

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING COURSE

DIPLOMA PROJECT

SOUND MIXER

by

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JUNE 1995

H . T . I

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COURSE

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DEVELOPMENT OF AN AUDIO MIXER

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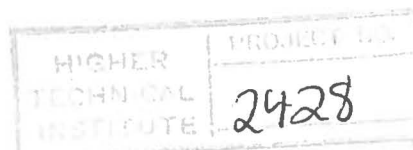
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Project Report submitted to
the Department of Electrical Engineering
of the Higher Technical Institute
Nicosia Cyprus
in partial fulfillment of the requirements
for the diploma of

TECHNICIAN ENGINEER
IN
ELECTRICAL ENGINEERING

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JUNE 1995



ACKNOWLEDGEMENT

I would like to express my sincere thanks to my project supervisor Mr D.Lambrianides, for his guidance and assistance given to me throughout the project period.

I would also like to express my thanks to the lab assistants of the Electrical Engineering Department of H.T.I for their useful contribution in this project.

G.Chrysostomou

SUMMARY

Title : Development of a 4-channel Audio Mixer.

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This project deals with the development of a 4-channel audio mixer. A number of different circuits were carefully studied and considering their specifications and some modifications made the best circuit was chosen. After the selection, the +ve film and the p.c.b were developed, the components were located in the appropriate locations and a test was followed to carry out all the different response of the circuit. A +/- 12V power supply is also constructed and tested in order to complete the needs of the project.

The characteristics of the modified circuit are:

- a) 2 - Mono inputs for a dynamic microphone with high resistance and a cristall microphone
- b) 2 - Stereo inputs for either 2 CD players or 2 cassette players or combination of the two and
- c) 6 - switches that can individually control the 6 - mono channels of the mixer (2 mono and 4 for the other 2 stereo channels).

The project also includes :

- The appropriate explanations and specifications of each the different circuits of the audio mixer.
- A briefly explanation for the components used in the circuits, considering their use and their characteristics.
- The characteristics of the Ics used, their internal circuits, and some other applications that are given by the manufacturer.

- A complete testing of each of the 6 mono channels
- The needed connections that must be made to connect the audio mixer with the amplifier, the CD, the cassette players and the two different types of microphones.

It is almost certain that if someone reads this project will gain a lot of experience and information that are good to know. In the project there are more informations for the above mixer so someone can modify the above circuit and make it enable to control:

- a) 2 - Pickups
- b) 1 - cassette player
- c) 1 - CD
- d) 1 - tunner
- e) 2 - microphones.

Also, detail circuits for :

- a control pannel having Tone, Bass and Treble and
 - a variable power supply are included,
- so that somebody in future, may construct a complete mixer and preamplifier, which it will approaches the professional standards of audio mixers.

Contents

ACKNOWLEDGEMENT.	1
SUMMARY.	2
INTRODUCTION	6
<u>CHAPTER 1</u> : Investigation of various types of Audio Mixers	
1.1 Investigation of various types of Audio Mixers	7
1.2 Selection of circuit	8
1.3 Characteristics of the circuit	8
1.4 Specifications of the inputs	9
<u>CHAPTER 2</u> : Explanation of the circuit some figures, formulates and basic information about audio mixers	
2.1 Mixer Stage.	12
2.1.1 Operational Amplifiers	12
2.1.1.1 Fundamentals for Operational Amplifiers	12
2.1.1.2 Operational Amplifiers terminology characteristics.	14
2.1.1.3 Inverting Amplifier.	17
2.1.1.4 Non Inverting Amplifier.	21
2.1.1.5 Unity Gain Amplifier (Buffer).	24
2.1.1.6 Adder or Summing Amplifier	26

2.1.2	Explanation of the mixer stage using a general circuit.	29
2.1.3	Explanation of the mixer stage using the circuit proposed	30
2.1.3.1	Explanation of figure 1a	31
2.1.3.2	Explanation of figure 1b	40
2.1.4	Componet values for the six channels .	41
2.2	Power Supply	47
2.2.1	Power Supply circuit	47
2.2.2	Explanation of the Power Supply circuit.	47

CHAPTER 3 : Construction and testing of the mixer circuit an the power supply

3.1	Construction and testing	48
3.1.1.1	Construction of the mixer circuit. . .	48
3.1.1.2	Mixer circuit test	48
3.1.2.1	Power suplly layout and construction .	51
3.1.2.2	Power Supply Testing	51
3.1.3	Test Results	52

CHAPTER 4 : Uses of the circuit and future modifications

4.1	Uses of the circuit.	64
4.2	Future modifications	65

APPENDICES

INTRODUCTION

This project deals with the study of different types and models of sound mixers and finally one is proposed, modified, constructed and tested. The good quality mixer we deal with is compatible with all the HiFi standards without reducing the amplifier specifications. The mixer is having 4 inputs which are : 2 mono microphones, 1 stereo CD and 1 stereo cassette player. The various sound signals are mixed together using slider controls. With the slider, for the stereo inputs, we can control either the left or the right channel. This is giving us a range of different sound ideas that can be made with the mixer (e.g sounds that coming from left and going to right).

Also a control switch can individually control each of the 6-mono channels, giving us the advantage not to put the potentiometer to zero, or to remove the input from the unit.

A power supply of +/- 12V is used, to supply the correct ratings needed to have a normal operation.

Finally with all the enthusiasts of this "hoppy" a simple mixer was designed which fulfills all the outlines of a semiprofessional mixer.