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OF ITU

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TELEGRAPH SWITCHING INTERNATIONAL TELEX SERVICE

INTERWORKING BETWEEN THE TELETEx SERVICE AND THE INTERNATIONAL TELEX SERVICE

ITU-T Recommendation U.201

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T 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 World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation U.201 was revised by the ITU-T Study Group IX (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

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

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Recommendation U.201**INTERWORKING BETWEEN THE TELETEx SERVICE
AND THE INTERNATIONAL TELEX SERVICE¹⁾***(Melbourne, 1988; revised Helsinki, 1993)***1 Introduction**

1.1 This Recommendation defines the procedures to be followed for interworking between the Teletex service and the international telex service.

1.2 This Recommendation is one of the series which define interworking between the telex service and the Teletex service.

The other Recommendations are:

- a) Recommendation F.200 *Teletex service.*
- b) Recommendation T.390 *Requirements for interworking with the telex service.*
- c) Recommendation F.201 *Interworking between the Teletex service and the telex service – General principles.*

2 Basic interworking service**2.1 Types of interworking**

2.1.1 Interworking between the Teletex service and the telex service consists of two directions:

- a) the telex to Teletex direction;
- b) the Teletex to telex direction.

2.2 Methods of interworking**2.2.1 considering:**

- a) that the Teletex service can be provided upon various networks (see 2/F.200);
- b) that an Administration²⁾ can provide the Teletex service on more than one network (e.g. PSTN and PSPDN, etc.);
- c) that the technical constraints of the existing networks (e.g. numbering plans, etc.),

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

- i) interworking with one-stage selection;
- ii) interworking with two-stage selection.

2.2.2 The service requirements of each method are described in Recommendation F.201.

¹⁾ Throughout this Recommendation, the term "telex" should be interpreted as referring exclusively to "the international telex service", as described in Recommendations F.59 and F.60.

²⁾ Or a recognized private operating agency.

3 Telex access to a conversion facility (CF)

3.1 One-stage selection

Recommendation F.201 describes the service principles for this method of interworking.

3.1.1 Access from a manual telex terminal

Interworking in the telex to Teletex direction using one-stage selection, in case of manual terminals, is described in Figure 1 and associated Notes.

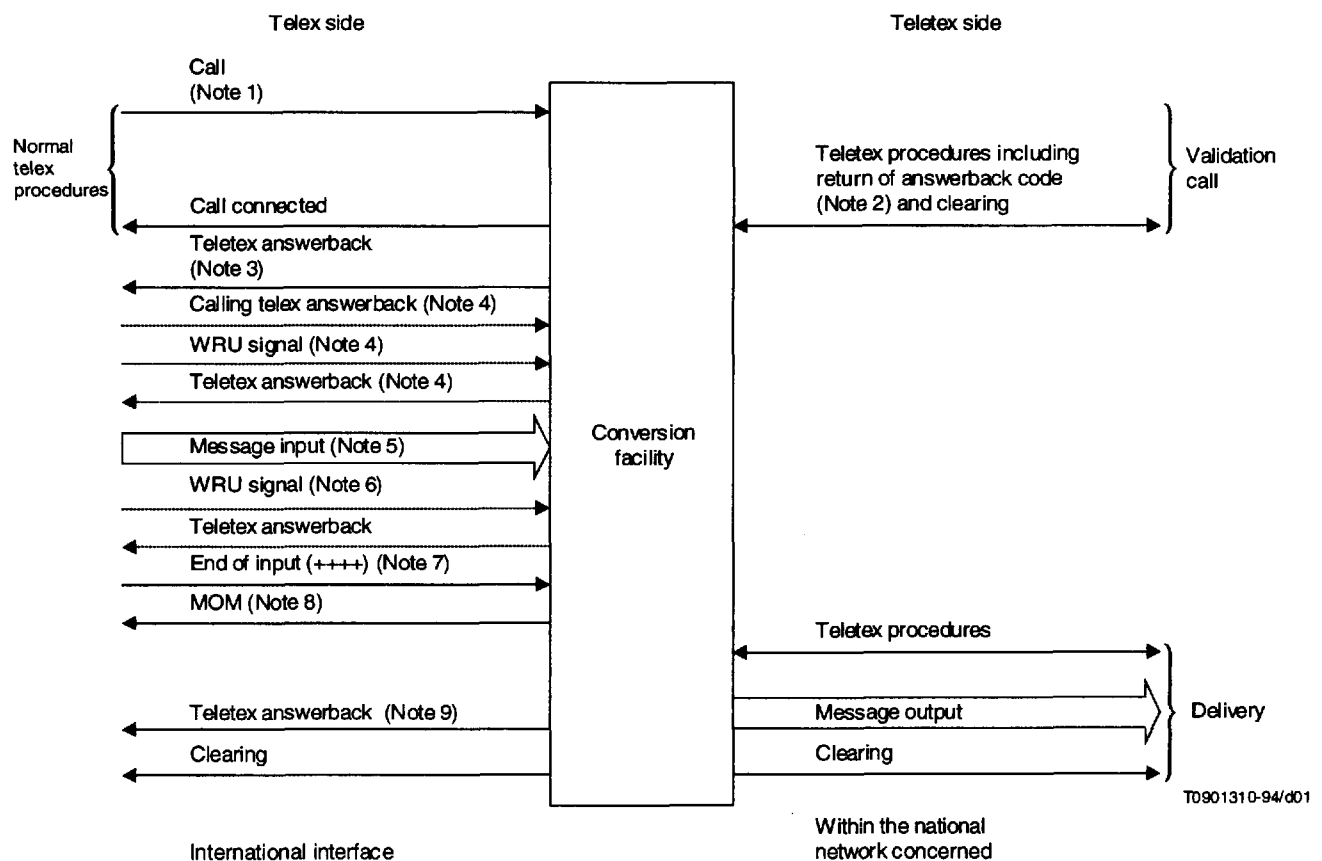


FIGURE 1/U.201
Interworking in the telex-to-Teletex direction
using one-stage selection procedure
(case of manual telex)

Notes relative to Figure 1:

- 1 The total selection information should not exceed 12 digits.
- 2 See Recommendations T.390 and U.70. If the validation call is unsuccessful, the appropriate service signal in accordance with Recommendation U.70 should be returned to the calling telex subscriber followed by the clear signal.
- 3 The Teletex answerback sent to the telex subscriber is a rearranged Teletex terminal identification, as follows:

$\downarrow \leftarrow \equiv$	Part 2 of TTX-id	$= \left(\downarrow \text{Part 4 of } \right)$ TTX-id	$[\downarrow] \rightarrow \emptyset$
1 1 1	Up to 12		Up to 4
	Up to 15		
20 characters			

where:

“TTX-id” is for Teletex terminal identification according to Figure 2/F.200.

$\emptyset$ is the telex network identification code as provided in Recommendation F.69.

[] indicate an optional part or signal.

- i) $[\downarrow]$ before “ $\rightarrow \emptyset$ ” does not exist if Part 4 of TTX-id is included.
- ii) Part 2 of TTX-id has the same definition as given in 7.5.4/F.200.
- iii) Part 4 of TTX-id, whenever included, has the same definition as given in 7.5.6/F.200 *but* the minimum of letters could be reduced to one (instead of three);
- iv) The length of the Teletex answerback is set to 20 characters, the eventual unused positions are filled with “ $\downarrow$ ” according to Recommendation F.60.
- v) As far as possible, the mnemonic part is included in the Teletex answerback.

Examples of TTX-A/B:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$\uparrow$	$\leftarrow$	$\equiv$	6	1	5	1	9	1	7	=	$\downarrow$	F	T	Z	$\downarrow$	$\downarrow$	$\downarrow$	$\rightarrow$	O
$\uparrow$	$\leftarrow$	$\equiv$	1	2	3	4	5	6	7	8	9	10	11	12	=	$\downarrow$	$\rightarrow$	N	L
$\uparrow$	$\leftarrow$	$\equiv$	1	2	3	4	5	6	7	8	=	$\downarrow$	M	N	E	M	O	$\rightarrow$	F

4 The CF shall accept the possible occurrence of an extra WRU signal at this stage. The answerback returned by the CF is the Teletex answerback obtained during the validation call. (See Note 3.) Additionally, the CF shall accept the possible receipt of the answerback of the calling telex subscriber at this stage, either before the WRU signal described here or following transmission or the Teletex answerback.

- 5 The CF shall wait at least 15 seconds for the message input. See Annex A for abnormal conditions during text input.
- 6 i) This procedure is recommended but not mandatory. (See Recommendation F.60.)
- ii) The answerback returned by the CF is the Teletex answerback obtained during the validation call. (See Note 3.)
- 7 i) The end of input (EOI) signal is the plus symbol (ITA No. 2 combination No. 26 Figure shift mode) repeated four times (+ + + +). This EOI signal need not be transferred to the Teletex side.
- ii) If the caller clears without the EOI signal, the network will endeavour to deliver the message as received. However, customers must be clearly warned that the network cannot guarantee delivery in these circumstances.
- 8 i) The CF shall wait 800 ms for WRU signal after EOI. If no WRU signal is received within this period, the terminal is considered as a manual one. A MOM signal is then sent by the CF at each call attempt. If a WRU signal is sent by the telex terminal within this period the terminal is considered as a telex automatic emitting device.
- ii) When the EOI signal is received, the conversion facility shall immediately establish the delivery call to the Teletex terminal. In the case of unsuccessful calls on the PSPDN and CSPDN, the conversion facility shall make several attempts with five-second intervals measured from the end of one attempt to the beginning of the next. At each attempt, the MOM signal followed by service signals defined in Recommendation U.70, if appropriate, shall be sent to the waiting telex terminal. As a whole, the telex line is not to be held for a period exceeding 30 seconds. If all these attempts are unsuccessful, the conversion facility shall send the service message $ITL \rightarrow TTX \rightarrow \emptyset$ (ITL – I'll transmit later) to the waiting telex terminal and clear down. It shall then be the responsibility of the Administration operating the conversion facility to effect delivery of the message by whatever means are available.

9 This answerback returned by the CF is the Teletex answerback obtained during the delivery call to the Teletex terminal and having the same format and content as described in Note 3. This answerback is an “on-line” delivery acknowledgement for the telex user.

3.1.2 Access from a telex automatic emitting device (TAED)

Interworking on the telex to Teletex direction, using one-stage selection, in case of TAEDs is described in Figure 2 and associated Notes.

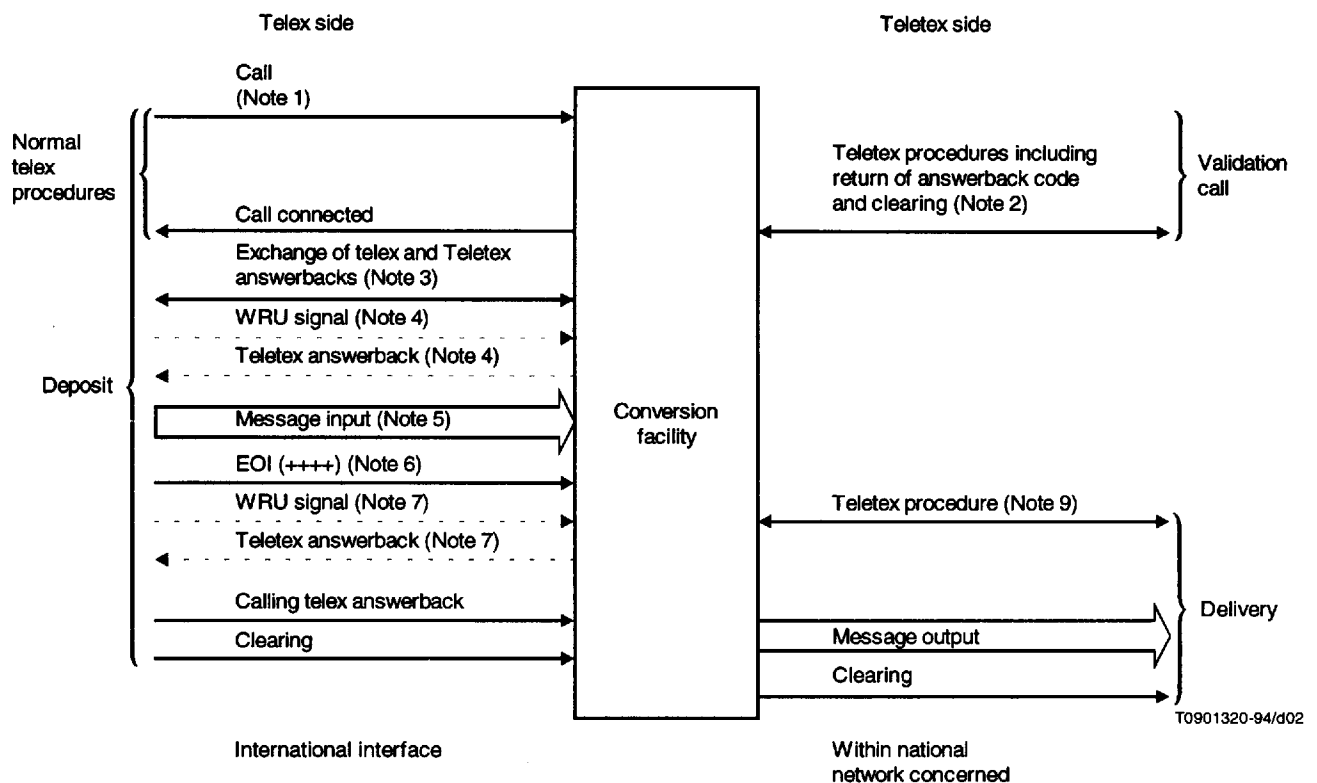


FIGURE 2/U.201

**Interworking in the telex-to-Teletex direction
using one-stage selection procedure
[case of Telex Automatic Emitting Devices – (TAEDs)]**

Notes relative to Figure 2:

Remark – Taking into account that most of the Notes related to the two figures are similar, the Notes related to Figure 2 only emphasize the differences from Notes to Figure 1.

NOTES

1 to 5 Identical to Notes of Figure 1.

6 Same as Note 7, Figure 1.

7 i) The CF shall wait 800 ms for WRU signal after EOI. The terminal is considered a telex automatic emitting device (TAED) if a WRU signal is sent within this period.

The answerback returned by the CF is the Teletex answerback obtained during the validation call (see Note 3) to confirm that the connection still exists. It is not a proof of delivery.

No progress signal (e.g. MOM, ITL → TTX → Ø) will be returned by the CF to the telex automatic emitting device after the EOI signal.

ii) When the EOI signal is received, the CF should establish immediately a delivery call to the Teletex terminal.

8 The CF shall make several attempts with five-second intervals measured from the end of each attempt to the beginning of the next. It is the responsibility of each Administration operating the conversion facility to effect the delivery of the message by whatever means are available.