

RECOMMENDATION ITU-R S.352-4*

Hypothetical reference circuit for systems using analogue transmission in the fixed-satellite service

(1963-1970-1974-1978-1982)

The ITU Radiocommunication Assembly,

considering

- a) that it is desirable to establish a hypothetical reference circuit for active fixed-satellite systems to afford guidance to designers of equipment and systems for use in telephone and television networks;
- b) that only high-altitude satellites are being used or planned;
- c) that with such satellites it will become possible for most connections to be made with one satellite link, with occasional need for two links in tandem, particularly for television;
- d) that the overall performance of each satellite link depends only to a small extent on the great circle distance between the earth stations;
- e) that, to overcome fading, earth stations may operate in site diversity configurations, requiring terrestrial interconnection links between pairs of antennas;
- f) that satellite-to-satellite links are likely to be used in the fixed-satellite service,

recommends

- 1** that a hypothetical reference circuit for systems in the fixed-satellite service using analogue transmission should consist of one Earth-space-Earth link in which the space portion may contain one or more satellite-to-satellite links;
- 2** that for earth stations not connected in site diversity the input to this circuit should correspond to the input of the modulator carrying out the translation from the baseband to the radio-frequency carrier and the output should correspond to the output of the demodulator carrying out the reverse operation;
- 3** that links between these earth stations and their associated switching centres should not be included in this hypothetical reference circuit;

* Radiocommunication Study Group 4 made editorial amendments to this Recommendation in 2001 in accordance with Resolution ITU-R 44 (RA-2000).

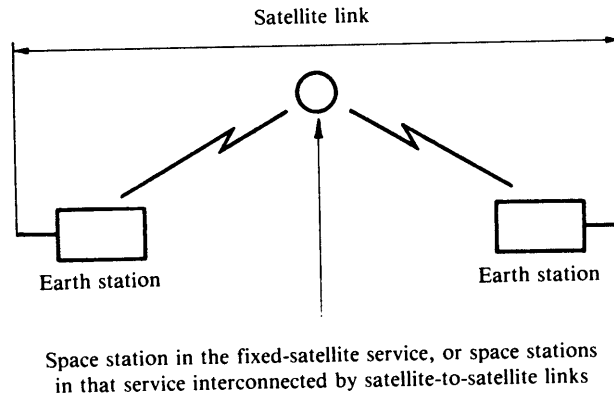


FIGURE 1 – Hypothetical reference circuit for analogue transmission

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4 that, for site diversity earth stations, the hypothetical reference circuit shall also include the necessary terrestrial links and where appropriate additional modulation and/or demodulation equipment; the terrestrial/satellite system interface should then be assumed to be situated at the baseband, after the diversity switching point;

5 that terrestrial links between the site diversity switching points of such earth stations and the associated switching centres, should not be included in the hypothetical reference circuit.
