

Lecture 3



PRINCIPLES OF SATELLITE COMMUNICATION

Modem and Codec



- Modem:
 - Modulator & Demodulator
 - Interface between analog and digital system
 - Imp. role in computer comm & ISDN system
- Codec:
 - Coding & Decoding
 - Digital television systems

Active and Passive Satellite



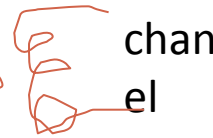
- Passive Reflector (spherical balloon)
- Source of Energy

From computer



Transmitter section

Communication channel transmit



Receiver section



Comm. channel receive data



Analog i/p

Analog signal o/p

A/D converter

Digital
processor

D/A converter

coder

decoder



Applications



- Fixed satellite communication system
- Broadcast satellite communication system
- Land mobile communication system
- Satellite internet access system
- Maritime satellite communication system
- Aeronautical satellite communication system

Services offered



- **Voice services**
 - telephony
 - Audio broadcasting
 - Voice conferencing
- **Video and image services**
 - Facsimile
 - Graphics
 - HDVT
 - Broad cast quality video

Services



- **Data services**
 - Electronic mail
 - Data base access
 - File transfer
 - Remote data monitoring
 - Electronic fund transfer
 - Short message transfer