

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING DEPARTMENT

Diploma Project

DEVELOPMENT OF ELECTRIC GUITAR MODEL
WITH EFFECTS STAGE

E. 1264

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Higher Technical Institute

Electrical Engineering Department

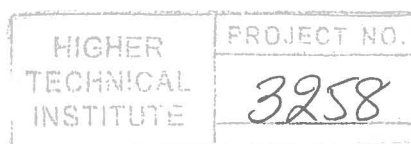
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Chapter 1

1-1 Summary:

Author: Andreas Andreou

Title: Development of Electric Guitar Model with effects stage.

The purpose of this project is to construct an electric guitar model, which will transform the vibration of the strings into an electric signal via the pick-up.

Next this electrical signal is passed through two effect stages, the distortion and wah circuits.

Finally the modified electrical signal at the output stage can be connected to an amplifier to hear the modified sound.

The guitar model will be a simple construction, having the length of an actual guitar and on which two strings may be mounted. There will be tuners so that the mounted strings will be able to be tuned as good as possible to their normal note making the overall effect more recognizable.

A pick-up will be fixed at a steady distance beneath the strings so that it picks up their vibration and transforms it into an electrical signal.

The pick-up will have three fixed positions, thus emulating the different positions of pick-ups in actual electric guitars.

Then this electrical signal will be modified by the effects stage, which will include two PCB circuits each for a different type of effect.

An amplifier will be connected at the output of the construction for demonstration purposes.