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HIGHER TECHNICAL INSTITUTE
ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DEVELOPMENT OF A PICTURE
IN PICTURE PROCESSOR FOR T.V.

ALIOURIS KYRIACOS

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DEVELOPMENT OF A
PICTURE - IN - PICTURE PROCESSOR FOR T.V. (P.I.P.)

Project Report Submitted by:
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in part satisfaction of the award of Diploma of technician Engineer in Electrical Engineering of the higher technical institute, Cyprus.

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I also want to thank the manager of the A.S. Electronics company Mr. S. Athanasiades who assisted me by giving to me the permission to use his equipment for several testings.

ABSTRACT

The first idea was to make a printed circuit board with which a second picture will appear in our T.V. sets.

Different designs were studied. The decision to use this design was made after examine the selection and finding of the equipment. The basic integrated circuits was ordered from Italy. In the book the circuit diagrams of P.I.P. are examined and explained and also different testing were made in order to understand the operation of the circuit.

Finally this book can be used as a service manual for the Picturer - in - Picture Processor.

<u>Note</u>: After discusion and suggestions with the supervisor it has been decided that the correct title of this project should be: "Development of a Picture in Picture Processor".

INTRODUCTION

Opinion is divided on the subject. Same say it' s extrimely useful, while others hold that it is only for restless T.V. addicts.

Picture - in - Picture (P.I.P.) is a feature found on only the most expensive of television sets. The P.I.P. processor described here adds double viewing to any European T.V. set. The second video source can be a video tape recorder, a satellite T.V. turner, a camera, or even a video disk player.

The fans claim that P.I.P. is not just high-tech fancy stuff, but an extremely useful extension of the T.V. set's features. For examble by using P.I.P. you never get back too late to a film which was interrupted for a commercial break. That is, assuming that you started zapping across the other channels when the film was suddenly interupted for the latest on washing powder or toothpaste. When one of the other channel happens to be interesting too, you may will forget about your film after a few minutes. With the P.I.P. processor that, cannot happen because the small inset picture tells you exactly when the commercials end and the channel is safe to return to. Switch from inset to large screen and you are back with your film again.

The use of the inset picture is not restricted to T.V. signals only. It is possible, for instanece, to "P.I.P." a camera signal for surveyauce applications, for instance, to watch the childrens bedroom, the driveway etc.

Te external P.I.P. processor described here needs two video signals sources. That is not an unusual requirement. The one signal can be obtained from the T.V. turner and the other from the video cassete recorder turner (VCR). The P.I.P. processor offers all features offered by a very sophisticated and highly integrated P.I.P. processor IC.

In this book is described how the selection of this type of P.I.P. is done and also a detail explanation. The book is divided in five chapters and in these chapters are found the block diagram, circuit diagram, the list of components and several testings.

Everything is written down is by personal experience and experiments done in order to understand the operation of the P.I.P. and there aren' t copied information from other books.