HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

«HIGH-SPEED TRANSMISSION OVER COPPER NETWORK»

BY: ANDREOU ANDREAS

E/1161

JUNE 1999

HIGHER TECHNICAL INSTITUTE
PROJECT NO. 2958

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HIGHER TECHNICAL INSTITUTE | PROJECT NO. 2958

"HIGH-SPEED TRANSMISSION OVER COPPER NETWORK"

Project report by:

Mr. Andreou Andreas

in part of satisfaction of the aware of diploma of

TECHNICIAN ENGINEER

in

ELECTRICAL ENGINEERING

of the

HIGHER TECHNICAL INSTITUTE

Nicosia , Cyprus

Project Supervisor : Mr. Diomedes Lambrianides

External Assesor : Mr. Andreas Frangou

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HIGHER TECHNICAL INSTITUTE | PROJECT NO. 2958

HIGHER TECHNICAL INSTITUTE
NICOSIA – CYPRUS

ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

Diploma Project

Academic Year 1998/99

Project number, E.1161

Title: High Speed Transmission over Copper Telephone Network

Objectives:

1. To carry a general investigation/study of High Speed Transmission over Copper Telephone networks including CYTA 's network.
2. To investigate, design and test several software modeling of lines.
3. To carry practical measurements at CYTA copper network.
4. Evaluate the results and relate them to High Speed Transmission and any other problems related to copper lines.

Terms and Conditions:

1. Software and hardware and practical measurements should be compatible to CYTA 's specifications.

Student : Andreas Andreou , 3E1

Supervisor : Mr D Lambrianides

External Assessor: Mr A Frangou

CONTENTS

AKNOWLEDGEMENTS	:	1
CHAPTER 1	:Introduction	2
CHAPTER 2	:General about Transmission Lines	3
CHAPTER 3	:General about Cables	8
CHAPTER 4	:Introduction on xDSL	14
CHAPTER 5	:System Overview	22
CHAPTER 6	:ADSL Transmission	31
CHAPTER 7	:Transmission Range	40
CHAPTER 8	:MEASUREMENTS	53
CHAPTER 9	:Conclusion	57
REFERENCES	:	58

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Andreas Andreou
3E1

Chapter 1: Introduction

As the years passing through , people become even more depending from machines and especially computers. Now , since computers becomes so essential for our existance the factors that affecting their operation must be well study and develop. One of this factors is a computer speed , the speed of transfer data from one data base to another.

Now , the transfer of data become through transmission lines that are also used for telephone communications and others purposes. CYTA the provider of these lines have develop through years a very sufficient network based on copper.

The project , "High Speed Transmission over Copper Network" is dedicated to ways(technologies) that CYTA uses in order to increase the speed of transferring data over the existing network , the problems that is facing , the readings , the costing and the develop of this technologies.

As you are going to see in the process , very good study of theory from many telecommunications engineering books and the appropriate measurements we can evaluate the existing network. We are going to evaluate the existing network in order to see if the technology we are going to use is giving as the results we want or not and how to make our network more reliable and faster in transferring information.

From the study of theory we are going to use in practice the FastInternet system and take readings on the existing network and see how it behave.