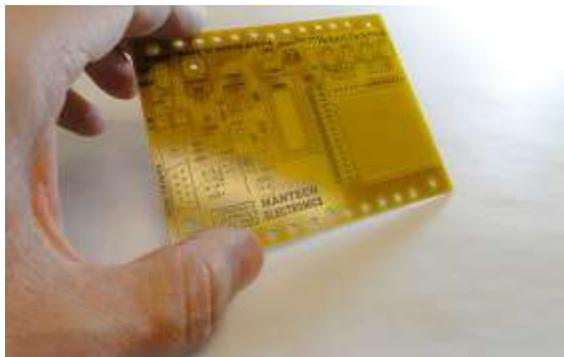


**DATA SHEET: P1X8 RAPID
PROTOTYPING PRINTED CIRCUIT
BOARD v3.0**

<http://www.mantech.co.za/ProductInfo.aspx?Item=99M8825>

INTRODUCTION

This is a printed circuit board developed by www.Mantech.co.za for the RobotScience project at the University of Johannesburg and more information about this project can be found at www.robotscience.co.za.



You can also assemble this robot at home if you have the skills and a fine pointed soldering iron where the temperature can be set between 300 degrees C and 400 degrees C like this:

<http://www.mantech.co.za/ProductInfo.aspx?Item=330M0041>

Please use "no clean" type solder to avoid horrible residue on your board.

The P1X8 board requires this microcontroller to work:

<http://www.mantech.co.za/ProductInfo.aspx?Item=35M3330>

THE P1X8 PROGRAMS IN BASIC

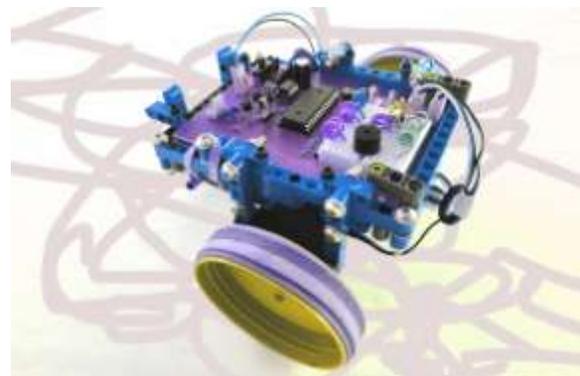
Once built and tested this circuit is the same as the OEM version of the Basic Stamp 2 from Parallax and works with their programming software. The documentation for how to download the software and program the chip is in the training manual which can be found here:

http://www.mantech.co.za/datasheets/products/BOE-BOT_PARALLAX.pdf

You can build this board onto a small robot as in the picture below by going to this website www.robotscience.co.za and watching the videos at:

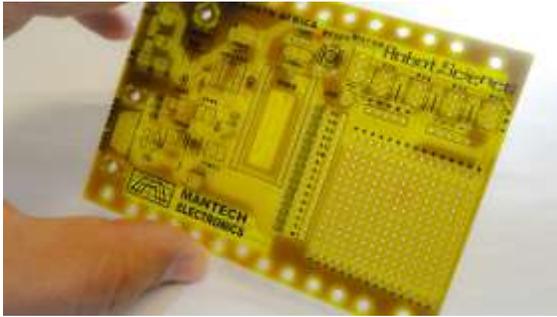
www.youtube.com/mikerobotscience

If you build the robot, you can stick a small breadboard over the matrix of holes next to the input/output pins from the chip, so you can soft-wire circuits for your different robots.



If you are making a working circuit for a real world application, you can hard wire

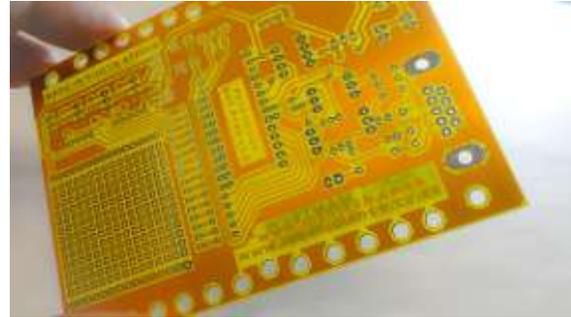
parts onto the area with holes. You can interface the microcontroller to control your systems according to the details in the Parallax docs.



RobotScience and Mantech Electronics in Johannesburg, South Africa, developed this board so you can take your first steps in robotics engineering with us at UJ TechnoLab or at home.

This board incorporates years of experience helping young people to build their own microcontroller circuits for the first time, and has been developed to help you get going easily and avoid mistakes newcomers are likely to make.

Once you have been through the novice training with RobotScience and understand the basics of programming, you can start inventing your stuff with a view to starting your own microbusiness.



Mantech is currently developing a P1X8 Electronics Parts Kit that includes all the parts you need to populate this board.

If you assemble your board incorrectly and find you can't get it working, RobotScience does offer a P1X8 microcontroller board repair service. The repair service costs R500 per board, this charge does not include the cost of courier services to get the board to us and back, parts damaged beyond repair that may have to be replaced.

RobotScience has partnered with University of Johannesburg to train South Africa teenagers in robotics, electronics and programming at the TechnoLab.

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