

RECOMMENDATION ITU-R SF.357-4*

MAXIMUM ALLOWABLE VALUES OF INTERFERENCE IN A TELEPHONE CHANNEL OF AN ANALOGUE ANGLE-MODULATED RADIO-RELAY SYSTEM SHARING THE SAME FREQUENCY BANDS AS SYSTEMS IN THE FIXED-SATELLITE SERVICE

(1963-1966-1974-1978-1997)

The ITU Radiocommunication Assembly,

considering

- a) that systems in the fixed-satellite service (FSS) and line-of-sight radio-relay systems share certain frequency bands above 1 GHz;
- b) that mutual interference would increase the noise in both types of system beyond that which would exist in the absence of frequency sharing;
- c) that it is desirable that the noise, due to interference in the telephone channels of existing radio-relay systems, emanating from transmitters of satellites and earth stations, should be a fraction of the total noise in those systems, such that it would not be necessary to change the design objectives for radio-relay systems, as set out in Recommendation ITU-R F.393;
- d) that it is necessary to specify the maximum allowable interference power in a telephone channel, to determine the maximum power flux from communication satellites which can be allowed at the surface of the Earth and to determine whether specific locations for satellite-earth stations and terrestrial radio-relay stations would be satisfactory;
- e) that a distribution of 1 min mean power, as exemplified in Fig. 1, would allot to interference a reasonable fraction of the total noise power permitted in the hypothetical reference circuit,

recommends

1 that systems in the FSS and line-of-sight analogue angle-modulated radio-relay systems which share the same frequency bands, should be designed in such a manner, that in any telephone channel of a 2 500 km channel hypothetical reference circuit for frequency-division multiplex, analogue angle-modulated radio-relay systems, the interference noise power at a point of zero relative level, caused by the aggregate of the emission of earth stations and space stations of the systems in the FSS, including associated telemetering, telecommand and tracking transmitters, should not exceed:

- 1.1** 1 000 pW0p psophometrically-weighted 1 min mean power for more than 20% of any month;
- 1.2** 50 000 pW0p psophometrically-weighted 1 min mean power for more than 0.01% of any month.

2 that the following Notes should be regarded as part of the Recommendation:

NOTE 1 – The way in which the above values are to be taken into account in the general noise objective for radio-relay systems is defined in Recommendation ITU-R F.393

NOTE 2 – Some administrations may use more stringent performance objectives for domestic coordination purposes than the preceding values. For international coordination purposes the values given above should be utilized.

* Radiocommunication Study Groups 4 and 9 made editorial amendments to this Recommendation in 2000 in accordance with Resolution ITU-R 44.

FIGURE 1
Example of possible interpolation

