SATELLITES FOR AMATEUR RADIO

Abstract:

A satellite a heavenly body that is placed in the space to allow the communication between two point on the earth. Amateur radio helped and saved many lives in Tsunami-hit south Asia. when even satellites phones falied,this high frequency link remained open.The credit of course goes to satellites in action up in the space.

Amateur radio operators come from all walks of life -movie stars, Doctors, Students,Politicians and Plian folks. This paper includes all the generations of Amateur radio satellites .It also includes the India's recently launched satellites i.e., CARTOSAT-I and HAMSAT satellites. CARTOSAT-I is used for stereoscopic cartographic applications while HAMSAT is providing Amateur radio services.

Key Words:

(1) A satellite is a manufactured object that continuously orbits Earth or some other boby in space.

(2) A satellite is a basically an electronic communication package placed in an orbit around the earth.

(3) The soviet union launched the first artificial satellite, sputnik 1,on October 4th in 1957.

(4) uplink is the communication link from earth station to satellite.

(5) Downlink is the communication link from satellite to earth station .

(6) There are six types of satellites . They are

* Scientific research satellite
* Weather satellite
* Communication satellite
* Military satellite
* Navigation satellite
* Earth observing satellite

(7) Satellites in a high altitude ,geosynchronous orbit are always in contact with earth while satellites in low orbits contact 12 times a day

(8)A satellite remains in orbit until its velocity decreases and gravitational forces pulls it down into a relatively dense part of atmosphere

(9) Unique mix of fun, public service and convenience is the distinguishing characteristic of the hobby called "amateur radio"

(10) OSCAR: Orbiting satellite carrying amateur radio (OSCAR 1 & 2) transmit power of only around 100mW,and a battery life of only around 20 days

(11)Indian amateurs too dream of having an Indian amateur satellite . (ISRO) Indian space research organization launched its first indigenously built satellite 'Aryabhata'

(12) The Indian HAMSAT is a 40kg micro satellite to be launched onboard the polar satellite launch vehicle (PSLV) from sriharikota launch range .
(13)AMSAT -NA's Echo satellite was successfully launched on June 29,2004 and opened for amateur used on July 30,2004. It is known as AO-51 .
(14)For micro wave and satellite links the frequencies used are 1GHZ to 10GHZ .This is called earth space window in satellite communication
(15)Satellite communication is economical compared with terrestrial communication

APPLICATION OF SATELLITES

- Telephone transmission
- Television and radio program distribution
- Navigation
- Military command and control
- Electronic mail
- Personal two way satellite radios
- Meteorology and climatologic
- Remote sensing
- Surveillance of cloud patterns

LATEST APPLICATION OF SATELLITES

- Stereoscopic and cartographic application and
- Panchromatic cameras

CARTOSAT-1 satellite is used for this two applications

Conclusion:

Indian amateur have been dreaming of an india amateur satellite.The aim took shape during december 2000, a project .A project name VUSAT was lanched during january 2001. AMSAT-NA's Echo satellite was successfully launched on June 29,2004 .
Indias recently launched satellite CARTOSAT -1 .HAMSAT is a micro satellite for providing satellite based amateur radio services . And so in future we expect a multipurpose satellite i.e.,a single satellite for several applications.