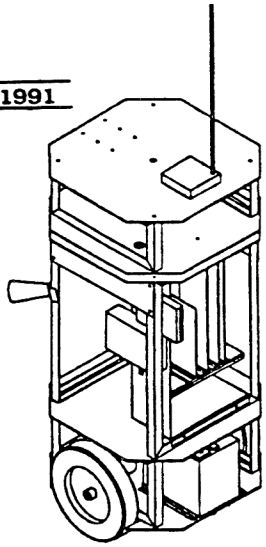
ROBOT BUILDER

The official publication of the ROBOTICS SOCIETY of SOUTHERN CALIFORNIA
10471 South Brookhurst, Anaheim, Ca 92804



UPCOMING EVENTS CALENDAR OCT 1991

11 Oct 06: p.m. - 08: p.m. Faire Meeting
12 Oct 08: a.m. - 02: p.m. Monthly Meeting
15 Oct 07: p.m. - 09: p.m. Business Meeting
09 Nov 08: a.m. - 02: p.m. Monthly Meeting
19 Nov 07: p.m. - 09: p.m. Business Meeting
14 Dec 08: a.m. - 02: p.m. Monthly Meeting
17 Dec 07: p.m. - 09: p.m. Business Meeting

Monthly meeting are held on the second Saturday of each month. The following is a guide to the activities of the day.

08:00 a.m. - 09:00 a.m. SIG
09:00 a.m. - 10:00 a.m. SIG
10:00 a.m. - 12:00 a.m. Work Shop
12:00 a.m. - 12:30 p.m. Lunch
12:00 p.m. - 02:00 p.m. Meeting
12:30 - 01:00 Business
01:00 - 02:00 Guest Speaker
02:00 - 03:00 Informal Access

Faire Meeting
The Faire committee meets at The Robot Company 1782 Monrovia Ave. in Costa Mesa. Also the committee will form a Special Interest Group to meet with the Monthly meetings. The SIG meeting will be directed at implementing activities in preparation for the Faire.

Business Meeting
The elected officers of RSSC meet on the third Tuesday of each month at Jerry Burton's shop. Jerry's shop is located at 10471 South Brookhurst in Anaheim. Meetings start at 7 p.m. and we leave Jerry at nine because we have to work the next day. All members are welcome to come and observe the proceedings.

Oct. 12th. 1 p.m.
The guest speaker will be from Dynaloy wire. The special wire changes length when heated. The wire has many applications in robotics.

Nov. 9th. 1 p.m.
The guest speaker will speak on robot architecture. Don Golding and Jerry Burton want to share the hour.

Dec. 14th. 1 p.m.
The guest speaker will be Roland Koluvek. Roland would like to introduce us to the microprocessor he has been programming.

```
11000 REM DECLARE SOME VARIABLES
11005 DEFINT     A-Z
11010 FALSE     = 0
11015 TRUE      = NOT FALSE
11020 GETIN$    = "SOME STRING ABOUT 25 CHARACTERS LONG"
11025 MODSET$   = "ATE1H1C1M2F0A"   'ANSWER STRING
11030 PASSING$ = "SOME STRING ABOUT 25 CHARACTERS LONG"
11035 THIS$     = "SOME STRING ABOUT 25 CHARACTERS LONG"
11040 THIS1$    = THIS$ + PASSING$ + GETIN$ + THIS$ + THIS$
11045 THIS2$    = "AS"

11100 REM SOME START UP THINGS
11105 KEY OFF
11110 CLS
11115 CLOSE
11120 ON ERROR GOTO 20005

11200 REM SET UP THE COM PORT
11205 OPEN "COM1:1200,N,8,1" AS 2
11210 COM (1) ON
11215 ON COM(1) GOSUB 11800
11220 GOTO 11300
11225 REM COM1 OR COM2
11230 REM 300 OR 1200

11300 REM SET UP THE PRINT INTERFACE
11305 OPEN "O" , 1 , "LPT1:"      'OPEN DEV 1 AS LPT PRINTER
11310 REM PRINT #1, "LPT1 IS OPEN FOR DATA"
11315 REM PRINT #1, "+++"

11400 REM SET UP THE MODEM
11405 GOSUB 11500
11415 GOTO  11600
11420 REM "M2"    'SET SPEAKER ON FOREVER
11425 REM "F0"    'HALF DUPLEX OPERATION1
11430 REM "E1"    'ECHO ON
11435 REM "L1"    'SPEAKER VOLUMN
11440 REM "Q0"    'SEND MODEM STATUS TO SCREEN"
11445 REM "S7=120" 'WAIT 2 MINUTES FOR CARRIER
11450 REM "V1"    'VERBOSE MODE
11455 REM "H1"    'GO OFF HOOK
11460 REM "C1"    'TRANSMIT ENABLED"
11465 REM "S1"    'SPEAKER ON"
11475 REM "D"     'DIAL END OF LINK"
11475 REM "A"     'ANSWER END OF LINK"
11480 REM  #1 OUTPUT LPT1 ROBOT
11485 REM  #2 INPUT  COM1 MODEM

11500 REM START THE MODEM
11505 MODSET$ = "ATE0H1C1M1F0D"   'DIAL STRING
11510 PRINT #2, MODSET$
11515 RETURN
```

```
11600 REM DUMP ANY KEYBOARD JUNK
11605 GETIN$ = ""                    'CLEAN UP THE KEYBOARD BUFFER
11610 GETIN$ = INKEY$                'READ KEY BOARD FOR INPUT
11615 IF GETIN$ <> "" GOTO 11600 'IF INPUT READ SOME MORE

11700 REM READ DATA FROM THE PORT FOREVER
11705 REM ON COM GOSUB 11800             'GO CHECK THE MODEM FOR INPUT
11710 GETIN$ = ""                        'SET BUFFER TO NULL STRING
11715 GETIN$ = INKEY$                    'CHECK KEYBOARD FOR INPUT
11720 IF GETIN$ = ""  THEN GOTO 11710  'NO INPUT SO LOOP
11725 IF GETIN$ = "!" THEN GOTO 12900  'MAGIC STOP PROGRAM KEY INPUT
11730 IF GETIN$ = "@" THEN CLS         'MAGIC CLEAR SCREEN KEY INPUT
11735 IF GETIN$ = "#" THEN GOSUB 11500 'RESTART MODEM
11740 GOTO 11710                         'IF INPUT AND NOT STOP THEN LOOP
11745 SYSTEM

11800 REM GET THE MODEM DATA
11805 IF EOF(2) = TRUE THEN RETURN
11810 IF LEN(THIS1$) > 50 THEN THIS1$ = "STARTNEW"
11820 PASSING$ = INPUT$(LOC(2),2)
11825 THIS$ = CHR$(124) + PASSING$ + CHR$(124)
11830 Y = 2
11900 FOR X = 1 TO LEN(THIS$)
11905     THIS2$ = ""
11910     THIS2$ = MID$(THIS$ , X , 1)
11915     IF THIS2$ < CHR$(32)  THEN GOTO 12000 'VALUE TO SMALL
11920     IF THIS2$ > CHR$(122) THEN GOTO 12000 'VALUE TO LARGE
11925     THIS1$ = THIS1$ + THIS2$
11930     IF INSTR(2, THIS1$ , "CARRI") > 2  THEN Y = 11000
11935     REM PRINT THIS2$ ;
11940     PRINT #1, THIS2$ ;
12000     REM SOME OVER RANGE EXIT
12010 NEXT X
12015 IF Y = 11000 THEN GOTO 11000
12020 RETURN

12900 REM STOP THE ARM MOTOR BEFORE EXIT
12905 COM (1) OFF
12910 PRINT #1, "++"
12915 PRINT #1, ".."
12920 REM STOP THE MODEM AND CLOSE THE FILES
12925 PLAY "MFT200MSC1G1"
12930 PRINT #2, "+++" ;
12935 PLAY "MFT200MSF1B2C"
12940 PRINT #2, "ATZ"
12945 PLAY "MFT200MSB2CAD"
12950 CLOSE
12951 SYSTEM
12955 END

20000 REM SOME ERROR CONTROL
20001 SYSTEM
20005 PRINT "  "
20010 PRINT "ERROR # ", ERR , " ON LINE " , ERL
20015 END
```

```
10000 REM DECLARE SOME VARIABLES
10005 DEFINT     A-Z
10010 FALSE     = 0
10015 TRUE      = NOT FALSE
10020 GETIN$    = "SOME STRING ABOUT 25 CHARACTERS LONG"
10025 MODSET$   = "ATE1H1C1M2FOD"  'DIAL STRING
10030 PASSING$ = "SOME STRING ABOUT 25 CHARACTERS LONG"
10035 THIS$     = "SOME STRING ABOUT 25 CHARACTERS LONG"
10040 THIS1$    = THIS$ + PASSING$ + GETIN$ + THIS$ + THIS$
10045 THIS2$    = "AS"

10100 REM SOME START UP THINGS
10105 KEY OFF
10110 CLS
10115 CLOSE
10120 ON ERROR GOTO 20005
10200 REM SET UP THE COM PORT
10205 OPEN "COM2:1200,N,8,1" AS 2
10210 COM (2) OFF
10215 ON COM(2) GOSUB 11800
10220 GOSUB 10300
10225 GOTO 11400
10230 REM COM1 OR COM2
10235 REM 300 OR 1200

10300 CLS
10305 PRINT "    "
10310 PRINT "       BASE      CW     A I CCW    "
10315 PRINT "       SHOULDER  DOWN   B J UP     "
10320 PRINT "       ELBOW     LEFT   C K RIGHT  "
10325 PRINT "       WRIST     DOWN   D L UP     "
10330 PRINT "       HAND      CW     E M CWW    "
10335 PRINT "       FINGER    CLOSE  F N OPEN   "
10340 PRINT "       AXIS      STOP   G H STOP   "
10345 PRINT "       MOTOR     STOP   . / STOP   "
10350 RETURN

11400 REM SET UP THE MODEM
11405 GOSUB 11500
11415 GOTO  11600
11420 REM "M2"    'SET SPEAKER ON FOREVER
11425 REM "F0"    'HALF DUPLEX OPERATION1
11430 REM "E1"    'ECHO ON
11435 REM "L1"    'SPEAKER VOLUMN
11440 REM "Q0"    'SEND MODEM STATUS TO SCREEN"
11445 REM "S7=120" 'WAIT 2 MINUTES FOR CARRIER
11450 REM "V1"    'VERBOSE MODE
11455 REM "H1"    'GO OFF HOOK
11460 REM "C1"    'TRANSMIT ENABLED"
11465 REM "S1"    'SPEAKER ON"
11475 REM "D"     'DIAL END OF LINK"
11475 REM "A"     'ANSWER END OF LINK"
11480 REM  #1 OUTPUT LPT1 ROBOT
11485 REM  #2 INPUT  COM1 MODEM
```

```
11500 REM START THE MODEM
11505 MODSET$ = "ATE0H1C1M1F0A"  'ANSWER STRING
11510 PRINT #2, MODSET$
11515 RETURN

11600 REM DUMP ANY KEYBOARD JUNK
11605 GETIN$ = ""                'CLEAN UP THE KEYBOARD BUFFER
11610 GETIN$ = INKEY$            'READ KEY BOARD FOR INPUT
11615 IF GETIN$ <> "" GOTO 11600 'IF INPUT READ SOME MORE
11620 COM (1) ON                 'ENABLE COM INPUT TRAPPING

11700 REM READ DATA FROM THE PORT FOREVER
11705 REM ON COM GOSUB 11800           'GO CHECK THE MODEM FOR INPUT
11710 GETIN$ = ""                      'SET BUFFER TO NULL STRING
11715 GETIN$ = INKEY$                  'CHECK KEYBOARD FOR INPUT
11720 IF GETIN$ <> "" THEN GOSUB 21000
11725 GOTO 11710

11800 REM GET THE MODEM DATA
11805 IF EOF(2) = TRUE THEN RETURN
11810 IF LEN(THIS1$) > 50 THEN THIS1$ = "STARTNEW"
11820 PASSING$ = INPUT$(LOC(2),2)
11825 THIS$ = CHR$(124) + PASSING$ + CHR$(124)
11830 Y = 2
11900 FOR X = 1 TO LEN(THIS$)
11905     THIS2$ = ""
11910     THIS2$ = MID$(THIS$ , X , 1)
11915     IF THIS2$ < CHR$(32)  THEN GOTO 12000 'VALUE TO SMALL
11920     IF THIS2$ > CHR$(122) THEN GOTO 12000 'VALUE TO LARGE
11925     THIS1$ = THIS1$ + THIS2$
11930     IF INSTR(2, THIS1$ , "CARRI") > 2  THEN Y = 10000
11935     REM PRINT THIS2$ ;
11940     REM PRINT #1, THIS2$
12000     REM SOME OVER RANGE EXIT
12010 NEXT X
12015 IF Y = 11000 THEN GOTO 11000
12020 RETURN
12025 REM IF CARRIER IS LOST RESTART THE PROGRAM

12900 REM STOP THE ARM MOTOR BEFORE EXIT
12905 COM (2) OFF
12910 PRINT #2, "*"
12915 PRINT #2, "+"
12920 REM STOP THE MODEM AND CLOSE THE FILES
12925 PLAY "MFT200MSC1G1"
12930 PRINT #2, "+++" ;
12935 PLAY "MFT200MSF1B2C"
12940 PRINT #2, "ATZ"
12945 PLAY "MFT200MSB2CAD"
12950 CLOSE
12951 SYSTEM
12955 END
```

HELP WANTED with clipping service. Will you please clip and send to the society any article you read that has the word robot in it or is related to robots. Help spread the knowledge by sharing what you discover with others.

```
20000 REM SOME ERROR CONTROL
20001 SYSTEM
20005 PRINT "  "
20010 PRINT "ERROR # ", ERR , " ON LINE " , ERL
20015 END

21000 REM SOME CHECK OF OUTPUTS TO THE MODEM
21005 IF GETIN$ = ""  THEN RETURN      'NO INPUT SO LOOP
21010 IF GETIN$ = "!" THEN GOTO  12900 'MAGIC STOP PROGRAM KEY INPUT
21015 IF GETIN$ = "@" THEN GOSUB 10300 'MAGIC CLEAR SCREEN KEY INPUT
21020 IF GETIN$ = "#" THEN GOSUB 11500 'RESTART MODEM
21025 IF GETIN$ = "A" THEN PRINT #2, "ZAZAZ";
21030 IF GETIN$ = "B" THEN PRINT #2, "ZBZBZ";
21035 IF GETIN$ = "C" THEN PRINT #2, "ZCZCZ";
21040 IF GETIN$ = "D" THEN PRINT #2, "ZDZDZ";
21045 IF GETIN$ = "E" THEN PRINT #2, "ZEZEZ";
21050 IF GETIN$ = "F" THEN PRINT #2, "ZF";
21055 IF GETIN$ = "G" THEN PRINT #2, "ZG";
21060 IF GETIN$ = "H" THEN PRINT #2, "ZH";
21065 IF GETIN$ = "I" THEN PRINT #2, "ZI";
21070 IF GETIN$ = "J" THEN PRINT #2, "ZJ";
21075 IF GETIN$ = "K" THEN PRINT #2, "ZK";
21080 IF GETIN$ = "L" THEN PRINT #2, "ZL";
21085 IF GETIN$ = "M" THEN PRINT #2, "ZM";
21090 IF GETIN$ = "N" THEN PRINT #2, "ZN";
21095 IF GETIN$ = "." THEN PRINT #2, "++";
21100 IF GETIN$ = "/" THEN PRINT #2, "++";
21105 IF GETIN$ = " " THEN PRINT #2, "++"
22110 RETURN

60000  REM MODEM TO PARALLEL PORT PASS
60005  REM VERSION 1.0 (C) Copyright Roger's Software Sales 1991
60010  REM Licensed Material - Program Property of Roger's Software Sale
60015  REM Author - Roger L. Ruszkowski
60020  REM THIS PROGRAM WILL SET UP A MODEM ON COM1.
60025  REM DATA IS ACCEPTED FROM COM1 AND ASSED TO LPT1
60030  REM THE PROGRAM WILL ESTABLISH MODEM COMMUNICATIONS
60035  REM AND KEEP THE LINE UP. IF THE LINE IS DROPED THE
60040  REM PROGRAM WILL RESTART THE COMMUNICATIONS.
```

The two complete Basic programs are used with the wire less phone link that was presented in last month Builder. The programs are used to control a robot arm from the second computers printer port. The robot arm receives characters from the computer and decodes the character into an action. The code prints some character and the code comment says the arm acts. Trust that the robot arm accepts the printed character and performs as it should.

The two programs allow two computers to communicate modem to modem with a two conductor wire between them. The wire less phone dispatched with the physical connection. The programs are presented to allow you to code your own link programs. The code shows how each end is initialized and then placed in a loop that continues to communicate. The programs are bi-directional.

The Bulletin Board
ROBOT DAWN BBB
Host of the Robotics Society of Southern California
1-(714)-538-0614
1200 / 2400 8, N, 1

Our thanks to Jim Benson (SYSOP) who will operate the bulletin board. Jim is waiting for the society secretary to get him some info about the society uploaded to the board. Jim will be able to keep the board up more hours than we have been able to do so in the past. Jim would like to launch some special interest groups on the board. You need a computer, phone and the cash to pay your phone bill to get on the board. For those of us with this price of admission we will be able to share knowledge of robots. Thank you Jim for your support. The board is viewed as a positive move in meeting the societies objectives.

Jim gave me a listing of the boards intro screens. I regret that the listing would not reproduce. Next month I will publish big page spread of the screens for everyone.

The 1st Annual Robot Faire
Sunday 2 August 1992
Over 6000 sq. ft. of robots
Located at Orange Coast College

Exhibits of robot toys
Exhibits of hobby built robots
Demonstrations of robots
Micro mouse maze contest
Life size maze contest
Robot video's
Come take control of a robot in a contest of skill.
Papers and speakers on robots.
Bring what you have
Contest, Ribbons, Awards

HELPMATE

Well here I am at 8:45 PM Sat night behind my computer furiously typing an input for the ROBOT BUILDER. Seems like out life is always full of dead lines of one kind or another.

I was interested when Jerry B. reported two or three meetings ago about a robot he saw when he visited the Transitions Research Corporation in Danbury, CT. I read the literature that he gave us about the HELPMATE with great interest. I was especially interested in the sensor set and the two video cameras. Nothing unusual about video cameras but I noticed that the specification stated that one looked forward and one looked upward. Now why would a video camera be looking upward?? This unusual feature piqued my interest but no where in the hand outs was more information about this upward looking camera.

So it was off to the library and the use of the trusty data search computer to find other references about this Hospital Helper.

The data base had four references that seemed of interest. I was able to find one quickly and the others will take some more searching to find the hard copy.

I found out that the upward camera is looking at the ceiling lights to determine the center of the hall way it is traveling. The lights are always on and the frame grabber only needs two or at most three shades of gray to plot each lamp position. From the lamp position, the HELPMATE can then calculate the center of the hall way.

In a hospital, however, ceiling lights are plentiful but are often turned off to save electricity or to create a quite atmosphere. This suggests that lights can be used for navigation purposes but cannot be relied on as the sole source of

information. Placing of wires or tape on the floor of the hospitals help guide HELPMATE was not allowed.

HELPMATE will move through the hall ways at 2 feet a second. When an obstacle is encountered, the forward speed is reduced in half while maneuvering around the hazard. One technical objective with HELPMATE was to successfully handle the uncertainties presented in the unstructured environment of a typical hospital. It must handle all uncertainty and navigate based on only upon as little prior knowledge as possible. It makes use of on board sensing other natural environment so it doesn't require major modification to be operated in other hospitals.

It makes use of a recent work developed at Male University on motion planning with incomplete information. An algorithm developed was called BUG2 and allows a point automation with tactile sensing to travel from some start point to a target point with no prior knowledge of obstacles in its environment. I'll look for the paper and get it in the engineering notebook.

HELPMATE is equipped with ultrasound and structured light range sensing. The ultrasound sensors are Polaroid, the same as on RSSCy. The light sensor is a CCD camera positioned above two structured light projectors. The IR light is projected in a fan shaped arrangement with one projecting low and the other higher up. The camera being in the head looks down and can triangulate on the reflections for the range information.

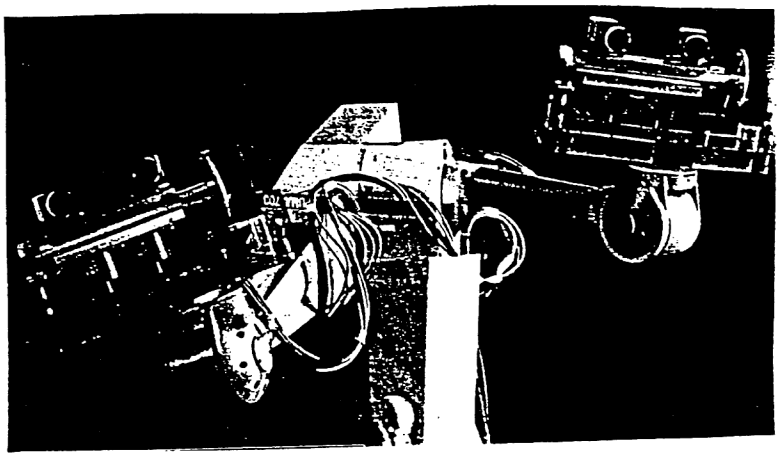
Of the twelve acoustical sensors, eight are mounted looking forward. This supplements the IR ranging sensor for additional safety.

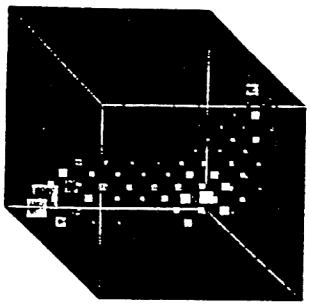
To detect obstacles that may go undetected by the other sensors, a set of touch sensitive bumpers are mounted on the front and the back of HELPMATE. These are tied directly into the drive subsystem to stop the robot when triggered thus overriding any control command issued by the navigation system.

The other CCD camera is mounted on top of the robot and looks upward. This is the one that estimates the robots position by use of the hallway ceiling lights.

It also has an RF link for calling the freight elevator when it needs to move from floor to floor.

I'll get these papers in the engineering notebook as I can get them from the library searches...JJ





Top: This robot, shown in a multiple exposure, sees in living color. Right: A robot's-eye view of a box of Cap'n Crunch's Crunch Berries. Left: Some household items the robot can see.

ROBOT COLOR

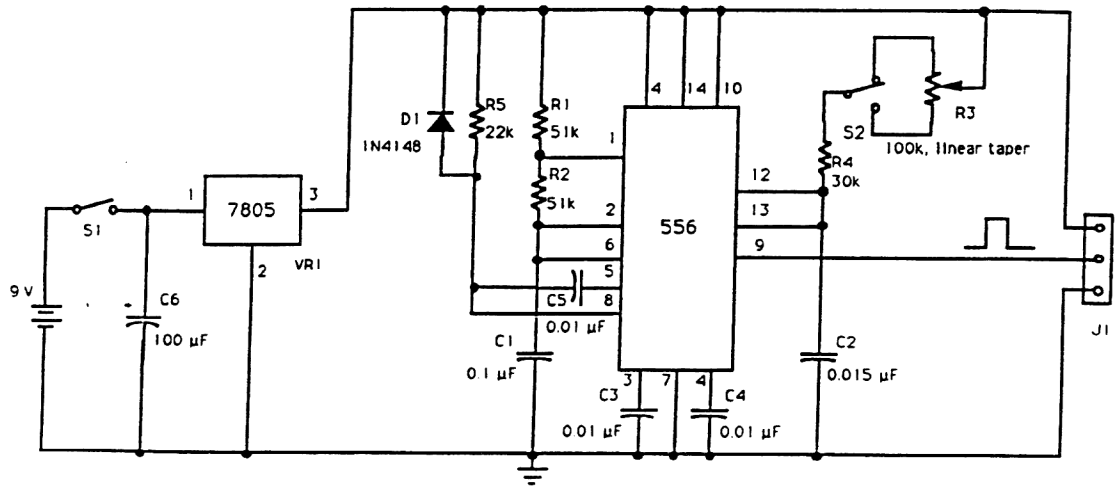
The University of Rochester's computer-science laboratory looks like a supermarket. Strewn about the lab are cans of soup, rolls of toilet paper, a Snoopy doll, boxes of cereal, and other consumer jetsam. But the lab also houses a six-foot-long, 1,500-pound jointed robotic arm with two small cameras on an attached "head." The robot is looking for something: pivoting on its floor mount, it scans the room with its cameras, then suddenly stops and stares at a blue-and-orange box of Frosted Flakes. The robot singles out this box from an assortment of 66 common household items.

The robot isn't reading labels. "Color is the key to getting the object's identity," says Michael Swain, who wrote the robot's color-vision program. Swain claims that this is the first robot that can identify such items by color alone.

"Until now robots have used shape almost exclusively to look for objects," says Swain. Most robotic vision systems rely on programmed maps, in which an object's shape and location are specified by its coordinates in three-dimensional space. But some objects—clothing, for example—have no fixed shape, and many things change their apparent shape as the angle of vision changes. Color, however, stays the same as long as the light remains constant.

"Color has been used to some extent by other groups," says Swain. For example, a fruit-picking robot might look exclusively for orange spheres in order to pick ripe oranges. But the ability to recognize complex, multicolored objects in real time (as fast as humans do) had required a large, expensive computer. Now, with the help of a new desktop-size image processor, says Swain, "we're able to use a gamut of colors."

The Rochester robot is programmed to look for specific patterns of colors, a much easier task than trying to calculate the position of everything in its visual field—calculations that can delay a robot for several minutes. "Our robot looks for just one blob in the scene," says Swain. So far, the system is proving efficient, and Swain believes that industrial robots may well be relying on color vision within just a few years. And then there's the supermarket: "I've been talking to a company," says Swain, "that is trying to get a robot to recognize fruits and vegetables at a checkout counter without a clerk standing there."



Try out Servos with this Handy Servo Pulser

by Bob Nansel

Servos are inexpensive, widely available at hobby shops, and come in a variety of sizes, from 18 in-oz torque, up to monster 45 in-oz units. Why don't more robot builders use them? They don't have a Servo Pulser.

The above circuit generates positive pulses with duration variable from 0.5 msec up to 2.5 msec with a pulse repition rate of about 94 Hz. When used as a pulse source for a Futaba FP S28 indirect drive servo, it will produce about 170° travel of the servo wheel. The servo will closely track the position of the potentiometer shaft, especially for slow to medium slew rates.

Included in the ciruit is a reversing switch, S2, which swaps which end of the timing potentiometer is used, thus reversing the relationship between potentiometer movement and servo wheel movement.

Timer 1 is configured as an astable with a frequency of 94 Hz. The ouput of timer 1 is capacitively coupled by C5 to the trigger input of timer 2. Timer2 is wired for monostable operation; R3, R4 and C2 set the timing constant. The 30 k resistor, R4, fixes the minimum pulse width at 0.5 msec; 130 k , the series combination of R3 and R4, sets the upper limit to 2.5 msec.

Connector J1 brings 5V, Pulse Out, and Ground to the servo. The Futaba servo I used is intended for operation from 4.8 to 6.0 volts, and it seemed quite happy at 5 volts. If your servo is a different voltage, feel free to use another regulator in place of the 7805 5 volt regulator I used. In fact, you could even omit the regulator if your battery voltage matched your servo's required voltage. The servo pulser itself will operate on any voltage from 4.5 to 18 volts with the parts shown. If you use a cmos equivalent for the 556 timer (i.e. National's LM556C, or Intersil's ICM7556), the range is 2 to 16 volts.

...with a bag of servos...you could even make a poor man's teleoperated waldo...

Hobby servo connectors are usually in the $4 to $5 a pair range, so I substitute plain pin and socket header connectors, such as the Molex Waldom connector line, which cuts the cost by a factor of ten.

So what can you use this gadget for? You can test servos out. Its handy to be able to make the little suckers move without all sorts of voodoo. You can test the operation of control linkages easily, too. With a bag of servos, an equal number of these circuits and a bit of work you could even make a sort of poor man's teleoperated waldo that followed the motions of your hand and arm.

If you plan to use servos on your robot you would probably not want to use servo pulsers to control them; instead you would either generate the necessary pulses in hardware with a counter/divider chain or generate them in software with delay loops or timer interrupts.

Using the servo pulser *before* you go to all the trouble to make the hardware or software will allow you to experiment. Have fun!

PUBLIC RELATIONS

This was published on the front page of the HOME TECH/CLASSIFIED section of the Orange County Register for Wednesday, Oct 2, 1991. Jerry must have given this interview some time ago as the meeting date is the second Thursday of the month. At least they got out mailing address and phone number right. I reproduce it in its entirety for your enjoyment. The club could begin to gain membership from this type of notoriety.....JJ

Plugged In

OC robotics club gives gear-heads chance to make their own mascot

In the course of researching a recent story on voice-controlled computers, I happened across the Orange County-based Robotics Society of Southern California.

The non-profit group of 60 or so hobbyists is dedicated to producing low-cost robots for home and business, according to Jerry Burton, the group's president.

The club's mascot/prototype is RSSCY (pronounced Risky), which Burton describes as an IBM personal computer on wheels with a video terminal and voice-activated controls. The group is developing ultrasound-based navigation software so RSSCY will move in response to spoken commands, Burton said.

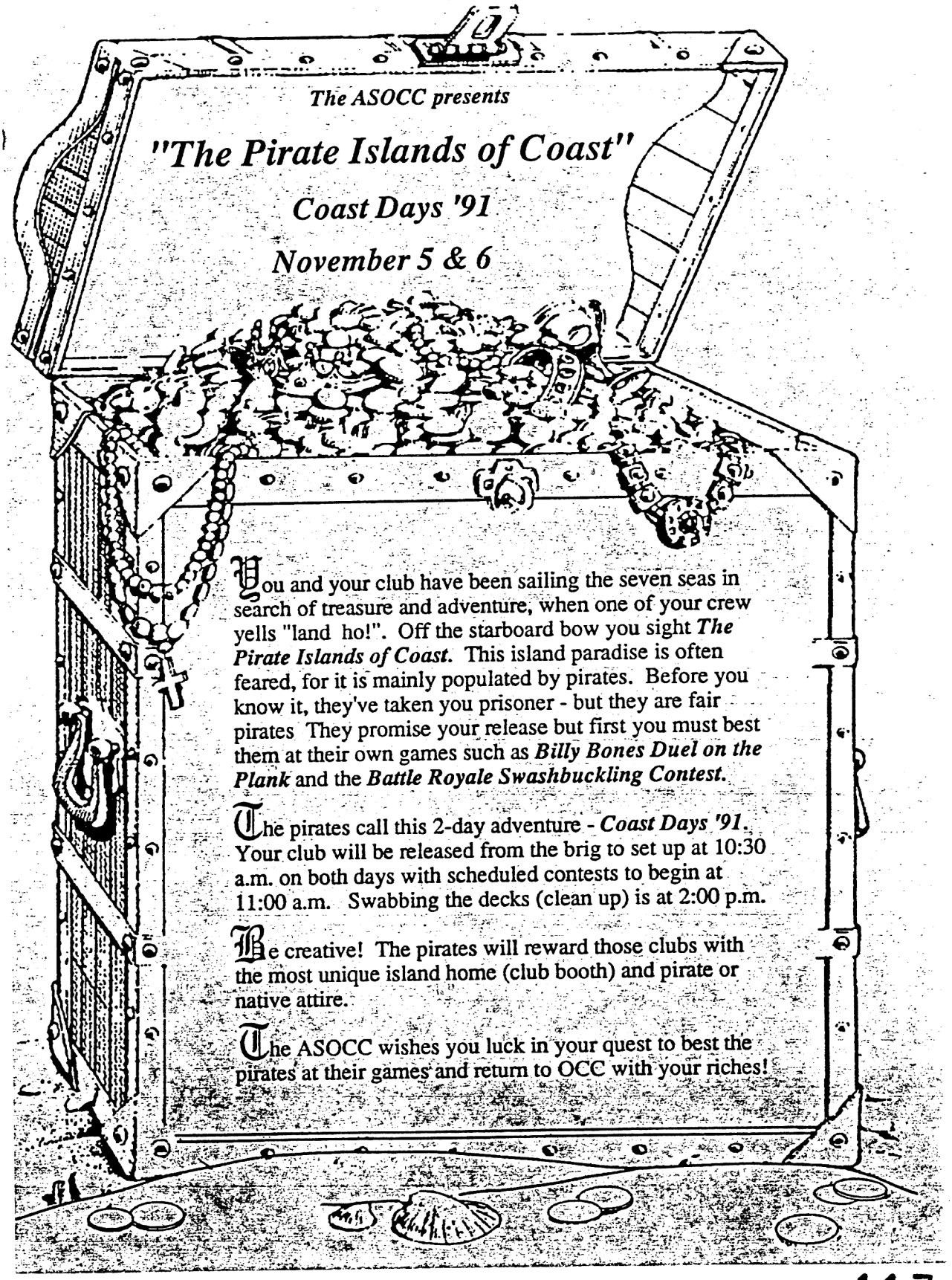
Technology already exists that would allow robots to perform some household and business chores, a la the Jetsons, said Burton, who also built his own robot.

"I envision a day when my robot comes wherever I go," he said. "I could say 'record' and he records everything he hears. I could give him a memo and later he can remind me I haven't transcribed the memo."

But building robots remains expensive, and the technology still has glitches, Burton said.

"You have to be a gear-head to mess with these guys, because they're cantankerous," Burton said.

The Robotics Society of Southern California meets on the second Thursday of each month at Orange Coast College in Costa Mesa. For more information, write Burton at 10471 S. Brookhurst, Anaheim, Calif. 92804, or call him at 535-8161.



The ASOCC presents

"The Pirate Islands of Coast"

Coast Days '91

November 5 & 6

You and your club have been sailing the seven seas in search of treasure and adventure, when one of your crew yells "land ho!". Off the starboard bow you sight ***The Pirate Islands of Coast.*** This island paradise is often feared, for it is mainly populated by pirates. Before you know it, they've taken you prisoner - but they are fair pirates They promise your release but first you must best them at their own games such as ***Billy Bones Duel on the Plank*** and the ***Battle Royale Swashbuckling Contest.***

The pirates call this 2-day adventure - ***Coast Days '91.*** Your club will be released from the brig to set up at 10:30 a.m. on both days with scheduled contests to begin at 11:00 a.m. Swabbing the decks (clean up) is at 2:00 p.m.

Be creative! The pirates will reward those clubs with the most unique island home (club booth) and pirate or native attire.

The ASOCC wishes you luck in your quest to best the pirates at their games and return to OCC with your riches!

THE GOLF CART

A four-wheeled golf cart chassis needs to be modified to create a "float-type" mobile platform able to withstand weights of added equipment such as: power supply, automation and remote systems, fiberglass body, etc. The carts steering system must be modified to operate by remote control. A power supply must be designed to drive the cart and the automation.

A breakdown of ideas and goals are described below:

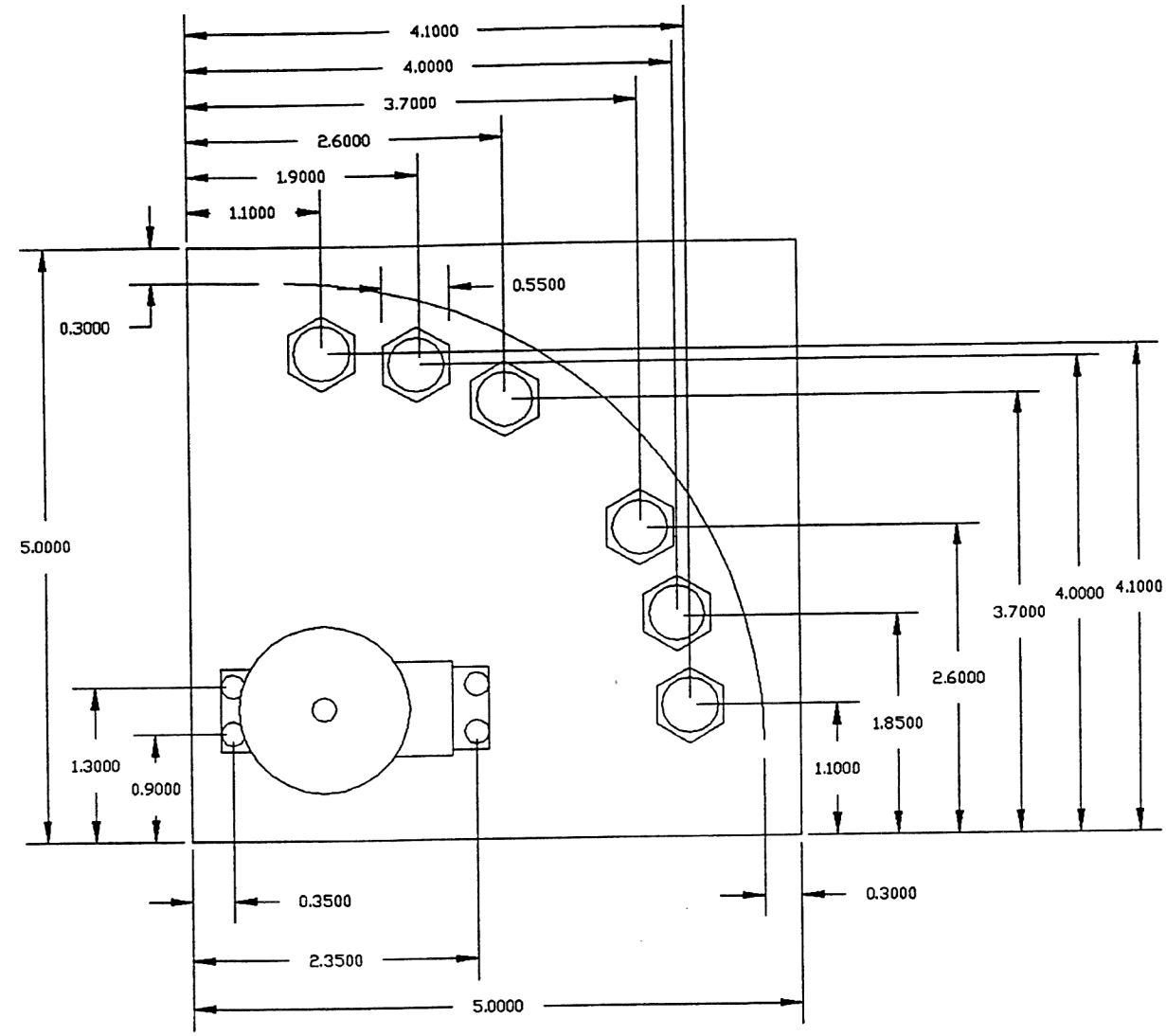
STEERING MECHANISM - We need to start formulating ideas to convert the manual steering column into an automated one. Thoughts were expressed as to having an interchangeable pair of devices, one for manual and the other automated. Pictures were taken for ease of viewing reference of the major areas of design modification. (Contact Greg Grunest, Robotics Club President for copies). Discussion is open as to how we should tackle this problem.

CHASSIS MODIFICATION - The cart basically needs to be striped down to the frame and a foundation for the automation must be welded to and around the cart. Height constraints need to be adhered to here, for the cart may topple over during a turn if unbalanced and secured. Again, pictures were taken for reference. Discussion is open, so you welders speak up and add your opinion!

REMOTE SYSTEMS - Thoughts were expressed as to having the remote system frequencies applied through amateur bands. This would mean a licenced radio operator must be present. Thoughts were also expressed as to having multiple frequencies. 1) It would allow for cart control vs. automation control, and 2) would provide a feedback for emergency shut-off in case of power drain. Discussion is open.

If you have any skills you'd like to donate, or any time you'd like to spend putting this project together, please contact the following people...

Tom Hersh - 432-5742 (Professor of Robotics Room 123A)
Greg Grunest - 646-0576 (Robotics Club President)
Michael Kindig - 965-8866 (Project Director)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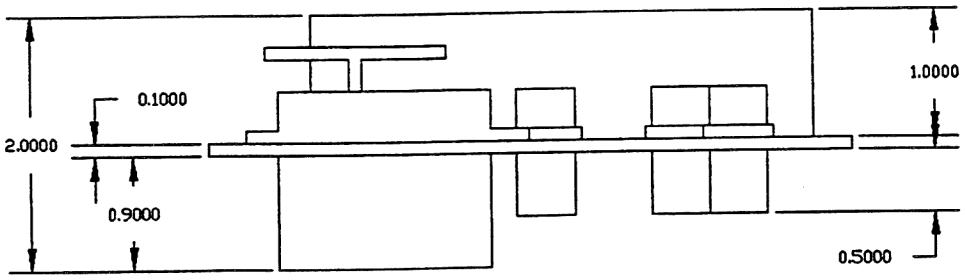
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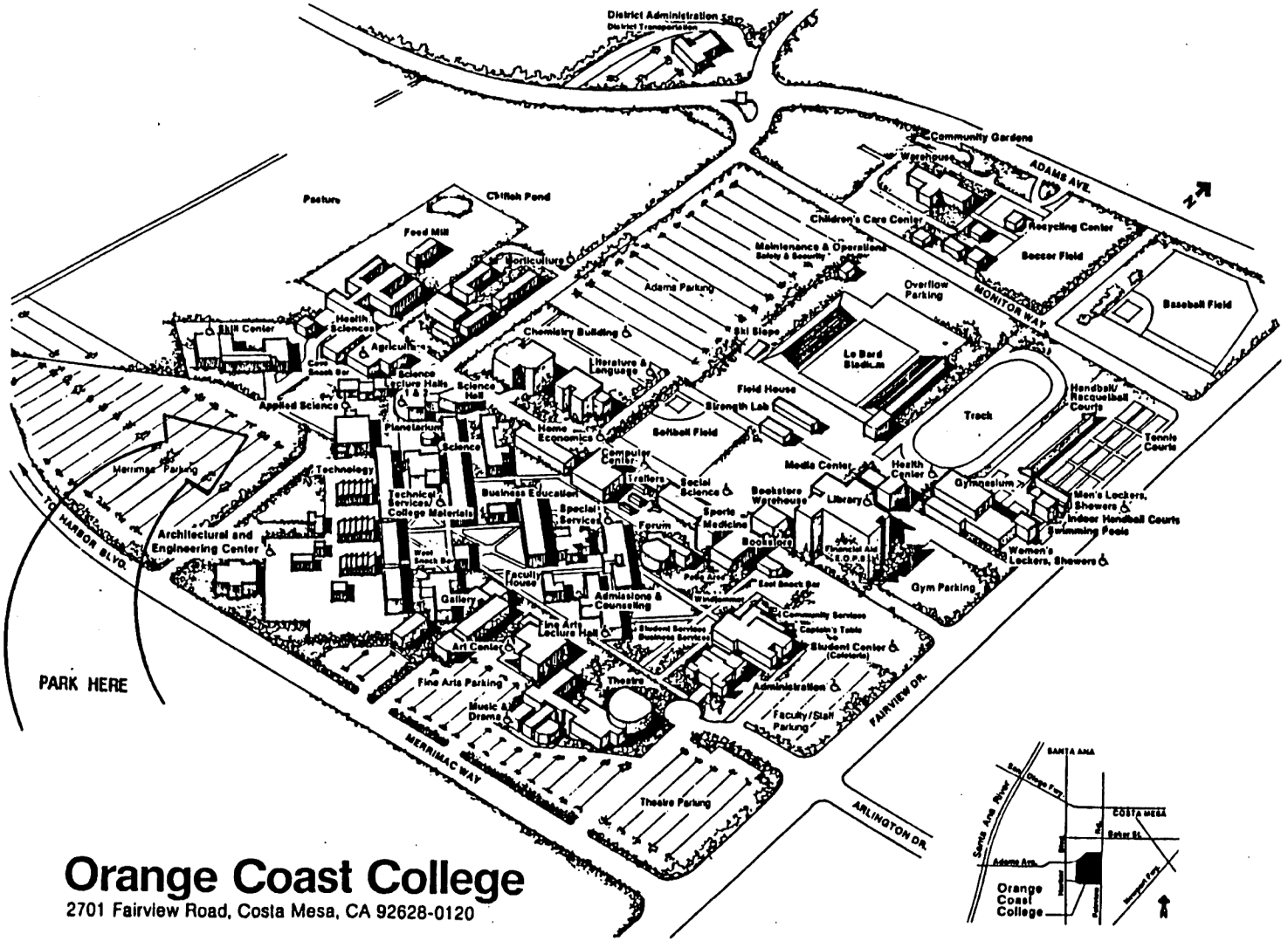

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