+5V

10K

RST

ZM33064

2 VCC Reset 3

Gnd

1

Gnd

ATMega8 32 pin TQFP SMD

2x5 Header - Motor H-Bridge

	1 +12v
	2 +12v
	3 - n.c.
PD5 1K	4 - Disable
	5 - AHI
OC1A 1K	6 - ALI
	7 - BHI
PD4 1K	8 - BLI
	9 - Gnd
	10 - Gnd

Gnd

22p

8.0 Mhz

22p

Gnd

+5V

100n   3   GND

4   VCC

100n   5   GND

6   VCC

10uH

Gnd

100n   21   AGND

+3.3V   18   AVCC

20   AREF

Serial I/O

TX   31   PD1 (TXD)
RX   30   PD0 (RXD)

29   PC6 (Reset)

XTAL2   8

XTAL1   7

(SCK) PB5   17   PB5
(MISO) PB4   16   PB4   ICSP
(MOSI) PB3   15   PB3

(OC1B) PB2   14   OC1B   PWM
(OC1A) PB1   13   OC1A

(ICP1) PB0   12

330

Heart Beat LED

+5V

ADC7   22   ADC7
ADC6   19   ADC6   IMU
(ADC5) PC5   28   ADC5   Analogue
(ADC4) PC4   27   ADC4   Inputs
(ADC3) PC3   26   ADC3
(ADC2) PC2   25   ADC2
(ADC1) PC1   24   ADC1   Steering / Current Inputs
(ADC0) PC0   23   ADC0

(AIN1) PD7   11   PD7
(AIN0) PD6   10   PD6   H-Bridge
(T1) PD5   9   PD5   Control Lines
(XCK/T0) PD4   2   PD4

(INT1) PD3   1   PD3   Speed Sensor
(INT0) PD2   32   PD2   Inputs

2x5 Header - Steering H-Bridge

	1 +12v
	2 +12v
	3 - n.c.
PD7 1K	4 - Disable
	5 - AHI
OC1B 1K	6 - ALI
	7 - BHI
PD6 1K	8 - BLI
	9 - Gnd
	10 - Gnd

Gnd

Swarm-Orb Motor Control Module

Drawing Rev 1.0 4-May-2007 Petey the Programmer

Sprocket Speed Sensor

+5 v
PD2
PD3

Gnd

Motor Current Sensor

+5 v
ADC0   510
1K
Gnd

Gnd

Voltage divider limits input to +3.3v

Steering Feedback Pot

+3.3v
ADC1   5K pot

Gnd

2x3 Header for ICSP

PB3	1 - MOSI
+5 v	2 - VCC
PB5	3 - SCK
PB4	4 - MISO
RST	5 - RST
	6 - Gnd

Gnd

2x4 Header for 5DOF IMU

+3.3v	1 +3.3v
Gnd	2 - Gnd
ADC2	3 - xGyro
ADC3	4 - yGyro
ADC4	5 - vRef
ADC5	6 - zAccel
ADC6	7 - yAccel
ADC7	8 - xAccel