

P.A.R.T.S

Portland Area Robotics Society

Issue # 04 By. Marvin Green (503) 656-8367.

Within each one of us lies a robot waiting to be created.

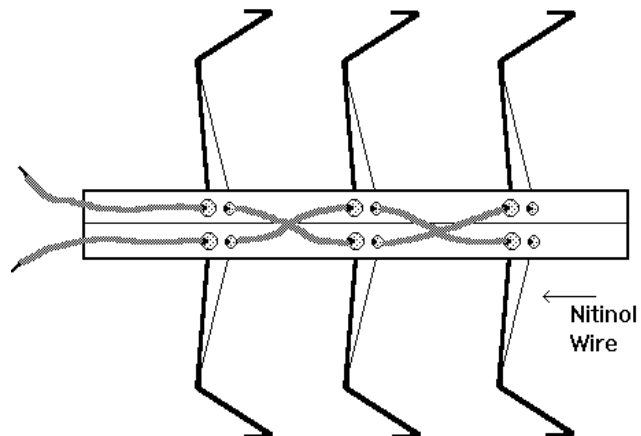
Yes you can build a **Six Legged** walking robot for \$15.00. Stiquito is a three inch robot, that uses Nitinol (shape-memory) wire to walk. Briefly, Nitinol is an alloy of nickel and titanium that contracts when heated by passing a small current through it. Stiquito takes advantage of this effect, and uses the Nitinol wire for leg muscles.

I purchase the mail order Stiquito kit for \$15. The kit includes all the parts necessary to build Stiquito, along with an extremely well written manual. The kit can go together in one evening providing you have small enough tools.

CAUTION: the parts are very small, and not easy to work with.

My biggest complaint is that the body must be glued together by two halves pieces. This glue seem takes a lot of stress, and should actually be just one part. You can make your own with a small piece of plastic or wood, or put some heat shrink tubing around the body for a better hold.

The Stiquito is a state of the art kit, and comes with a great manual (worth the \$15 alone). The Nitinol is amazing to behold, the legs move without motors, pumps, or gears. The possibilities for robot experimenters are endless.



Computer Science Dept.

...15 you find out about it yourself.

Attn: TR 363a Stiquito

215 Lindley Hall

Indiana University

Bloomington, Indiana, 47405

This is an excerpt from a letter I received from Terry Coss. Terry is an enthusiastic High School Teacher from Newberg High School, who wants his students to get a taste of the 21st century. (ROBOT STYLE)

"As you know I am excited about the possibilities of Newberg High School's Robotics program (machine shop and engineering/drafting) working with other robotic enthusiasts. In the three years we have attended the state wide high school robotic competition at OIT we have won three first places, one second place, and one first place in applied engineering.

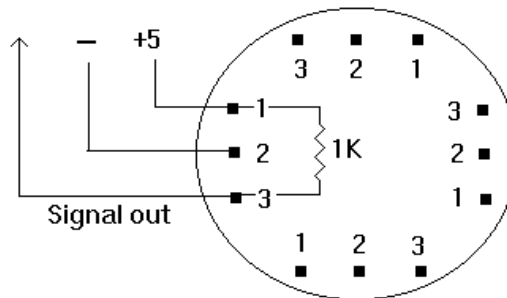
In the four and half years I have been teaching, I have been looking for relevant projects for the students to work on. I have not found any projects that reflect technology for this decade or the next century. Hopefully P.A.R.T.S can supply my students with blueprints for new robotic technology and we can supply P.A.R.T.S with parts manufactured to plus or minus .005". This would give the students an up-to-date challenge and the small charge would help fund our robotic projects.

Our facilities include the following: auto cad, plasma-arc, heli-arc, alum. wire feed welder, steel wire feed welder, stick welders, oxy-acetylene torch, alum. and brass foundry, lathes, vertical mills, horizontal mills, 20 ton press, precision grinders, etc. "

Help out the students at Newberg High School by sending Terry your 'one of a kind custom part' or your 'mass produced robot gizmo part' that you need created. You can have that funny "do hicky" part made by experts, get students excited about high technology, and save a buck. Who could ask for more?
Contact Terry Coss at Newberg High School (503) 538-8361 or at Home (503) 538-0409.

I added a **Compass** to ZIPPY this weekend. Now he can turn any direction, sense where he is coming and going to. The digital compass I used is a great idea for robots to help in navigation, and in room recognition. Another idea is to put the battery charger on the North wall of a room, to make it that much easier to find! Or use the compass for a maze running robot.

-- The Mind Boggles --



Copy connections for each sensor. 'Dime' size Compass with pull up resistor.

— Bottom View —

The compass is from Suncoast Technologies and is a real bargain at \$15.00. Compass resolution gives you eight possible heading with an accuracy of about 20 degrees, and connects to any four input connection. Hall effect sensors and a swivel magnet give the compass its zest.

Suncoast Technologies P.O. Box 5835 Spring Hill, FL 34606