



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

M.1010

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

**MAINTENANCE:
INTERNATIONAL LEASED CIRCUITS**

**CONSTITUTION AND NOMENCLATURE
OF INTERNATIONAL LEASED
CIRCUITS**

ITU-T Recommendation M.1010

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation M.1010 was published in Fascicle IV.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.

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Recommendation M.1010

**CONSTITUTION AND NOMENCLATURE OF INTERNATIONAL
LEASED CIRCUITS**

1 Some features of the constitution of international leased circuits are:

- a) the number of locations connected may be two or more;
- b) the circuit may be available either 2-wire or 4-wire at a renter's installation¹⁾;
- c) the transmission paths may be provided with a combination of unloaded (or loaded) subscribers line plant (in the local network), unloaded or loaded cable pairs (in the junction network) channels in frequency division multiplex carrier systems (in the national long-distance network and in the international network), and channels in time division multiplex transmission systems (in the national or international network).

Figure 1/M.1010 illustrates two types of circuits: those which connect two points and those connecting more than two points. These are referred to as point-to-point circuits and multiterminal circuits respectively.

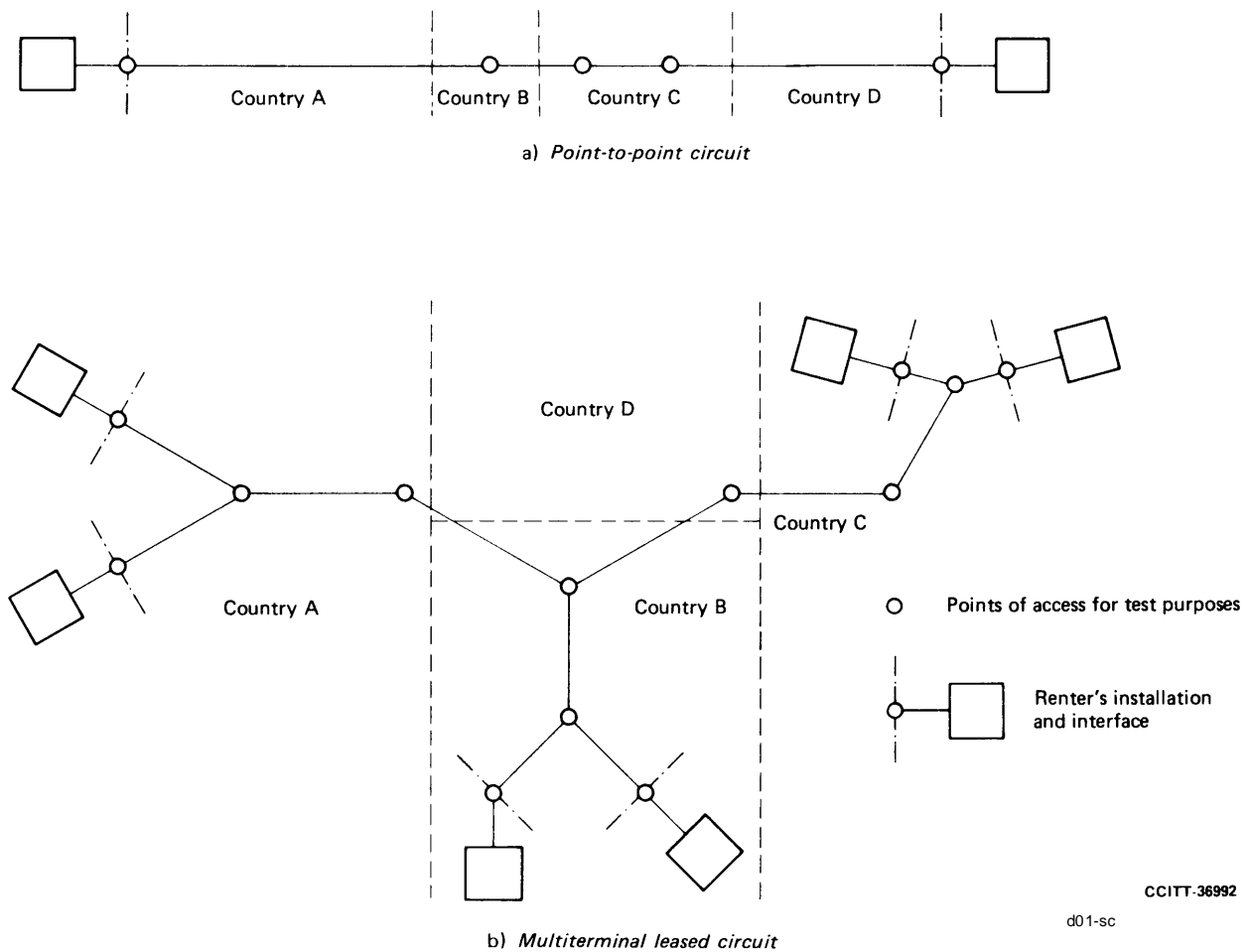


FIGURE 1/M.1010
Examples of point-to-point and multiterminal international leased circuits

¹⁾ Some Administrations do not provide the 2-wire facility for special quality international based circuits.

2 Access points

2.1 It is recommended that Administrations establish access points on the various circuit sections analogous to the access points recommended for international telephony circuits in the public service at which the nominal relative levels are fixed and determined by the Administration. At the international centre it would be advantageous if the same relative level as that adopted for public circuits is used for leased circuits. Within the national networks there are very often access points of defined relative level and impedance provided in accordance with national practices and these points, together with the international access points, serve to divide the circuit into circuit sections.

2.2 In principle, an access point is also available at the renter's premises but it is not always convenient to test from there. Accordingly, the procedures recommended in this Section involve also the access points provided by Administrations in repeater stations or telephone exchanges near to the renter's installation for transmission measurements on international leased circuits.

These are points between which it might be expected that measurements could be made, though the staff at such stations concerned do not always have experience in international maintenance procedures. Measurements made by Administrations between renters' installations could encounter particular problems.

3 Definitions and nomenclature

The definitions below are illustrated in Figure 2/M.1010.

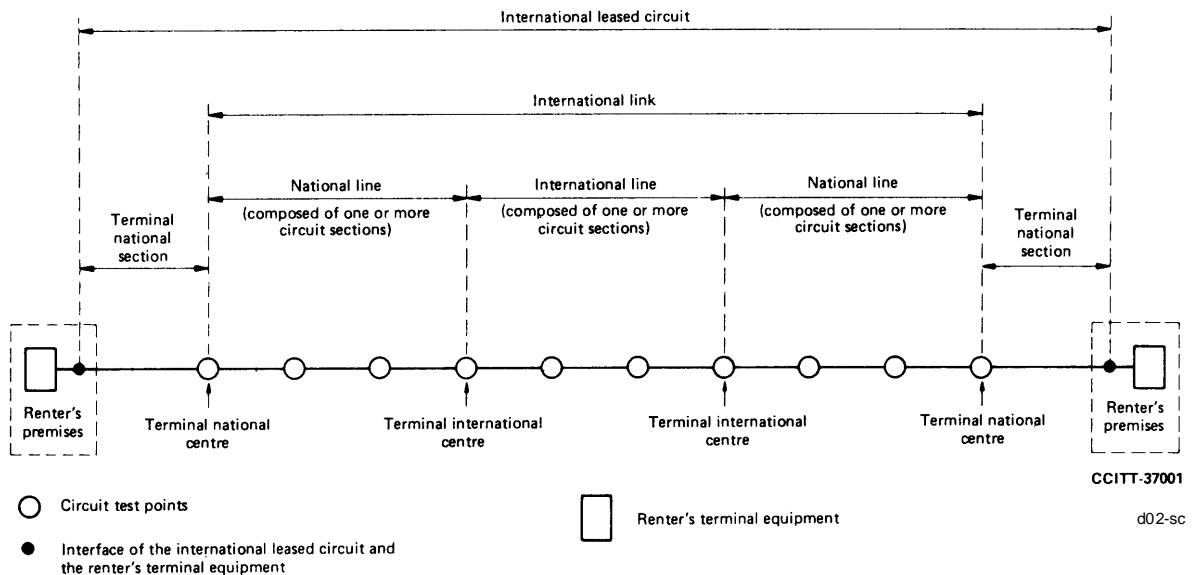


FIGURE 2/M.1010

Basic constitution of a point-to-point international leased circuit

3.1 international leased circuit

The whole of the assembly of lines and apparatus connecting the renter's terminal equipment (e.g. data modem) in one country to the renter's terminal equipment in another. The interfaces between the circuit and the renter's terminal equipment will be defined by the respective Administrations.

3.2 international link

The whole of the assembly of international and national circuit sections between terminal national centres.

3.3 international line

The whole of the assembly of international and national circuit sections between terminal international centres.

3.4 **national line**

The whole of the assembly of national circuit sections connecting the terminal national centre to the terminal international centre. When a distinction is needed to indicate the transmission direction in one country the expressions *national sending line*, that is, outgoing from the renter, and *national receiving line*, that is, incoming to the renter, may be used.

3.5 **terminal international centre**

The terminal international centre (TIC) for leased and special circuits is the international centre serving the renter in the country in which the renter's installation is situated. It marks the interface of the international and national lines and is normally located in association with a terminal international centre for international public telephony circuits.

Some Administrations may wish to locate the TIC for international leased and special circuits independently of that for public telephony circuits.

In all cases there will be a transmission maintenance point (international line) (TMP-IL) (see Recommendation M.1014) located at each TIC for leased and special circuits.

There will be two TICs in a point-to-point international circuit. There may be more in a multiterminal circuit.

3.6 **terminal national centre**

The national centre (e.g. repeater station, telephone exchange) that is:

- nearest to the renter's installation,
- provided with a circuit test point, so that transmission measurements can be made by appropriate staff.

3.7 **terminal national section**

The lines and apparatus connecting the renter's installation with the terminal national centre concerned. There may be intermediate installations (e.g. telephone exchanges) in the terminal national section but they are assumed to have no testing facilities normally available.