INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.127

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

SPECIFICATIONS OF SIGNALLING SYSTEM No. 4

RELEASE OF REGISTERS

ITU-T Recommendation Q.127

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation Q.127 was published in Fascicle VI.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 Q.127

4.4 RELEASE OF REGISTERS

4.4.1 *Outgoing register*

4.4.1 (1) *Normal release conditions*

The outgoing register shall release in either of the following two cases:

Case 1 - The register has sent forward all the numerical signals *and* has received a local sending-finished signal from the outgoing operator indicating that there are no more digits to follow.

Case 2 - The register has received:

- either a number-received signal from the incoming international exchange indicating that all the digits comprising the complete national number have been received;
- or a busy-flash signal (this assumes that a busy-flash signal does not initiate re-routing[1)] .

4.4.1 (2) *Abnormal release conditions*

Arrangements should be made at the outgoing exchange for the possibility of releasing the outgoing register when any one of the following conditions arises:

1) With semi-automatic operation if, after a delay of 10 to 20 s from the seizure of the register or the receipt of the last digit, no further digit or local sending-finished signal is received.
2) With automatic operation if, after a delay of 15 to 30 s from the seizure of the register or the receipt of the last digit, the register is in one of the following conditions:
   - seized, but no further digit received from the calling subscriber;
   - not all the digits necessary to determine the routing received;
   - correct number of digits to determine the routing received, but no further digit from the calling subscriber;
   - no busy-flash or a number received signal has been received although the complete national (significant) number or part of it has been sent.

In the first two cases, a shorter delay may nevertheless be adopted by certain Administrations.

In the last two cases, release of the outgoing register is made to accompany release of the international circuit by sending the clear-forward signal.

The method of indicating the above normal conditions to the calling subscriber will depend on the practice followed in the various countries: a tone may be sent or, better, a recorded announcement will ask the caller to recommence his call after having checked the number to be dialled. (See also Recommendations Q.116 and Q.118.)

The delay of 15 to 30 s provided for in the above conditions is considered sufficient to cover the maximum period for receiving a number-received signal under the most unfavourable conditions.

a) Numerical information received for which no routing has been provided.
b) Proceed-to-send signal or busy-flash signal not received within:
   - 10 to 30 s following the sending of a seizing signal;
   - 15 to 30 s following the sending to a transit centre of the digits necessary to determine the routing.
c) An acknowledgement signal not received with 5 to 10 s following the sending of a digit.
d) More than the appropriate number of transit proceed-to-send signals is received (see Recommendation Q.112, § 2.1.2, for the maximum number of circuits switched in tandem).

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1) See definition of "re-routing" in Recommendation E.170 (Recommendation Q.12).

In the various cases mentioned above, an appropriate indication should be given to the operator or calling subscriber.

4.4.2 *Transit register*

4.4.2 (1) *Normal release conditions*

The transit register shall release as soon as it has selected an outgoing circuit and sent forward a seizing signal on the circuit.

However, a different procedure may be used, in which release of the register is delayed until either a proceed-to-send signal or a busy-flash signal, is received from the next exchange. It may be judged more convenient to make use of the transit register when it is desired to give an alarm to show that a proceed-to-send signal has not been received. In this case, the circuit should be switched to the speech condition in both directions of transmission immediately following the operations mentioned above so as to allow the proceed-to-send signal and the following numerical signals to pass through the transit exchange.

If there is outgoing congestion from the transit exchange, the register will release after it has returned a busy-flash signal, and made connection to a recorded announcement.

4.4.2 (2) *Abnormal release conditions*

The transit register will release *without returning any signal* under either of the following conditions:

a) the digits necessary for determining the routing not received within 5 to 10 s following the sending of a proceed-to-send signal to the outgoing exchange;

b) numerical information received for which no routing has been provided.

On the other hand, if release of the transit register is deferred until a proceed-to-send signal is received, in accordance with the alternative method mentioned in § 4.4.2.1, it will release if a proceed-to-send signal or busy-flash signal is not received within 10 to 30 s following the sending of a seizing signal to the next exchange.

4.4.3 *Incoming register*

4.4.3 (1) *Normal release conditions*

The incoming register will release when all the numerical information necessary to set up the connection in the incoming country has been sent and after a number-received signal has been returned over the international circuit. The register will determine when the complete national (significant) number has been received under the conditions defined in Recommendation Q.120, § 1.5.5.

If the incoming register finds that there is congestion within or outgoing from the incoming international exchange, it will release after returning a busy-flash signal.

4.4.3 (2) *Abnormal release conditions*

The incoming register will release if any one of the following three conditions occurs:

a) No further digit is received after a delay of 30 to 60 s from receipt of the last digit and it is not possible to determine by one of the methods described in § 1.5 of Recommendation Q.120 that the number which is received is a complete number.

b) No digit is received within 5 to 10 s following the return of a proceed-to-send signal.

c) A number is received for which no routing exists, or an incomplete number is received followed by an end-of-pulsing signal (code 15).

In cases a) and b), no signal is returned because the outgoing register remains in circuit and can itself detect any abnormal condition in the establishment of the call.

In case c), before the incoming register releases, a number-received signal will be returned, followed, if possible, by a recorded announcement, a number-unobtainable tone or by the intervention of an interception operator.