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ANALOG PBX SYSTEM
DESIGNED FOR MIMOS

BY

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ABSTRACT

The purpose of this project is to design Subscriber Line Interface Circuit (SLIC) and Dual Tone Multi-frequency (DTMF) cards for a low capacity analog PBX system.

The basic hardware model of analog PBX system consists of five parts. They are Backplane or Interconnection Board with Ringing Generator, SLIC card, Switching network, DTMF Transceiver, Tone Generator and Control processor.

As the receiver is off-hook, the scanner unit notifies the control processor which connects the telephone to a tone generator and a dial tone is heard. When the user begins dialing, the tone generator is disconnected and DTMF Receiver responsible for recognizing the dialed digit is connected. The digits are stored until a complete set is recognized, and the control processor interprets them. A path is built through the switch to specified destination port, where a ring signal is applied.

When the scanner notifies the control processor that the received party has gone off-hook, the calling port is connected to the called port through the switch and the call set-up is completed.

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INTRODUCTION

1.1 GENERAL

1.1.1 What is PBX

PBX is an acronym for "*Private Branch Exchange*". It is a **PRIVATE** system that is usually used by one organization or one building complex. **BRANCH** is located on customer's premises as a central office switching while an **EXCHANGE** is defined as a group of equipments which control the connection of incoming and outgoing calls (switch).

PBX is one of the most essential tools of an organization. It is a telephone switch, located on a customer's premises to provide users within an organization with 'inside calling' while allowing them access to both switched and private network facilities outside the organization.

Currently, the terms PBX, private automatic branch exchange (PABX), and electronic private automatic branch exchange (EPABX) are used interchangeably. Most systems in use today are automatic and electronic, therefore the major distinction among so-called PBX "generations" is in the characteristics of switching technology.

1.1.2 Function of PBX

The basic function of the PBX is to switch phone calls and provide features (such as least-cost routing (LCR) and call-detail recording) that will enable more efficient and cost effective call handling. Until recently, the PBX has been considered to be only a telephone switching system,