

THE MESSAGE BOX

A project report presented in partial fulfillment of requirements for the award of Diploma in Electrical (Electronics) Engineering of MARA Institute of Technology.

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## Preface

This project is based on an article which appeared in the February issue 1987 of Electronics Australia. The project was then constructed by using mostly locally available components except the Analog to Digital converter (TLC 549) 8 bit Digital to Analog converter (DAC 0800) and 6116 2K x 8 RAM which were imported.

The Message Box is the unit that can be regarded as being similar to a portable cassette player whereby sound can be recorded and replayed. There are several other options of memory that can be incorporated and the speed of the Analog to Digital Converter and Digital to Analog Converter or sampling rate. Other features included a bright LED indicates during recording and playback.

This report consist of many chapters; a chapter on the principle of operation, a chapter on the theory of component, a chapter on the testing and troubleshooting, and finally a chapter on discussion and comments.

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## 1.0 Introduction

This project Message Box, can be regarded as being similar to a portable cassette player whereby sound can be recorded and replayed. However they are not directly equivalent. As example the Message Box has no rewind time so recording can be played at the press of a button.

The Message Box is powered from the mains and optional battery backup facility is provided for the memory so that recorded information will not be lost when the mains is disconnected. A small amplifier is included so that a loudspeaker can be driven directly.

The project was then constructed by using mostly locally available components except the Analog to Digital Converter (TLC 549), Digital to Analog Converter (DAC 0800) and 6116 2k x 8 RAM. The basically operation of Message Box will flow like the block diagram in figure 1.1.