

**Department of Electronics & Telecommunication
Engineering
Jnan Chandra Ghosh Polytechnic**

Semester – 4

UNIT -6

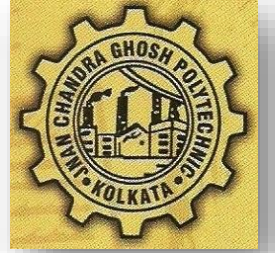
BASIC TELEPHONY

(Describe the operation of EPABX)

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ECE- Class-5

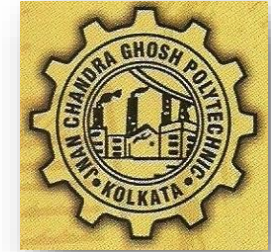
In this class we will cover the following topic:



BASIC OPERATION OF EPABX

1. What is EPABX
2. How does EPABX work.
3. Function of EPABX

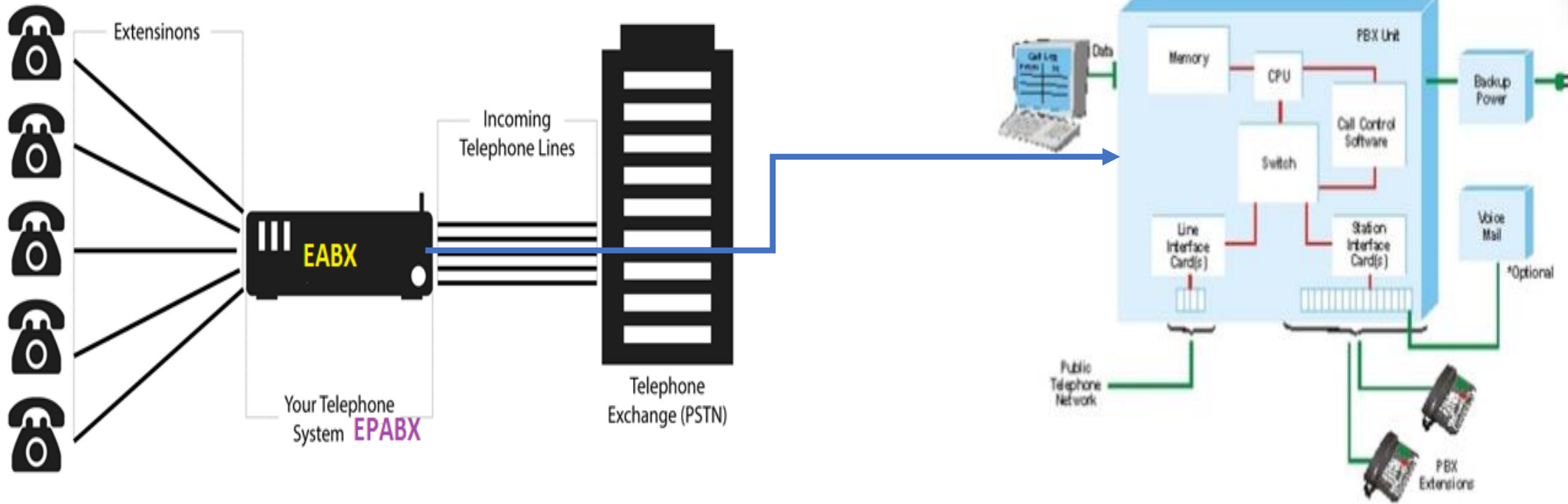
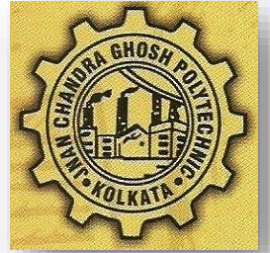
EPABX



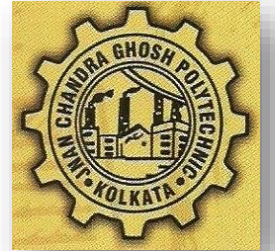
What is EPABX:

- EPABX stands for **Electronic Private Automatic Branch Exchange** which is a private telephone network used by the organizations and the companies for various types of communication, either between the employees or outside the clients.
- It comes under the category of business phone system which serve a business environment.
- Multi line connections can be made through a single telephone connection.
- Its an office equipment of immense use for telephonic connectivity with extensions of single phone line.
- It can be defined as switching system for calls that enable for both internal and external switching functions in an organization.
- Typically up to 10000 subscribers can be accommodated by a single EPABX system.

BLOCK DIAGRAM OF EPABX



PCB BASED EPABX



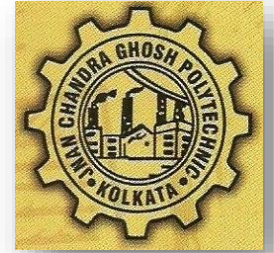
Different Sections of EPABX:-

- Internal Switching Network
- MCU – Microcontroller and microcomputer for arbitrary data processing for control and logic.
- Logic cards, switching and control cards, power cards and related devices to facilitate operation.
- Stations or Telephone sets.
- External Telco trunks that deliver signals to and from EPABX.
- Control or Switchboard allows the operator to control incoming calls
- UPS or Power Supply.

FUNCTIONS OF EPABX SYSTEM

EPABX System possesses a versatile range of functions:-

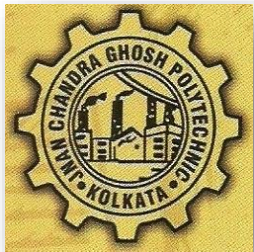
- Auto attendant
- Automatic call distributor
- Automatic directory services
- Automatic ring back
- Call accounting
- Call forwarding on absence or on busy
- Call pick up , Call Park
- Call transfer , Call waiting
- Conference call
- Custom greetings
- Customized abbreviated dialling (speed dialling)
- Do Not Disturb (DND)
- Music on Hold
- Voice Message



TYPES OF EPABX SYSTEM

There are 4 different types of EPABX systems based on the technology involved.

- **Analog PBX. –**
 - Uses “phone–box” **system** through which many phones are connected through phone lines.
 - Requires a person to operate the switchboard controlling the calls.
- **Digital PBX. –**
 - Sound converted to digital signal and sent on a channel through circuit switching.
 - It is the way contemporary phone companies adopt to connect to callers.
- **IP PBX. -**
 - Phones are equipped with a network interface card and integrated into a network of phones.
 - These are newer and less used than some of the older PBX systems.
 - They are easily maintained, allow for applications to be added to them, and manage multiple simultaneous calls on a single network. As Voice over IP technology becomes more popular, these easy-to-maintain systems are being used more.
 - A variant of IP PBX, called SIP PBX, exists which is used for multimedia communications on the same network.
- **Hybrid PBX-**
 - It is a digital PBX with IP PBX capabilities.
 - Popular, as it allows users to have the best of both worlds.
 - Older phones without a network chip can still be used, but they can also be upgraded to include network chips if the funds for an upgrade become available.



Q & A

THANK YOU