

RECOMMENDATION ITU-R F.400-2***

**Service channels to be provided for the operation
and maintenance of radio-relay systems**

(1956-1959-1963-1966-1970)

The ITU Radiocommunication Assembly,

considering

- a) that service channels are required for the maintenance, supervision and control of radio-relay systems;
- b) that if, for any reason, the radio-relay system itself fails to function, communication between various stations along the route, and from those stations to other points is likely to assume special importance;
- c) that agreement is desirable on the number and function of the service channels to facilitate the planning of radio-relay systems;
- d) that service channels will be used to provide:
 - omnibus voice circuits,
 - express voice circuits,
 - supervisory circuits,
 - control and operational circuits;
- e) that service channels will not be connected to the public telephone network,

recommends

that, on international radio-relay systems:

- 1** all staffed stations should be connected directly to the public telephone network;
- 2** when a radio-relay link is extended by means of short cable sections, and these cable sections and the radio-relay link taken together constitute a regulated line section, the terminal stations of the radio-relay link itself should have speaker circuits to the stations at the ends of the regulated line section;
- 3** a telephone service channel (omnibus voice circuit) should be set up to connect together all the stations on the system, whether staffed or not;

* This Recommendation applies to radio-relay systems which will transmit at least 60 telephone channels or a television signal and comprise two staffed terminal stations, in which the signals are demodulated to baseband, and any number of unstaffed intermediate stations. This Recommendation applies, where appropriate, to trans-horizon radio-relay systems.

** Radiocommunication Study Group 9 made editorial amendments to this Recommendation in 2001 in accordance with Resolution ITU-R 44.

4 a second telephone service channel (express voice circuit) should be provided for direct telephonic communication between the staffed stations receiving supervisory signals;

5 provisions for the transmission of supervisory and control signals should be subject to agreement between the administrations concerned;

6 the telephone service channels should possess, whenever possible, the characteristics (excluding noise power) recommended by the ITU-T for international telephone circuits and, in particular, should be able to transmit the frequency band 300 to 3 400 Hz;

7 all telephone service channels (including those used for supervisory and control circuits) up to a length of 280 km should, whenever possible, not exceed a mean noise power in any hour of 20 000 pW_{0p} psophometrically weighted, at a point of zero relative level.

NOTE 1 – Service channels may be provided over an auxiliary radio-relay system, over the main radio-relay system, or by other unrelated means, either on a primary or stand-by basis. In the case of express voice circuits, the use of regular multiplex channels within the telephony baseband is acceptable, where this is possible.
