INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.254

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

SPECIFICATIONS OF SIGNALLING SYSTEM No. 6

DEFINITION AND FUNCTION OF SIGNALS

TELEPHONE SIGNALS

ITU-T Recommendation Q.254

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation Q.254 was published in Fascicle VI.3 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.254[1)]

2.1 TELEPHONE SIGNALS

Signals concerning a particular call or a particular speech circuit.

2.1.1 **address signal**

A call set-up signal sent in the forward direction containing one element of information (digit 1, 2, ... 9 or 0, code 11 or code 12) about the called party's number or the end-of-pulsing (ST) signal.

For each call, a succession of address signals is sent.

2.1.2 **country-code indicator**

Information sent in the forward direction indicating whether or not the country code is included in the address information.

2.1.3 **nature-of-circuit indicator**

Information sent in the forward direction about-the nature of the circuit or any preceding circuit(s) already engaged in the connection:

- *satellite circuit,* or
- *no satellite circuit.*

An international exchange receiving this information will use it (in combination with the appropriate part of the address information) to determine the nature of the outgoing circuit to be chosen.

2.1.4 **echo suppressor indicator**

Information sent in the forward direction indicating whether or not an outgoing half-echo suppressor is included in the connection.

2.1.5 **calling-party's-category indicator**

Information sent in the forward direction about the *category of the calling party* and, in case of semi-automatic calls about the *service language* to be spoken by the incoming, delay and assistance operators.

The following categories are provided:

- operator,
- ordinary calling subscriber,
- calling subscriber with priority,
- data call,
- test call.

2.1.6 **end-of-pulsing (ST) signal**

An address signal sent in the forward direction indicating that there are no more address signals to follow.

---

1) Some section numbers have been reserved for future use.

2.1.10 **continuity signal**

A signal sent in the forward direction indicating continuity of the preceding No. 6 speech circuit(s) as well as of the selected speech circuit to the following international exchange, including verification of the speech path across the exchange with the specified degree of reliability.

2.1.12 **switching-equipment-congestion signal**

A signal sent in the backward direction indicating the failure of the call set-up attempt due to congestion encountered at international switching equipment.

2.1.13 **circuit-group-congestion signal**

A signal sent in the backward direction indicating the failure of the call set-up attempt due to congestion encountered on an international circuit group or on the outgoing links of a terminal international exchange.

2.1.14 **national-network-congestion signal**

A signal sent in the backward direction indicating the failure of the call set-up attempt due to congestion encountered in the national destination network (excluding the busy condition of the called party's line(s)).

2.1.15 **address-incomplete signal**

A signal sent in the backward direction indicating that the number of address signals received is not sufficient for setting up the call. This condition may be determined in the incoming international exchange (or in the national destination network):

- immediately after the reception of an ST signal, or
- on time-out after the latest digit received.

2.1.16 **address-complete signal, charge**

A signal sent in the backward direction indicating that all the address signals required for routing the call to the called party have been received, that no called-party's-line-condition signals (electrical) will be sent, and that the call should be charged on answer.

2.1.17 **address-complete signal, no charge**

A signal sent in the backward direction indicating that all the address signals required for routing the call to the called party have been received, that no called-party's-line-condition signals (electrical) will be sent, and that the call should not be charged on answer.

2.1.18 **address-complete signal, coin-box**

A signal sent in the backward direction indicating that all the address signals required for routing the call to the called party have been received, that no called-party's-line-condition signals (electrical) will be sent, that the call should be charged on answer, and that the called number is a coin (box) station.

2.1.19 **address-complete, subscriber-free signal, charge**

A signal sent in the backward direction as an alternative to the address-complete, charge signal indicating that the called party's line is free, and that the call should be charged on answer.

2.1.20 **address-complete, subscriber-free signal, no charge**

A signal sent in the backward direction as an alternative to the address-complete, no charge signal indicating that the called party's line is free, and that the call should not be charged on answer.

2.1.21 **address-complete, subscriber-free signal, coin-box**

A signal sent in the backward direction as an alternative to the address-complete, coin-box signal indicating that the called party's line is free, that the call should be charged on answer, and that the called number is a coin (box) station.

2.1.23 **unallocated-number signal**

A signal sent in the backward direction indicating that the received number is not in use (for example spare level, spare code, vacant subscriber's number).

2.1.24 **subscriber-busy signal (electrical)**

A signal sent in the backward direction indicating that the line(s) connecting the called party with the exchange is (are) engaged. The subscriber-busy signal will also be sent in case of complete uncertainty about the place where the busy or congestion conditions are encountered and in the case where a discrimination between subscriber-busy and national-network congestion is not possible.

2.1.25 **line-out-of-service signal**

A signal sent in the backward direction indicating that the called party's line is out-of-service or faulty.

2.1.26 **send-special-information tone signal**

A signal sent in the backward direction indicating that the special information tone should be returned to the calling party. This tone indicates that the called number cannot be reached for reasons not covered by other specific signals and that the unavailability is of a long term nature. (See also Recommendation Q.35.)

2.1.27 **confusion signal**

Signal sent in the backward direction indicating that an exchange is unable to act upon a message received from the preceding exchange because the message is considered unreasonable.

2.1.28 **call-failure signal**

A signal sent in the backward direction indicating the failure of a call set-up attempt due to the lapse of a time-out or a fault not covered by specific signals and where the congestion tone is the appropriate tone to be returned to the calling party.

2.1.29 **message-refusal signal**

A signal sent by a signal transfer point in response to the reception of a telephone signal which it is unable to deal with as a consequence of the transfer-prohibited situation.

2.1.31 **forward-transfer signal**

A signal sent in the forward direction on semi-automatic calls when the outgoing international exchange operator wants the help of an operator at the incoming international exchange. The signal will normally serve to bring an assistance operator (see Recommendation Q.101) into the circuit if the call is automatically set up at that exchange. When a call is completed via an operator (incoming or delay operator) at the incoming international exchange, the signal should preferably cause this operator to be recalled.

2.1.32 **answer signal, charge**

A signal sent in the backward direction indicating that the call is answered and subject to charge.

In semi-automatic working, this signal has a supervisory function. In automatic working, the signal is used:

- to start metering the charge to the calling subscriber (Recommendation Q.28), and
- to start the measurement of call duration for international accounting purposes.

2.1.33 **answer signal, no charge**

A signal sent in the backward direction indicating that the call is answered but is not subject to charge. it is used for calls to particular destinations only.

In semi-automatic working, this signal has a supervisory function. In automatic working, the reception of this signal shall not start the metering to the calling subscriber.

2.1.34 **clear-back signals**

Signals sent in the backward direction, the first of which indicates that the called party has cleared. Subsequent clear-back signals indicate that the called party has cleared following a reanswer, e.g. switch-hook flashing.

In semi-automatic working, they perform a supervisory function. In automatic working, the arrangements specified in Recommendation Q.118 apply.

2.1.35 **reanswer signals**

Signals in the backward direction indicating that the called party, after having cleared, again lifts his receiver or in some other way reproduces the answer condition, e.g. switch-hook flashing.

2.1.36 **clear-forward signal**

A signal sent in the forward direction to terminate the call or call attempt and release the circuit concerned. This signal is normally sent when the calling party clears but also may be a proper response in other situations, as for example, when reset circuit is received.

2.1.37 **release-guard signal**

A signal sent in the backward direction in response to a clear-forward signal, or if appropriate to the reset-circuit signal, when the circuit concerned has been brought into the idle condition.

2.1.38 **reset-circuit signal**

A signal that is sent to release a circuit when, due to memory multilation or other causes, it is unknown whether, for example, a clear-forward or clear-back signal is appropriate. If at the receiving end the circuit is blocked, this signal should remove that condition.

2.1.41 **blocking signal**

A signal sent for maintenance purposes to the exchange at the other end of a circuit to cause engaged conditions of that circuit for subsequent calls outgoing from that exchange. An exchange receiving the blocking signal must be capable of accepting incoming calls on that circuit unless it also has sent a blocking signal. Under conditions covered later, a blocking signal is also a proper response to a reset-circuit signal.

2.1.42 **unblocking signal**

A signal sent to the exchange at the other end of a circuit to cancel in that exchange the engaged conditions of that circuit caused by an earlier blocking signal.

2.1.43 **blocking-acknowledgement signal**

A signal sent in response to a blocking signal indicating that the speech circuit has been blocked.

2.1.44 **unblocking-acknowledgement signal**

A signal sent in response to an unblocking signal indicating that the speech circuit has been unblocked.