

## PCB

Part	Device	Value	Package	Description	Buy	Sample	Free	Cost	Source	Part #
PCB	n/a	n/a	6.5cm by 7.8cm	PCB	*			\$13.34	Olimesx	n/a
IC1	PIC18F452	PIC18F452	DIL40	MICROCONTROLLER	*			\$10.00	Digikey	PIC18F452-I/P-ND
IC2	L293D	L293D	DIL16	PUSH-PULL 4 CHANNEL DRIVER		*			TI	
IC3	MAX232	MAX232	DIL16	RS232 TRANSEIVER		*			TI	
IC4	74LS164N	74LS164N	DIL14	8-bit parallel out SHIFT REGISTER			*		Aaron	
IC5	78XXS	LM2940CT	78XXS	VOLTAGE REGULATOR		*			National	
IC7	24LC256P	24LC256P	DIL8	SERIAL EEPROM	*			\$3.56	Digikey	24LC256-I/P-ND
S1	B3F-10XX	10-XX	OMRON	RESET SWITCH			*		Aaron	
S2	DP-04	DP04	DIL/CODE	SWITCH			*		Aaron	
U\$1	LED5MM	LED5MM	Thru hole LED	LED			*		Aaron	
U\$4	LED5MM	LED5MM	Thru hole LED	LED			*		Aaron	
X1	F09HP	F09HP		SUB-D			*		Aaron	
Q1	CRYTALHC49S	20.48M	HC49/S	CRYSTAL			*		Ron H.	
Q2	2N3904	2N3904	TO92	NPN Transistor			*		Attila	
Q3	2N3904	2N3904	TO92	NPN Transistor			*		Attila	
C1	C-US025-024X044	0.1uF	C025-024X044	CAPACITOR			*		Aaron	
C2	C-US025-024X044	0.1uF	C025-024X044	CAPACITOR			*		Aaron	
C3	C-US025-024X044	0.1uF	C025-024X044	CAPACITOR			*		Aaron	
C4	CPOL-USE3.5-8	220uF	E3,5-8	POLARIZED CAPACITOR			*		Aaron	
C6	C-US025-024X044	1uF	C025-024X044	CAPACITOR			*		Aaron	
C7	C-US050-024X044	33uF	C025-024X044	POLARIZED CAPACITOR			*		Aaron	
C8	C-US025-024X044	0.1uF	C025-024X044	CAPACITOR			*		Aaron	
C9	C-US025-024X044	0.1uF	C050-024X044	CAPACITOR			*		Aaron	
C10	C-US025-024X044	0.1uF	C025-024X044	CAPACITOR			*		Aaron	
C11	C-US025-024X044	0.1uF	C025-024X044	CAPACITOR			*		Aaron	
C12	C-US025-024X044	0.1uF	C025-024X044	CAPACITOR			*		Aaron	
C13	C-US025-024X044	0.1uF	C025-024X044	CAPACITOR			*		Aaron	
C14	C-US025-024X044	0.1uF	C025-024X044	CAPACITOR			*		Aaron	
C15	C-US025-024X044	10uF	C025-024X044	CAPACITOR			*		Aaron	
C16	C-US025-024X044	0.1uF	C025-024X044	CAPACITOR			*		Aaron	
C17	C-US025-024X044	10uF	C025-024X044	CAPACITOR			*		Aaron	
C18	CPOL-USE3.5-8	220uF	E3,5-8	POLARIZED CAPACITOR			*		Aaron	
D1	1N4148	1N4148	DO35-10	DIODE			*		Aaron	
R1	R-US_0207/2V	10K	0207/2V	RESISTOR			*		Aaron	
R2	R-US_0207/2V	4.7K	0207/2V	RESISTOR			*		Aaron	
R3	R-US_0207/2V	1K	0207/2V	RESISTOR			*		Aaron	
R4	R-US_0207/2V	220	0207/2V	RESISTOR			*		Aaron	
R5	R-US_0207/2V	15K	0207/2V	RESISTOR	*			\$0.09	Digikey	15KQBK-ND
R6	R-US_0207/2V	220	0207/2V	RESISTOR			*		Aaron	
R7	R-US_0207/2V	15K	0207/2V	RESISTOR	*			\$0.09	Digikey	15KQBK-ND
R8	R-US_0207/2V	220	0207/2V	RESISTOR			*		Aaron	
R9	R-US_0207/2V	15K	0207/2V	RESISTOR	*			\$0.09	Digikey	15KQBK-ND
R10	R-US_0207/2V	220	0207/2V	RESISTOR			*		Aaron	
R11	R-US_0207/2V	15K	0207/2V	RESISTOR	*			\$0.09	Digikey	15KQBK-ND
R12	R-US_0207/2V	4.7K	0207/2V	RESISTOR			*		Aaron	
R13	R-US_0207/2V	4.7K	0207/2V	RESISTOR			*		Aaron	
R14	R-US_0207/2V	680	0207/2V	RESISTOR	*			\$0.09	Digikey	680QBK-ND
R15	R-US_0207/2V	10K	0207/2V	RESISTOR			*		Aaron	
R16	R-US_0207/2V	10K	0207/2V	RESISTOR			*		Aaron	
R17	R-US_0207/2V	22K	0207/2V	RESISTOR			*		Aaron	
R18	R-US_0207/2V	22K	0207/2V	RESISTOR			*		Aaron	
R19	R-US_0207/2V	10K	0207/2V	RESISTOR			*		Aaron	
R20	R-US_0207/2V	10K	0207/2V	RESISTOR			*		Aaron	
R21	R-US_0207/2V	10K	0207/2V	RESISTOR			*		Aaron	
R22	R-US_0207/2V	680	0207/2V	RESISTOR	*			\$0.09	Digikey	680QBK-ND
R23	R-US_0207/2V	10K	0207/2V	RESISTOR			*		Aaron	
R24	R-US_0207/2V	1K	0207/2V	RESISTOR			*		Aaron	
R25	R-US_0207/2V	4.7K	0207/2V	RESISTOR			*		Aaron	
R26	R-US_0207/2V	1K	0207/2V	RESISTOR			*		Aaron	
JP1	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP2	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP3	1X02	PINHD-1X2	PIN	HEADER			*		Aaron	
JP4	1X02	PINHD-1X2	PIN	HEADER			*		Aaron	
JP5	1X02	PINHD-1X2	PIN	HEADER			*		Aaron	
JP6	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP7	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP8	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP9	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP10	1X02	PINHD-1X2	PIN	HEADER			*		Aaron	
JP11	1X02	PINHD-1X2	PIN	HEADER			*		Aaron	
JP12	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP13	2X05	PINHD-2X5	PIN	HEADER			*		Aaron	
JP14	2X02	PINHD-2X2	PIN	HEADER			*		Aaron	
JP15	2X02	PINHD-2X2	PIN	HEADER			*		Aaron	
JP16	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP17	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP18	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP19	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP20	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP21	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP22	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP23	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP24	1X03_2	PINHD-1X3ROUND_PADS	PIN	HEADER			*		Aaron	
JP25	1X03	PINHD-1X3LONG_PADS	PIN	HEADER			*		Aaron	
JP26	1X02	PINHD-1X2	PIN	HEADER			*		Aaron	
JP27	1X04	PINHD-1X4	PIN	HEADER			*		Aaron	
<b>Total</b>								<b>\$27.45</b>		

DIP1	40 PIN	40 PIN	40 PIN	18F452			*		Aaron	
DIP2	16 DIP	16 DIP	16 DIP	L293D			*		Aaron	
DIP3	16 DIP	16 DIP	16 DIP	Max232			*		Aaron	
DIP4	14 DIP	14 DIP	14 DIP	74LS164			*		Aaron	
DIP5	8 DIP	8 DIP	8 DIP	24LC256P			*		Aaron	
CON1	2 PIN Connector			2 PIN Connector * 4	*			\$3.40	Digikey	WM2801-ND
CON2	3 PIN Connector			3 PIN Connector * 5	*			\$5.40	Digikey	

PINS	Connector PINS		Pins for Connectors	*		\$3.35	Digikey	
						<b>Total</b>	<b>\$12.15</b>	

**SENSORS**

IR1	QRD-1114	n/a	n/a	IR PROX SENSOR	*	\$1.00	Digikey	QRD1114-ND
IR2	QRD-1114	n/a	n/a	IR PROX SENSOR	*	\$1.00	Digikey	QRD1114-ND
IR3	QRD-1114	n/a	n/a	IR PROX SENSOR	*	\$1.00	Digikey	QRD1114-ND
IR4	QRD-1114	n/a	n/a	IR PROX SENSOR	*	\$1.00	Digikey	QRD1114-ND
Sharp1	GP2D12	n/a	n/a	IR DISTANCE SENSOR	*	\$15.80	Digikey	GP2D12
US2	PHOTOTRANSISTOR	PHOTOTRANSISTOR	Thru hole LED	phototransistor	*	\$0.55	Digikey	425-1009-5-ND
US3	PHOTOTRANSISTOR	PHOTOTRANSISTOR	Thru hole LED	phototransistor	*	\$0.55	Digikey	425-1009-5-ND
						<b>Total</b>	<b>\$20.87</b>	

**MECHANICALS**

MOT1	SOLARBOTICS MOTOR			GEARBOX MOTOR	*	\$6.45	Solarbotics	
MOT2	SOLARBOTICS MOTOR			GEARBOX MOTOR	*	\$6.45	Solarbotics	
WHEEL				PLEXI WHEEL * 2	*		Chris	
O-RING				O-Ring for wheel * 2	*	\$2.25	Freco F.P.	
SPACE1				5/16" 4-40 nylon standoff * 3	*	"	OFS	
SPACE2				1/2" 4-40 nylon standoff * 2	*	"	OFS	
SCREW1				Nylon 4-40 panhead * 3	*	"	OFS	
SCREW2				Nylon 4-40 machine * 2	*	"	OFS	
SCREW3				#4 3/8" wood screw * 4	*	"	OFS	
BALL				3/4" Nylon Ball	*		Chris	
BAT1	Battery Case			Battery Holder for AA batteries	*	\$1.40	Digikey	
						<b>Total</b>	<b>\$16.55</b>	

**GRAND TOTAL      \$77.03**