



INTERNATIONAL TELECOMMUNICATION UNION

# CCITT

THE INTERNATIONAL  
TELEGRAPH AND TELEPHONE  
CONSULTATIVE COMMITTEE

# S.20

(11/1988)

SERIES S: TELEGRAPH SERVICES TERMINAL  
EQUIPMENT

Start-stop terminals

---

## AUTOMATIC CLEARING PROCEDURE FOR A TELEX TERMINAL

Reedition of CCITT Recommendation S.20 published in  
the Blue Book, Fascicle VII.1 (1988)

---

## NOTES

1 CCITT Recommendation S.20 was published in Fascicle VII.1 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 S.20

### AUTOMATIC CLEARING PROCEDURE FOR A TELEX TERMINAL

(Geneva, 1980; amended at Melbourne, 1988)

The CCITT,

*considering*

- (a) that new equipment should be capable of automatic performance of functions that would normally require an operator;
- (b) that those operator functions that involve repetitive work or idle waiting on the part of an operator should be considered most immediately for automation of a terminal;
- (c) that one of the most straightforward operator functions that could benefit from automatic assistance is the clearing of a call;
- (d) that conditions for automatic establishments of calls are laid down in Recommendation U.40 [1] whereas this Recommendation assumes that an operator is present to initiate the calling condition,

*unanimously recommends*

that the following procedure should be adopted for new equipment to assist operators by automatically providing a clearing down procedure following automatic transmission of a message.

- 1** The activation of this automatic procedure should be under the control of the operator, so that either manual control, or automatic control, can be selected according to the requirements of a particular call.
- 2** It is assumed that connection to the desired subscriber has already been established, and that the correctness of this connection has been confirmed by examination of the answer-back sequence received from the called subscriber.
- 3** It is also assumed that the message to be transmitted is ready for release to line via the automatic transmitter.
- 4** The subsequent procedure may be described as a series of steps as follows:
  - a) Operate the special control that initiates the following automatic transmission and clearing procedure.
  - b) (Optional, according to national requirements). The equipment transmits a WRU signal in order to obtain a sample of the answer-back sequence of the called subscriber. This sequence is stored for subsequent checking.

*Note* – If step b) is not implemented it may be desirable to modify the subsequent procedure. For example, step h) may also be eliminated, with corresponding changes to step g) and step k). Also, if this check procedure is not considered to be necessary, it may be desirable to reduce the period of alarm in step m) to less than 30 seconds before the terminal automatically clears the call.
  - c) Automatic transmission is started.
  - d) At any time, automatic transmission may be stopped by either the detection of incoming teleprinter signals or the forced clearing of the call. In the latter case an alarm should be given and then the call should be re-established by the operator. However, if the connection is still established but the automatic transmission has stopped, an alarm should be given to the operator. If the alarm is cleared by the operator within 30 seconds, proceed to step n) else step m). Automatic transmission may be resumed after a delay of 1 second. If the transmission includes a TDM system with loop back facilities, (refer to Recommendation R.101, § 3.6.2 b)), this condition may continue for a period of 5 to 7 seconds.
  - e) The end of automatic transmission is detected locally by the tape-out contacts of the tape reader, or by the recognition of the transmission of an end of message pattern or by other means arranged within the terminal.
  - f) The terminal then automatically transmits the combinations No. 30 (figure-shift) and No. 4 (WRU) and awaits reception of the called subscriber's answer-back.

- g) If the called subscriber's answer-back is received in less than six seconds the terminal immediately follows it by step h), otherwise it proceeds to step k).
- h) If the received answer-back code is the same as the stored answer-back (step b) the terminal makes step i), otherwise it proceeds to step l).
- i) The terminal transmits its own answer-back signal.
- j) A clearing signal is initiated, and maintained until a clear confirm signal is recognized. This is followed by assumption of the free line condition.
- k) If the called subscriber's answer-back is not received within six seconds, or if it differs in more than one character from that stored in step b), then step f), the transmission of figure-shift and WRU is repeated once more. If this results in the reception of a called subscriber's answer-back that is identical with that stored in step b), then the terminal proceeds to step i), otherwise to step l).
- l) An alarm is operated to attract an operator's attention. This alarm may be the same as that used for combination No. 10 (Bell) or it may be a separate alarm provided for the purpose.
- m) If the operator does not cancel the alarm and restore manual control of the terminal functions within 30 seconds, the terminal moves to step i), sending its own answer-back and automatically clearing the call.
- n) Having waited for a period of at least 7 seconds from the commencement of the alarm, the operator should send carriage return, line feed then a WRU signal. This delay is necessary to allow TDM systems with loop back to restore to normal or choose an alternative bearer (refer to Recommendation R.101, § 3.6.2 b)). If the called party's answer back is correctly received, the tape should be reset after giving a further carriage return and line feed.

Automatic transmission can again be started.

**5** Clearing of a broadcast call shall be in accordance with Recommendation U.44.

#### **Reference**

- [1] CCITT Recommendation *Reactions by automatic terminals connected to the telex network in the event of ineffective call attempts or signalling incidents*, Rec. U.40.



## ITU-T RECOMMENDATIONS SERIES

Series A	Organization of the work of the ITU-T
Series B	Means of expression: definitions, symbols, classification
Series C	General telecommunication statistics
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	TMN and network maintenance: international transmission systems, telephone circuits, telegraphy, facsimile and leased circuits
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	Switching and signalling
Series R	Telegraph transmission
<b>Series S</b>	<b>Telegraph services terminal equipment</b>
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks and open system communications
Series Y	Global information infrastructure and Internet protocol aspects
Series Z	Languages and general software aspects for telecommunication systems