



SERVICE MANUAL VOCODER VC-10

CONTENTS

1. SPECIFICATIONS	2
2. STRUCTURAL DIAGRAM	3
3. CIRCUIT DIAGRAM	
KLM-136.....	4
KLM-135.....	5
KLM-134.....	6
4. PC BOARD	
KLM-136.....	7
KLM-135.....	8
KLM-134.....	9
5. BLOCK DIAGRAM.....	10
6. PARTS LIST (Mechanical parts not listed)	11
7. CHECK AND ADJUSTMENT	12

1. SPECIFICATIONS

< Controls >

- 1. Keyboard
 - 32 keys F ~ C
 - Octave range: normal 16'
up 8'
 - Tuning ± 100 cents
 - Accent bend
 - Vibrato speed (1 Hz ~ 10 Hz)
 - Vibrato depth (0 ~ 100 cent P-P)
 - External pitch control
 - Pitch control wheel ($\pm 1/2$ octave)
- 2. Signal mixers
 - Input signal balance (keyboard/
noise)
 - External signal level
- 3. Frequency response simulator
 - Microphone level
- 4. Meter
 - VU meter
- 5. Final controls
 - Ensemble
 - Power switch/final volume
 - Output balance (simulator/mike)
 - Headphone level

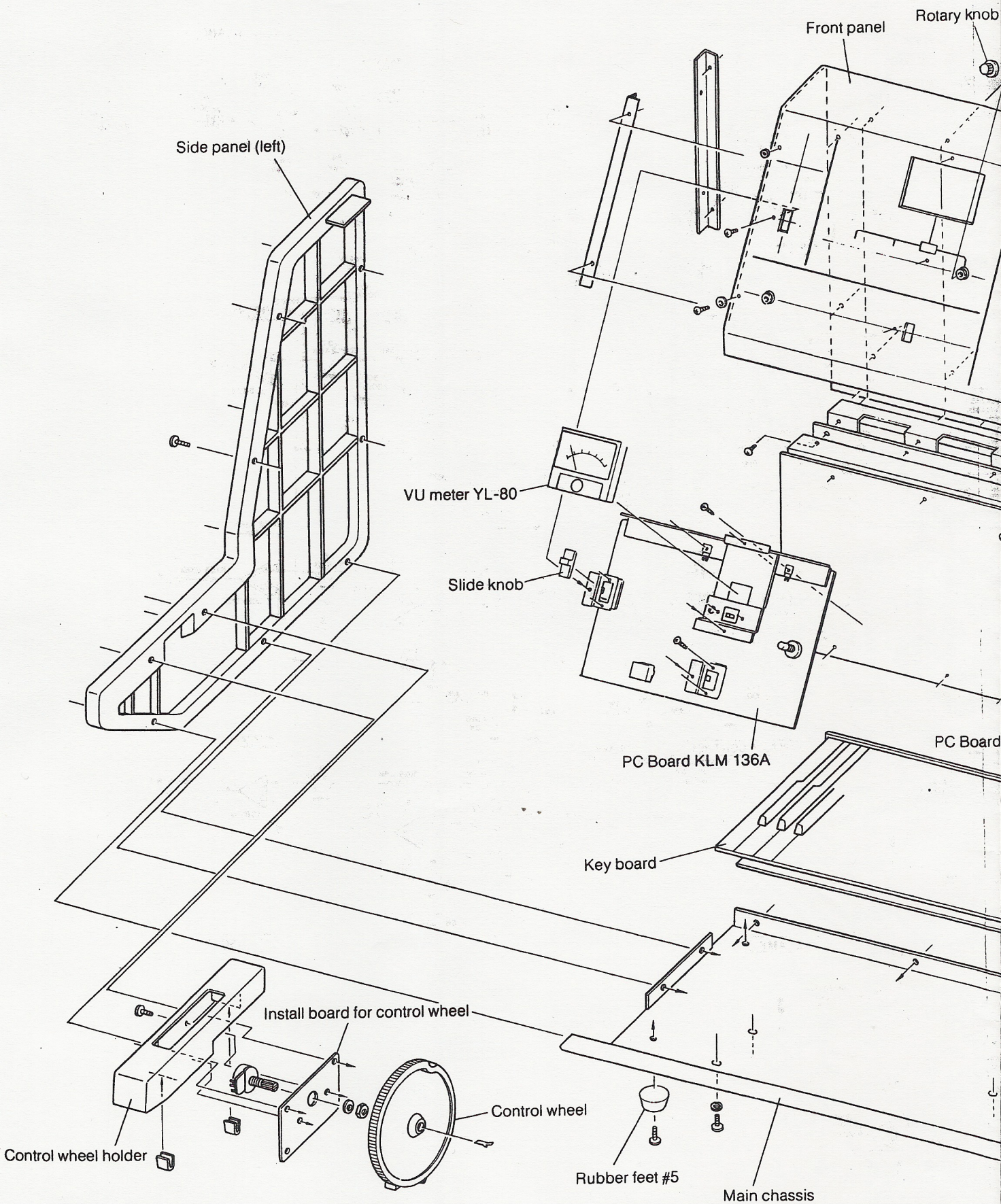
< Inputs >

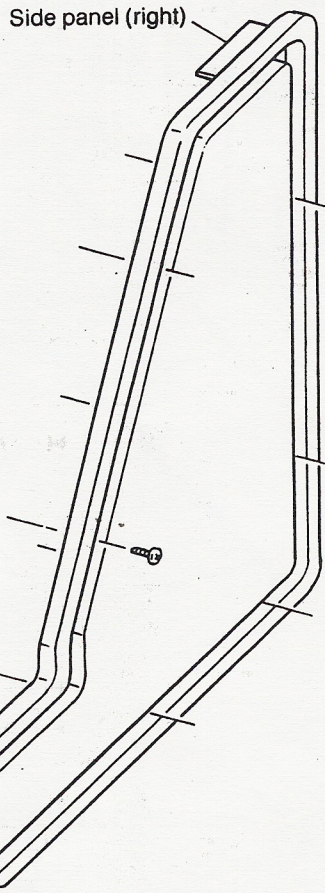
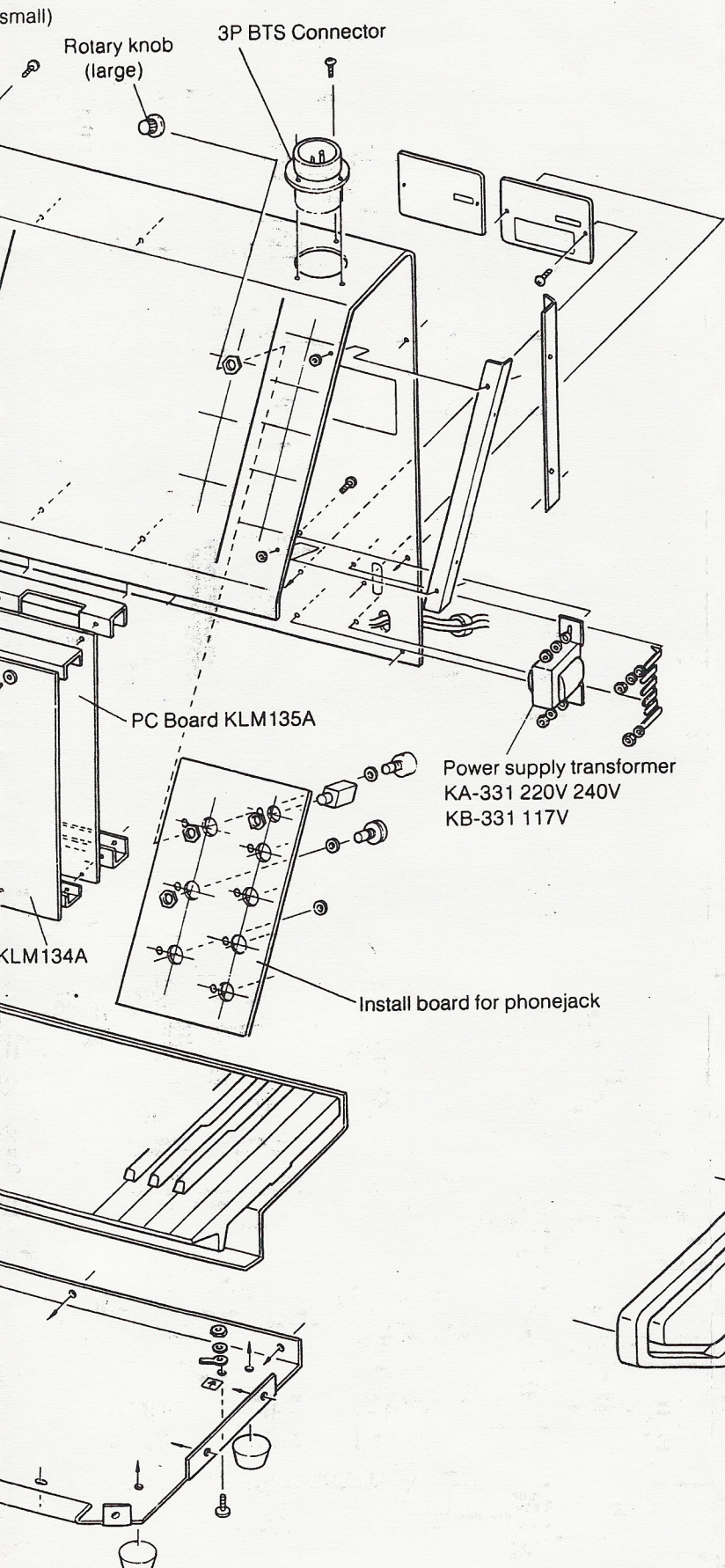
- 1. Mike inputs
 - BTS connector input
 - 2P phone jack input
- 2. Signal inputs
 - Signal input 3V p-p MAX
 - Pitch control input (1/3-oct/vol)
-3V ~ 3V

< Outputs >

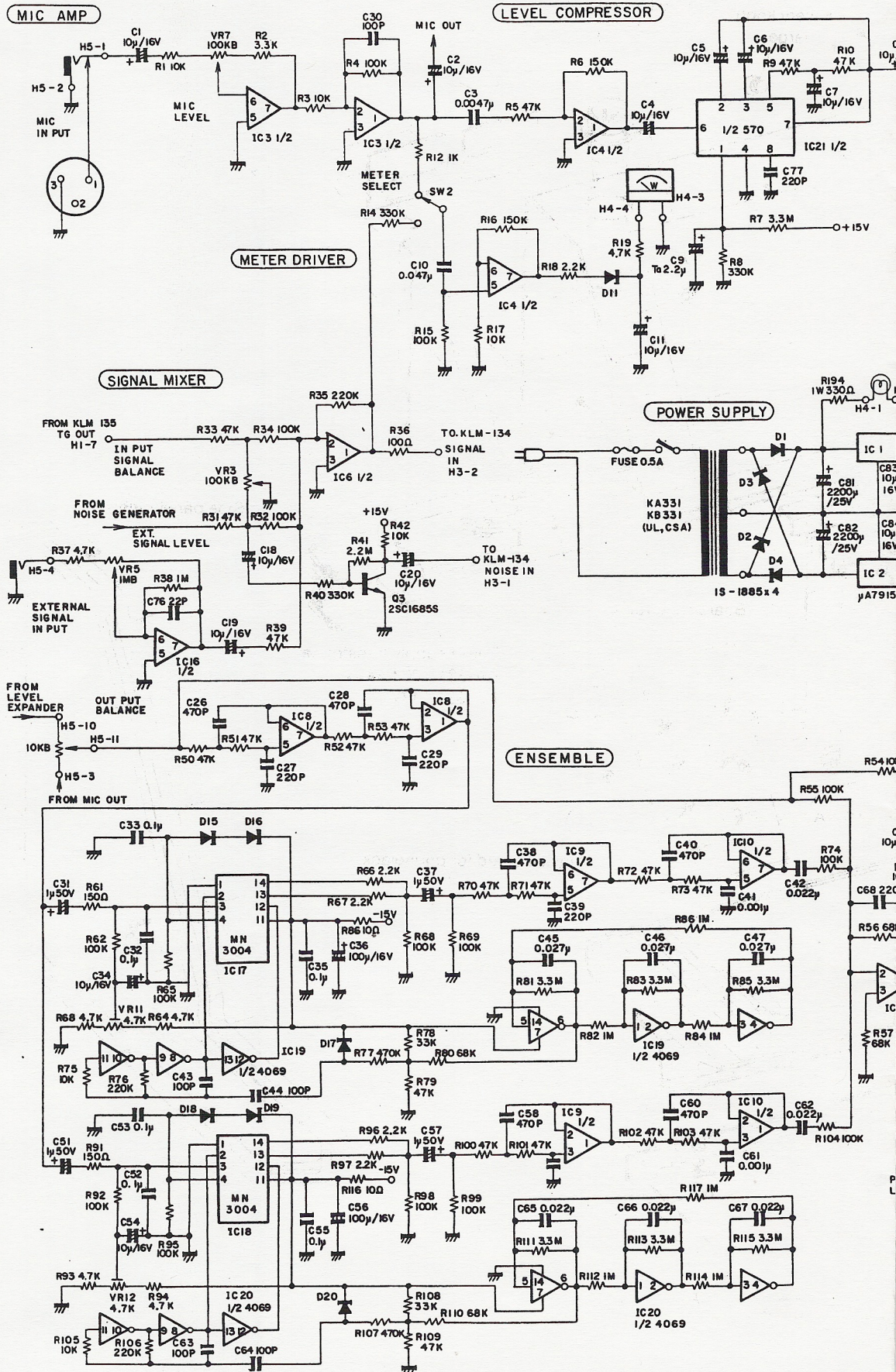
- 1. Final
 - Final out -10dB (output impedance 3K Ω)
- 2. Headphone
 - Headphone out 8 Ω 120mW
- Power consumption 25W
- Dimensions 499(W) x 309(D) x 249(H) mm
- Weight 7kg

2. STRUCTURAL DIAGRAM



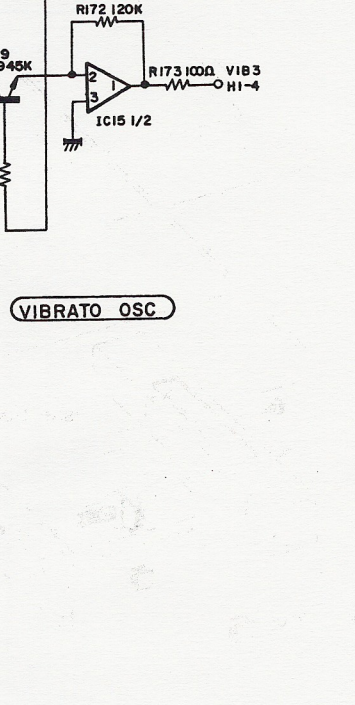
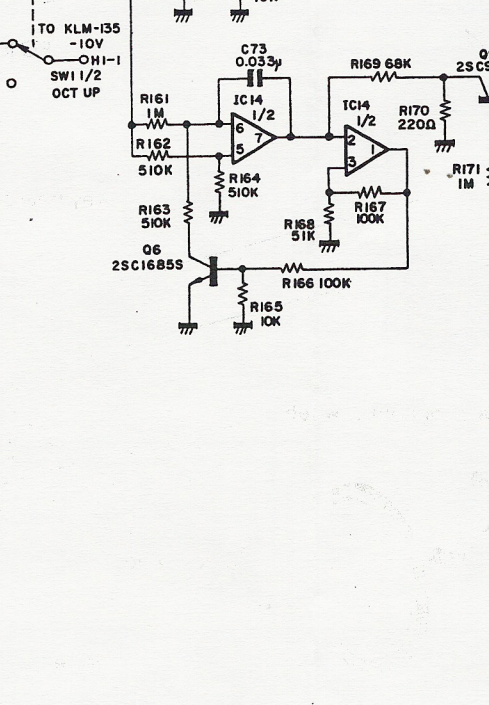
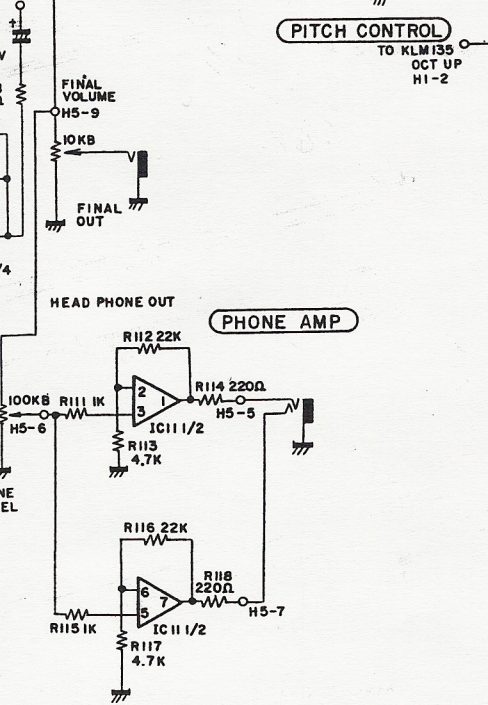
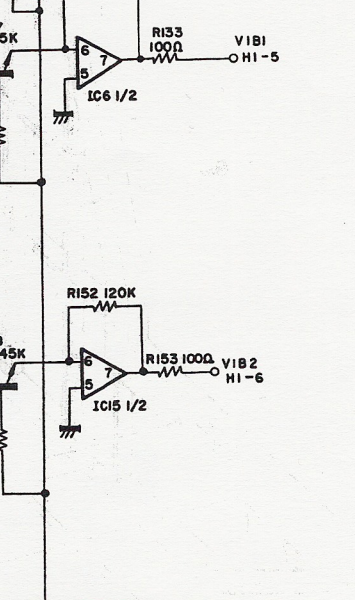
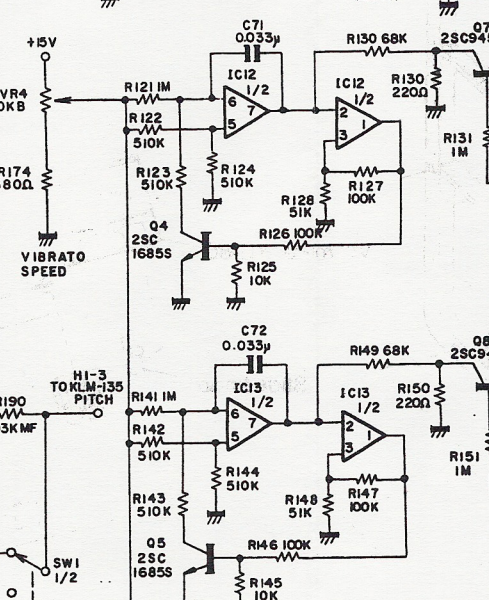
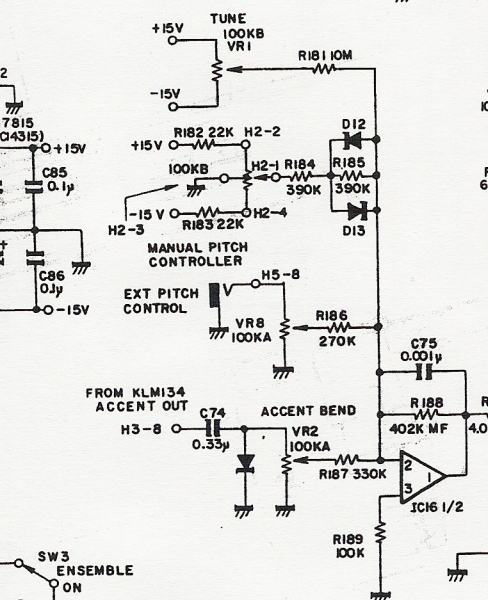
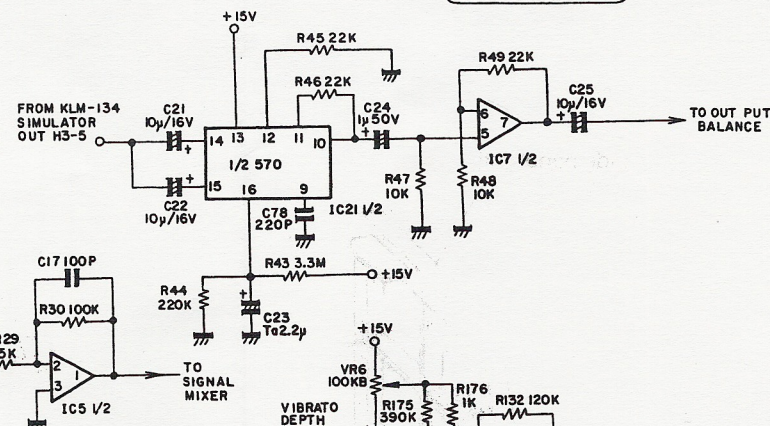
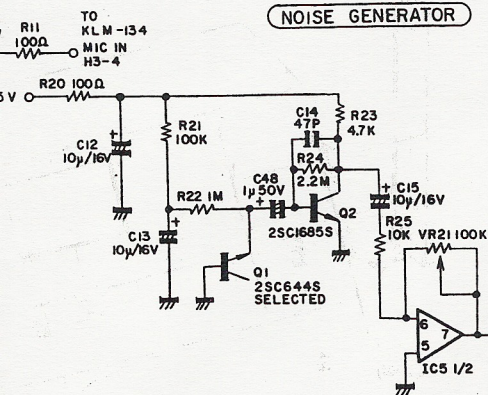


3. CIRCUIT DIAGRAM KLM-136

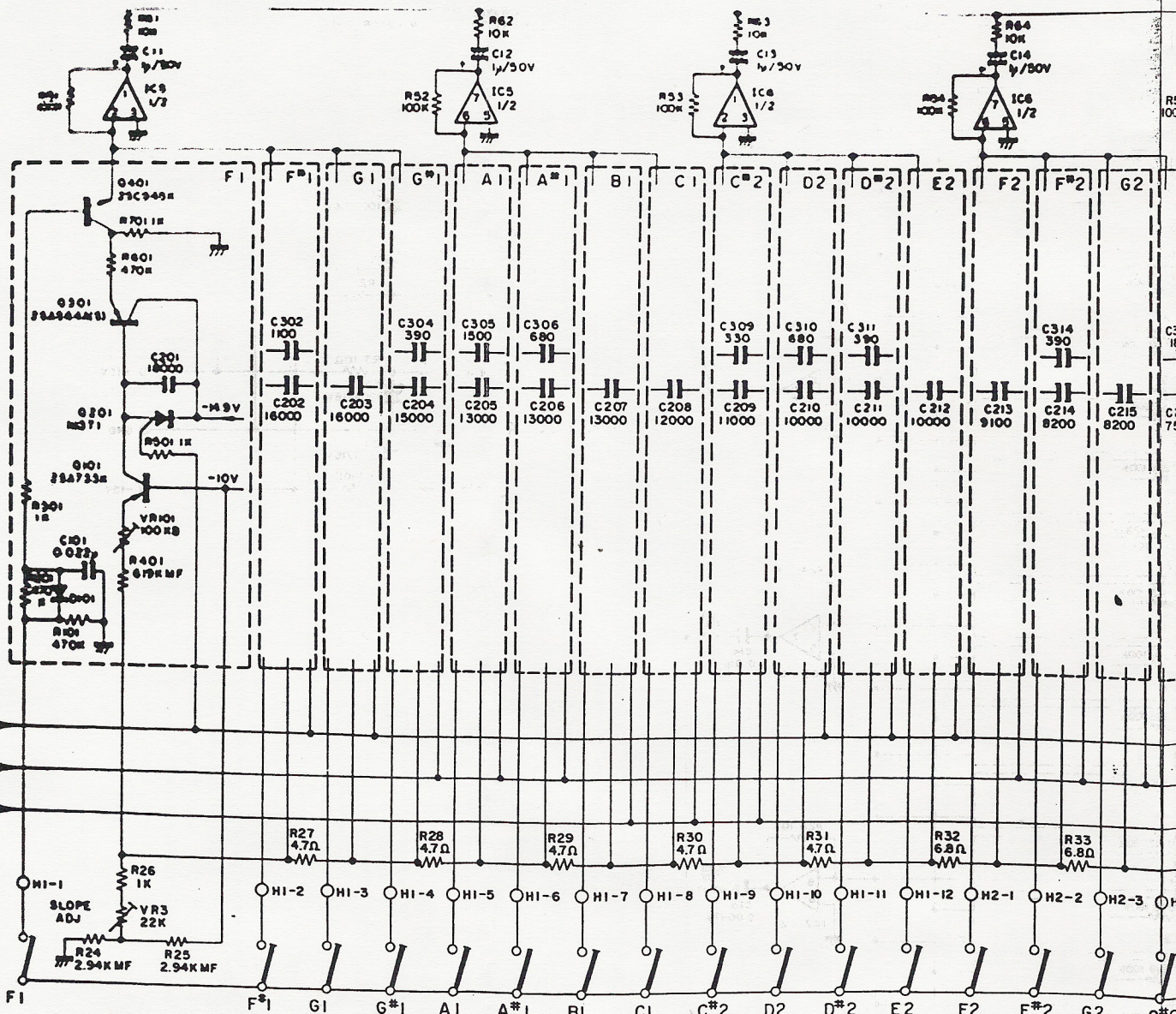
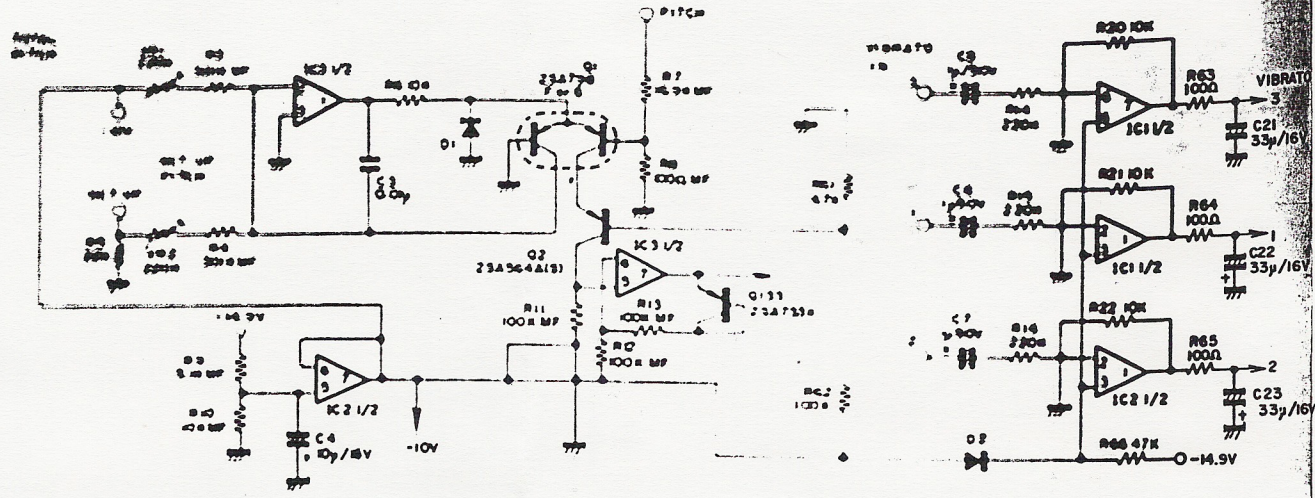


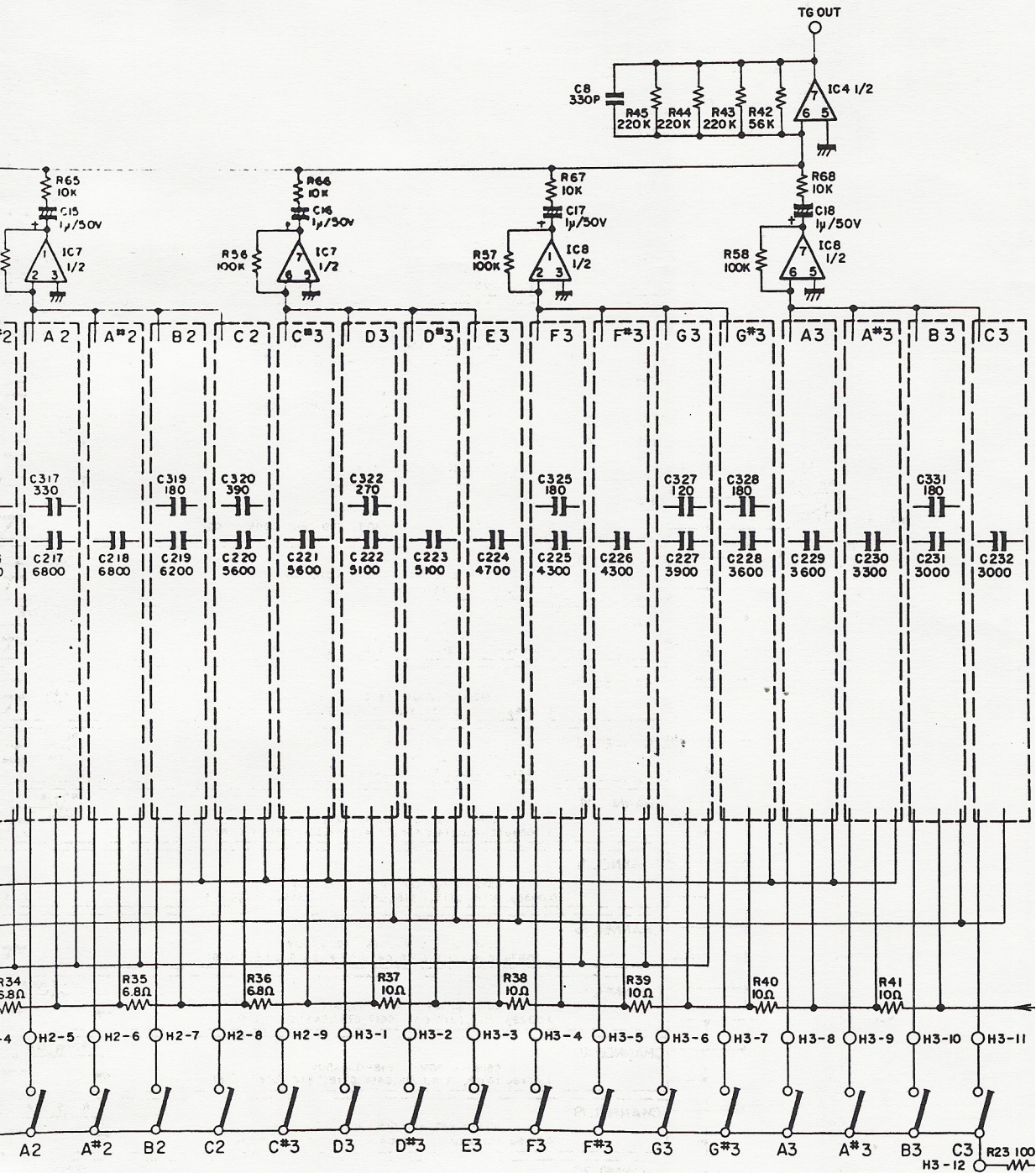
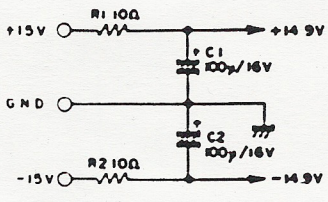
LEVEL EXPANDER

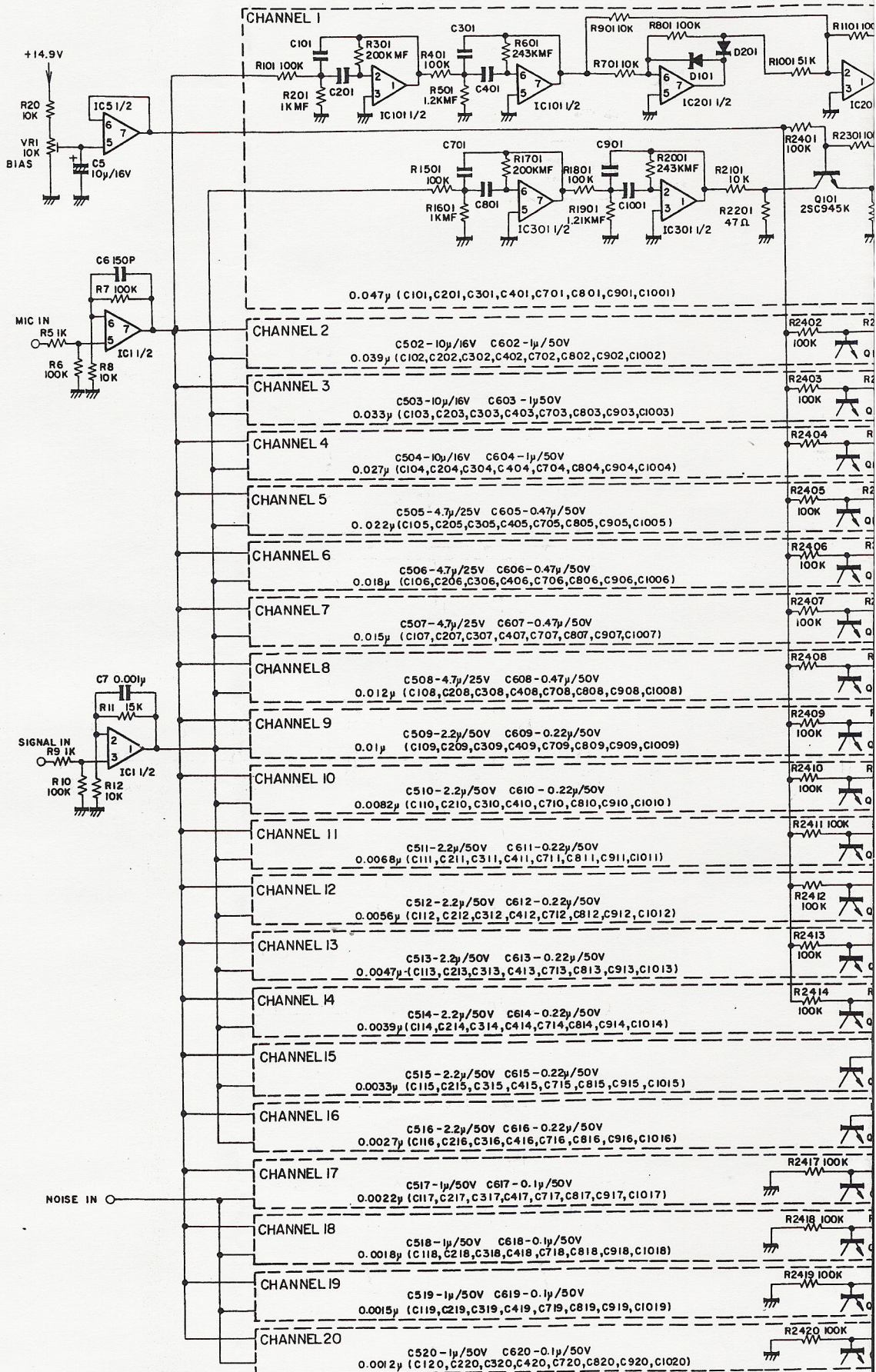
NOISE GENERATOR

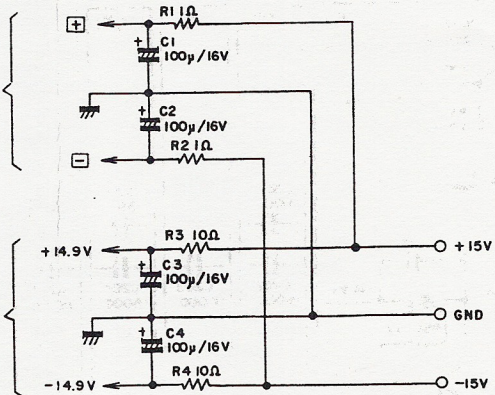
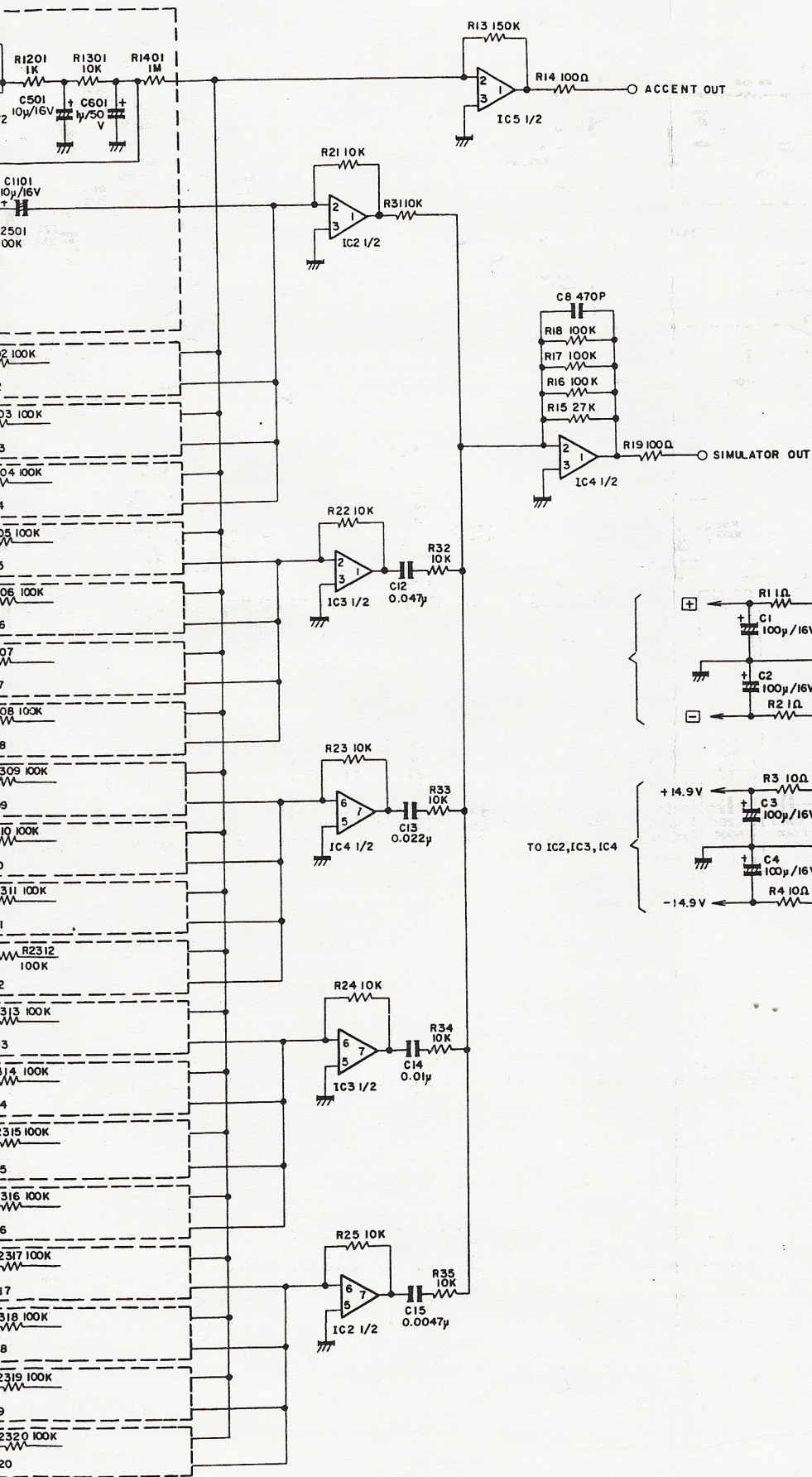


KLM-135

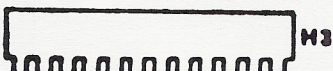
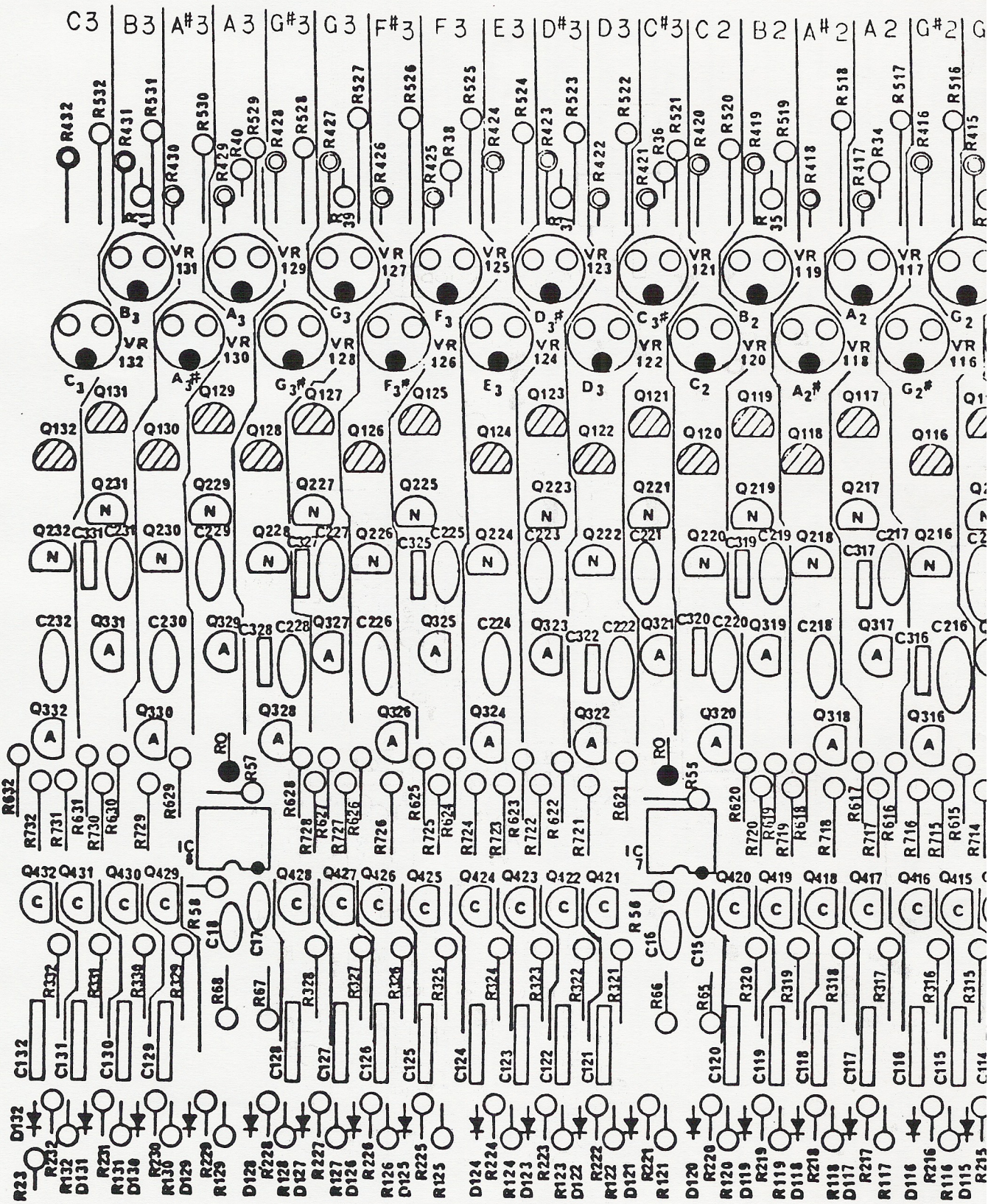


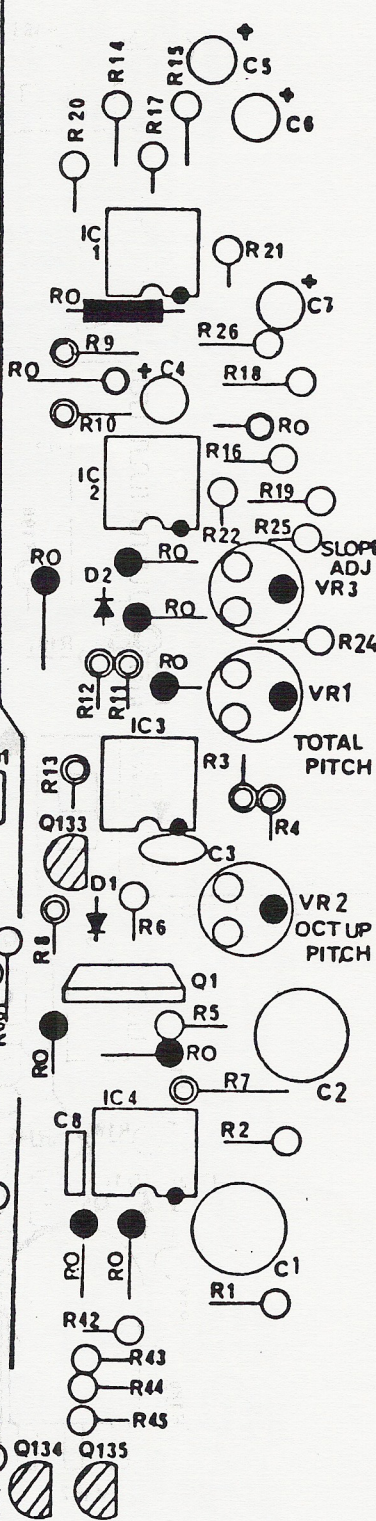
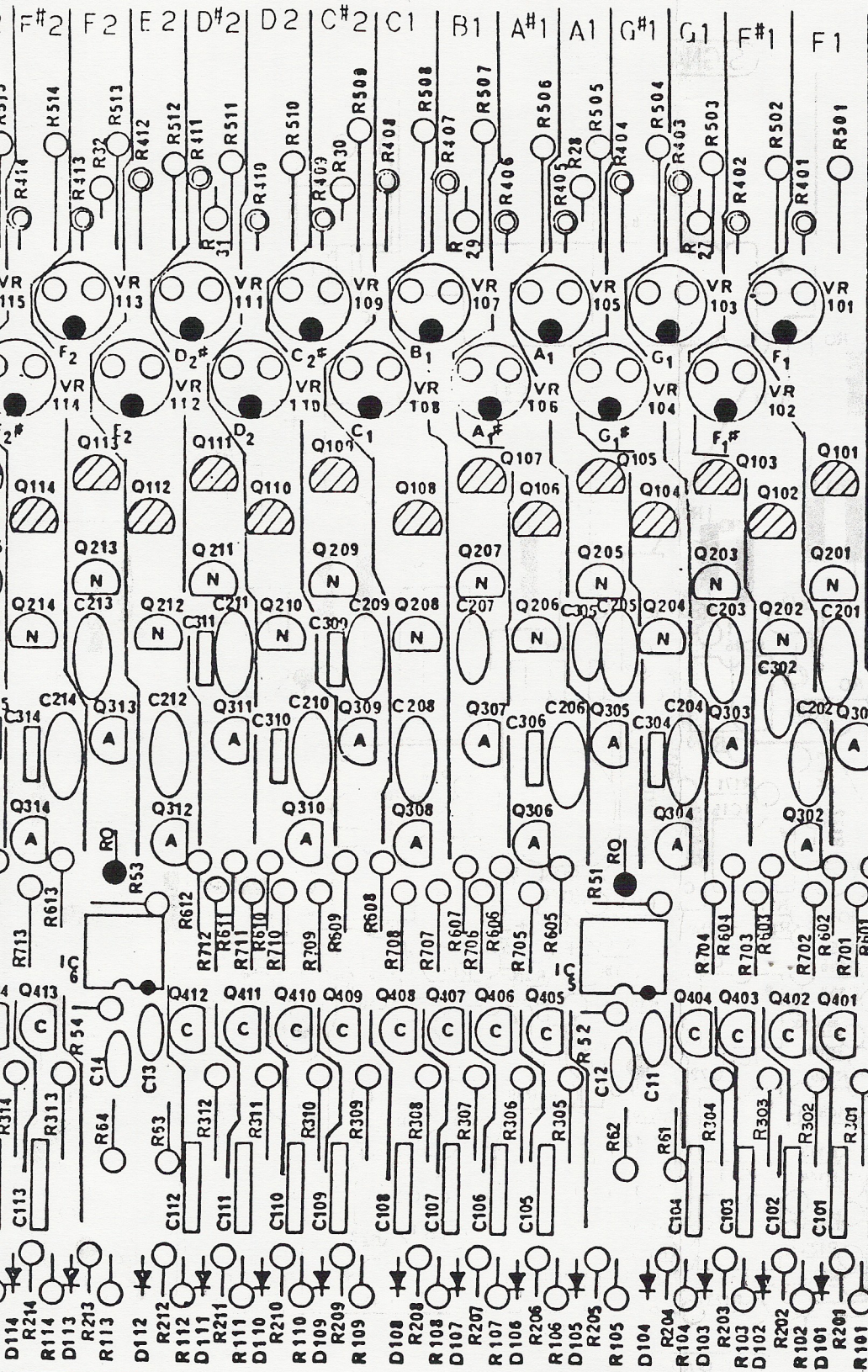




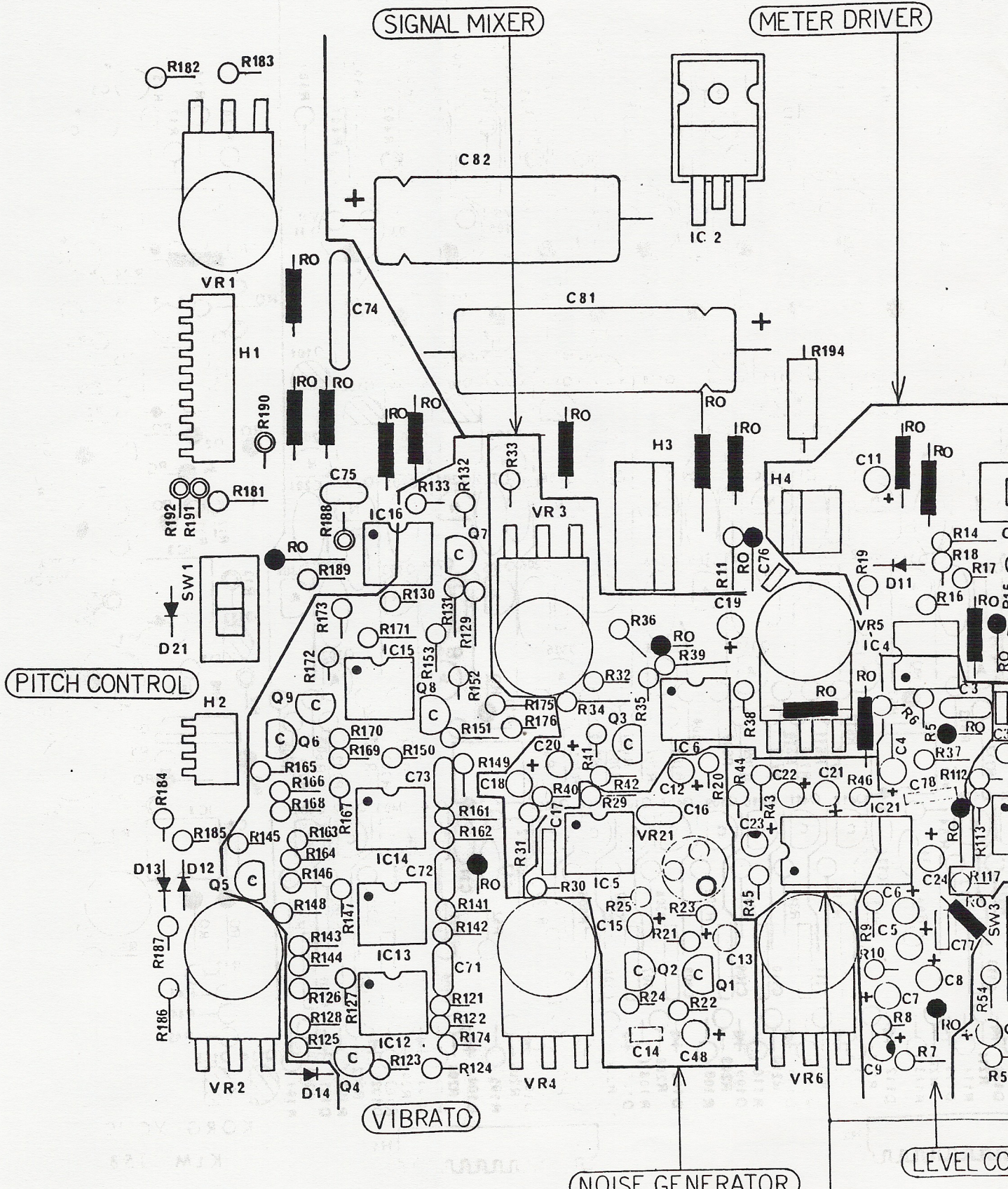


KLM-135





4. PC BOARD KLM-136



MIC AMP

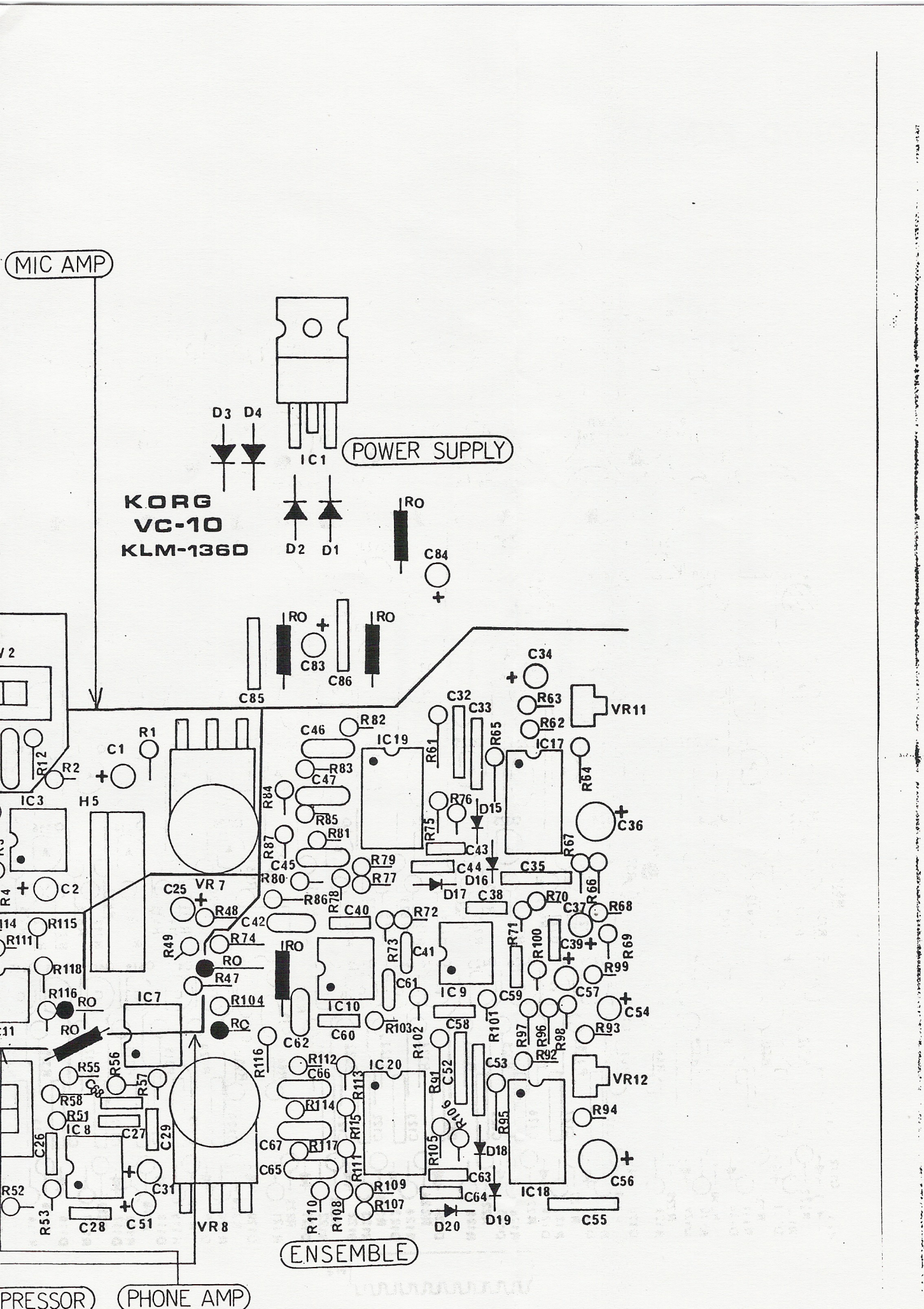
KORG
VC-10
KLM-1360

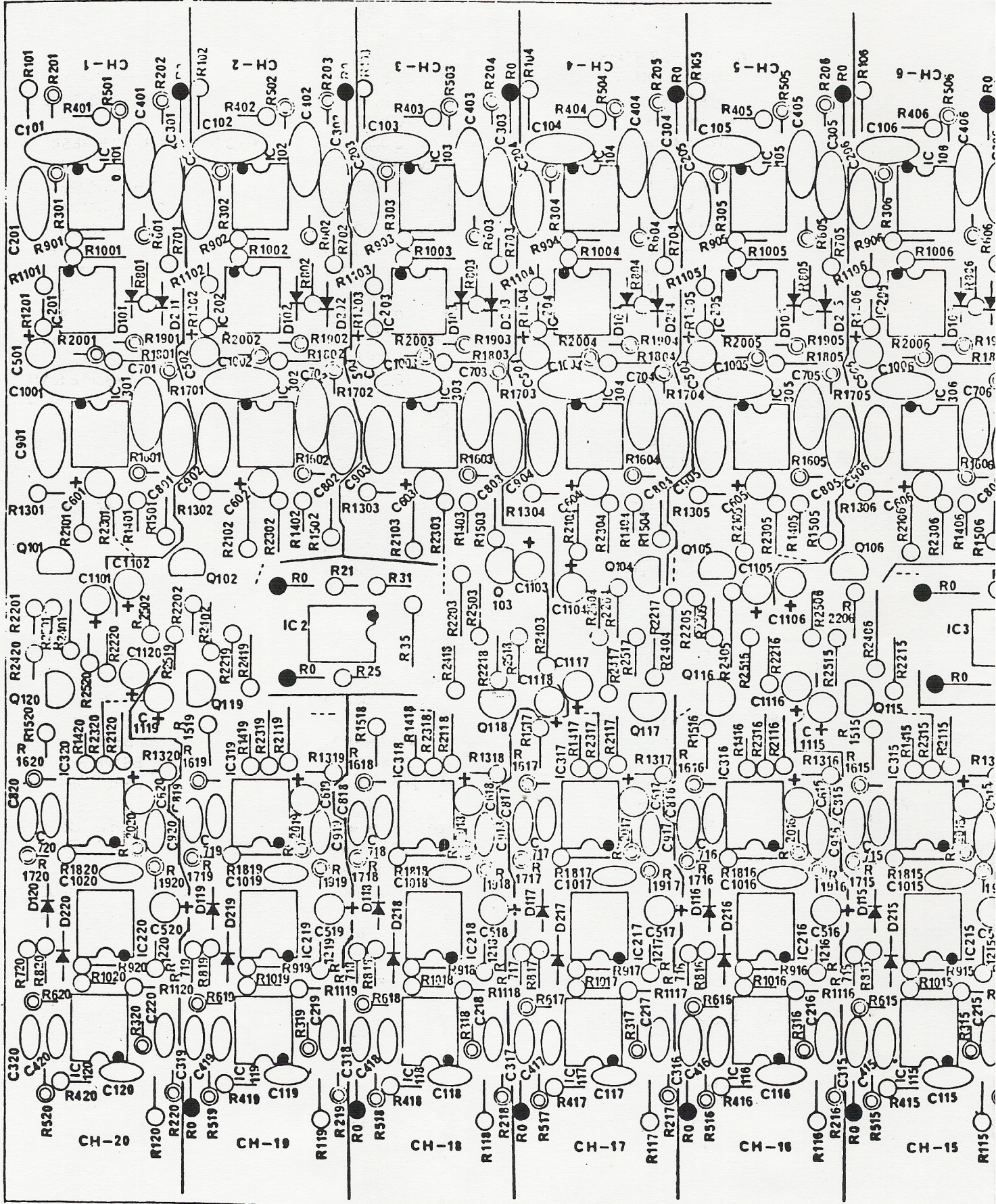
POWER SUPPLY

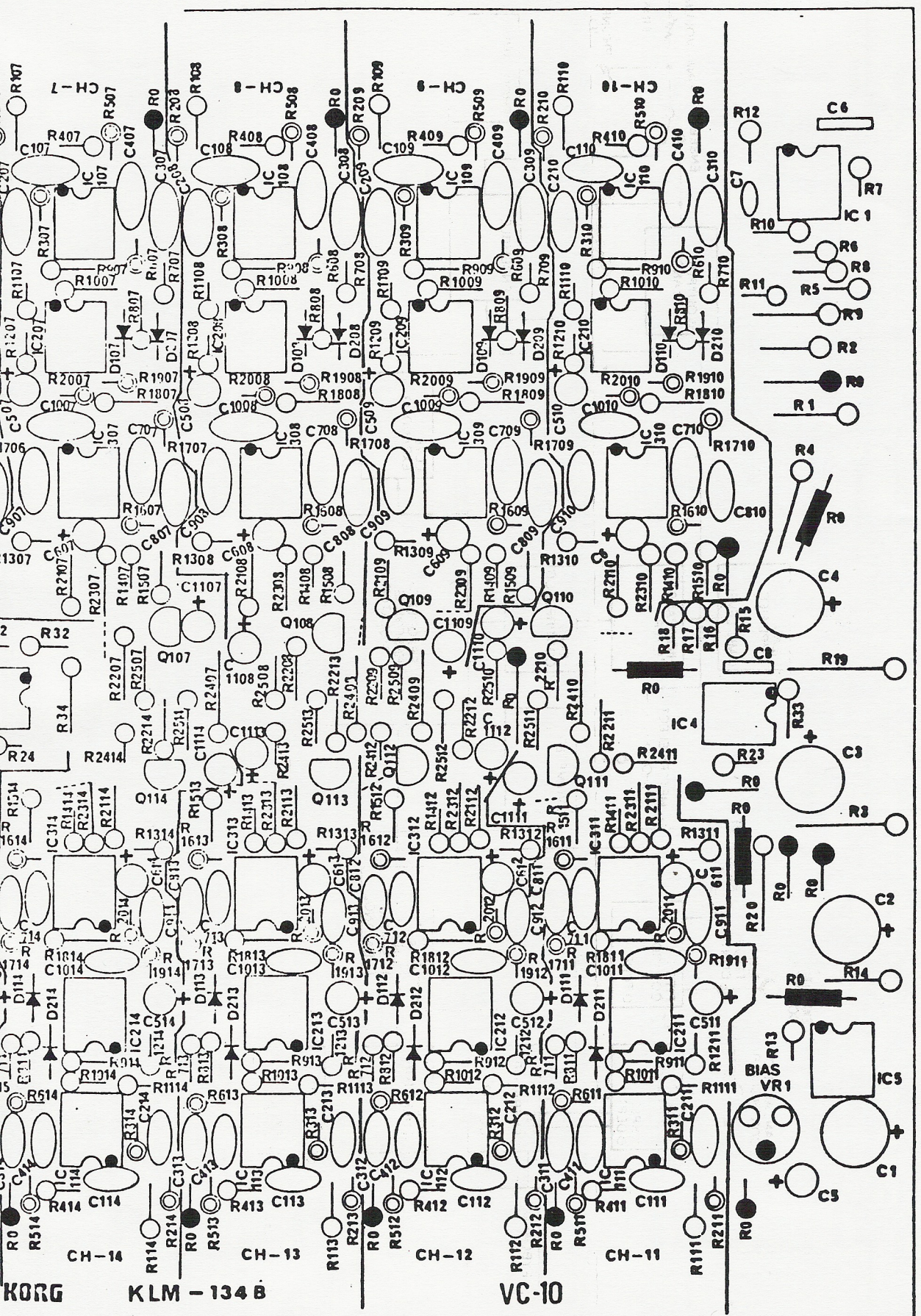
ENSEMBLE

PRESSOR

PHONE AMP





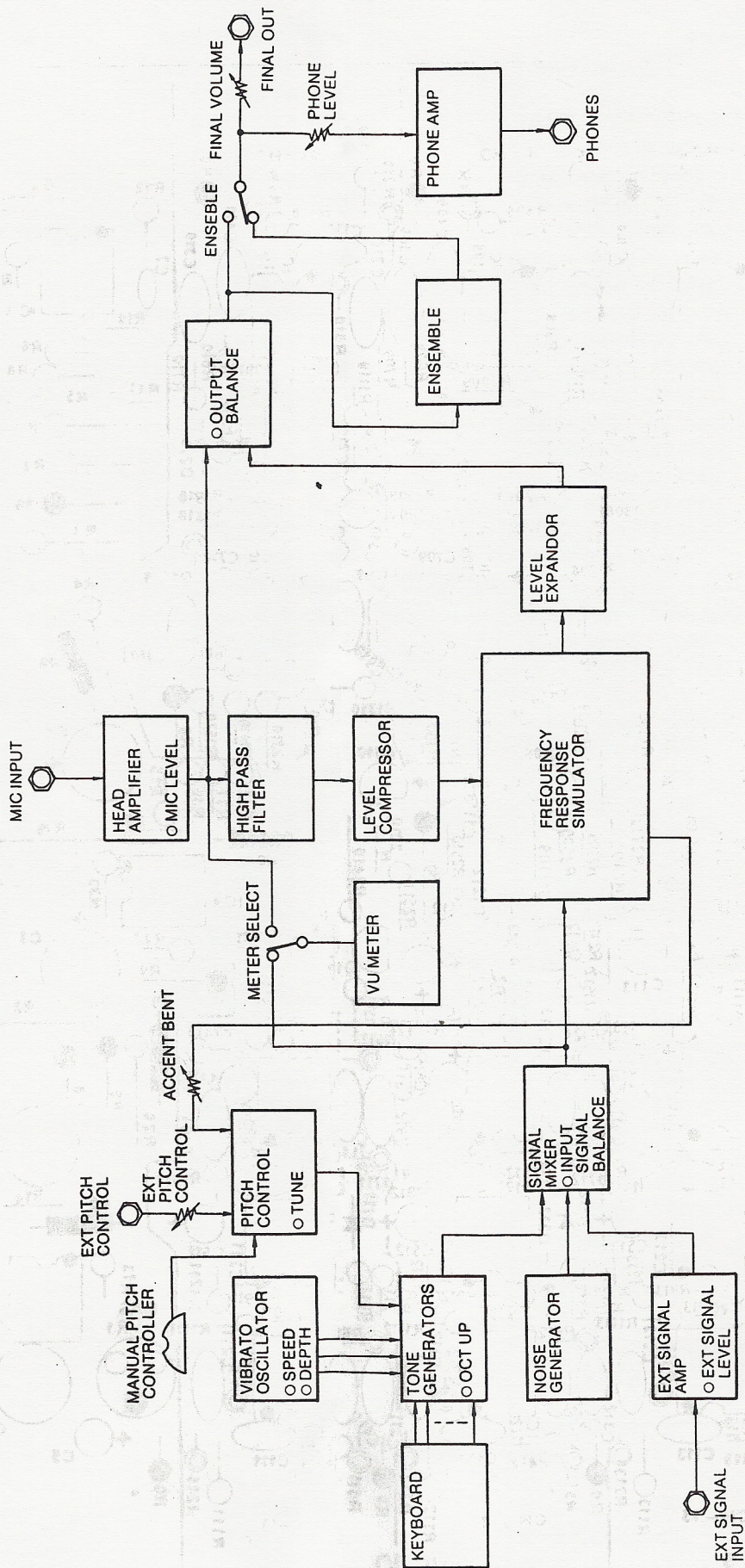


KORG

KLM - 134B

VC-10

5. BLOCK DIAGRAM



6. PARTS LIST

(Mechanical parts not listed)

●CARBON RESISTORS

not listed

●METAL FILM RESISTORS

- 1/4W 1% 100Ω x 1
- 1/4W 1% 1KΩ x 40
- 1/4W 1% 1.21KΩ x 40
- 1/4W 1% 4.03KΩ x 1
- 1/4W 1% 5.1KΩ x 1
- 1/4W 1% 10KΩ x 1
- 1/4W 1% 16.9KΩ x 1
- 1/4W 1% 29.4KΩ x 11
- 1/4W 1% 100KΩ x 3
- 1/4W 1% 162KΩ x 1
- 1/4W 1% 200KΩ x 40
- 1/4W 1% 243KΩ x 40
- 1/4W 1% 301KΩ x 1
- 1/4W 1% 402KΩ x 2
- 1/4W 1% 619KΩ x 32
- 1W 1% 330Ω x 32

●MYLAR CAPACITORS

- 50V - 0.001μF x 4
- 50V - 0.0022μF x 1
- 50V - 0.01μF x 1
- 50V - 0.022μF x 6
- 50V - 0.27μF x 4
- 50V - 0.33μF x 4
- 50V - 0.39μF x 1
- 50V - 0.47μF x 3
- 50V - 0.56μF x 1
- 50V - 0.68μF x 1
- 50V - 0.082μF x 1

●CERAMIC CAPACITORS

- 50V - 22pF x 1
- 50V - 47pF x 1
- 50V - 100pF x 6
- 50V - 120pF x 1
- 50V - 150pF x 1
- 50V - 180pF x 5
- 50V - 220pF x 7
- 50V - 270pF x 1
- 50V - 330pF x 3
- 50V - 390pF x 4
- 50V - 470pF x 7
- 50V - 680pF x 2

●TANTALUM CAPACITORS

- 16V 2.2μF x 2

●ELECTROLYTIC CAPACITORS

- 16V - 10μF x 64
- 16V - 100μF x 8
- 50V - 1.0μF x 29
- 25V - 2200μF x 2

●POLYPROPYLENE

CAPACITORS

- 100V - 0.0011μF x 1
- 100V - 0.0012μF x 8
- 100V - 0.0015μF x 9
- 100V - 0.0018μF x 8
- 100V - 0.0022μF x 8
- 100V - 0.0027μF x 8
- 100V - 0.0030μF x 2
- 100V - 0.0033μF x 9
- 100V - 0.0036μF x 2
- 100V - 0.0039μF x 9
- 100V - 0.0043μF x 2
- 100V - 0.0047μF x 9
- 100V - 0.0051μF x 2
- 100V - 0.0056μF x 10
- 100V - 0.0062μF x 1
- 100V - 0.0068μF x 10
- 100V - 0.0075μF x 1
- 100V - 0.0082μF x 10
- 100V - 0.0091μF x 1
- 100V - 0.0001μF x 11
- 100V - 0.0011μF x 1
- 100V - 0.012μF x 9
- 100V - 0.013μF x 3
- 100V - 0.015μF x 9
- 100V - 0.016μF x 2
- 100V - 0.018μF x 9
- 100V - 0.022μF x 8
- 100V - 0.027μF x 8
- 100V - 0.033μF x 8
- 100V - 0.039μF x 8
- 100V - 0.047μF x 8
- 100V - 0.33μF x 1

●TRANSISTORS

- 2SA-798G x 1
- 2SA-564AS x 32
- 2SC-1685S x 5
- (special selected)
- 2SA-733K x 35
- 2SC-945LK x 55
- 2SC-644R x 1

●DIODES

- 1S-1555 x 85
- 1S-1885 x 4

●IC

- N13T-1 x 32
- MN-3004 x 2
- μPC-4558 x 87
- μPC-14315 x 1
- μA-7915 x 1
- MC-14069 x 2
- NE-570 x 1

●SEMI-FIXED RESISTORS

- SR29R 4.7KΩB x 2
- SR19R 100KΩB x 33
- SR19R 100KΩB x 1
- SR19R 47KΩB x 1
- SR19R 220KΩB x 2

●ROTARY VARIABLE RESISTORS

- EVH-5LA802B15 x 4
 - EVH-5LA802B14 x 1
 - EVH-5LA802A15 x 2
 - EVH-5LA802B16 x 1
 - EVC-BQ5P18B14 x 1
 - EVH-OFA-803B14 x 1
 - EVH-OFA-803B15 x 1
 - EVH-RTAP20B15 x 1
- (Center click-stop)

●SLIDE SWITCH

- SSB-12208 x 3

●KEY

- F-c 32 key

●PHONE JACK

- 2P (RC-707) x 3
- 3P (ST) x 1

●FUSE

- 250V-0.1A x 1

●CONNECTORS

- BE4P-SHF-1 x 1
- BE8P-SHF-1 x 1
- BE11P-SHF-1 x 1
- BS9P-SHF-1 x 1
- BS12P-SHF-1 x 2
- BS10P-SHF-1 x 1
- BS4P-SHF-1 x 1

Female Connectors

- MLR-3 RRC-1 x 1
- 4PVC-1001 x 1
- 4PVC-1002 x 1
- 8PVC-1003 x 1

9P x 1

10P x 1

11P x 1

12P x 1

- MLP-03 TRC-220 x 1

7. CHECK AND ADJUSTMENT

(refer to figures 1 and 2)

*Setup for testing.

- Connect VC-10 FINAL OUT to WT-10 (Korg Tuning Standard) input jack.
- Connect microphone (audio signal) to VC-10 MIC INPUT.

7-1 TOTAL PITCH Adjustment.

- Set TUNE knob to center.
- Set OCTAVE switch to down position.
- Play A-2 (on keyboard) and adjust VR1 so that the WT-10A indicates the correct pitch.
- Adjust each of the trimmer screws from F-1 to C-3 to the correct pitch as indicated on the WT-10 A meter.

7-2 OCT UP PITCH Adjustment.

- Set OCTAVE switch to UP position.
- Play F-3 (on keyboard) and adjust trimmer screw VR-2 as necessary, so that the pitch is one octave higher than before.

7-3 SLOPE ADJUST Adjustment.

- Play F-1 and adjust VR-3 so that the pitch is one octave higher than before.
(Repeat adjustments 7-2 and 7-3 as many times as needed, so that all keys stay in tune at both OCTAVE switch positions.)

7-4 BIAS Adjustment.

- Disconnect microphone from MIC INPUT.
- Disconnect WT-10A, and connect FINAL OUT to amplifier.
- Play each of the keys on the keyboard and adjust VR-4 just as much as necessary so that no sound will be produced. Do not turn VR-4 further (clockwise) than the point where the sound first stops. If turned too far, sensitivity to a microphone input signal will be too low.

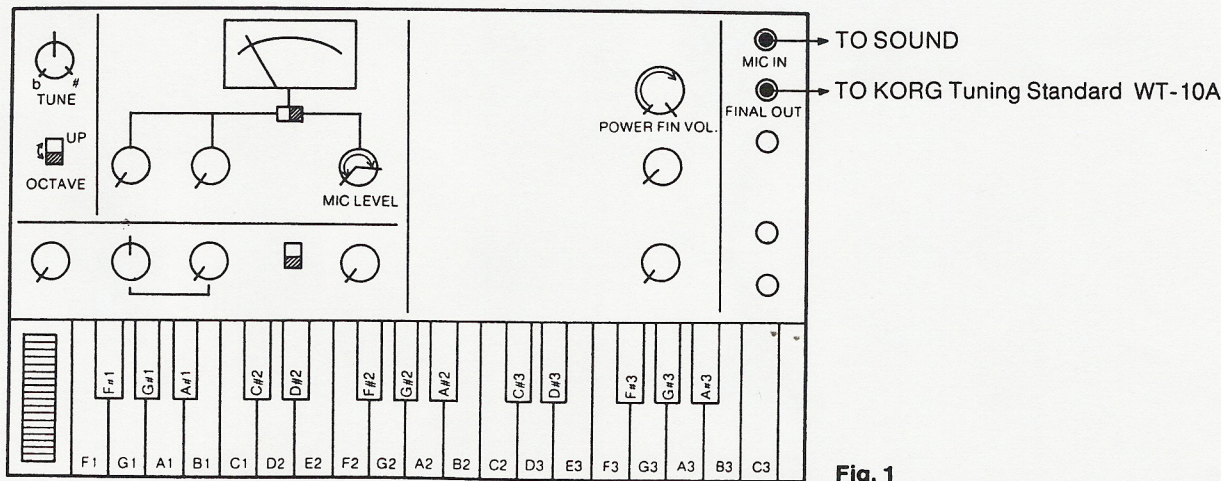


Fig. 1

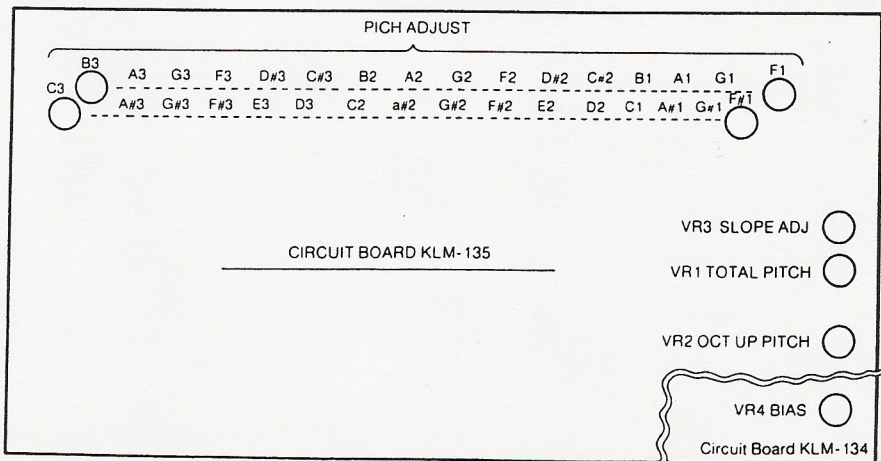


Fig. 2

Circuit Board KLM-134