INTERNATIONAL TELECOMMUNICATION UNION

CCITT F.86

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

TELEGRAPH AND MOBILE SERVICES OPERATIONS AND QUALITY OF SERVICE

INTERWORKING BETWEEN THE INTERNATIONAL TELEX SERVICE AND THE VIDEOTEX SERVICE

Recommendation F.86

Geneva, 1991

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.86 was prepared by Study Group I and was approved under the Resolution No. 2 procedure on the 11th of October 1991.

CCITT NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication Administration and a recognized private operating agency.

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Recommendation F.86

INTERWORKING BETWEEN THE INTERNATIONAL TELEX SERVICE AND THE VIDEOTEX SERVICE

1 Introduction

1.1 This Recommendation defines the service requirements and operational procedures for interworking between the international telex service and the videotex service.

1.2 Other relevant Recommendations are:

- F.300 defining videotex service aspects;
- T-Series Recommendations on videotex technical aspects;
- F.60, F.69 and other F-Series Recommendations on the international telex service aspects;
- U-, R- and S-Series Recommendations on switching, terminal and transmission aspects of the telex service;
- U.206 on technical aspects specific to telex/videotex interworking.

2 Service principles

2.1 Interworking is intended to extend the usefulness and accessibility of both services, while ensuring that the Quality of Service perceived by subscribers to either service and within that service is not degraded.

2.2 Interworking between the telex and videotex services shall be provided by means of a telex/videotex conversion facility (VTXCF), the two sides of which comply with the telex and videotex service requirements respectively. The additional service requirements concerning interworking are specified below.

2.3 At least in international relations, the following general principles apply:

a) interworking shall be automatic;

b) in principle, the telex network should be used to provide the international connection; consequently the VTXCF should normally be located in the same country as the videotex service user, as shown in Figure 1/F.86;

c) nevertheless, where bilaterally agreed by the two Administrations concerned, an international videotex connection may be used with the VTXCF in the telex subscriber's country. In that case, arrangements may be needed to cover practical operational aspects such as routing, differing protocols and tariffs.

2.4 Interworking in the telex-to-videotex direction should allow for a message handling.

Telex subscribers should normally limit their messages to a 40 character line length, otherwise the format of the original message cannot always be preserved when presented on the videotex terminal. Where necessary, the VTXCF will automatically adjust the layout to suit the videotex terminal requirements.

Telex subscribers should be made aware that some videotex terminals are not able to provide a hard copy of the message received. The Administration may provide a hard copy delivery service as an additional option.

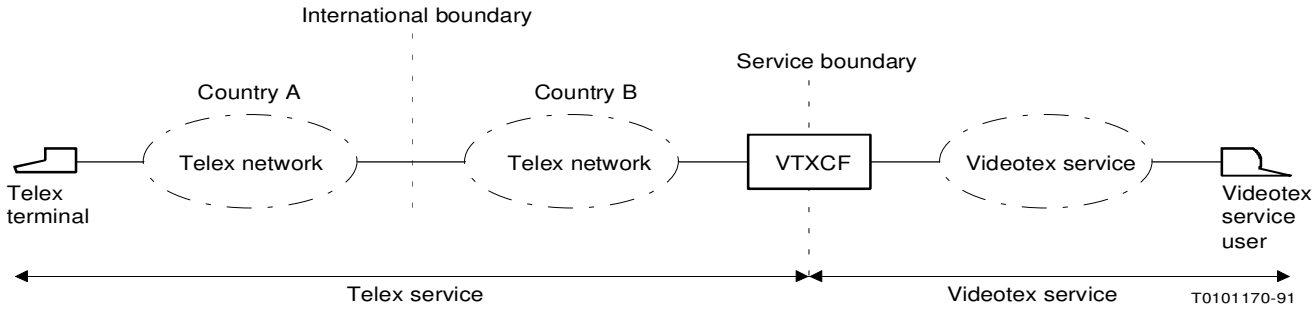


FIGURE 1/F.86

Telex-videotex interworking model

2.5 Interworking in the videotex-to-telex direction shall provide the capability to terminals accessing a videotex service to send messages to terminals of the international telex service. The VTXCF shall handle such messages on a store-and-forward basis.

In order to maintain similarity between the transmitted and received messages, the videotex terminal or user should restrict each message to the character repertoire of International Telegraph Alphabet No. 2, any other characters being converted by the VTXCF to meet the requirements of the international telex service in accordance with Recommendation S.18.

2.6 It is the responsibility of the VTXCF to perform the following conversions, where necessary:

– service procedures;

– transmission rate;

– code;

– line length;

– insertion of the necessary control characters (figure-shift, letter-shift, carriage-return, line feed).

3 Methods of interworking

3.1 Considering:

a) that videotex terminals may have access to public data networks whose numbering plan is defined in Recommendation X.121;

b) that signalling on international telex trunks allows a maximum of 12 digits to be transmitted,

the two following methods of interworking between the telex service and the videotex service can be provided:

i) interworking with one-stage access from the telex subscriber;

ii) interworking with two-stage access from the telex subscriber.

3.2 It is up to the Administration to decide which method can be provided. Administrations should take into account possible implications of the operational procedures to foreign telex subscribers.

3.3 The access method employed by the videotex user to the VTXCF is a national matter.

4 General service requirements for the telex-to-videotex direction

4.1 The complete call in the one-stage selection case and access to the VTXCF in the two-stage selection case should appear to the calling telex subscriber as a normal telex call, apart from the composition of the VTXCF answerback.

4.2 The called videotex address should be validated on each call. The validation procedures applied are a national matter.

4.3 The procedure to be followed should the validation result be negative, i.e. the called videotex address does not exist, or is in a not-ready condition, controlled or otherwise, will depend on whether both the telex network and the VTXCF are operated by the same Administration or not. These procedures are described in §§ 6 and 7.

4.4 The storage capacity of a VTXCF shall be enough to allow a guaranteed message of length of 24000 characters for each call.

4.5 If abnormal conditions occur (see Recommendation U.206, Annex A for details), the VTXCF shall route any message received so far to the videotex address, adding a header with information that the message might be incomplete.

4.6 It is the responsibility of the Administration providing the VTXCF to arrange alternative means of delivery of a message which was not retrieved by the videotex user, either through not logging-in to the service or by not retrieving the message within a reasonable time after storage in the videotex system.

This time period is for further study.

5 General service requirements for videotex-to-telex direction

5.1 The videotex user shall access the VTXCF in accordance with national requirements.

5.2 The message shall appear at the telex terminal as a normal telex message.

5.3 The sender shall always be informed, on request, of the status of each message.

6 Interworking using one-stage selection procedure for the telex-to-videotex direction

6.1 In this case, the videotex subscriber's address shall be registered with the VTXCF for receipt of telex messages and may be assigned a telex number that is part of the national telex numbering plan.

6.2 The call to the videotex address shall require normal telex procedures on the part of the calling telex subscriber.

6.3 The received selection information should be validated as being proper to a registered videotex address. If the validation is successful, the VTXCF should always provide the answerback of the requested videotex address, formatted in accordance with Recommendation F.74. Input of text may then commence.

6.4 If validation of the received selection information is unsuccessful, the procedure to be followed will depend on whether the telex network and the VTXCF are operated by the same Administration.

6.4.1 Where the telex network and the VTXCF are both operated by the same Administration, the VTXCF may return the service signal **NP** and clear in the case of unsuccessful validation. If the validation is successful but the videotex facility addressed is in a not-ready state, the appropriate service signal should be returned by the VTXCF to the originating telex subscriber (**DER**, **ABS** or **OCC**).

6.4.2 Where the telex network and the VTXCF are not provided by the same Administration, the procedures to be followed in the case of an unsuccessful validation should be in accordance with Recommendation F.74.

6.5 Following clearing of the telex connection, text delivery from the VTXCF to videotex should be initiated.

The videotex user should be informed about the presence of a message as soon as he logs-in to this service.

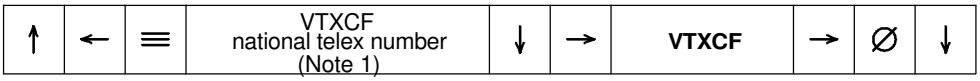
7 Interworking using two-stage selection procedure for the telex-to-videotex direction

7.1 Where it is not possible to assign a telex number to a videotex user and where the total selection information for a videotex user consists of more than 12 digits, two-stage selection must be used.

In this case, the VTXCF should be assigned a telex number which is part of the national telex numbering plan of the country in which the VTXCF is located. The address of the videotex service user should be input in the second stage, the first stage being required to access the VTXCF itself.

7.2 Connection to the VTXCF shall be accomplished using normal telex procedures.

7.3 The format of the VTXCF answerback to be returned in the first stage of selection shall be formatted in accordance with Figure 2/F.86.



∅ Telex network identification code in accordance with Recommendation F.69.

Note 1 – If the national telex number of the VTXCF exceeds 6 or 7 digits, the mnemonic part of the answerback may be reduced to **VTX.** However, this is not recommended and is for further study.

Note 2 – It should be noted that networks exist which use answerback codes which are arranged in an order other than the preferred order as specified in Recommendation F.60.

FIGURE 2/F.86

Format of VTXCF answerback

7.4 The VTXCF should request the answerback of the calling telex subscriber in accordance with Recommendation S.23. The procedures to be followed to determine the calling telex address from the received answerback shall be in accordance with Recommendations U.74 and U.206.

7.5 Following the answerback exchange, the calling telex subscriber should input the required videotex address. The address format shall be in accordance with Recommendation U.206.

7.6 Once the telex subscriber has entered the address, text input may commence. If, after a short delay, input has not commenced and validation of the received videotex address is successful, the VTXCF should return the prompt **GA TEXT**, which can be preceded by other service codes (see Recommendation F.201). If the validation check fails, the VTXCF returns the service signal **NP** and clears.

7.7 An input message acknowledgement (**IMA**) may be returned to the calling telex subscriber following completion of message deposit.

7.8 The reactions to abnormal conditions arising during call set-up or message deposit are described in Recommendation U.206.

8 Interworking in the videotex-to-telex direction for both types, one-stage and two-stage VTXCFs

8.1 The videotex service user may send a message to a terminal of the international telex service in accordance with the principles contained in Recommendation F.300. The method of depositing a message on the part of the videotex service user for delivery to the international telex service is a national matter.

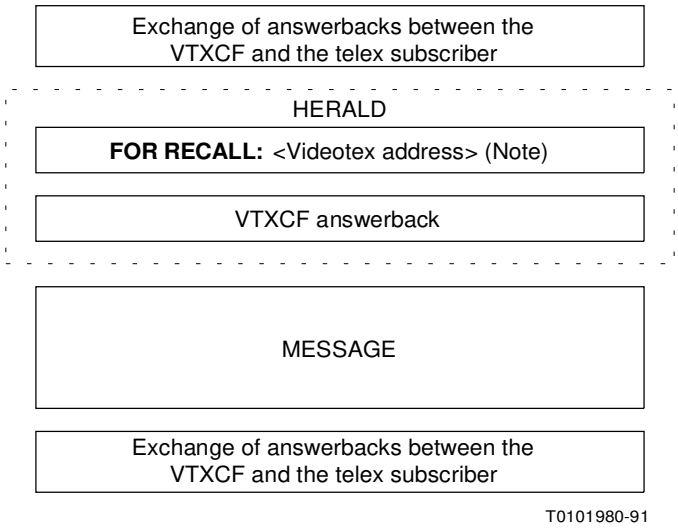
8.2 The VTXCF shall set up the connection to the required telex subscriber in accordance with normal telex procedures. Where validation of the telex recipient has been requested, the received telex answerback shall be verified in accordance with Recommendation U.75 to ensure correct delivery. Should the verification fail, the call attempt shall be deemed unsuccessful. This procedure should be applied at both the beginning and end of the call.

8.3 Having received the called telex answerback, the VTXCF shall forward its answerback to the called telex subscriber in the case of a two-stage VTXCF. Where a one-stage selection procedure is used in the telex-to-videotex direction and the videotex subscriber has been assigned a telex number, the answerback to be forwarded should be that of the registered videotex address. The procedures for answerback exchange shall comply with Recommendation S.23.

8.4 In the particular case of a two-stage VTXCF on the telex side, it is recommended that the VTXCF attach a herald to the text of the message to indicate the source of the message and the recall address. As a minimum, and as shown in Figure 3/F.86, such a herald should include two fields, as follows:

– the recall address, preceded by the text **FOR RECALL**;

– the VTXCF answerback.



Note – The videotex address may be preceded by a sequence indicating the particular videotex service, e.g. **BTX.**

FIGURE 3/F.86

General layout of message sent from a videotex service user to a terminal of the international telex service via a two-stage VTXCF

8.5 The text of the message shall be forwarded to the called telex subscriber in accordance with the code conversion rules laid down in Recommendation S.18.

8.6 Following the end of message, the VTXCF may request the called telex answerback for comparison with the one received at call set-up. If the comparison fails, the delivery is considered to be unsuccessful.

8.7 The procedures to be applied if abnormal conditions occur during delivery of messages in the videotex-to-telex direction shall be in accordance with Recommendation U.206.

8.8 When the first delivery attempt fails, further attempts shall be made in accordance with Recommendation U.40, up to a limit of two hours total.

8.9 If message delivery commences, but is not completed successfully, one further attempt to deliver the complete message is made, preceded by a header such as:

POSSIBLE DUPLICATE MESSAGE

9 Delivery notifications in the videotex-to-telex direction

9.1 The VTXCF should generate notification messages to the videotex user in the following cases:

- successful delivery,
- unsuccessful delivery.

9.2 Notification messages should contain at least the following information:

- message reference number;
- date and time of the notification;
- requested telex address;
- expected/received telex answerback;
- date and time of the telex message delivery;
- charging information, if applicable;
- reason for non-delivery of the telex message, if applicable (e.g. received telex service signal, answerback check failure).

9.3 The format of the notification message and the method of their return to the videotex user is a national matter.