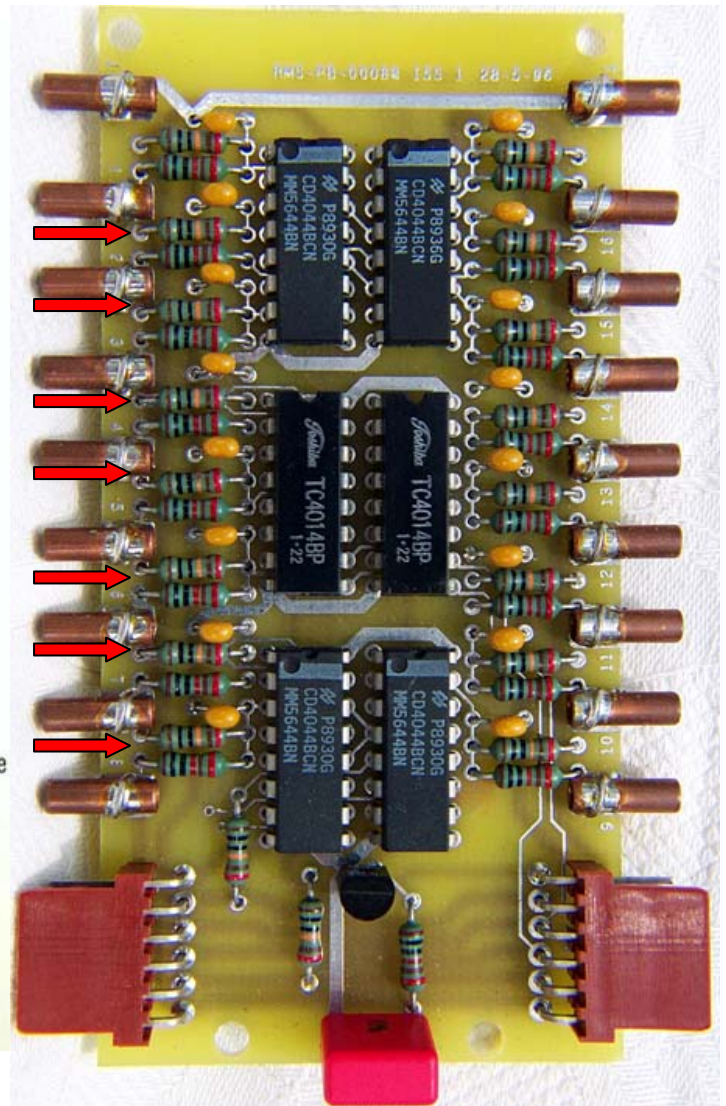
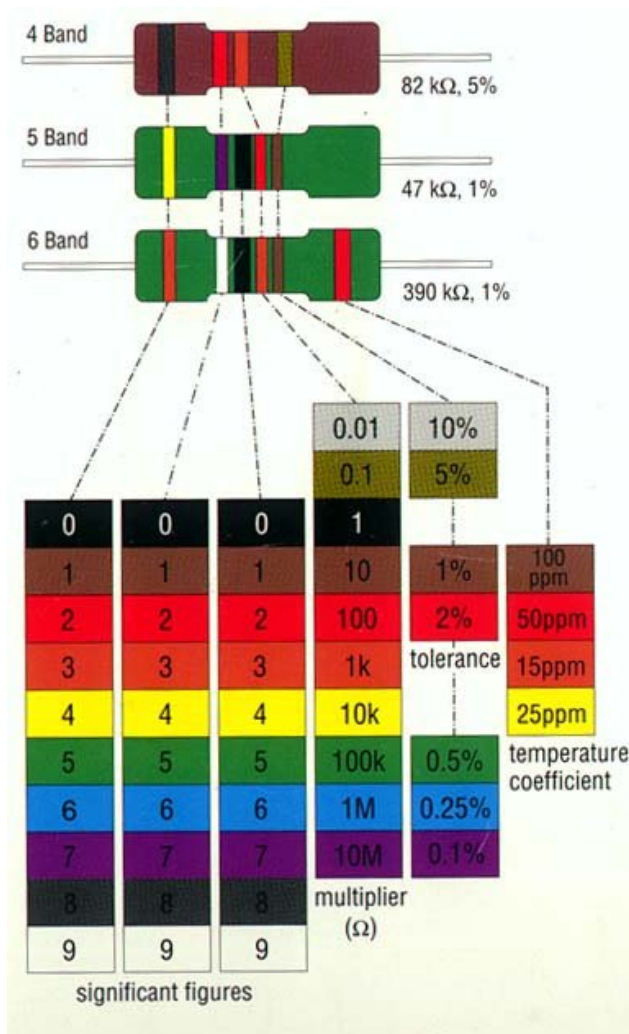


ASSEMBLY INSTRUCTIONS FOR RMS-PB-00088 MODULE

Revised 05-02-2008 Text revised, Photo, resistor chart and parts list added.

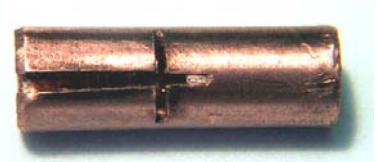
HINT 1. on using PDF files. If you wish to find a component while using Adobe Acrobat just go to Edit → Find on the menu or type (Ctrl+F). Type the component reference designator ie “R4” Acrobat will highlight the first instance it finds, you can then find the next instance by typing (Ctrl+G). Acrobat will take you to each instance across all pages.

HINT 2. Any text which has a coloured rectangle around it is a quick link to the item or place it refers to ie. R4.



ASSEMBLY INSTRUCTIONS FOR RMS-PB-00088 MODULE

Revised 05-02-2008 Text revised, Photo, resistor chart and parts list added.



- 9) Make 18 connectors from 1/8" copper tube by 10mm long (see sample provided). The cuts were made using a very fine toothed razor stiff backed saw which can be found in most hobby shops. Before cutting to length cut across the tube 5mm from the end to a depth approx half the diameter of the tube then on the same side only make a cut along the 5mm length to intersect the first cut then cut the tube to the 10mm length. Clean burrs and the connector is ready for the next step.
- 10) The trick here is to make a loop in the solid copper wire (.019" or 0.5mm resistor lead offcuts) by bending around a spare piece of 1/8" copper tube, solder one end then insert the connector under the loop and pull the free end tight through the printed circuit board. Solder the free end of the copper wire, at this point the connector is at an angle and hasn't been soldered. Now twist the connector straight and solder it to the wire loop. As you solder the wire loop let a small amount of solder flow around the tube and melt onto the pad area below the tube. **Caution**, don't use too much solder doing this. The connector with the **split end** should overhang the pcb by 5mm (see picture).
- 11) Now is a good time to check your soldering for short circuit bridges to tracks or pads. Also **check with a multimeter** that connectors SK1-SK7 don't short with resistors leads closest to the edge of the pcb R4, R6, R8, R10, R12, R14, R16 respectively as they are very close to each other. If they touch just bend the resistor lead clear (see **red arrows** on photo).
- 12) **CAUTION:- use an anti static mat and wrist strap to handle the IC's as they can be damaged by static. These can be obtained from most electronic supply stores.**
- 13) Now place the IC's, a dot or indent indicates pin 1 which is to the left of this mark and the rest of the pin numbers follow in a CCW rotation. ie pin 16 is opposite pin 1 on a 16 pin dip. Pin 1 is indicated on the overlay by a small square.
- 14) Hold the IC by the end between your fore finger and thumb and bend the legs of the IC in towards each row of pins on a flat surface so the IC will fit into the holes on the pcb.
- 15) Solder pin 8 then pin 16 of each IC, then solder the rest of the pins in any order.
- 16) Take time now to inspect your solder joints and make sure you haven't made any solder bridges to tracks or pads which shouldn't be connected. When you are satisfied there are no short circuits and you have placed all the components in their correct position move to the next step.
- 17) Now for testing the module. Turn the power off to your digital system and connect the module from XM1 to your interface or memory unit (see direction arrow on pcb) then plug a wire into SK18, turn the power for your digital system on. Using the wire plugged into SK18 touch each of the 16 connectors, you should get a "1" as you touch each connector. I use the C80prox program and it has a feature to display each s88 module. If the program you are using doesn't have this feature get a demo copy of C80prox from <http://worboys.ath.cx/marklin/index.html> and use the **dm** command to test the module.
- 18) **If your module doesn't work and you have no electronic knowledge, seek help from an electronics expert.** Most problems arise from poor solder joints, components in the wrong location, or too much solder which causes short circuits. To date no one has failed to get this module working.
- 19) Installation of the module can be fixed by 4 screws or use the same mounting method as the k83, k84 modules.

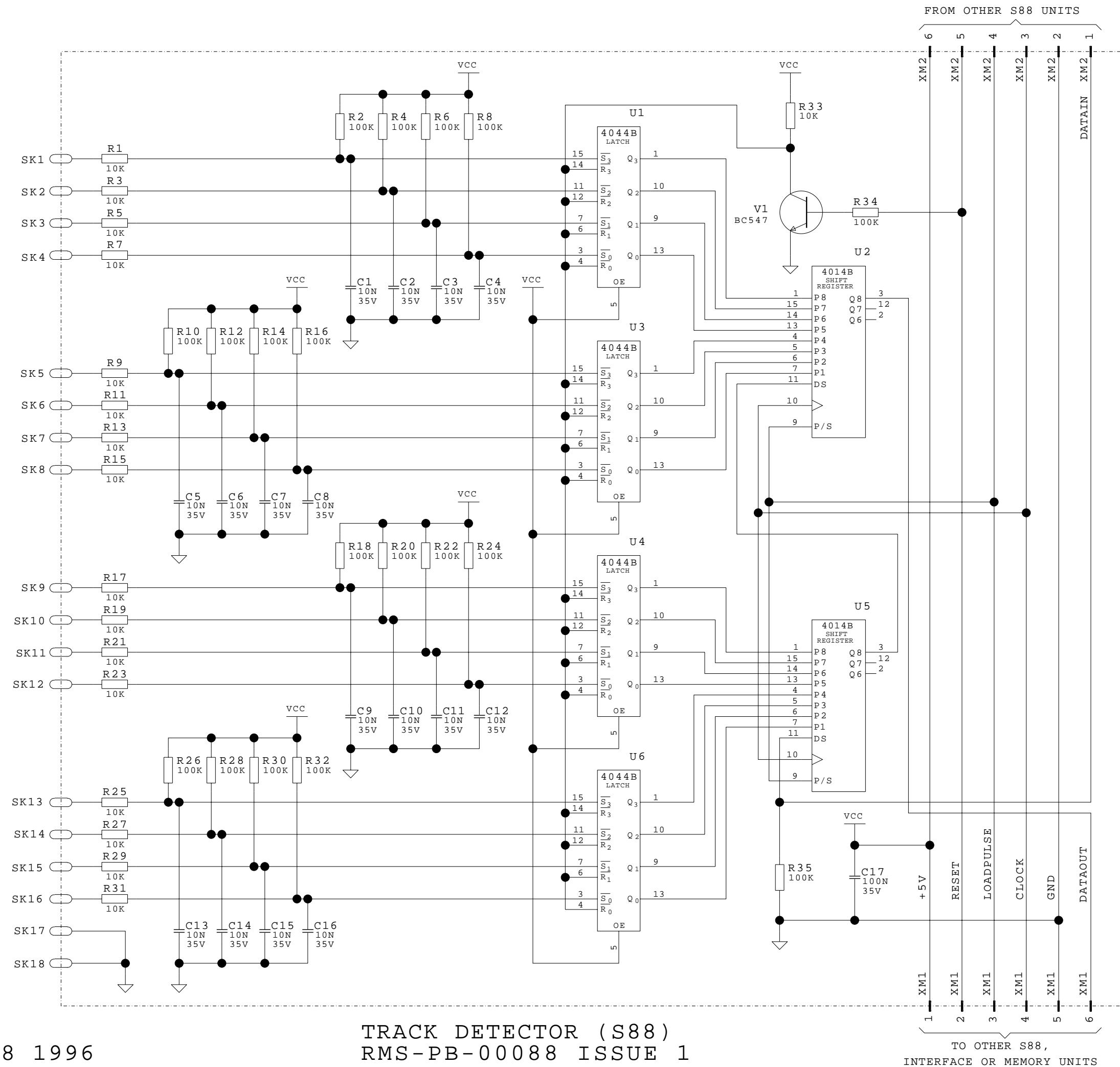
Happy building

Regards

Ross Stewart

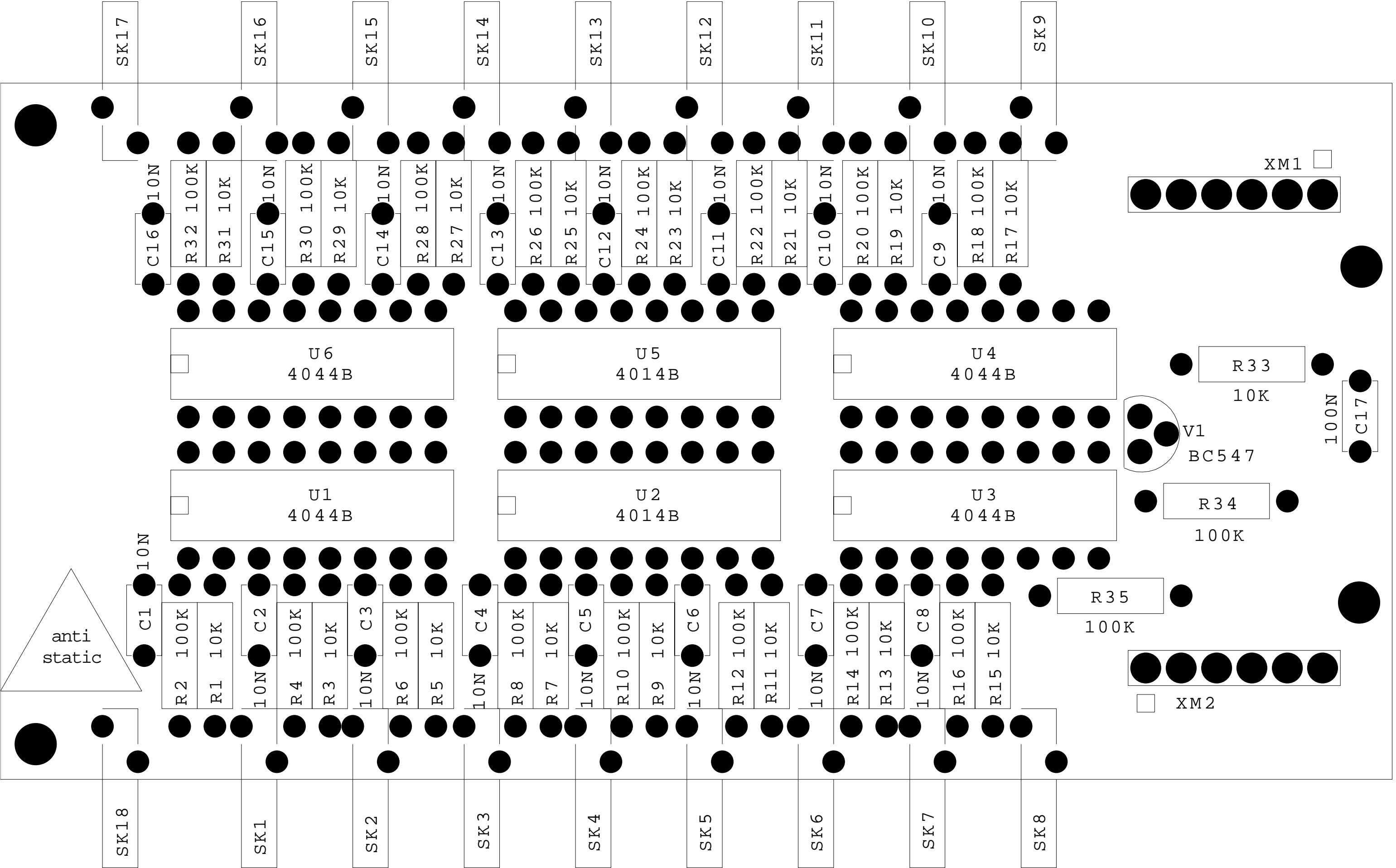
As always you can contact me by email at

rossstew@ozemail.com.au



MAY 28 1996



TRACK DETECTOR (S88)
RMS-PB-00088 ISSUE 1



Parts List s88

06-09-2008 Farnell Part #'s Revised

rms-pl-00088

Farnell Part Number	Symbol	Description	Value	Ref Designator	Qty.
9341110	RES400	RESISTOR MF25 1%	10k	R1,R3,R5,R7,R9,R11,R3,R15,R17,R19,R21,R23,R25,R27,R29,R31,R33	17
9341129	RES400	RESISTOR MF25 1%	100k	R2,R4,R6,R8,R10,R12, R14,R16,R18,R20,R22,R24,R26,R28,R30,R32, R34,R35	18
1216432	CAP200	Ceramic Cap	10n	C1-C16	16
1006030	CAP300	Polyester Cap	100N	C17	1
1097287	TO92	Transistor NPN	BC547	V1	1
9664653	DIP16	IC Quad Tri-state Nand R/S Latch	4044B	U1,U3,U4,U6	4
9664580	DIP16	IC 8 Bit Static Shift Register	4014B	U2,U5	2
	CON1	Home made copper tube 1/8"	CON1	SK1-SK18	18
733628-62 Conrad		Connector "Steckmuffen 2.5mm	CON1	SK1-SK18	18
588-751	HDR	Header 640457-6 0.1" R/A 6Way		XM1-XM2	2
588-374		Dust Cover 640550-6 6Way		For Cable Assembly	2
588-192		Housing 640441-6 24AWG 6Way		For Cable Assembly	2
150-432 150-428	/5m /50m	Ribbon Cable (0.1") fixed pitch extruded		For Cable Assembly cut to desired length	1