













PERFORMING SYNTHESIZER SERVICE MANUAL **KP-30**

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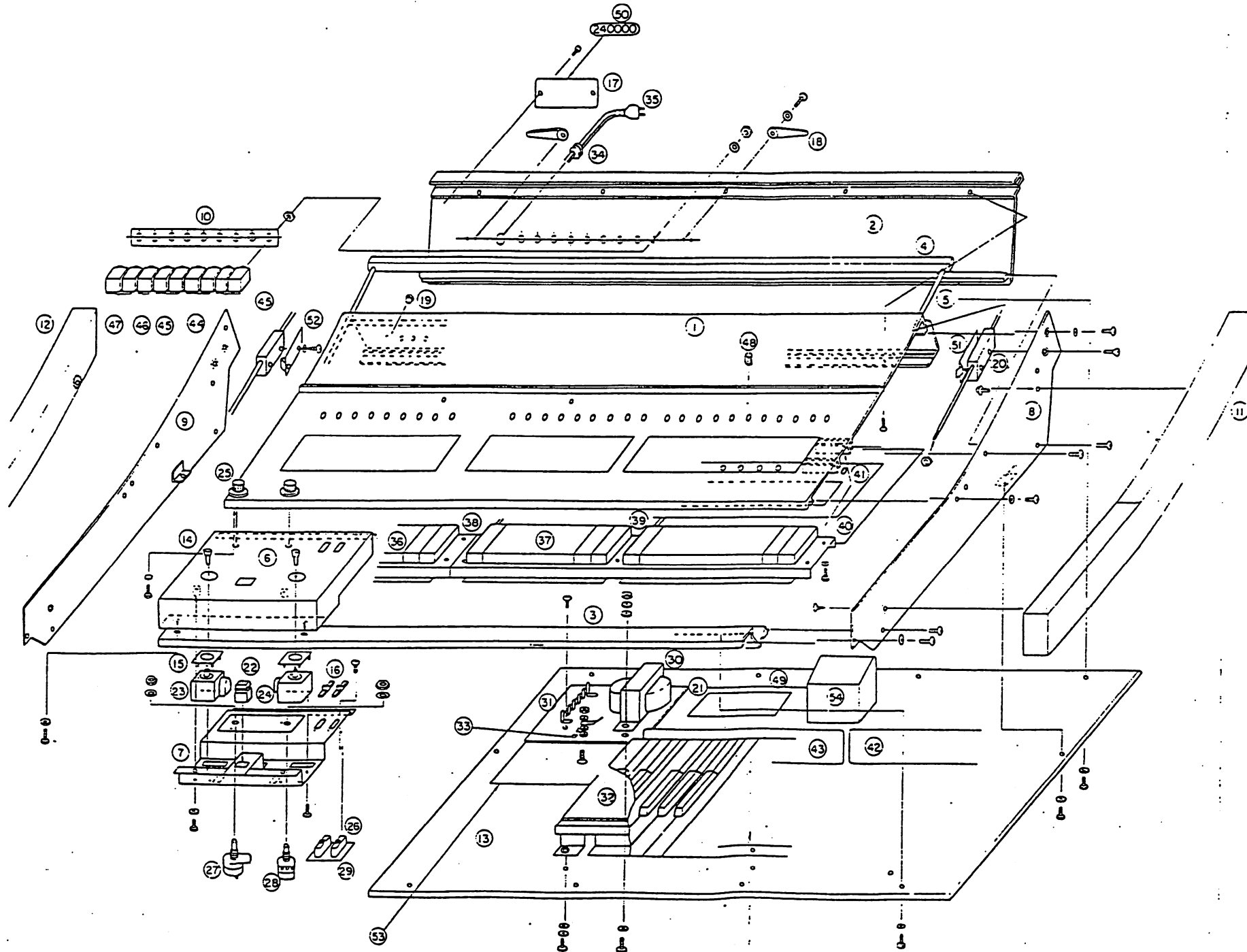
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KEIO ELECTRONIC LABORATORY CORPORATION
TOKYO/JAPAN

1. SPECIFICATIONS

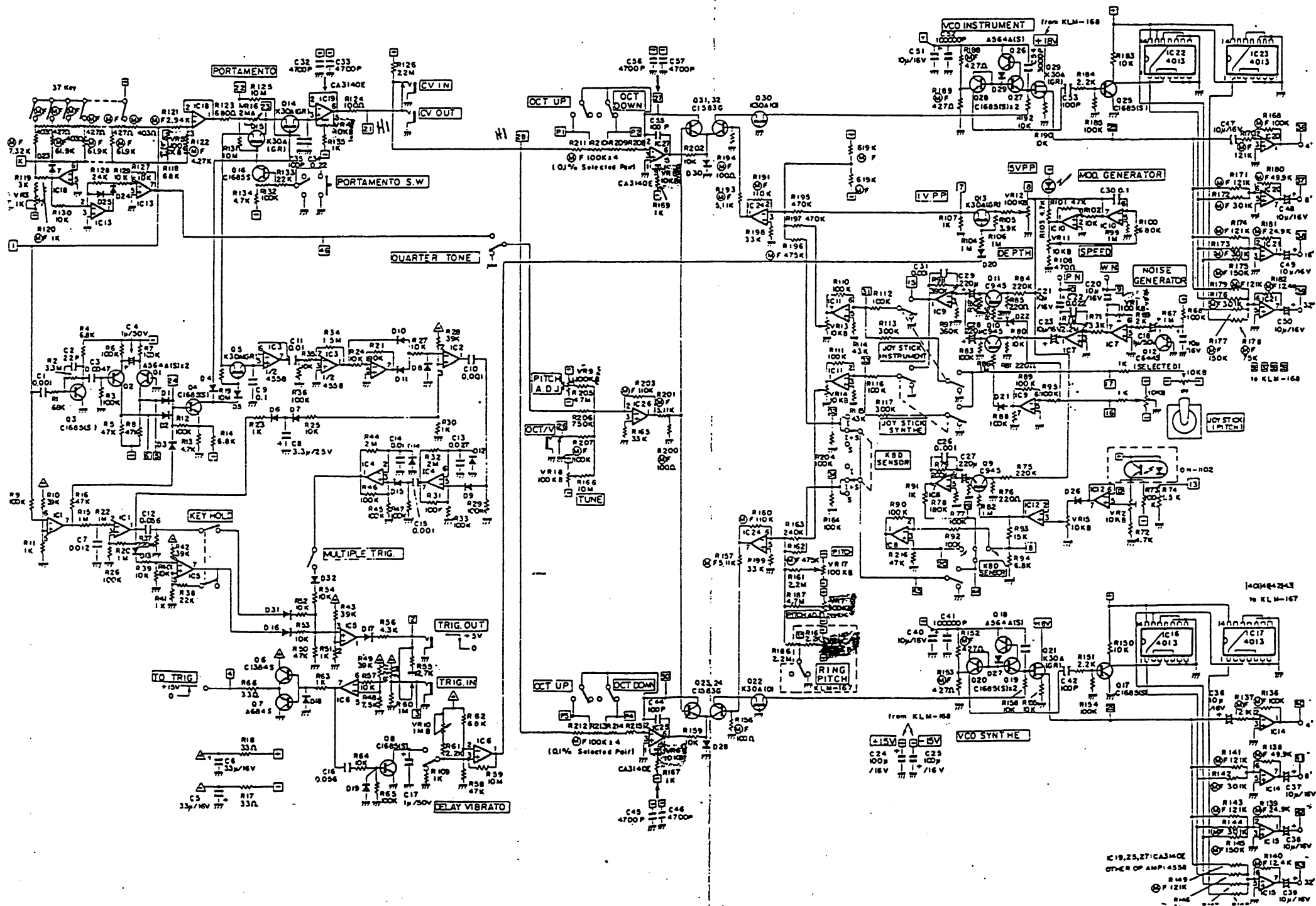
1. KEYBOARD	● C – C 37 keys	
2. TABLET.....	SYNTHE	CONTROL
● Ring Mod.	Synthe x INSTRUMENT	Synthe Pitch (± 700 cents)
● 		Attack/Release
● 	32'	Attack/Release
● 	S/H	Clock Speed
● 	16'	Attack/Release
● 	16'	Attack/Release
● 	8'	Attack/Release
● 	8'	Decay
● 	8'	Attack/Release
● 	4'	Decay
	INSTRUMENT	CONTROL
● Electric Bass.....	32'	Cutoff Freq.
● Tuba.....	32'	Cutoff Freq.
● Clavi.....	16'	Pulse Width
● Fuzz Guitar	16'	Tone
● Hdr.....	16'	Cutoff Freq.
● Trumpet.....	8'	Cutoff Freq.
● Clarinet.....	8'	Tone
● Double Reed	8'	Tone
● String.....	8'	Attack
● Flute.....	4'	Tone
● Hammered Percussion.....	4'	Decay
	EFFECT	CONTROL
● Octave Down		
● Octave Up		
● Portamento.....	Time	
● Keyboard Sensor	Intensity	
● Joy Stick SYNTHE.....	Range	
● Joy Stick INSTRUMENT	Range	
● Delay Vibrato INSTRUMENT	Delay, Depth, Speed	
● Quarter Tone		
● Multiple Trigger		
● Key Hold		
3. CONTROL.....	● Joy Stick.....	Pitch Bend, Vibrato Depth, Pink Noise Depth
	● Joy Stick.....	LPF. Cutoff Freq. (SYNTHE) HPF. Cutoff Freq. (SYNTHE)
	● Keyboard Sensor Control Switch	x 2 Pitch Bend Up/Vibrato Depth/Pitch Bend Down, INSTRUMENT/INSTRUMENT \pm SYNTHE/SYNTHE
	● SYNTH/INSTRUMENT Balance	
	● Total Tune ± 250 cents	
	● Synthe Pitch ± 700 cents	
	● Portamento Memontary Switch	
	● Power Switch and Volume	
4. OUT PUT.....	● Signal Out	Max/Synthe Out 5Vp-p Max. Mix/Instrument Out 5Vp-p Max.
	● KBD CV Out	Hz/V (0V ~ 8V)
	● KBD TRIG Out.....	 GND
5. CONTROL IN	● Headphones Out	
	● VCO CV In.....	Hz/V (0V ~ 8V)
	● EG TRIG In.....	 GND
	● VCO FM In	OCT/V (-3V ~ +3V)
	● Synthe VCF FcM In.....	2 OCT/V (-5V ~ +5V)
6. POWER CONSUMPTION ..	17 Watts, Local Voltage, 50/60 Hz	
7. DIMENSIONS.....	774 x 400 x 173 (mm)	
8. WEIGHT	11 kg	

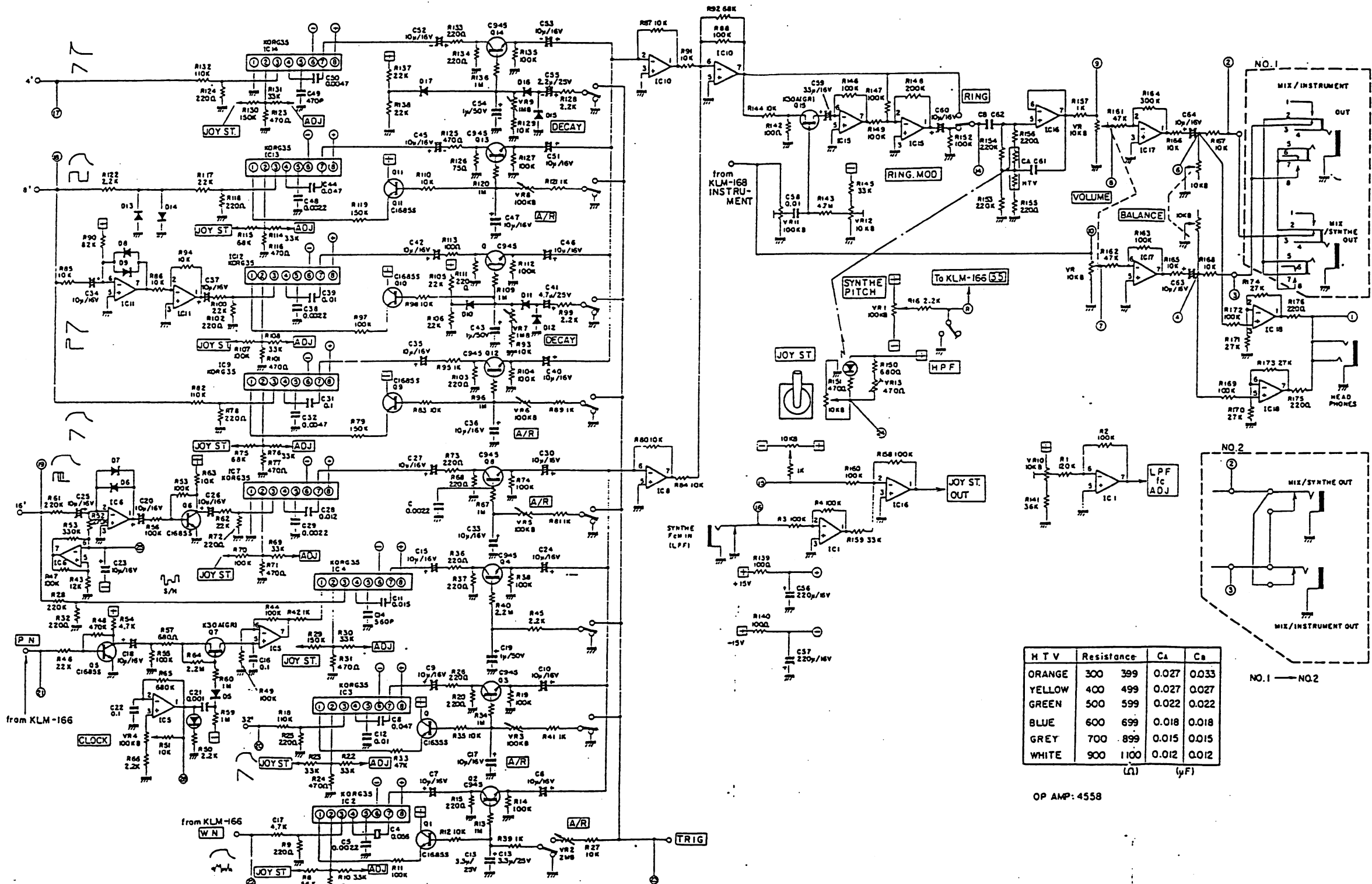
2. STRUCTURAL DIAGRAM



Item	Part Name	Remarks
1	Front panel	
2	Rear panel	
3	Front chassis	
4	Music stand cross bar (square)	
5	Music stand side bar (round)	
6	Control panel	
7	Control subchassis	
8	Right side chassis	
9	Left side chassis	
10	Phone jack mounting board	
11	Right side	
12	Left side	
13	Bottom	
14	Joy stick lever knob	
15	Joy stick Vr cover	
16	Slide contact	
17	Model number plate	
18	Cord stopper	EM-5038
19	Trimmer stopper	
20	Music stand side bar guide block	
21	Aluminum earth (ground) plate	
22	Push switch	SCK-4150 AKC-2N
23	Joy stick unit	JX62T-10KB
24	Joy stick unit	JX60A-20KB
25	Rotary knob	Large
26	Slide switch	SSB-123
27	Rotary control	EWf-POSP20A15
28	Rotary control	EWK-DOAK20B14
29	Printed circuit board for side switch	KLM-181A
30	Power transformer	KA-331.KB-331
31	Lug board	No.9 2L4P
32	Keyboard	ESK-431T 37 KEY
33	Earth (ground) seal	X-1942
34	Strain release bushing	4K-4. 5P-4
35	Power cord	
36	Tablet switch	EST-195
37	Tablet switch	EST-1913
38	Printed circuit board	KLM-166B
39	Printed circuit board	KLM-167B
40	Printed circuit board	KLM-168B
41	VR Tablet switch mask	
42	Printed circuit board	KLM-137A
43	Printed circuit board	KLM-137B
44	Phone jack	S-G7501
45	Phone jack	S-G7617
46	Phone jack	S-G7701
47	Phone jack	S-G7850
48	Rotary knob	Small
49	Fuse caution seal	
50	Serial number plate	
51	Right spring plate	
52	Left spring plate	
53	Aluminum film	
54	Support	

3. CIRCUIT DIAGRAM KLM-166C



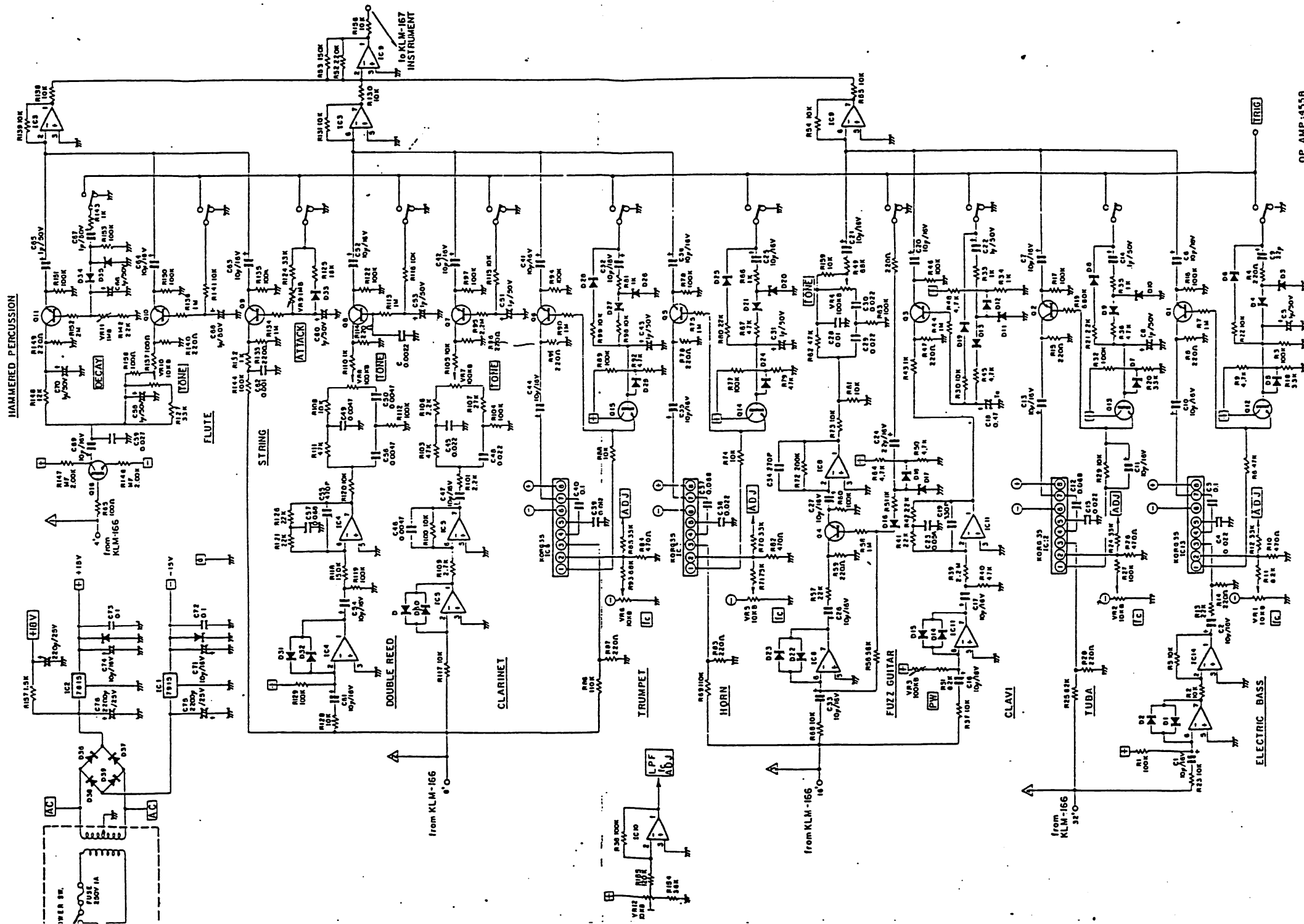


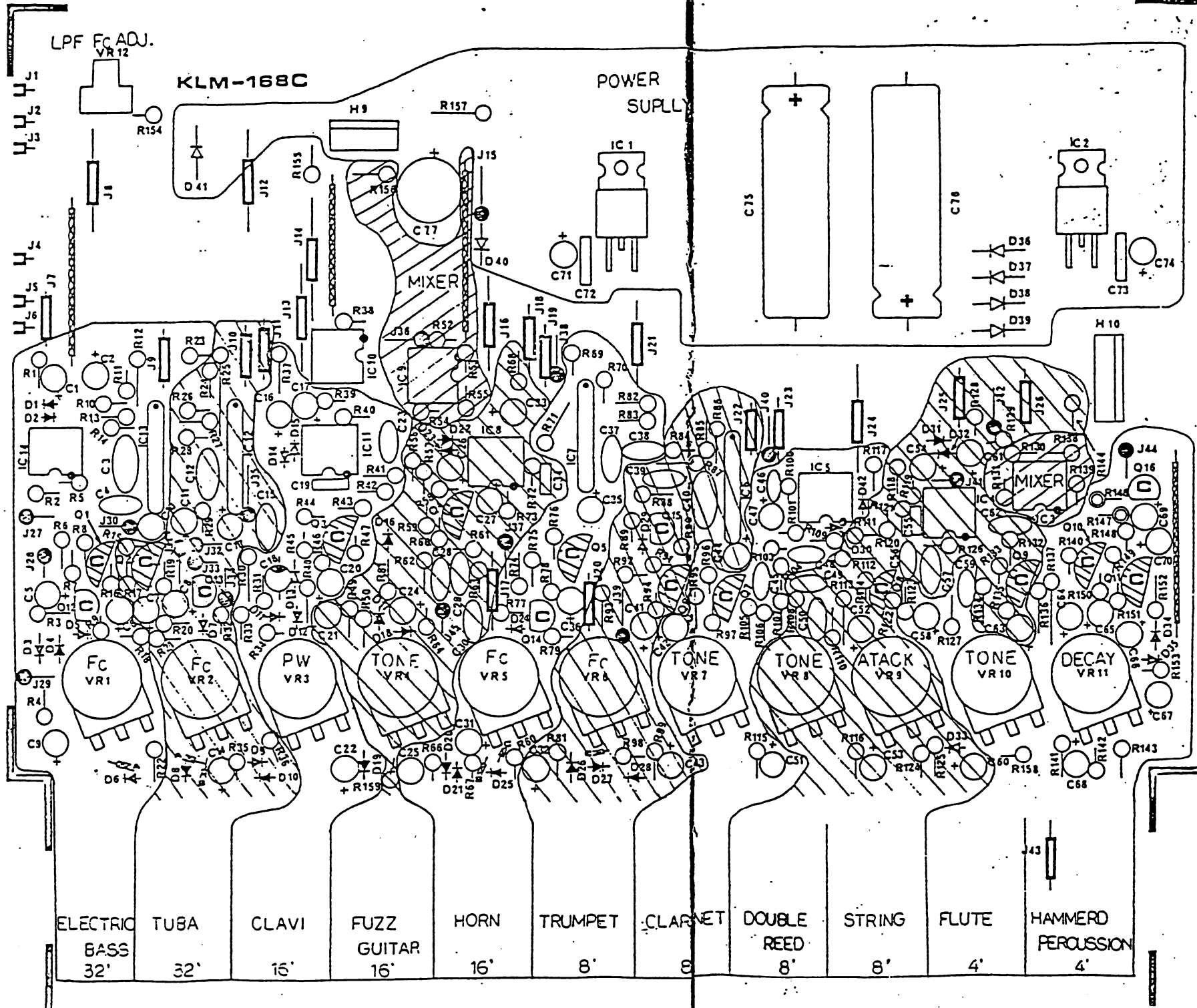
H T V	Resistance	C _a	C _b
ORANGE	300	399	0.027 0.033
YELLOW	400	499	0.027 0.027
GREEN	500	599	0.022 0.022
BLUE	600	699	0.018 0.018
GREY	700	899	0.015 0.015
WHITE	900	1100	0.012 0.012

(Ω) (μF)

OP AMP: 4558

NO.1 — NO.2





LPF Fc ADJ.
VR12

KLM-168C

POWER
SUPLY

MIXER

MIXER

ELECTRIC
BASS
32'

TUBA
32'

CLAVI
16'

FUZZ
GUITAR
16'

HORN
16'

TRUMPET
8'

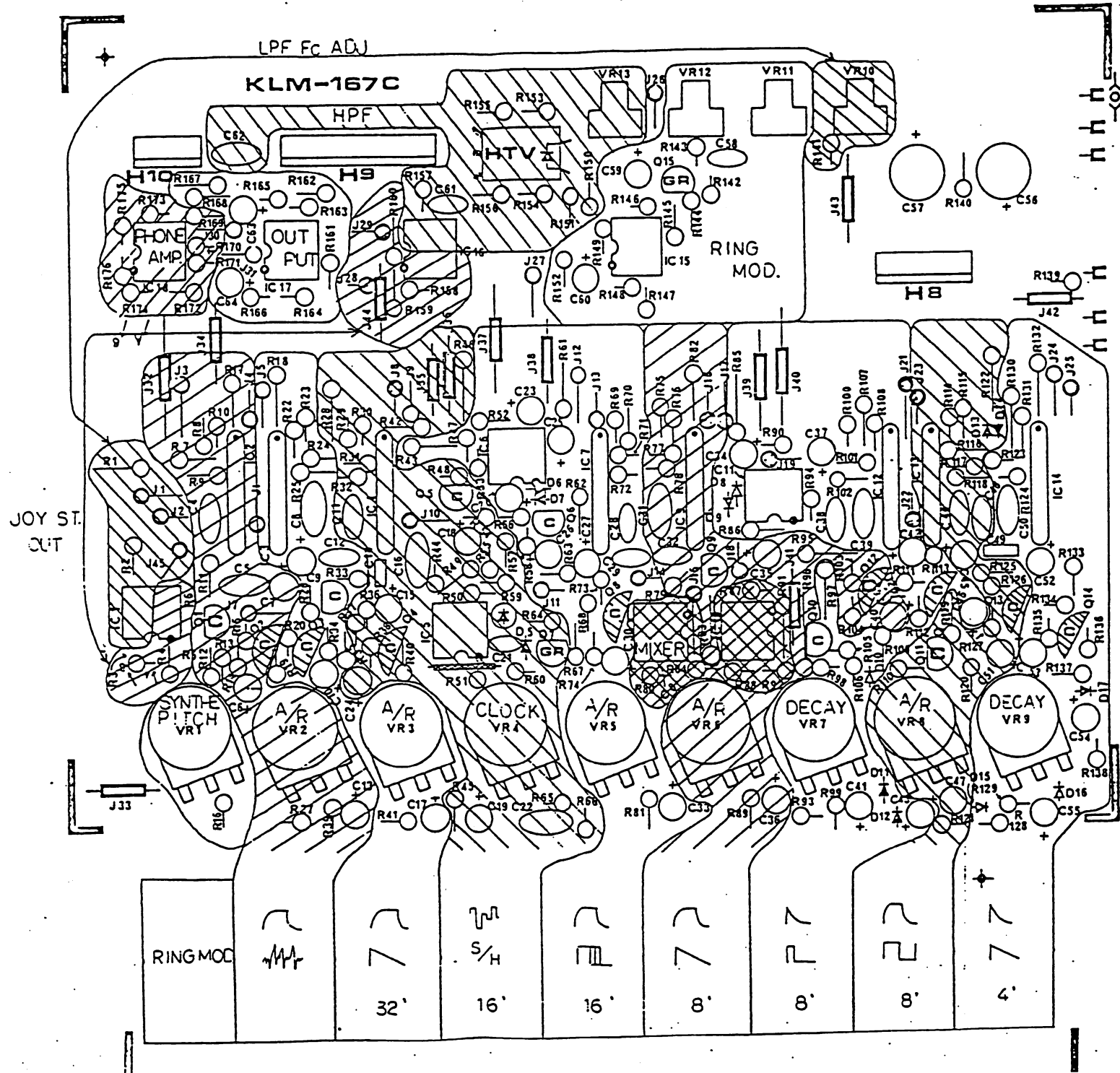
CLARINET
8'

DOUBLE
REED
8'

STRING
8'

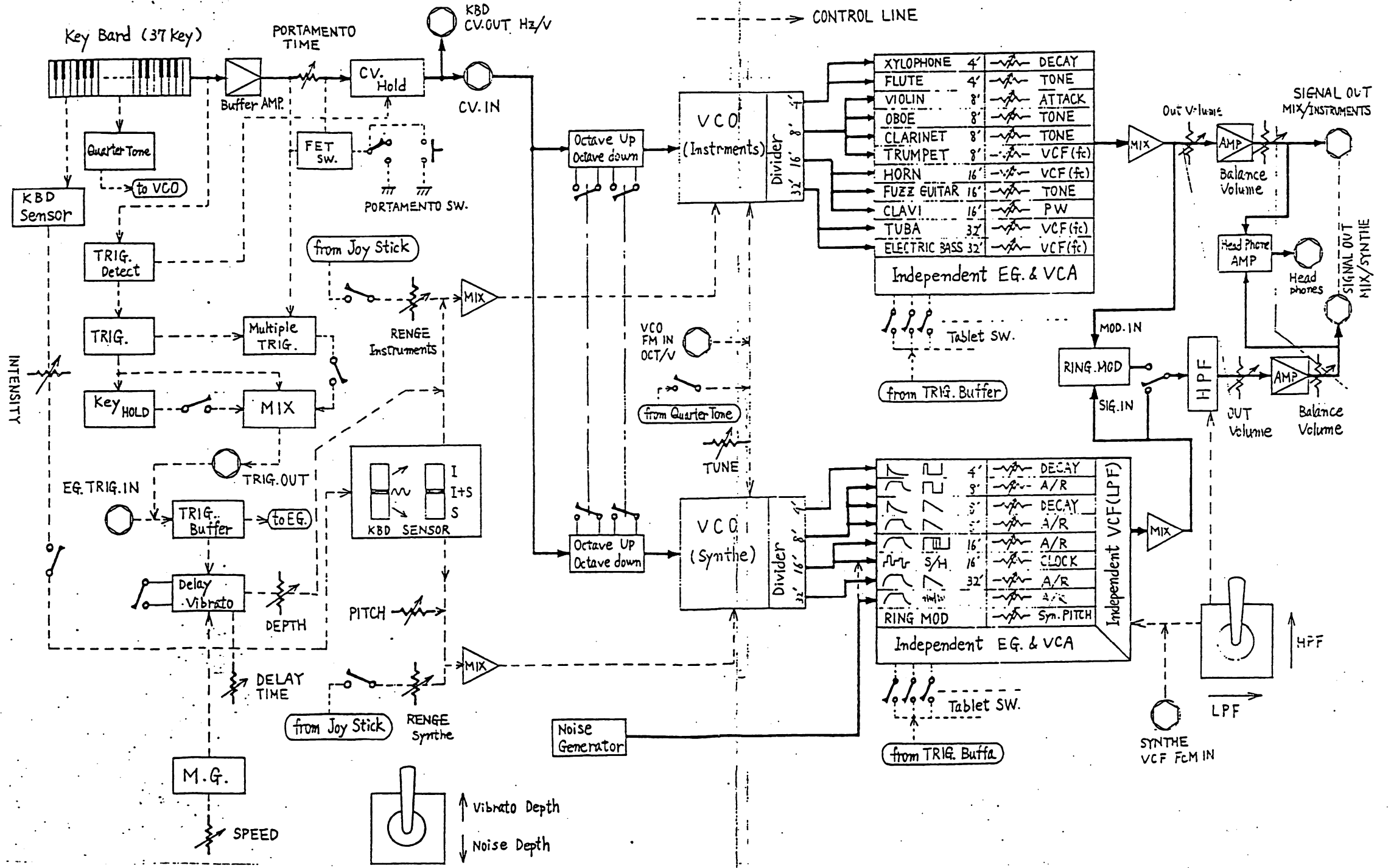
FLUTE
4'

HAMMERD
PERCUSSION
4'



5. BLOCK DIAGRAM

→ SIGNAL LINE
 - - - - - CONTROL LINE



XYLOPHONE	4'	DECAY
FLUTE	4'	TONE
VIOLIN	8'	ATTACK
OBOE	8'	TONE
CLARINET	8'	TONE
TRUMPET	8'	VCF(fc)
HORN	16'	VCF(fc)
FUZZ GUITAR	16'	TONE
CLAVI	16'	PW
TUBA	32'	VCF(fc)
ELECTRIC BASS	32'	VCF(fc)

Independent EG. & VCA

	4'	DECAY
	8'	A/R
	16'	DECAY
	16'	A/R
	32'	A/R
	32'	CLOCK
	32'	A/R
	32'	A/R
RING MOD		Syn. PITCH

Independent EG. & VCA

↑ Vibrato Depth
 ↓ Noise Depth