



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

J.11

TELEVISION AND SOUND TRANSMISSION

**HYPOTHETICAL REFERENCE CIRCUITS FOR
SOUND-PROGRAMME TRANSMISSIONS**

ITU-T Recommendation J.11

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation J.11 was published in Fascicle III.6 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 J.11

HYPOTHETICAL REFERENCE CIRCUITS FOR SOUND-PROGRAMME TRANSMISSIONS^{1), 2), 3)}

(Geneva, 1972; amended at Geneva, 1976, and at Melbourne, 1988)

Terrestrial systems and systems in the fixed-satellite service

The CCITT,

considering

- (a) that there is a need to define a hypothetical reference circuit to enable design performance standards to be set;
- (b) that the hypothetical reference circuit should allow the different types of sound-programme circuits to be compared on a common basis,

unanimously recommends

(1) that the main features of the hypothetical reference circuit for sound-programme transmissions over a terrestrial system (shown in a Figure 1/J.11), which may be provided by either radio or cable, should be:

- the overall length between audio points (B and C) is 2500 km,
- two intermediate audio points (M and M') which divide the circuit into three sections of equal lengths,
- the three sections which are lined up individually and then inter-connected without any form of overall adjustment or correction;

(2) that the main features of the hypothetical reference circuit for sound-programme transmissions over a system in the fixed-satellite service (shown in Figure 2/J.11) should be:

- one link: earth station – satellite – earth station,
- one pair of modulation and demodulation equipments for translation from baseband to radio frequency, and from radio frequency to baseband, respectively.

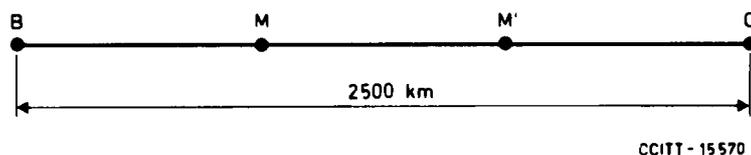


FIGURE 1/J.11

Hypothetical reference circuit for sound-programme transmissions over a terrestrial system

1) This Recommendation corresponds to CCIR Recommendation 502.
2) The hypothetical reference circuits defined in this Recommendation should apply for both analogue and digital systems.
3) For maintenance purposes there may be a need to define other circuits of which an illustration is shown in Annex A of this Recommendation.

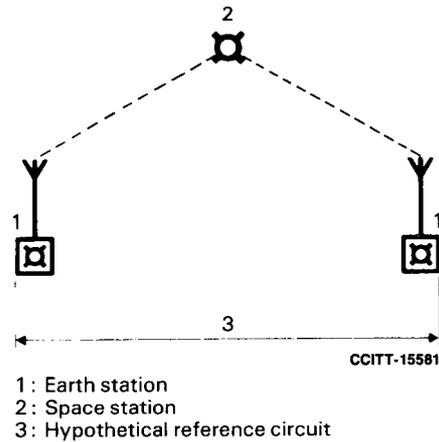


FIGURE 2/J.11
**Hypothetical reference circuit for sound-programme transmissions
 over a system in the Fixed-Satellite Service**

ANNEX A

(to Recommendation J.11)

Illustration of an international sound-programme connection

Figure A-1/J.11 illustrates a typical international sound-programme connection in which:

- point A, to be considered as the sending end of the international sound-programme connection, may be the point at which the programme originates (studio or outside location);
- point D, to be considered as the receiving end of the international sound-programme connection, may be a programme-mixing or recording centre or a broadcasting station;
- the local sound-programme circuit AB connects point A to the sending terminal station, point B, of the international sound-programme circuit BC;
- the local sound-programme circuit CD connects point C, the receiving terminal station of the international sound-programme circuit BC to the point D.

The hypothetical reference circuit must not be considered identical to any of the sound-programme circuits illustrated above or to those defined for maintenance purposes in [1]. However, some of these circuits may display the same structure as the hypothetical reference circuit. Such types of circuits are:

- an international sound-programme connection comprising three audio sections;
- a single sound-programme circuit made up of three audio sections.

In this case, the performance standards set for the hypothetical reference circuit may be applied to these circuits.

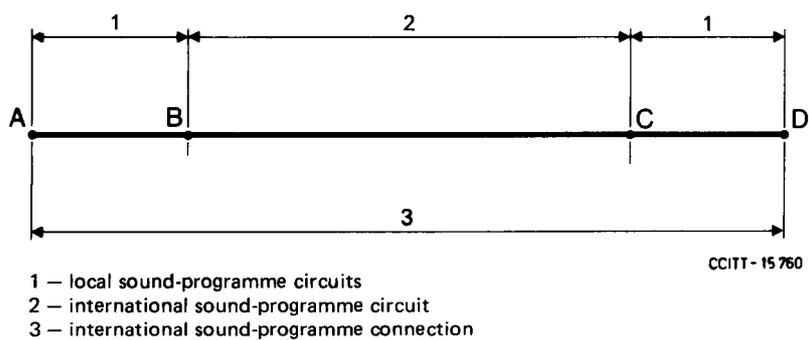


FIGURE A-1/J.11
An international sound-programme connection

Reference

- [1] *Maintenance; international sound-programme and television transmission circuits.* Recommendations of the N Series. Fascicle IV.3.