



INTERNATIONAL TELECOMMUNICATION UNION

**ITU-T**

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

**U.70**

**TELEGRAPH SWITCHING**

**INTERWORKING BETWEEN NEW INFORMATION  
SERVICES AND TELEX**

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**TELEX SERVICE SIGNALS FOR TELEX  
TO TELETEX INTERWORKING**

**ITU-T Recommendation U.70**

(Extract from the *Blue Book*)

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## NOTES

1 ITU-T Recommendation U.70 was published in Fascicle VII.2 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression “Administration” is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

## Recommendation U.70

### TELEX SERVICE SIGNALS FOR TELEX TO TELETEx INTERWORKING

*(Malaga-Torremolinos, 1984)*

The CCITT,

*considering*

(a) that a basic interworking on international connections will be at 50 bauds using an international telex network and that any telex subscriber can call conversion facilities in various countries;

(b) that Recommendation F.201 specifies:

- that a validation of a called Teletex terminal is mandatory. The validation is performed either by a direct validation call or by a data base access;
- that if a message delivery to a Teletex terminal fails in the case of interworking with two-stage selection procedure, the conversion facility should send a non-delivery notification to a telex terminal;

(c) that Recommendation S.90 specifies Teletex requirements for interworking with the telex service and Recommendations S.62 and S.70 specify control procedures and a network-independent basic transport service for a Teletex;

(d) that Recommendation X.96 specifies call progress signals in a public data network,

*unanimously declares the following view*

#### **1 Scope**

This Recommendation defines service signals which are to be sent back to the telex terminal in the event of unsuccessful validation for called Teletex terminal addresses, and service signals of the last delivery attempt to the Teletex terminal which are to be sent to the telex terminal as a part of non-delivery notification.

TABLE 1/U.70

## Service signals for unsuccessful validation call and non-delivery notification

		Abnormal conditions	Service signals
Lower Level Protocols	PSDN and CSDN	Call-progress signals	
		No connection	NC
		Selection signal transmission error	NC
		Local procedure error	NC
		Network congestion	NC
		Invalide facility request	NC
		Change number	NCH
		Not obtainable	NP
		Access barred	NA
		Incompatible user class of service	NA
		Incompatible destination	NC
		Out of order	DER
		Network fault in local loop	DER
		DCE power off	ABS
		Uncontrolled not ready	DER
		Controlled not ready	ABS
		Number busy	OCC
		Call information service	INF
		Remote procedure error	DER
		Long-term network congestion	NC
DTE originated	DER		
Carrier-off	NC		
No response (time-out)	DER		
Lower Level	PSTN	Carrier off	NC
		Ring-back tone (No reply) <sup>a)</sup>	ABS
		No dial tone <sup>a)</sup>	NC
		Busy <sup>a)</sup>	OCC
		Equipment engaged <sup>a)</sup>	NC
		Number unobtainable <sup>a)</sup>	NP
		No tone <sup>a)</sup>	NP
Higher Level Protocols	Transport Layer	Transport Connection Clear (TCC) receipt	
		Reason not specified	DER
		Terminal occupied	OCC
		Terminal out of order	DER
		Address unknown	NP
		Transport Block Reject (TBR) receipt	
		Reason not specified	DER
		Function not implemented	DER
		Invalid block	DER
		Invalid parrameter	DER
	Illegal command/response receipt	DER	
	No response	DER	
	Session Layer	Incorrect terminal identifier in Response Session Start Positive (RSSP)	NP
		Response Session Start Negative (RSSN) receipt	
		No specific reason stated	DER
		Memory full or out of recording paper	DER
		Explicit text message	DER
		Command Session Abort (CSA) receipt	
		Local terminal error	DER
		Unrecoverable procedural error	DER
		Reason not defined	DER
		Illegal command/response receipt	DER
	No response	DER	
Document Layer <sup>b)</sup>	Response Document Page Boundary Negative (RDPBN) receipt		
	No specific reason stated	DER	
	Memory full or out of recording paper	DER	
	Sequence error	DER	
	Local terminal error	DER	
	Unrecoverable procedural error	DER	
	Response Document General Reject (RDGR) receipt	DER	
	Illegal command//reponse receipt	DER	
No response	DER		

a) It is recognized that these abnormal conditions can be detected if the automatic calling procedures incorporate detection facilities.

b) Optional (if negotiation is not carried out).

PSDN           Packed switched data network  
CSDN           Circuit switched data network  
PSTN           Public switched telephone network

## 2 Principles

The following principles should be taken into consideration:

2.1 Call progress signals arriving from the Teletex network will be converted without changing their original meaning as far as possible.

2.2 A faulty condition between the Teletex network and the conversion facility will be regarded as a faulty condition within the network.

2.3 A faulty condition between the Teletex network and the Teletex terminal will be regarded as a fault of the terminal.

## 3 Telex service signals

In general, telex service signals specified in Recommendation F.60 should be used. However, the telex service signals listed below will be used in the following circumstances:

3.1 If the format of the Teletex address part is incorrect, the service signal **NP** will be returned.

3.2 If the direct validation call is unsuccessful, the conversion facility will transmit the service signals specified in Table 1/U.70 to the telex terminal.

3.3 If the validation by data base access is unsuccessful, the conversion facility will transmit the service signals specified in Table 2/U.70.

3.4 If the message delivery to the Teletex terminal is unsuccessful, the conversion facility will transmit the service signals of the last delivery attempt which are specified in Table 1/U.70, as a part of non-delivery notification to the telex terminal.

TABLE 2/U.70

### Service signals for unsuccessful validation by data base access

Abnormal conditions	Service signal
Unsuccessful results	<b>NP</b>

Note – In addition to the case “the number does not exist”, other cases, for example, “the number is being temporarily prohibited” or “the number is out of order”, might be considered as abnormal conditions. But at this moment such conditions and the service signals corresponding to them are for further study.