FINAL YEAR PROJECT REPORT

DIPLOMA IN ELECTRONICS ENGINEERING

SCHOOL OF ENGINEERING, M.I.T

SHAH ALAM, SELANGOR.

CYMBAL SYNTHESISER.

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DECEMBER 1985.

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ACKNOWLEDGEMENT.

We would like to take the opportunity to say that we are deeply indebted to many people in many ways, in making this project.This project entitled CYMBAL SYNTHESISER.

We wish to express ours respect, gratitude and thanks to o our project advisor ,Puan RUSNA NI ARIFFIN for the encouragement, advice and guidance which helped us in many ways in making this project a success.She had had actually given us the confidence that we require to make this project into realization.

Furthermore we would like to thank the technicians for t their help in providing the facilities for the construct-ion and testing the project.

Lastly, we like to says ours highly appreciate to NORZEHAN for typing this report and to all our friends who had helped either directly or indirectly.

Thank you.

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1. INTRODUCATION.

1.1 OBJECTIVE

The objective of building this project is to reproduce of all the fascinating sounds that can be used using a cymbal. As it is a musician's badaet, it would tremendously help to the musician to expand his creativity in the field of music. Secondly, the project will also investigate other methods of controlling basic synthesiser circuit, which generally is used with keyboard, in which the key contact in keyboard is the ea siest method of implementing the switching.

1.2. PRINCIPLE

This works on the principle of a pick-up sensor of some kind of picking up the vibrations of a cymbal or pad and then fed this signals to the dircuitary which controls the synthesiser. Note that this signals is only a trigger signals, and that the synthesiser produces is the actual.

1.3 APPLICATION

The unit describle here can yse one of the variety of methods to pick up the cymbal signal and trigger the envelope shaper etc. In the synthesiser which is contained in a separate case. The output will then connected to a speaker (loudspeaker) via the amplifier.

2.1 OSCILLATORS

2.1.1 Principles of Operation.

An oscillator can be considered as a circiut that converts a d.c. input to a time-varying output. Oscillators often have a circiut element that can be varied to produce different frequencies. An oscillator's frequency is sensitive to the stability of the frequency-determining elements as well as the variation in the active-device parameters (e.g; effects of temperature, bias point and aging). In many instances tha oscillator is followed by a second stage-serving as buffer , so that there is isolation between the oscillators and its load. The amplitude of the oscillation canbe controlled by automatic gain control (AGC) circuits, but the nonlinearity of the a active element usually determines the amplitude . Variations in bias, temperature and component stability.

Oscillators can be considered from two view points; using as positive-feedback around an amplifier or as one-port network in which the real component of the input immittance is negative. An oscillator must have frequency detemining elements (generally passive components), an amplitude-limiting mechanism and sufficient closed-loop gain to ma ke up for the losses in the circuit. It is possible to predict the operating frequency and