







**SCHEMATIC
DIAGRAM**

CRUMAR[®]

Musical Instruments

**mod.
d.p. 50**

	FEMALE CONNECTOR SYMBOL (es. J 2/1)
	PLUG IN CONNECTOR SYMBOL
	WIRE SOLDERING POINT
	TEST POINT (T P...)
	CONNECTING POINT (ON p.c.b.)
	METALLIC FILM RESISTOR 1%

ALL resistors 1/4w unless otherwise indicated

ALL tab switches shown in OFF position

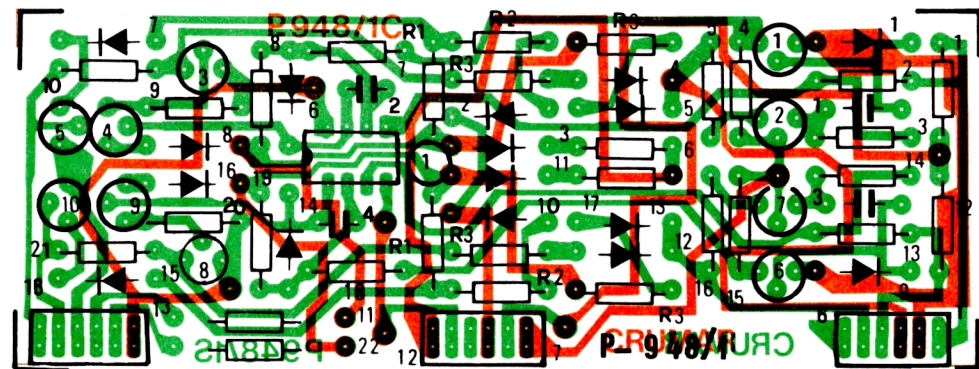
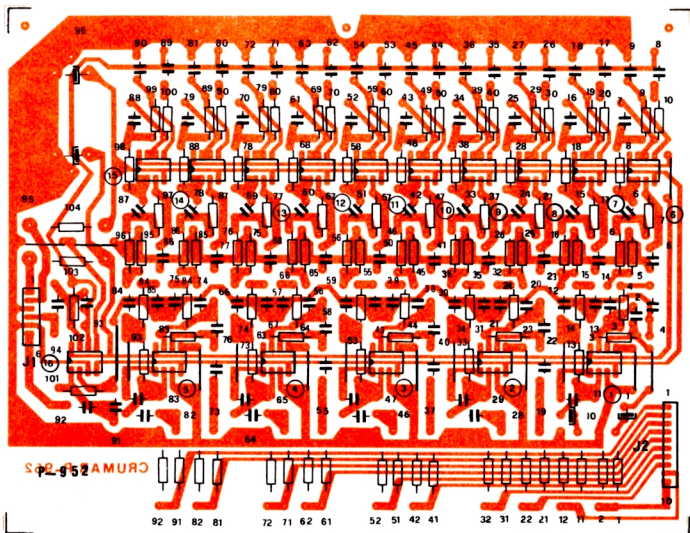
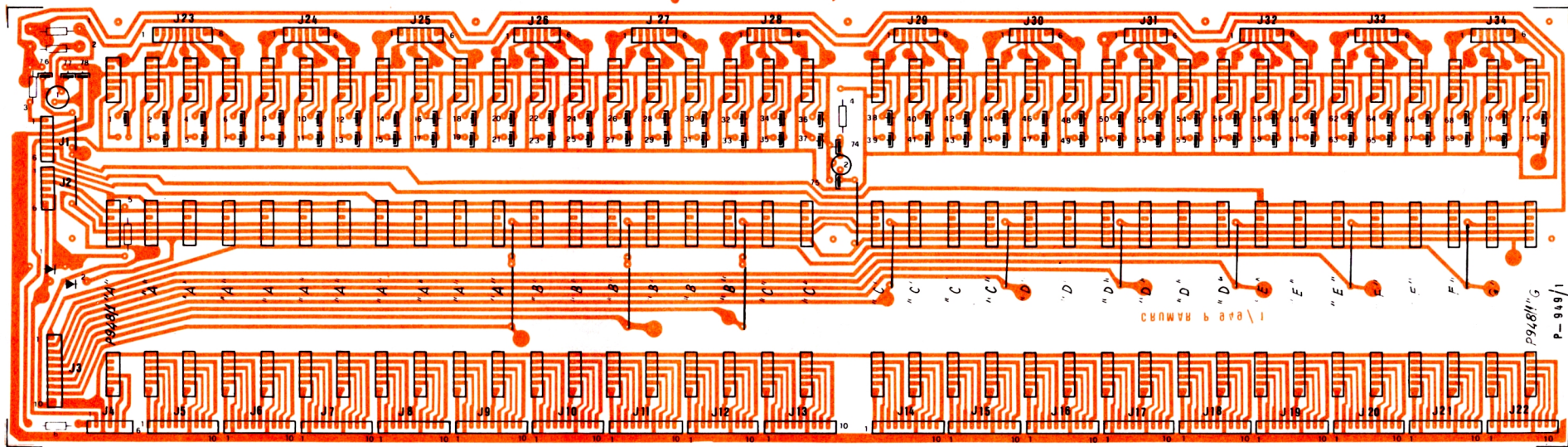
ALL key switches shown in OFF position

See part list for component part numbers

**CRUMAR RESERVES THE RIGHT TO CHANGE
SPECIFICATIONS AND DESIGNS, WITHOUT
NOTICE AND LIABILITY.**

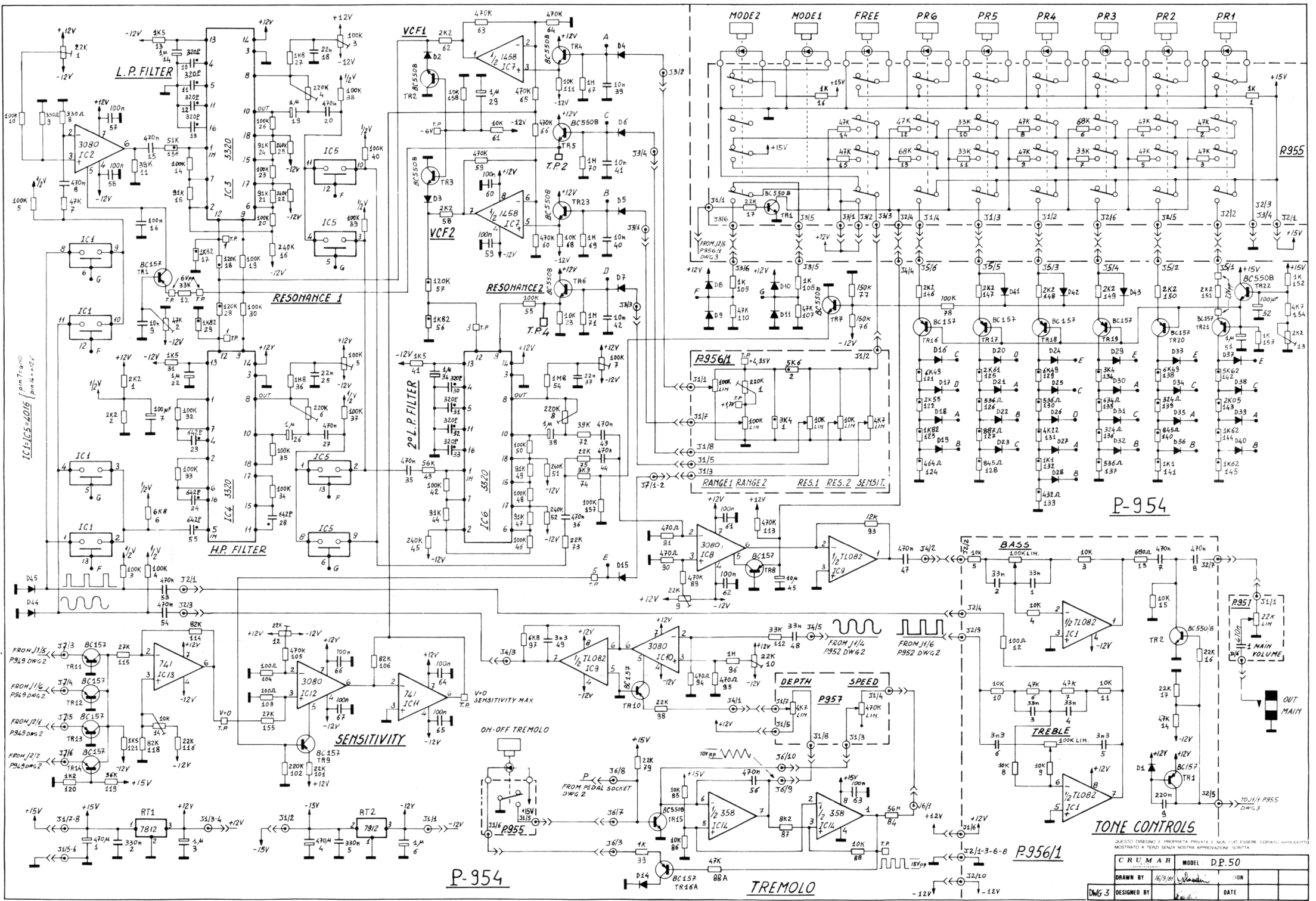
**SCHEMATIC
DIAGRAM**

mod.
d.p. 50



QUESTO DISEGNO È PROPRIETÀ PRIVATA E NON PUÒ ESSERE COPIATO, RIPRODOTTO, MOSTRATO A TERZI, SENZA MOSTRA APPROVAZIONE SCRITTA.

CRUMAR	MODEL: D.P. 50
DRAWN BY: 16-9-81	REVISION:
DWG-2A DESIGNED BY:	DATE:



P-954

P-954

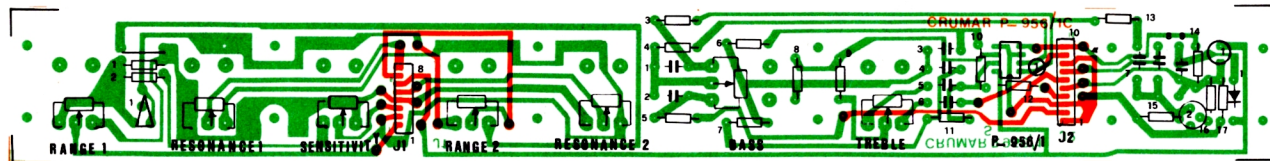
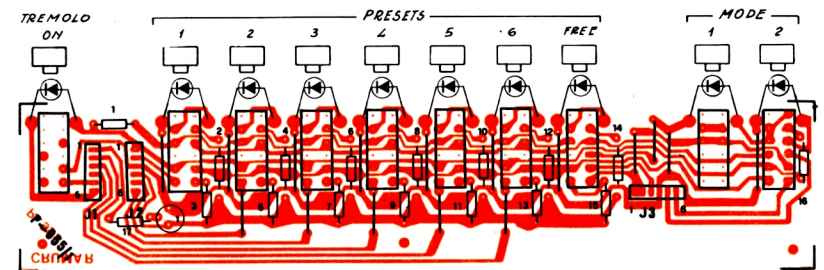
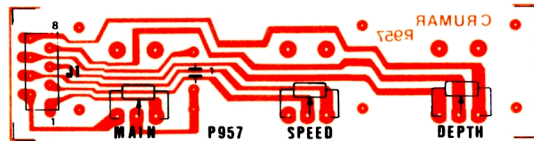
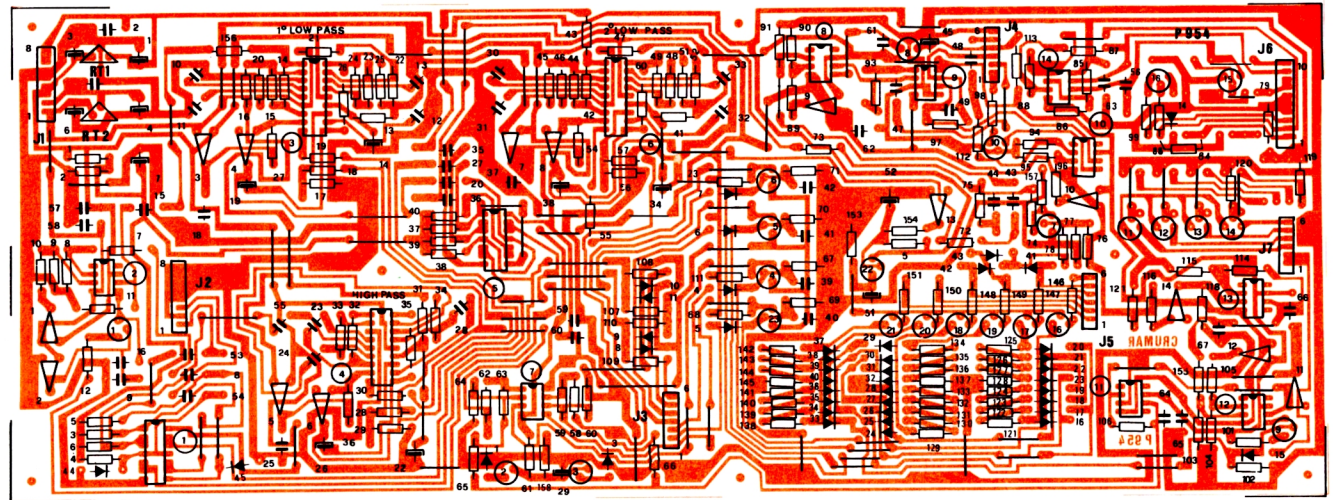
P-956/1

TONE CONTROLS

TREMOLO

CRUMAR		MODEL: DP.50	
DWG 3	DESIGNED BY	DATE	
	DRAWN BY	DATE	

TEST POINTS	PR.1	PR.2	PR.3	PR.4	PR.5	PR.6	FREE
RANGE 1 T.P.1 (pin 12 IC3-4)	+91mV	+4,0mV	+22mV	+22mV	+55mV	+55mV	-35mV → +145mV
RESONANCE 1 T.P.2 (Emitter-TR5)	+4,1V	+1,2V	0	+5V	0	+10,2V	-0,5 → 11,2V
RANGE 2 T.P.3 (pin 12 IC6)	+28mV	+5mV	-18mV	-24mV	36mV	-21mV	-37mV → +27mV
RESONANCE 2 T.P.4 (Emitter-TR6)	0	0	0	4,5V	4V	3,8V	0 → 11,2V
SENSITIVITY T.P.5 (point E)	+10V	+8,1V	+4,3V	+1,1V	+0,6V	+0,6V	+0,6V → 11,3V



QUESTO DISEGNO È PROPRIETÀ PRIVATA E NON PUÒ ESSERE COPIATO RIPRODOTTO
MOSTRATO A TERZI SENZA NOSTRA APPROVAZIONE SCRITTA

CRUMAR		MODEL: D.P. 50	
DRAWN BY	16-9-81	REVISION	
DWG3A DESIGNED BY		DATE	

MODEL D.P. 50

ELECTRONIC COMPONENT LIST

Schem. Ref.	Circuit	Type	Part Code
SEMKO VERSION - POWER SUPPLY (DWG 1)			
P960	Complete with components		978002622
RT1	Voltage regulator	7815	62110020
RT2	Voltage regulator	7915	62110022
PD1-2	Rectifier Bridge	KBL04	66000006
T65	Trasformer		18010104
CSA VERSION - POWER SUPPLY (DWG 1)			
P960	Complete with components		978002623
RT1	Voltage Regulator	7815	62110020
RT2	Voltage Regulator	7915	62110022
PD1-2	Rectifier Bridge	KBL04	18010104
T65	Trasformer		
MASTER OSCILLATOR AND DIVIDERS (DWG 1)			
P953	Complete with components		978002615
TR1	TR	BC286	62110002
TR2	TR	BC550B	62120005
RT1	Voltage regulator	7812	62110027
RT2	Voltage regulator	78L05	62110031
IC1 ÷ 12	Dividers		68010181
IC13	Op. Ampl.	741	68000059
IC14	T.O.S.	50240	68000009
IC15	Master Oscillator	74LS221	68000058
E ÷ E KEYSWITCHES (DWG 2)			
P950	Complete with components		978002612
L1 ÷ L37	Coils		02020017
F ÷ E KEYSWITCHES (DWG 2)			
P951	Complete with components		978002613
L38 ÷ L73	Coils		02020017
ENVELOPE MODULE "A" R1 = 220 K (DWG 2)			
P948/1	Complete with components		978002645

MODEL D.P. 50

ELECTRONIC COMPONENT LIST

Schem. Ref.	Circuit	Type	Part Code
ENVELOPE MODULE "B" RI = 150 K (DWG 2)			
P948/1	Complete with components		978002646
ENVELOPE MODULE "C" RI = 100 K (DWG 2)			
P948/1	Complete with components		978002647
ENVELOPE MODULE "D" RI = 82K (DWG 2)			
P948/1	Complete with components		978002648
ENVELOPE MODULE "E" RI = 39K (DWG 2)			
P948/1	Complete with components		978002649
ENVELOPE MODULE "F" RI = 27K (DWG 2)			
P948/1	Complete with components		978002650
ENVELOPE MODULE "G" RI = 18K (DWG 2)			
P948/1	Complete with components		978002651
D1 ÷ 16	Diodes	1N4149	65000007
TR1-5-6-10	TR	BC550B	62120005
TR2-7	TR	BC157	62210007
TR3-8	TR	BC327	62110039
TR4-9	TR	BC337	62110038
IC1	Dual. Op. Ampl.	1458	68000054
MODULE'S MOTHER BOARD (DWG 2)			
P949/1	Complete with components		978002644
TR1	TR	BC286	62110002
TR2	Voltage regulator	78L05	62110031
D1-D2	Diodes	IN4001	66000004
FLUTE FILTERS (DWG 2)			
P952	Complete with components		978002614
IC1 ÷ 16	Dual Op. Ampl.	TL082	68030163

MODEL D.P. 50
ELECTRONIC COMPONENT LIST

Schem. Ref.	Circuit	Type	Part Code
PRESETS SWITCHES (DWG 3)			
P955/1	Complete with components		978002655
TR1	TR	BC550/B	62120005
PIANO'S FILTERS AND PRESETS (DWG 3)			
P954	Complete with components		978002616
D1 ÷ 45	Diodes	BA130	65000001
TR1-8 ÷ 16-16A			
17 ÷ 21	TR	BC157	62210007
TR2 ÷ 7-15-22-23	TR	BC550/B	62120005
IC1-5	Quad bilateral. switch.	4016	68000072
IC2-8-10-12	O.T.A.	3080	68000066
IC3-4-6	Voltage controlled filter	3320	68030143
IC7	Dual Op. Ampl.	1458	68000054
IC9	Dual Op. Ampl.	TL082	68030163
IC14	Dual Op. Ampl.	LM358	68000093
IC11-13	Op. Ampl.	741	68000059
MAIN-VIBRATO CONTROLS (DWG 3)			
P957	Complete with components		978002619
RANGE-RESONANCE-TONE CONTROLS (DWG 3)			
P956/1	Complete with components		978002641
D1	Diode	BA130	65000001
TR1	TR	BC157	62210007
TR2	TR	BC550/B	62120005
IC1	Dual Op. Ampl.	TL082	68030163
CONNECTION BOARD			
P961	Complete with components		978002624

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