

## RECOMMENDATION ITU-R S.725\*

**Technical characteristics for very small aperture terminals (VSATs)**

(1992)

The ITU Radiocommunication Assembly,

*considering*

- a) that VSAT earth stations have major features which are listed below;
- b) that VSAT earth stations operate on the fixed-satellite service, and should comply with the relevant provisions of the Radio Regulations, ITU-R Recommendations, and any relevant domestic regulation requirements;
- c) that VSAT earth stations are usually implemented to form closed networks for dedicated applications, either for information broadcasting (receive-only VSATs) or for information exchange (transmit/receive VSATs);
- d) that VSAT earth stations are generally directly installed on the users' premises and their location density may be very high;
- e) that VSAT earth stations are often part of a network which has a "star" topology, consisting of a relatively large central station, called the "Hub" station, and many VSAT earth stations. However, some networks operate in a point-to-point or "mesh" configuration without a Hub;
- f) that VSAT-to-VSAT transmissions usually take place through the Hub;
- g) that VSAT earth stations are usually unattended;
- h) that VSAT earth stations generally are monitored and controlled by a central facility. Local facilities may also be used;
- j) that VSAT earth stations usually employ digital transmission with a bit rate lower than 2 Mbit/s;
- k) that the antenna diameters of VSAT earth stations are normally limited to 2.4 m, however, in some circumstances larger diameters up to 5 m may be required;
- l) that VSAT earth stations usually are equipped with low-power RF transmitters and, in any case, the RF power must be limited for safety reasons;
- m) that in the case where VSAT networks (either at the Hub or VSATs) need to be connected to public switched networks, such as a Packet Switched Public Data Network (PSPDN), a Circuit Switched Public Data Network (CSPDN) and an ISDN, etc., then the means for this connection (interfaces and protocols) and the possible compatibility problems could be the subject of new Recommendations;
- n) that several administrations are already applying simplified licensing procedures for their domestic or regional use to reduce the effort of implementing VSATs,

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

*recommends*

- 1 that VSAT earth-station transmissions should comply for technical parameters with Recommendations ITU-R S.726, ITU-R S.727 and ITU-R S.728;
- 2 that the monitoring and control functions of VSAT networks should comply with Recommendation ITU-R S.729;
- 3 that these Recommendations be used as guidelines for administrations to implement simplified licensing procedures;
- 4 that the following Notes should be regarded as part of this Recommendation:

NOTE 1 – The most commonly used FSS bands are 14/11-12 GHz and 6/4 GHz bands.

NOTE 2 – The coding, modulation and access techniques could be very diverse, corresponding to the most effective technologies.

NOTE 3 – TV distribution, using TVRO earth stations is not dealt with in this Recommendation. However, the reception of video signals by a VSAT is often implemented.

NOTE 4 – Recommendations for the interconnection of VSAT networks to public switched networks are under study.

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