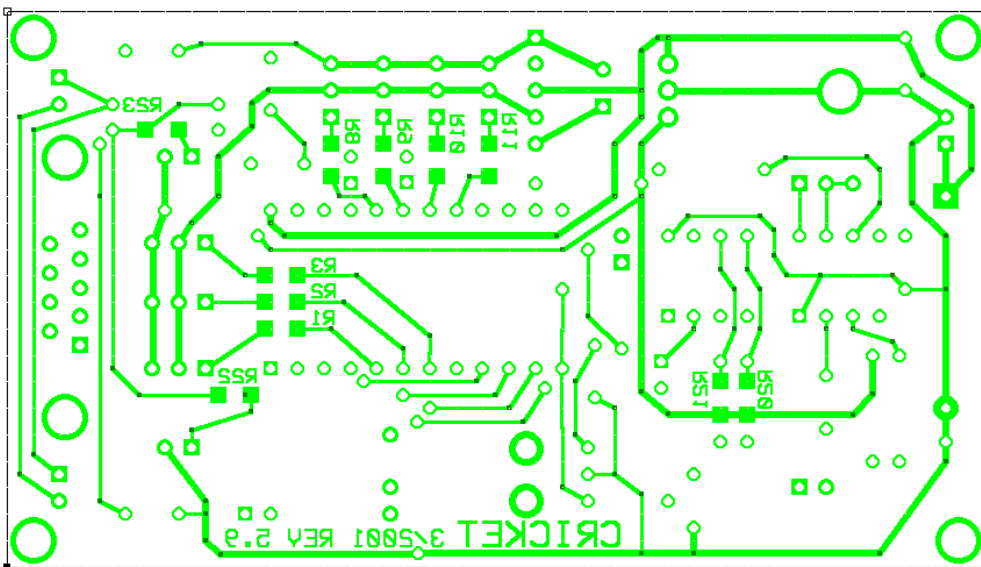
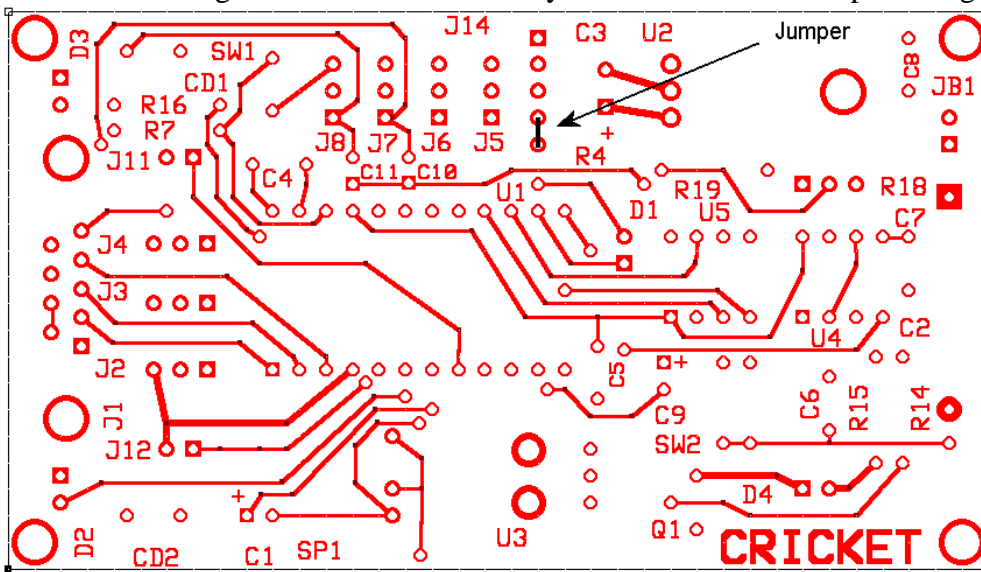


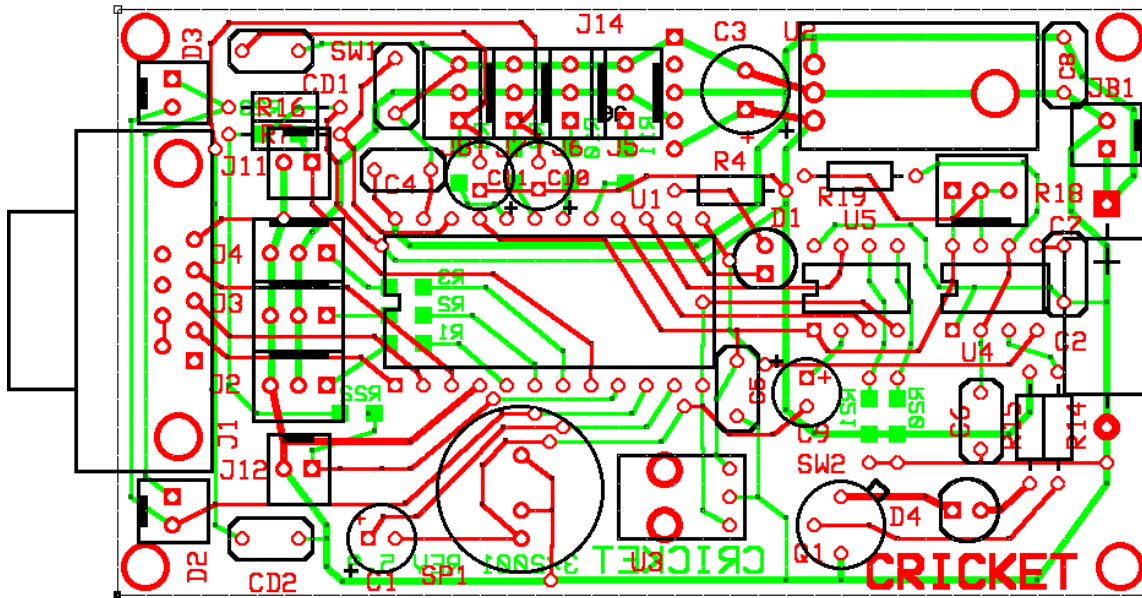
To assemble the Cricket PC board you will need the following tools:

- Good Quality solder iron with small tip (especially for surface mount parts)
- needle nose pliers
- small diagonal cutters
- tweezers
- rosin core solder 60/40 .032 diameter
- flux remover
- old tooth brush
- liquid hand soap
- Epoxy glue

Both diagrams show top views of the PC board. One shows the top layer of copper with part designators and the other diagram shows the bottom layer with surface mount part designators.



To assemble the PC board:



1. Put a small amount of solder on one pad of each of the surface mount resistor locations. Using the tweezers, place the surface mount resistor on the location and tack it in place by heating the small amount of solder on the pad. Solder the other pad and then add more solder to the first pad. This sequence allows you to tack the part in place and even move it a little before soldering both ends. Do not put excessive solder on these parts and try not to heat them up too much.
2. Install all the smaller parts like resistors and capacitors.
3. Install the sockets for U1 and U5.
4. Install all the connectors. Make sure the servo 3-pin connectors are straight and that the keyed JB1 connector is pointing in the correct direction (key faces outside board). The three shrouded connectors should be installed with the U shaped portion of the shroud facing towards J11.
5. For the LEDs, both D1 and D4, make sure the flat portion of the skirt is pointing in the direction shown on the layout. D4 uses a plastic standoff.
6. For the Electrolytic caps note the polarities on the diagrams.
7. Install the speaker, which should have a cover to keep flux remover and water out during the cleaning process. If it does not, figure out a way to seal it off. If water gets in, it may ruin it.
8. Install all remaining parts. Including regulator U2. Use a small amount of heat sink compound between the heat sink and the tab of the part.
9. Install and solder a jumper at J14 as shown.
10. After the board is complete, use flux remover and toothbrush to clean it. Do this in a well-ventilated area. Clean and rinse the board three times. Put a small dab of liquid hand soap on the board and scrub the backside of the board. This removes any remaining flux residue.
11. Air dry the board or use compressed air if available. Remove the speaker cover. Install The Stamp II and U5.
12. The Stamp has been preprogrammed with the latest Cricket program. You may test the board with the supplied 9V battery clip and connector. A 9V battery will operate the board but not any servos you plug into the board. Plan for a suitable battery for operating the board with servos. A correctly operating Cricket board will make a series of sounds when powered up and then will also blink the red and green LEDs.

Cricket Master Parts List

Cricket Controller PCB for Rev 5.9 PCB

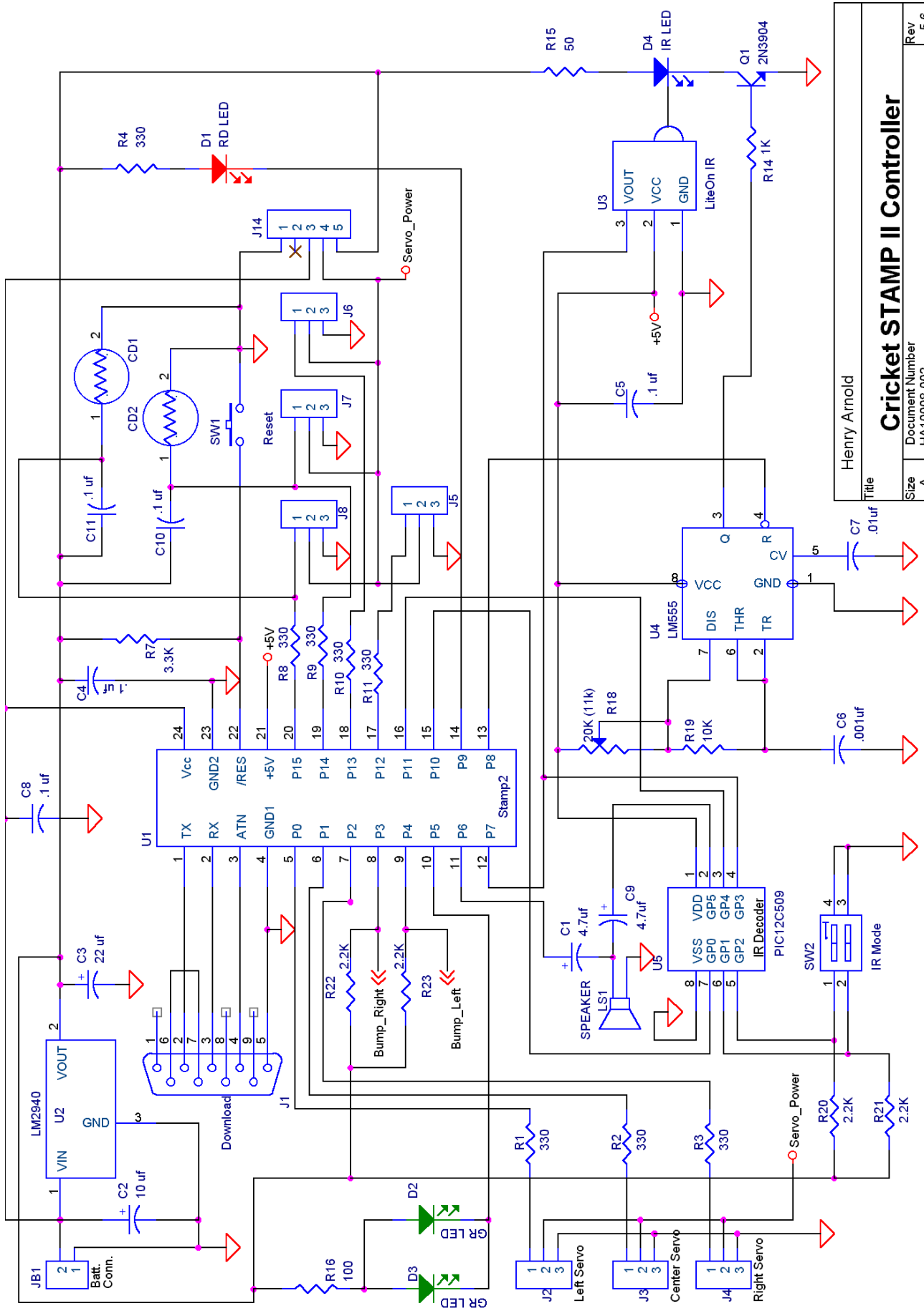
Last Revised 3-4-2001

Quantity	Reference	Description	Manufacturer	Dist Part Number	Distributor	Price Each	Total
1		Printed Circuit Board	HA	HA10008-056	HA	\$15.00	\$15.00
1	U1	Basic Stamp II	Parallax	Stamp II	DigiKey	\$49.00	\$49.00
1	U5	Microcontroller	Microchip	PC12C509-04-ND	HA	\$5.00	\$5.00
1	U4	Timer	National	LM555CN-ND	DigiKey	\$0.81	\$0.81
1	U2	Low Drop +5V Regulator	National	LM2940CT-5.0-ND	DigiKey	\$2.45	\$2.45
1	Q1	Transistor NPN	Fairchild	2N3904-ND	DigiKey	\$0.29	\$0.29
1	U3	IR Detector Module	Panasonic	PNA4613M00XD-ND	DigiKey	\$1.72	\$1.72
1	J1	Female PC Mount DB-9	Norcomp	509F-ND	DigiKey	\$1.94	\$1.94
1	D1	Red LED	QT	HLMP-3300QT-ND	DigiKey	\$0.23	\$0.23
2	D2, D3	Green 90 Deg LED w/ Mount	Lumex	LU20375-ND	DigiKey	\$0.84	\$1.68
1	D4	Infrared LED	Panasonic	LN66-ND	DigiKey	\$0.68	\$0.68
2	CDS1,CDS2	Photo Cells, Cadmium Sulfide	CDS	120301	JDR	\$0.69	\$1.38
1	SW1	Reset SW	Omron	SW425CT-ND	DigiKey	\$0.51	\$0.51
1	SW2	IR Mode Switch	CTS	CT2092LPST-ND	DigiKey	\$0.65	\$0.65
3	J2,J3,J4	Shrouded 3 pin Header			DigiKey	\$0.25	\$0.75
5	J5 - J8	3 pin headers	Sullins	S1011-36-ND	DigiKey	\$0.10	\$0.50
2	J11, J12	2 pin headers	Sullins	S1011-36-ND	DigiKey	\$0.10	\$0.20
1	C3	22uf 25V Electrolytic	Panasonic	P5438-ND	DigiKey	\$0.60	\$0.60
1	C2	10uf 25V Electrolytic	Panasonic	P5240-ND	DigiKey	\$0.21	\$0.21
2	C1, C9	4.7uf 16V Electrolytic	Panasonic	P5252-ND	DigiKey	\$0.21	\$0.42
1	U1	24 pin socket	Millmax	ED3324-ND	DigiKey	\$1.25	\$1.25
1	U5	8 pin socket	Millmax	ED3308-ND	DigiKey	\$0.42	\$0.42
1	LS1	Round Speaker	Panasonic	P9965-ND	DigiKey	\$4.44	\$4.44
1	JB1	2 pin keyed connector	Molex	WM2700-ND	DigiKey	\$0.58	\$0.58
1	U2	Heatsink	Aavid	HS213-ND	DigiKey	\$0.33	\$0.33
1	R18	20K 10T trimpot	Phillips	CT9W203-ND	DigiKey	\$1.65	\$1.65
8	R8-R11,R1-R3	330 ohm 1206 sm	Panasonic	P332FCT-ND	DigiKey	\$0.15	\$1.20
4	R20-R23	2.2K ohm 1206 sm	Panasonic	P2.20KFCT-ND	DigiKey	\$0.15	\$0.60
1	R16	100 ohm 1/4w	Yaego	100XBK-ND	DigiKey	\$0.10	\$0.10
1	R14	1K ohm 1/4w	Yaego	1.00KXBK-ND	DigiKey	\$0.10	\$0.10
1	R19	10K ohm 1/4w	Yaego	10.0KXBK-ND	DigiKey	\$0.10	\$0.10
1	R4	330 ohm 1/4w	Yaego	332XBK-ND	DigiKey	\$0.10	\$0.10
1	R7	3.3K ohm 1/4w	Yaego	3.32KXBK-ND	DigiKey	\$0.10	\$0.10
1	R15	50 ohm 1/4w	Yaego		DigiKey	\$0.17	\$0.17
1	C6	.001uf mono	Panasonic	P4898-ND	DigiKey	\$0.17	\$0.17
1	C7	.01uf mono	Panasonic	P4922-ND	DigiKey	\$0.17	\$0.17
2	C4,C5,C8, C10,C11	.1uf mono	Panasonic	P4923-ND	DigiKey	\$0.22	\$0.44
5		4-40 x 1/4" panhead		H342-ND	DigiKey	\$0.02	\$0.10
1		4-40 nut		H216-ND	DigiKey	\$0.01	\$0.01
1	D4	LED vertical mount holder			DigiKey	\$0.25	\$0.25

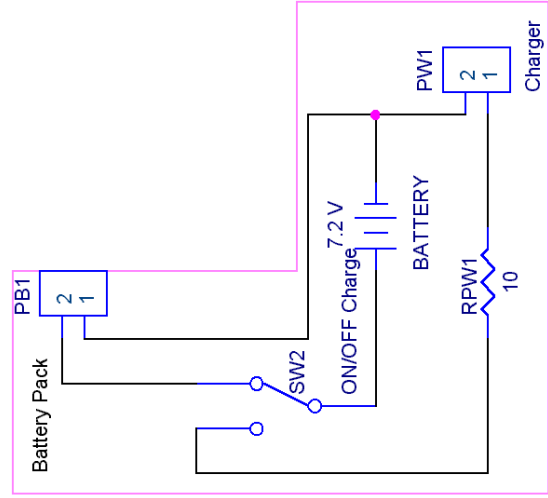
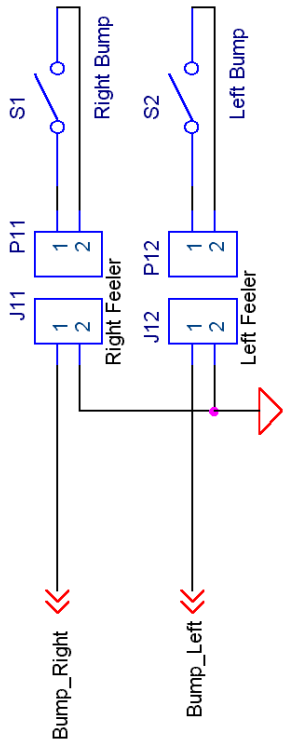
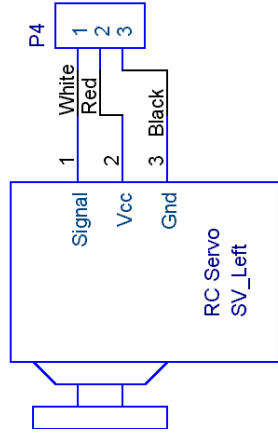
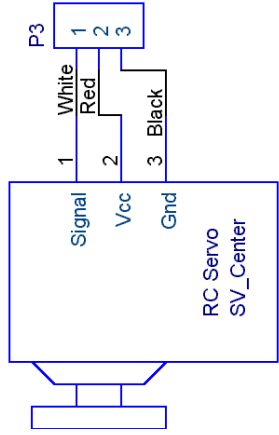
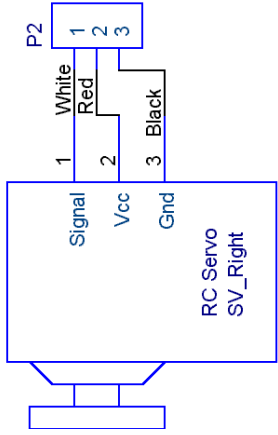
HA = Henry
Arnold

TOTAL

\$96.90



Henry Arnold	
Title	
Cricket STAMP II Controller	Document Number
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Title		Cricket STAMP II Accessories	
Size	A	Document Number	HA10008-002
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		Rev	5.6