ASSIGNMENT

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Dept/year : ECE-'A' / IV

Sub code : 20EC801PE

Sub Name : Satellite Communication.

SNO	Title	CO1	CO2
1	Identify the direct to home Broadcasting (DTH) and its applications.		
2.	Direct Broadcast Satellite (DBS)		

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student's sign

Teacher's sign

1). Identify the Direct to home Broadcasting (DTH) and its applications.

Direct to home technology refers to the satellite television broadcasting process which is actually intended for home reception. This technology is originally referred to as direct broadcast technology.

This technology was developed for competing with the road cable TV of distribution services by providing higher quality satellite signals with more number of channels.

Satellite used

In short, DTH refers to the reception of satellite signals on a TV with personal dish in an individual home. The satellite that are used for this purposes are geostationary satellite.

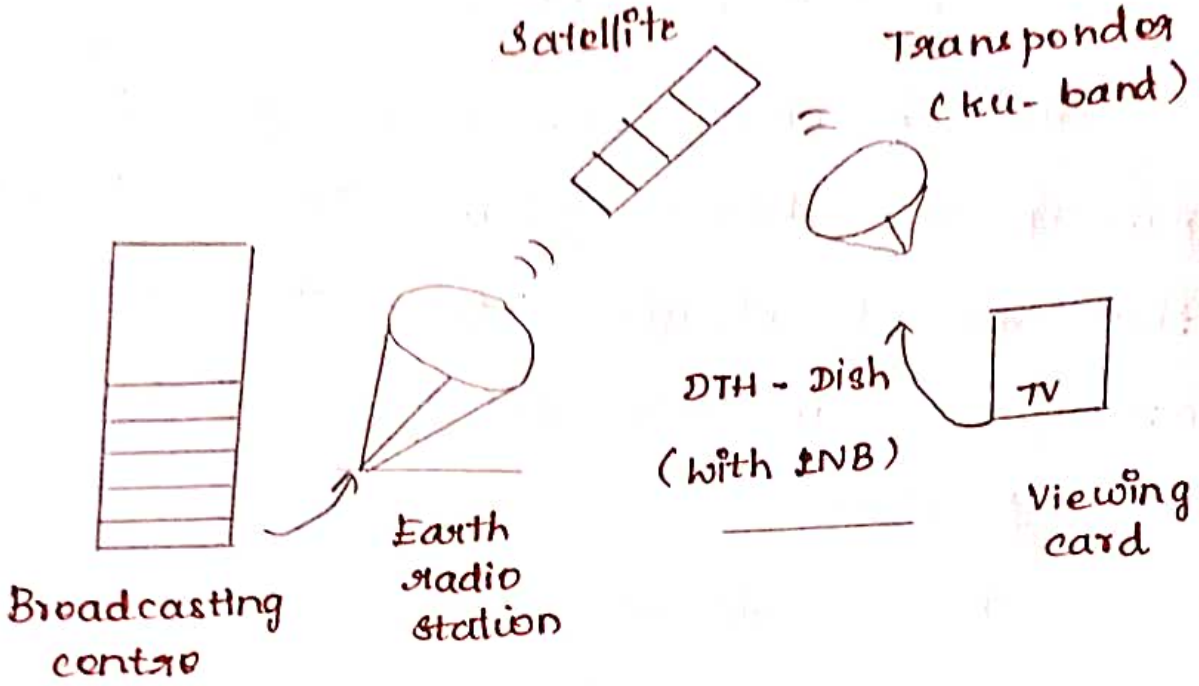
DTH in India

India is the one of the biggest DTH services providers in the world. The requirements is very high because of the high population and the increased number of the viewers. The low cost of DTH when compared to other cable providers is also one main reason for this substantial growth.

Some of the common DTH providers in India are.

* TATA Sky
* BIG TV
* Sun Direct DTH
* Dish TV
* Airtel DTH
* Videocon DTH.

Working of DTH



The above diagram shows the DTH technology. For a DTH network to be transmitted and received, the following components are needed.

* Broadcasting centre
* Satellite
* Encoder
* Multiplexers

* Modulators
* DTH receivers.

The broadcast centre is the main part of the whole systems. The channels that are broadcasted from the broad casting centre are not created by the DTH providers.

The broadcast sation receives signals from various program channels. From the broadcast station the signals to be broadcasted are sent to the satellite.

Thus, the DTH providers acts as a Mediators between the consumer and the programme channels.

The satellite receives the signal from the broadcast centre and compress the signals.

2). Direct Broadcast satellite (DBS)

Direct - Broadcast satellite (DBS) is a type of artificial satellite which sends signals directly to subscribers, or end users from geostationary satellite.

This type of satellite television which uses direct - broadcast satellite is known as direct broadcast satellite Television (DBSTV). DBS TV is also favoured by urban and suburban subscribers who are not satisfied with the quality or quantity of TV programming available on conventional cable.

signals are broadcast in digital format in Microwave frequencies.

DBS is the descendant ie) Predecessor of direct to home satellite services.

Frequency bands

DBS system are used for transmitting television and other program material via satellite directly to individual homes and businesses.

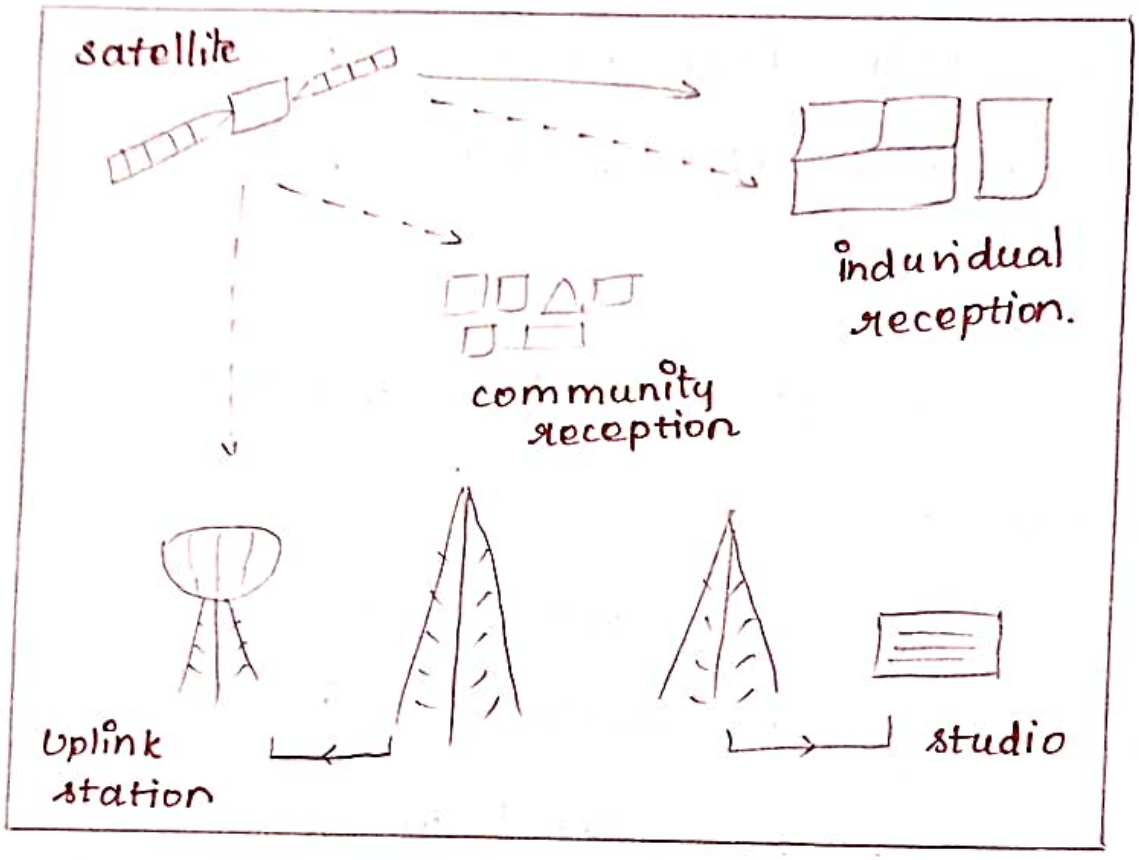
Direct broadcasting satellite (DBS) system operate at microwave frequencies, in the portion of the ku band.

The signal sent up to the satellite is in the 17.3 - 17.8 GHz uplink band and then it is transmitted back down in the 12.2 - 12.7 GHz downband downlink band.

Working of a DBS systems

DBS system use a satellite in geostationary orbit to receive television signals sent up from surface.

The Working of a Direct Broadcasting satellite systems.



The steps taking are :-

First, the television signal may be relayed from a terrestial link to the Uplink station.

Then, the uplink station transmits a very narrow beam signal

to the satellite in the 14- GHz band.

The satellite retransmits the signals in a wide beam coverage beam area will receive the satellite signal.

Components

A DBS subscriber installation consists of.

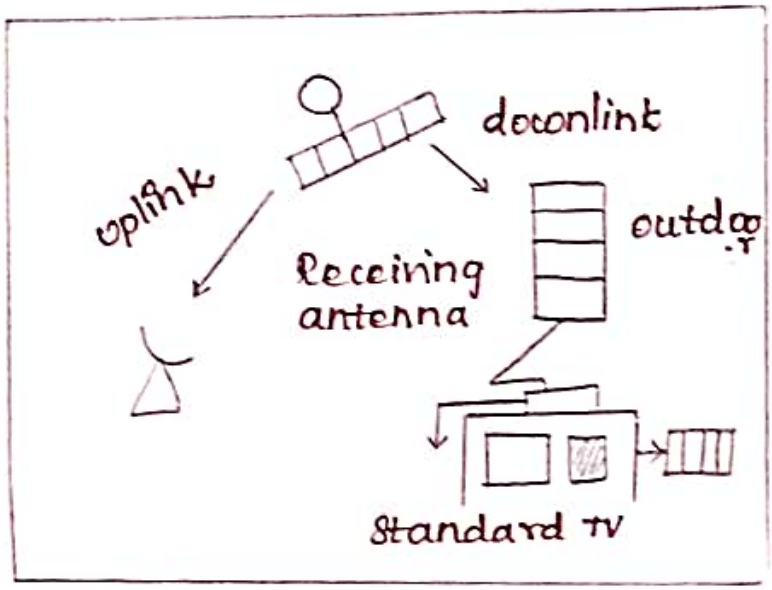
a adish antenna two to three feet (60 to 90 centimeters) in diameter.

a conventional TV set.

a signal converter placed next to the TV set, and

a length of coaxial cable between the dish and the converter.

Home Reception.



The downlink signal is picked up by a receive antenna located atop an individual home or office; these antennas are usually in the form of a parabolic dish, but flat square phased-array antennas are sometimes used.

The receive antenna may be permenantly pointed at the satellite, which sent at fixed point.