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Analysis of an Ultrasonic Robot

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SENIOR DESIGN

TECHNICAL REPORT

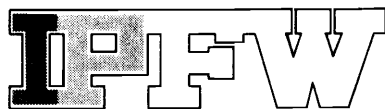
for

Analysis of an Ultrasonic Robot
title

in partial fulfillment of the requirements

for the degree of

BACHELOR OF SCIENCE



presented to the

ELECTRICAL ENGINEERING TECHNOLOGY FACULTY

INDIANA UNIVERSITY-PURDUE UNIVERSITY AT FORT WAYNE

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by

Rhea K. Garner

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TABLE OF CONTENTS

		<u>Page</u>
I	Letter of Transmittal	ii
II	List of Illustrations	iii
III	Abstract	iv
IV	Introduction	1
	Subject and Purpose	1
	Statement of the Problem	1
	Overview of the Task	1
V	System Breakdown	2
	Color Computer	2
	Interfacing to the Color Computer	2
	Big Trac	7
	Keypress Interface	8
	Ultrasonic Sensor System	11
VI	Summary	15
VII	Conclusion	15
VIII	Bibliography	16
IX	Appendix A	17
	6821-PIA Data Sheets	
X	Appendix B	27
	TR-89B type 31 Transducer Data	
XI	Appendix C	36
	LM1812 Ultrasonic Transceiver	
XII	Appendix D	44
	LM567 Tone Decoder	
XIII	Appendix E	48
	Software and Flowchart	
XIV	Appendix F	52
	Parts List	

ILLUSTRATIONS

	<u>page</u>
1. Cartridge Connector Signals	3
2. Block Diagram 6821	4
3. Schematic of Interface	5
4. Control Word Diagram for 6821	6
5. TTL to CMOS Conversion	6
6. Keypad fo Big Trac	7
7. Motor/Gear Assembly	9
8. Keypress Interface	9
9. TMS1000 Orginal Keypad Schematic	10
10. Command Word List	10
11. LM1812 Ranging System	12
12. LM567 Oscillator	13
13. Amplifer and Receive	14

ABSTRACT

This report outlines and describes the different areas involved in the construction of this project. The report also draws on the parallels between 'human aspects' and the electromechanical functions of a robot.

The robot has three main elements contained in its structure: a brain, a body equipped with basic motor functions, and some primitive sensory functions. The brain contains the controlling interface circuitry that regulates body movement via software.

The human aspects are created by the following: a Radio Shack Color Computer emulates the brain of the system, a motorized platform made by Milton Bradley simulates the body, and an ultrasonic system provides the sensory perception.

The elimination of remote control is the unique feature of this project. The robot has been designed to procure uninterrupted movement through a series of obstacles. The robot, therefore, is forced to make decisions on its own. The response of the robot will be patterned to a certain extent due to the fact that it has no recall.