

RATA UPGRADE GUIDE

COMPLETE QUAD 11 UPGRADE - including output leads on Quad 22 preamp.

SEQUENCE OF PREPARATION:

- a. Remove main wiring loom.
- b. Remove blue links, leaving wiring link on V1 and V2.
- c. Remove nuts fixing tag board and V1 and V2 - remove from chassis.
- d. Remove R1, R12, C2, C5, C4/C6 from chassis.
- e. Remove paint from under screw fixing on T2 (Earth Point).
- f. Remove Fuse (FS1).
- g. Remove mains plug (PL1).
- h. Remove Signal I/P (SK3).
- i. Cut off all links between mains selector and T2.
- j. Remove resistors and capacitors on tag board.
- k. Remove solder from ALL connections.
- l. Cut out hole for circuit breaker - see diagram 3 (page 2).
- m. File hole to fit mains cable gland.
- n. Clean paint work.
- o. File fixing holes on C4/C6 fixing clamp to suit badge holes, also cut off corner of clamp to go over screw - see diagram 4 (page 2).
- p. Cut out base side to fit C4/C6 clamp. See diagram 4 (page 2).

REPLACEMENT:

- a. Replace tag board resistors and capacitor (DO NOT REFIT IN CHASSIS).
- b. Wire V1 and V2 as diagram 5 (page 3), bases to tags and flying leads, wire numbers 1 to 4 (page 4).
- c. Wire earth lead and OV leads to earth tags - see diagram 6 (page 5).
- d. Fit the tag board assemble into the chassis.
- e. Signal input phono socket plate - see diagram 1 (page 2).

PREPARATION ON PREAMP:

- a. Remove mains input plug, cut back wiring.
- b. Fit grommet board - see diagram 2 (page 2).
- c. Remove signal output wires and fit KC1 cables.
- d. Leave screen connected as this is OV return.

DIAGRAM ONE

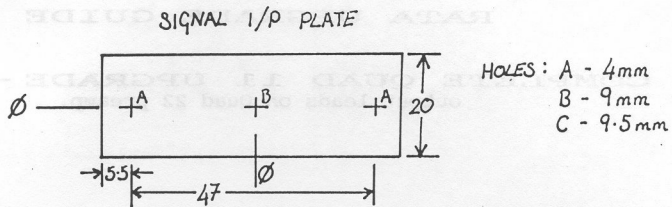


DIAGRAM TWO

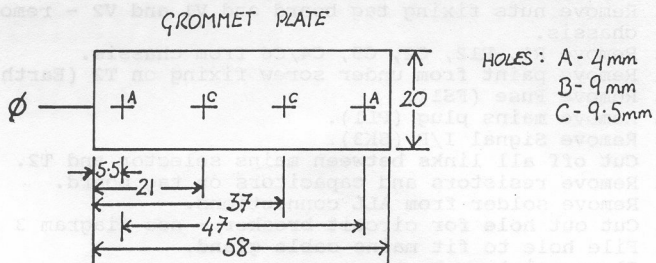


DIAGRAM THREE

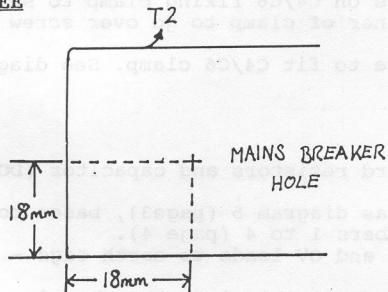
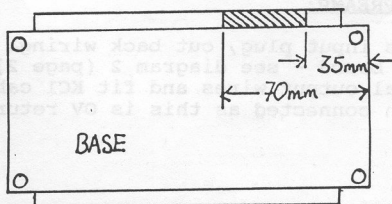


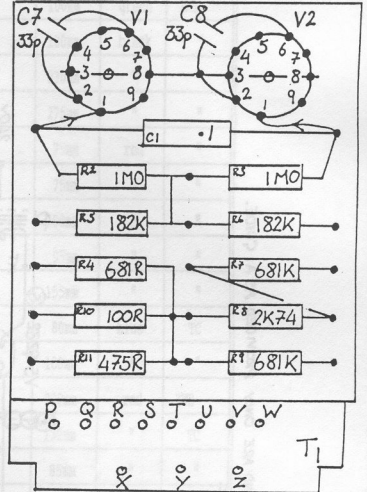
DIAGRAM FOUR



QUAD 11 TAG BOARD COMPONENTS AND ASSEMBLY

DIAGRAM 5

- Fit links to valve bases and tags.
- Fit capacitors to valve bases.
- Fit resistors to the tag board.
- Fit capacitors to tag board.
- Wire links tags to bases.
- Wire flying leads.



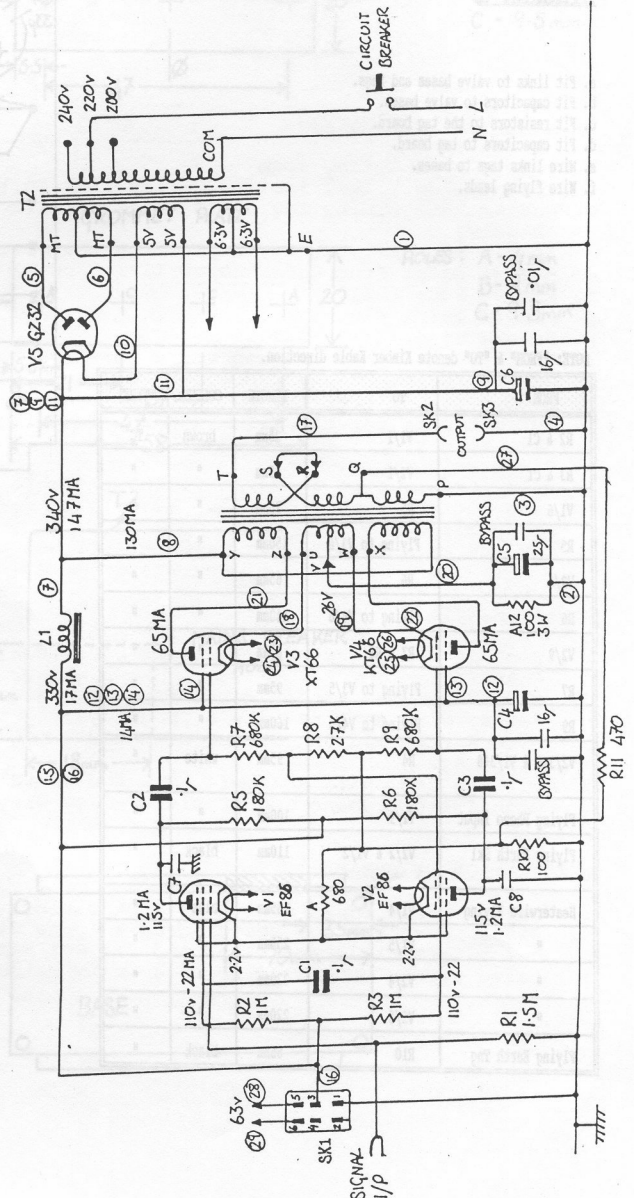
NOTE: "FROM" & "TO" denote Kimber Kable direction.

FROM	TO	LENGTH	COLOUR	TYPE
R2 & C1	V1/1	25mm	brown	TC
R3 & C1	V2/1	35mm	"	"
V1/6	R5	75mm	"	"
R5	Flying to V3/6	150mm	"	"
V2/6	R6	65mm	"	"
R6	Flying to V4/6	140mm	"	"
V2/9	R7 & R8	80mm	"	"
R7	Flying to V3/5	95mm	"	"
R9	Flying to V4/5	160mm	"	"
V2/3+8 & V1/3+8	R4	95mm	white	"
Flying Phono input	V1/9	100mm	"	"
Flying Earth Sk1	V2/2 & V1/2	110mm	black	"
Heaterwire Flying	V1/4	255mm	blue	"
"	V1/5	255mm	"	"
"	V2/4	220mm	"	"
"	V2/5	220mm	"	"
Flying Earth Tag	R10	65mm	black	"

QUAD 11 INTERNAL WIRING DIAGRAM

NOTE: Circled numbers denote wire no. on internal wiring table (page 5).

THE VOLTAGE AND CURRENT MEASUREMENTS SHOWN HERE ARE APPROXIMATE, AND ARE ONLY PROVIDED AS A GUIDE. ALLOWANCE SHOULD BE MADE FOR THE LOADING EFFECTS OF A VOLTMETER.



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QUAD 11 INTERNAL WIRING

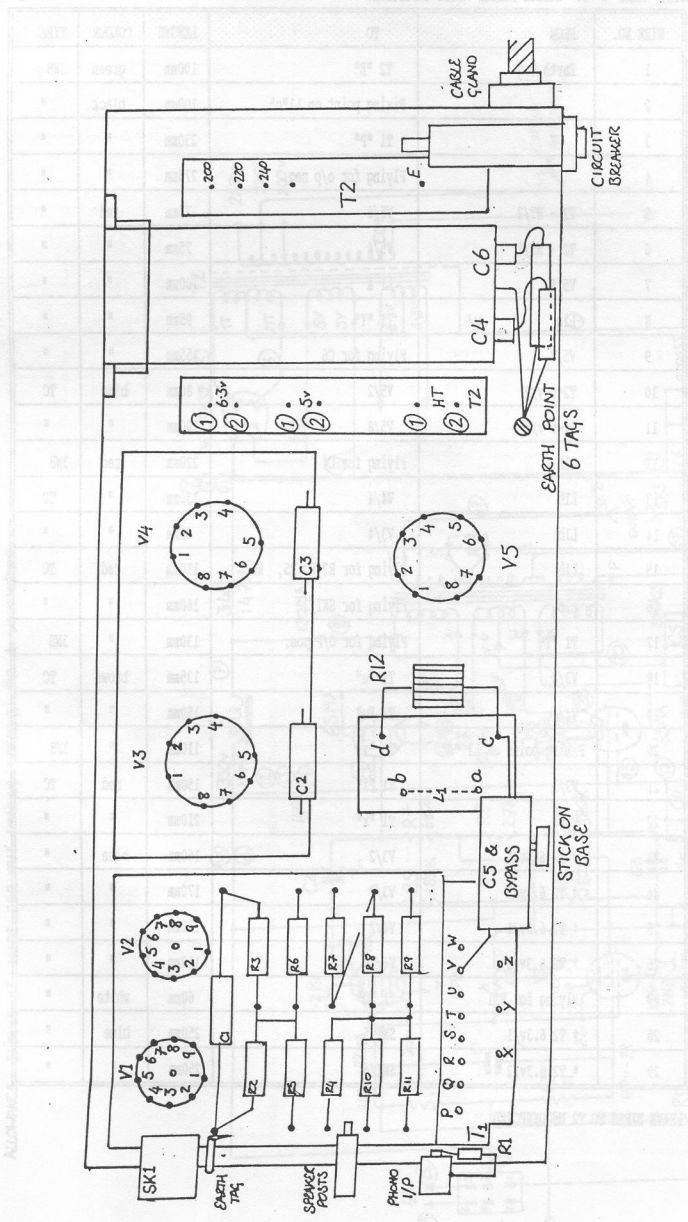
NOTE: "FROM" & "TO" denote Kimber Kable direction.

WIRE NO.	FROM	TO	LENGTH	COLOUR	TYPE
1	Earth Tag	T2 "E"	100mm	green	3WB
2	"	Fixing point on L1"c"	100mm	black	"
3	"	T1 "P"	230mm	"	"
4	"	Flying for o/p neg.	275mm	"	"
5	T2 - HT/2	V5/6	75mm	red	"
6	T2 - HT/1	V5/4	75mm	"	"
7	V5/8	L1 a	100mm	"	"
8	L1a	T1 "Y"	95mm	"	"
9	V5/8	Flying for C6	155mm	"	"
10	T2-5 v/2	V5/2	80mm	blue	TC
11	T2-5 v/1	V5/8	100mm	"	"
12	L1b	Flying for C4	220mm	red	3WB
13	L1b	V4/4	130mm	"	TC
14	L1b	V3/4	85mm	"	"
15	L1b	Flying for R2,R3,R5, R6.	110mm	red	TC
16	L1b	Flying for SKI/3	160mm	"	"
17	T1 "T"	Flying for O/P pos.	130mm	"	3WB
18	V3/8	T1 "u"	135mm	brown	TC
19	V4/8	T1 "w"	150mm	"	"
20	Fixing point on L1 "d"	T1 "v"	110mm	"	3WB
21	V3/3	T1 "z"	150mm	red	TC
22	V4/3	T1 "x"	210mm	"	"
23	* T2 6.3v/1	V3/2	160mm	blue	"
24	* T2 6.3v/2	V3/7	170mm	"	"
25	* T2 6.3v/1	V4/2	100mm	"	"
26	* T2 6.3v/2	V4/7	110mm	"	"
27	Flying for R11	T1 "Q"	60mm	white	"
28	* T2 6.3v/1	SKI/5	250mm	blue	"
29	* T2 6.3v/2	SKI/6	250mm	"	"

* LEAVE WIRES TO T2 UNCONNECTED

QUAD 11 COMPONENT LAYOUT DIAGRAM

NOTE: Numbers refer to instructions on final wiring (page 7).



THE WORKING AND CONNECTION REQUIREMENTS SHOWN HERE ARE APPROXIMATE AND ARE ONLY PROVIDED AS A GUIDE. ALWAYS REFER TO THE FINAL WIRING INSTRUCTIONS FOR THE CORRECT CONNECTIONS.

QUAD 11 FINAL WIRING

Fit the tag board back into the Chassis.

- a. Connect heater wires on T2-6.3v 1 & 2. 5 wires on each tag.
- d. Fit phono socket. Connect R1 across inputs.
- c. Connect the white wire on phono input from V1/9.
- d. Connect the black wire on phono input to SK1 earth tag. 80mm.
- e. Connect the black wire on SK1 earth tag from R10.
- f. Connect the black wire on SK1/1 & 4 from V1/2 & V2/2.
- g. Connect wire no.27 white to R11 from T1 "Q".
- h. Fit speaker post "pos" (have hole nearest tag board).
- i. Connect wire no.17 3WB red to speaker output post.
- j. Fit speaker post "neg".
- k. Connect wire no.4 3WB black to speaker output post.
- l. Connect wire no.16 TC red to SK1/3.
- m. Connect wire brown TC on V4/6 from R6.
- n. Connect wire brown TC on V4/5 from R9.
- o. Connect wire brown TC on V3/6 from R5.
- p. Connect wire brown TC on V3/5 from R7.
- q. Connect wire No.15 red TC on R2, R3, R5, R6.
- r. Fit mains cable-wire - blue wires to T2 "com".
- brown wires to circuit breaker.
- s. From T2 240v brown wires to circuit breaker.
- t. Fit C4/C6 using original screws and label.
- u. Connect wire no.9 3WB red to C6. Also fit bypass caps.
- v. Connect wire no.12 3WB red to C4. Also fit bypass caps.
- w. Connect C4/C6 negative wire to earth using tag. Also bypass caps.
- x. Fit stick on base for C5 at position shown.
- y. Fit C5 using tie, solder to T1 "V" & T1 "C" also bypass cap.
- z. Fit R12 (1K5 x 8 in parallel) to L1 "C" & L1 "D".

QUAD 11 CHECKLIST

VALVE BASE WIRING

- V1 -
1. Brown to R2
 2. Black to earth linked to V2/2, C7 to Pin 6.
 3. Wire link to centre to Pin 8 & valve 2, Pins 3 & 8.
 4. Heater wire to T2-1 blue, 6.3v.
 5. Heater wire to T2-2 blue, 6.3v.
 6. Brown to R5, C7 to Pin 2.
 7. NC.
 8. White to R4.
 9. White to signal I/P inner.
- V2 -
1. Red C1, R3.
 2. C8 to Pin 6.
 3. White to R4. Linked to centre & Pin 8 & valve 1, Pins 3 & 8.
 4. Heater wire to T2, 6.3v-1.
 5. Heater wire to T2, 6.3v-2.
 6. C8 to Pin 2, Red R6.
 7. NC.
 8. Linked to Pin 3.
 9. Red R7/R8.
- V3 -
1. NC.
 2. Heater wire to T2, 6.3v-1 blue.
 3. Red T1/Z.
 4. Red L1.
 5. C2 to Pin 6, brown to R7.
 6. C2 to Pin 5, brown to R5.
 7. Heater wire to T2, 6.3v-2.
 8. Brown T1/U.
- V4 -
1. NC.
 2. Heater wire blue to T2/6.3v connector (1).
 3. Red to T1/X.
 4. Red to L1.
 5. C3 Link to Pin 6. Red to R9.
 6. C3 Link to Pin 5. Red to R6.
 7. Heater wire blue to T2/6.3v connector (2).
 8. Brown to T1/W.
- V5 -
1. NC.
 2. Heater wire to T2/5v connector (1).
 3. NC.
 4. Red 3WB to T2/HT connector (1).
 5. NC.
 6. Red 3WB to T2/HT connector (2).
 7. NC.
 8. Heater wire to T2/5v connector (2).
Red 3WB to L1.
Red 3WB to C6.

TESTING THE QUAD 11

REMEMBER THIS IS HIGH VOLTAGE, SO TAKE CARE!

- a. Clean inside for loose wires and offcuts.
- b. Check all joints and wires.
- c. **DO NOT** fit valves yet!
- d. Resistance test on mains input earth and chassis.
- e. Leakage test on live, neutral and earth.
- f. If these are okay put the meter on the T2 mains transformer.
Check HT - 5v - 6.3v all AC.
- g. If these are okay fit V5 **ONLY**. Put the meter across L1 and Chassis. Voltage 350v plus D.C. **NOTE** when the mains is disconnected a high voltage is **STILL** there. A 1K0 resistor from L1 to chassis will remove this voltage. Check for overheating etc.
- h. If these are okay fit all other valves, speaker and signal I/P.
- i. Connect to mains, switch on, check voltages on valve bases.
- j. Sit back and enjoy!

