



SERVICE MANUAL VOCODER VC-10

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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 ($\pm \frac{1}{2}$ 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

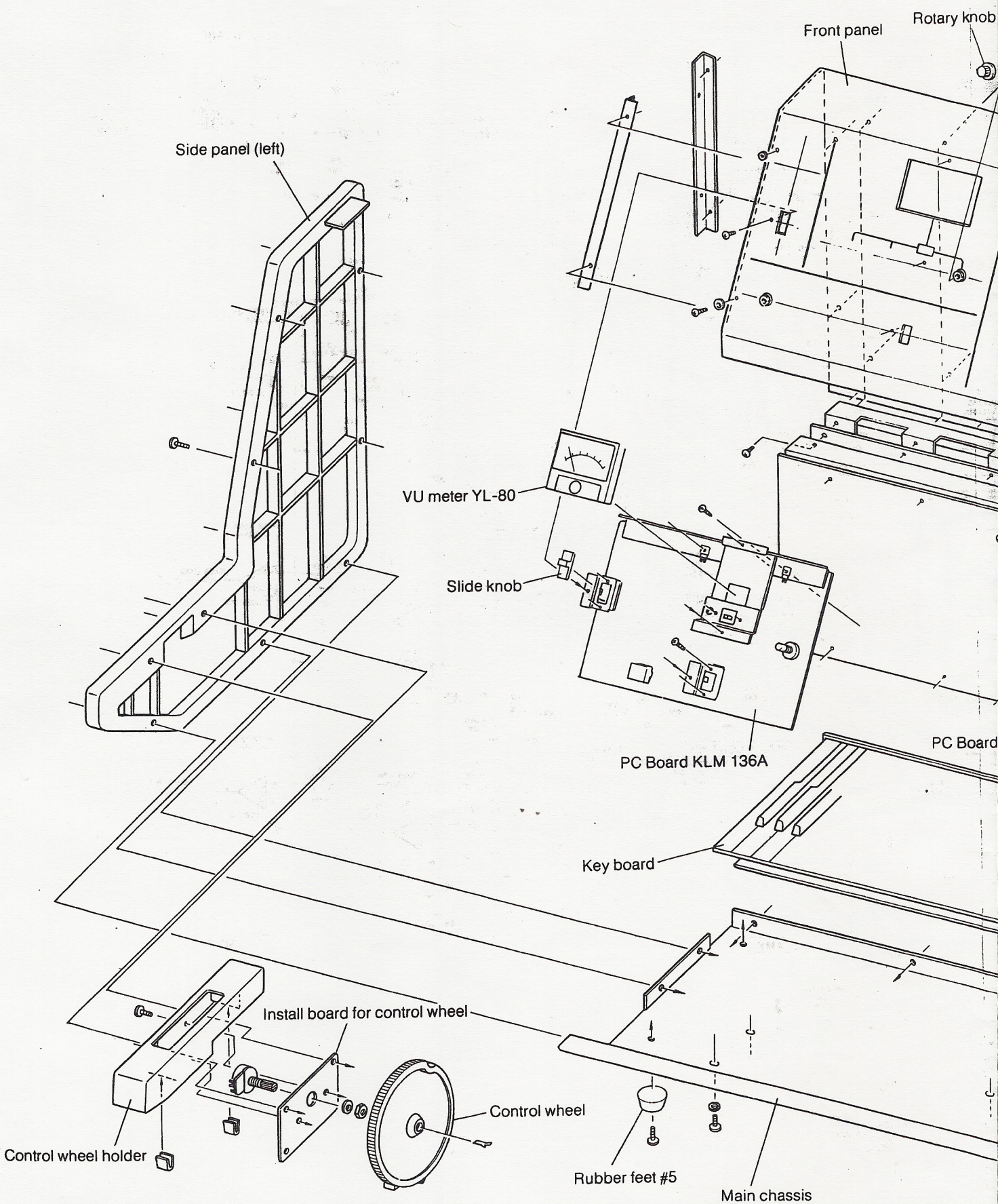
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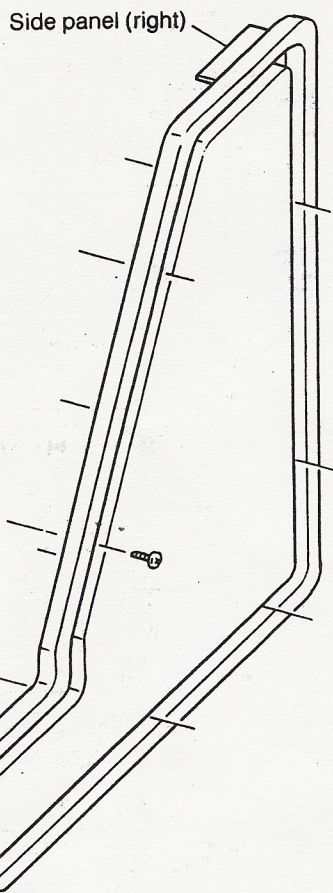
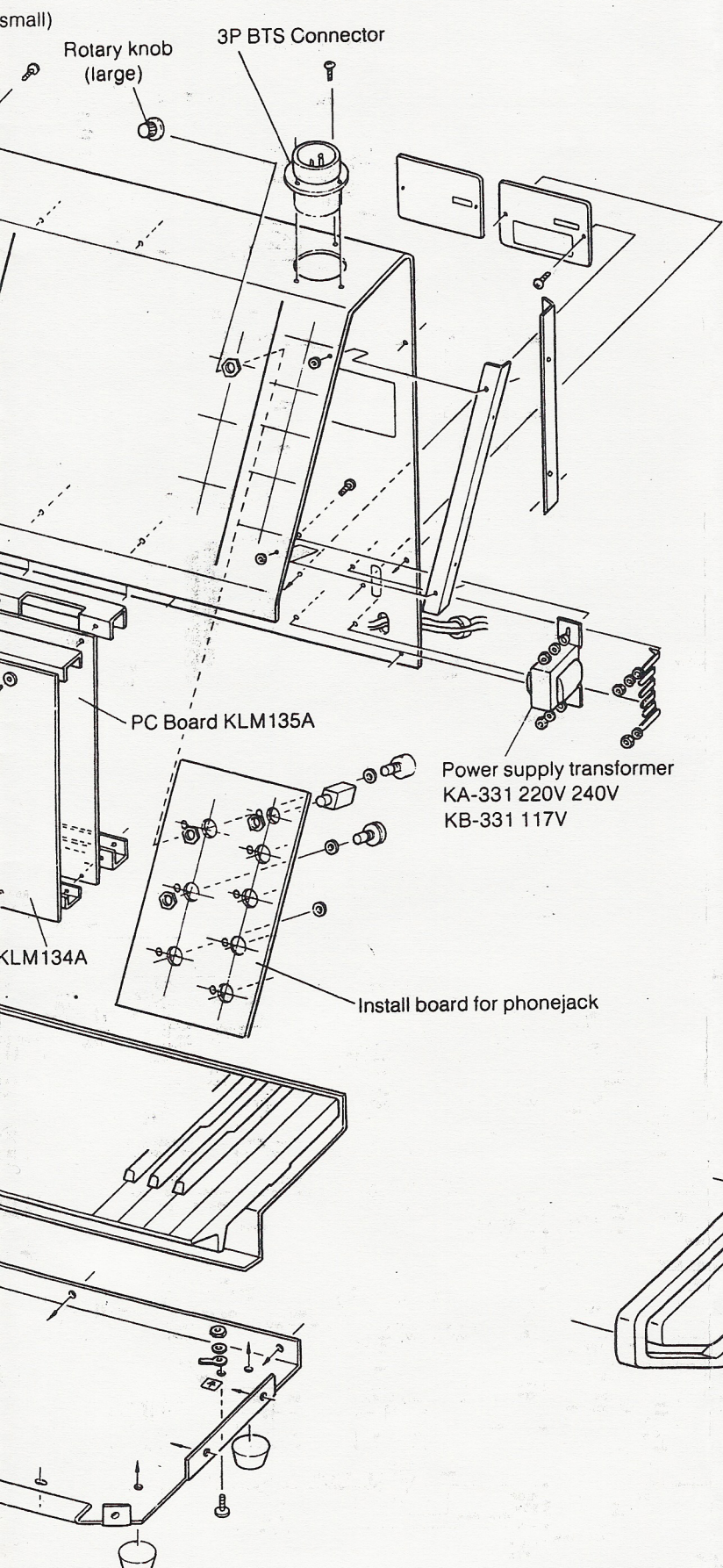
1. Mike inputs
 - BTS connector input
 - 2P phone jack input
2. Signal inputs
 - Signal input 3V p-p MAX
 - Pitch control input (1/3-oct/volt)
-3V ~ 3V

< Outputs >

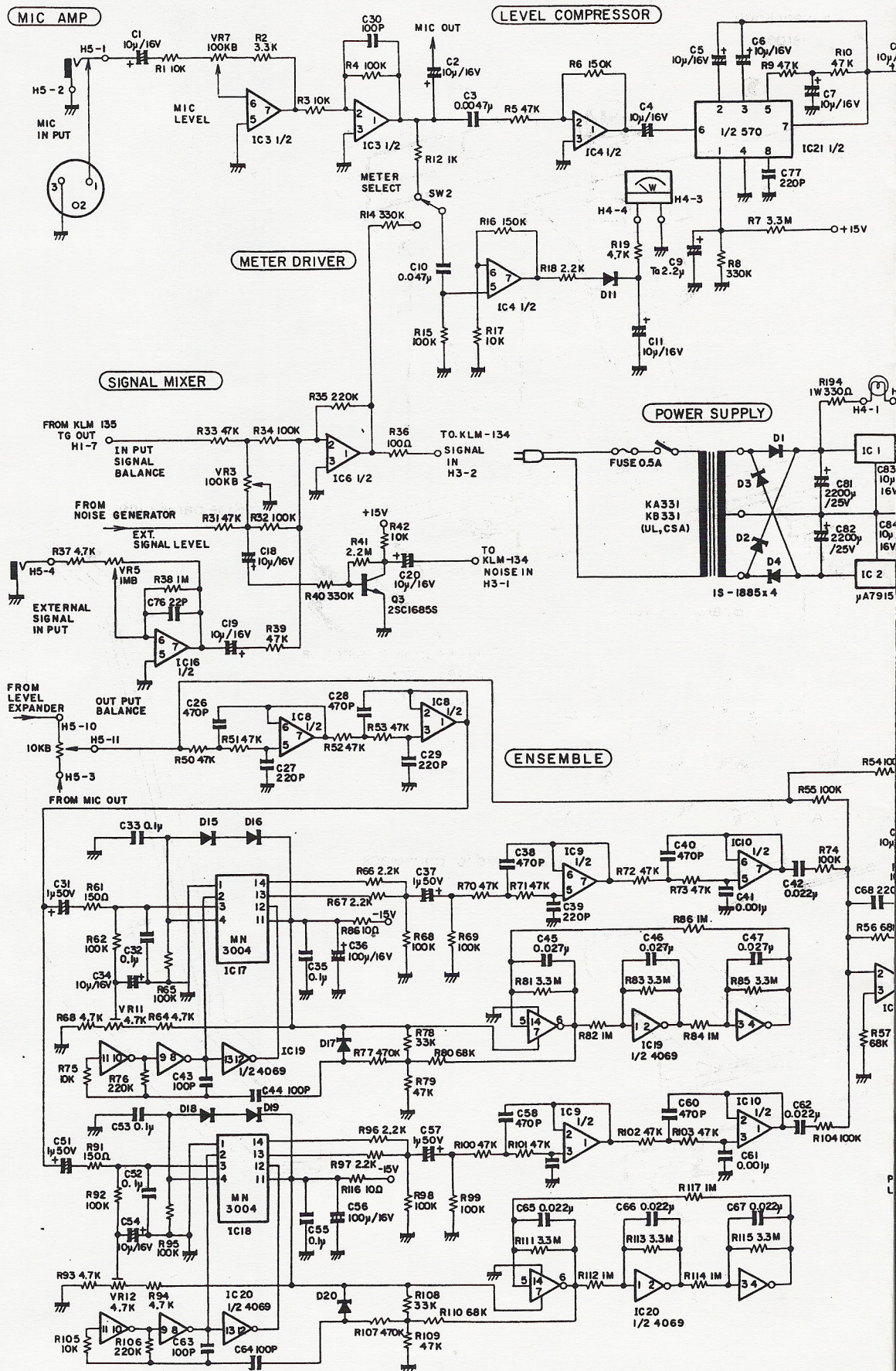
1. Final
 - Final out -10dB (output impedance 3K Ω)
 2. Headphone
 - Headphone out 8 Ω 120mW
- Power consumption 25W
Dimensions 499(W) x 309(D) x 249(H) mm
Weight 7kg

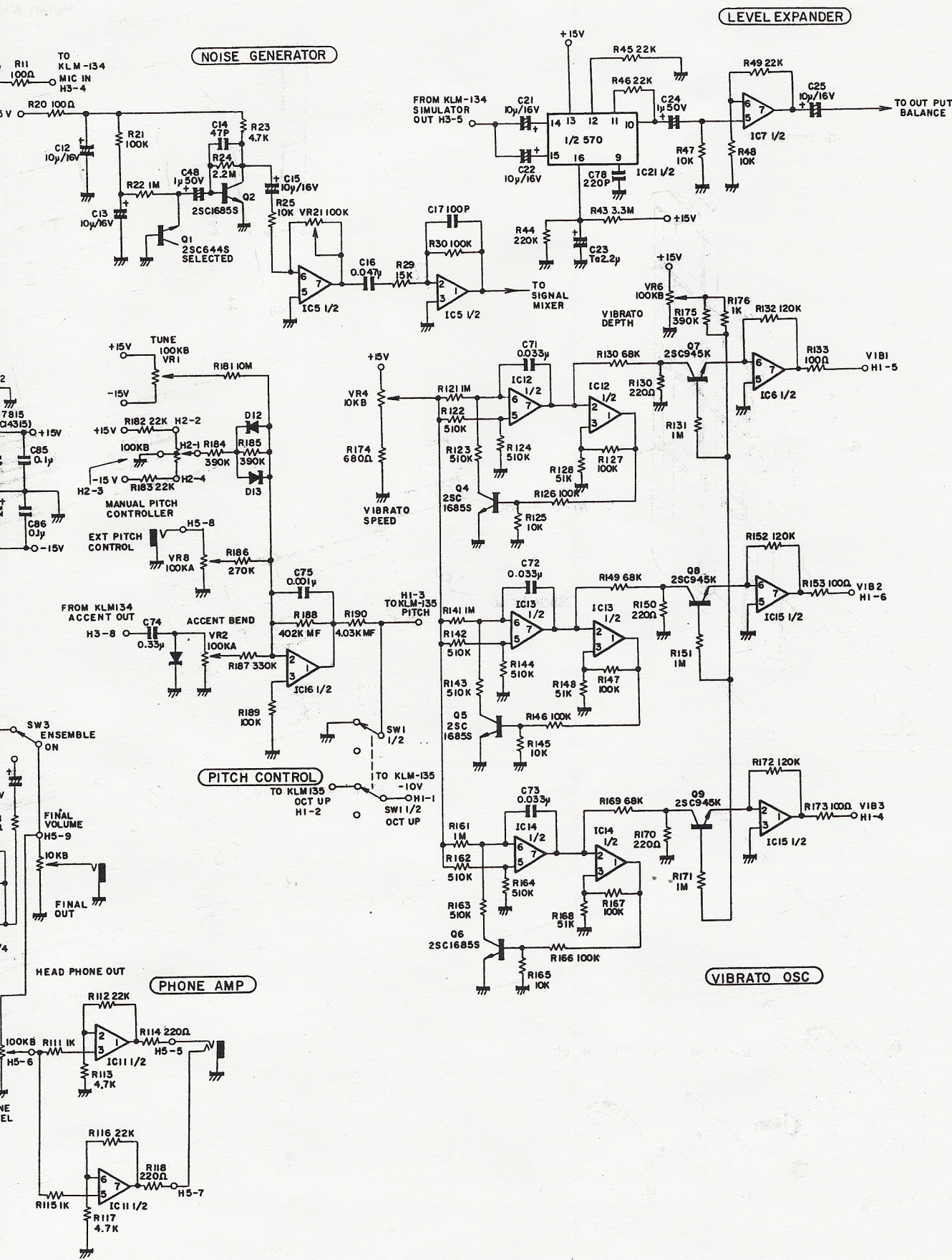
2. STRUCTURAL DIAGRAM



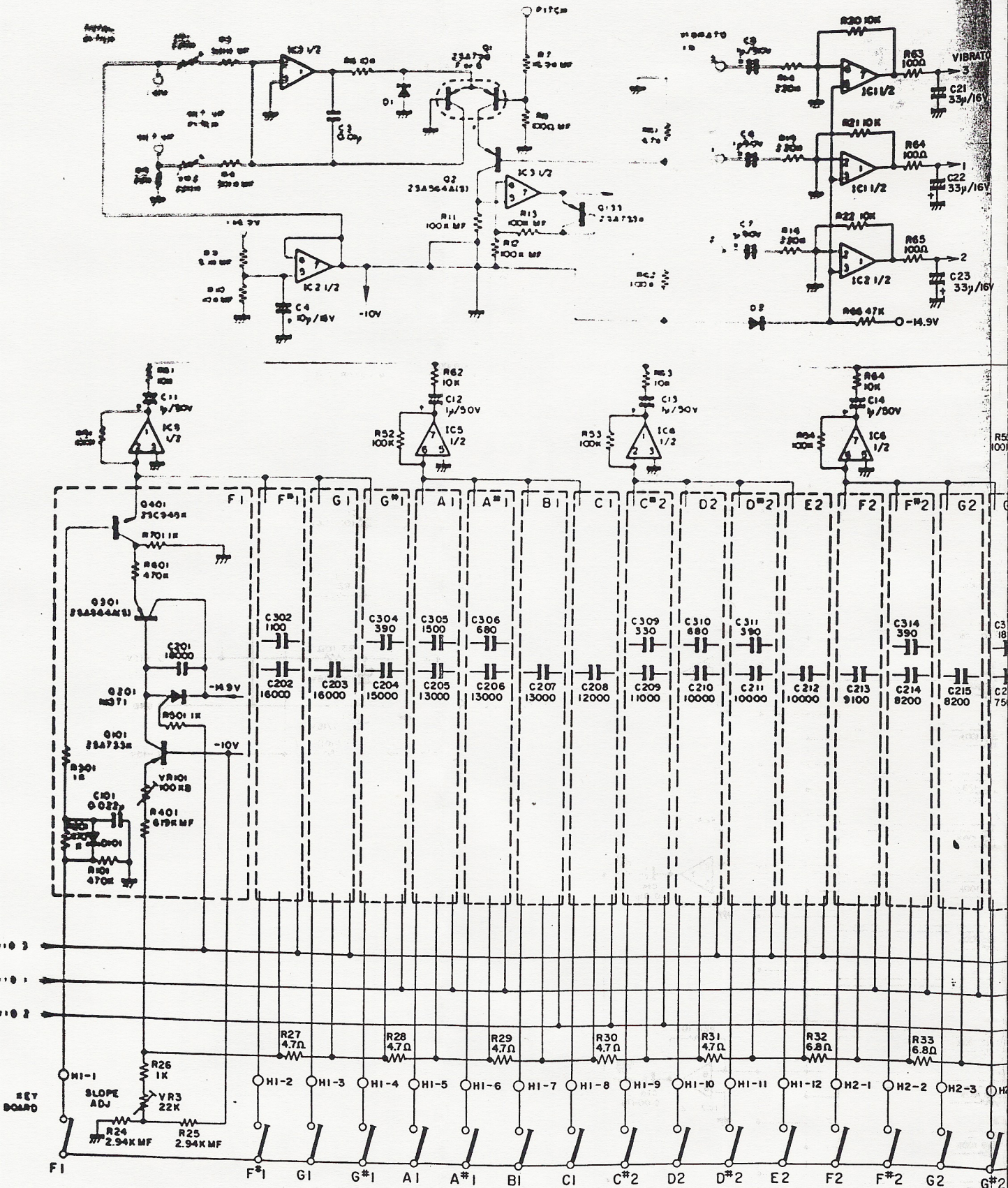


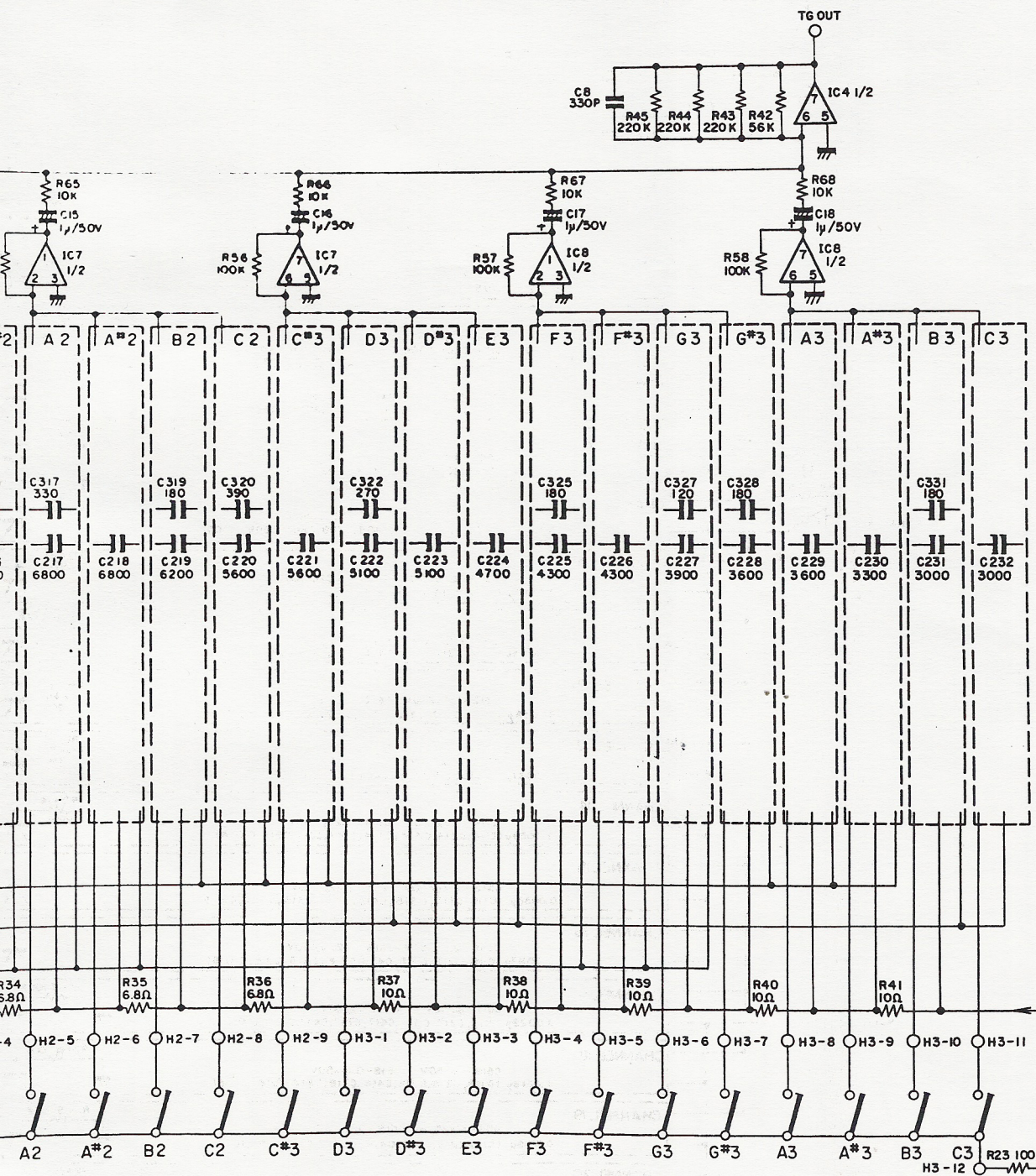
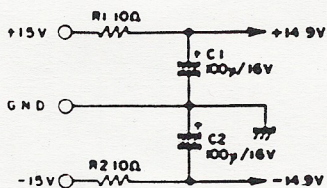
3. CIRCUIT DIAGRAM KLM-136

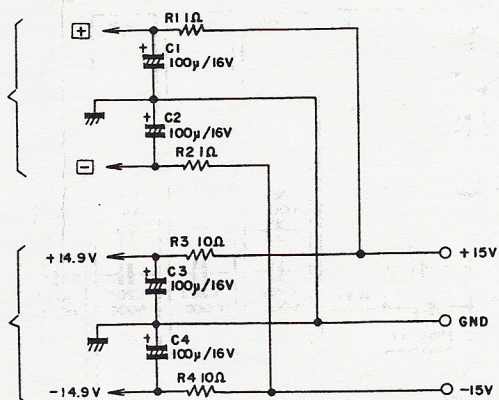
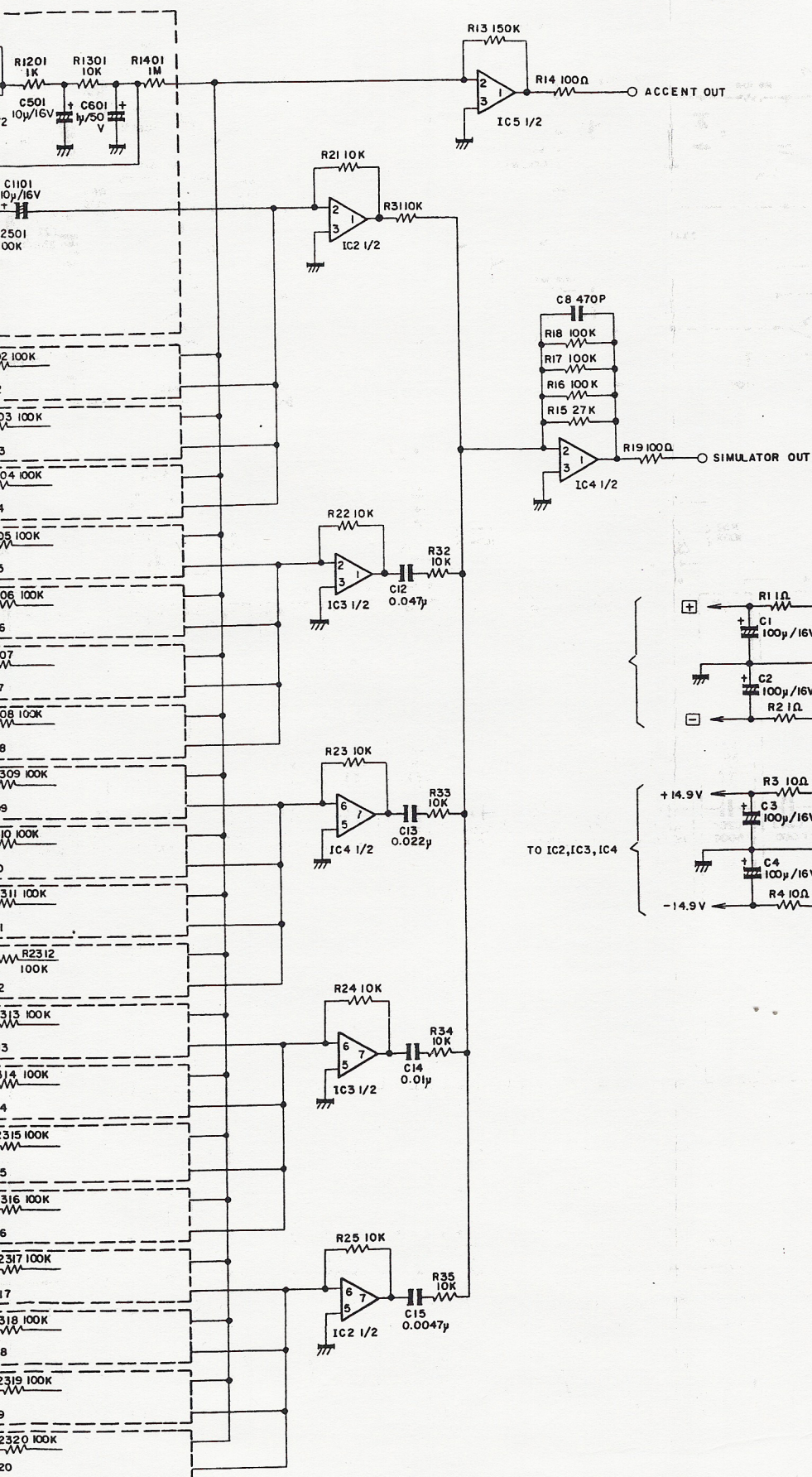


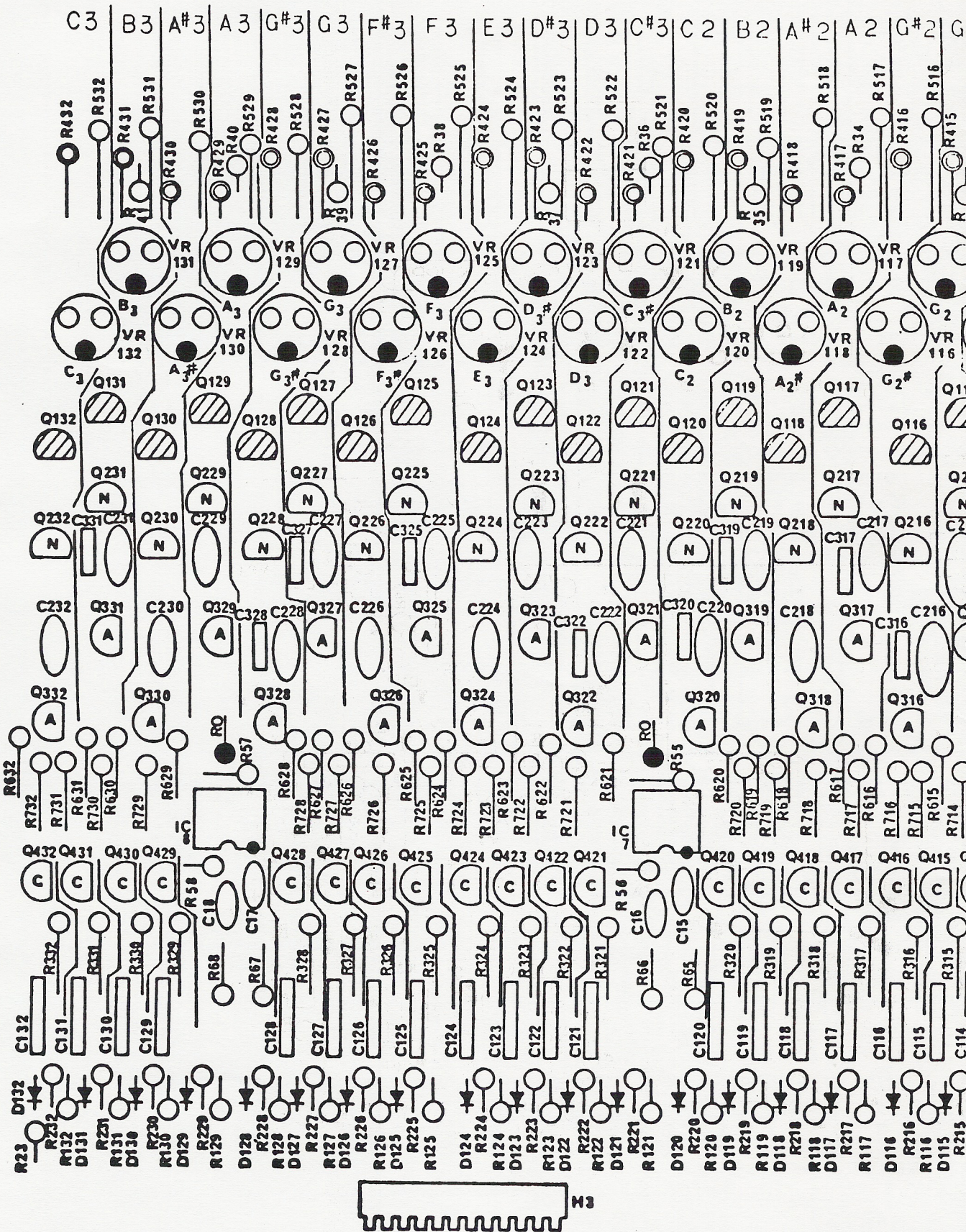


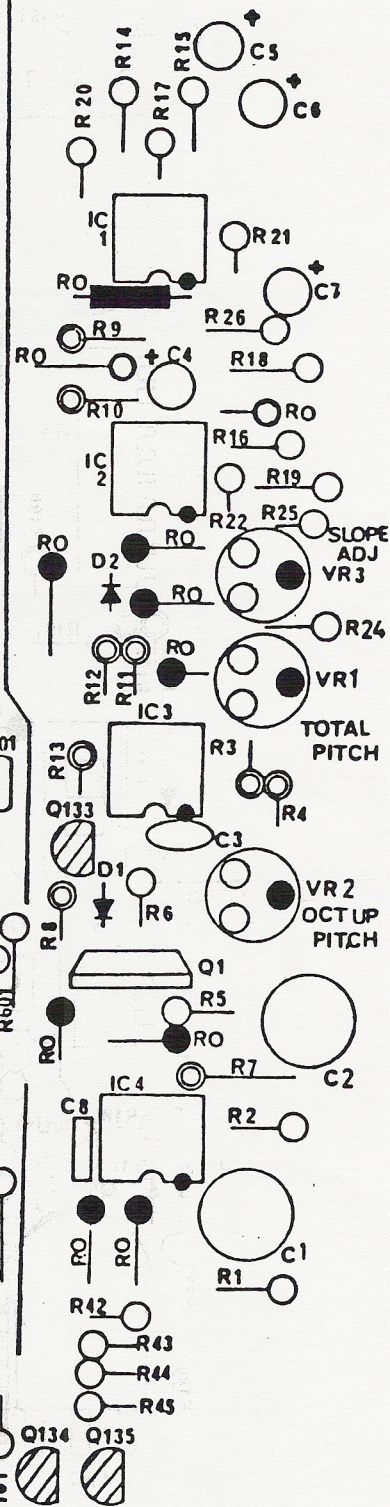
KLM-135





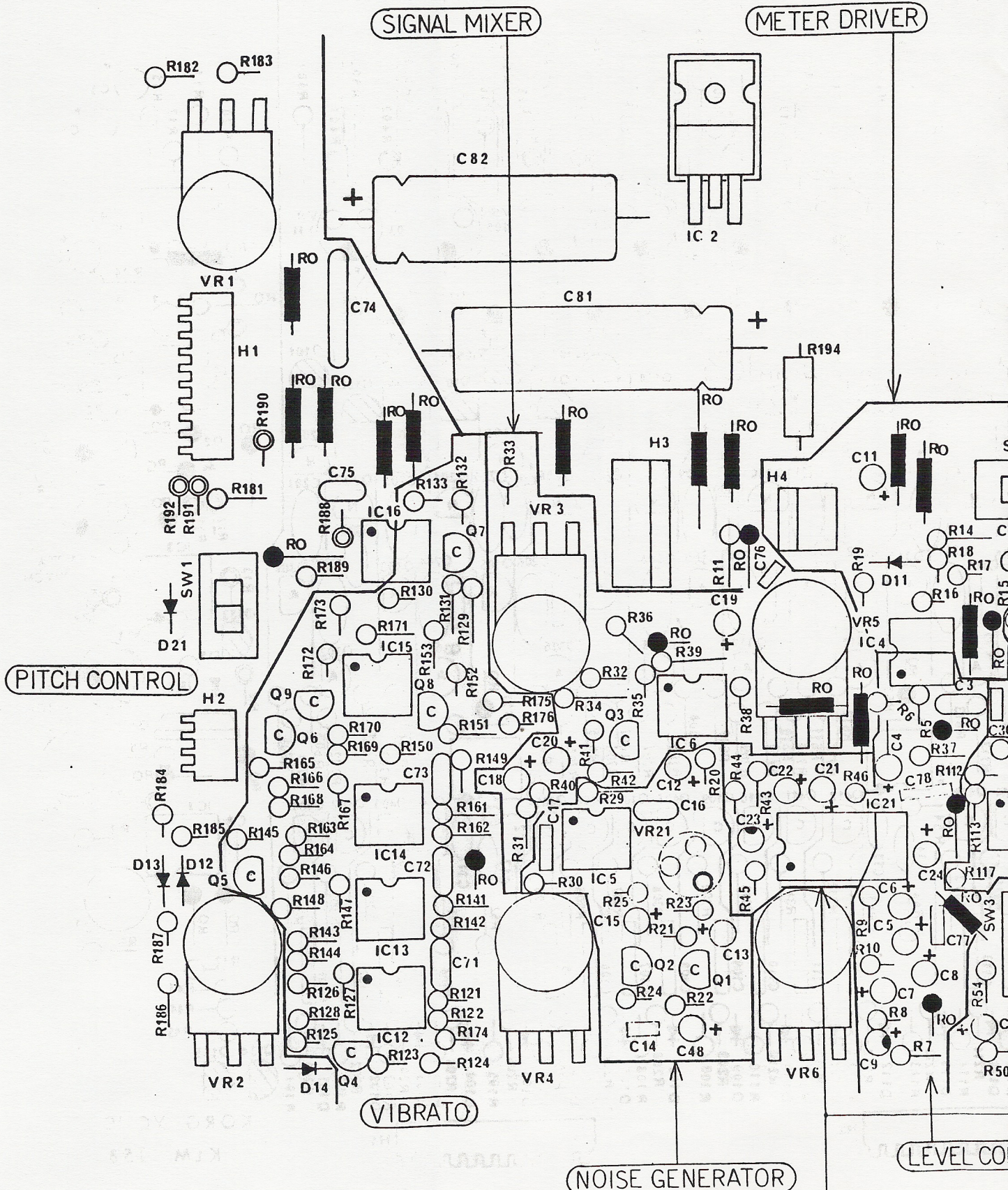






KLM-1358

4. PC BOARD KLM-136



MIC AMP

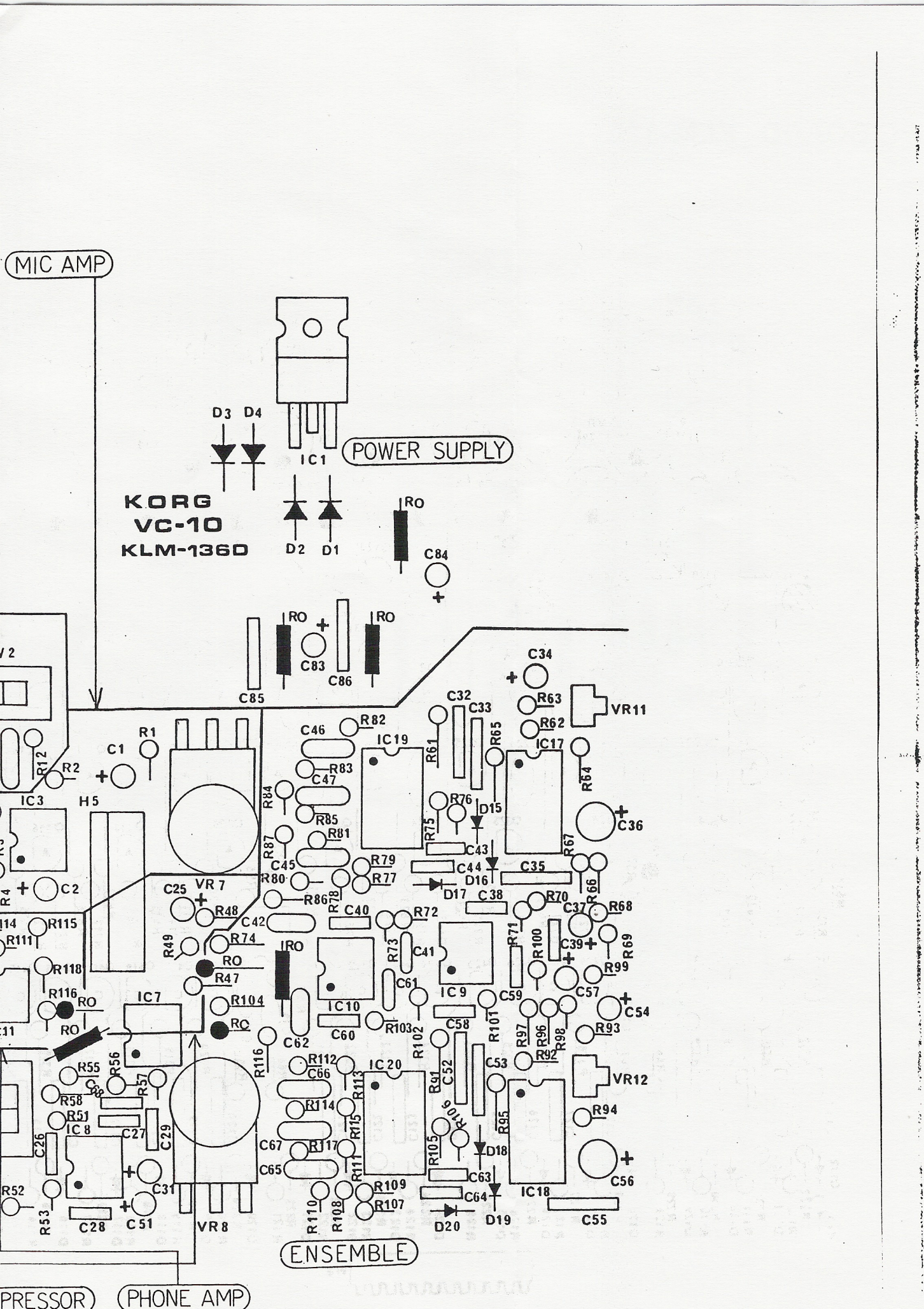
KORG
VC-10
KLM-1360

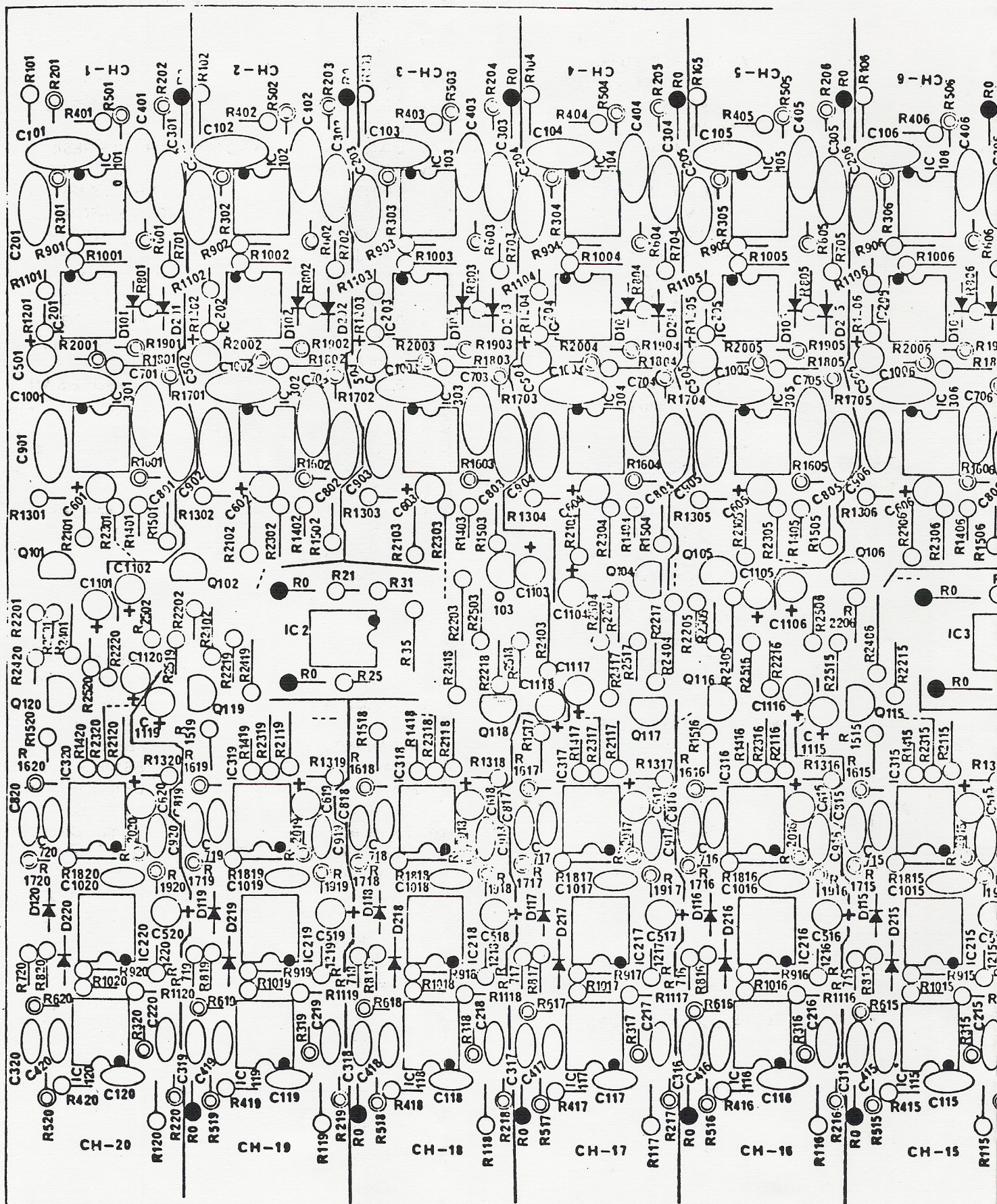
POWER SUPPLY

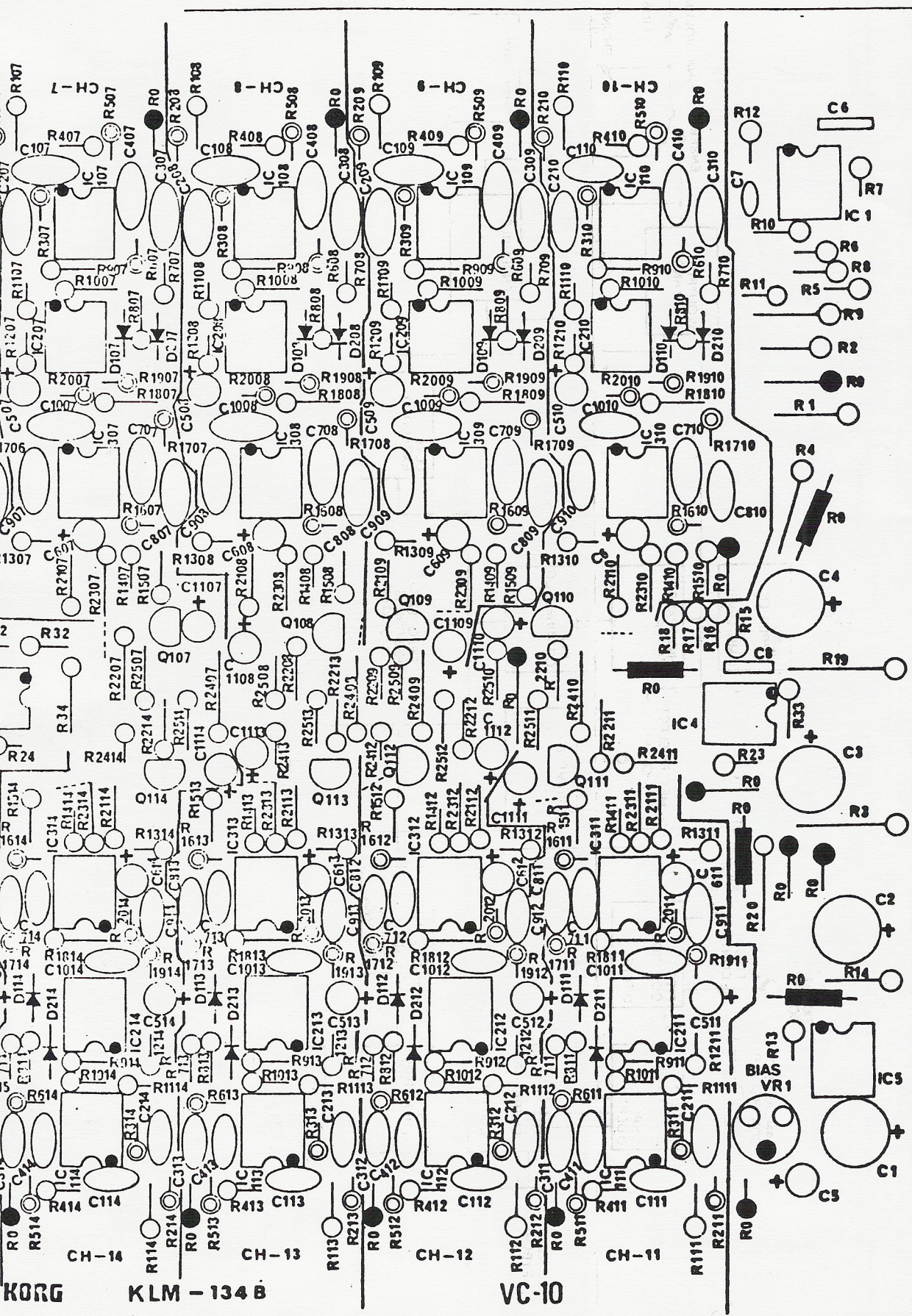
ENSEMBLE

PRESSOR

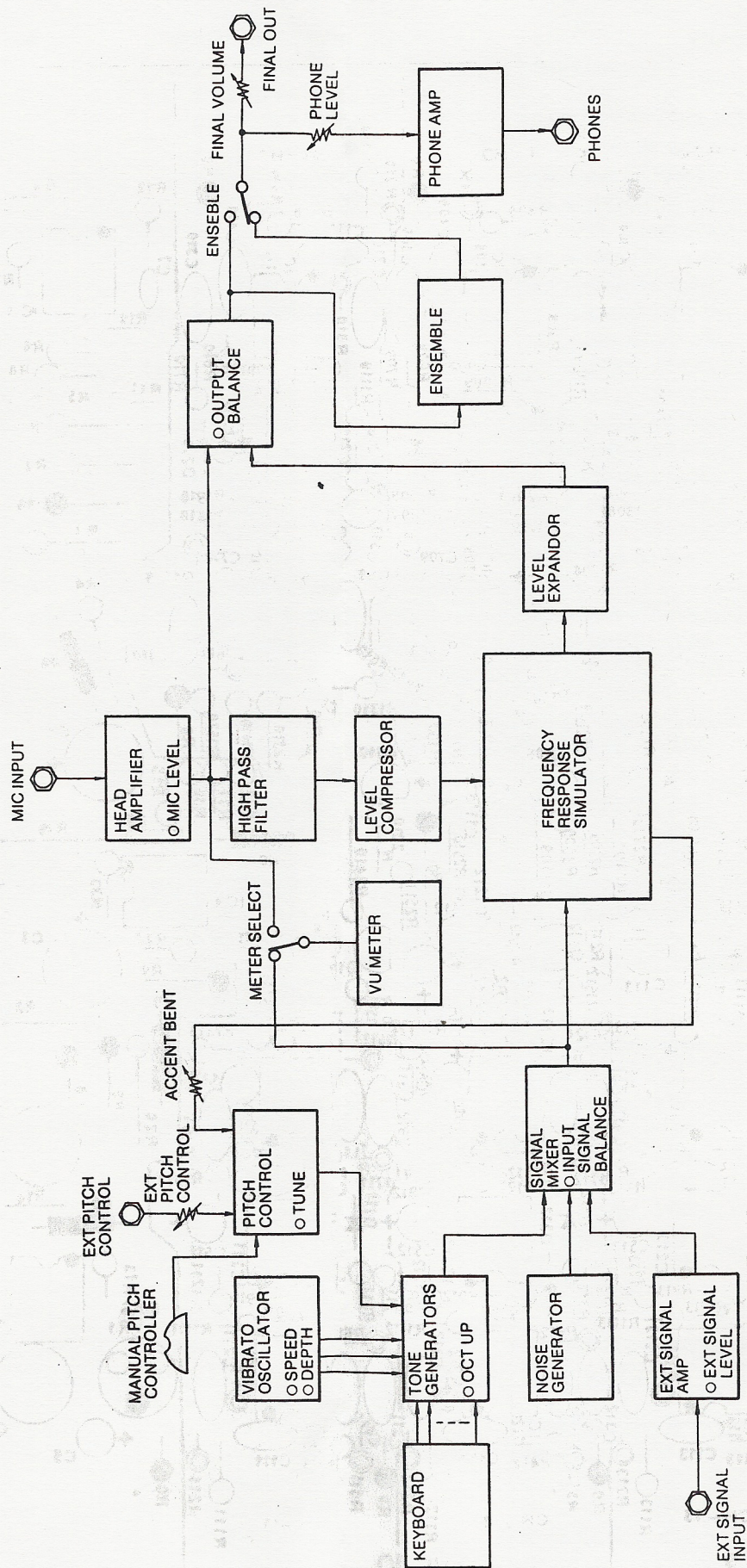
PHONE AMP







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.

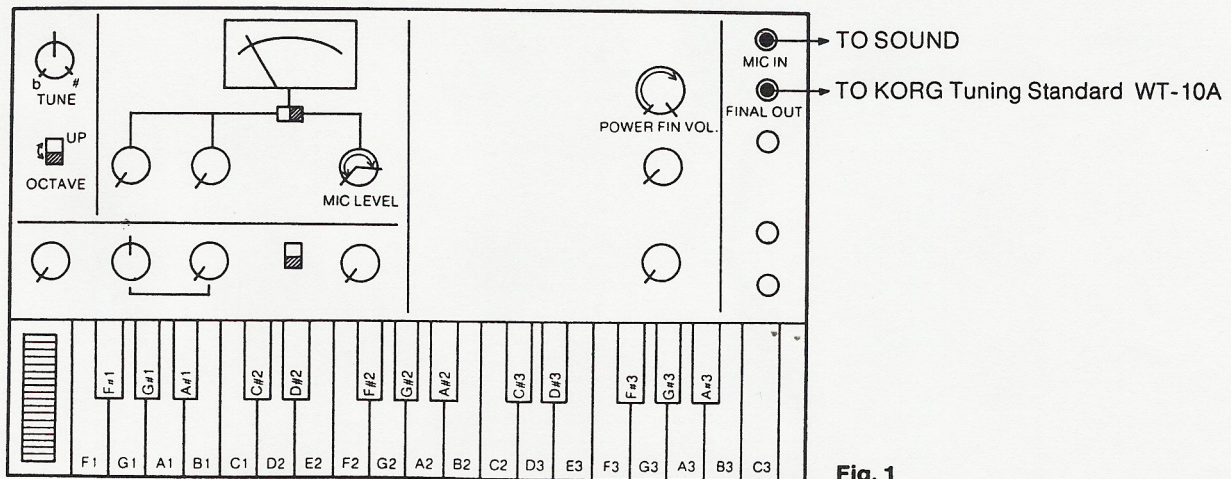


Fig. 1

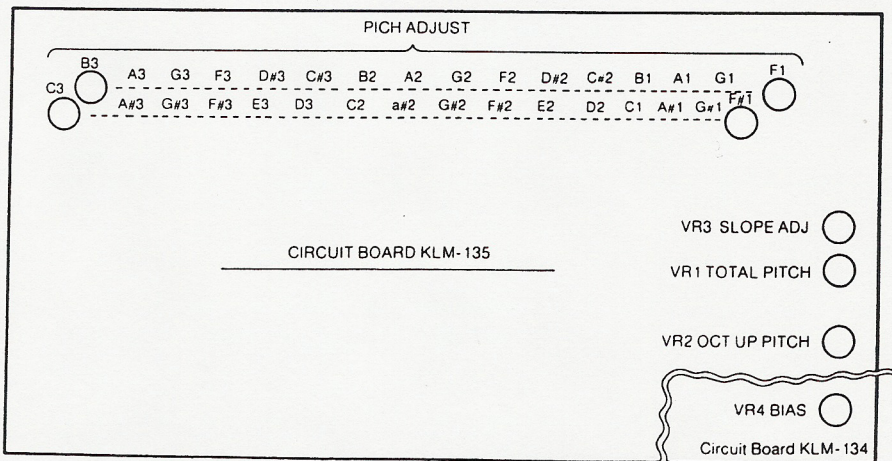


Fig. 2