

RoboSail Parts List

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Item/Description	Manufacturer	Model	Qty per boat	Price Each	cost per platform	Vendor	Sourcing Link	Wiring Notes
RC Sailboat with Servos	ProBoat	Ragazza	1	\$350.00	\$350.00	Horizon Hobby	http://www.horizonhobby.com/products/ragazza-1-meter-sailboat-rtr-PRB07000	
9V Battery clip with plug for Arduino board		80	1	\$3.00	\$3.00	Adafruit	https://www.adafruit.com/product/80	power to Arduino
GPS Antenna - External Active Antenna - 3-5V 28dB 5 Meter SMA	Adafruit	960	1	\$12.95	\$12.95	Adafruit	https://www.adafruit.com/product/960	
Triple-axis Accelerometer+Magnetometer (Compass) Board - LSM303	Adafruit	1120	1	\$14.95	\$14.95	Adafruit	https://www.adafruit.com/product/1120	SCL, SDA, PWR, GND
Adafruit Ultimate GPS Breakout - 66 channel w/10 Hz updates	Adafruit	746	1	\$39.95	\$39.95	Adafruit	https://www.adafruit.com/product/746	Vin, Gnd, Tx, Rx
SMA RF Adapter Cable for GPS Antenna	Adafruit	851	1	\$4.00	\$4.00	Adafruit	https://www.adafruit.com/product/851	
USB Cable A-B, 1 meter	Adafruit	62	1	\$3.95	\$3.95	Adafruit	https://www.adafruit.com/products/62	
4-Conductor locking connectors w/leads, M/F set		CON-440	2	\$2.10	\$4.20	All Electronics	http://www.allelectronics.com/make-a-store/item/con-440/4-conductor-locking-connectors-w/leads/1.html	for compass, 1 for GPS
4 D Cell Battery holder		BH-144	1	\$2.00	\$2.00	All Electronics	http://www.allelectronics.com/make-a-store/item/bh-144/four-d-cell-battery-holder/1.html	use either D or C cells

4 C Cell Battery holder		BH-241		\$1.90	\$0.00	All Electronics	http://www.all-electronics.com/make-a-store/item/bh-241/battery-holder-4-c-cells/1.html	
Dry Box - 2000 Size - 6.000" x 3.375" x 1.250"	Amazon/the Battery Station		1	\$14.95	\$14.95	Amazon	http://www.amazon.com/Dry-Box-6-000-3-375-1-250/dp/B00KRMZ6RS	
Sail Material, 1.5mil mylar by the foot	Brighton Boat Works	SCL 140	15	\$0.50	\$7.50	Brighton Boat Works	http://stores.rcsailboatarts.com/1-4-mil-mylar-sailcloth-by-the-lineal-	
Sail Maker's Tape	Brighton Boat Works	DST6mm	1	\$8.00	\$8.00	Brighton Boat Works	http://stores.rcsailboatarts.com/6mm-double-sided-sailmakers-tape/	
Insignia cloth	Brighton Boat Works		1	\$7.75	\$7.75	Brighton Boat Works	http://stores.rcsailboatarts.com/flouro-orange-adhesive-backed-polyester-insignia-cloth/	
Hex key tool			1	\$5.97	\$5.97	HomeDepot		for boat assembly
Batteries - AA	Duracell		8	\$0.50	\$4.00	HomeDepot		for transmitter
Batteries - 4 C or D	Duracell		4	\$1.50	\$6.00	HomeDepot		for boat servos
Battery - 9V	Duracell		1	\$2.00	\$2.00	HomeDepot		for Arduino
Arduino Mega MicroController	Arduino	Mega 2860	1	\$16.99	\$16.99	Microcenter	http://www.microcenter.com/product/431995/Arduino_Mega_2560	
4-conductor wire, #22 gauge, 100'	Belden	8444	0.1	\$64.57	\$6.46	Newark	http://www.newark.com/belden/8444-060100/unshielded-multiconductor-cable/dp/87K2772?MER=PSP_S_P_Belden_Belden	for cables from wind encoder, and compass

Servo Extension Cable 12" Twisted Female - Female	Polulu	2166	2	\$2.75	\$5.50	Polulu	https://www.pololu.com/product/2166	Grove shield to RC Receiver
Servo Extension Cable 12" Male - Female	Polulu	2184	2	\$2.49	\$4.98	Polulu	https://www.pololu.com/product/2184	Grove shield to Servo motors
Mini Tamiya Plug with 10cm Leads,	Polulu	2178	1	\$1.29	\$1.29	Polulu	https://www.pololu.com/product/2178	for battery pack
Mini Tamiya Plug with 10cm Leads,	Polulu	2179	1	\$1.29	\$1.29	Polulu	https://www.pololu.com/product/2179	for battery pack
Wires with Pre-crimped terminals, 3" 50 pc rainbow assmt	Polulu	1807	0.5	\$8.95	\$4.48	Polulu	https://www.pololu.com/	for connectors to GPS and Compass boards
Crimp connector housing 1x5 pin, 10 pk	Polulu	1904	1	\$0.69	\$0.69	Polulu	https://www.pololu.com/	
Breakaway Header Male, right angle 1x40	Polulu	967	2	\$1.49	\$2.98	Polulu	https://www.pololu.com/	
Grove Shield for Mega	Seeduino		1	\$8.75	\$8.75	RobotShop	http://www.robotshop.com/en/seedstudio-grove-mega-shield.html	
Grove Universal 4-Pin 20 cm Cables, 5 pk	Seeduino	RB-See-174	1	\$4.55	\$4.55	RobotShop	http://www.robotshop.com/en/grove-4-pin-buckled-20cm-cable.html	for cables to wind encoder, compass and GPS
MA3 Miniature Absolute Magnetic Shaft Encoder	US Digital	MA3-P10-125-B	1	\$45.00	\$45.00	US Digital	http://www.usdigital.com/products/encoders/absolute/rotary/shaft/MA3	Wind direction encoder, Vin, Gnd, PWM

CA-MIC3-W3-NC 3-Pin Micro Connector / Unterminated, Shielded Cable	US Digital	CA-MIC3-W3-NC	1	\$6.80	\$6.80	US Digital	http://www.usdigital.com/products/cables-connectors/cables/3-pin/CA-MIC3-W3-NC	connector cable for wind direction encoder
WindVane materials plastic from art store			1	\$5.00	\$5.00	Dick Blick	http://www.dickblick.com/products/corrugated-plastic-panels/	
small plastic gear with 1/8" ID to press on encoder shaft			1	\$0.25	\$0.25			
				Total	\$606.17			
Optional								
Laptop Computer with Mouse, Anivirus, office, etc	Acer		1	\$500.00	\$500.00	Microcenter		
Materials for Learning and experimenting								
Breadboarding Wires			1	\$6.00	\$6.00	Adafruit	https://www.adafruit.com/products/153	
Battery - 9V, 2 pk			2	\$7.99	\$15.98	Home Depot		
Breadboard			2	\$5.00	\$10.00	Microcenter	https://www.adafruit.com/products/64	
USB Cable A-B, 3'	Adafruit	62	1	\$3.95	\$3.95	Adafruit	https://www.adafruit.com/products/62	
Arduino Uno Rev3	Inland	Uno R3	5	\$9.99	\$49.95	Microcenter	http://www.microcenter.com/product/431997/Uno_R3_MainBoard	
Servo Motor, standard		DCS-110	10	\$6.75	\$67.50	AlIElectronics	http://www.aielectronics.com/make-a-store/item/dcs-110/standard-racing-servo/1.html	