5i’

4 Release procedures

4.1 *Arrow diagram*

This section contains the arrow diagrams for the Q.931/Q.764 interworking release procedures.

4.1.1 *End-to-end ISDN scenario*

The following normal call release procedures are indicated.

Case 1: This case shows the normal call release interworking procedure without tone provision (Figure 20/Q.699).

A DISConnect message from the originating user is mapped via the Disconnect Indication and Release Request primitives into a RELease message in the network.

At the destination end, a RELease message from the network is mapped into a DISConnect message sent to the terminating user via Release Indication and Disconnect Request primitives.

The tone/announcement option is not applied in the terminating exchange.

Case 2: This case shows the normal call release interworking procedure with tone provision (Figure 21/Q.699).

The tone/announcement option is applied in the terminating exchange.

A RELease message from the network is mapped into a DISConnect message with progress indicator (## 8, in-band information or appropriate pattern is now available) sent to the terminating user.

4.1.2 *PSTN/ISDN interworking scenario*

The following normal release procedures in PSTN to ISDN interworking scenario are indicated.

Case 1: Clear forward (Figure 22/Q.699, Case 1)

This case shows the normal call release procedure being initiated from the originating PSTN by means of a clear forward signal.

At the ISDN/PSTN interworking exchange, the clear forward signal is mapped into a RELease message to the ISDN exchange.

Case 2: Clear backward (Figure 22/Q.699, Case 2)

This case shows the normal call release procedure being initiated from the terminating ISDN user by means of a DISConnect message.

At the ISDN-PSTN interworking exchange, a RELease message is mapped into an appropriate backward signal in PSTN.

4.1.3 *ISDN/PSTN interworking scenario*

The following normal release procedures in the ISDN to PSTN interworking scenario are indicated.

Case 1: Clear forward (Figure 23/Q.699, Case 1)

This case shows the normal call release procedure being initiated from the originating ISDN user by means of a DISConnect message.

At the ISDN/PSTN interworking exchange, a RELease message is mapped into an appropriate clear forward signal in PSTN.

Case 2: Clear backward (Figure 23/Q.699, Case 2)

This case shows the normal call release procedure being initiated from the terminating PSTN by means of a clear backward signal.

At the ISDN/PSTN interworking exchange, the clear backward signal is mapped into a SUSpend message with suspend/resume indicator (network initiated).

The terminating ISDN exchange starts the time. Upon expiry of the timer, if the terminating exchange has not received a RESume message, the terminating exchange initiates clearing by sending a DISConnect message to the user, and sending a RELease message to the preceding exchange.

4.1.4 *Notes for Figures 20/Q.699-23/Q.699*

Note 1 — This procedure is applicable to those basic services where in-band tone/announcement is not provided, e.g. 64 kbit/s unrestricted bearer service.

Note 2 — The DISC message should not include the progress indicator ##8.

Note 3 — This procedure is applicable to both speech and 3.1 kHz audio bearer services.

Note 4 — The provision of tone is optional. If tone is provided, progress indicator ##8 should be included in the DISC message. If tone is not provided, progress indicator ##8 should not be included.

Figure 20/Q.699, p.

Figure 21/Q.699, p.

Figure 22/Q.699, p.

Figure 23/Q.699, p.

4.2 *Mapping of parameters*

This section contains the mapping table of Q.763/Q.931 messages and associated parameters.

H.T. [T18.699]

TABLE 16/Q.699

Mapping of release procedure parameters for ISDN call

	User/Network	Network	User/Network
Message	DISConnect	RELease	DISConnect
Contents	*Cause	*Cause	*Cause

Table 16/Q.699 [T18.699], p.

H.T. [T19.699]

TABLE 17/Q.699

Mapping of release procedure parameters for PSTN-ISDN call (Called party clears)

	PSTN	Network	User/Network
Message	Clear Backward Signal	RELease	DISConnected
Contents		*Cause	*Cause

Table 17/Q.699 [T19.699], p.

H.T. [T20.699]

TABLE 18/Q.699

Mapping of release procedure parameters for PSTN-ISDN call (Called party clears)

	PSTN	Network	User/Network
Message	Clear forward signal	RELease	DISConnect
Contents *Cause ##16, Normal call clearing } *Cause ##16, Normal call clearing }	{ 	{	

Table 18/Q.699 [T20.699], p.

H.T. [T21.699]
TABLE 19/Q.699
Mapping of release procedure parameters for ISDN-PSTN call

(Calling party clears)

	User/Network	Network	PSTN
Message	DISConnect	RELease	Clear forward signal
Contents	*Cause	*Cause	

Table 19/Q.699 [T21.699], p.

5 Interworking specification for unsuccessful set-up procedure

5.1 *Arrow diagram*

This section contains the arrow diagrams for the unsuccessful call set-up procedures.

5.1.1 *Unsuccessful call set-up, point-to-point data link*

Figure 24/Q.699 shows the unsuccessful call set-up procedure, where inband tones/announcements are not provided (e.g. 64 kbit/s unrestricted bearer

service). The RELease COMPlete message at the destination exchange is mapped into the RELease message via the Reject Indication and Release Request primitives. At the originating exchange the RELease message is mapped via the Release Indication and Disconnect Request primitives into the DISConnect message.

5.1.2 *Unsuccessful call — Broadcast data link*

Figure 25/Q.699 shows the unsuccessful call set-up procedure, where inband tones/announcements are not provided (e.g. 64 kbit/s unrestricted bearer service), in the case where the called party is addressed via a broadcast data link. The returning of the RELease COMPlete message via a broadcast data link is optional. In the case shown, on receipt of the RELease COMPlete message at the destination exchange the cause value is retained, and to allow for the possibility of another terminal accepting the call, the Reject Indication primitive is not generated until the expiry of timer T303.

Note — Where the network does not receive any response to the initial SETUP message before the expiry of timer T303, the SETUP message is retransmitted and T303 is restarted. If no further response is received by the

network on the second expiry of timer T303, the Reject Indication primitive is generated.

The RELease message is then mapped from the Reject Ind and Release Request primitives. At the originating exchange the RELease message is mapped via the Release Indication and Disconnect Request primitives into the DISConnect message.

5.1.3 *Unsuccessful call — Tone/announcement applied at the originating exchange*

Figure 26/Q.699 shows the unsuccessful set-up procedure where tones or announcements are generated in the originating exchange towards the ISDN user as a result of receiving a RELease message.

Timer T306 is started after the appropriate tone/announcement is sent. Figure 26/Q.699 shows the originating ISDN user releasing before timer T306 expires.

5.1.4 *Unsuccessful call — Tone applied by terminating exchange*

Figure 27/Q.699 shows an unsuccessful call where certain tones and announcements can only be generated in the terminating exchange (or transit

exchange) during call establishment. This is a typical case, for example, for a changed number announcement where the changed number information is only available at the terminating local exchange. Alternatively, a specific announcement may be applied at a transit exchange to indicate, for example, that all circuits to a particular destination are busy.

The originating exchange sends a DISconnect message to the calling user with progress indicator ## | , thus indicating that in-band information is available. Normal release procedures apply after the in-band information has been connected.

5.1.5 *Unsuccessful call — Originating exchange tone/announcement time-out expires*

Figure 28/Q.699 shows the case of tone time-out expiry at the local exchange. This is very similar to § 5.1.3 above except that the caller fails to clear the call following the application of the tone. Timer T306 then expires.

5.1.6 *ISDN-PSTN interworking — Tone/announcements applied by terminating exchange within PSTN*

Figure 29/Q.699 shows an unsuccessful call where the sending of tones and announcements is generated by the terminating exchange during the call set-up phase. In this case, an Address Complete Message is returned from the interworking point with indicators set as shown in Note 8 (see § 5.1.8). This is mapped to a PROGress Message at the originating local exchange, with the progress indicator set to value 1, to indicate that in-band information may be available. The sequence applies to failure occurring at any point within the PSTN.

5.1.7 *Premature release — Point-to-point data link*

Figure 30/Q.699 shows a premature release situation where release is received at the terminating local exchange prior to any terminal response. In this situation a DISConnect message is sent to the called user and the normal clearing procedure is initiated.

5.1.8 *Notes for Figures 24/Q.699-30/Q.699*

Note 1 — This procedure is applicable in those cases where in-band tone/announcements are not provided, e.g. 64 kbit/s unrestricted bearer service.

Note 2 — This message is delivered by a point-to-point data link.

Note 3 — This message is sent by a broadcast data link.

Note 4 — Timer T306 is started in the Q.931 protocol block.

Note 5 — If tones/announcements are applied, a DISConnect message may be sent containing progress indicator ##8. As an alternative, a PROGress message may also be sent containing progress indicator ##8.

Note 6 — Customized announcements can only be provided by this exchange.

Note 7 — Tone/announcement time-out expires.

Note 8 — Backward call indicators in the Address Complete Message set as follows:

ISDN access indicator = non-ISDN

Protocol control indicators = interworking encountered

Called party’s status indicator = no indication.

Note 9 — See § 2.1.9.1 of Recommendation Q.764 for through-connect timing.

Note 10 — If the clearing ISDN user is the called party, this message becomes a clear back.

Note 11 — In the case of point-to-multipoint, the DISConnect message is not sent. Terminals are released as they respond.

Figure 24/Q.699, p.

Figure 25/Q.699, p.

Figure 26/Q.699, p.

Figure 27/Q.699, p.

Figure 28/Q.699, p.

Figure 29/Q.699, p.

Figure 30/Q.699, p.

5.2 *Mapping of parameters*

This section contains the mapping of Q.763/Q.931 messages and associated parameters.

H.T. [T22.699]

TABLE 20/Q.699

Mapping of ISDN user part address complete message parameters

	Originating user/network	Network
Message ADDRESS COMPLETE MESSAGE (ISUP) }	DISCONNECT (Q.931)	{
Contents Inband information indicator (Network tone or announcement applied) }	Cause Progress indicator	Cause {

Note — In this case the inclusion of a Progress Indicator is mandatory.

Table 20/Q.699 [T22.699], p.

H.T. [T23.699]

TABLE 21/Q.699

Mapping of ISUP Call Progress parameters

	Originating user/network	Network
Message ADDRESS COMPLETE MESSAGE (ISUP) }	(Q.931) PROGRESS	{
Contents Inband information indicator (Network Tone/Announcement applied) }	Cause Progress indicator	Cause {

Note — In this case the inclusion of a Progress Indicator is mandatory.

Table 21/Q.699 [T23.699], p.

H.T. [T24.699]

TABLE 22/Q.699

Mapping of Q.931 RELease COMPlete message information elements

	Originating user/network	Network	Terminating user/network
Message	(Q.931) DISC	(ISUP) RELEASE	(Q.931) REL COMP
Contents Cause	Cause	Cause	

Note — The Progress Indicator is included when Tones/Announcements are provided at the originating local exchange when the Bearer Capability = speech or 3.1 kHz Audio (see Fig. 5.3).

Table 22/Q.699 [T24.699], p.

H.T. [T25.699]

TABLE 23/Q.699

Alternative mapping of Q.931 RELease COMPlete message information elements

	Originating user/network	Network	Terminating user/network
Message	(Q.931) PROGRESS	(ISUP) RELEASE	(Q.931) REL COMP
Contents	Cause	Cause	Cause

Table 23/Q.699 [T25.699], p.

6 Interworking specifications for suspend/resume procedures

6.1 *Arrow diagrams*

This section contains the arrow diagrams for the Recommendation Q.931/Q.764 interworking suspend/resume procedures.

6.1.1 *Successful and unsuccessful suspend/resume procedures*

Figure 31/Q.699 indicates the successful and unsuccessful suspend and resume procedures.

Suspension control and supervision point is the originating local exchange and maybe a controlling exchange in the network.

The ISDN User Part protocol in the network is used to convey the notification to the remote end from the originating exchange.

6.1.2 *Suspend/resume — Control and supervision within NT2*

Figure 32/Q.699 illustrates the suspend and resume interworking procedures, where the control and supervision point is located within the NT2.

6.1.3 *Suspend/resume — ISDN/PSTN interworking*

Figure 33/Q.699 illustrates the suspend and resume procedures for ISDN-PSTN interworking.

6.1.4 *Suspend/resume — PSTN/ISDN interworking*

Figure 34/Q.699 illustrates the suspend and resume procedures for PSTN-ISDN interworking.

6.1.5 *Notes for Figures 31/Q.699-34/Q.699*

Note 1 — Supervision control in controlling exchange.

Note 2 — Supervision may be performed by the interworking exchange. In that case the clear-back and reanswer messages would not be sent.

Note 3 — When a DISConnect message is sent by the terminating subscriber, the release procedures in accordance with § 4 apply.

Figure 31/Q.699, p.

Figure 32/Q.699, p.

Figure 33/Q.699, p.

Figure 34/Q.699, p.

6.2 *Mapping of parameters*

This section contains the mapping of Q.763/Q.931 messages and associated parameters.

H.T. [T26.699]

TABLE 24/Q.699

Mapping of SUSPEND/RESUME parameters

	User/Network	Network	Network/User

{
Message/information element parameter
}
SUSPEND
Suspend/Resume indicator
(Note)
}
NOTIFY
Notification indicator (set to user suspended)
}
	SUSPEND
	
	{
		{	

RESUME Suspend/Resume indicator (Note) }	RESUME	{	

NOTIFY Notification indicator (set to user resumed)

Note — The values of the SUSPEND/RESUME indicator in Q.763 are respectively ‘‘ISDN subscriber initiated’’ and ‘‘network initiated’’. This SUSPEND/RESUME message is only mapped into the Q.931 NOTIFY message when the SUSPEND/RESUME indicator is set to ‘‘ISDN subscriber initiated’’.

Table 24/Q.699 [T26.699], p.

H.T. [T27.699]

TABLE 25/Q.699

Mapping of SUSPEND/RESUME parameters for interworking with NT2

User/NT2	NT2/Network	Network	Network/NT2	NT2/User
SUSPEND NOTIFY Notification indicator (user suspended) (Note 2) }	{			
SUSPEND SUSPEND/Resume indicator (Note 1) }	{			
NOTIFY Notification indicator (set to user suspended) }	{			
NOTIFY Notification indicator (set to user suspended) }				
RESUME NOTIFY Notification indicator (user resumed) (Note 2) }	{			
RESUME Suspend/Resume indicator (Note 1) }	{			
NOTIFY Notification indicator (set to user resumed) }	{			
NOTIFY Notification indicator (set to user resumed) }				

Note 1 — The values of the SUSPEND/RESUME Indicator in Q.763 are respectively ‘‘ISDN subscriber initiated’’ and ‘‘network initiated’’. This SUSPEND/RESUME message is only mapped into the Q.931 NOTIFY message when the SUSPEND/RESUME Indicator is set to ‘‘ISDN subscriber initiated’’.

Note 2 — Only when the NOTIFY message indicates a SUSPEND/RESUME is this message mapped into the ISUP messages SUSPEND and RESUME.

Table 25/Q.699 [T27.699], p.

ANNEX A
(to Recommendation Q.699)

Source of busy tone generation

A.1 *Introduction*

A.1.1 This annex provides a set of rules by which the location of the busy signal tone generation point could be determined for signalling interworking cases.

A.1.2 It is important to recognize that for those cases where a busy tone is generated at a location other than the originating exchange, an end-to-end path between the busy tone source and the user must exist.

A.2 *Terminology*

A.2.1 The terms originating exchange and terminating exchange refer to the public network exchange that is closest to the respective end user.

Note 1 — When an exchange of a public network has no appropriate pre-arrangement with the calling or the called user, it assumes that the exchange is closest to the end user, and therefore serves as an originating or a terminating exchange in this terminology.

Note 2 — Some networks may, as a network option, permit NT2s to generate busy tone (e.g. according to Annex C/Q.931 or Annex O/Q.931). In these cases, the following rules shall also be applied, using the terminology ‘‘NT2’’ to replace ‘‘originating exchange’’ or ‘‘terminating exchange’’ as appropriate.

A.2.2 There are three types of signalling to be considered in these discussions viz.:

i) ISDN signalling systems, i.e. Signalling System No. 7 ISDN User Part (SS7 ISUP) and ISDN user-network interface;

ii) Type 1 PSTN signalling systems which can convey a clearing message (e.g. a subscriber busy signal) for an unsuccessful call, e.g. SS7 TUP, SS6, R2; and

iii) Type 2 PSTN signalling systems which cannot convey a clearing message (e.g. the subscriber busy signal) for

an unsuccessful call, e.g. R1, and in this signalling system, busy tone is used to indicate that the called user interface is busy.

A.3 *Rules*

This section presents the set of rules for speech and 3.1 kHz audio bearer services.

A.3.1 *Rule No. 1*

For ISDN to ISDN connections, the in-band busy tones shall normally be generated at the originating exchange. The terminating exchange shall originate a clearing message to the originating exchange upon notification or identification that the user interface is busy.

A.3.2 *Rule No. 2*

For non-ISDN to ISDN connections, the in-band busy tone shall normally be generated at the interworking exchange. The terminating exchange shall originate a clearing message towards the originating exchange. The first exchange that cannot originate, or convey, the clearing message (or subscriber busy signal) towards the originating exchange shall be defined as the

interworking exchange and shall generate the busy tone. This interworking exchange serves as an interworking exchange either between ISDN signalling system and Type 2 PSTN signalling system or between Type 1 PSTN signalling system and Type 2 PSTN signalling system. A network containing both the terminating and the interworking exchange shall have the option of providing the busy tone from anywhere inside its network.

A.3.3 *Rule No. 3*

For ISDN to non-ISDN connections, the in-band busy tone shall be generated at either the originating exchange or in the non-ISDN network. The source of busy will depend on the connection configuration and shall be determined uniquely by the following:

— For ISDN to non-ISDN connections:

a) in which ISDN signalling exists from the originating exchange to the terminating exchange, or

b) in which ISDN signalling and Type 1 signalling exists from the originating to the terminating exchange,

then the in-band busy tone shall be generated at the originating exchange.

— For all other ISDN to non-ISDN connections, the in-band busy signal shall be generated in the non-ISDN network.

Note — In cases where special call handling, upon user busy, is offered, the exchange(s) other than specified by the above three rules can have the option of providing the busy tone and causing the appropriate message to be sent to the originator, and retain the connection for subsequent user requests.

ANNEX B
(to Recommendation Q.699)

Usage of ‘‘Cause’’ in Recommendations Q.931, Q.763 and Q.730

B.1 *Format*

Format of Q.931 Cause information element or Q.763/Q.730 Cause indicators parameters *contents* | is shown in Figure B-1/Q.699.

Figure B-1/Q.699 [T28.699], p. (traiter comme tableau MEP)

B.2 *Codes used in the sub-field of the ‘‘Cause’’*

B.2.1 *Extension indicator (ext)*

Bit

8

0 octet continues through the next octet (e.g. octet 1 to 1a)

1 last octet .bp

B.2.2 *Coding standard*

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 the desired cause can not be represented with the CCITT-standardized coding.

B.2.3 *Location*

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 0 1 1 transit network

0 1 0 0 public network serving the remote user

0 1 0 1 private network serving the remote user

0 1 1 1 international network

1 0 1 0 network beyond interworking point

All other values are reserved.

Note 1 — Depending on the location of the users, the local public network and remote public network may be the same network.

Note 2 — Examples of location values to be used for various busy/congestion conditions appear in Annex J to Recommendation Q.931. B.2.4 *Recommendation*

Bits

7 6 5 4 3 2 1

0 0 0 0 0 0 0 Q.931/Q.763 (Note 2)

0 0 0 0 0 1 1 X.21

0 0 0 0 1 0 0 X.25

0 0 0 0 1 0 1 public land mobile networks, Q.1031/Q.1051 (Q.763)

All other values are reserved. *Note 1* — If octet including this field is omitted, Recommendation Q.931/Q.763 is assumed.

Note 2 — This value is used only when the preceding octet is extended and the cause in octet 4 is from Table B-1/Q.699.

B.2.5 *Cause value*

The cause value is divided into two fields, a class (bits 5 through 7) and a value within the class (bits 1 through 4).

(1) The class indicates the general nature of the event.

Class (000) : normal event

Class (001) : normal event

Class (010) : resource unavailable

Class (011) : service or option not available

Class (100) : service or option not implemented

Class (101) : invalid message (e.g. parameter out of range)

Class (110) : protocol error (e.g. unknown message)

Class (111) : interworking (2) The cause values are listed in Table B-1/Q.699.

–v’1P’ –v’6p’

H.T. [1T29.699]

TABLE B-1/Q.699

Cause values

Cause value		Cause number	Cause	Recor
Class	Value			
7 6 5	4 3 2 1			
0 0 0	0 0 0 1	1	{	
Unallocated (unassigned) number (Note 1)				
}	Q.931, Q.763			
0 0 0	0 0 1 0	2	{	
No route to specified transit network				
}	Q.931, Q.763			
0 0 0	0 0 1 1	3	No route to destination	Q.931
0 0 0	0 1 0 0	4	Send special information tone	**Q.931**
0 0 0	0 1 0 1	5	Misdialled trunk prefix	**Q.931**
0 0 0	0 1 1 0	6	Channel unacceptable	Q.931
0 0 0	0 1 1 1	7	{	
Call awarded and being delivered in an established channel				
}	Q.931			
0 0 1	0 0 0 0	16	Normal call clearing	Q.931
0 0 1	0 0 0 1	17	User busy	Q.931
0 0 1	0 0 1 0	18	No user responding	Q.931
0 0 1	0 0 1 1	19	{	
No answer from user (user alerted)				
}	Q.931, Q.763			
0 0 1	0 1 0 1	21	Call rejected	Q.931
0 0 1	0 1 1 0	22	Number changed	Q.931
0 0 1	1 0 1 0	26	Non-selected user clearing	Q.931
0 0 1	1 0 1 1	27	Destination out of order	Q.931
0 0 1	1 1 0 0	28	Invalid number format	Q.931
0 0 1	1 1 0 1	29	Facility rejected	Q.931
0 0 1	1 1 1 0	30	Response to STATUS ENQUIRY	Q.931
0 0 1	1 1 1 1	31	Normal, unspecified	Q.931
0 1 0	0 0 1 0	34	No circuit/channel available	Q.931
0 1 0	0 1 1 0	38	Network out of order	Q.931
0 1 0	1 0 0 1	41	Temporary failure	Q.931
0 1 0	1 0 1 0	42	{	
Switching equipment congestion				
}	Q.931, Q.763			
0 1 0	1 0 1 1	43	Access information discarded	Q.931
0 1 0	1 1 0 0	44	{	
Requested circuit/channel not available				
}	Q.931, Q.763			
0 1 0	1 1 1 1	47	{	
Resources unavailable, unspecified				
}	Q.931, Q.763			
0 1 1	0 0 0 1	49	{	
Quality of service unavailable				
}	Q.931			
0 1 1	0 0 1 0	50	{	
Requested facility not subscribed				
}	Q.931, Q.730			
0 1 1	0 1 0 1	53	{	
Outgoing calls barred within CUG				
}	**Q.931,** Q.730			
0 1 1	0 1 1 1	55	{	
Incoming calls barred within CUG				
}	**Q.931,** Q.730			
0 1 1	1 0 0 1	57	{	
Bearer capability not authorized				
}	Q.931, Q.763			
0 1 1	1 0 1 0	58	{	
Bearer capability not presently available				
}	Q.931, Q.763			
0 1 1	1 1 1 0	62	{	

Inconsistency in designated outgoing access information and subscriber class } 0 1 1 Service or option not available, unspecified }	**Q.931,** Q.730 1 1 1 1 Q.931, Q.763	63	{	

Table B-1/Q.699 [1T29.699], p.

H.T. [2T29.699]
TABLE B-1/Q.699 *(cont.)*

Cause value		Cause number	Cause	Recommer
Class	Value			
7 6 5	4 3 2 1			
1 0 0	0 0 0 1	65	{	
Bearer capability not implemented				
}	Q.931, Q.763			
1 0 0	0 0 1 0	66	Channel type not implemented	Q.931
1 0 0	0 1 0 1	69	{	
Requested facility not implemented				
}	Q.931, Q.730			
1 0 0	0 1 1 0	70	{	
Only restricted digital information bearer capability is available				
}	Q.931, Q.763			
1 0 0	1 1 1 1	79	{	
Service or option not implemented, unspecified				
}	Q.931, Q.763			
1 0 1	0 0 0 1	81	Invalid call reference value	Q.931
1 0 1	0 0 1 0	82	{	
Identified channel does not exist				
}	Q.931			
1 0 1	0 0 1 1	83	{	
A suspended call exists, but this call identity does not				
}	Q.931			
1 0 1	0 1 0 0	84	Call identity in use	Q.931
1 0 1	0 1 0 1	85	No call suspended	Q.931
1 0 1	0 1 1 0	86	{	
Call having the requested call identity has been cleared				
}	Q.931			
1 0 1	0 1 1 1	87	Called user not member of CUG	**Q.931,** Q.
1 0 1	1 0 0 0	88	Incompatible destination	Q.931, Q.7
1 0 1	1 0 1 0	90	Non-existent CUG	**Q.931,** Q.
1 0 1	1 0 1 1	91	{	
Invalid transit network selection (Note 1)				
}	Q.931, Q.763			
1 0 1	1 1 1 1	95	Invalid message, unspecified	Q.931, Q.7
1 1 0	0 0 0 0	96	{	
Mandatory information element is missing				
}	Q.931			
1 1 0	0 0 0 1	97	{	
Message type non-existent or not implemented				
}	Q.931, Q.763			
1 1 0	0 0 1 0	98	{	
Message not compatible with call state or message type non-existent or not implemented				
}	Q.931			
1 1 0	0 0 1 1	99	{	
Information element non-existent or not implemented (Note 2)				
}	Q.931, Q.763			
1 1 0	0 1 0 0	100	{	
Invalid information element contents				
}	Q.931			
1 1 0	0 1 0 1	101	{	
Message not compatible with call state				
}	Q.931			
1 1 0	0 1 1 0	102	Recovery on timer expiry	Q.931
1 1 0	0 1 0 1	103	{	
Parameter non-existent or not implemented — passed on				
}	**Q.931,** Q.763			
1 1 0	1 1 1 0	110	Inconsistency in data	**Q.931,** Q.
1 1 0	1 1 1 1	111	Protocol error, unspecified	Q.931, Q.7
1 1 1	1 1 1 1	127	Interworking, unspecified	{

Q.931, Q.763 All other values are reserved. }				

Note 1 — In Recommendation Q.763, the words ‘‘(national use)’’ are added.

Note 2 — In Recommendation Q.763, the name of this cause value is ‘‘parameter non-existent or not implemented-discard’’. Further alignment of definition for this cause may be required.

Table B-1/Q.699 [2T29.699], p.

B.2.6 *Diagnostic(s)*

H.T. [T30.699]
TABLE B-2/Q.699

Cause	Diagnostic(s)	Recommendations
1	Condition (Note 1)	Q.931, Q.763
2	Transit Network identity	Q.931, Q.763
3	Condition (Note 1)	Q.931, Q.763
16	Condition (Note 1)	Q.931, Q.763
21	{	
Condition (Note 1), User supplied diagnostics		
}	Q.931, Q.763	
22	{	
New Destination [Q.931]/Called party number (new) [Q.763]		
}	Q.931, Q.763	
29	{	
Facility identification [Q.931]/Rejected parameter [Q.763]		
}	Q.931, Q.730	
43	{	
Discarded information element identifier(s)		
}	Q.931	
49	Condition (Note 2)	Q.931
50	{	
Facility identification [Q.931]/Rejected parameter [Q.763]		
}	Q.931, Q.730	
57	Attribute identity (Note 2)	Q.931, Q.763
58	Attribute identity (Note 2)	Q.931, Q.763
65	Attribute identity (Note 2)	Q.931, Q.763
66	Channel type	Q.931
69	{	
Facility identification [Q.931]/Rejected parameter [Q.763]		
}	Q.931, Q.730	
82	Channel identity	Q.931
86	Clearing cause	Q.931
88	{	
Incompatible parameter [Q.931]		
}	Q.931, Q.763	
96	{	
Information element identifier		
}	Q.931	
97	Message type	Q.931, Q.763
98	Message type	Q.931
99	{	
Information element identifier(s) [Q.931]/Parameter name(s) [Q.763]		
}	Q.931, Q.763	
100	{	
Information element identifier(s)		
}	Q.931	
101	Message type	Q.931
102	Timer number	Q.931
103	Parameter name(s)	{
Q.931,		
Q.763		
}		

Note 1 — The following coding is used:

Bit 8: 1 Bits 7-3: 00000 Bits 2-1: Condition as follows: 00 — Unknown 01 — Permanent 10 — Transient.

Note 2 — The format of the diagnostic field for causes number 57, 58 and 65 is as shown in Figure B-2/Q.699 and Table B-2a/Q.699 to B-2b/Q.699.

Note 3 — Description in [ ] indicates current difference in description among Recommendations Q.931 and Q.763. Further alignment may be required for those cause values, i.e., ##22, ##29, ##50, ##69 and ##99.

Table B-2/Q.699 [T30.699], p.

Figure B-2/Q.699 [T31.699], p. (traiter comme tableau MEP)

Figure B-2a/Q.699 [T32.699], p. (traiter comme tableau MEP)

H.T. [T33.699]

TABLE B-2b/Q.699

Coding of the diagnostic field for causes number 57, 58 and 65

{
Rejected attribute (octet 5a)
}
Attribute No.
{
1.
Information transfer capability:

Bits 7-6 : 00

Bits 5-1 according to Table 4-6, octet 3.
}
{
2. *Information transfer mode:*

Bits 7-6 according to Table 4-6, octet 4.

Bits 5-1 : 00000
}
{
3. *Information transfer rate:*

Bits 7-6 : 00 Bits 5-1 according to Table 4-6, octet 4. }
{
4. *Structure:*

Bits 7-5 according to Table 4-6, octet 4a.

Bits 4-1 : 0000
}
{
5.
Configuration:

Bits 7-5 : 000

Bits 4-3 according to Table 4-6, octet 4a.

Bits 2-1 : 00
}
{
6. *Establishment:*

Bits 7-3 : 00000

Bits 2-1 according to Table 4-6, octet 4a.
}
{
7. *Symmetry:*

Bits 7-6 according to Table 4-6, octet 4b.

Bits 5-1 : 00000
}
{
8. *Information transfer rate (dest. orig.):*

Bits 7-6 : 00
Bits 5-1 according to Table 4-6, octet 4b.
}
{
9. *Layer identification:*
Bits
7 6
0 1 (layer 1) Bits 5-1 according to Table 4-6, octet 5.
1 0 (layer 2) Bits 5-1 according to Table 4-6, octet 6.
1 1 (layer 3) Bits 5-1 according to Table 4-6, octet 7.
}
{ *Available attributes (octet 5b)*
The same coding as octet 5a.

Note — Table 4-6 referred to above is found in Recommendation Q.931. The relevant description is found in § 3.36 of Recommendation Q.763.

Tableau B-2b/Q.699 [T33.699], p.