



INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

F.60

(08/92)

TELEGRAPH AND MOBILE SERVICES OPERATIONS AND QUALITY OF SERVICE

OPERATIONAL PROVISIONS FOR THE INTERNATIONAL TELEX SERVICE

Recommendation F.60



Geneva, 1992



INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

F.60

(08/92)

**TELEGRAPH AND MOBILE SERVICES
OPERATIONS AND QUALITY OF SERVICE**

**OPERATIONAL PROVISIONS
FOR THE INTERNATIONAL
TELEX SERVICE**

Recommendation F.60



Geneva, 1992

FOREWORD

The CCITT (the International Telegraph and Telephone Consultative Committee) is a permanent organ of the International Telecommunication Union (ITU). CCITT is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The Plenary Assembly of CCITT which meets every four years, establishes the topics for study and approves Recommendations prepared by its Study Groups. The approval of Recommendations by the members of CCITT between Plenary Assemblies is covered by the procedure laid down in CCITT Resolution No. 2 (Melbourne, 1988).

Recommendation F.60 was revised by Study Group I and was approved under the Resolution No. 2 procedure on the 4th of August 1992.

CCITT NOTES

- 1) In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized private operating agency.
- 2) A list of abbreviations used in this Recommendation can be found in Annex C

© ITU 1992

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the ITU.

Recommendation F.60**OPERATIONAL PROVISIONS FOR THE INTERNATIONAL TELEX SERVICE***(revised 1992)***1 Introduction****1.1 Scope**

1.1.1 These provisions fix the rules to be followed in the international telex service.

1.1.2 The International telex service is a telegraph service for subscribers whereby they can communicate directly and temporarily between themselves using equipment operating at a modulation rate of 50 bauds and presenting a start-stop telegraph interface to the international telex network and employing International Telegraph Alphabet No. 2.

1.1.3 The general characteristics of the international telex service are described in Recommendation F.59 which provides a convenient guide to the various Recommendations dealing with the international telex service, including the R-, S- and U-Series Recommendations which deal with matters of an essentially technical nature.

1.2 International telex circuits – Routes

1.2.1 International telex circuits are made up by using telegraph-type circuits.

1.2.2 The networks of the countries participating in the international telex service shall, as far as practicable, be directly connected and shall thereby constitute the international telex network.

1.2.3 In case of breakdown, any defective international circuit (or section of an international circuit) must be repaired with all possible speed and, pending repair, every attempt must be made to provide a replacement circuit with the minimum delay.

1.2.4 For each relation, the Administrations concerned shall, by mutual agreement, decide upon one or more primary telex routes and, to the extent necessary and possible, upon secondary telex routes.

1.2.5 In this respect, the Administrations shall conform, as far as possible, with the principles recommended by the CCITT as regards the constitution and maintenance of circuits and installations. In particular, the provisions of Recommendation U.8 regarding end-to-end performance objectives and call set-up time should be taken into account when international telex routes are being established between two countries, or via a transit country.

1.2.6 A Table of international telex relations and traffic [1] is published in accordance with Recommendation F.95.

1.3 Duration of service – Legal time

1.3.1 Each Administration shall fix the working hours of its centres.

1.3.2 Automatic international telex centres are in principle continuously open.

1.3.3 Manual international telex centres should, as far as possible, afford continuous service.

1.3.4 Switching centres that are not open continuously are required to extend their service beyond the normal closing hours when there are calls in progress.

1.3.5 Each centre shall use the legal time of its country or of its zone.

2 Classes of telex call

2.1 General

2.1.1 Accepted classes of telex call are:

- a) ordinary private telex calls between subscribers;
- b) service telex calls, including requests for directory information between telex centres;
- c) privilege telex calls (see Recommendation D.193).

2.1.2 In the manual and semi-automatic services only, the following additional classes of call are accepted:

- a) safety of life telex calls;
- b) Government telex calls.

2.2 Service telex calls

2.2.1 Service telex calls may be exchanged free of charge between the Administrations participating in the international telex service (see Recommendations F.17 and D.192).

2.2.2 Service telex calls may be requested only by persons authorized to do so by their respective Administrations.

2.3 Government telex calls (manual and semi-automatic service only)

2.3.1 The person booking a Government telex call must state his name and rank on request.

2.3.2 A Government telex call shall have priority only if priority has been specifically requested by the calling subscriber.

3 Operation of the international telex service

3.1 Operating systems

3.1.1 The international telex service may operate:

- automatically;
- semi-automatically; or
- manually.

3.1.2 Administrations shall reach mutual agreement upon the most appropriate method of operation to be applied in the international relations that concern them.

3.2 Automatic operation

3.2.1 It is strongly recommended that the telex network of each country be on an automatic switching basis and that it be possible for subscribers to reach one another by fully automatic selection.

3.2.2 To establish a connection in the automatic service the subscriber should normally select: an access code to the international telex network, if required, which is fixed according to national rules.

3.2.3 In accordance with Recommendation U.1, through-connection is normally indicated to the calling subscriber by the return of the called subscriber's answerback code. In order to facilitate the checking of this code within the delay provided by Recommendations F.61 and U.1, insertion by the network of any signals between the call-connected signal and the called subscriber's answerback should be avoided.

Note – For future systems on international connections, it is also desirable to avoid the addition by the called network of date, time and other signals after the called subscriber's answerback. However, service codes or other information in accordance with U-series Recommendations may be sent by the called network, for example, NCH or RDI in accordance with Recommendation U.41.

3.2.4 In the automatic service no priority shall be given to the various classes of calls listed in § 2.1.

3.2.5 The duration of calls in the automatic service should not be limited. However, for operational reasons, Administrations may set a limit on the maximum duration, for example, 12 hours or 24 hours.

3.2.6 In the automatic operation of the international telex service, if, during an established connection, there is a prolonged period of idle condition, the originating network may initiate clearing. This provision does not apply to either transit or the terminating network. Where such protection against inadvertent holding of a circuit is provided, it is recommended that Administrations make any necessary arrangements for the facility not to operate where requested by the subscriber or for certain types of calls.

3.2.7 For any given traffic relation between two countries, the number of circuits provided should be arranged such that, during the busy hour, the probability of lost calls due to the lack of international circuits should not exceed 1 call in 50. For the calculation of the number of circuits, the requirements of Recommendation F.64 should be applied.

3.3 *Semi-automatic and manual operation*

3.3.1 *General provisions*

3.3.1.1 Wherever fully automatic selection has not yet been adopted, it is recommended that semi-automatic operation should be introduced, whereby the operator of the originating international telex position receives the booking, sets up and controls the call.

3.3.1.2 Where semi-automatic service is not possible, calls shall be established manually by means of two or more international telex positions in tandem whereby the operator of the originating international telex position normally receives the booking.

3.3.1.3 The operator of the originating international position must be acquainted with the necessary operating particulars of the networks in the destination country. The incoming Administration will give all the necessary technical information to the outgoing Administration.

3.3.1.4 Any faults in installations noted by international telex positions must be reported without delay to the technical service responsible for their maintenance.

3.3.1.5 The technical services responsible for the maintenance of telex circuits are recommended to use the abbreviations given in the *List of service abbreviations for maintenance of telegraph circuits*, published in Annex A of Recommendation R.90.

3.3.1.6 The number of circuits between two networks and the switching equipment should in all cases be calculated as far as possible for a no-delay telex service.

3.3.2 *Booking of telex calls*

3.3.2.1 In the booking of a call, the telex installation of the subscriber required must be designated by the name of the country, the subscriber's exchange if necessary, and his national number.

3.3.2.2 Bookings of telex calls not completed shall cease to be valid:

Where all the offices concerned are open continuously:

- a) at midnight if the telex call has been booked before 10 p.m. on the same day;
- b) at 8 a.m. if the telex call has been booked after 10 p.m. the previous evening;
- c) in each case the times indicated shall be those of the originating telex centre.

Where all the offices concerned are not open continuously:

- at the closing time of the originating telex centre.

3.3.2.3 In the case of all bookings of telex calls, and subject to the provisions relative to the validity of bookings, the caller may, so long as the required subscriber has not been obtained:

- a) cancel his booking;
- b) specify the time after which the booking should be cancelled;
- c) change the number of the station required within the destination country.

3.3.2.4 Modifications of bookings shall be permitted free of charge; the origin Administration may, however, make a special charge covering the additional work of recording. This charge shall not enter into the international accounts.

3.3.3 *Priority of telex calls*

3.3.3.1 When the manual telex service normally provides a demand service, no priority shall be given to the various classes of call.

3.3.3.2 Under fault or congestion conditions, and in general when a national telex service does not provide a demand service, either normally or temporarily, international telex calls shall be set up in the following order:

- a) calls concerning safety of life;
- b) service calls concerning the re-establishment of international telecommunication links following a major breakdown or disruption in service (see Recommendation A.30);
- c) government calls for which priority has specifically been requested;
- d) government calls for which priority has not been requested, ordinary private calls, service calls other than those mentioned in b);
- e) privilege calls.

3.3.3.3 In the international telex centre, calls shall take their priority according to their class and time of receipt at the exchange.

3.3.4 *Establishment and disconnection of calls by the international telex positions*

3.3.4.1 Telex calls established manually or semi-automatically will normally be controlled by the international telex position in the origin country. However, where a call is established over two or more international links and access to the second link is obtained manually in the transit country concerned, control of the call will be exercised by the operator in the transit country in the following circumstances:

- a) if the first link is provided by landline, satellite, microwave link or submarine cable and the second or subsequent link by ARQ radio;
- b) if the call is booked with the operator in the transit country and connection with the subscriber in the origin country is established semi-automatically.

3.3.4.2 International telex centres connected with each other by several international telex circuits may, by mutual agreement, allocate certain of these circuits for setting up transit calls or for the establishment of traffic in one direction only.

3.3.4.3 For the operation of international telex circuits, the French or English language shall be used between Administrations having different languages, in the absence of special agreements between them for the use of other languages.

3.3.4.4 In the manual service, all bookings, modifications of bookings and cancellation advices shall be transmitted as quickly as possible to the international telex centre charged with establishing the calls booked.

3.3.4.5 In the manual service, calling signals on international circuits must be answered immediately.

3.3.4.6 On bothway circuits, calls of the same class are established alternately. The international telex centres may, by mutual arrangement, temporarily change to one-way working to improve the flow of traffic.

3.3.4.7 Telex calls already prepared must not be delayed for the benefit of calls of higher priority, with the exception of calls concerning safety of life.

3.3.4.8 Without prejudice to the provisions of § 3.3.6, the operator directing the calls at the international telex position shall verify that transmission between the correspondents is satisfactory. He shall note the time when the call is established as well as the time when the call ends and/or its duration. He shall record service incidents and other items necessary for the preparation of the international accounts.

3.3.4.9 With the exception of the cases where the duration of calls is limited, and of cases where an infringement of the present provisions or national instructions has been noted, operators are forbidden to cut off or break into an established call that is proceeding normally.

3.3.5 *Limitation of the duration of international telex calls*

3.3.5.1 In general, the duration of ordinary private calls, service calls, and privilege calls shall not be limited. However, under congestion conditions, the international telex centres concerned may agree to limit the duration of such calls to twelve, or even six minutes (see also § 3.2.5).

3.3.5.2 The duration of safety of life and Government calls shall not be limited. These calls are only available in the manual and semi-automatic service.

3.3.5.3 However, transit Administrations shall have the right, in the case of breakdown, to limit the duration of Government calls to twelve minutes when these calls are established through the intermediary of one of their exchanges. In such a case the operator in the transit country shall advise the controlling operator that restrictions on duration are in force.

3.3.5.4 If the duration of an operator-assisted call is limited, the caller shall be informed, when the call is about to be connected, that it will be cut off after the due time.

3.3.6 *Operating procedure on international telex positions*

3.3.6.1 *Single operator case*

3.3.6.1.1 If the called subscriber can be obtained directly by the controlling international telex operator, this operator should:

- a) hold the calling subscriber and select a free circuit;
- b) select the called subscriber using the information in accordance with § 3.3.2.1;
- c) set up the call to the called subscriber and obtain the called subscriber's answerback, which must also be transferred to the calling subscriber;
- d) obtain the calling subscriber's answerback, which must also be transferred to the called subscriber;
- e) operate the timing equipment;
- f) clear the connection on reception of the clear signal from either party.

3.3.6.1.2 If the called subscriber is engaged, the controlling international telex operator should signal OCC and then release the calling subscriber. When the calling subscriber has to be recalled, the signal RAP is sent after the OCC signal before releasing.

3.3.6.2 *Two-operator case*

3.3.6.2.1 If the called subscriber is obtained via two international telex positions:

- a) the controlling international operator should hold the calling subscriber and select a free circuit;
- b) the operator at the second international position should announce himself by the abbreviated name of his¹⁾ telex exchange²⁾;
- c) the controlling international operator should send his own answerback code and signal the particulars of the required subscriber received in § 3.3.2.1;

¹⁾ The use of gender-specific terms within this Recommendation have no significance.

²⁾ It is recommended that, as far as possible, the abbreviated name of the telex exchange shall be transmitted by means of the answerback unit and shall be so constituted as to permit the identification of the operator's position concerned in the connection of an international call.

- d) the operator of the second international position should:
 - i) hold the circuit from the controlling international position;
 - ii) select the required subscriber, using the information received in accordance with § 3.3.6.2.1, c);
 - iii) establish the connection to the called subscriber;
 - iv) signal **DF** to the controlling international position, which is not passed to the calling subscriber;
- e) the controlling international operator should then:
 - i) establish the connection if necessary, with the calling subscriber and obtain the called subscriber's answerback which must also be transferred to the calling subscriber;
 - ii) obtain the calling subscriber's answerback, which must also be transferred to the called subscriber;
 - iii) operate the timing equipment;
 - iv) clear down the connection on receiving the clear signal from either party.

3.3.6.2.2 If the called subscriber is engaged, the operator of the second international position should signal **OCC** and clear down the international circuit. The controlling operator should then proceed as indicated in § 3.3.6.1.2.

3.3.6.3 *Multiple operator case*

3.3.6.3.1 If the called subscriber is obtained via more than two international telex positions:

- a) the controlling international operator should hold the calling subscriber and select a free circuit;
- b) the operator at the second international position should announce himself by the abbreviated name of his telex exchange³⁾;
- c) the controlling international operator should send his own answerback and signal the particulars of the required subscriber to the second international position;
- d) the operator of the second international position should extend the call to the third international position and signal **THRU** to the calling international position;
- e) the operator of the third international position should announce himself by the abbreviated name of his telex exchange³⁾;
- f) the controlling international operator should send his own answerback and signal the particulars of the required subscriber to the third international position;
- g) the operator of the third international position should:
 - i) hold the circuit from the controlling international position;
 - ii) select the required subscriber, using the information received in accordance with § 3.3.6.3.1, f);
 - iii) establish the connection between it and the called subscriber;
 - iv) signal the letters **DF** to the controlling international position, which are not passed to the calling subscriber;
- h) the controlling international operator should:
 - i) establish the connection with the calling subscriber and obtain the called subscriber's answerback, which must also be transferred to the calling subscriber;
 - ii) obtain the calling subscriber's answerback, which must also be transferred to the called subscriber;
 - iii) operate the timing equipment;
 - iv) clear down the connection on receiving the clear signal from either party.

³⁾ It is recommended that, as far as possible, the abbreviated name of the telex exchange shall be transmitted by means of the answerback unit and shall be so constituted as to permit the identification of the operator's position concerned in the connection of an international call.

3.3.6.3.2 If the operator of the second international telex position finds all the circuits to the third position engaged, he should signal NC and clear down the international circuit.

3.3.6.3.3 If the called subscriber is engaged, the operator of the destination international telex position should signal OCC and clear down the international circuit.

3.3.6.4 *Subscriber recall*

3.3.6.4.1 When a telex connection has to be established by recalling the calling subscriber (§ 3.3.6.1.2) the operator of the position controlling the call will first select from the two correspondents the one he can reach more easily. The procedure will be analogous to that described in §§ 3.3.6.1, 3.3.6.2 and 3.3.6.3, but before connecting the two subscribers the controlling operator will transmit DF to the calling subscriber to advise him that he is receiving a call that he has previously booked.

3.3.6.4.2 The operator should not hold an international telex circuit while awaiting clearance of an occupied subscriber line.

3.3.6.5 *Operator recall*

3.3.6.5.1 It is not possible to recall the operator of an international telex position to a connection already set up, except when applying Recommendation U.21 by agreement between Administrations. The operator-recall signal shall be acted upon by the controlling operator only. In the event of the assistance of any other operator being required, it will be obtained by the controlling operator.

3.3.6.6 *Instructions for foreign subscribers*

3.3.6.6.1 All instructions necessary for the efficient handling of a subscriber's international telex traffic may be given to that subscriber only through the medium of the international terminal exchange to which he is connected.

3.4 *Characteristics of subscribers' equipment*

3.4.1 *Network interface*

3.4.1.1 The signals sent by the start-stop equipment used in the international telex service are those of International Telegraph Alphabet No. 2 as shown in Recommendation S.1.

3.4.1.2 Where the subscriber's equipment is automatic, e.g. where a computer port simulates the functions of a teleprinter, the provisions of Recommendation U.40 should be observed, particularly concerning the number and timing of call attempts into the international telex network.

3.4.1.3 In the particular case of an automatic terminal with several messages for the same telex destination, the provisions of Recommendation U.40 shall be applied to the first message. If this message is undeliverable, it is recommended that call attempts not be initiated in respect of the remaining messages.

3.4.1.4 Where the subscribers equipment consists of a multiple-line terminal, the reaction to ineffective call attempts should be the same as that for a single line terminal and the provisions of Recommendation U.40 should be applied.

3.4.1.5 The application of the above procedures is recommended in order to safeguard the quality of the international telex service.

3.4.1.6 The general operational aspects and basic characteristics of telex terminals, derived from the service principles, are detailed in Recommendation F.59.

3.4.2 *Terminal availability*

3.4.2.1 In the international telex service all terminals, like exchanges, shall provide continuous service. The terminal equipment of a free telex line shall accordingly be available at all times to answer a call and record a message from the calling subscriber whether or not an operator is present at the called terminal.

3.4.2.2 The subscriber's equipment must be arranged in such a way that a call can be received, the answerback taken, the message transmitted and the connection cleared without the intervention of the called subscriber.

Failure to abide by this condition should be indicated by failure to return the call connected signal in response to a valid call signal and results in the service signal **DER** being transmitted to the caller, unless the called terminal has requested temporary interruption of its service by reporting absent in which case that service signal may be replaced by **ABS**. The **DER** service signal may also take the expanded form as shown in Table 1/F.60.

TABLE 1/F.60
Expanded form of DER code expression

Code expression	Additional information characters ^{a)}	Meaning ^{b)}
DER	EXM	Out of order due to no text recording medium
	NAB	Out of order due to failure of answerback mechanism
	PFL	Out of order due to no power at the called terminal

^{a)} These characters may appear anywhere on the line preceding the **DER** signal and are an integral part of the expanded service signal.

^{b)} Or technical failure presenting the same condition at the exchange.

Note 1 – The implementation of these expanded forms of the service signal is a national matter.

Note 2 – See also Recommendation U.45.

3.4.2.3 In exceptional cases, Administrations may allow subscribers to dispense with the stipulation of § 3.4.2.2 for periods previously notified. In such cases, means must be provided for the transmission of one of the appropriate code expressions either automatically or, in the case of a manual exchange, by the incoming switchboard operator.

3.4.2.4 While a call is established, the subscriber's equipment must be continuously ready to receive signals. Where applicable, the teleprinter motor must rotate continuously for the duration of an established connection.

3.4.2.5 The subscriber's equipment should return its answer-back promptly in response to a **WRU** signal at any stage while the call is established. Nevertheless, following the initial exchange of answerbacks and in accordance with the S-Series Recommendations, a special sequence may be used to inhibit the answerback mechanisms where transfer to another alphabet is desired after call establishment.

3.4.3 Answerback composition

3.4.3.1 The answerback code shall consist of 20 International Telegraph Alphabet No. 2 (ITA2) characters which should include:

- the subscriber's number;
- if required, the machine identity letter or letters;
- optionally, an (abbreviated) name designating the subscriber;
- the telex network identification code, in accordance with the Recommendation F.69, preferably preceded by a space.

3.4.3.2 Preferably, the various parts of the answerback code should be arranged in the order shown in § 3.4.3.1. Nevertheless, if Administrations alter on a network national basis the form of existing answerback codes or open new networks, they must ensure that the answerback code is composed in the form shown above. It should be noted, however, that there are some networks in existence which do not follow the prescribed order shown, and allowance should be made for these in any international relation.