure 4-25/Q.931. The default maximum length of this information element is 34 octets.

**Figure 4-25/Q.931 [T108.931], p.**

#### 4.5.18 *Low layer compatibility*

The purpose of the Low layer compatibility information element is to provide a means which should be used for compatibility checking by an addressed entity (e.g., a remote user or an interworking unit or a high layer function network node addressed by the calling user). The Low layer compatibility information element is transferred transparently by an ISDN between the call originating entity (e.g., the calling user) and the addressed entity. See Annex B and Annex L.

If low layer compatibility negotiation is allowed by the network (see Annex M), the Low layer compatibility information element is also passed transparently from the addressed entity to the originating entity.

The Low layer compatibility information element is coded as shown in Figure 4-26/Q.931 and in Table 4-18/Q.931. The maximum length of this information element is 16 octets.

#### 4.5.19 *More data*

The More data information element is sent by the user to the network in a USER INFORMATION message, and delivered by the network to the destination user(s) in the corresponding USER INFORMATION message. The presence of the More data information element indicates to the destination user that another USER INFORMATION message will follow containing information belonging to the same block.

The use of the More data information element is not supervised by the network.

The More data information element is coded as shown in Figure 4-27/Q.931.

**Figure 4-26/Q.931 [1T109.931] (traiter comme tableau), p. 2**

**Notes de la Figure 4-26/Q.931 [2T109.931] (traiter comme tableau), p. 3**

**H.T. [T110.931]**

TABLE 4-18/Q.931 (Sheet 1 of 8)

**Low layer compatibility information element**

[Unable to convert Table]

**Tableau 4-18/Q.931 (1 de 8) [T110.931], p. 4**

**H.T. [T111.931]**

TABLE 4-18/Q.931 (Sheet 2 of 8)

**Low layer compatibility information element**

{		
<i>Information transfer rate (octets 4 and 4b)</i>		
Bits		
5 4 3 2 1		
<i>Circuit mode</i>		
<i>Packet-mode</i>		
0 0 0 0 0		
—		
This code shall be used for packet mode calls		
1 0 0 0 0		
64 kbit/s		
—		
1 0 0 0 1		2
× 64 kbit/s		—
1 0 0 1 1		
384 kbit/s		
—		
1 0 1 0 1		
1536 kbit/s		
—		
1 0 1 1 1		
1920 kbit/s		
—		
All other values are reserved.		
}		
{		
<i>Note 1</i>		
— When octet 4b is omitted, the low layer compatibility is bi-directional symmetric at the information transfer rate specified in octet 4. When octet 4b is included, the information transfer rate in octet 4 refers to the origination destination direction.		
<i>Note 2</i>		
— When the information transfer rate $2 \times 64$ kbit/s is used, the coding of octets 3 and 4 refer to both 64 kbit/s channels.		
}		
{		
<i>Structure (octet 4a)</i>		
Bits		
7 6 5		
0 0 0		
default (see Note 1)		
0 0 1		8
kHz integrity (Note 2)		
1 0 0		
service data unit integrity		
1 1 1		
unstructured		
<i>Note 1</i>		
— If octet 4a is omitted, or the structure field is coded “000”, then the value of the structure attribute is according to the following:		
}		
{		
<i>Transfer mode</i>		
<i>Transfer capability</i>		
<i>Structure</i>		

circuit speech	8
kHz integrity circuit unrestricted digital	8
kHz integrity circuit restricted digital	8
kHz integrity circuit audio	8
kHz integrity circuit video	8
kHz integrity packet unrestricted digital service data unit integrity	
<i>Note 2</i> — When the information transfer rate $2 \times 64$ kbit/s is used, 8 kHz integrity with Restricted Differential Time Delay (RDTD) is offered.	

**Tableau 4-18/Q.931 (2 de 8) [T111.931], p. 5**

Blanc

**H.T. [T112.931]**  
**TABLE 4-18/Q.931 (Sheet 3 of 8)**  
**Low layer compatibility information element**

<pre> {   Configuration (octet 4a)    Bits   4 3    0 0   point-to-point    All      other      values      are      reserved. } </pre>	
<pre> {   Note   configuration is assumed to be      point-to-point. } </pre>	<p>— If octet 4a is omitted, the</p>
<pre> {   4a)    Bits   2 1    0 0   demand    All      other      values      are      reserved. } </pre>	<p><i>Establishment</i> (octet</p>
<pre> {   Note   method of establishment is      assumed to be “demand”. } </pre>	<p>— If octet 4a is omitted, the</p>
<pre> {   4b)    Bits   7 6    0 0   metric    All      other      values      are      reserved. } </pre>	<p><i>Symmetry</i> (octet</p>
<pre> {   Note   tional symmetric is      assumed. } </pre>	<p>bidirectional sym-</p> <p>— If octet 4b is omitted, bidirec-</p>

**Tableau 4-18/Q.931 (3 de 8) [T112.931], p. 6**



Blanc

**H.T. [T113.931]**  
TABLE 4-18/Q.931 (Sheet 4 of 8)  
**Low layer compatibility information element**

{  
User information layer 1 protocol (octet 5)

Bits  
5 4 3 2 1

0 0 0 0 1  
CCITT standardized rate adaption V.110 [7]/X.30 [8]. This implies the presence of octet 5a and optionally octets 5b, 5c and 5d defined as below.

0 0 0 1 0  
Recommendation G.711 [10]  
μ-law

0 0 0 1 1  
Recommendation G.711  
A-law

0 0 1 0 0  
Recommendation G.721 [11] 32 kbit/s ADPCM  
and Recommendation I.460 [15]

0 0 1 0 1  
Recommendations G.722 [12] and G.725 [35] 7 kHz  
audio

0 0 1 1 0  
Recommendation H.261 [13] for 384 kbit/s  
video

0 0 1 1 1  
Non-CCITT standardized rate adaption. This implies the presence of octet 5a and, optionally, octets 5b, 5c and 5d. The use of this codepoint indicates that the user rate specified in octet 5a is defined by the user. Additionally, octet 5b, 5c and 5d, if present, are defined consistent with the user specified rate adaption.

0 1 0 0 0  
CCITT standardized rate adaption V.120.  
This implies the presence of octets 5a and 5b as defined below, and optionally octets 5c and 5d.

0 1 0 0 1  
CCITT standardized rate adaption X.31 [14] HDLC flag stuffing.

All other values are reserved.

}

{  
Note  
— If the transfer mode is “circuit mode”, and if the information transfer capability is “unrestricted digital information” or “restricted digital information”, and if the user information layer 1 protocol is not to be identified to the network, octet 5 shall be omitted. If the transfer mode is packet mode, octet 5 may be omitted. Otherwise, octet 5 shall be present.



**H.T. [T114.931]**

TABLE 4-18/Q.931 (Sheet 5 of 8)

**Low layer compatibility information element**

---

```

{
  User rate (octet 5a)

  Bits
  5 4 3 2 1

  0 0 0 0 0
  rate is indicated by E-bits specified in Recommendation
  I.460
  0 0 0 0 1
  0.6 kbit/s Recommendations V.6 [16] and X.1 [17]
  0 0 0 1 0
  1.2 kbit/s Recommendation V.6
  0 0 0 1 1
  2.4 kbit/s Recommendations V.6 and X.1
  0 0 1 0 0
  3.6 kbit/s Recommendation V.6
  0 0 1 0 1
  4.8 kbit/s Recommendations V.6 and X.1
  0 0 1 1 0
  7.2 kbit/s Recommendation V.6
  0 0 1 1 1
  8 kbit/s Recommendation I.460
  0 1 0 0 0
  9.6 kbit/s Recommendations V.6 and X.1
  0 1 0 0 1
  14.4 kbit/s Recommendation V.6
  0 1 0 1 0
  16 kbit/s Recommendation I.460
  0 1 0 1 1
  19.2 kbit/s Recommendation V.6
  0 1 1 0 0
  32 kbit/s Recommendation I.460
  0 1 1 1 0
  48 kbit/s Recommendations V.6 and X.1
  0 1 1 1 1
  56 kbit/s Recommendation V.6
  1 0 1 0 1
  0.1345 kbit/s Recommendation X.1
  1 0 1 1 0
  0.100 kbit/s Recommendation X.1
  1 0 1 1 1
  0.075/1.2 kbit/s Recommendations V.6 and X.1 (Note)
  1 1 0 0 0
  1.2/0.075 kbit/s Recommendations V.6 and X.1 (Note)
  1 1 0 0 1
  0.050 kbit/s Recommendations V.6 and X.1
  1 1 0 1 0
  0.075 kbit/s Recommendations V.6 and X.1
  1 1 0 1 1
  0.110 kbit/s Recommendations V.6 and X.1
  1 1 1 0 0
  0.150 kbit/s Recommendations V.6 and X.1
  1 1 1 0 1
  0.200 kbit/s Recommendations V.6 and X.1
  1 1 1 1 0
  0.300 kbit/s Recommendations V.6 and X.1
  1 1 1 1 1
  12 kbit/s Recommendation V.6

  All other values are reserved.
}
{

```

<i>Note</i>	
— The first rate is the transmit rate in the forward direction of the call. The second rate is the transmit rate in the backward direction of the call.	
}	
{	
<i>Octet 5b for V.110 [7]/X.30 [8] rate adaption</i>	
}	
{	
<i>Intermediate Rate (octet 5b)</i>	
Bits	
7	6
0	0
Not used	
0	1
8 kbit/s	
1	0
16 kbit/s	
1	1
32 kbit/s	
}	
{	
<i>Network independent clock (NIC) on transmission (Tx) (octet 5b)</i>	
<i>(Note 1)</i>	
Bit	
5	
0	
Not required to send data with network independent clock	
1	
Required to send data with network independent clock	
}	
{	
<i>Note 1</i>	
— Refers to transmission in the forward direction of the call.	
<i>Note 2</i>	
✎ See Recommendations V.110 and X.30.	

**Tableau 4-18/Q.931 (5 de 8) [T114.931], p. 8**

**H.T. [T115.931]**

TABLE 4-18/Q.931 (Sheet 6 of 8)

**Low layer compatibility information element**



{	
<i>Network independent clock (NIC) on reception (Rx) (octet 5b) (Note 1)</i>	
Bit	
4	
0	Cannot
accept data with Network Independent Clock (i.e., sender does not support this optional procedure)	
1	Can accept
data with Network Independent Clock (i.e., sender does	support this optional
procedure)	
}	
{	<i>Note</i>
<i>I</i>	— Refers to
transmission in the backward direction of the	
call	
<i>Note 2</i>	— See
recommendations V.110 [7] and X.30 [8].	
}	
{	<i>Flow control</i>
<i>on transmission (Tx) (octet 5b) (Note 1)</i>	
Bit	
3	
0	Not
required to send data with flow control mechanism	
1	Required to
send data with flow control mechanism	
}	
{	<i>Note</i>
<i>I</i>	— Refers to
transmission in the forward direction of the	
call	
}	
{	<i>Note</i>
<i>2</i>	— See Recom-
mendations V.110 and X.30.	
}	
{	<i>Flow control</i>
<i>on reception (Rx) (octet 5b) (Note 1)</i>	
Bit	
2	
0	Cannot
accept data with flow control mechanism (i.e., sender does not support this optional procedure)	
1	Can accept
data with flow control mechanism (i.e., sender does	support this optional
procedure)	
}	
{	<i>Note</i>
<i>I</i>	— Refers to
transmission in the backward direction of the	
call	
}	
{	<i>Note</i>
<i>2</i>	— See Recom-
mendations V.110 and X.30.	
}	
{	<i>Octet 5b for</i>
V.120 [9] <i>Rate adaption</i>	
}	
{	<i>Rate</i>

<i>adaption header/no header (octet 5b)</i>	
Bit	
7	
0	Rate adap-
tion header not included	
1	Rate adap-
tion header included	
}	
{	<i>Multiple</i>
<i>frame establishment support in data link (octet 5b)</i>	
Bit	
6	
0	Multiple
frame establishment not supported. Only UI frames allowed.	
1	Multiple
frame establishment supported.	

Tableau 4-18/Q.931 (6 de 8) [T115.931], p. 9

Blanc

**H.T. [T116.931]**

TABLE 4-18/Q.931 (Sheet 7 of 8)

**Low layer compatibility information element**

{		
<i>Mode of operation (octet 5b)</i>		
Bit		
5		
0		Bit transparent
mode of operation		
1		Protocol sensi-
tive mode of operation		
}		
{		<i>Logical link</i>
<i>identifier negotiation (octet 5b)</i>		
Bit		
4		
0		Default, LLI =
256 only		
1		Full protocol
negotiation	(Note)	
}		
{		
<i>Note</i>		— A connec-
tion over which protocol negotiation will be executed is indicated in bit 2 of octet 5b.		
}		
{		<i>Assignor/assignee</i>
<i>(octet 5b)</i>		
Bit		
3		
0		Message origi-
nator is “default assignee”		
1		Message origi-
nator is “assignor only”		
}		
{		<i>In-band/out-band</i>
<i>negotiation (octet 5b)</i>		
Bit		
2		
0		Negotiation is
done with USER INFORMATION messages on a temporary		signalling connec-
tion		
1		Negotiation is
done in-band using logical link zero.		
}		
{		<i>Number of stop</i>
<i>bits (octet 5c)</i>		
Bits		
7 6		
0 0		Not
used		
0 1		1
bit		
1 0		1.5
bits		
1 1		2
bits		
}		

{		<i>Number of data</i>
<i>bits excluding parity bit if present (octet 5c)</i>		
Bits		
5 4		
0 0		Not
used		
0 1		5
bits		
1 0		7
bits		
1 1		8
bits		
}		
{		<i>Parity informa-</i>
<i>tion (octet 5c)</i>		
Bits		
3 2 1		
0 0 0		
Odd		
0 1 0		
Even		
0 1 1		
None		
1 0 0		Forced to
0		
1 0 1		Forced to
1		
} All other values are reserved.		

Tableau 4-18/Q.931 (7 de 8) [T116.931], p. 10

**H.T. [T117.931]**  
TABLE 4-18/Q.931 (Sheet 8 of 8)  
**Low layer compatibility information element**

---

```

{
  Duplex mode (octet 5d)

  Bit
  7

  0
duplex
  1
duplex
}
{
  Modem type (octet
5d)

  Bits 6-1 coded according to network specific rules.
}
{
  User information layer 2 protocol
(octet 6)

  Bits
  5 4 3 2 1

  0 0 0 0 1
[36]
  0 0 0 1 0
(I.441) [3]
  0 0 1 1 0
[5], link layer
  0 0 1 1 1
Multilink
  0 1 0 0 0
operation (T.71 [37])
  0 1 0 0 1
[38]
  0 1 0 1 0
4335)
  0 1 0 1 1
4335)
  0 1 1 0 0
8802/2) [39]

  0 1 1 0 1
[40]. Single Link Procedure (SLP)
All other values are reserved.
}
{
  Optional layer 2 protocol informa-
tion (octet 6a)

  To be defined.
}
{
  User information layer 3 protocol
(octet 7)

  Bits
  5 4 3 2 1

  0 0 0 1 0
(I.451)
  0 0 1 1 0
packet layer
  0 0 1 1 1
protocol for data terminal equipment)
  0 1 0 0 0
oriented network service specific subset of ISO 8208 and
  ISO 8348 [42] (OSI connection

```

CCITT X.25)	
0 1 0 0 1	ISO 8473 [43] (OSI connection-
less service)	
0 1 0 1 0	CCITT Recommendation T.70
[32] minimum network layer	
All other values are reserved.	
}	
{	Optional layer 3 protocol informa-
tion (octet 7a)	
}To be defined.	

Tableau 4-18/Q.931 (8 de 8) [T117.931], p. 11

Blanc



**Figure 4-27/Q.931 [T118.931] (à traiter comme tableau), p. 12**

#### 4.5.20 *Network-specific facilities*

The purpose of the Network-specific facilities information element is to indicate which network facilities are being invoked. The Network-specific facilities information element is coded as shown in Figure 4-28/Q.931 and Table 4-19/Q.931. No more than four Network-specific facilities information elements may be included in a single message.

The maximum length of this information element is network dependent.

**Figure 4-28/Q.931 [T119.931] (à traiter comme tableau), p. 13**

**H.T. [T120.931]**  
**TABLE 4-19/Q.931**  
**Network-specific facilities information element**

{																
<i>Length of network identification (octet 3)</i>																
This	field	contains	the	length,	in	octets,	of	the	net-							
work	identification found in octet 3.1 and the repetition of octet 3.2. If the value is “0000 0000”, then the default provider (see Annex E,															
§ E.1)	is	assumed	and	octets	3.1	and	3.2	are	omitted.							
}																
{																
<i>Type</i>	<i>of</i>		<i>network</i>	<i>identification</i>				<i>(octet</i>								
<i>3.1)</i>	<i></i>															
Bits																
7	6	5														
0	0	0														
user																
specified																
0	1	0						network								
national																
identification																
0	1	1						network								
international																
identification																
All																
reserved.			other	values				are								
}																
{																
<i>Network</i>	<i>identification</i>			<i>plan</i>				<i>(octet</i>								
<i>3.1)</i>	<i></i>															
Bits																
4	3	2	1													
0	0	0	0													
unk-																
nown																
0	0	0	1													
Carrier				Identification				Code								
(Note)																
0	0	1	1													
Data	network		identification		code		(Recommendation									
X.121																
[21])																
All			other	values				are								
reserved.																
<i>Note</i>																
— Carrier Identification Codes may be an appropriate method of identifying the network serving the remote																
user.																
}																
{																
<i>Network</i>	<i>identification</i>			<i>(octets</i>				<i>3.2,</i>								
<i>etc.)</i>	<i></i>															

These IA5 characters  
ar organized according to the net-  
e work plan specified in octet  
identification 3.1.  
}  
{  
*Network-specific facilities (octets 4,*  
*etc.)*  
This field is encoded  
acc according to the rules specified by  
the identified net-  
work.  
}

Tableau 4-19/Q.931 [T120.931], p. 14

Blanc

The purpose of the Notification indicator information element is to indicate information pertaining to a call.

The Notification indicator information element is coded as shown in Figure 4-29/Q.931 and Table 4-20/Q.931. The maximum length of this information element is 3 octets.

**Figure 4-29/Q.931 [T121.931]    (à traiter comme tableau), p. 15**

<b>H.T. [T122.931]</b>	
<b>TABLE 4-20/Q.931</b>	
<b>Notification indicator information element</b>	
{ Notification description (octet 3)  Bits 7 6 5 4 3 2 1  0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0 All other values are reserved.	
	user suspended user resumed bearer service change }

**Tableau 4-20/Q.931 [T122.931], p. 16**

The purpose of the Progress indicator information element is to describe an event which has occurred during the life of a call. The information element may occur two times in a message.

The Progress indicator information element is coded as shown in Figure 4-30/Q.931 and Table 4-21/Q.931. The default maximum length of this information element is 4 octets.

**Figure 4-30/Q.931 [T123.931] (à traiter comme tableau), p. 17**

Blanc

**H.T. [T124.931]**  
**TABLE 4-21/Q.931**  
**Progress indicator information element**

<pre> { Coding standard (octet 3)  Bits 7 6  0 0 CCITT standardized coding, as described below 0 1 reserved for other international standards (Note) 1 0 national standard (Note) 1 1 standard specific to identified location (Note) } { Note These other coding standards should be used only when desired progress indication cannot be represented with the CCITT-standardized coding. } { tion (octet 3)  Bits 4 3 2 1  0 0 0 0 user 0 0 0 1 private network serving the local user 0 0 1 0 public network serving the local user 0 1 0 0 public network serving the remote user 0 1 0 1 private network serving the remote user 1 0 1 0 work beyond interworking point  All other values are reserved. } { Note Depending on the location of the users, the local public network and remote public network may be the same network. } { gress description (octet 4)  Bits 7 6 5 4 3 2 1 No.  0 0 0 0 0 0 1 1 is not end-to-end ISDN, further call information may be available in-band 0 0 0 0 0 1 0 2 Destination address is non-ISDN 0 0 0 0 0 1 1 3 gination address is non-ISDN 0 0 0 0 1 0 0 </pre>		<p>the</p> <p>Loca-</p> <p>net-</p> <p>Pro-</p> <p>Call progress</p> <p>Ori-</p>
--	--	--

4	Call
has returned to the ISDN	
0 0 0 1 0 0 0	
8	
In-band information or appropriate pattern	now
available	
All other values are reserved.	
<i>Note</i>	—
The use of the different progress descriptions is further	
explained in Annex I.	

**Tableau 4-21/Q.931 [T124.931], p. 18**

Blanc



The purpose of the Repeat indicator information element is to indicate how repeated information elements shall be interpreted, when included in a message. The Repeat indicator information element is included before the first occurrence of the information element which will be repeated in a message. The Repeat indication information element is coded as shown in Figure 4-31/Q.931 and Table 4-22/Q.931.

*Note* — Use of the Repeat indication information element in conjunction with an information element that occurs only once in a message shall not of itself constitute an error.

Figure 4-31/Q.931 [T125.931] (à traiter comme tableau), p. 19

H.T. [T126.931] TABLE 4-22/Q.931 Repeat indicator information element	
<div><div>{ Repeat indication (octet 1)  Bits 4 3 2 1  0 0 1 0 possibility (Note)  All other values are reserved. } { Note change procedures }Annex O).</div></div>	<div><div>Prioritized list for selecting one</div><div>— Used for Bearer service (see</div></div>

Tableau 4-22/Q.931 [T126.931], p. 20

The purpose of the Restart indicator information element is to identify the class of the facility (i.e., channel or interface) to be restarted.

The Restart indicator information element is coded as shown in Figure 4-32/Q.931 and Table 4-23/Q.931. The maximum length of this information element is 3 octets.

Figure 4-32/Q.931 [T127.931] (à traiter comme tableau), p. 21

H.T. [T128.931]  
TABLE 4-23/Q.931  
Restart indicator information element

{			
Class (octet 3)			
Bits			
3 2 1			
0 0 0	Indicated	channels	(Note
1)			
1 1 0	Single	interface	(Note
2)			
1 1 1	All	inter-	inter-
faces			
All	other	values	are
reserved.			
}			
{			
Note			
I			
— The channel identification information element must be included and indicates which channels are to be res-			
tarted.			

*Note*  
2  
— If non-associated signalling is used, the channel identification information element must be included to indicate the interface to be restarted if it is other than the one on which the D-channel is present.

**Tableau 4-23/Q.931 [T128.931], p. 22**

Blanc

The purpose of the Segmented message information element is to indicate that the transmission in which it appears is part of a segmented message, in addition to the use of message type SEGMENT. When included in a message segment, it appears directly after the message type information element (see Annex K).

The Segmented message information element is coded as shown in Figure 4-33/Q.931 and Table 4-24/Q.931.

Figure 4-33/Q.931 [T129.931]    (à traiter comme tableau), p. 23

H.T. [T130.931]  
TABLE 4-24/Q.931  
Segmented message information element

{	
First segment indicator (octet 3)	
Bit	
8	
0	
segment	Subsequent segment to first
1	First segment of segmented
message	
}	
{	Number of segments remaining
(octet 3)	
Binary number indicating the number of remaining segments within the message to be sent.	
}	
{	Segmented message type (octet
4)	
Type of message being segmented coded as per § 4.4.	
Note	— Bit 8 is reserved for pos-
sible	extension
future	
use	
as	
an	
} bit.	



#### 4.5.26 *Sending complete*

The purpose of the Sending complete information element is to optionally indicate completion of called party number, see §§ 5.1.3, 5.2.1 and 5.2.4.

It is a single octet information element coded as shown in Figure 4-34/Q.931.

**Figure 4-34/Q.931 [T131.931] (à traiter comme tableau), p. 25**

#### 4.5.27 *Signal*

The purpose of the Signal information element is to allow the network to optionally convey information to a user regarding tones and alerting signals. (See §§ 7 and 8.)

The Signal information element is coded as shown in Figure 4-35/Q.931 and Table 4-25/Q.931. The length of this information element is 3 octets.

The Signal information element may be repeated in a message.

**Figure 4-35/Q.931 [T132.931] (à traiter comme tableau), p. 26**

**H.T. [T133.931]**  
**TABLE 4-25/Q.931**  
**Signal information element**

{					
<i>Signal value (octet 3)</i>					
Bits					
8 7 6 5 4 3 2 1					
0 0 0 0 0 0 0 0			dial		tone
on					
0 0 0 0 0 0 0 1			ring	back	tone
on					
0 0 0 0 0 0 1 0			intercept		tone
on					
0 0 0 0 0 0 1 1			network	congestion	tone
on					
0 0 0 0 0 1 0 0			busy		tone
on					
0 0 0 0 0 1 0 1			confirm		tone
on					
0 0 0 0 0 1 1 0			answer		tone
on					
0 0 0 0 0 1 1 1			call	waiting	tone
on					
0 0 0 0 1 0 0 0			off-hook	warning	tone
on					
0 0 1 1 1 1 1 1					tones
off					
0 1 0 0 0 0 0 0			alerting	on	— pattern 0
(Note)					
0 1 0 0 0 0 0 1			alerting	on	— pattern 1
(Note)					
0 1 0 0 0 0 1 0			alerting	on	— pattern 2
(Note)					
0 1 0 0 0 0 1 1			alerting	on	— pattern 3
(Note)					
0 1 0 0 0 1 0 0			alerting	on	— pattern 4
(Note)					
0 1 0 0 0 1 0 1			alerting	on	— pattern 5
(Note)					
0 1 0 0 0 1 1 0			alerting	on	— pattern 6
(Note)					
0 1 0 0 0 1 1 1			alerting	on	— pattern 7
(Note)					
0 1 0 0 1 1 1 1					alerting
off					
All other values are reserved.					
}					
{					
<i>Note</i>					
is network-dependent.			— The use of these patterns		

**Tableau 4-25/Q.931 [T133.931], p. 27**

Blanc



The purpose of the Transit network selection information element is to identify one requested transit network. The Transit network selection information element may be repeated in a message to select a sequence of transit networks through which a call must pass. See Annex C.

The Transit network selection information element is coded as shown in Figure 4-36/Q.931 and Table 4-26/Q.931. The default maximum length of this information element is network dependent.

**Figure 4-36/Q.931 [T134.931] (à traiter comme tableau), p. 28**

**H.T. [T135.931]**

TABLE 4-26/Q.931

**Transit network selection information element**

{		
<i>Type of network identification (octet 3)</i>		
Bits		
7 6 5		
0 0 0		user
specified		
0 1 0		national
network identification		
0 1 1		interna-
tional network identification		
All other values are reserved.		
}		
{		Network
<i>identification plan (octet 3)</i>		
Bits		
4 3 2 1		
0 0 0 0		unk-
nown		
0 0 0 1		Carrier
Identification Code (Note)		
0 0 1 1		Data
network identification code (Recommendation		X.121)
[21]		
All other values are reserved.		
<i>Note</i>		
Carrier Identification Codes may be an appropriate method of identifying the network serving the remote user.		
}		
{		Network
<i>identification (octet 4)</i>		
These IA5 characters ar		e organ-
ized according to the network		identification
plan specified in octet 3.		

Tableau 4-26/Q.931 [T135.931], p. 29

The purpose of the User-user information element is to convey information between ISDN users. This information is not interpreted by the network, but rather is carried transparently and delivered to the remote user(s).

The User-user information element is coded as shown in Figure 4-37/Q.931 and Table 4-27/Q.931. There are no restrictions on the content of the user information field.

In SETUP, ALERTING, CONNECT, DISCONNECT, RELEASE and RELEASE COMPLETE messages, the User-user information element has a network dependent maximum size of 35 or 131 octets. The evolution to a single maximum value is the long term objective; the exact maximum value is the subject of further study.

In USER INFORMATION messages sent in association with a circuit-mode connection, the User-user information element has a network dependent maximum size of 35 or 131 octets. For USER INFORMATION messages sent in a temporary or permanent user-user signalling connection, the user information field contained inside this information element has a maximum size equal to the maximum size of messages defined in § 3, that is 260 octets.

*Note* — The User-user information element is transported transparently by an ISDN between a call originating entity, e.g., a calling user and the addressed entity, e.g., a remote user or a high layer function network node addressed by the call originating entity.

**Figure 4-37/Q.931 [T136.931] (à traiter comme tableau), p. 30**

Blanc

**H.T. [T137.931]**  
**TABLE 4-27/Q.931**  
**User-user information element**

{			
Protocol discriminator (octet 3)			
Bits		through	
8 7 6 5 4 3 2 1		through	
0 0 0 0 0 0 0 0		User-specific protocol (Note	
1)		through	
0 0 0 0 0 0 0 1		OSI high layer proto-	
cols		through	
0 0 0 0 0 0 1 0		X.244 [44] (Note	
2)		through	
0 0 0 0 0 0 1 1		Reserved for system	
management	convergence	function	through
0 0 0 0 0 1 0 0		IA5 characters (Note	
4)		through	
0 0 0 0 0 1 1 1		Rec. V.120 [9] rate adap-	
tion		through	
0 0 0 0 1 0 0 0		Q.931 (I.451) user-network	
call control messages		reserved for other network layer or	
layer 3		protocols, including	Recommendation X.25
[5].	(Note 3)		
through			$\begin{matrix} \sim 0 & \sim 0 & \sim 1 & \sim 0 & \sim 0 & \sim 0 & \sim 0 \\ 0 & \sim 0 & \sim 1 & \sim 1 & \sim 1 & \sim 1 & \sim 1 \end{matrix}$
			\$\$
}		through	
\$\$fo0 1 0 0 0 0 0 0		}	above {
0 1 0 0 1 1 1 1			
\$\$fe			\$\$
}			national
use.			
layer 3		reserved for other network layer or	
ing		protocols,	includ-
Recommendation X.25.			(Note
3)			through
\$\$fo0 1 0 1 0 0 0 0		}	above {
1 1 1 1 1 1 1 0			
\$\$fe			\$\$
}			
}			
{			through
		All other values are	
reserved.			Note
/		— The user information is struc-	
tured according to user needs.			

*Note 2* structured according to Rec. X.244 which specifies the structure of X.25 call user data.

*Note 3* reserved to discriminate these protocol packet including general format identifier.

— These values are discriminators from the first octet of a Rec. X.25

<i>Note 4</i> consists of IA5 characters.	— The user information

luster **Tableau 4-27/Q.931** [T137.931], p. 31

Blanc

## 4.6 *Supplementary services information elements*

### 4.6.1 *Date/time*

The purpose of the Date/time information element is to provide the date and time to the user. It indicates the point in time when the message has been generated by the network.

*Note* — It is a network dependent matter whether the time indicated is local time or Coordinated Universal Time (UTC) and which calendar is used for referencing the date.

The Date/time information element is coded as shown in Figure 4-38/Q.931. Octets 3-8 are binary coded (bit 1 being the least significant bit).

**Figure 4-38/Q.931 [T138.931] (à traiter comme tableau), p. 32**

Blanc

#### 4.6.2 Facility

The purpose of the Facility information element is to indicate the invocation and operation of supplementary services, identified by the corresponding operation value within the Facility information element. The Facility information element is defined in Figures 4-39/Q.931 to 4-43/Q.931 and Tables 4-28/Q.931 to 4-33/Q.931.

*Note* — The generic structure and codepoints for the Facility information element are defined in Recommendation Q.932. This section contains only the coding required for procedures described in § 7 of this Recommendation.

The Facility information element may be repeated in a given message.

The maximum length of the Facility information element is application dependent consistent with the maximum length of the message.

**Figure 4-39/Q.931 [T139.931] (à traiter comme tableau), p. 33**

Blanc



**H.T. [T140.931]**  
**TABLE 4-28/Q.931**  
**Facility information element**

---

{  
*Service discriminator (octet 3)*

Bits  
5 4 3 2 1

1 0 0 0 1  
supplementary service applications

All other values reserved.

}  
{  
*Class (octet 4)*

Bits  
8 7

1 0  
context-specific

All other values reserved.

}  
{  
*Form (octet 4)*

Bits  
6

1  
constructor

All other values reserved.

}  
{  
*Component tag (octet 4)*

Bits  
5 4 3 2 1

0 0 0 0 1  
invoke  
0 0 0 1 0  
return result  
0 0 0 1 1  
return error  
0 0 1 0 0  
reject

}  
{  
*Length format (octet 5)*

Bits  
8

0  
length of the component length field is one octet

All other values reserved.

}  
{  
*Length of component (octet 5 bits 7-1)*

<p>This field indicates the total length of the contents of the component field (i.e., octet 6 and its subparts). It is the binary coding of the number of octets of the component, with bit 1 as the least significant bit (2<sup>0</sup>).</p> <pre> } { Component (octet 6) </pre> <p>The structure of the component field varies, according to the specific component indicated in the component tag field. See the remainder of § 4.6.2.</p>
---

**Tableau 4-28/Q.931 [T140.931], p. 34**

Blanc

**H.T. [T141.931]**

TABLE 4-29/Q.931

**Abstract Syntax Notation 1 (ASN.1) representation of user-user  
information**

**service components**

```
lw(60p) | lw(12p) | lw(156p) . OPERATION User-User-Service lw(60p) | cw(12p) | lw(156p) .
Argument ::= SEQUENCE (Service, Preferred) lw(60p) | cw(12p) | lw(156p) . Result ::= empty lw(60p) | cw(12p) |
lw(156p) . Errors ::= Not Supported lw(60p) | cw(12p) | lw(156p) . ::=1 lw(60p) | cw(12p) | lw(156p) . Ser-
vice ::= { [1] IMPLICIT INTEGER { ervice1 (1), [1] IMPLICIT INTEGER Service2 (2), [1] IMPLICIT INTEGER Service3
(3) }
} lw(60p) | cw(12p) | lw(156p) . Preferred ::= { [2] IMPLICIT BOOLEAN { es (TRUE), [2] IMPLICIT BOOLEAN No
(FALSE) }
} lw(60p) | cw(12p) | lw(156p) . ERROR Not Supported lw(60p) | cw(12p) | lw(156p) . Parameter ::= empty lw(60p) |
cw(12p) | lw(156p) . ::= 1 lw(228p) .
{ Note : See Recommendations X.208 and X.209 for a complete definition of ASN.1.
} _
```

**Tableau 4-29/Q.931 [T141.931], p. 35**

Blanc

#### 4.6.2.1 *Invoke component*

The invoke component is used to request the indicated supplementary service.

The invoke component is coded as shown in Figure 4-40/Q.931.

The length of the invoke component is 14 octets.

**Figure 4-40/Q.931 [T142.931] (à traiter comme tableau), p. 36**

Blanc

**H.T. [T143.931]**  
TABLE 4-30/Q.931 (Sheet 1 of 2)  
**Invoke component within facility information element**

{ <i>Class (octet 6 and 6.3)</i>  Bits 8 7  0 0 universal  All other values reserved. }
{ <i>Form (octet 6 and 6.3)</i>  Bit 6  0 primitive  All other values reserved. }
{ <i>Length format (octet 6.1 and 6.4)</i>  Bits 8  0 length is one octet  All other values reserved. }
{ <i>Length of invoke identifier (octet 6.1 bits 7-1)</i>  This field indicates the total length of the contents of invoke identifier field (i.e., octet 6.2). It is the binary coding of the number of the octets of the invoke identifier, with bit 1 as the least significant bit ( $2^0$ ). }
{ <i>Invoke identifier (octet 6.2)</i>  This field contains a unique identification used to identify the requests of a supplementary service and is used to correlate this request with the corresponding replies. }
{ <i>Length of operation value (octet 6.4 bits 7-1)</i>  This field indicates the total length of the contents of the operation value field (i.e., octet 6.5). It is the binary coding of the number of octets of the operation value, with bit 1 as the least significant bit ( $2^0$ ). At the present time only single octet operation values have been defined. }

**Tableau 4-30/Q.931 (1 de 2) [T143.931], p. 37**

Invoke component within facility information element			
<div> <div> { Operation value (octet 6.5) <div> <div>Bits</div> <div>8 7 6 5 4 3 2 1</div> <div>0 0 0 0 0 0 0 1</div> <div> <div>All</div> <div>other</div> <div>values</div> <div>reserved.</div> </div> </div> </div> </div> <div> } { 6.6, etc.) </div> <div> Each operation value may have a number of associated fields. These fields vary from operation to operation value. See the remainder of § 4.6.2.1. </div>			
	user-user	informa-	tion
			Operation-specific fields (octet

Tableau 4-30/Q.931 (2 de 2) [T144.931], p. 38

#### 4.6.2.1.1 *Operation-specific fields for user-user information supplementary service*

The user-user information supplementary service operation-specific fields within the invoke component of the Facility information element are used to indicate details of the requested user-user information supplementary service.

These fields are coded as shown in Figure 4-41/Q.931 and Table 4-31/Q.931.

The length of these fields is 6 octets.

**Figure 4-41/Q.931 [T145.931] (à traiter comme tableau), p. 39**

Blanc

H.T. [T146.931]  
TABLE 4-31/Q.931 (Sheet 1 of 2)

{ Class (octets 6.6, 6.8 and 6.8.3)				
Bits				
8 7				
0 0				univer-
sal				
1 0				
context-specific				
All	other	values	reserved.	
{				Form (octet 6 and
{				6.3)
Bit				
6				
0				primi-
tive				
1				construc-
tor				
All	other	values	reserved.	
{				Length format (octet 6.1 and
{				6.4)
Bit				
8				
0				length is one
octet				
All	other	values	reserved.	
{				Length of sequence (octet 6.7,
{				bits 7-1)
This field indicates the total length of the following sequence of				field (i.e., octet 6.8 and its
subparts). It is the binary coding				of the number of octets of the service, with bit 1 as the
least significant bit (2 <sup>0</sup> ).				
{				Length of service (octet 6.8.1,
{				bits 7-1)
This field indicates the total length of the contents of the service				field (i.e., octet 6.8.2). It is
the binary coding of the number of				octet of the service, with bit 1 as the least significant bit
(2 <sup>0</sup> ).				At the present time, only single octet service values have been
defined.				

Tableau 4-31/Q.931 (1 de 2) [T146.931], p. 40

—v'1P'

H.T. [T147.931]  
TABLE 4-31/Q.931 (Sheet 2 of 2)



{ <i>Service (octet 6.8.2) (Note)</i>	
Bits	
8 7 6 5 4 3 2 1	
0 0 0 0 0 0 0 1	Service
1	
0 0 0 0 0 0 1 0	Service
2	
0 0 0 0 0 0 1 1	Service
3	
All other values reserved.	
}	
{	
<i>Note</i>	— The meaning of user-user
information supplementary services 1, 2, and 3 are defined in Recommen-	
dation I.257A.	
}	
{	<i>Length of preferred (octet</i>
6.8.4)	
This field indicates the total length of the preferred field (i.e.,	octet 6.8.5). It is the binary cod-
ing of the number of octets of the	
preferred field with bit 1 as the least significant field ( $2^0$ ). At	the present time, only single octet
preferred values have been defined.	
}	
{	<i>Preferred (octet</i>
6.8.5)	
Bits	
8 7 6 5 4 3 2 1	
0 0 0 0 0 0 0 0	False (service is
required)	
0 0 0 0 0 0 0 1	True (service is pre-
ferred)	
}	

Table 4-31/Q.931 [T147.931], p.

#### 4.6.2.2 *Return result component*

The return result component enables the performing entity to provide a positive reply to a successfully performed operation to the invoking entity.

The return result component is coded as shown in Figure 4-42/Q.931.

**Figure 4-42/Q.931 [T148.931] (à traiter comme tableau), p. 42**

Blanc

## TABLE 4-32/Q.931

<pre> {   Class (octet 6)    Bits   8 7    0 0   universal    All      other      values      reserved. } {   Form      (octet 6)    Bits   6    0   primitive    All      other      values      reserved. } {   Length    format    (octet 6.1)    Bits   8    0   octet    All      other      values      reserved. } {   Length of invoke identifier (octet 6.1 bit 7-1)    This field indicates the total length of the contents of invoke   identifier field (i.e., octet 6.2). It is the binary coding   of the number of the octets of the invoke identifier, with bit 1   as the least significant bit (2<sup>0</sup>). } {   Invoke    identifier    (octet 6.2)    This field is used to correlate the positive response to the   supplementary service requested by the invoking entity. </pre>	<pre> {   Class (octet 6)    Bits   8 7    0 0   universal    All      other      values      reserved. } {   Form      (octet 6)    Bits   6    0   primitive    All      other      values      reserved. } {   Length    format    (octet 6.1)    Bits   8    0   octet    All      other      values      reserved. } {   Length of invoke identifier (octet 6.1 bit 7-1)    This field indicates the total length of the contents of invoke   identifier field (i.e., octet 6.2). It is the binary coding   of the number of the octets of the invoke identifier, with bit 1   as the least significant bit (2<sup>0</sup>). } {   Invoke    identifier    (octet 6.2)    This field is used to correlate the positive response to the   supplementary service requested by the invoking entity. </pre>
--	--

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Blanc

#### 4.6.2.3 *Return error component*

The return error component enables the performing entity to return the negative reply to the invoking entity.

The return error component is coded as shown in Figure 4-43/Q.931.

**Figure 4-43/Q.931 [T150.931] (à traiter comme tableau), p. 44**

Blanc

## Return error component within facility information element

{			
Class (octets 6 and 6.3)			
Bits			
8 7			
0 0		universal	
sal			
All other values reserved.			
{		Form (octet 6 and	
{			
6.3)			
Bits			
6			
0		primitive	
tive			
All other values reserved.			
{		Length format (octet	
{			
6.1 and 6.4)			
Bits			
8			
0		length is one	
octet			
All other values reserved.			
{		Length of invoke	
{			
identifier (octet 6.1 bit 7-1)			
This field indicates the total length of the contents of invoke		identifier field (i.e.,	
octet 6.2). It is the binary coding			
of the		number of the octets	
of the invoke identifier, with bit 1 as the		least significant bit	
(2 <sup>0</sup> ).			
{		Invoke identifier (octet	
{			
6.2)			
This field is used to correlate the negative response to the		supplementary ser-	
vice requested by the invoking entity.			
{		Length of error value	
{			
(octet 6.4, bits 7-1)			
This field indicates the total length of the contents of the error		value field (i.e.,	
octet 6.5). It is the binary coding		of the number	
of			
octets		of the service, with	
bit 1 as the least significant bit (2 <sup>0</sup> ). At the present time only a single		octet error value has been	
defined.			
{		Error value (octets	
{			
6.5)			



4.6.3      *Feature activation*

This information element is defined in Recommendation Q.932 [4].

4.6.4      *Feature indication*

This information element is defined in Recommendation Q.932 [4].

4.6.5      *Switchhook*

The purpose of the Switchhook information element is to indicate the status of the terminal switchhook to the network for use in supplementary services.

The Switchhook information element is coded as shown in Figure 4-44/Q.931 and Table 4-34/Q.931. The length of this information element is 3 octets.

**Figure 4-44/Q.931 [T152.931]    (à traiter comme tableau), p. 46**

H.T. [T153.931]	
TABLE 4-34/Q.931	
Switchhook information element	
{	
Switchhook value (octet 3)	
bit	
1	
0    on-hook	
}	

**Tableau 4-34/Q.931 [T153.931], p. 47**



#### 4.7 *Information elements for packet communications*

The information elements defined below are intended to be used in the support of packet communications as described in § 6 and Recommendation X.31 [14].

The use of these information elements for out-of-band call control for packet calls is for further study.

##### 4.7.1 *Information rate*

The purpose of the Information rate information element is to notify the terminating user of the throughput indicated by the incoming Recommendation X.25 [5] call request packet.

The Information rate information element is coded as shown in Figure 4-45/Q.931 and Tables 4-35/Q.931 and 4-36/Q.931.

The maximum length of this information element is 6 octets.

**Figure 4-45/Q.931 [T154.931] (à traiter comme tableau), p. 48**

Blanc

**H.T. [T155.931]**  
**TABLE 4-35/Q.931**  
**Information rate information element**

{	
<i>Incoming/outgoing information rate (octets 3 and 4)</i>	
The incoming outgoing information rate fields are used to indicate the information rate in the direction network to user, and user to network respectively.	
The information rate for the direction of data transmission from the	
calling DTE is indicated in bits 5, 4, 3, 2 and 1 of octet 3. The information rate for the direction of data transmission from the called DTE is indicated in bits 5, 4, 3, 2 and 1 of octet 4. The bits are coded as specified in Table 4-36/Q.931.	
}	
{	
<i>Minimum incoming/outgoing information rate (octets 5 and 6)</i>	
The minimum information rate for the direction of data transmission from the calling DTE is indicated in bits 5, 4, 3, 2 and 1 of octet 5.	
The minimum information rate for the direction of data transmission from the called DTE is indicated in bits 5, 4, 3, 2 and 1 of octet 6.	
The bits are encoded as specified in Table 4-36/Q.931.	
}	

**Tableau 4-35/Q.931 [T155.931], p. 49**

**H.T. [T156.931]**  
**TABLE 4-36/Q.931**  
**Throughput class coding**

Bits					Throughput class (bit/s)
5	4	3	2	1	
0	0	0	0	0	Reserved
0	0	0	0	1	Reserved
0	0	0	1	0	Reserved
0	0	0	1	1	75
0	0	1	0	0	150
0	0	1	0	1	300
0	0	1	1	0	600
0	0	1	1	1	1200
0	1	0	0	0	2400
0	1	0	0	1	4800
0	1	0	1	0	9600
0	1	0	1	1	19200
0	1	1	0	0	48000
0	1	1	0	1	Reserved
0	1	1	1	0	Reserved
0	1	1	1	1	Reserved

**Tableau 4-36/Q.931 [T156.931], p. 50**

#### 4.7.2 *End-to-end transit delay*

The purpose of the End-to-end transit delay information element is to request and indicate the nominal maximum permissible transit delay applicable on a per call basis to that virtual call.

The End-to-end transit delay is coded as shown in Figure 4-46/Q.931 and Table 4-37/Q.931.

The maximum length of this information element is 11 octets.

**Figure 4-46/Q.931 [T157.931] (à traiter comme tableau), p. 51**

**H.T. [T158.931]**  
**TABLE 4-37/Q.931**  
**End-to-end transit delay information element**

{									
Cumulative transit delay value [octet 3 (bits 1-2) octets 3a and 3b]									
Cumulative	transit			delay			value		binary
encodes									ded
milleseconds. Bit 2 of octet 3 is the highest order bit and bit 1 of octet 3b is the lowest order bit. The cumulative transit delay value occupies 16 bits total.									
}									
{									
Requested	end-to-end	transit	delay	value	[octet	4	(bits	1-2)	octets
4a									and
4b]									
Requested	en-to-end			transit			value		binary
encodes									ded
in									
milleseconds. Bit 2 of octet 4 is the highest order bit and bit 1 of octet 4b is the lowest order bit. The requested end-to-end transit delay value occupies 16 bits total.									
}									
{									
Maximum	end-to-end	transit	delay	value	[octet	5	(bits	1-2)	octets
5a									and
5b]									
Maximum	end-to-end			transit			value		binary
encodes									ded
in									
milleseconds. Bit 2 of octet 5 is the highest order bit and bit 1 of octet 5b is the lowest order bit. The maximum end-to-end transit delay value occupies 16 bits total.									
Note									
— For		a			Recommendation				X.31
typ	access			to			an		ISDN
of									
the									
procedures	only	apply	in	the	notification	phase	at	the	terminating
							exchange.		
End-to-End	Transit	Delay	in	the	X.25[5]	incoming	call	request	packet,
facility	is	present						the	contents
End-to-end transit delay information element							as fol-		
lows:									
i)									
The	cumulative	transit	delay	field	(octets	3	and	4)	of
the									
X.25									
end-to-end	transit	delay	facility	should	be	copied	into	octets	3, 3a
and 3b.									The bit order should be preserved
as described above in the description.									
ii)									
If	octets	5	and	6	are	present	in	the	X.25
preted as the requested							end-to-end transit delay facility, they should be inter-		
							end-to-end transit delay value. The value present should		
							4b.		
be copied into octets 4, 4a and									

The bit order should be preserved as described above in the description.

iii)  
If octets 7 and 8 are present in the X.25 end-to-end delay facility, the value present is the minimum end-to-end transit delay allowed. Octets 7 and 8 should be copied into octets 5, 5a and 5b. The bit order should be preserved as described above in the description.

}

Tableau 4-37/Q.931 [T158.931], p. 52

Blanc

#### 4.7.3 *Packet layer binary parameters*

The purpose of the Packet layer binary parameters information element is to indicate requested layer 3 parameter values to be used for the call.

The Packet layer binary parameters information element is coded as shown in Figure 4-47/Q.931 and Table 4-38/Q.931.

The maximum length of this information element is 3 octets.

**Figure 4-47/Q.931 [T159.931] (à traiter comme tableau), p. 53**

Blanc

## TABLE 4-38/0.931

```

{
Fast select (octet 3)

Bit
5 4

$$fo0 0
0 1
$$fe
}
requested 1 0
Fast select requested with no restriction of response
1 1
of response }
{
3)

Bit
3

0
denied
1
accepted }
{
3)

Bit
2

0
confirmation
1
confirmation }
{
3)

Bit
1

0
ing
ing }

```

	}	above	{
Fast		select	\$\$ not
Fast select requested with restrictions			
<i>Expedited</i>		<i>data</i>	<i>(octet</i>
No		request/request	
Request		indicated/request	
<i>Delivery</i>		<i>confirmation</i>	<i>(octet</i>
		Link-by-link	
		End-to-end	
		<i>Modulus</i>	<i>(octet</i>
modulus	8	sequenc-	
modulus	128	sequenc-	

ne Tableau 4-38/Q.931 [T160.931], p. 54



Blanc

#### 4.7.4 *Packet layer window size*

The purpose of the Packet layer window size information element is to indicate requested layer 3 window size value to be used for the call. The values are binary-encoded.

The Packet layer window size is coded as shown in Figure 4-48/Q.931.

The maximum length of this information element is 4 octets.

**Figure 4-48/Q.931 [T161.931] (à traiter comme tableau), p. 55**

Blanc

#### 4.7.5 *Packet size*

The purpose of the Packet size information element is to indicate the requested packet size values to be used for the call. The values are encoded  $\log_2$ .

The Packet size information element is coded as shown in Figure 4-49/Q.931.

The maximum length of this information element is 4 octets.

**Figure 4-49/Q.931 [T162.931] (à traiter comme tableau), p. 56**

Blanc

#### 4.7.6 *Redirecting number*

The purpose of the Redirecting number information element is to identify the number from which a call diversion or transfer was invoked.

The Redirecting number information element is coded as shown in Figure 4-50/Q.931 and Table 4-39/Q.931.

The maximum length of this information element is network dependent.

**Figure 4-50/Q.931 [T163.931] (à traiter comme tableau), p. 57**

Blanc

**H.T. [T164.931]**

TABLE 4-39/Q.931 (Sheet 1 of 2)

**Redirecting number information element**

---

{	
Type of number (octet 3) (Note 1)	
Bits	
7 6 5	
0 0 0	unknown
(Note 2)	
0 0 1	international
number (Note 3)	
0 1 0	national
number (Note 3)	
0 1 1	network
specific number (Note 4)	
1 0 0	subscriber
number (Note 3)	
1 1 0	abbreviated
number	
1 1 1	reserved for
extension	
All other values are reserved.	
}	
{	Note
/	— For the
definition of international, national and	subscriber number, see
Recommendation I.330 [18].	
Note 2	— The type
of number “unknown” is used when the user or the	network has no knowledge
of the type of number, e.g., international number,	national number, etc. In this case the
number digits field is organized	according to the network dialling plan; e.g., prefix or
escape digits might be present.	
Note 3	— Prefix or
escape digits shall not be included.	
Note 4	— The type
of number “network specific number” is used to	indicate
administration/service number specific to the serving network, e.g., used to access an operator.	
}	
{	Numbering plan
identification (octet 3)	
}	
{	Numbering plan
(applies for type of number = 000, 001, 010 and 100)	
Bits	
4 3 2 1	
0 0 0 0	unknown
(Note)	
0 0 0 1	
ISDN/telephony numbering plan (Recommendation E.164	[19]/E.163
[20])	
0 0 1 1	data number-
ing plan (Recommendation X.121) [21]	
0 1 0 0	telex number-
ing plan (Recommendation F.69) [22]	
1 0 0 0	national stan-
dard numbering plan	
1 0 0 1	private
numbering plan	
1 1 1 1	reserved for

extension	
All other values are reserved.	
}	
{	
<i>Note</i>	— The
numbering plan “unknown” is used when the user	or the network has no
knowledge of the numbering plan. In this case the	number digits field is organized
according to the network dialling	plan; e.g., prefix or escape digits might be
present.	
}	
{	
<i>indicator (octet 3a)</i>	<i>Presentation</i>
Bits	
7 6	
0 0	
allowed	Presentation
0 1	
restricted	Presentation
All other values are reserved.	
}	
{	
<i>Note</i>	— At the
redirecting user-network interface, the	presentation indicator is
used for indicating the intention of the	redirecting user for the presentation of
the redirecting number to the	called used. This may also be requested on a subscrip-
tion basis. If octet	3a is omitted, and the network does not support subscription infor-
mation for	the redirecting number information restrictions, the
value	“00 — presentation allowed” is
assumed.	

Tableau 4-39/Q.931 (1 de 2) [T164.931], p. 58

**H.T. [T165.931]**  
**TABLE 4-39/Q.931 (Sheet 2 of 2)**  
**Redirecting number information element**

{ Screening indicator (octet 3a)	
Bits	
2 1	
0 0	User-provided, not
screened	
0 1	User-provided, verified and
passed	
1 0	User-provided, verified and
failed	
1 1	Network pro-
vided	
}	
{	
Note	— If octet 3a is omitted, “00 —
user-provided, not	screened” is assumed.
}	
{	Reason for redirection (octet
3b)	
Bits	
4 3 2 1	
0 0 0 1	Call forwarding busy or called
DTE busy	
0 0 1 0	Call forwarding no
reply	
1 0 0 1	Called DTE out of
order	
1 1 1 1	Call forwarding unconditional or
systematic call	
1 0 1 0	Call forwarding by the called
DTE	
All other values are reserved.	
}	
{	Number digits (octets 4,
etc.)	
This field is coded with IA5 characters, according to the formats specified in the appropriate numbering/dialling plan.	

**Tableau 4-39/Q.931 (2 de 2) [T165.931], p. 59**



Blanc

The purpose of the Transit delay selection and indication information element is to request and indicate the nominal maximum permissible transit delay applicable on a per call basis to that virtual call.

The Transit delay selection and indication information element is coded as shown in Figure 4-51/Q.931 and Table 4-40/Q.931.

The maximum length of this information element is 5 octets.

Figure 4-51/Q.931 [T166.931] (à traiter comme tableau), p. 60

H.T. [T167.931]

TABLE 4-40/Q.931

Transit delay selection and indication information element

{				
Transit delay selection and indication value [octet 3 (bits 1-2), octets 3a and 3b]				
Transit	delay	value	binary	encoded in
milles				econds. Bit 2 of
octet 3 is the highest order bit and bit 1 of octet 3b is the lowest order bit. The transit delay value occupies 16 bits total.				
Note				
— For	a	Recommendation	X.31[14]	type of
acce				ss to an ISDN
the	procedures only apply in the notification phase at the terminating exchange. At the terminating exchange, if the Transit Delay Selection and Indication facility is present in the X.25 [5] incoming call request packet, the two octet value should be copied into octets 3, 3a and 3b with the highest order bit contained in bit 2 of octet 3 and the lowest order bit contained in bit 1 of octet 3b.			
{				

Tableau 4-40/Q.931 [T167.931], p. 61

