



FERAL DOG DATASHEET

- Species Name: Dylan
- Reverse Engineer: Jeff Warren
- Sample Mobility Code

```
//Check left
ic_set_motor_speed(13,9,50);

//clear sensor
ic_sleep(8*1000);
ic_play_sysrom_sound(23);//sniff
ic_sleep(8*1000);
ic_play_sysrom_sound(26);//whine
ic_perform_action(&action_057);//bow
(closer to ground)
for (i=0;i<=1;i++)
{
  ic_sleep(1*1000);
  leftval = leftval + ic_get_light_level();
  ic_play_sysrom_sound(23);
}

//Check right
ic_set_motor_speed(13,-9,50);

//clear sensor
ic_sleep(8*1000);
ic_play_sysrom_sound(23);//sniff
ic_sleep(8*1000);
ic_play_sysrom_sound(26);//whine
ic_perform_action(&action_057);//bow
(closer to ground)
for (i=0;i<=1;i++)
{
  ic_sleep(1*1000);
  rightval = rightval + ic_get_light_level();
  ic_play_sysrom_sound(23);
}

//rightval = rightval/2;
//leftval = leftval/2;

CHARGER_a0 at 0
```

The i-Cybie online community has developed an SDK for programming i-Cybie, incredibly. It's comprehensive, reasonably well commented (so I could follow what was going on) and packaged with a c compiler and upload/download utilities. All I could ever want! I took a demo program they included and began wading through the code. I needed:

- walking capability
- turning capability
- a way to retrieve the sensor input
- a way to turn i-Cybie's head to check both ways

I also needed to learn C, sort of. I have some Pascal and C++ experience from way back when, so I figured it out as I went.

Digging around, I found it was possible to call the built in walking, turning etc. routines that come with i-Cybie. Great, I thought, this should be easy. Unfortunately, not a single forward walk routine worked. i-Cybie simply flailed around or wobbled, but made no forward progress. It was encouraging, however, to see him respond to my advances. Er, programming.

I found an excellent backwards walking routine, and, just to get him working, used that and a funny turning routine where he laid down on his belly and turned. I figured weird walking is better than none at all. To try him out, I hooked up the light sensor in a cone of paper on i-Cybie's forehead, and set him up to track light. It worked!

After finalizing the dog in terms of hardware, I just had to find the right walking routines.

Conclusion

He doesn't track VOCs. Why? I ran sensor tests, and he definitely senses them. The problem is that when he looks both ways, the difference takes time to register (20-30 seconds). Once it does, it's usually a difference of about 10 or less, out of a possible maximum of 255. This simply isn't enough to be reliable, given normal sensor fluctuations, and especially given the air currents which can push the gases around. Really what's needed is two or more i-Cybies, which compare readings over larger distances, and communicate. This could be via IR beacons, bluetooth, or whatever. Since the sources would not be as strong (I assume) as the cans of paint thinner we tested with, it might also be a good idea to get i-Cybie to sort of "root around" in the dirt to sniff them out. And a small fan, taking the place of, say, the tail motor's port, could increase airflow, improving the reading.