

DPRG

Dallas Personal Robotics Group

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A NEWSLETTER FOR PERSONAL ROBOTICS ENTHUSIASTS

RoboFest will be in the Fall this Year

Thanks to Erick Wagner for forwarding this email.

To all the people asking about this year's RoboFest. Sorry I haven't responded before now, but we are still working on the details.

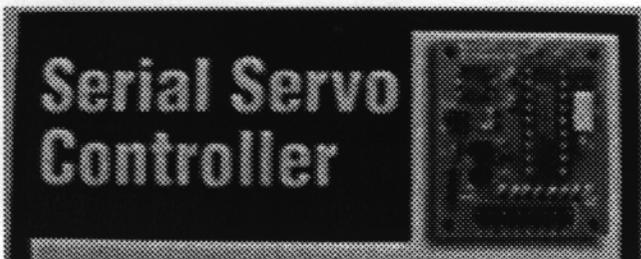
The one thing that is certain is that the event will be held in the fall of '96 not this spring. RoboFest will probably be held sometime in September. Once we have the date and location nailed down, we will post it to this mailing list, and our web page at <http://www.robotgroup.org>

Thanks for asking.

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THE MINI SSC

by Erick Wagner (wagnere@netcom.com)



Well, I made some progress last night with the Mini SSC (Serial Servo Controller) -- the kit from Scott Edwards Electronics that controls up to eight hobby servos via commands sent over RS-232.

I finished the assembly of the Mini SSC a couple of weeks ago but then determined that I needed to make a power distribution board. Such a board makes it convenient to plug in up to eight servo motors (with a three conductor plug: +6 VDC, Gnd, Control Signal) so they get electrical power. The distribution board has a 2x8 header to match the one on the SSC; the 2x8 header consists of two connections per servo (Control Signal, Gnd). I then made two cables: one to connect the 2x8 headers on both boards and the second for an RS-232 connection to COM2.

Then I keyed in the sample QBASIC program (with some modifications) to position the servos at specified positions (using numbers in the range of 0 to 254).

Guess what? It worked! :) That SSC board is really great. Folks aren't kidding when they say the servos don't jitter at all [using the SSC]; my servos moved smoothly between positions and held their positions well.

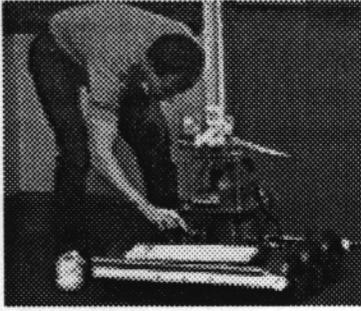
Check out the DPRG web page at:

<http://www.robotics.com/dprg.html>

COME FLY WITH US!

The DPRG Newsletter is published monthly by the Dallas Personal Robotics Group. Membership in the DPRG costs \$20 per year and includes a free subscription to this newsletter, which makes great model airplane stock. For more information, contact:

Dallas Personal Robotics Group
Attn: Eric Yundt - President
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8031 PC Board

Project (part 2)

by Jim Brown

(jbrown@why.net)

<http://www.why.net/users/jbrown/pcb.htm>

Well, I got the PC boards from the PCB manufacturer, and they work just

great! The boards are so beautiful! When I first got them at my door step, I did a dance for several minutes - screaming and yelling and just plain being overly excited. When I finally calmed down, I called about everyone that I thought might care. Some of the people I called even acted interested for my sake. Thanks to everyone who acted like it was cool!

Anyway it seemed like an eternity the next day at work. All I could think about was the neat projects I could make out of my new boards. When I got home I soldered all the parts necessary onto the board. I made a simple program to just blink some LEDs as a test to see if it worked. I then got out my eprom programmer and burned an eprom. I plugged the eprom into the board and... Nothing. Bummer. Big Bummer. I looked at all the traces on my board. I buzzed out all the traces with an LED (I guess the LEDs buzz at such a high frequency they give off light <grin>). The board seemed perfect. Finally, I remembered that the couple of 8031 chips that I had were suspect from the last time I made a project. I had to wait until I could get to Tanners on a Saturday and it was Wednesday. Eric Yundt graciously offered to taxi me over to Tanners after work, since my car wouldn't make it! I got home and... YEAH!!!! It worked so beautifully. Sure it was just a couple of LEDs blinking, but it was enough to make me do another one of those excited dances.

I tried to put together another project with two stepper motors. It took a little while to solder a proto board with the steppers and some ULN2803 chips. The stepper motors worked great - they turn really

smooth. I thought it would be my next robot setup. I put together a foam-core platform to keep it light and used a 9 volt battery, but the weight of the stepper motors themselves kept the contraption from actually moving (it just vibrated in place - ugh). Oh well back to the drawing board.

The Up and coming Robot Contest

It's just about another month, and the robot contest will be here!!! Are you ready to enter your robot? No? Shame on you. Maybe you'll need to come to the next meeting and persuade everyone to push the contest back a month or so. Unless that happens DPRG will have another robot contest in the month of May. The robot contest will consist of the same basic rules as last time.

This was Keno & Susan's robot that they entered into the contest the last time it was held. It used a video camera and neural-net software to navigate the course! The base was a child's battery operated all-terrain-vehicle.

The course layout will be something like a strip 4 foot wide with a base at each end 4 foot square. The rules are for a robot to self-navigate from the starting box to completely inside the half-way box and then back to the starting box. It's not as easy as it sounds! The fastest robot wins. (Really anyone who participates is a winner!). Additional consideration is awarded for turning around in the half-way box and for making some sort of noise during the course.

This was another robot that was entered into the contest last time. It was made from a Big Track and an Erector Set. It had some trouble on the carpet, so tables were setup so that it could complete the course!

This was Roger Arrick's entry into the contest. It used the same base as Keno & Susan's robot (an ATV), and used learn and playback software to complete the course. This robot was the winner of the contest.

The idea of the contest is to encourage participation and as an incentive to finish up those half-built robots out there.



This was another robot entered by Roger. It's simple design totally amazed everyone. It had a dowel rod at the top that when it hits the wall throws a toggle switch so that the car goes in reverse. It took a couple tries, because the steering wasn't straight, but it completed the course and was probably the second fastest robot to complete the course.

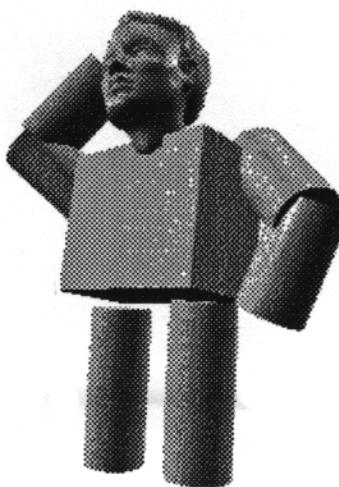
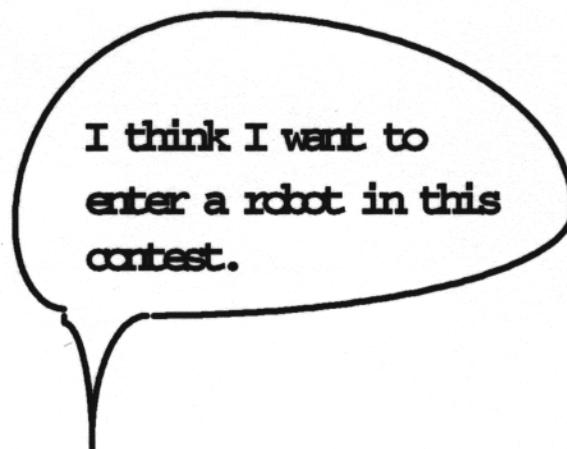
Will you win this year!!! You can only win if you enter a robot. Who knows, yours may be the only one and you'll win by default!!! Be there in May.

TECH BOOKS FOR FREE!

Be sure to make it to the next DPRG meeting - there will be tech books for free. A guy named Charles Shoemaker (or something like that - I asked for his card, and then lost it when I got home! - sorry Charles if I got your name wrong). Last time he brought some books, they were some pretty good stuff! Don't miss out!

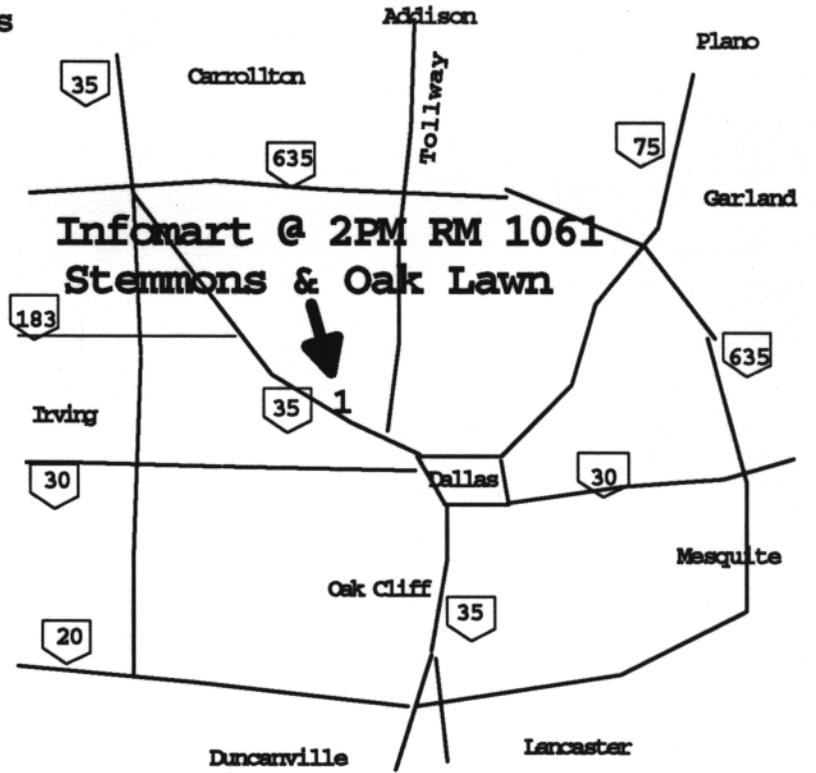
Upcomming DPRG meeting dates at the Infomart:

- April 20th, 1996
- May 18th, 1996
- June 15th, 1996
- July 20th, 1996
- August 10th, 1996
- September 14th, 1996
- November 9th, 1996



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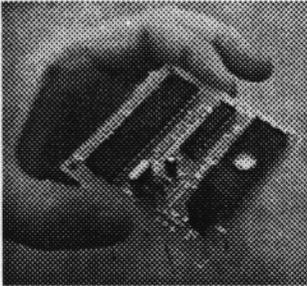
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Inside:

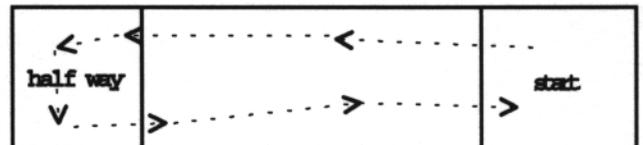
- Free Tech Books
- The Mini SSC
- 8031 pcb project part 2
- The Robot Contest is in May
- and much, much,



more!



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Send To:

