

# Assembly Manual for the

## Transceiver Upgrade Kit Cat. K-6302

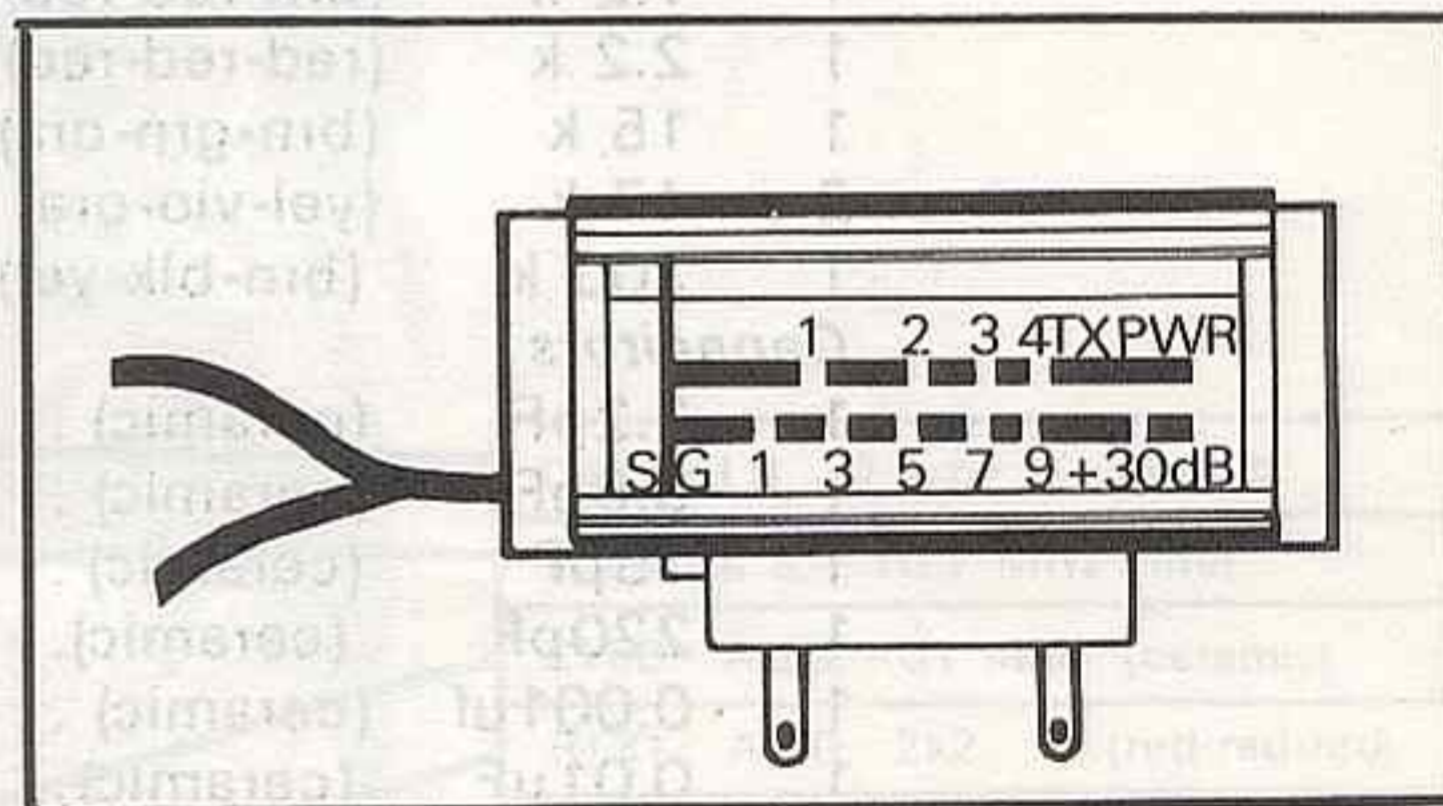
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another superb easy to build  
**DICK SMITH  
KIT**

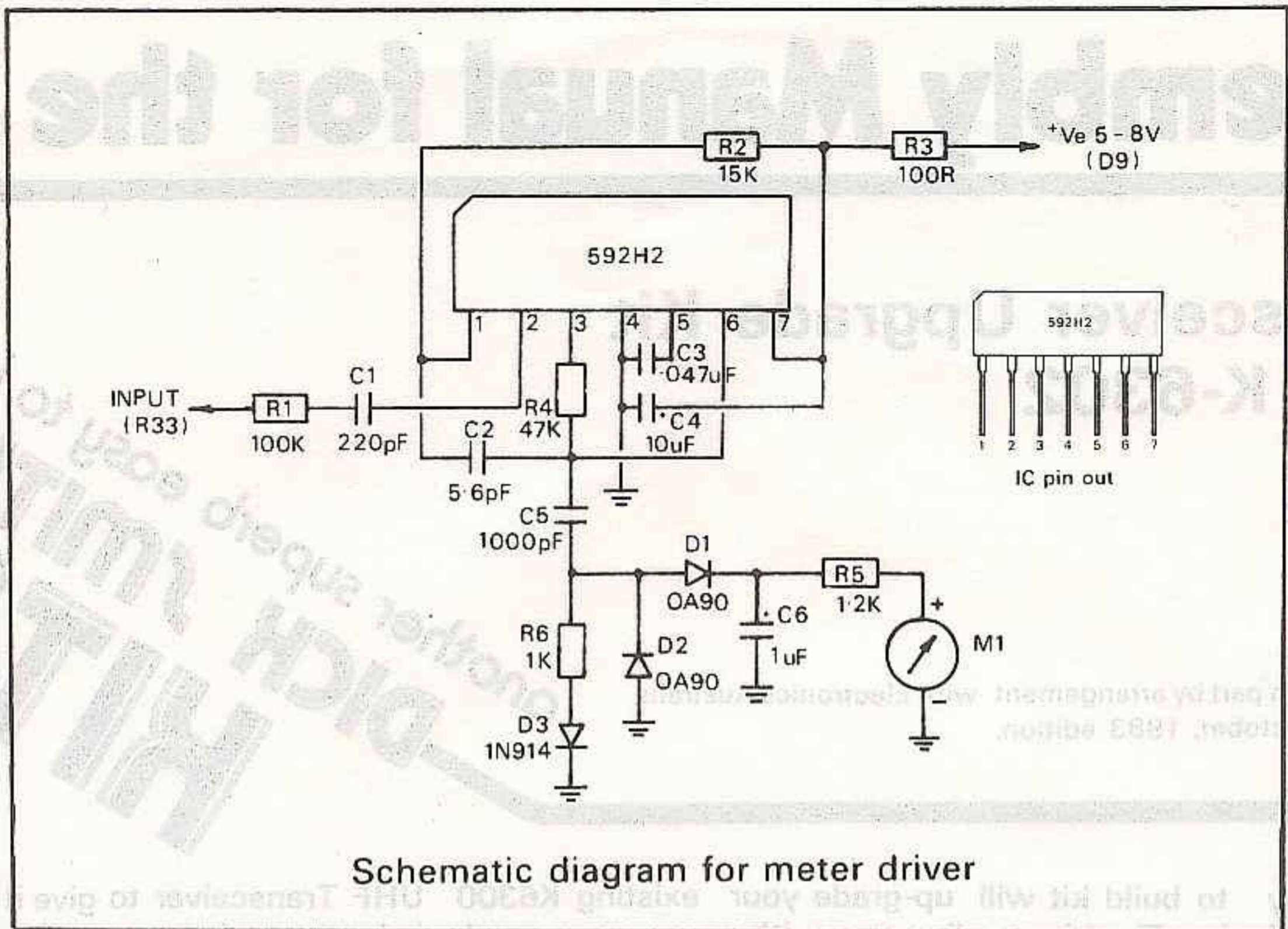
This easy to build kit will up-grade your existing K6300 UHF Transceiver to give it that final professional look. The kit supplies you with a new pre-punched front panel to accommodate an S-Meter and a repeater switch. Also a simple amplifier circuit has been developed to drive the S-Meter. Full step-by-step instructions follow showing components, wiring and positioning of PCB into your existing UHF Transceiver.

### CONSTRUCTION OF METER DRIVER

1. The meter driver consists of a handful of components mounted on a small PCB measuring just 20mm by 30mm.
2. Firstly mount the resistors in place, keeping in mind there is only one resistor which lies flat, the others are mounted on end with the exposed lead to the cold side of the circuit.
3. The next step is to insert the capacitors taking particular attention to the polarity of the two tantalums. See overlay for details.
4. The three diodes are now inserted. You will notice they also sit vertically and so, again, watch orientation carefully. One of the three diodes is physically smaller than the other two, this is the 1N914 signal diode. The other two are the OA90 signal diodes.
5. Last but not least, the IC, (592H2), can be soldered into place. Correct orientation is essential and damage could result if it is not followed. Pin 1 is located directly below the filed edge.
6. Once the meter PCB is completed, preparation for mounting this board to the main board is required. The best location for which we have found is as shown in the diagram on page three. With the little room available, we have had to define the location of this board placement rather stringently. Two PCB pins are used to support the meter board, and also to act as the earth return for the circuit.



7. Viewing the copper side of the PCB you will see two earth tracks running to the edge of the board. These are the tracks to which the PCB pins are soldered. Mark the spacing of these two earth tracks on to the main PCB and drill two 1.1 mm holes to accommodate these pins. Solder the PCB pins into the main board before soldering to meter board.
8. Three lengths of wire need to be soldered to the meter board, please refer to layout diagram to determine lengths required. The leads from the meter board have been labeled A, B and C, for your convenience. Lead A is soldered to the exposed leg of R33. Lead B is soldered to the cathode of D9. Lead C is soldered to the positive terminal of the meter. The negative terminal of the meter is soldered to the front panel, (earth).
9. If a lamp meter is inserted, refer to layout for wiring details. Note that termination of these leads will be connected to PCB pins already in use. This will cause no problem to correct operation of the unit.



Schematic diagram for meter driver

PARTS LIST

Resistors

1	100ohm	(brn-blk-brn)	.....	<input type="checkbox"/>
1	1 k	(brn-blk-red)	.....	<input type="checkbox"/>
1	1.2 k	(brn-red-red)	.....	<input type="checkbox"/>
1	2.2 k	(red-red-red)	.....	<input type="checkbox"/>
1	15 k	(brn-grn-ora)	.....	<input type="checkbox"/>
2	47 k	(yel-vio-ora)	.....	<input type="checkbox"/>
1	100 k	(brn-blk-yel)	.....	<input type="checkbox"/>

Capacitors

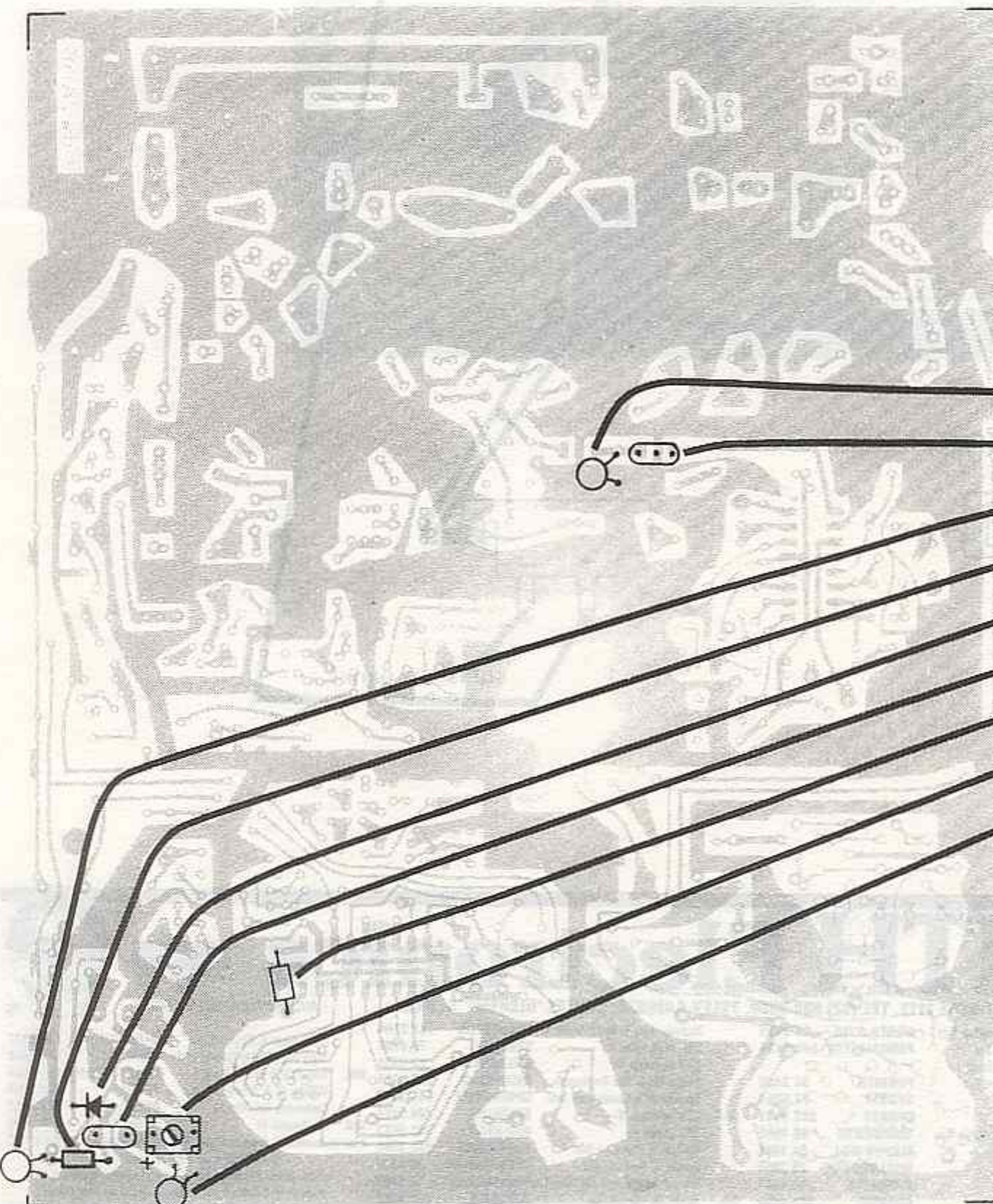
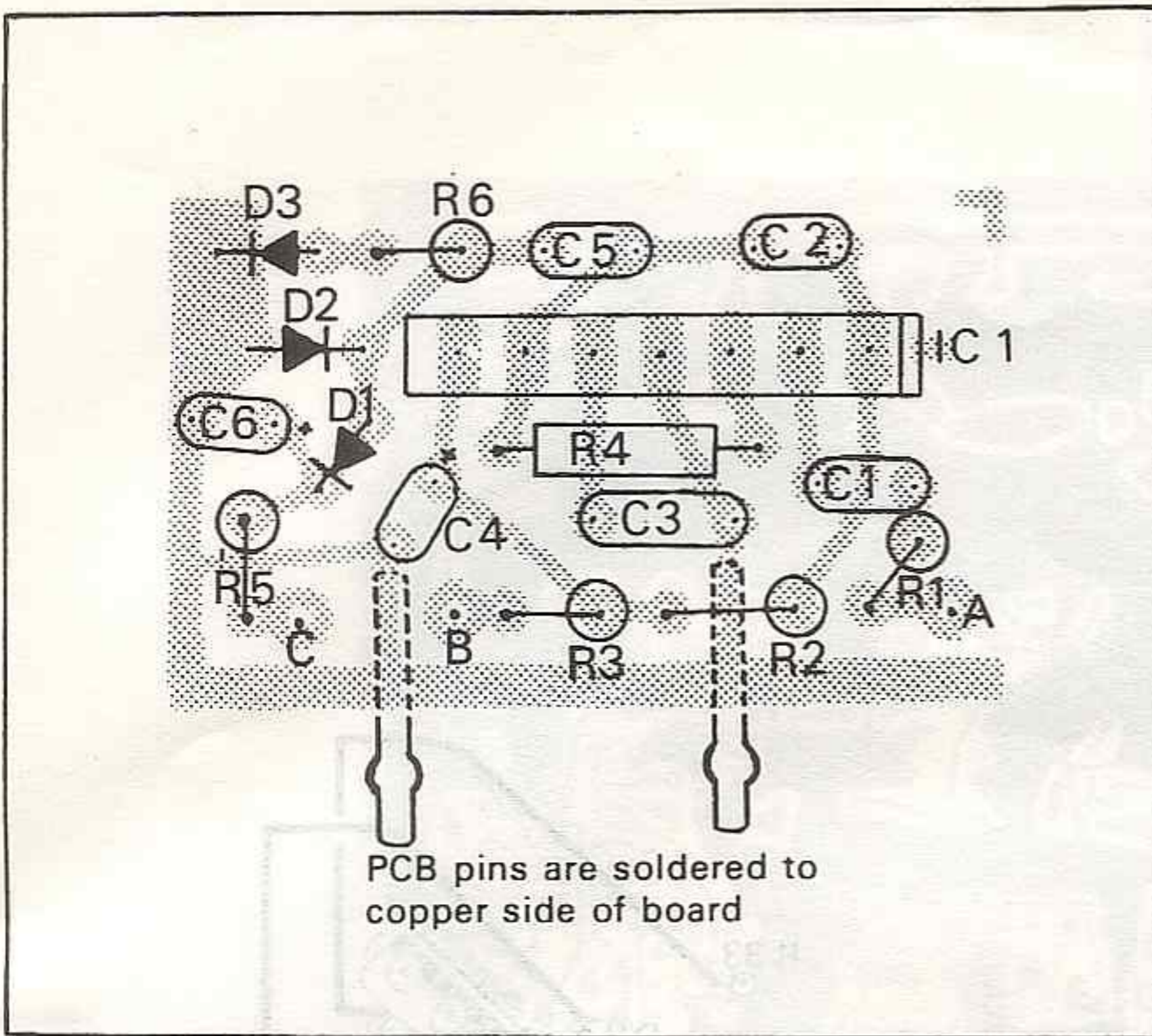
1	2.2pF	(ceramic)	.....	<input type="checkbox"/>
1	5.6pF	(ceramic)	.....	<input type="checkbox"/>
1	15pF	(ceramic)	.....	<input type="checkbox"/>
1	220pF	(ceramic)	.....	<input type="checkbox"/>
1	0.001 uF	(ceramic)	.....	<input type="checkbox"/>
1	0.01 uF	(ceramic)	.....	<input type="checkbox"/>
1	1 uF16V	(tantalum)	.....	<input type="checkbox"/>
1	10uF16V	(tantalum)	.....	<input type="checkbox"/>
1	.047uF	(greencap)	.....	<input type="checkbox"/>
1	20pF	(trimmer)	.....	<input type="checkbox"/>

Miscellaneous

1	SPDT toggle switch	.....	<input type="checkbox"/>
2	1 N60/OA9D diode	.....	<input type="checkbox"/>
2	1 N914/1 N4148 diode	.....	<input type="checkbox"/>
1	meter driver PCB	.....	<input type="checkbox"/>
1	IC UPC 592 H2	.....	<input type="checkbox"/>
1	2 pole 10.7MHz filter	.....	<input type="checkbox"/>
1	47.3055MHz crystal	.....	<input type="checkbox"/>
	solder	.....	<input type="checkbox"/>
	hook-up wire	.....	<input type="checkbox"/>
	'S' meter	.....	<input type="checkbox"/>
	MK 2 front panel	.....	<input type="checkbox"/>

METER DRIVER PCB  
Parts List

- R1 100k (brn-blk-yel)
- R2 15k (brn-grn-ora)
- R3 100R (brn-blk-brn)
- R4 47k (yel-vio-ora)
- R5 1.2k (brn-red-red)
- R6 1k (brn-blk-red)
- C1 220pF ceramic
- C2 5.6pF ceramic
- C3 .047uF 100v greencap
- C4 10uF 16v tantalum
- C5 .001 uF ceramic
- C6 1uF 16v tantalum
- D1 OA90 signal diode
- D2 OA90 signal diode
- D3 1N914 signal diode
- IC1 592H2 IC
- M1 meter
- PCB
- PCB pins

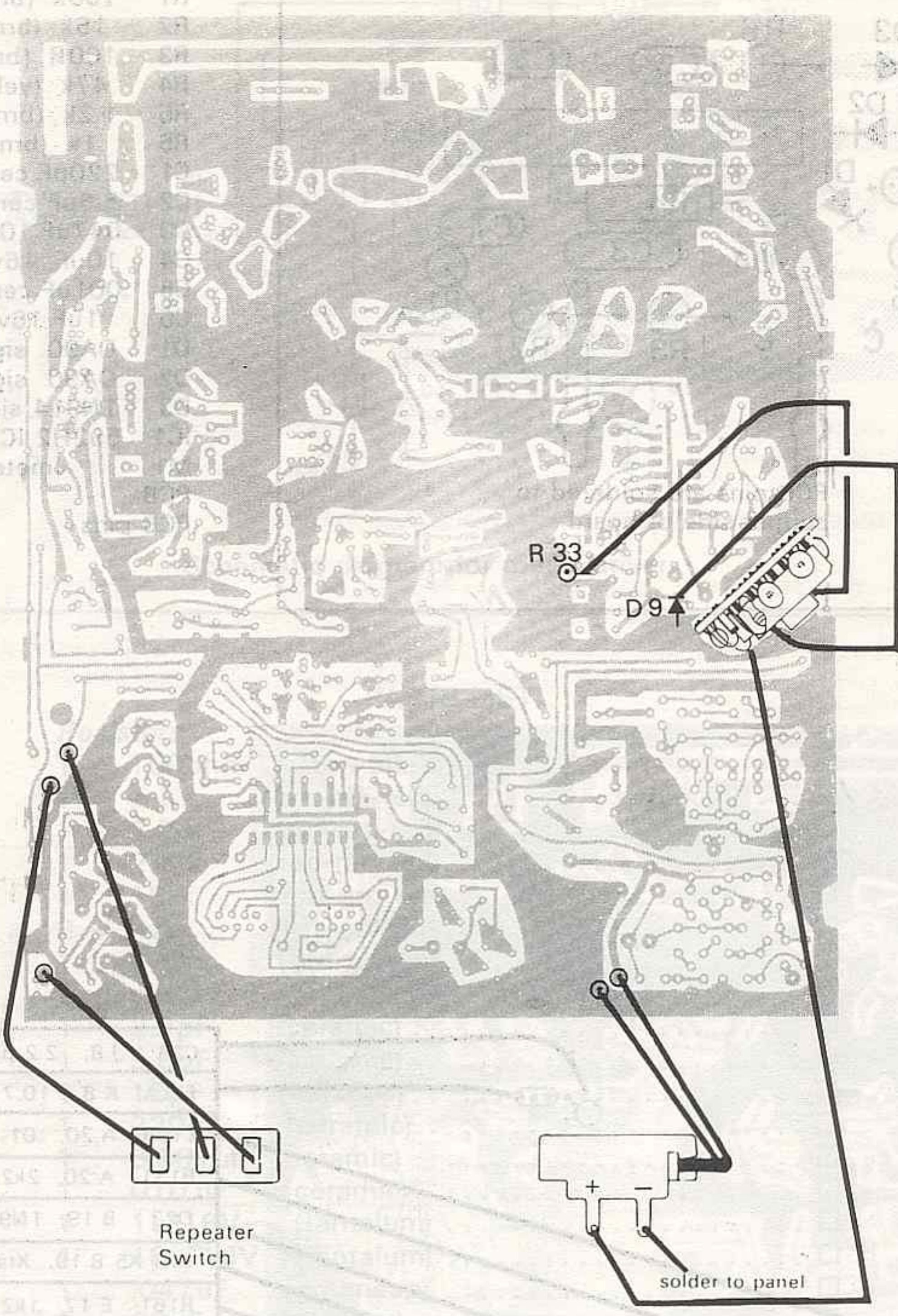


C36	J 8,	2.2 pF	(ceramic)
FL1A	K 8,	10.7 MHz	Filter
C168	A 20,	.01 mfd	(ceramic)
R131	A 20,	2k2	(red-red-red)
D23	B 19,	1N914	
RPT X5	B 19,	Xtal 47.3055MHz	
R161	E 17,	1k2	(brn-red-red)
C167	C 19,	20pF	(trimmer)
C169	C 20,	15pf	NPO (ceramic)

When inserting FL1A, remove the link located at K 8.

METER DRIVER PCB  
Parramatta

AT 100K (brn-blk-ylw)  
R1 100K (brn-blk-ylw)  
R2 100K (brn-blk-ylw)  
R3 100K (brn-blk-ylw)  
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R98 100K (brn-blk-ylw)  
R99 100K (brn-blk-ylw)  
R100 100K (brn-blk-ylw)



Repeater Switch

solder to panel

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