

**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

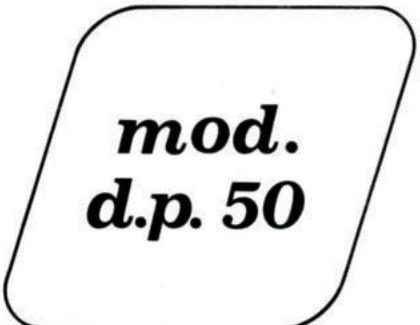
ALL tabs switches shown in OFF position

ALL key switches shown in OFF position

See part list for component part numbers

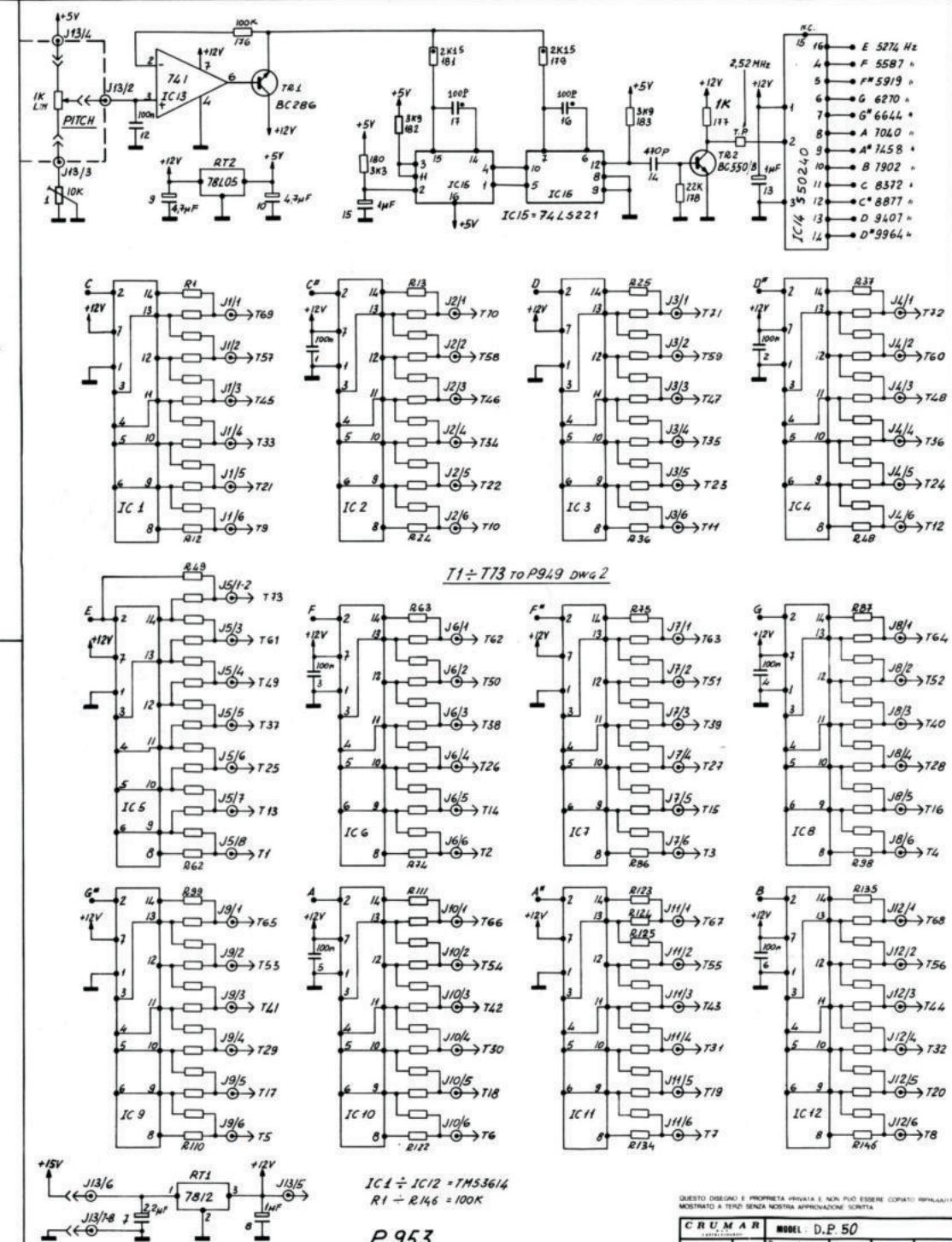
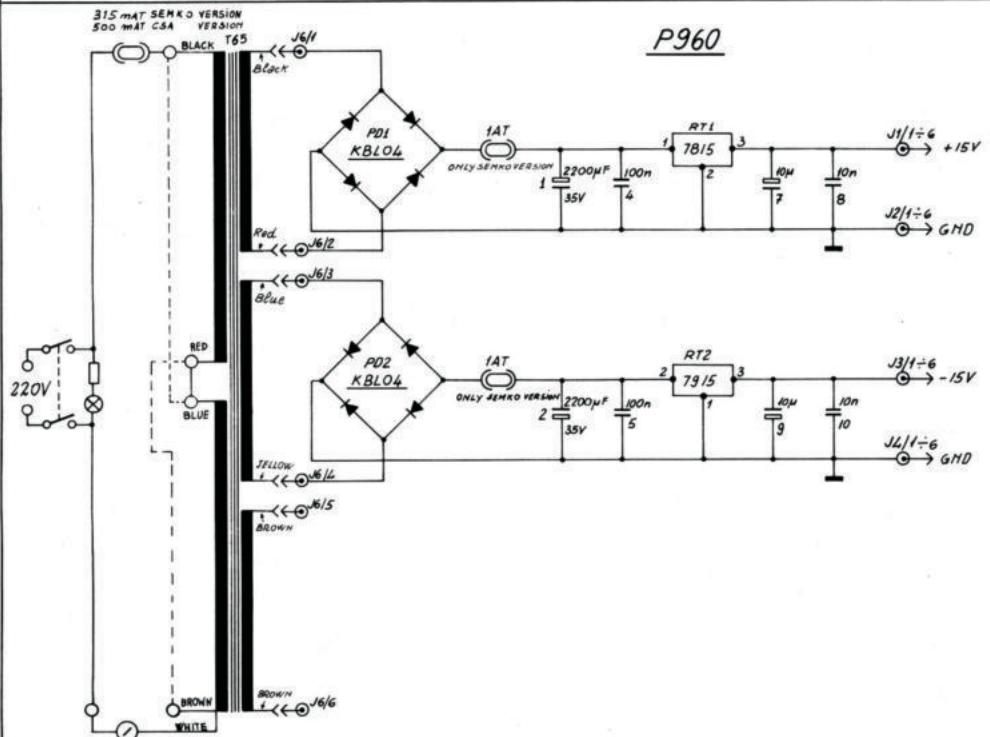
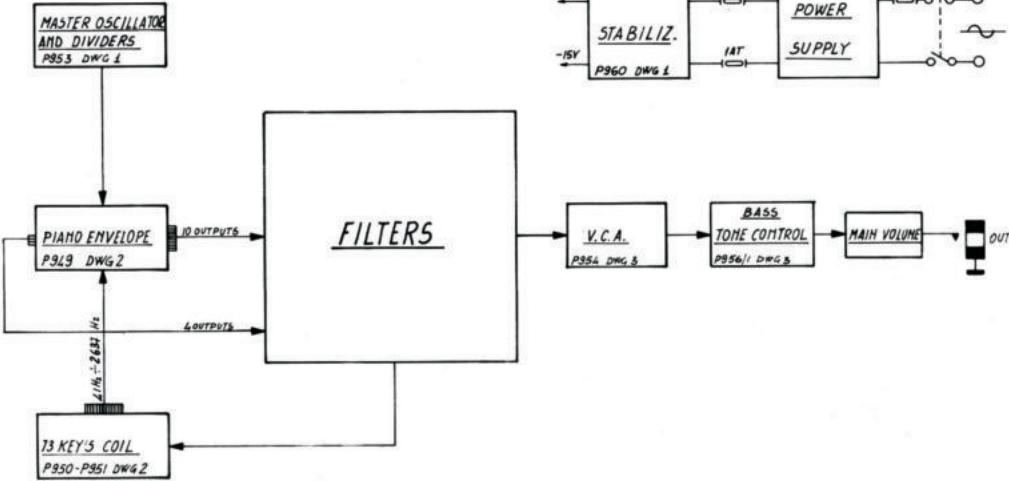
CRUMAR RESERVES THE RIGHT TO CHANGE
SPECIFICATIONS AND DESIGNS, WITHOUT
NOTICE AND LIABILITY.

**SCHEMATIC
DIAGRAM**



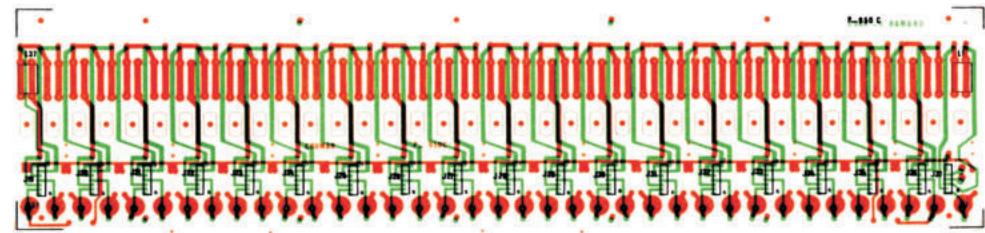
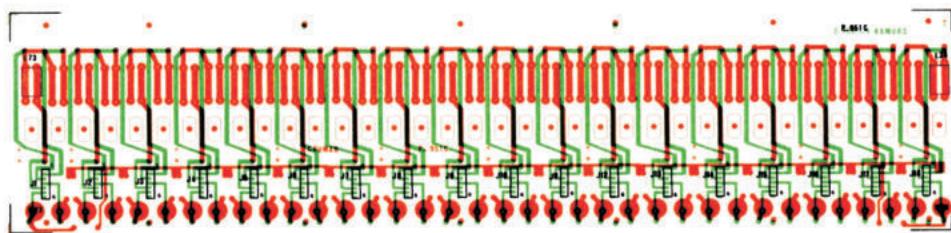
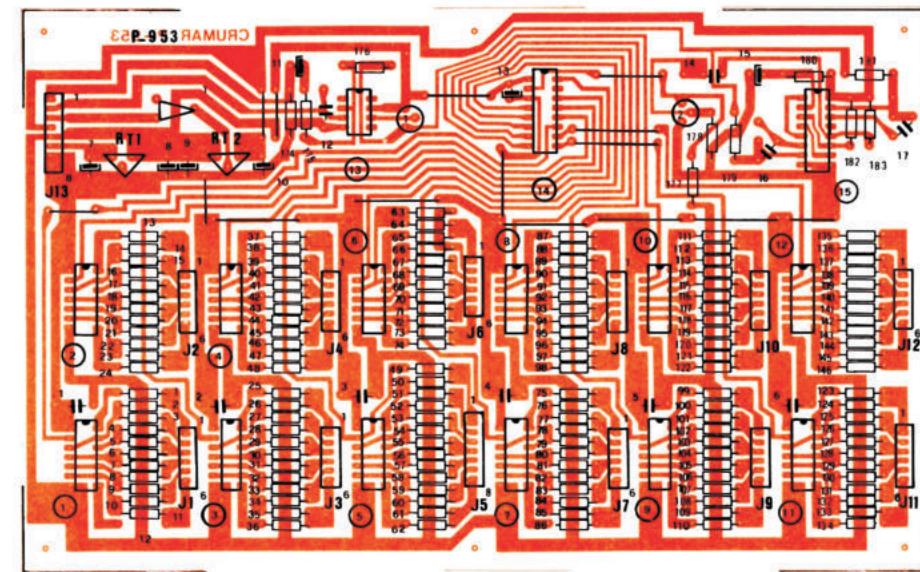
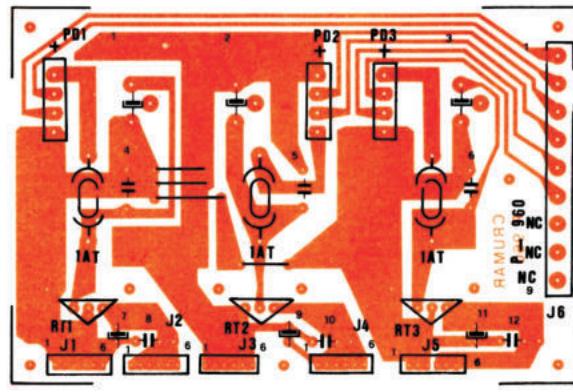
***mod.*
d.p. 50**

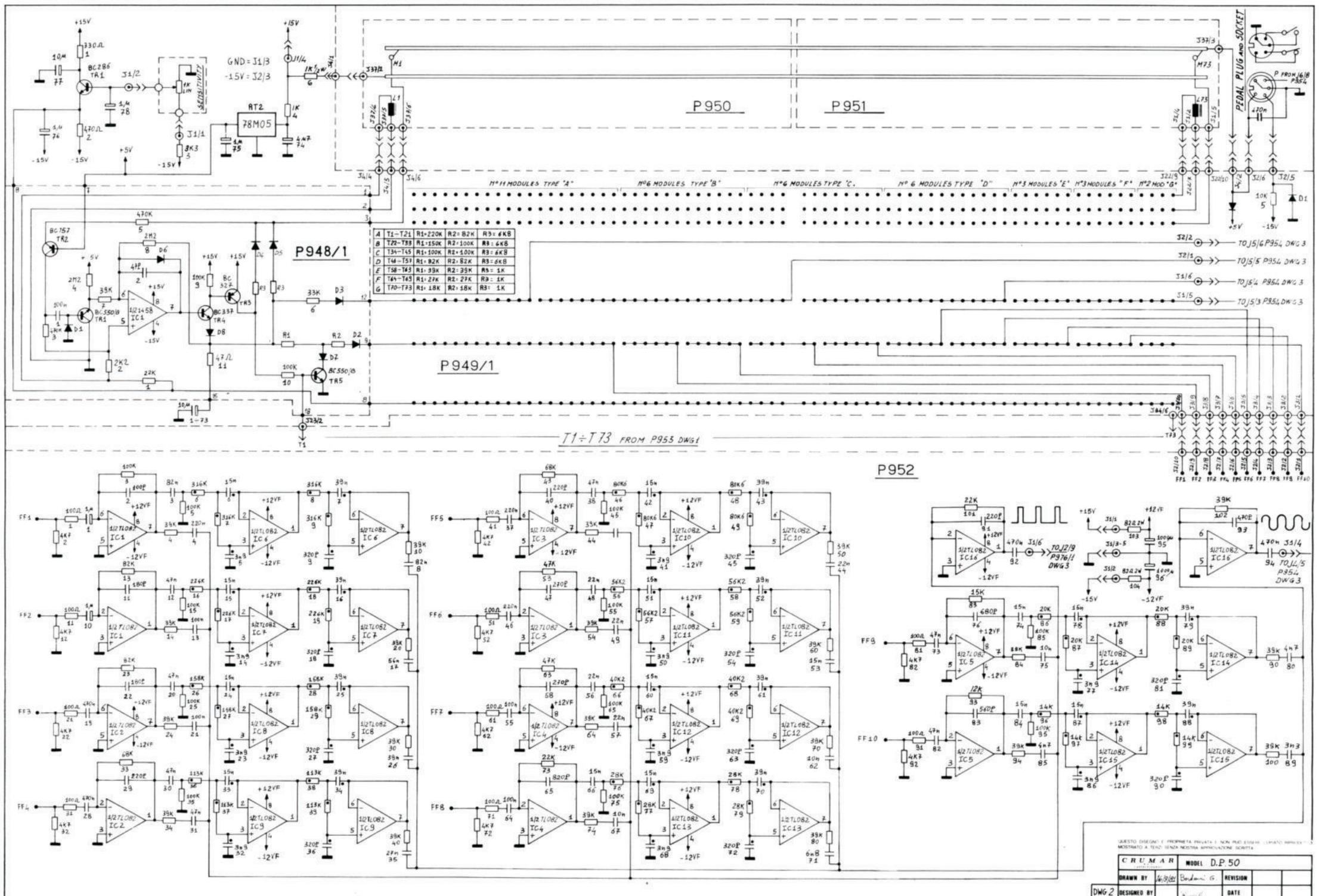
BLOCK DIAGRAM

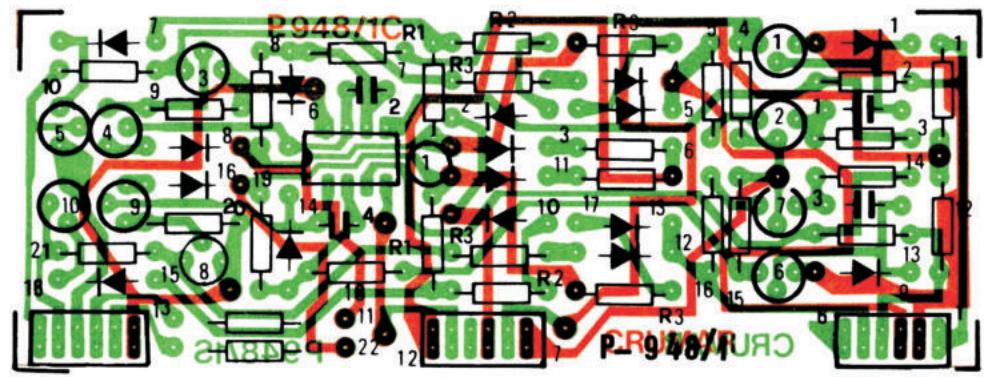
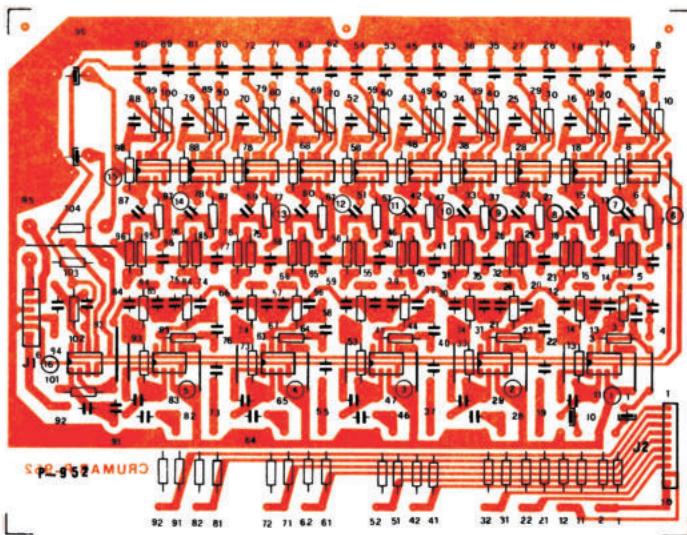
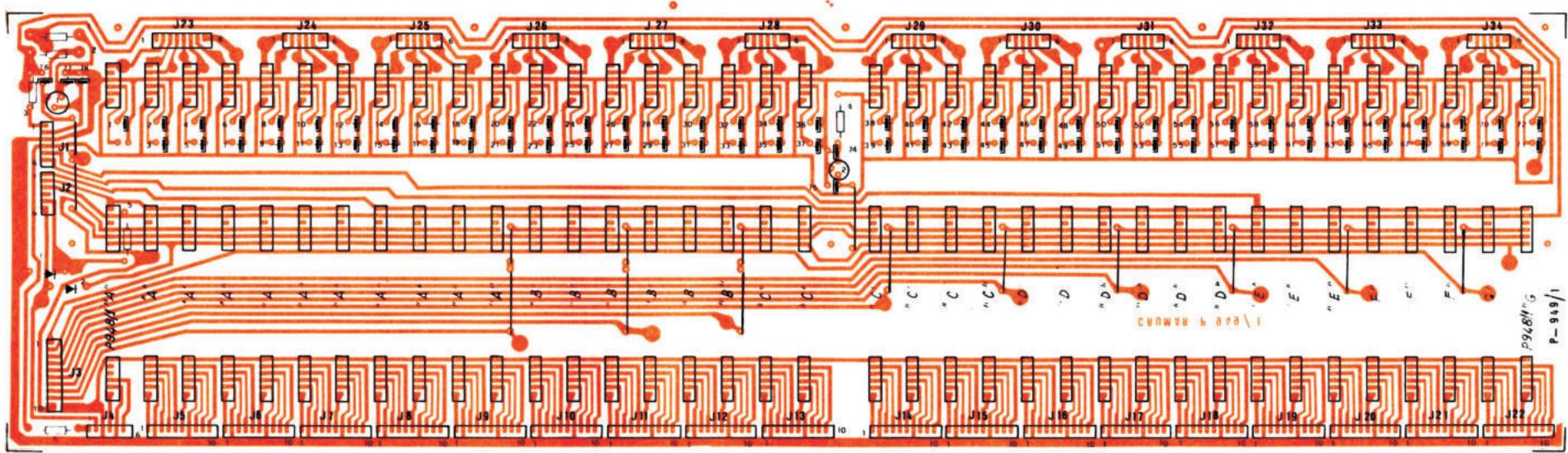


QUESTO DISEGNO È PROPRIETÀ PRIVATA E NON PUÒ ESSERE COPIATO RIPARATURO
MOSTRATO A TERZI SENZA NOSTRA APPROVAZIONE SCRITTA

P 95



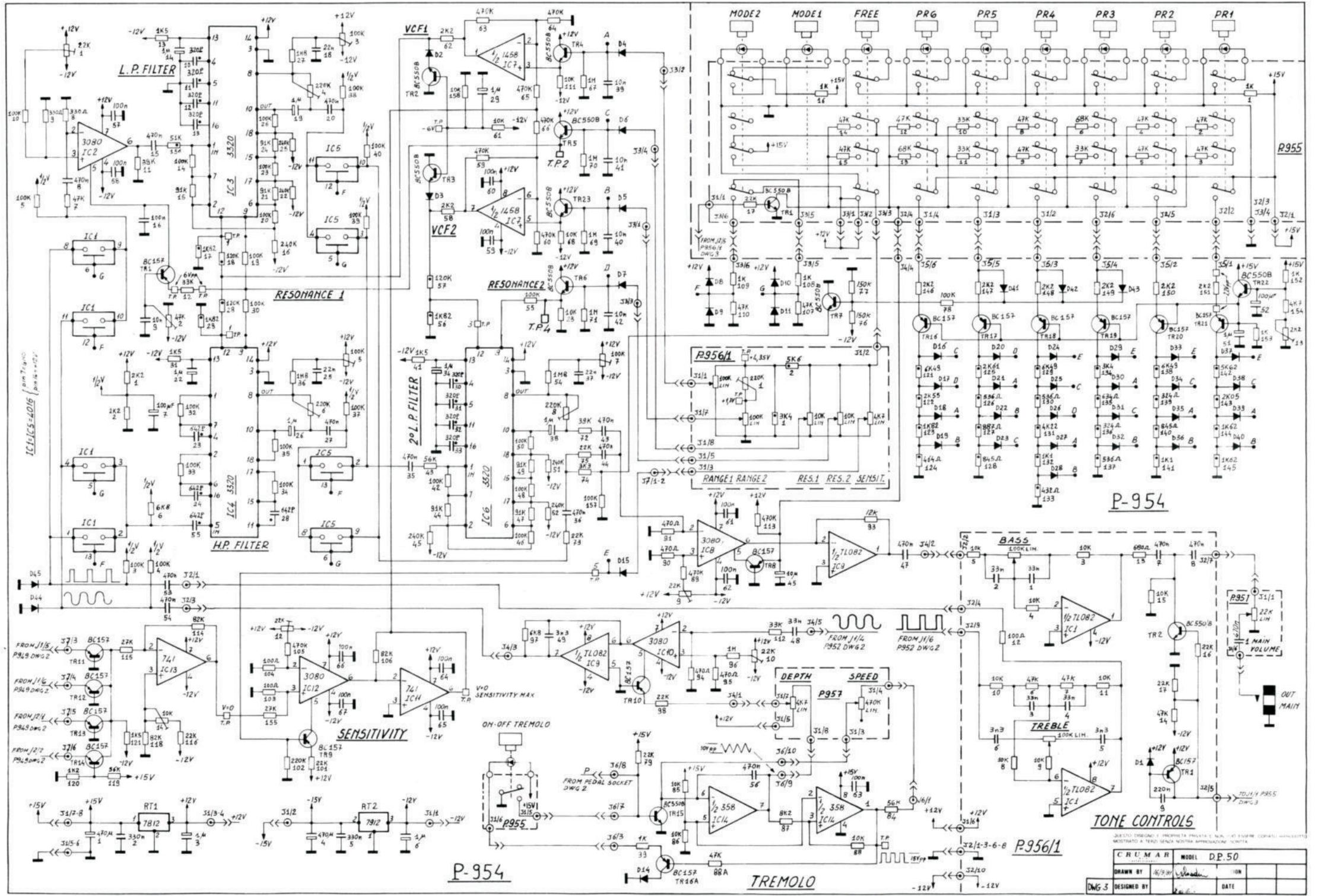




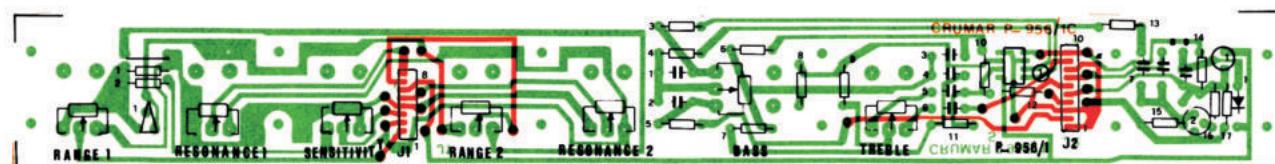
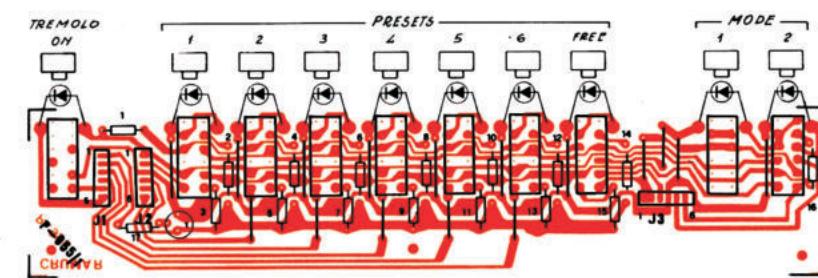
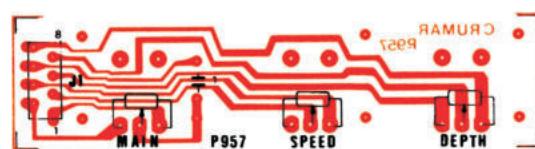
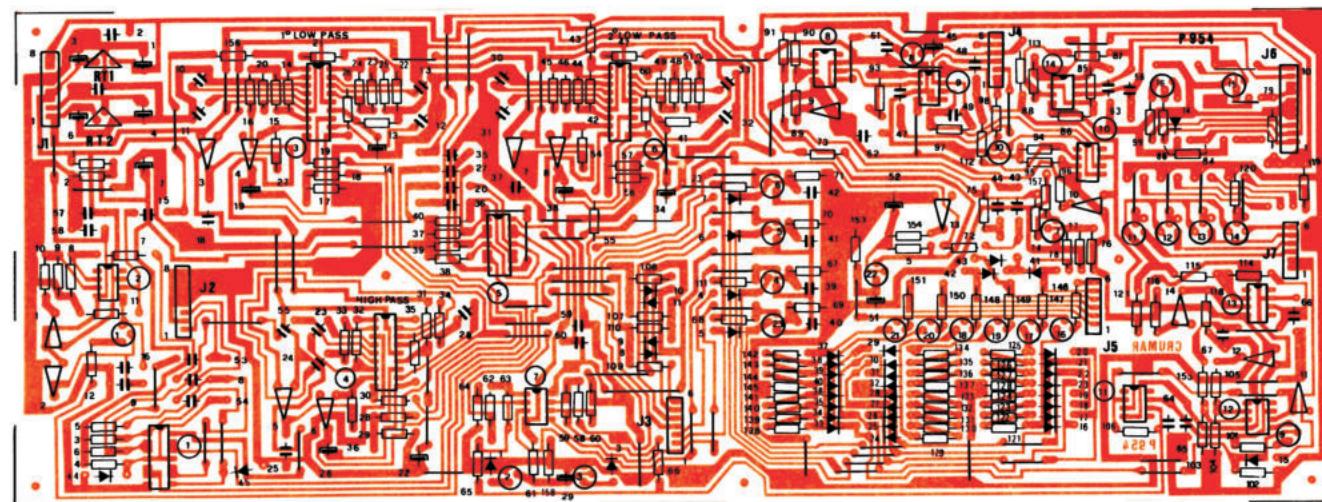
QUESTO DISSEGNO È PROPRIETÀ PRIVATA E NON PUÒ ESSERE CORRATO, RIPRODOTTO
MOSTRATO A TERZI SENZA NOSTRA APPROVAZIONE SCRITA.

| | |
|-------------|---------------|
| CRUMAR | MODEL D.P. 50 |
| DRAWN BY | 16-9-87 |
| DESIGNED BY | W. J. MULLER |
| REVISION | |
| DATE | |

DWG/2A



| TEST POINTS | PR1 | PR2 | PR.3 | PR.4 | PR.5 | PR.6 | FREE |
|------------------------------------|-------|-------|-------|-------|-------|--------|----------------|
| RANGE 1 T.R1 (pin12 IC3/4) | +91mV | +60mV | +22mV | +22mV | +55mV | +55mV | -35mV → +165mV |
| RESONANCE 1 T.P2 (emitter TR5) | +6,1V | +1,2V | 0 | +5V | 0 | +10,2V | -0,5 → 11,2V |
| RANGE 2 T.P.3 (pin 12 IC6) | +28mV | +5mV | -18mV | -26mV | 36mV | -21mV | -37mV → +27mV |
| RESONANCE 2 T.P.4 (emitter TR6) | 0 | 0 | 0 | 4,5V | LV | 3,8V | 0 → 11,2V |
| SENSITIVITY T.P.5 (pin 1 E) | +10V | +8,1V | +6,3V | +4,7V | +0,6V | +0,6V | +0,6V → 11,3V |



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 | | IN4149 |
| TR1-5-6-10 | TR | | BC550B |
| TR2-7 | TR | | BC157 |
| TR3-8 | TR | | BC327 |
| TR4-9 | TR | | BC337 |
| IC1 | Dual. Op. Ampl. | | 1458 |
| MODULE'S MOTHER BOARD (DWG 2) | | | |
| P949/1 | Complete with components | | 978002644 |
| TR1 | TR | | BC286 |
| TR2 | Voltage regulator | | 78L05 |
| D1-D2 | Diodes | | IN4001 |
| 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 TR1 | Complete with components TR | BC550/B | 978002655 62120005 |
| PIANO'S FILTERS AND PRESETS (DWG 3) | | | |
| P954 D1 ÷ 45 TR1-8 ÷ 16-16A 17 ÷ 21 TR2÷7-15- 22-23 IC1-5 IC2-8-10-12 IC3-4-6 IC7 IC9 IC14 IC11-13 | Complete with components Diodes TR TR TR Quad bilateral. switch. O.T.A. Voltage controlled filter Dual Op. Ampl. Dual Op. Ampl. Dual Op. Ampl. Op. Ampl. | BA130 BC157 BC550/B 4016 3080 3320 1458 TL082 LM358 741 | 978002616 65000001 62210007 62120005 68000072 68000066 68030143 68000054 68030163 68000093 68000059 |
| MAIN-VIBRATO CONTROLS (DWG 3) | | | |
| P957 | Complete with components | | 978002619 |
| RANGE-RESONANCE-TONE CONTROLS (DWG 3) | | | |
| P956/1 D1 TR1 TR2 ICI | Complete with components Diode TR TR Dual Op. Ampl. | BA130 BC157 BC550/B TL082 | 978002641 65000001 62210007 62120005 68030163 |
| CONNECTION BOARD | | | |
| P961 | Complete with components | | 978002624 |

