

# SERVICE INFORMATION

0275

## eminent model 310 unique

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### PART NO.

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### TECHNISCHE GEGEVENS

Netfrequentie  
Netspanning\*  
Uitgangsvermogen

Ingang (input):  
Bandrecorder  
Radio  
Rithme box  
Uitgang (output)  
3 kanaals orbitone systeem

Hoofdtelefoon  
stereo entree:  
Impedantie hoofdtelefoon.  
Maximum vermogen  
Frequentie bereik

Zekeringen:  
Net (traag)  
18,5 V (traag) 2x

### TECHNICAL DATA

Mains frequency  
Mains voltage\*  
Audio output

Input connection:  
Tape recorder  
Radio  
Rhythm unit  
Output connection  
3 channels Orbitone system

Headphones  
stereo connection:  
Impedance headphones  
Maximum capacity  
Frequency range

Fuses:  
Mains: (slow action)  
18,5 V (slow action) 2x

### TECHNISCHE DATEN

Netzfrequenz  
Netzspannung\*  
Ausgangsleistung

Eingang (input):  
Tonbandrecorder  
Rundfunk  
Rhythmic box  
Ausgangnahme  
3 kanälen Orbitone system

Kopfhöreranschluss (stereo):  
Impedantie Kopfhörer 8 - 16 Ohm  
Maximum Vermögen 0,5 W  
Frequenzbereich 25-15000 Hz

Sicherungen:  
Netz: (träge)  
18,5 V (träge) 2x

thermal release in primary winding (micro STB 4239  
disconnect temp. 115 C)  
3,15 AT

#### \* 115-240-250 Volt

Het orgel is voor 220 Volt uitgevoerd. Voor 115-240-250 Volt omschakeling als volgt te werk gaan:  
(zie transformator op de bodem van het orgel).

— de draad op de 220 V aansluiting omzetten naar de 115 Volts aansluiting.

#### \* 115-240-250 Volt

Organ is equipped for use with 220 Volt. To change to 115-240-250 Volt operation do as follows  
(remove power supply from bottom of cabinet)

— Relocate 220 Volt wire to 115 Volt on transformer.

#### \* 115-240-250 Volt

Die Orgel ist normal für 220 Volt vorgesehen kann jedoch auch auf 115-240-250 Volt umgeschaltet werden. (siehe Transformator auf dem Boden der Orgel)

— Der Anschlussdraht von 220 Volt ist jeweils auf die gewünschte Voltspannung umzusetzen z.B. auf 115 V.

**EXTRA INSTEL MOGELIJKHEDEN: (niet draaien aan afgelakte potmeters!!!)**

**VIBRATO:** De snelheid van het vibrato is instelbaar door middel van een instelpotmeter nr. 62 zie tekening Lower Manual Voicing circuit.

**PEDAL:** Het pedaal volume is instelbaar door instelpotmeter nr. 50 zie tekening Lower Manual Voicing.

**ADDITIONAL ADJUSTMENT POSSIBILITIES: (do not rotate sealed potentiometer)**

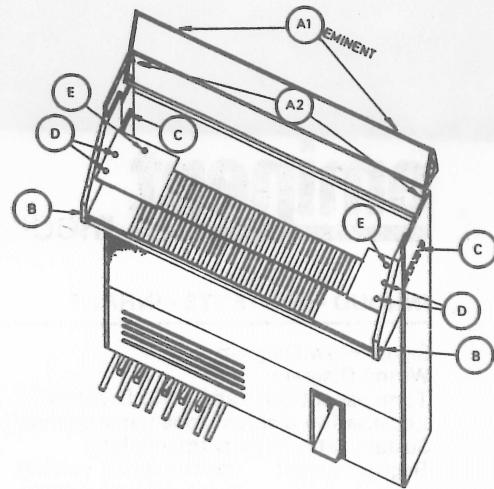
**VIBRATO:** The vibrato rate is adjustable by means of potentiometer no. 62 see drawing Lower Manual Voicing circuit.

**PEDAL:** The pedal volume is adjustable by means of potentiometer no. 50 see drawing Lower Manual Voicing.

**EXTRA EINSTELLMÖGLICHKEITEN: (nicht an den mit Lack plombierten Potentiometer drehen)**

**VIBRATO:** Die Geschwindigkeit des Vibrator ist regulierbar durch Potentiometer Nr. 62 siehe Zeichnung Lower Manual Voicing circuit.

**PEDAL:** Das Pedalvolumen ist mit Hilfe des Potentiometer Nr. 50 regulierbar siehe Zeichnung Lower Manual Voicing.



#### Demontage Eminent 310 Unique

##### Demontage Register paneel:

1. Lessenaar verwijderen.
2. eventueel deksel verwijderen.
3. bovenblad opklappen.
4. verwijder schroeven:  
bij Eminent: A1 (voorzijde lijst)  
5. registerpaneel is nu opklapbaar.

##### BOVENKLAVIER:

6. handel als bij 1 t/m 5
7. bovenklaviersysteem is gedeeltelijk bereikbaar.
8. verwijder aan buitenzijde orgel dekplaatjes B.
9. verwijder schroeven welke nu zichtbaar zijn.
10. verwijder schroeven C in het orgel (e.v. achtershot verwijderen).
11. beide klavieren zijn naar voren omklapbaar.

##### ONDERKLAVIER:

12. handel als bij 1 t/m 7.
13. verwijder bakstuk links en rechts, zie bij bakstukken.
14. verwijder de zichtbaar gekomen schroeven (links en rechts twee stuks) welke verticaal zijn opgesteld, let op losse moeren. Zie bij D.
15. het bovenklavierdeel is nu los en kan worden opgetild.
16. toetsen van onderklavier zijn nu bereikbaar.

##### BAKSTUKKEN:

17. bovenklavier: verwijder schroeven E (let op losse delen onder het bakstuk). Eventueel klavierlijst los schroeven.
18. onderklavier: verwijder twee schroeven achteraan het bakstuk.

#### Eminent 310

##### Dismantling Register Panel:

1. Remove Music stand.
2. Remove Cover (if applicable)
3. Fold back top-cover.
4. Remove screws:  
Eminent: A1 (at the front of the frame).  
Solina: A2 (at the sides).
5. Register panel may now be folded back.

##### UPPER MANUAL:

6. a. As 1 up to 5 inclusive.
7. Upper manual system comes now partly within reach.
8. b. Remove from the outside of the organ cover-plates B.
9. Remove the now visible screws.
10. Remove screws C with are located inside the organ (if applicable remove back cover).
11. Both manuals can now be folded forward.

##### LOWER MANUAL:

12. As 1 up to 7 inclusive.
13. Remove the left and right hand side key-block (see keyblocks).
14. Remove the now visible screws (two on the left, two on the right), look out for loose nuts. See D.
15. The part of the upper manual is now loose and can be lifted.
16. Keys of the lower manual are now within reach.

##### KEYBLOCKS:

17. Uppermanual: Remove screws E (look for loose parts under the keyblock). If applicable undo the screws of the keyboard frame.
18. Lower manual: Remove two screws at the back of the keyblock.

#### Eminent 310

##### Demontage Registerpanel:

1. Notenpult entfernen.
2. eventuell Deckel entfernen.
3. oberen Brett hochklappen.
4. Schrauben entfernen:  
bei Eminent: A1 (vorderseite der Leiste);  
bei Solina: A2 (Seiten).
5. Registerpanel ist jetzt aufzuklappen.

##### OBERMANUAL:

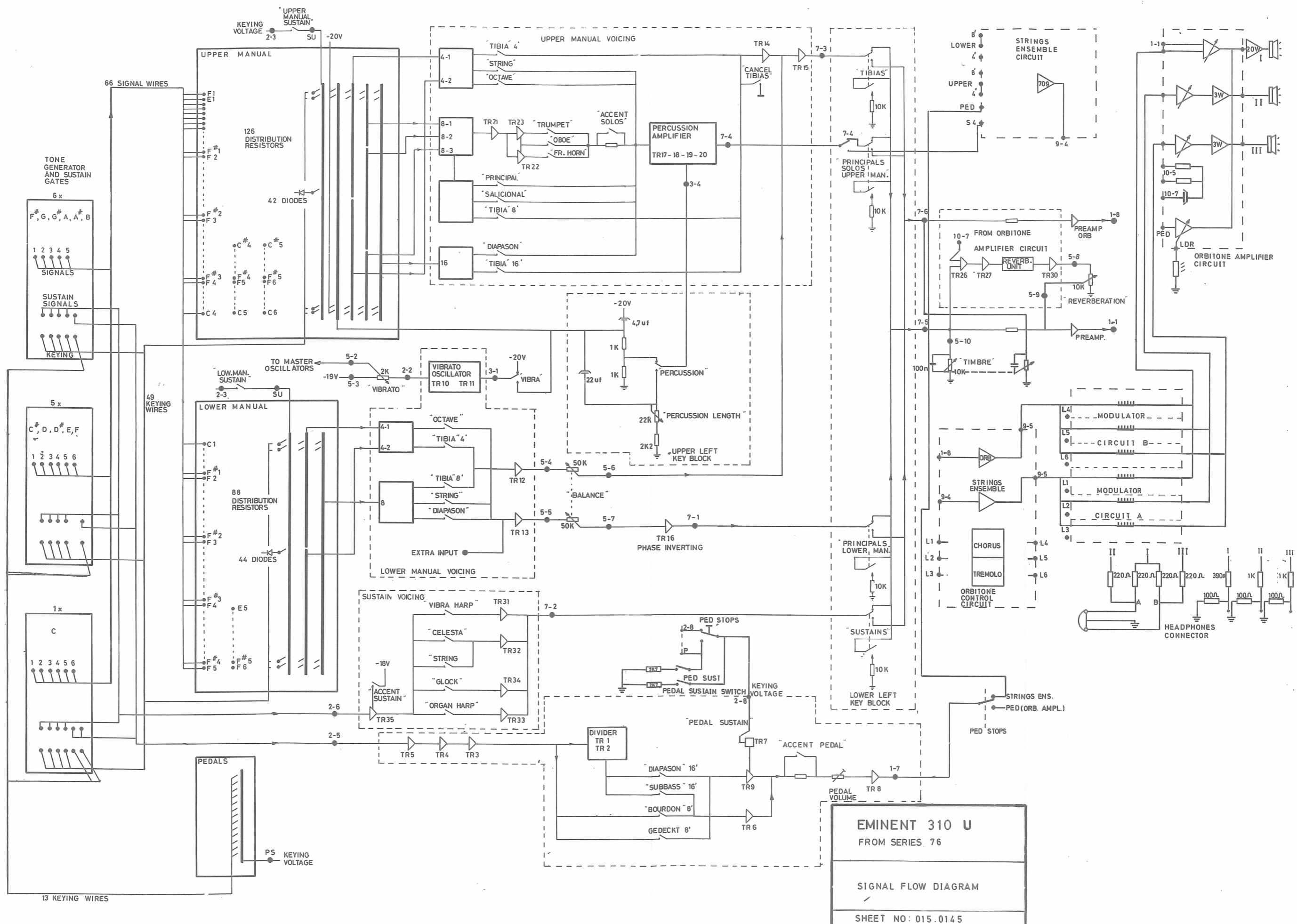
6. a. Handele wie bei 1 bis 5.
7. Obermanualsystem ist teilweise erreichbar.
8. b. Entferne die Bedeckungsplatten an der Aussenseite der Orgel. Punkt B.
9. Entferne die Schrauben welche jetzt sichtbar sind.
10. Entferne Schrauben C in der Orgel.  
(Eventuell Hinterwand entfernen.)
11. Beide Manuale sind jetzt nach vornen umzuklappen.

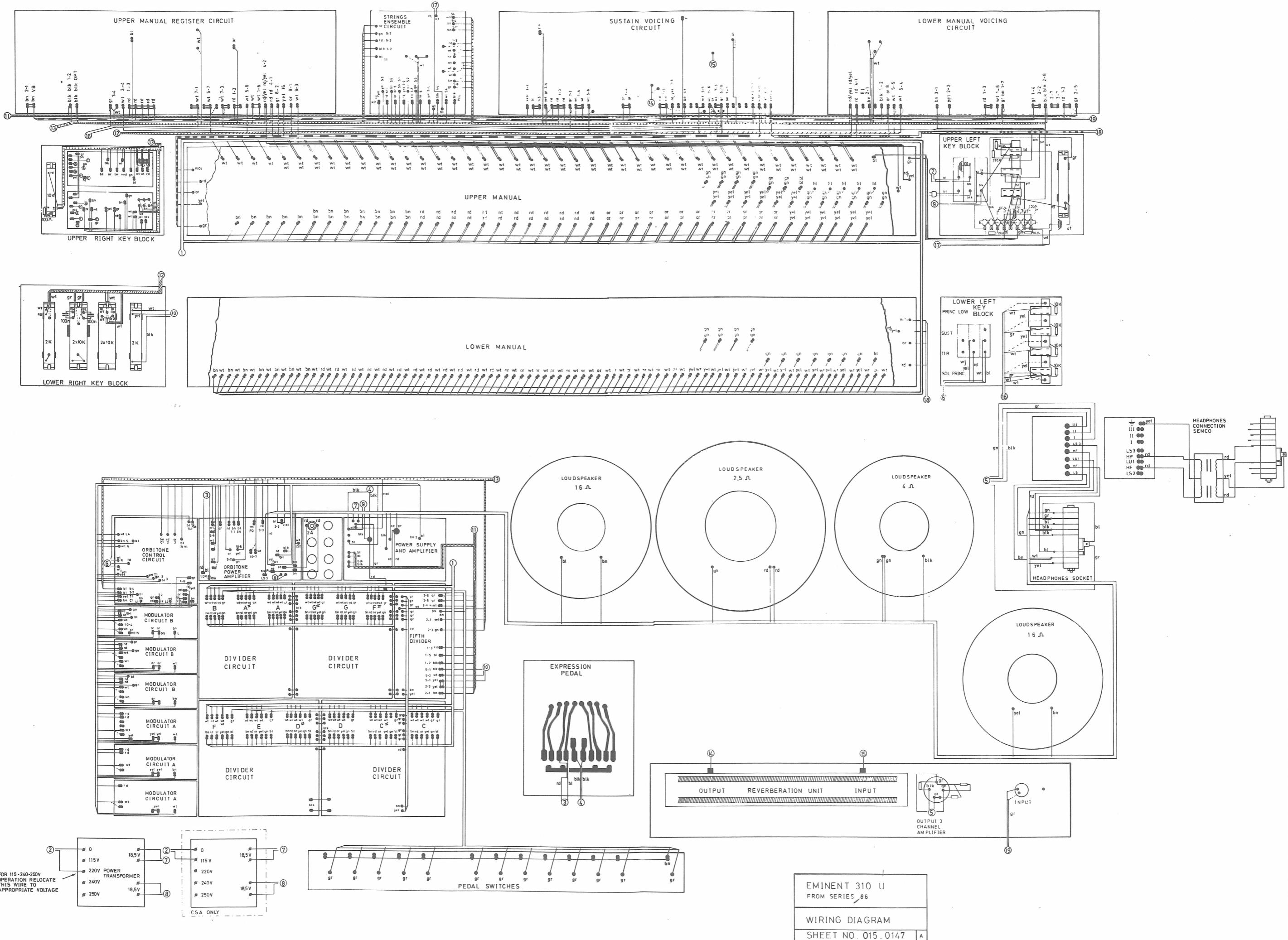
##### UNTERMANUAL:

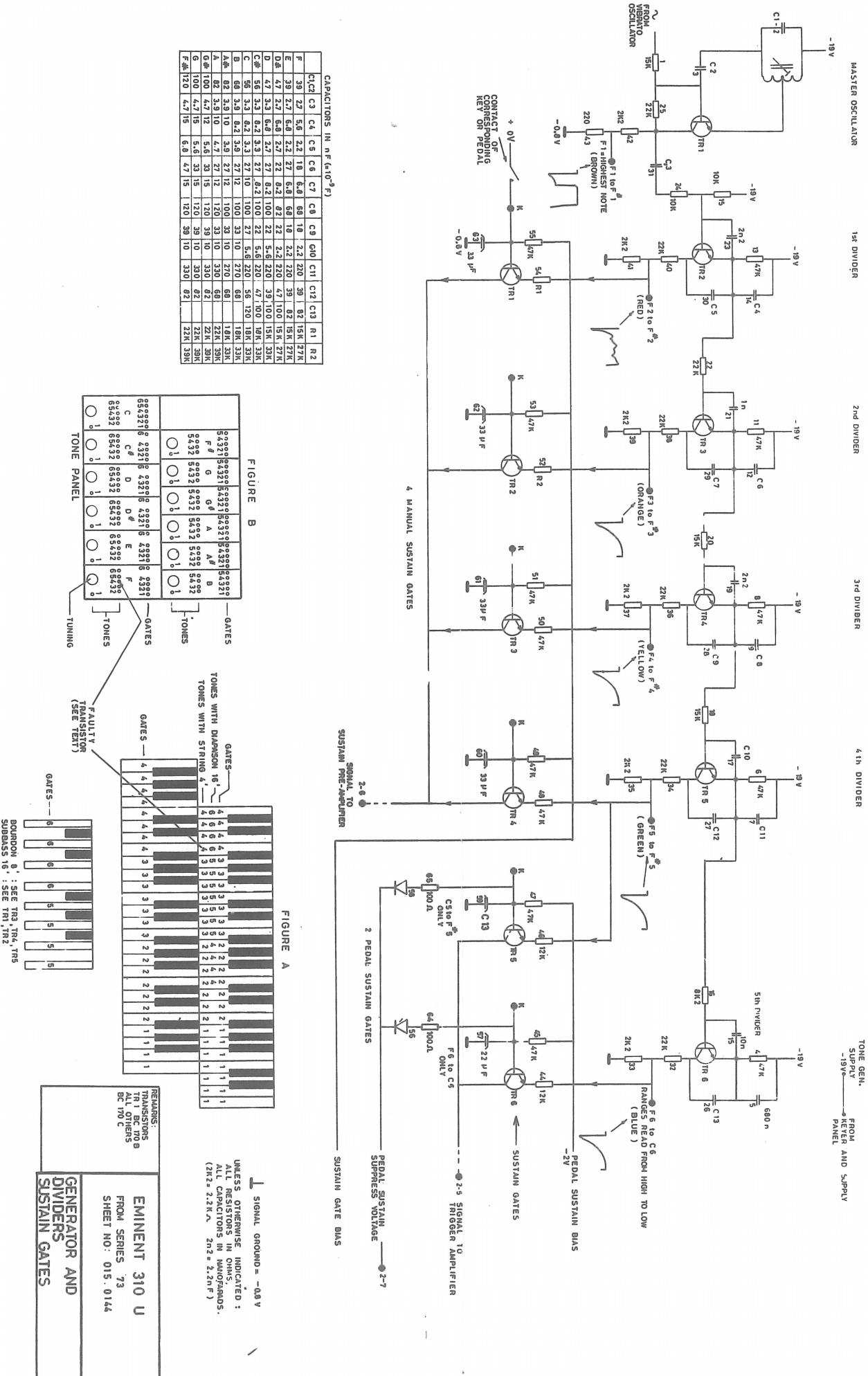
12. Handele wie bei 1 bis 7.
13. Entferne die rechten und die linken Backenstein.
14. Entferne die jetzt sichtbare Schrauben (Links und Rechts 2 Stück) welche waagerecht sind aufgestellt, beachten Sie bitte die Muttern. Sehe D.
15. Das Obermanual Teil ist jetzt lose und kann aufgehoben werden.
16. Tasten vom Untermanual sind jetzt erreichbar.

##### BACKSTUKE:

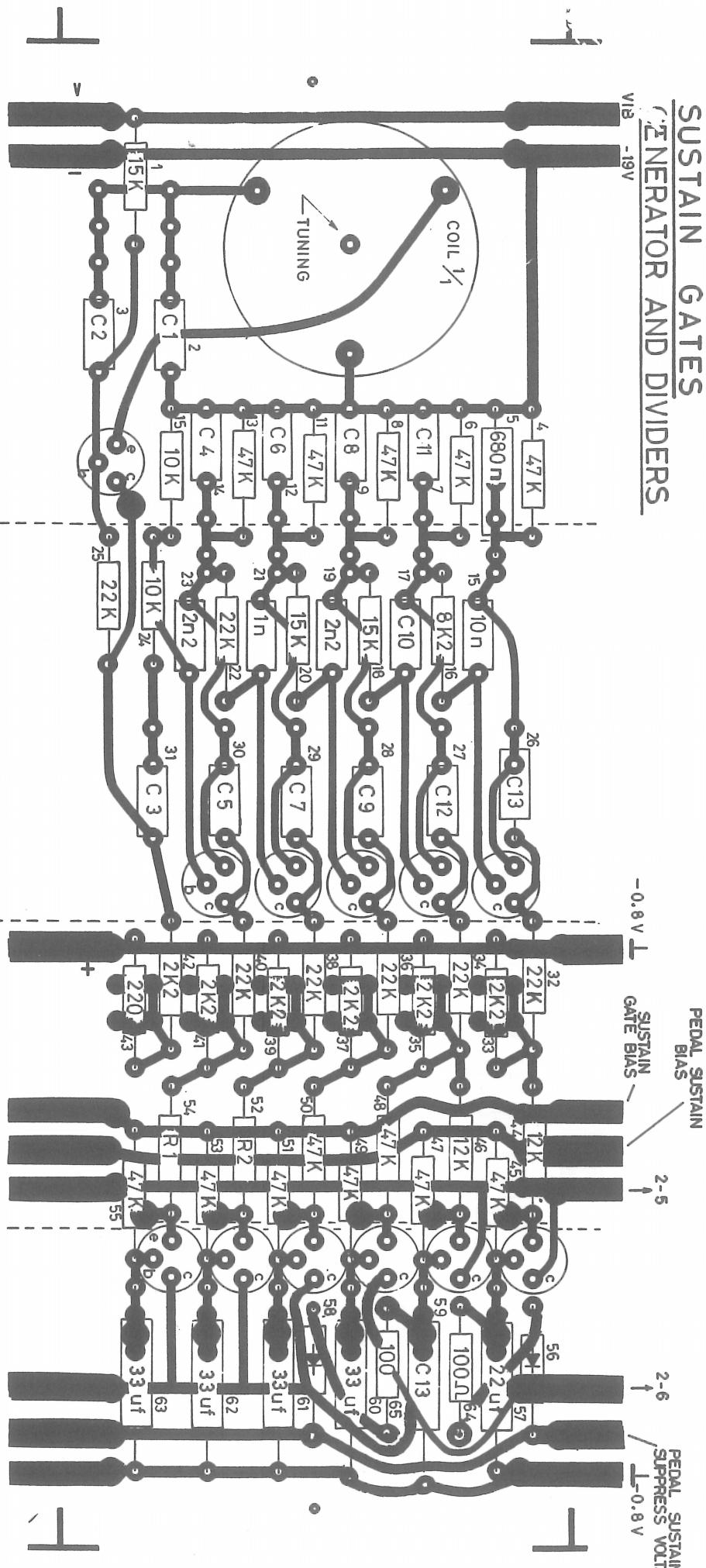
17. Obermanual: Entfernen Sie Schrauben E (achten Sie auf die Lose Teile unter das Backenstück). Eventuell Manualeiste entfernen.
18. Untermanual: Entfernen Sie 2 Schrauben hinter dem Backenstück.





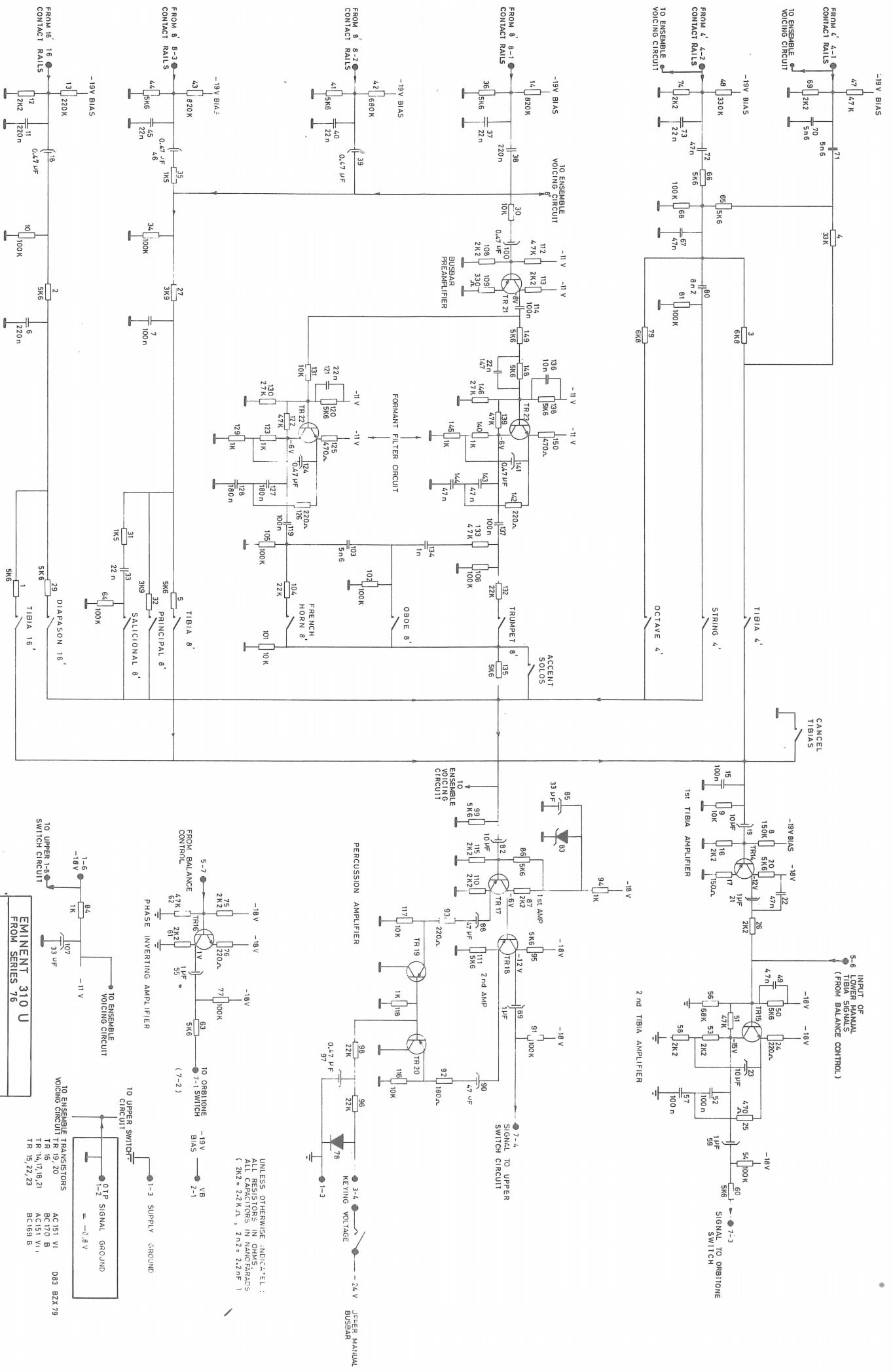


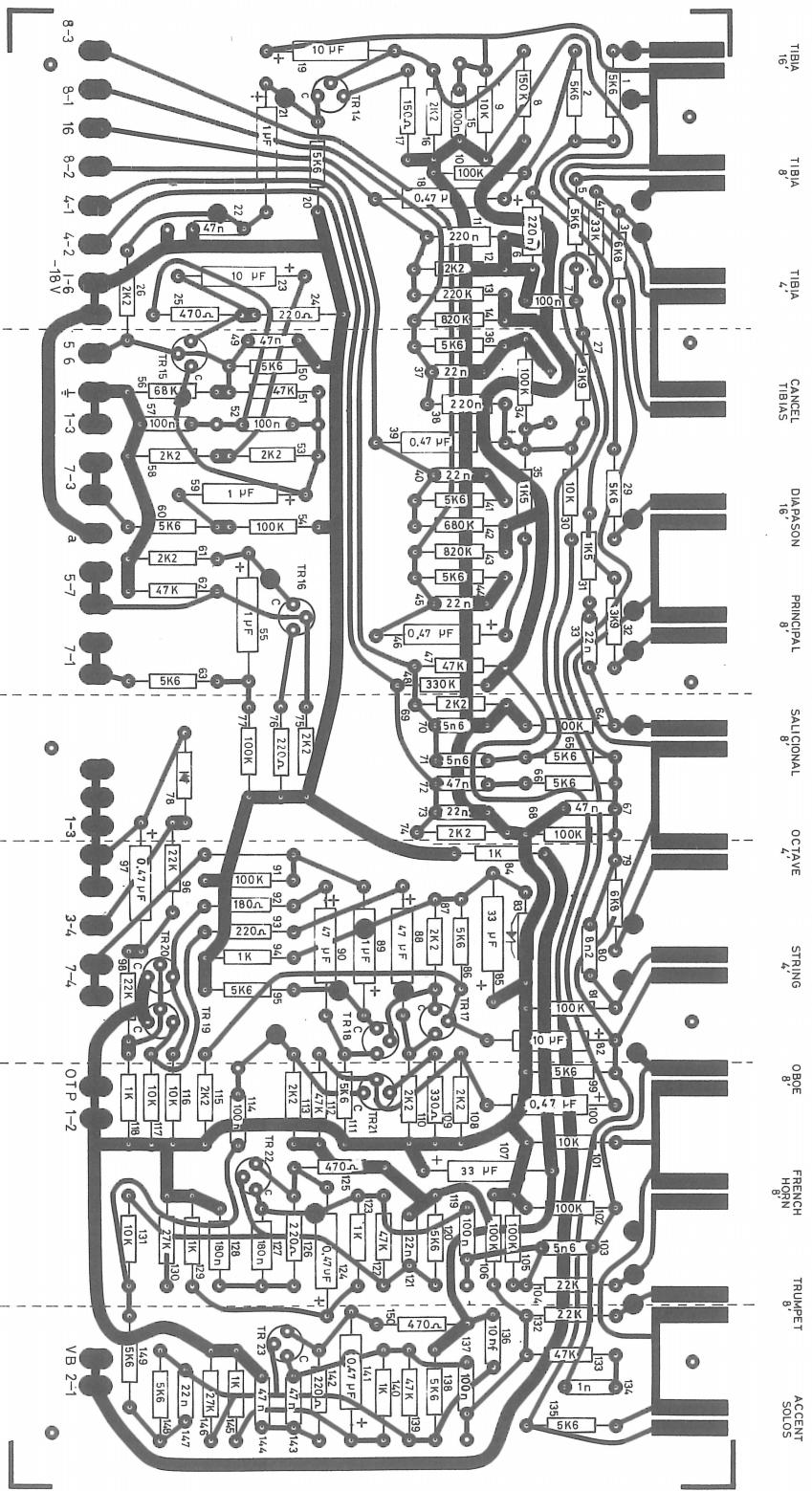
SUSTAIN GATES  
GENERATOR AND DIVIDERS



R & C NO.	1-14
	15 - 31
	32 - 55

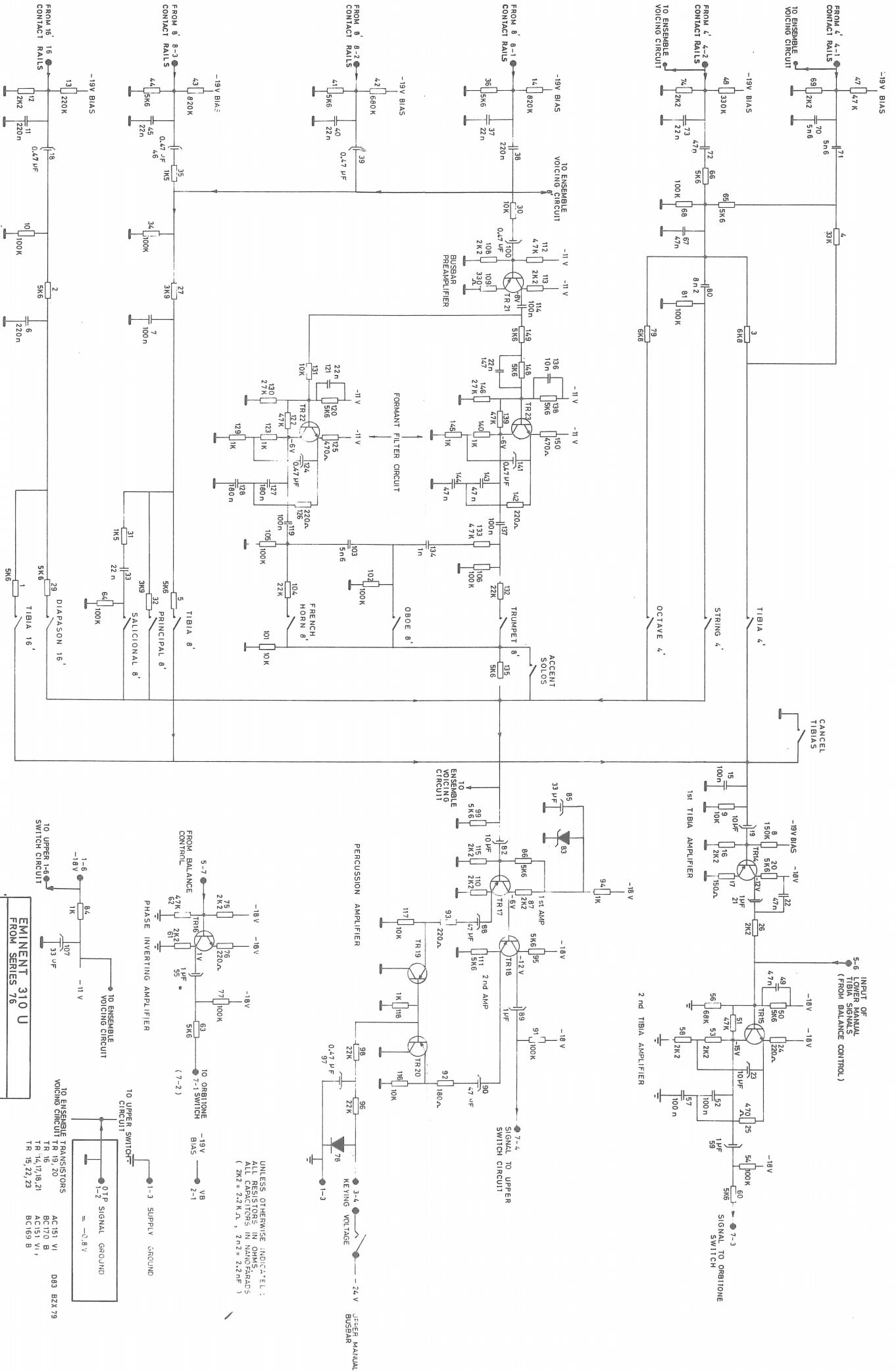
PART NO. 005-0018

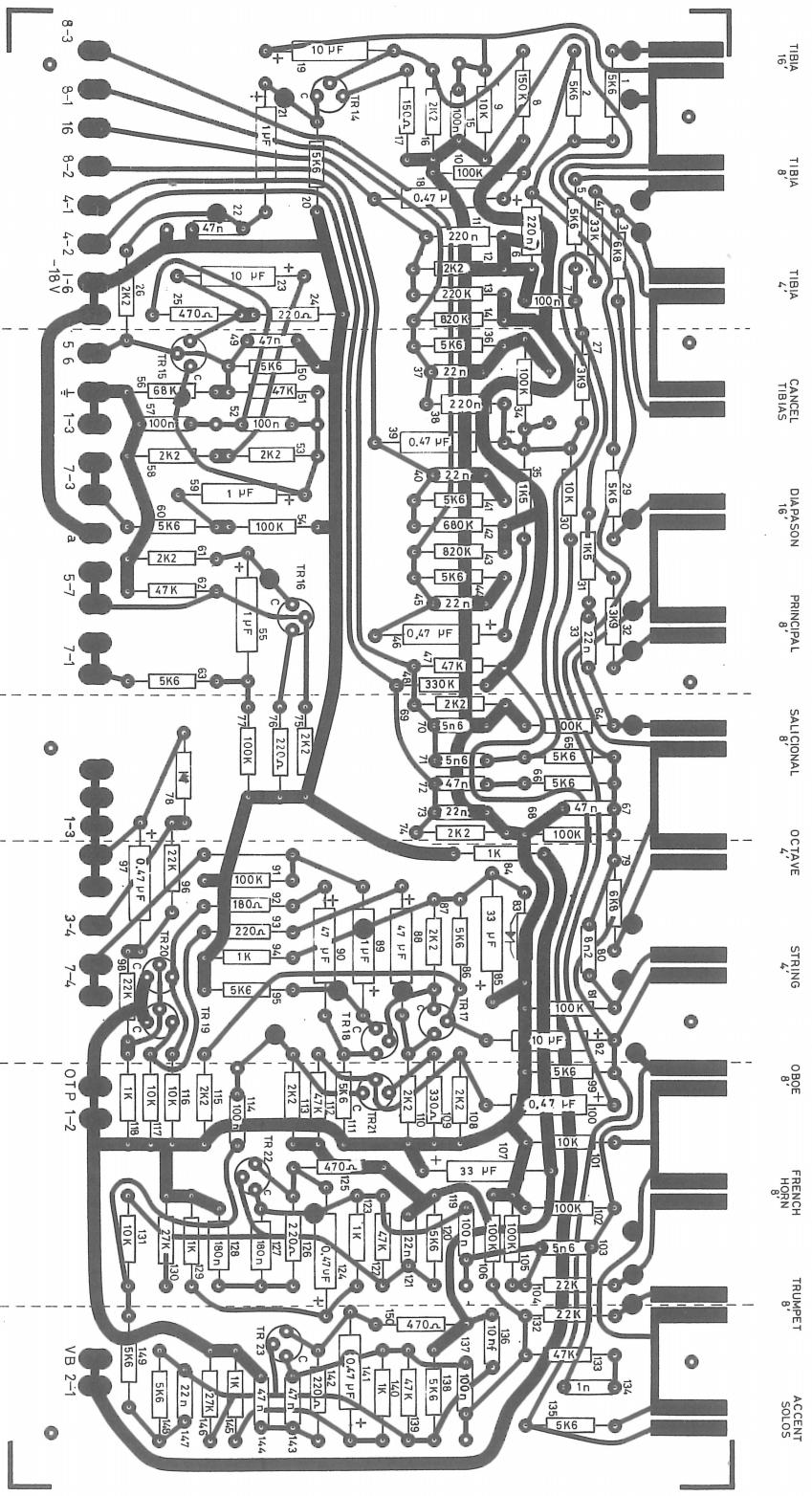




TRANSISTOR NR.	TR 14	TR 15 - TR 16	TR 17 - TR 20	TR 21	TR 22	TR 23
RES. & CAP. NR.	1 - 26	27 - 63	64 - 78	79 - 98	99 - 131	132 - 150
EMINENT 310 U FROM SERIES 76						
UPPER MANUAL REGISTER						
SHEET NO.: 003.2017	A					

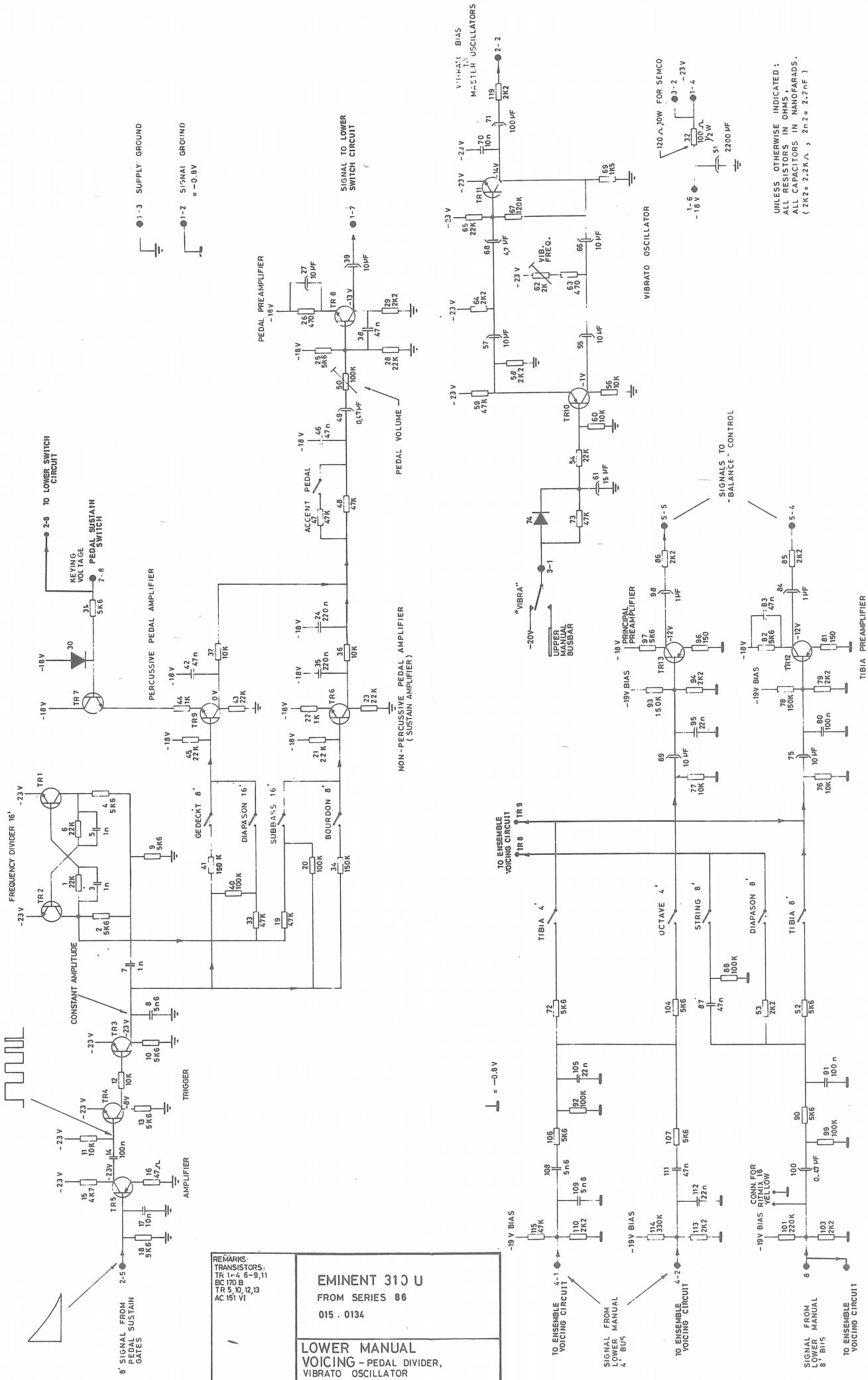
PART NO:	NAME	POSITION NO:
211, 3272	"	12, 16, 20, 32, 53, 59, 61, 69, 75, 87, 109,
211, 3152	"	110, 113, 115,
211, 3471	"	31, 35,
211, 3331	"	25, 125, 150,
211, 3221	"	109,
211, 3181	"	26, 99, 116, 142,
211, 3151	"	92,
3145	CIRCUIT BOARD	17



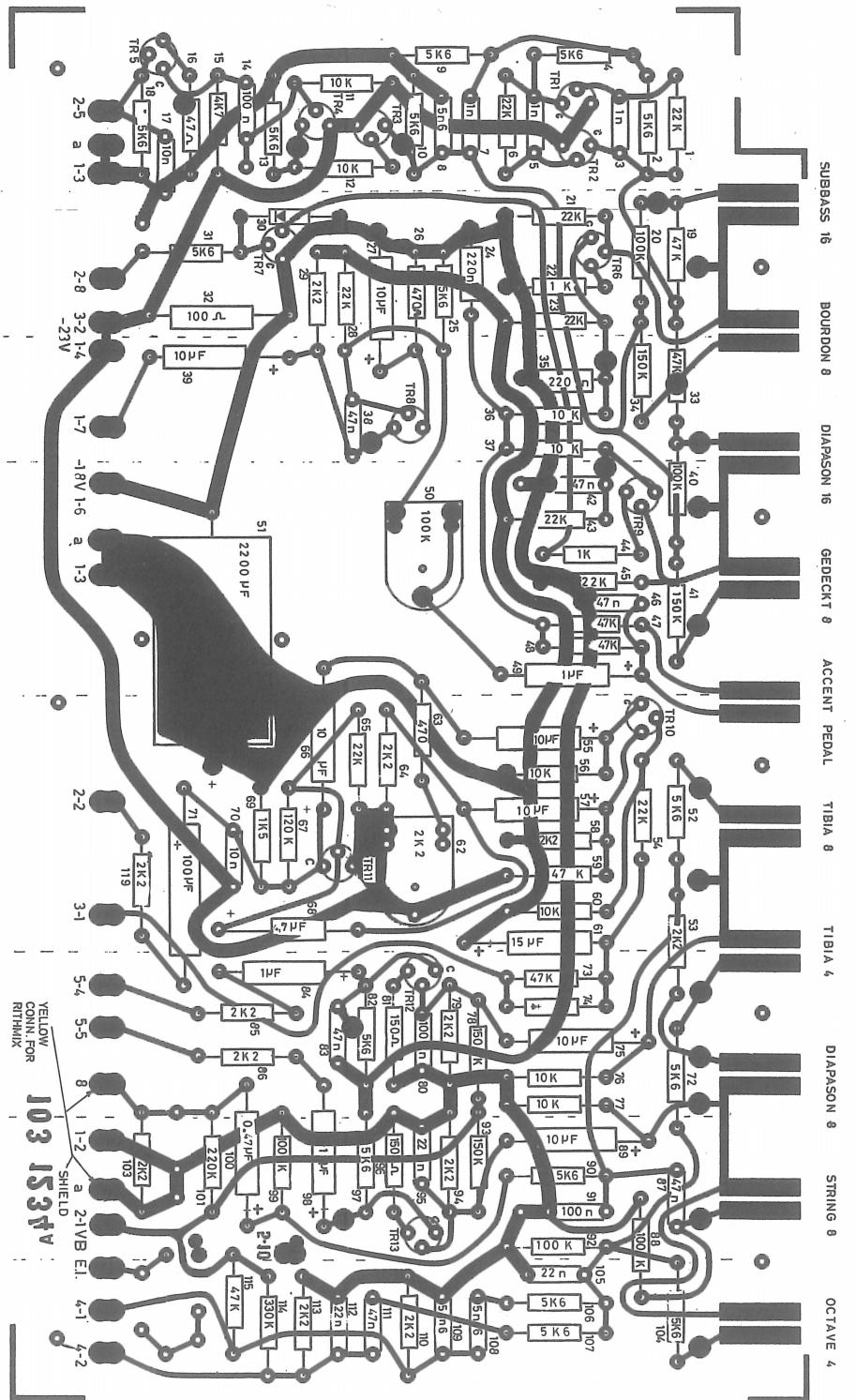


TRANSISTOR NR.	TR 14	TR 15 - TR 16	TR 17 - TR 20	TR 21	TR 22	TR 23
RES & CAP NR.	1 - 26	27 - 63	64 - 78	79 - 98	99 - 131	132 - 150

UPPER MANUAL REGISTER CIRCUIT	
SHEET NO.:	003 - 2017
A	
PART NO.:	NAME
	POSITION NO:



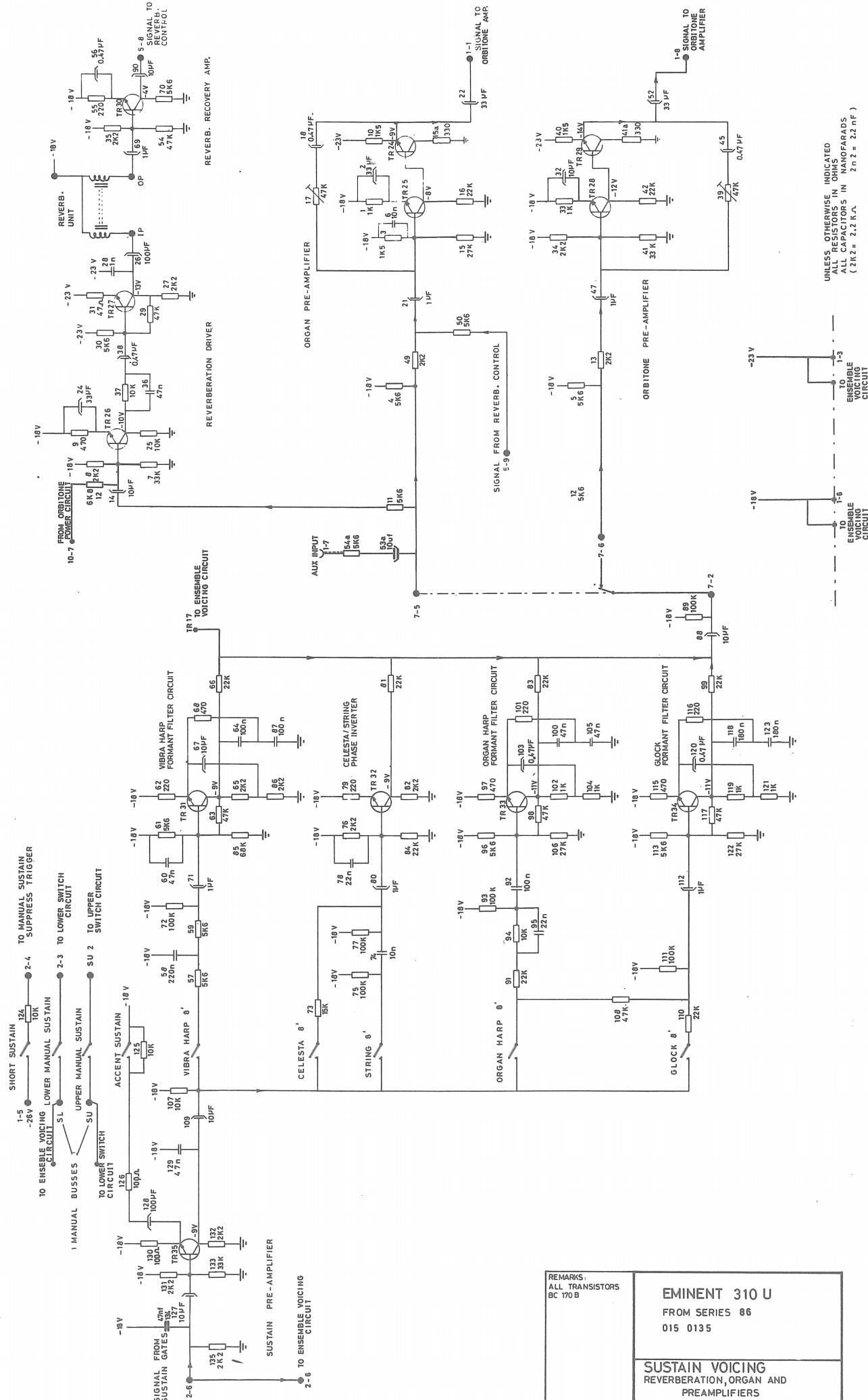
125.0151	TUBING		-
230.0055	POT. METER	62	
230.0060		50	
423.0012	DIODE SFD	30.74	
410.1216	TRANSISTOR	TR 10	
410.1516		TR 5	
411.1702		TR 12,3,4,6,7,8,9,11.	
412.1916		TR 12,13	
314.6222	EL CAPACITOR	51	
314.7101		71	
314.8159		61	
316.8010		27,39,55,57,65,75,89	
314.9278		68	
314.8109		49,84,98	
314.8677		100	
310.2224	CAPACITOR	24,35	
310.2274		16,80,91	
310.2613		30,34,46,83,87,111	
310.2623		95,105,112.	
310.2703		17,70	
310.2562		8,100,109	
310.2102		3,5,7	
2123101.	RESISTOR	32.1	
211334.		11.4	
211322.		11	
2113154.		101	
2113124.		34,41,78,93.	
2113104.		57	
2113473.		20,40,88,92,99.	
2113223.		19,33,47,59,73,11,15	
2113103.		16,21,26,43,45,54,65	
2113562.		11,12,36,37,56,60,76,77.	
2113472.		24,49,10,13,19,25,31,52,72,82,90.	
2113151.		97,104,106,107.	
21134679.	RESISTOR	16	
103.1234A	CIRCUIT BOARD		
PART NO.	NAME	POSITION NO.:	



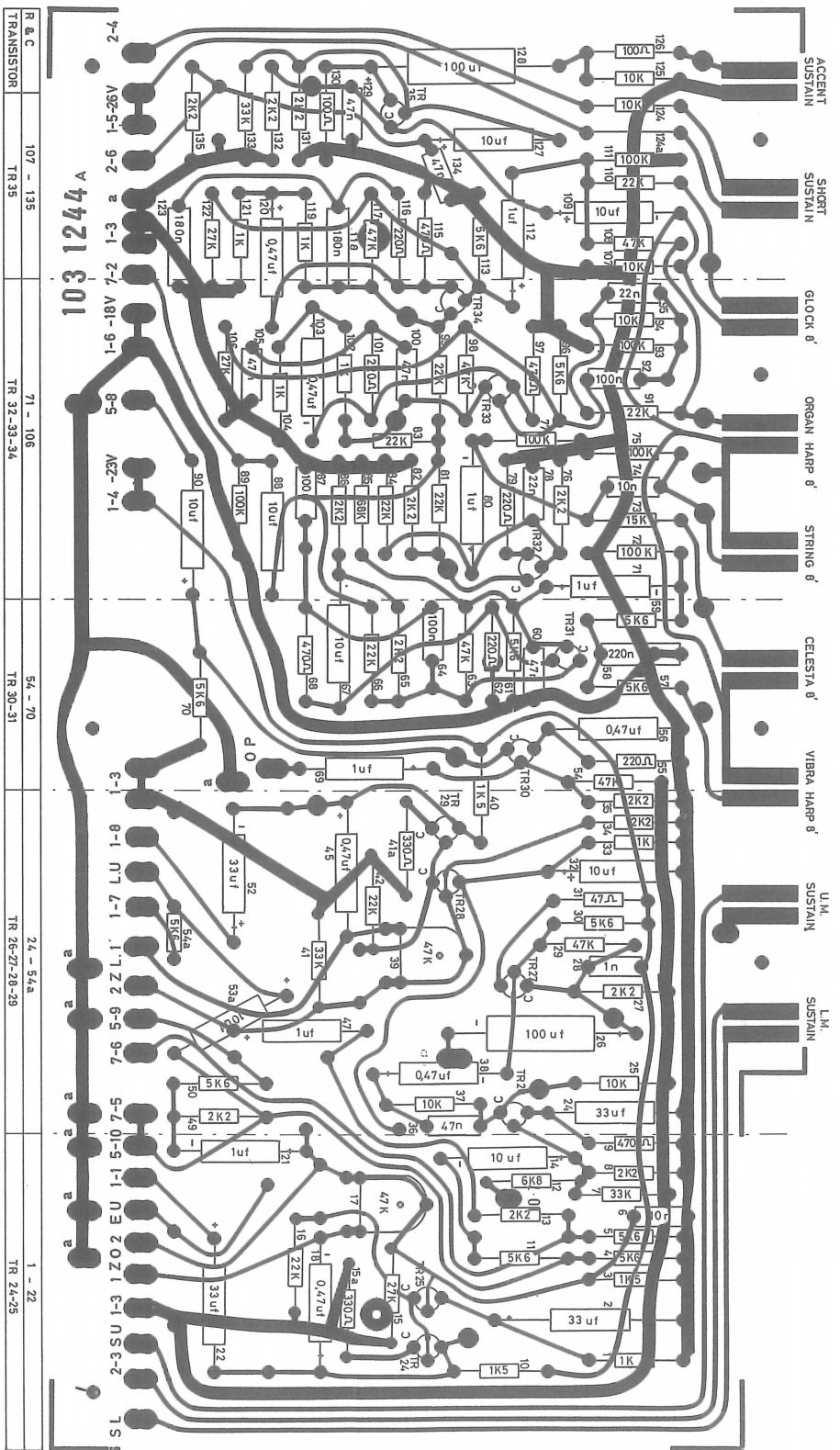
TRANSISTOR NUMBER	1 — 5	6 — 7	8	9	10 — 11
RES. & C.A.P. NO.	1 — 18	19 — 32	33 — 39	40 — 51	52 — 71, 119
PEDAL CONTROL NO. 50					VIBRATO FREQUENCY CONTROL NO. 50

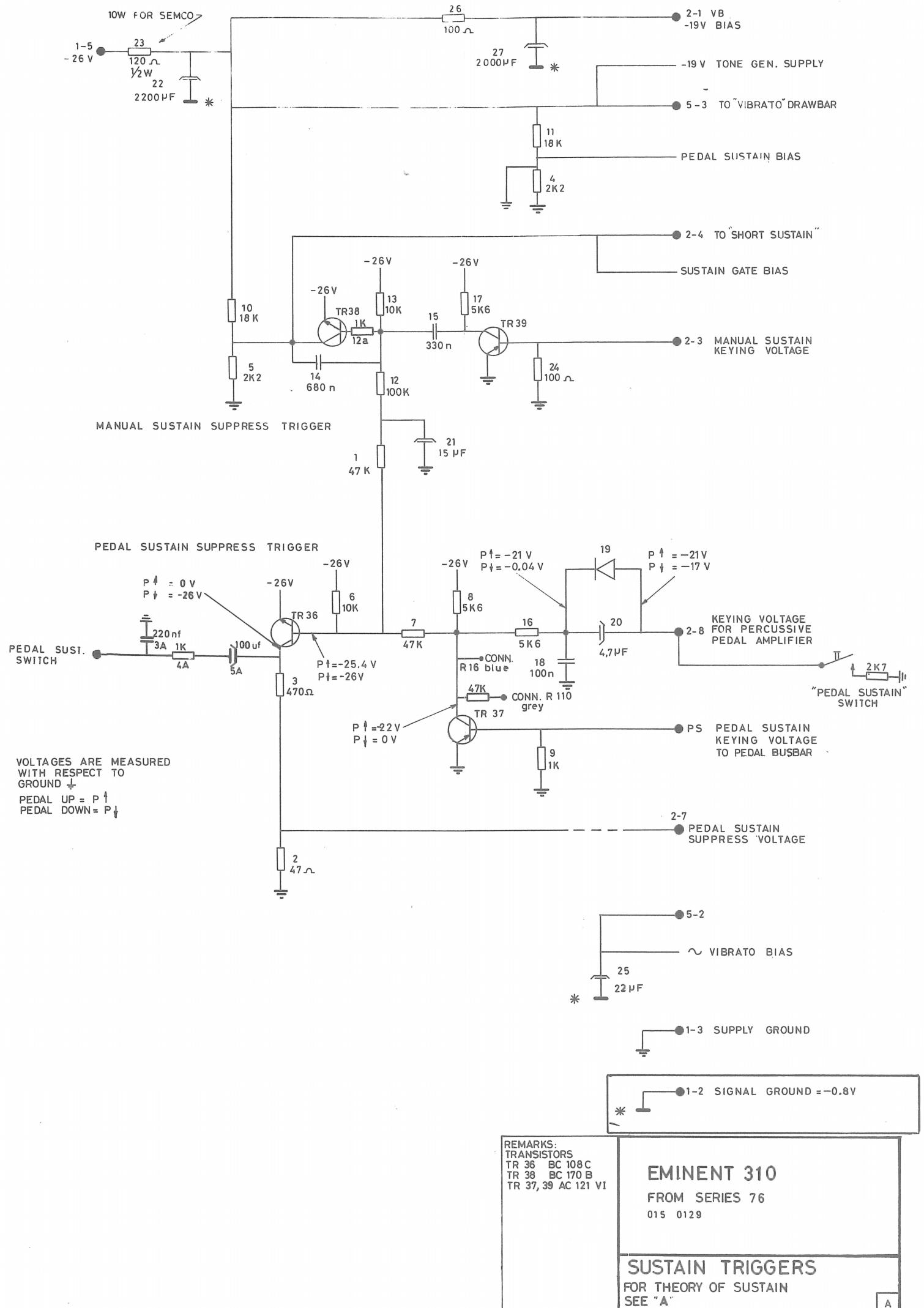
EMINENT 310U

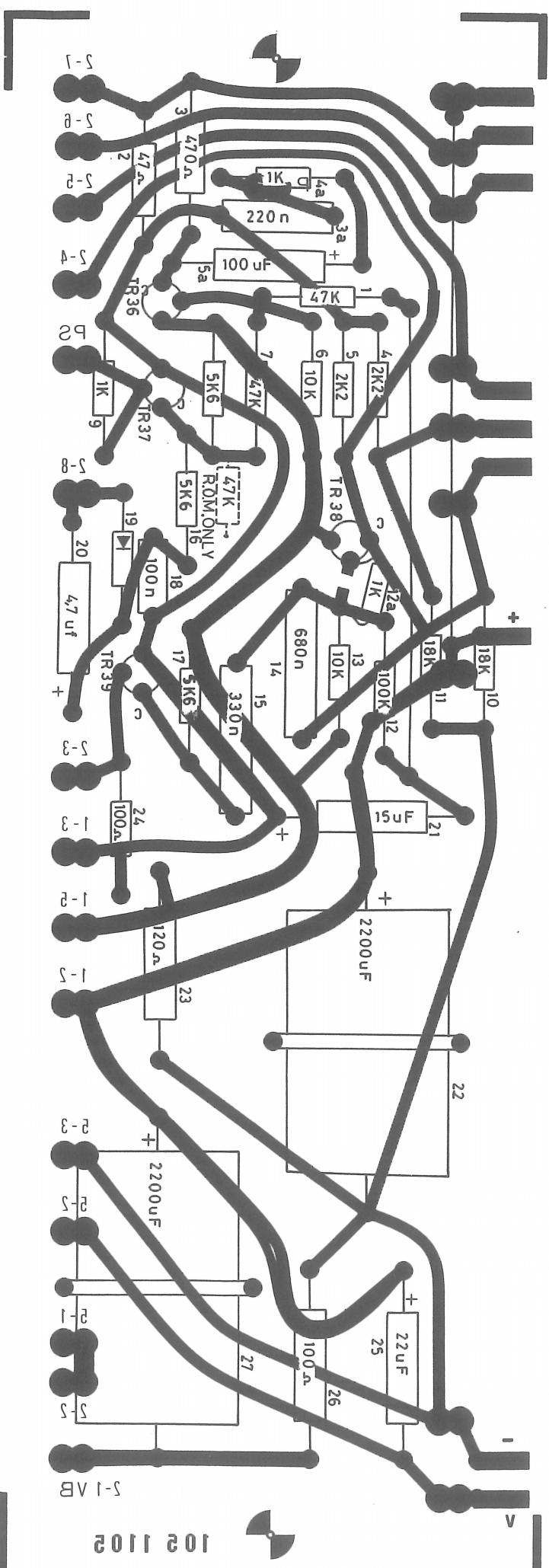
LOWER MANUAL VOICING CIRCUIT



211. 3682	RESISTOR	12
500. 0005	JUMPER WIRE	124a
125. 0151	TUBING	
411. 1692	TRANSISTOR	TR 30
411. 1702		TR 24 1/4, 29 - 31 1/4, 35
230. 0059	POT METER	17.39
314. 7101	E.I. CAPACITOR	26.12.6
314. 7339		2.22.24.52
314. 8108		21
314. 8109		14.32.53a.57.60.90.109.127
314. 8108		47.69.71.80.112
314. 8477		10.36.45.56.103.120
310. 2224	CAPACITOR	58
310. 2184		110.123
310. 2104		64.87.92
310. 2473		36.60.100.05.129.134.
310. 2223		76.95
310. 2103		6.74
310. 2102		28
211. 3106	RESISTOR	72.75.77.89.93.111
211. 3683		05
211. 3473		29.54.63.98.109.117
211. 3333		7.4.1.13
211. 3273		15.0.122
211. 3223		16.2.65.91.93.94.91.99.110
211. 3153		73
211. 3103		25.37.94.107.24.125
211. 3652		4.5.11.30.50.54a.57.59.61.70.98.113
211. 3222		8.13.27.34.45.49.65.75.82.86.131.132.135
211. 3152		3.1.0.40
211. 3102		1.3.2.102
211. 3471		1.1.3.2.119.121
211. 3331		9.6.68.97.115
211. 3221		15.5.4.1a
211. 3101		55.62.7.9.101.116
211. 3479		126.130
103. 1244a	CIR. BOARD	31
PART NO.	NAME	POSITION NO.



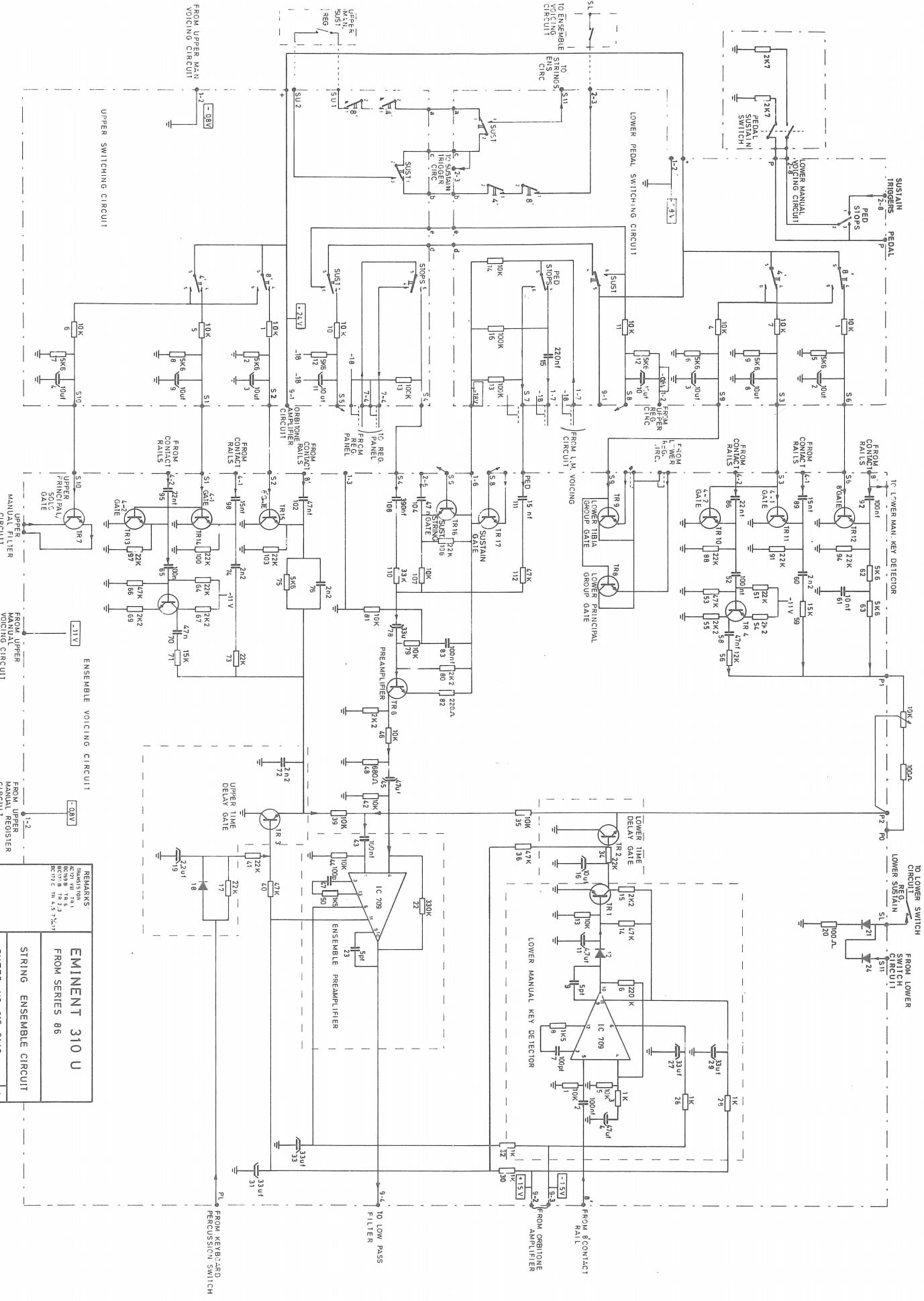




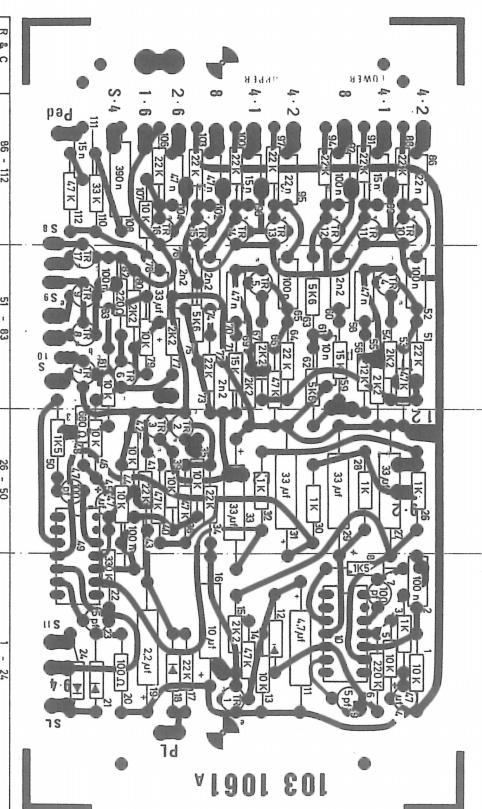
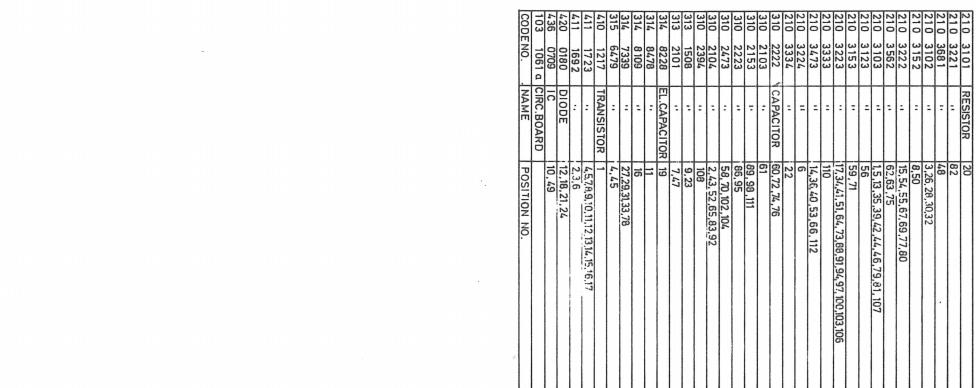
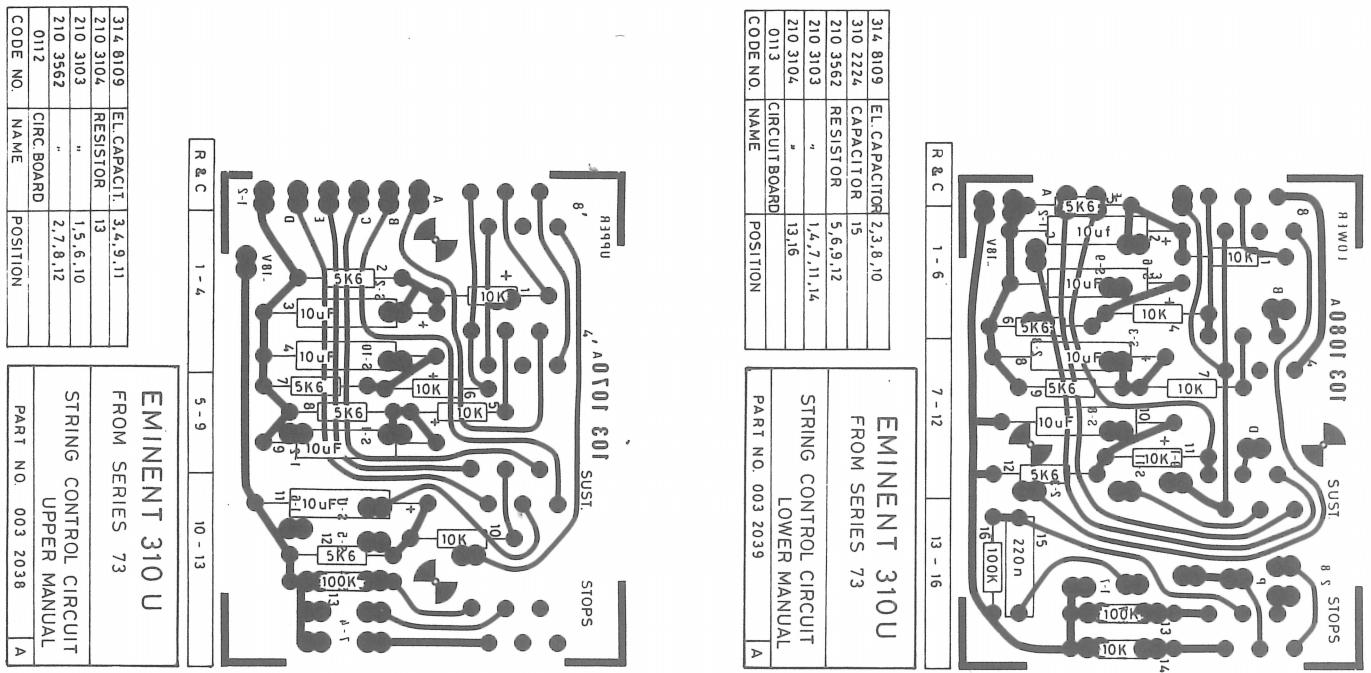
EMINENT 310  
FROM SERIES 89

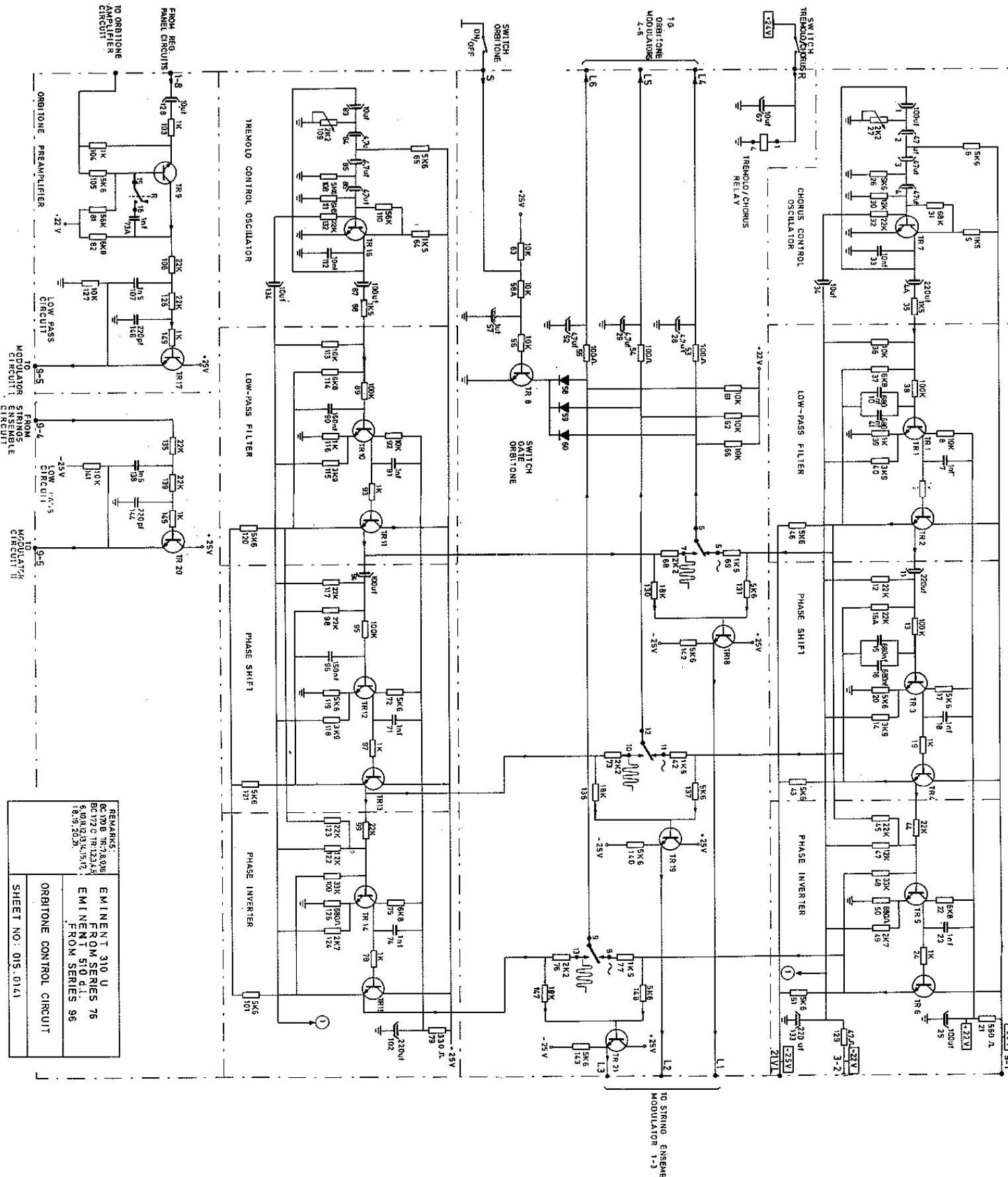
SUSTAIN TRIGGERS

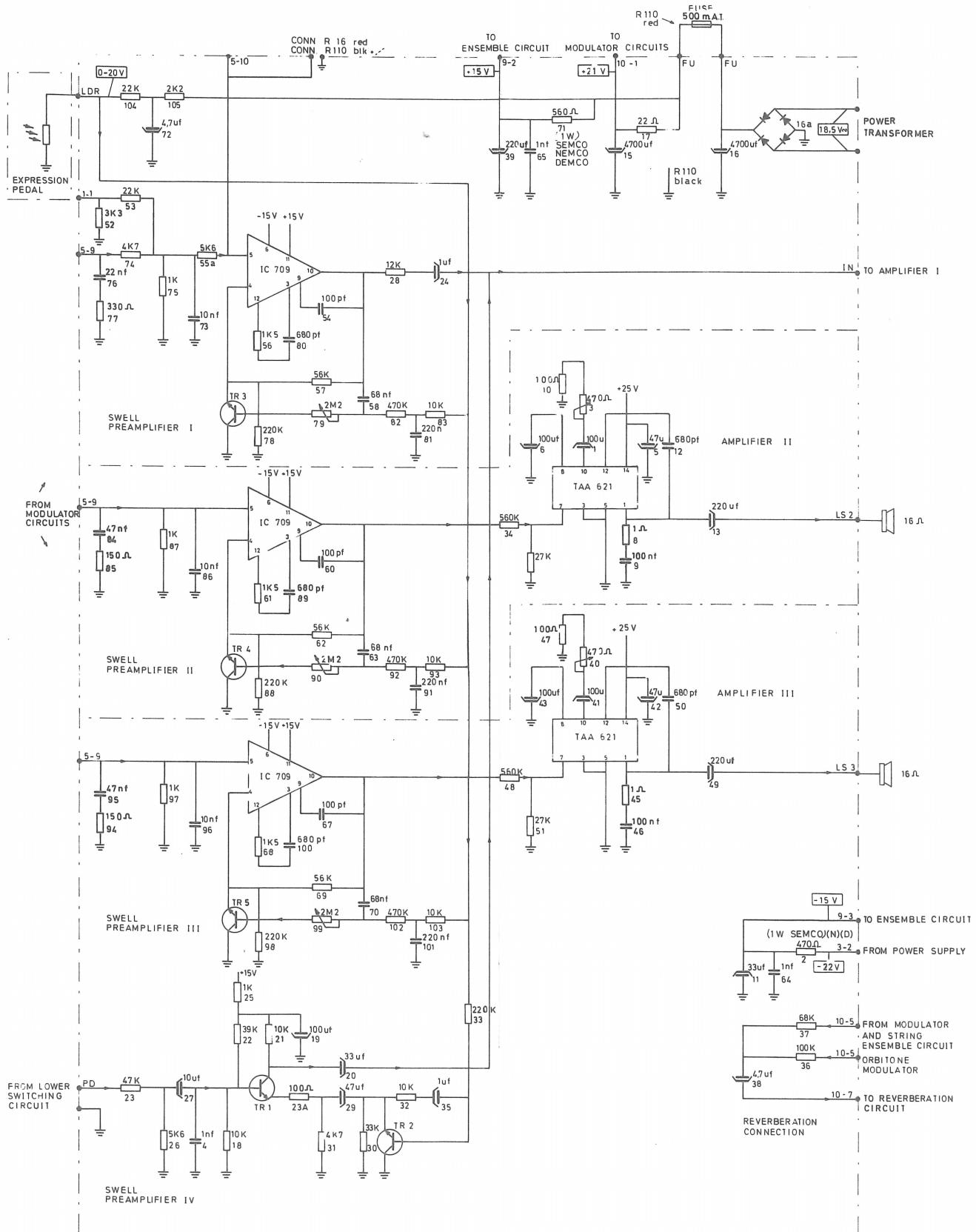
PART NO. 005 0045



REMARKS	EMINENT 310 U
AC-1210101-1 B1210101-1 B1210101-2 B1210101-3 B1210101-4 B1210101-5 B1210101-6 B1210101-7	
FROM SERIES 86	
STRING ENSEMBLE CIRCUIT	
SHEET NO: 015 0143	A





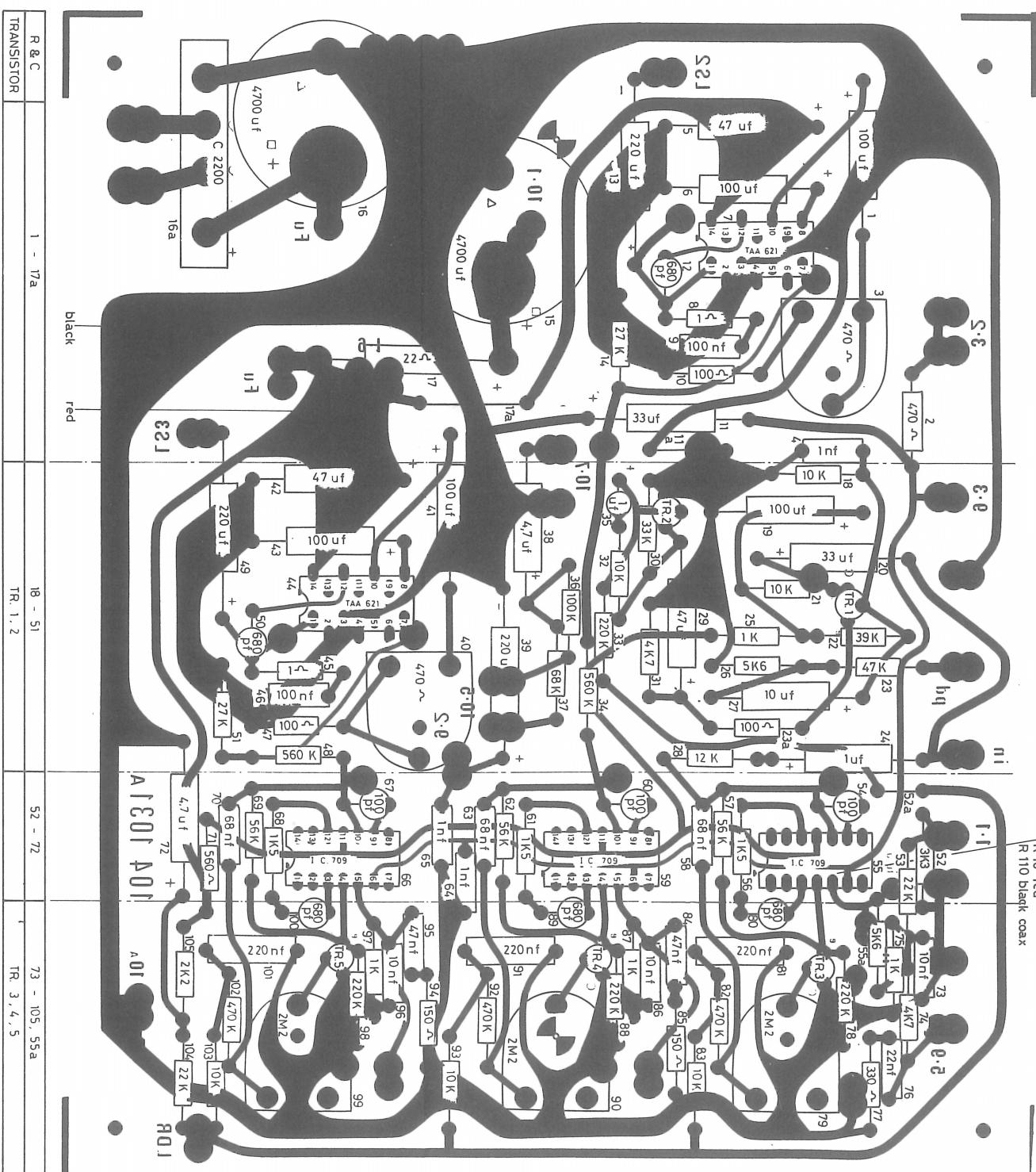


**EMINENT 310 U**  
FROM SERIES 86

ORBITONE  
AMPLIFIER CIRCUIT

SHEET NO 015.0142 A

210 - 3123	RESISTOR	28
211 - 3471	"	2
213 - 3229	"	17
210 - 3564	"	34, 48
210 - 3474	"	82, 92, 102
210 - 3393	"	30
210 - 3693	"	37
210 - 3273	"	14, 51
210 - 3223	"	53, 104
210 - 3103	"	18, 21, 32, 83, 93, 103
210 - 3562	"	26, 55a
210 - 3472	"	31, 74
210 - 3152	"	56, 61, 68
210 - 3102	"	25, 75, 87, 97
210 - 3331	"	77
210 - 3151	"	85, 94
210 - 3222	"	105
210 - 3108	"	8, 45
210 - 3473	"	23
210 - 3332	"	52
310 - 2224	CAPACITOR	81, 91, 101
310 - 2104	"	9, 46
310 - 2663	"	58, 63, 70
310 - 2223	"	76
310 - 2103	"	73, 86, 96
310 - 2102	"	4, 64, 65
313 - 2101	"	54, 60, 67
313 - 2681	"	12, 50, 80, 89, 100
310 - 2473	"	84, 95
315 - 6108	"	35
314 - 7101	EL CAPACITOR	1, 6, 19, 41, 43
314 - 7479	"	5, 29, 42
314 - 7339	"	11, 20
314 - 8109	"	27
314 - 8478	"	38, 72
314 - 7108	"	24
314 - 6472	"	15, 16
314 - 6221	"	13, 39, 49
411 - 1692	TRANSISTOR	TR. 1
412 - 1732	"	TR. 2, 3, 4, 5
436 - 0709	I. C.	55, 59, 66
436 - 0821	"	7, 44
230 - 0053	POT. METER	3, 40
230 - 0064	"	79, 90, 99
430 - 2206	RECTIFIER	16a
010 - 0314	COOLING PLATE	7, 44
500 - 0905	WIRE JUMPER	17a, 52a, 11a
3125	CIRCUIT BOARD	
PART. NO.	NAME	POSITION NO.

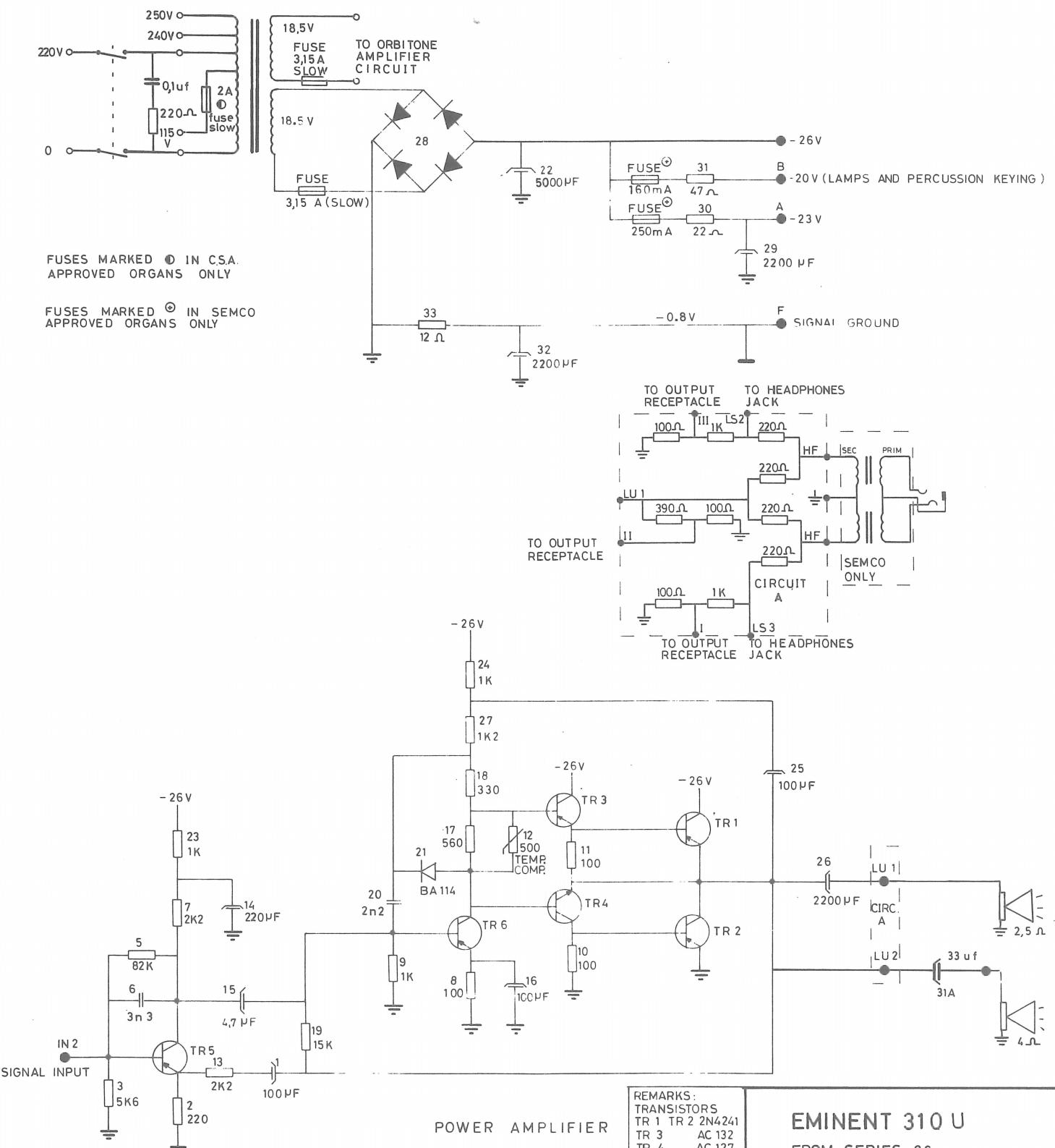


EMINENT 310 U

FROM SERIES 91

ORBITONE AMPLIFIER CIRCUIT

THERMAL RELEASE IN PRIMARY  
WINDING ( MICRO S.T.B. 4239  
DISCONNECT TEMP 115 °C.)



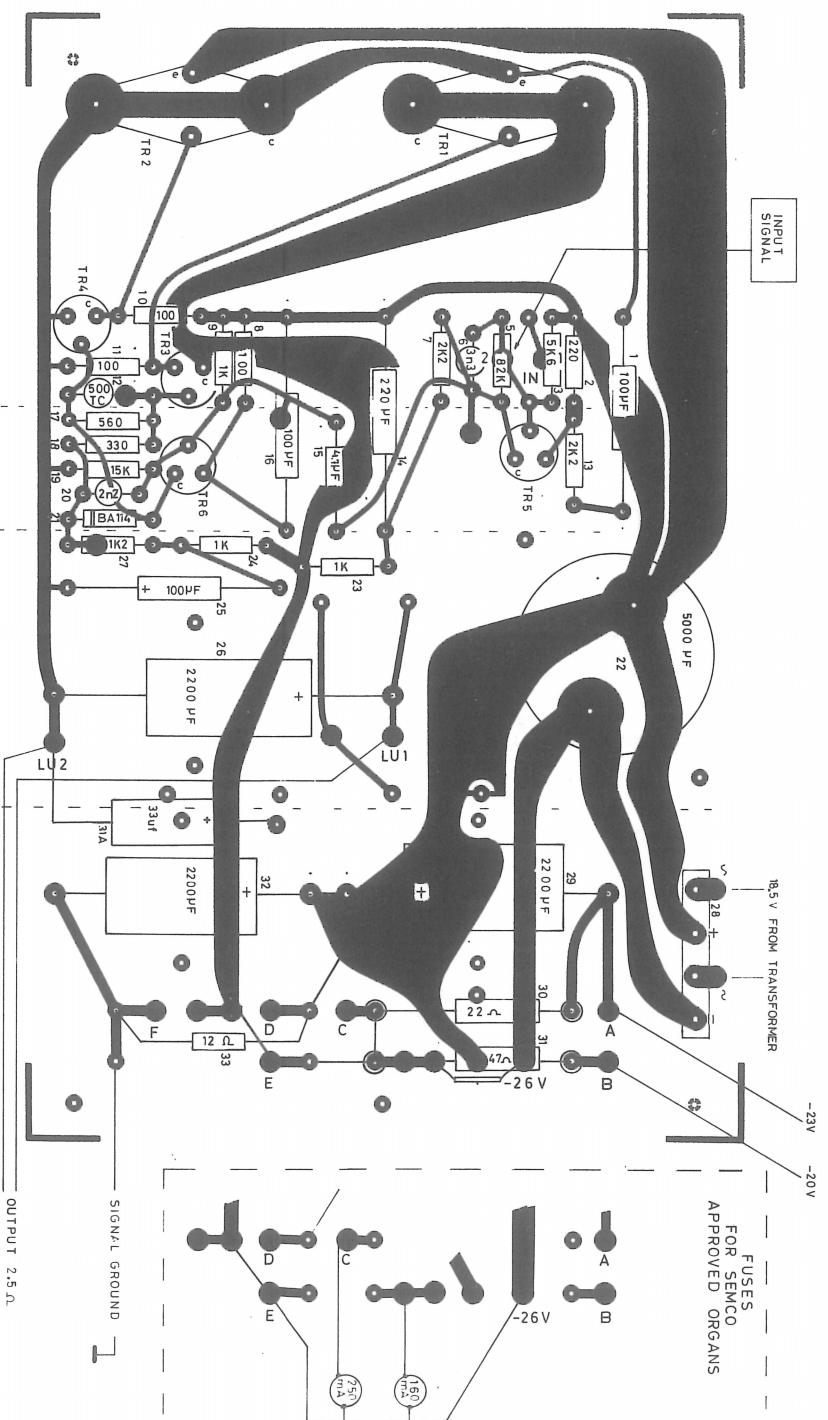
UNLESS OTHERWISE INDICATED:  
ALL RESISTORS IN OHMS,  
ALL CAPACITORS IN NANOFARADS  
( $2K2 = 2.2\text{ k}\Omega$ ,  $2n2 = 2.2\text{ nF}$ )

REMARKS:  
TRANSISTORS  
TR 1 TR 2 2N4241  
TR 3 AC 132  
TR 4 AC 127  
TR 5 TR 6 AC151VI

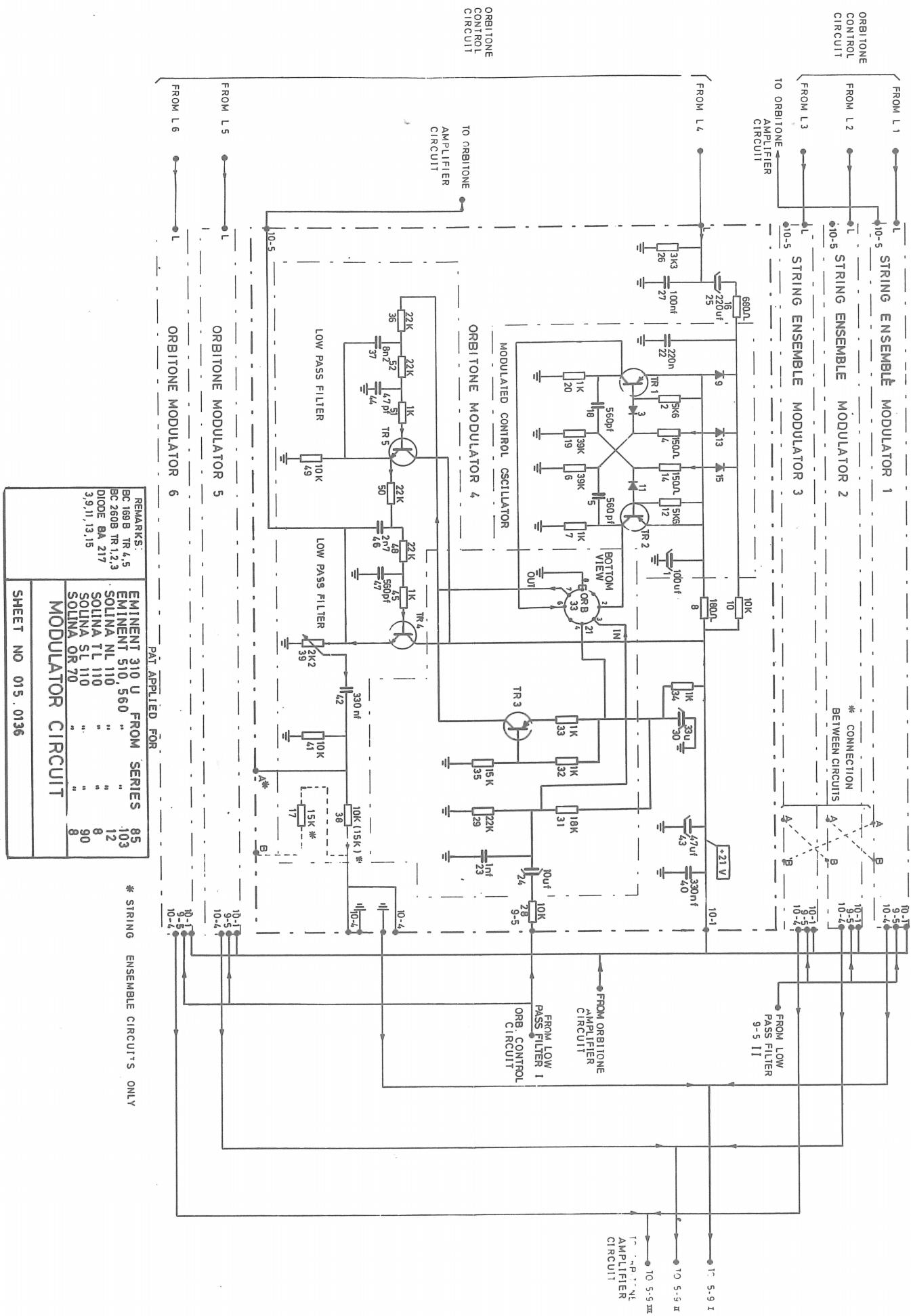
EMINENT 310 U  
FROM SERIES 86  
015 . 0132

# POWER SUPPLY AND AMPLIFIER

900.0031	BEAD	4X
125.0089	JUMPER WIRE	
125.0151	TUBING	
125.0186	TUBING	
000.0011	COLDING PLATE	
617.0001	COLDING FIN.	
410.1515	TRANSISTOR	TR 5.6
412.1272	"	TR 3.4
416.4241	"	TR 1.2
420.0114	DIODE	21
900.0031	INSULATOR	
314.6502	EL CAPACITOR	22
314.6502	"	26,29,32
314.6521	"	14
314.7101	"	1,15,25
314.8978	"	15
314.7339	"	31A
310.2222	CAPACITOR	20
310.2332	"	6
211.3129	RESISTOR	33
213.3479	"	31
213.3329	"	30
210.3823	"	5
210.3153	"	19
211.3582	"	3
210.3322	"	7,13
211.3172	"	27
210.3102	"	9,23,24
211.3561	"	17
211.3331	"	18
211.3321	"	2
211.3101	RESISTOR	8,10,11
PART NO	NAME	POSITION NO:

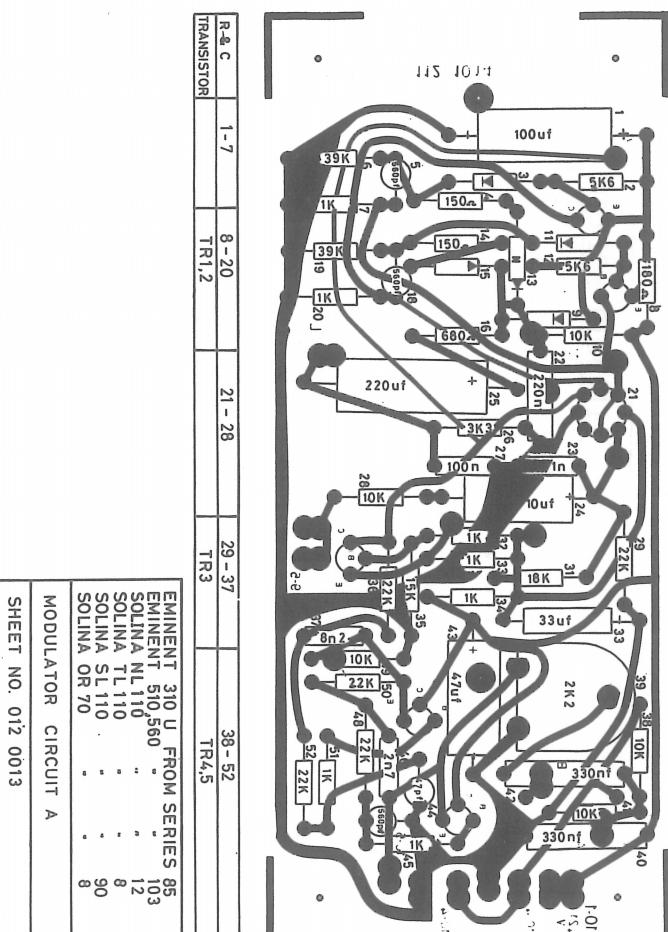


**EMINENT 310**  
FROM SERIES 76



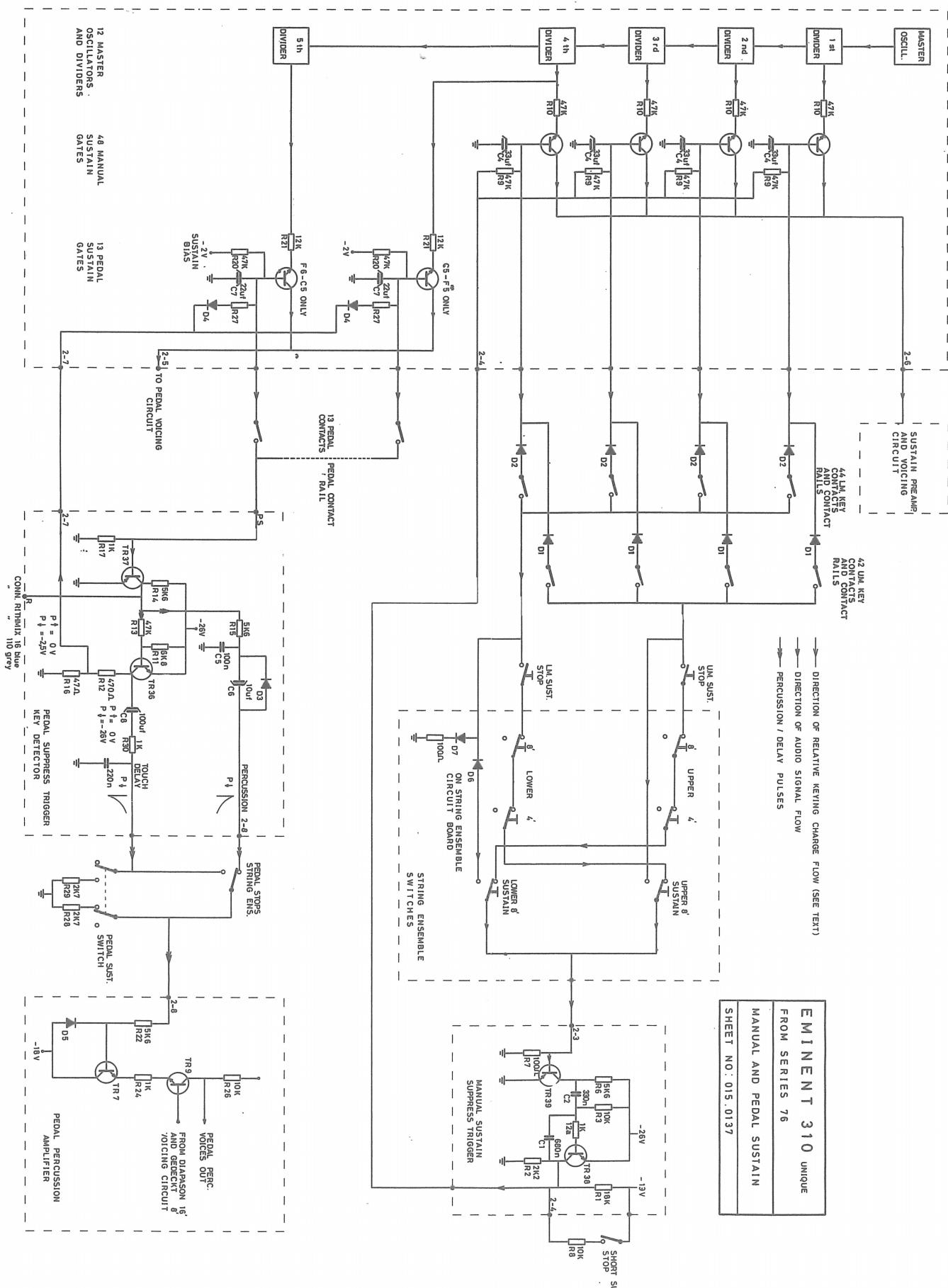
436 0033	I.C.	21
230 0035	POT. METER	39
420 0217	DIODE	3,9,11,13,15
411 1632	TRANSISTOR	TR4,5
4,11 2602	"	IR1,2,3
314 6221	EL.CAPACITOR	25
314 9701	"	1
314 7479	"	43
314 7339	"	30
314 8109	"	24
313 2479	CAPACITOR	44
313 2561	"	51,8,47
310 2272	"	46
310 2822	"	37
310 2102	"	23
310 2104	"	27
310 2224	"	22
310 2334	"	60,4,2
210 3393	RESISTOR	6,19
210 3223	"	29,31,36,48,50,52
210 3153	"	35
210 3103	"	10,28,39,41,49
210 3102	"	7,20,32,33,45,34,51
210 3562	"	2,12
210 3332	"	26
210 3661	"	16
		8
210 3182	"	4,14
210 3151	"	31
210 3183	CIRCUIT BOARD	
PART NO. NAME	POSITION NO.	

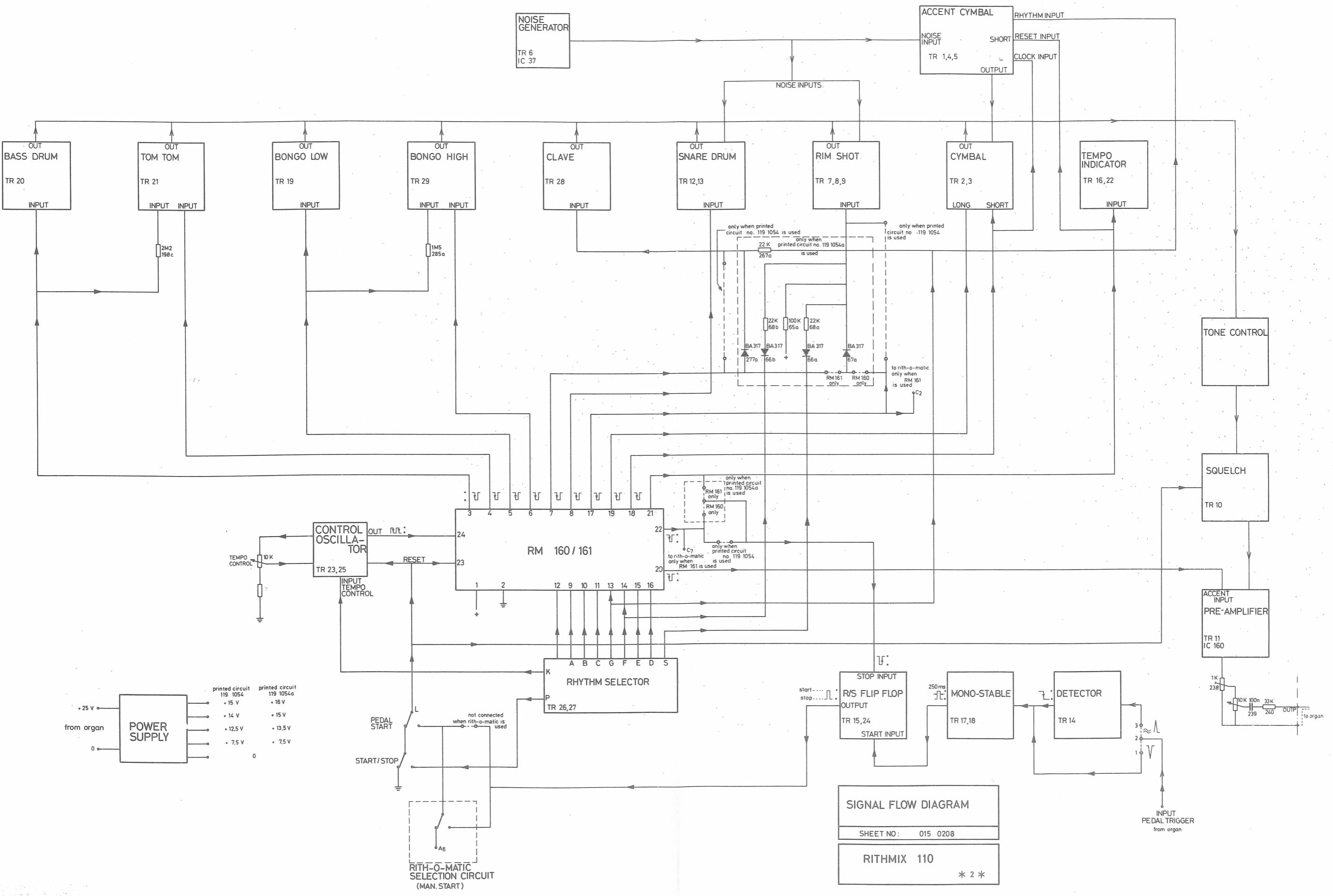
436 0033	I.C.	21
230 0035	POT. METER	39
420 0217	DIODE	3,9,11,13,15
411 1632	TRANSISTOR	TR4,5
4,11 2602	"	IR1,2,3
314 6221	EL.CAPACITOR	25
314 7101	"	1
314 7479	"	43
314 7339	"	30
314 8109	"	24
313 2479	CAPACITOR	44
313 2561	"	51,8,47
310 2272	"	46
310 2822	"	37
310 2102	"	23
310 2104	"	27
310 2224	"	22
310 2334	"	60,4,2
210 3393	RESISTOR	6,19
210 3223	"	29,31,36,48,50,52
210 3153	"	35
210 3103	"	10,28,39,41,49
210 3102	"	7,20,32,33,45,34,51
210 3562	"	2,12
210 3332	"	26
210 3661	"	16
		8
210 3182	"	4,14
210 3151	"	31
210 3183	CIRCUIT BOARD	
PART NO. NAME	POSITION NO.	

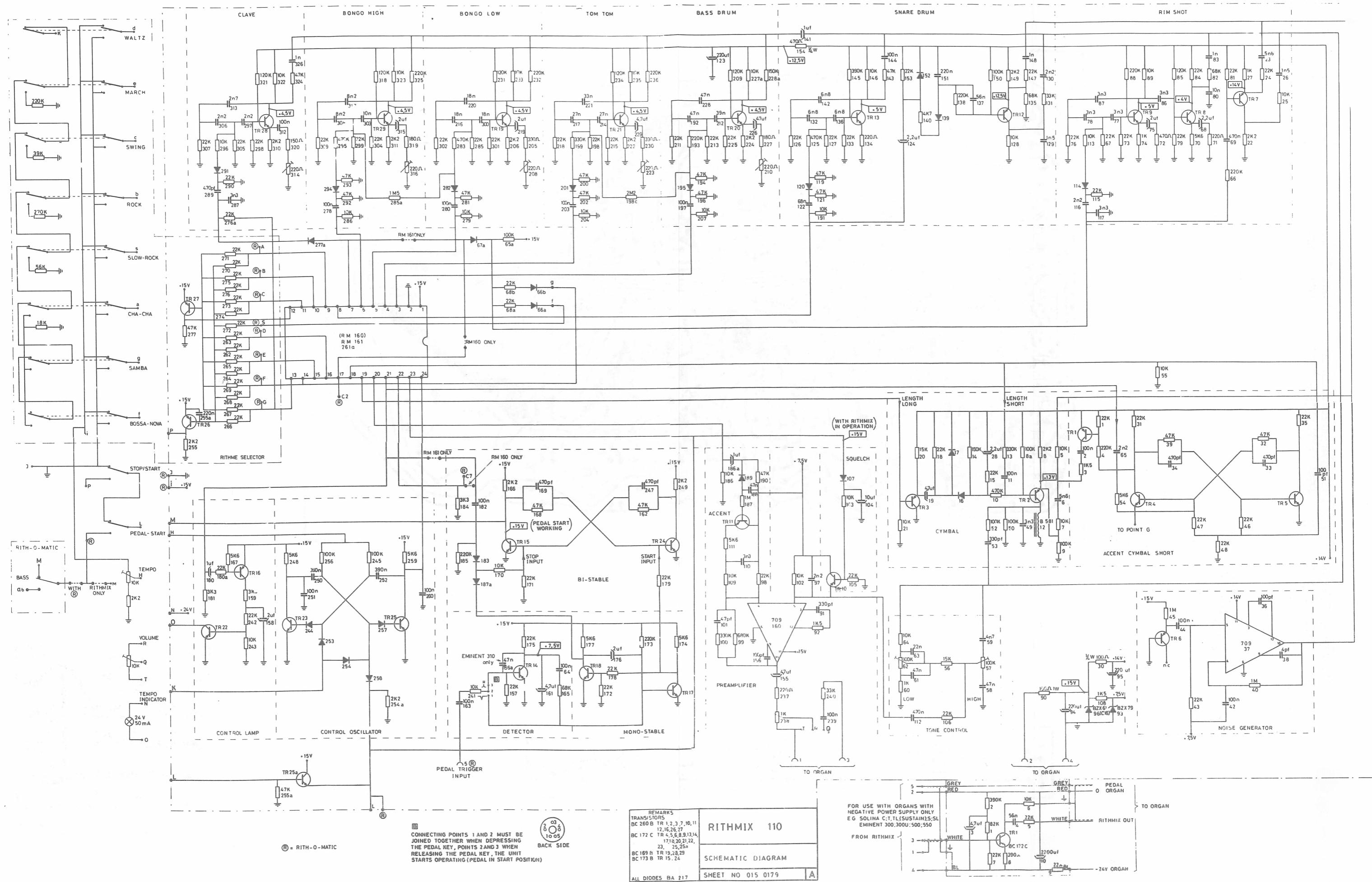


R & C	1 - 7	8 - 20	21 - 28	29 - 37	38 - 52,17
TRANSISTOR	TR1,2	TR3	TR4,5		
210 3182	"	0			
210 3151	"	4,14			
210 3183	"	31			
0120 CIRCUIT BOARD					
PART NO. NAME	POSITION NO.				

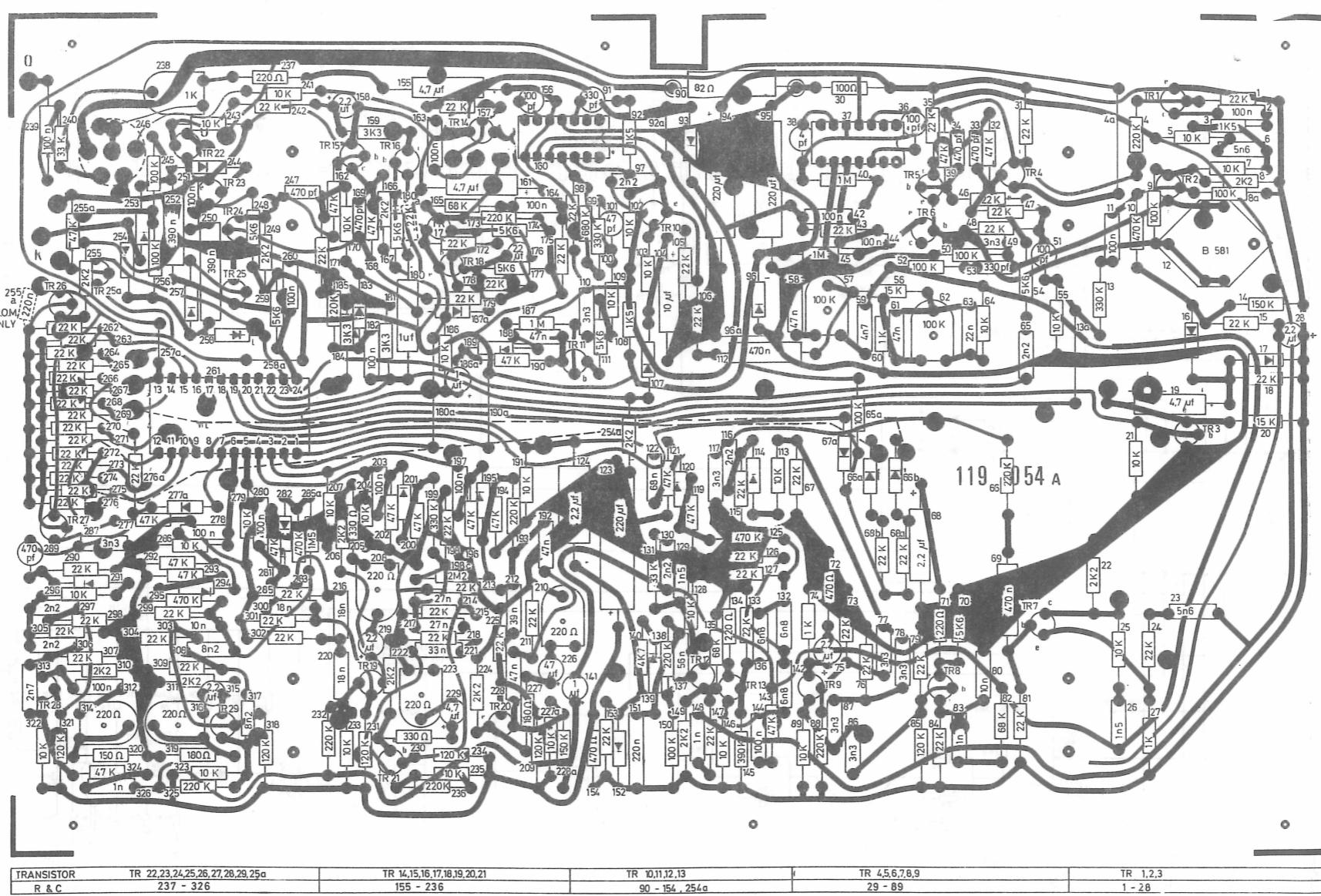
EMINENT 310 U FROM SERIES 85  
EMINENT 510,560 " 103  
SOLINA NL110 " 12  
SOLINA SL110 " 90





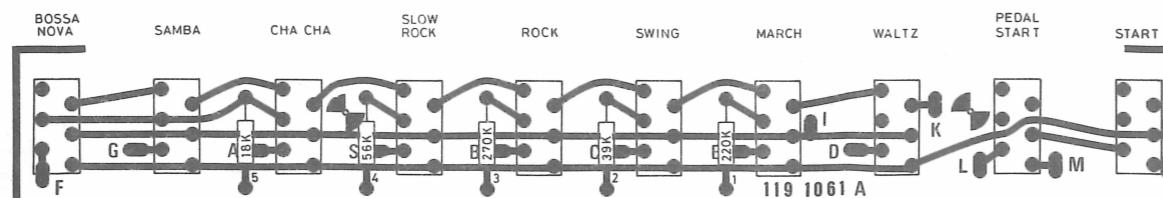


316 6228	TANTCAPACITOR	2.8
900 0031	BEAD	2 x
1.5 0149	JUMPER WIRE	0.5 mm YELLOW 20cm
125 0150	"	0.4mm WHITE 20cm
500 0905	"	15 cm 4a,13a,92a,96a,180a,90a,25a,258a
625 0041	RECEPTACLE	246
600 2581	COIL	12
230 0052	POT.METER	208,210,223,314,316
230 0054	"	238
230 0060	"	57,62
436 0709	IC "	37,160
436 0160	"	261
411 1692	TRANSISTOR	TR 19,28,29
411 1723	"	IR 4.5,6.9,9.13,14,17,18,20,21,22,23,25,25a
411 1732	"	1R, 15,24
411 2602	"	TR 12,3,7,10,11,16,26,27
420 0317	DIODE	16,17,66,68,6,67a,107,114,120,139,152,183,187a,189,195,201,244,253,254,257,258,277a,282,291,294
424 0379	"	93
424 0451	"	96
314 8108	EL.CAPACITOR	160
314 8226	"	68,124
314 8478	"	49,155,161
314 8109	"	104
314 6221	"	94,95,123
310 2102	CAPACITOR	83,146,326
310 2152	"	26,129
310 2222	"	65,97,116,130,297,306
310 2272	"	313
310 2332	"	49,77,78,86,87,110,117,287
310 2472	"	59
310 2562	"	6,23
310 2682	"	132,136,142
310 2822	"	308,317
310 2103	"	80,303
310 2183	"	216,220,300
310 2223	"	63
310 2273	"	214,217
310 2333	"	221
310 2393	"	212
310 2473	"	56,61,186,192,228
310 2503	"	137
310 2693	"	124
310 2104	"	211,42,44,144,163,164,182,197,203,239,251,260,278,280,312
310 2224	"	151,255a
310 2394	"	250,252
310 2474	"	69,112
313 2408	"	38
313 2479	"	101
313 2101	"	36,51,156
313 2331	"	53,91
313 2471	"	33,34,169,247,269
315 6108	"	141,186a
315 6228	"	75,158,176,219,315
315 6478	"	229
315 6479	"	226
210 3151	RESISTOR	320
210 3181	"	227,319
210 3221	"	71,134,237
210 3331	"	205,230
210 3471	"	72
210 3102	"	27,60,74
210 3152	"	3,92,108
210 3222	"	8,22,9,166,206,222,224,249,254a,255,310,311
210 3332	"	159,181,184
210 3472	"	140
210 3562	"	54,70,111,167,174,177,248,259
210 3103	"	5,2,21,25,55,64,89,102,103,109,113,126,146,170,186,191,204,207,227a,233,235,241,243,279,286,296,322,323
210 3153	"	20,56
210 3223	"	1,15,18,24,31,35,43,4,6,47,8,67,68a,69b,73,79,81,84,98,105,106,115,126,127,133,147,153,157,171,172,175,178,179,180a,188,211,213,215,218,225,242,262,263,264,265,266,267,268,269,270,271,272,273,274,275,276,276a,285,290,298,299,301,302,304,305,307,309,76
210 3333	"	131,240
210 3473	"	32,39,119,121,143,162,168,190,194,196,200,202,225a,277,281,282,293,324
210 3683	"	82,135,165
210 3104	"	8a,9,50,52,65a,150,24,256
210 3124	"	85,209,231,234,318,321
210 3154	"	14,228a
210 3224	"	4,66,88,138,173,193,232,236,325,185
210 3334	"	13,100,199
210 3474	"	145
210 3684	"	IC 125,283,295
210 3105	"	99
210 3155	"	40,45,187
210 3225	"	285a
211 3101	"	198c
211 3471	"	30
213 3829	"	154
119 1054 a	CIRCUIT BOARD	90
PART NO.	NAME	POSITION NO.



### RITHMIX 110

PART. NO. 019 0066 A

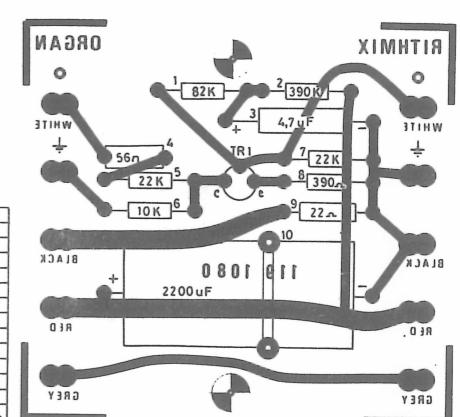


210 3224	RESISTOR	1
210 3393	"	2
210 3274	"	3
210 3563	"	4
210 3183	"	5
630 0108	SWITCH	
119 1061 A	CIRC. BOARD	
PART NO.	NAME	POSITION NO.

### RITHMIX 110 SELECTION CIRCUIT

PART NO. 019 0067

775 0002	CABLE TIE	
411 1723	TRANSISTOR	TR1
310 2563	CAPACITOR	4
314 6478	EL. -	3
210 3391	RESISTOR	8
210 3103	"	6
210 3223	"	5,7
210 3823	"	1
210 3993	"	2
211 3229	"	9
314 6222	EL. CAP.	10
119 1080	CIRC.BOARD	
PART NO.	NAME	POSITION NO.



### RITHMIX 110

PRINTED CIRCUIT  
BOARD ASSY

PART NO. 019 0074