PERFORMANCE TESTING OF HP 37732A DATACOM / TELECOM ANALYZER

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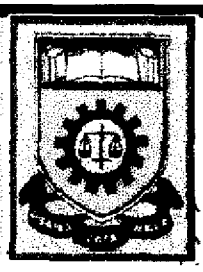

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ABSTRACT

Bit error rate (BER) testing can be used to determine the performance level of a circuit. For this project , a HP 37732A Datacom / Telecom Analyzer is used for making BER measurement by using the RS - 232C interface of Personal Computer . By using the Voice Modem (VM 24 Electronica Venetta , Italy) , the performance of the transmission is studied in terms of Bit Error Rate (BER) , Modulation type and Signal speed.

CONTENTS

CHAPTER 1 . INTRODUCTION

1.0 INTRODUCTION TO COMPUTER COMMUNICATIONS AND NETWORKS

The first machine to use serial binary data communication was the teleprinter where the Baudot code uses five bits to represent the letters of the alphabet an. Teleprinters transmit data serially in five bit per characters with an additional start bit to indicate the beginning of each character and stop bits to indicate the end of each character. The potential cost saving by using serial transmission on long distance line was enormous ; one pair of wires was required in each direction , in place of six. Frequency shift keying modems were capable of transmitting over dedicated wires at a speed of 1200 bps . The introduction of video display units capable of transmitting data at 1200 bps and minicomputer capable of transferring data at much higher speeds led to the development of data communications network and higher speed data transmission equipment. The availability of information supplied by computer system is now crucial in many organizations, particularly information from many location which must be coordinated both accurately and speedily. Financial institutions , such as bank , have adopted extensive data communications networks because they have realized the increased profitability offered and the need to remain efficient and competitive. The use LAN networks to interconnect computers and terminals within a building or a group buildings become popular. The high capacity low cost communication offered by LAN has made distributed computing a reality , and office automation services, such as electronic mail , further