

P.A.R.T.S

Portland Area Robotics Society

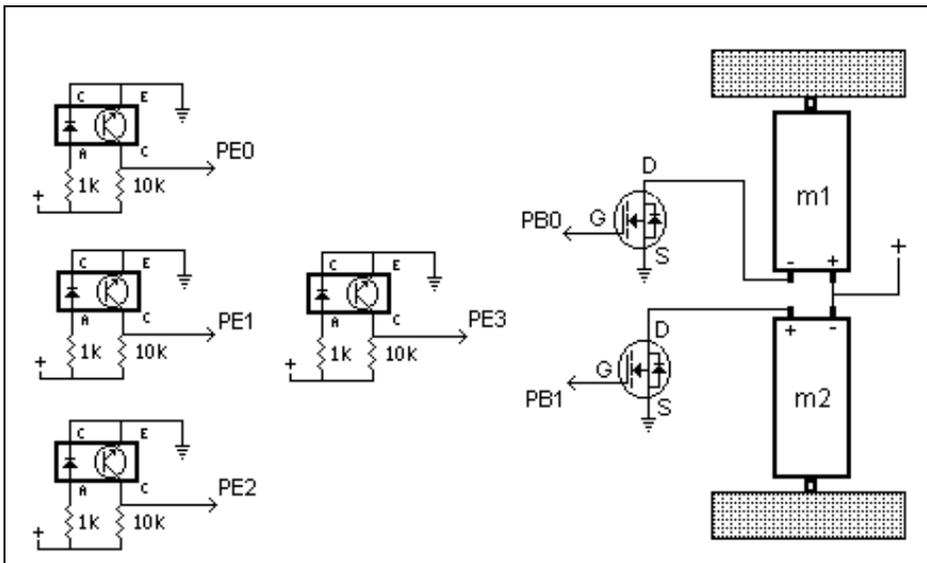
Issue # 06 By. Marvin Green (503) 656-8367.

Check out 'THE VOR' by Tom Lonergan and Carl Frederick, Hayden Book Company.

ZippyJr. OVERVIEW.

The challenge was to build a robot using only a one chip microcontroller. By combining the \$15 Wonder Computer (see PARTS issue #05) two motors, four sensors (see Parts issue #02) and a few TMOS transistors (Radio Shack #276-2074), you have the hardware to make a tiny line following robot.

Here is the circuits that combines with the 68HC11 to create ZippyJr.



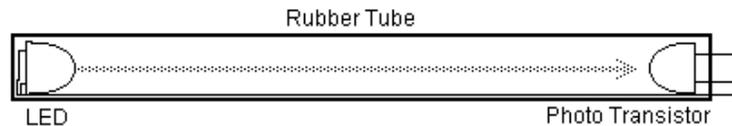
This project just shows that vast amounts of money and time don't need to be spent to create a small versatile robot. The core program for ZippyJr is less than 200 bytes written in assembler and he runs off a nine volt battery. Next issue I will detail the software for ZippyJr.

Refer to the Motorola MC68HC11 Technical Data for chip specifics, and pin connections.

PC For Your ROBOT ?

Megatel Computer Corp. has been advertising a small (4"x4") PC compatible embedded module. This computer comes with 256K memory 32K BIOS ROM, keyboard and speaker ports, with a 80C88 8Mhz CPU. Looks like it has definite robot potential, and is compatible with most PC type computers. The PC/104 has a price of only \$99. Contact Megatel at 125 Wendell Ave., Weston, Ont. M9N 3K9. (416) 245-3324.

QUICKIE *idea...*



Here is an idea for a simple whisker for a robot. It uses a low current LED and a photo transistor connected to the signal of a microcontroller. The LED and transistor are mounted inside rubber surgical tubing about 4" long. If anything bumps the whisker, the light path is broken and the photo transistor tells the CPU.

GET THESE CATALOGS! Combined list of some good places to find robot parts mail order.

Marlin P. Jones & Assoc.
P.O. Box 12685
Lake Park, FL 33403-0685
(407) 848-8236
Motors, Electronic Surplus,
Lots of neat stuff.

HosFelt Electronics, INC.
2700 Sunset Blvd.
(800) 524-6464
More Electronic surplus gages,

Kelvin Electronics
7 Fairchild Ave.
Plainview, NY 11803
(516)349-7620
Plenty of robot kits, educational
kits, from rockets to wire.

Winfred M. Berg, Inc.
499 Ocean Ave.
East Rockaway, NY 11518
(516) 599-5010
Gears, belts, couplings.

Edmund Scientific
101 East Gloucester Pike
Barrington, NJ 08007-1380
(609) 547-8880
Scientific kits, projects, lasers,
microscopes, and more.

SIG
401 South Front St.
Montezuma, Iowa 50171
(515) 623-5154
R/C Airplane parts store.
Great for robotic parts!

New Micros Inc.
1601 Chalk Rd.
Dallas, Texas 75212
(214) 339-2204
Best small computer board for the
money. Powerful 68HC11, with FORTH.
Good docs and good support.

Electronic Goldmine
P.O. Box 5408
Scottsdale, AZ 85261
(602) 451-7454
Lots of weird electronic stuff,
super prices, but the stock comes
and goes wildly.

Herbach and Rademan
Bristol, PA 19007-0122
(800) 848-8001 (orders only)
(215) 788-5583 (office)
DC motors, power supplies, batteries.

Suncoast Technologies
P.O. Box 5835
Spring Hill, Florida 34606
(904) 596-7599
8051 SBCs, kits, and software.

American Science and Surplus
601 Linden Place
Evanston, Illinois 60202
(708) 475-8440
Just about everything

Digi-Key
P.O. Box 677
Thief River Falls, MN 56701-0677
Distributor for many lines of ICs,
batteries, sockets, tools, and other
electronic parts.

JDR Microdevices
2233 Samaritan Drive
San Jose, CA 95124
(800) 538-5000 (orders)
(800) 538-5005 (fax)
(800) 538-5002 (tech support)

Lots of PC gear, EPROM programmers,
sockets, ICs, batteries, tools,
and other electronic parts

Mouser Electronics
1-800-992-9943 (free catalog)
Distributor for many lines of
ICs and other electronic parts