INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.162

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

SPECIFICATIONS OF SIGNALLING SYSTEM No. 5

ROUTING TESTING OF EQUIPMENT (LOCAL MAINTENANCE)

ITU-T Recommendation Q.162

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation Q.162 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.

4.2 ROUTING TESTING OF EQUIPMENT (LOCAL MAINTENANCE)

4.2.1 Routine tests for testing individual items of equipment such as circuit equipment, connecting circuits, operator's line calling equipment, selectors, registers, etc., must be provided for in every international exchange equipped for automatic switching. These routine tests will be made in accordance with the practice followed in each country for the local maintenance of the switching equipment.

4.2.2 The testing equipment must conform to the following principles:

a) an item of equipment must not be taken for test until it is free;

b) an item of equipment taken for test will be marked "engaged" for the duration of the test. Before a circuit equipment is taken for test, the circuit will be withdrawn from service at both international exchanges;

c) as an alternative to b), a like item of equipment, known to be properly adjusted, may be switched in, and the item of equipment to be tested is switched out during the test.

4.2.3 Testing of the circuit and signalling equipment should include a check that the specifications of System No. 5 are met in regard to the following:

a) *Line signalling system*

Signalling frequencies

Transmitted signal levels

Signal frequency leak

Receiver operate and non-operate limits

Receiving-end line split

Sending-end line split

Line signal codes

Sending duration of signals

Recognition time of signals

Overlap transmission of answer signal on transit calls

Double seizing

Time-out and alarm features

b) *Register signalling system*

Signalling frequencies

Transmitted signal levels

Signal frequency leak

Sending duration of signals

Receiver operate and non-operate limits

Operation of the receiver to a series of pulses

Error-checking features

4.2.4 *Simulated end-to-end tests*

It is desirable that a means be provided whereby end-to-end testing can be simulated on a local basis. A local loop-around arrangement permitting an outgoing test call to be routed directly on a four-wire basis into incoming equipment should be provided. The loop-around arrangement replaces the international line and is connected to the circuit equipment under test on the one side and on the other side to similar working spare both-way circuit equipment and signalling equipment having access to the switching system.