



INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

U.81

(11/1988)

SERIES U: TELEGRAPH SWITCHING

Telex store and forward

**INTERNATIONAL TELEX STORE AND
FORWARD – DELIVERY TO TELEX**

Reedition of CCITT Recommendation U.81 published in
the Blue Book, Fascicle VII.2 (1988)

NOTES

1 CCITT Recommendation U.81 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.81

INTERNATIONAL TELEX STORE AND FORWARD - DELIVERY TO TELEX

(Malaga-Torremolinos, 1984; amended at Melbourne, 1989)

The CCITT,

considering

- (a) that telex store and forward units exist and are being introduced increasingly into national networks;
- (b) that delivery procedures differ significantly between different units;
- (c) that a standard delivery procedure would be desirable for international working,

unanimously declares the view

that the international telex delivery procedure described in this Recommendation should be adopted for all future telex store and forward units.

1 Scope

1.1 This Recommendation outlines procedures for the delivery of international telex messages by a store and forward unit (SFU).

1.2 The Recommendation comprises the following:

1.2.1 Message forwarding procedure.

1.2.2 Delivery re-attempt.

1.2.3 Notification procedure.

1.3 The procedures detailed in this Recommendation specify the minimum requirement that should be provided by the telex SFU.

1.4 The procedures should apply to all classes of message delivery.

1.5 The priority and time of message delivery should be the responsibility of the telex SFU that has accepted the input message for delivery.

In the case of international interworking between telex SFUs, the priority and time of message delivery may be controlled by the originating or destination SFU, subject to bilateral agreement between the Administrations concerned.

1.6 This Recommendation is one of a series which define telex store and forward services. These Recommendations are:

- Recommendation F.72: International telex store and forward – General principles and operational aspects.
- Recommendation U.80: International telex store and forward – Access from telex.
- Recommendation U.81: International telex store and forward – Delivery to telex.
- Recommendation U.82: International telex store and forward – International interconnection of telex store and forward units.

2 Definitions

2.1 The term **delivery of messages** applies to the forwarding of messages input into a telex SFU by an originating telex subscriber to a destination telex subscriber over an international telex network.

2.2 The term **notification** applies to the forwarding of an advice of delivery/non-delivery of a message to the originating telex subscriber over an international telex circuit.

3 Telex message forwarding procedures

3.1 The sequence of the message forwarding procedure components are illustrated in Figures 1/U.81 and 2/U.81.

3.2 The components of message forwarding procedures are as follows:

3.2.1 *Call set-up*

Call set-up is the establishment of a connection by an SFU over the telex network up to and including the receipt of the call connect signal.

In the event of an unsuccessful call set-up attempt, action shall be taken in accordance with § 5.

3.2.2 *Called subscriber answerback validation*

3.2.2.1 To ensure security of delivery the answerback of the called subscriber should be compared with the anticipated answerback of the called subscriber, if supplied by the originating telex subscriber.

3.2.2.2 The evaluation procedure is given in Recommendation U.75.

3.2.3 *Store and forward unit identification*

The telex SFU identification shall comprise:

- the service code CI,
- an indication that the call is from a telex SFU,
- the date and time of transmission (optional).

3.2.4 *Message identification*

The telex SFU should transmit to the called subscriber a message identification sequence comprising:

- a) the message reference as allocated and advised to the originating subscriber at the time of input of the telex message for onward delivery;
- b) the date and time of message input as issued to the originating telex subscriber in accordance with Recommendation U.80.

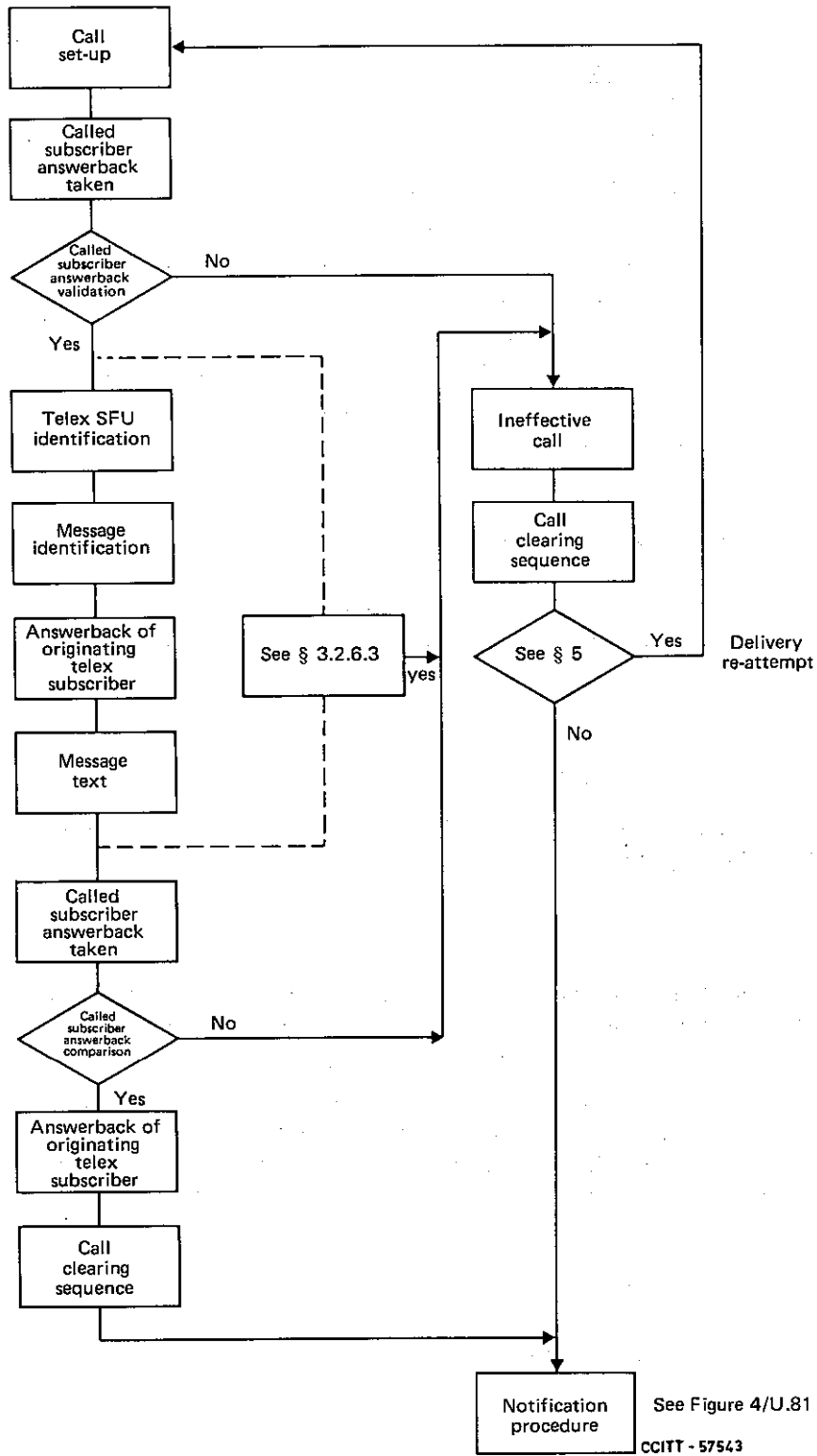
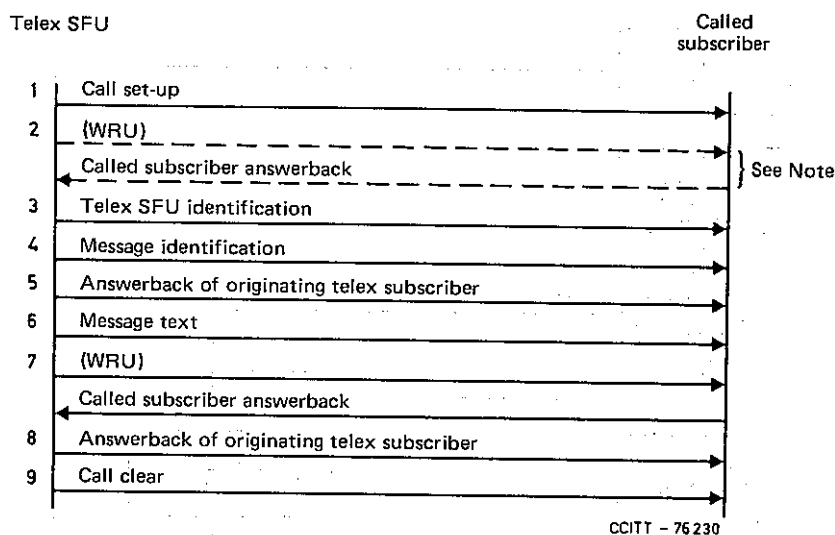


FIGURE 1/U.81

Telex message forwarding procedure



Note — Optional answerback capture if not available from Step 1.

FIGURE 2/U.81

Sequence of events for telex message forwarding procedure

3.2.5 Answerback of originating telex subscriber

The telex SFU shall transmit to the called subscriber the answerback of the originating subscriber as received at the time of message input.

3.2.6 Message text

3.2.6.1 The telex SFU should transmit to the called subscriber any message header information together with the stored message in the format in which it was originated by the calling subscriber.

3.2.6.2 The EOM/EOT separators and WRU shall not be transmitted.

3.2.6.3 If any signal is received on the backward path during the message text delivery, transmission of the message text shall be stopped for 2 seconds. If during that time further signals or a clearing condition is received, the call shall be cleared and the message delivery deemed unsuccessful, and action taken in accordance with § 5.4. If no further signals are seen on the backward path during that time, transmission of the message text shall be resumed.

3.2.7 Called subscriber answerback comparison

3.2.7.1 The answerback of the called subscriber shall be taken and compared with that received at the start of message delivery.

3.2.7.2 In the event of a mismatch of answerbacks, the answerback of the called subscriber shall be taken once again, and if there is a match with that received at the start of message delivery, the delivery of the message shall be deemed successful. If there is a second mismatch, the delivery of the message shall be considered as unsuccessful, and further delivery attempts shall be made in accordance with § 5.4.

3.2.8 Answerback of originating telex subscriber

The answerback of the originating subscriber, as per § 3.2.5, shall then be sent to the called subscriber.

3.2.9 Call clearing sequence

The SFU should clear the call using normal telex clearing procedures.

4 Notification procedures

4.1 General

4.1.1 The advice of non-delivery shall be provided. It should preferably include the list of addresses rejected at the time of address validation.

4.1.2 The advice of delivery over an international telex circuit may be provided subject to bilateral agreement between the Administrations concerned.

4.1.3 Information concerning delivery/non-delivery of messages should be stored and kept available for enquiries from the originator for a pre-defined period of at least 72 hours.

4.1.4 Notification of message delivery/non-delivery may be on a "per message" or "per address" basis.

This Recommendation assumes that notification will be returned on a "per message" basis.

The provision of a periodic (e.g. daily) notification or journal shall be considered an acceptable form of notification. For a typical, acceptable journal format see Figure 3/U.81.

4.2 The sequence of notification forwarding procedure components are illustrated in Figures 4/U.81 and 5/U.81.

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✱
421000Z UIT CH
CI SFU CH
TO: 421000 UIT CH
HERE IS YOUR JOURNAL FOR 28 APR 1983

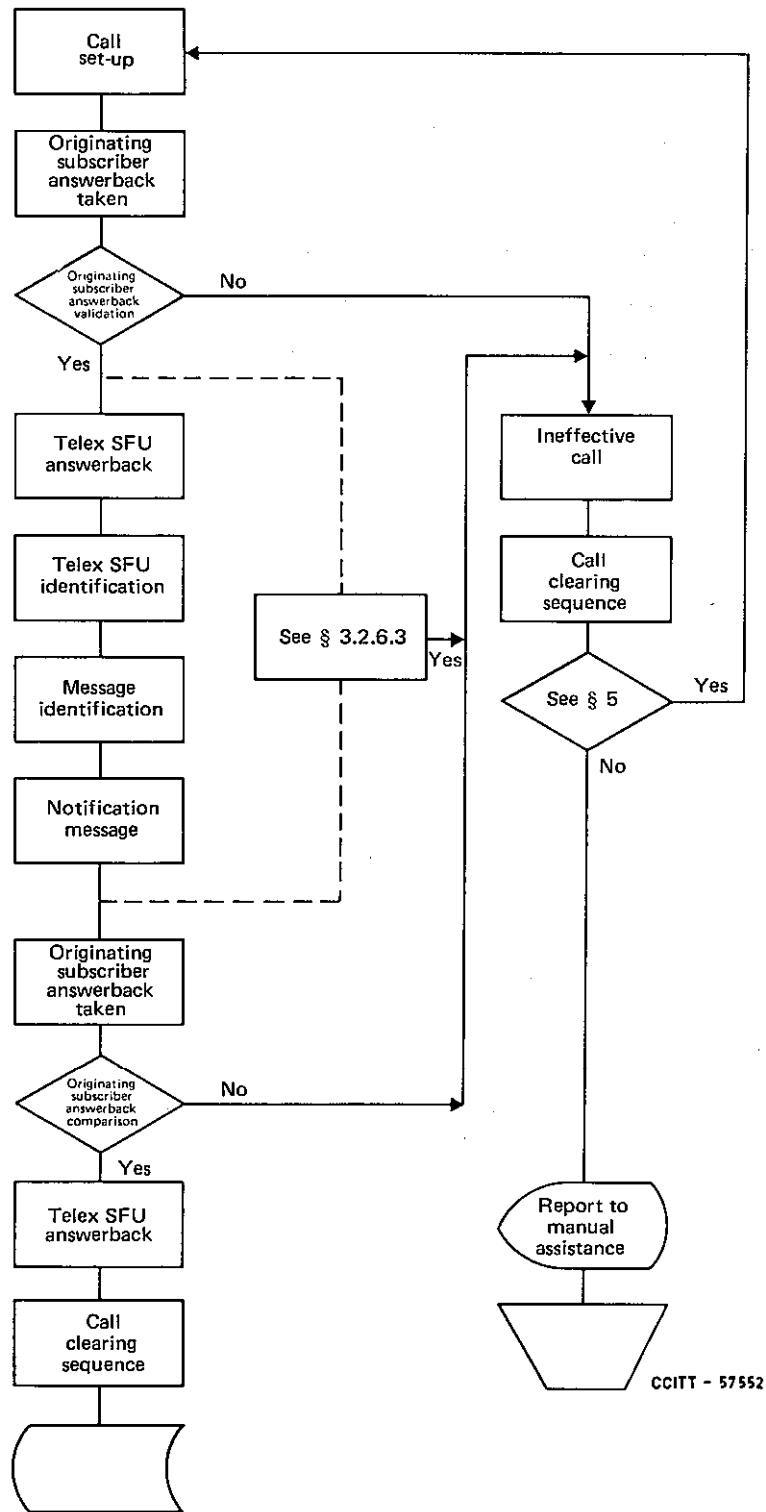
REF          CALLED          ANSWERBACK          TOD          DURATION
12345        080271666                71666 HKTEL HX      1005          3.1
12987        051261848                261848 THQPH G      1043          2.1
36365        07222500                 KDD TOKYO J22500    1240          1.8
36365        0230652464              TRANS A LSA          1240          1.9
36365        02105827847             CDN MARCO MTL        2045          1.8
36365        423635                   423635 HERTZ CH     -ABW          CANCELLED
41696        07514899                 14899 CWI HQ PS     1633          6.0
89635        090522222                -ABS                 PENDING
89777        023232323                232323 RCAEX UR     1731          1.6
89900        02105566412             -DER                 CANCELLED

TOTAL MINS                                     18.3

TOD 1983 04 29 0401

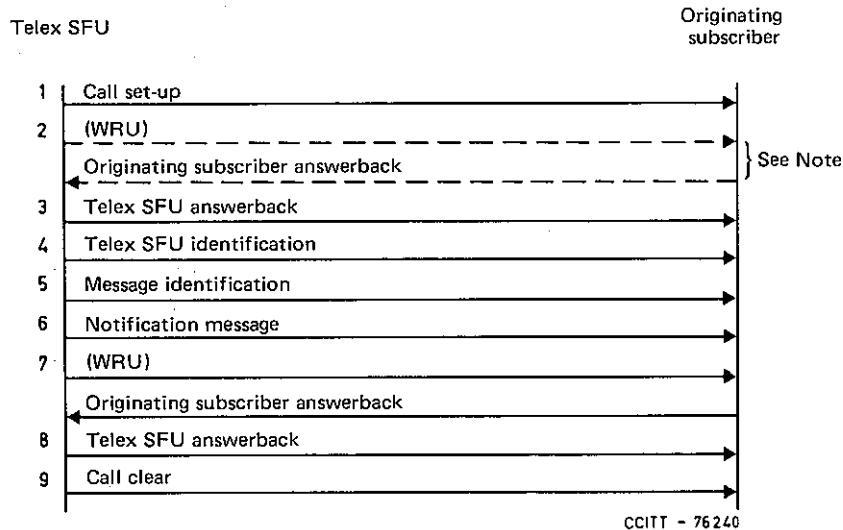
SFU CH ✱
421000Z UIT CH
```

FIGURE 3/U.81
Typical journal format



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FIGURE 4/U.81
Notification procedure



Note – Optional answerback capture if not available from Step 1.

FIGURE 5/U.81
Sequence of events for notification procedure

4.3 The components of notification forwarding procedure are as follows:

4.3.1 *Call set-up*

The call set-up should be in accordance with § 3.2.1.

4.3.2 *Originating subscriber answerback validation*

4.3.2.1 To ensure security of delivery of the notification, the answerback of the originating telex subscriber is taken and compared with the answerback taken from the subscriber at the time of message input.

4.3.2.2 The evaluation procedure is given in Recommendation U.75.

4.3.3 *Store and forward unit answerback*

The answerback of the telex SFU shall be transmitted to the called subscriber.

4.3.4 *Store and forward unit identification*

The telex SFU identification shall be transmitted as per § 3.2.3.

4.3.5 *Message identification*

The telex SFU shall transmit to the called subscriber the message identification sequence issued at the time of input of the message.

The format of the message identification should be in accordance with § 3.2.4.

4.3.6 *Notification message*

The notification advice may comprise for each applicable address of a single or multi-address message the following:

(See Figure 6/U.81 for example of suggested format.)

Example of Delivery Advice

5519751	19751 MIPEN DK	Address – Expected A/B
DELIVERED	19751 MIPEN DK	Advice – Received A/B
18:00	01M 20S	Time of Delivery – Duration

Example of Non-Delivery

5519751	19751 MIPEN DK	Address – Expected A/B
NOT DELIVERED		Advice – Received A/B (See Note)
OCC	4	Reason – No. of Attempts.

Note – Only used if incorrect answerback is reason for non-delivery.

FIGURE 6/U.81

4.3.6.1 *Non-delivery advice*

- selection information (telex address)
- expected answerback (as provided at message input)
- notification, i.e. “NOT DELIVERED”
- received answerback (if applicable)
- reason for non-delivery
- number of attempts.

4.3.6.2 *Delivery advice*

- selection information (telex address)
- expected answerback (as provided at message input)
- notification, i.e. “DELIVERED”
- received answerback
- date and time of delivery
- duration of call.

4.3.7 *Called subscriber answerback validation*

4.3.7.1 Answerback comparison of the called subscriber shall be in accordance with § 3.2.7.

4.3.8 *Telex SFU answerback*

The answerback of the SFU shall be transmitted to the called subscriber.

4.3.9 *Call clear*

The calling telex SFU should clear the call using normal telex procedures.

5 **Delivery re-attempt procedures**

5.1. The principles of Recommendation U.40 shall be applied for all delivery/notification re-attempt requirements.

5.2. If the service signal RDI or NCH is received during call set-up more than once in any one message delivery/notification attempt cycle, the message shall be considered undeliverable.

5.3 *Recorded message from called subscriber*

5.3.1 If the recorded message is followed by clear, the message shall be considered undeliverable.

5.3.2 Action to be taken by the telex SFU if the recorded message is not followed by clear, needs further study.

5.4 In the failure of an established connection per cases mentioned in § 3.2.6.3 or 3.2.7.2 above, one further attempt to deliver the message may be made after an interval of at least 3 minutes; in this case the message text shall be preceded by POSSIBLE DUPLICATE MESSAGE.

5.5 The action to be taken when a notification cannot be delivered should be the responsibility of the Administration offering the telex SFU service and is a national matter.

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