

**Indiana University – Purdue University Fort Wayne**  
**Opus: Research & Creativity at IPFW**

---

Computer and Electrical Engineering Technology &  
Information Systems and Technology Senior Design  
Projects

School of Engineering, Technology and Computer  
Science Design Projects

---

12-9-1996

# IBM Compatible Controller For Mini Mover-5 Robot

Jeff Graham

*Indiana University - Purdue University Fort Wayne*

Follow this and additional works at: [http://opus.ipfw.edu/etcs\\_seniorproj](http://opus.ipfw.edu/etcs_seniorproj)



Part of the [Computer Sciences Commons](#), and the [Engineering Commons](#)

---

## Opus Citation

Jeff Graham (1996). IBM Compatible Controller For Mini Mover-5 Robot.  
[http://opus.ipfw.edu/etcs\\_seniorproj/737](http://opus.ipfw.edu/etcs_seniorproj/737)

This Senior Design Project is brought to you for free and open access by the School of Engineering, Technology and Computer Science Design Projects at Opus: Research & Creativity at IPFW. It has been accepted for inclusion in Computer and Electrical Engineering Technology & Information Systems and Technology Senior Design Projects by an authorized administrator of Opus: Research & Creativity at IPFW. For more information, please contact [admin@lib.ipfw.edu](mailto:admin@lib.ipfw.edu).

SENIOR DESIGN PHASE II

**IBM COMPATIBLE CONTROLLER  
FOR  
MINI MOVER-5 ROBOT**

12-9-96

by

**Jeff Graham**

## LIST OF ILLUSTRATIONS

FIGURE 1-1 ORGANIZATION OF ROBOT INTERFACE.....	2
FIGURE 1-2 ADDRESSING THE ROBOT.....	3
FIGURE 1-3 8-BIT CONVERSION.....	3
FIGURE 1-4 8-BIT INTERFACE.....	4
8255 PARTS LIST.....	5
FIGURE 2-1 PR-2 SCHEMATIC.....	6
FIGURE 2-2 8255 SCHEMATIC.....	7
FIGURE 3-1 PIN CONNECTIONS.....	9
FIGURE 4-1 ADDRESS ASSIGNMENTS.....	10
FIGURE 4-2 STEPPER MOTOR VALUES.....	11

# TABLE OF CONTENTS

INTRODUCTION.....	1
MINIMOVER-5 ROBOT.....	2
THE ADDRESS DECODER.....	2
ROBOT CONVERSION.....	3
8255 INTERFACE CARD.....	5
PARTS LIST AND SCHEMATIC.....	5
PROBLEMS ENCOUNTERED.....	8
THE CONNECTION.....	9
THE CABLE.....	9
PROBLEMS ENCOUNTERED.....	9
THE SOFTWARE.....	10
ADDRESSING.....	10
MOTOR COMMANDS.....	10
TEST SOFTWARE.....	11
CONCLUSION.....	12
APPENDICES.....	13
APPENDIX A (PHASE I PROPOSAL).....	i
APPENDIX B (DATA SHEETS).....	ii
APPENDIX C (FINAL SOFTWARE).....	iii
BIBLIOGRAPHY.....	iv