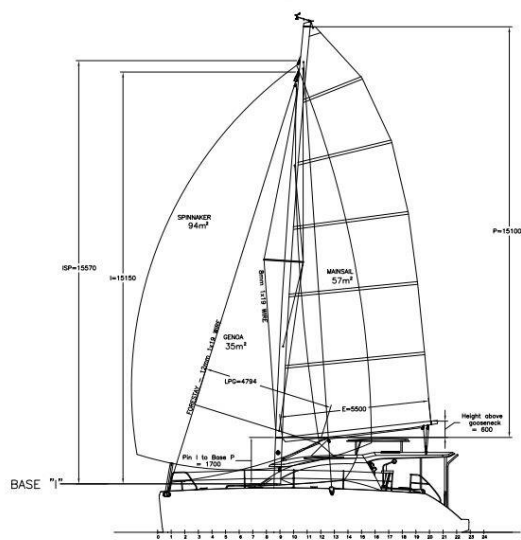


## Catamaran Electronics



## Programming Guide

### Boat IO

### (Rev A)



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## Contents

1 Programming ..... 3

# 1 Programming

Programming the Boat IO in Python is very simple. Refer to the small program below to see examples of reading the Analog and Digital IO.

```
import smbus
import time
from os import system

bus=smbus.SMBus(1)

**** Digital Output

PCA9536=0x41 #7 bit address (will be shifted to add the read/write bit)

LED1 = 0x04
LED2 = 0x08
OUT1 = 0x01
OUT2 = 0x02

def PCA9536_init():
    # set register 3 to all outputs
    bus.write_byte_data(PCA9536,3,0x00)
    #turn off all outputs
    bus.write_byte_data(PCA9536,1,0xFF)

def PCA9536_output(out):
    # flip the bits
    out = (0xFF ^ out) & 0x0F
    #print "out:",out
    bus.write_byte_data(PCA9536,1,out)

***** Initialize the devices

PCA9536_init()
```

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```
while True:  
    print "LED1"  
    PCA9536_output(LED1)  
    time.sleep(2)  
    print "LED1+LED2"  
    PCA9536_output(LED2+LED1)  
    time.sleep(2)  
    print "LED1+LED2+OUT1"  
    PCA9536_output(OUT1+LED2+LED1)  
    time.sleep(2)  
    PCA9536_output(OUT1|LED2|LED1)
```