

*SYNTHESIZER*

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**KORG POLYPHONIC  
ENSEMBLE**

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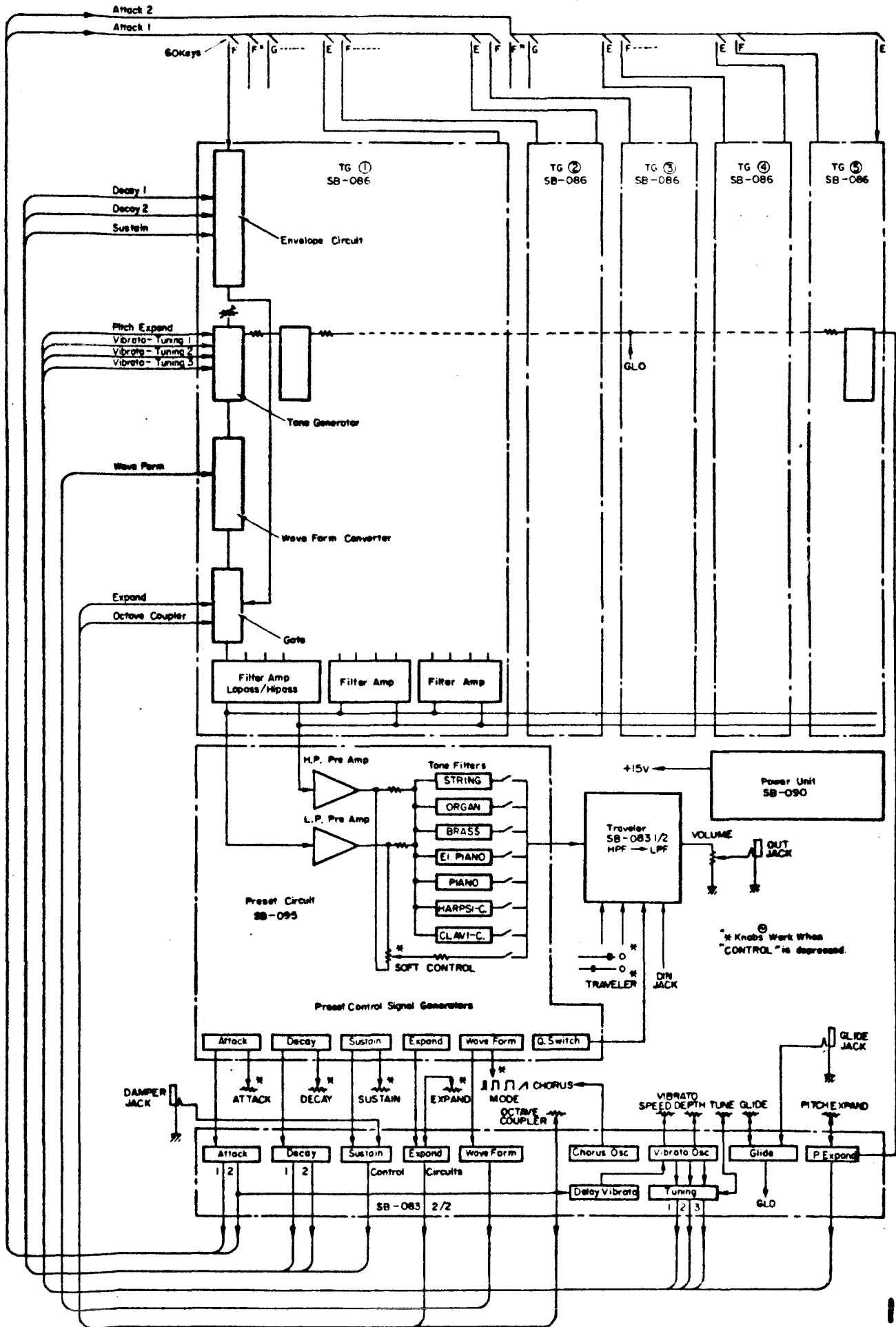
1000

SERVICE MANUAL

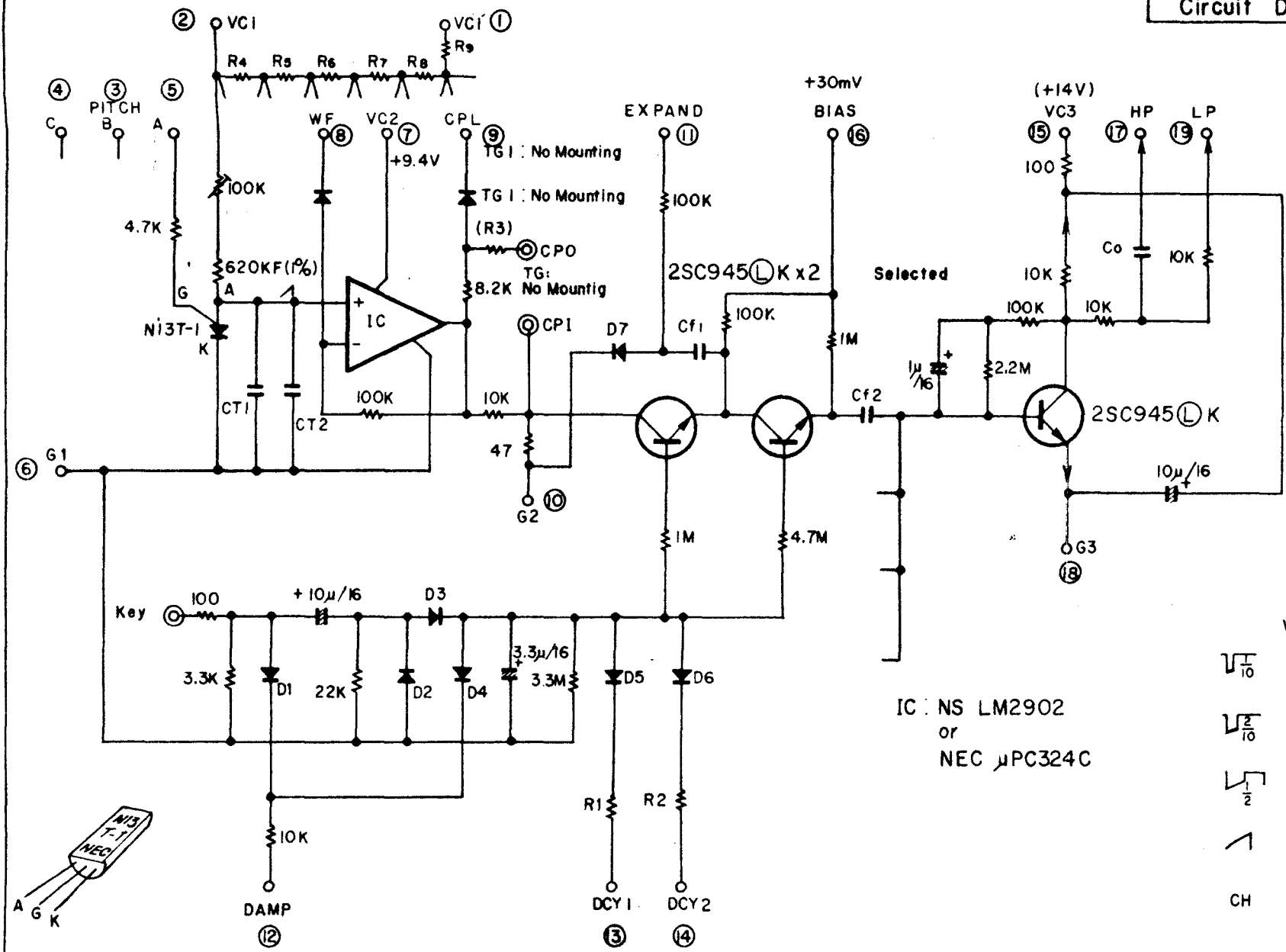
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**KEIO ELECTRONIC LAB., CORP.**  
TOKYO, JAPAN

# BLOCK DIAGRAM

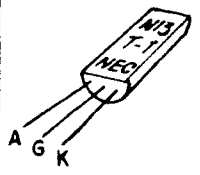


# Tone Generator Circuit Diagram



WF Voltage	
$\sqrt{\frac{1}{10}}$	1.25V
$\sqrt{\frac{2}{10}}$	2.25V
$\sqrt{\frac{1}{2}}$	4.5V
$\wedge$	7.7V
CH	1.5~4.7V

IC: NS LM2902  
or  
NEC μPC324C



	NO. 1		NO. 2		NO. 3		NO. 4		NO. 5	
F		27.000 20.000		22.000 1.500		11.000 680		5.600 220		2.700 150
F#		24.000 20.000		22.000		11.000		5.100 330		2.700
G		27.000 15.000		20.000 1.000		10.000 470		5.100 100		2.400 150
G#		27.000 12.000		20.000		9.100 680		4.700 220		2.400
A		27.000 10.000		18.000 680		9.100 150		4.300 330		2.200 100
A#		27.000 8.200		16.000 1.500		8.200 560		4.300		2.000 150
B		27.000 6.200		16.000 680		8.200 100		3.900 220		2.000
C		27.000 4.300		15.000 680		7.500 330		3.900		1.800 100
C#		27.000 2.700		13.000 1.800		6.800 560		3.600		1.800
D		27.000 1.000		13.000 1.000		6.800 150		3.300 150		1.600 100
D#		24.000 2.200		13.000 150		6.200 330		3.000 220		1.600
E		24.000 1.000		12.000 470		6.200		3.000 47		1500P

Tone Generator CR Chart

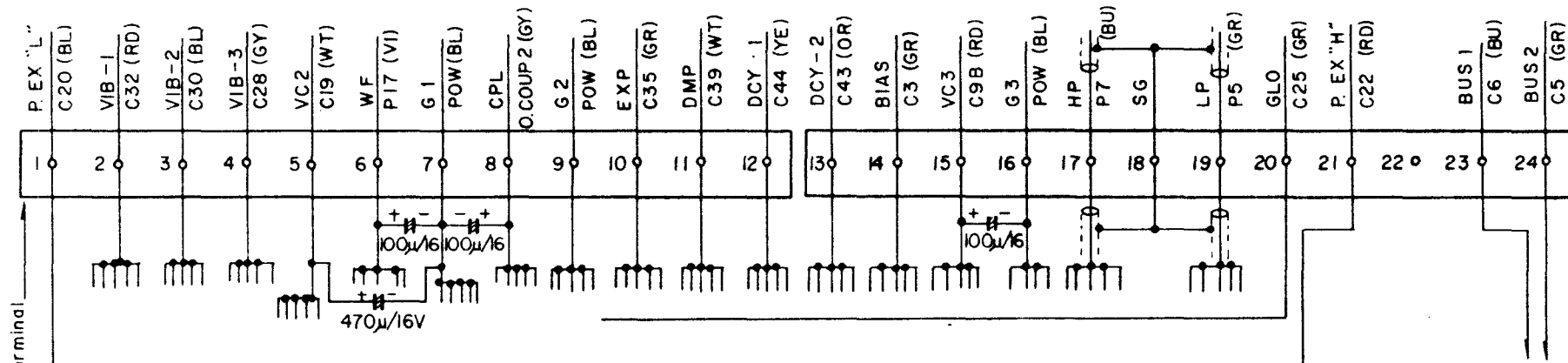
	R1	R2	R3	R4 R5 R4 R7 R8 R9	Cf1	Cf2	Co
Low NO 1	6.8K	220K		20	0.047	0.056	0.18
				20			
	6.8K	220K		20	0.047	0.047	0.15
				20			
	6.8K	220K		20	0.047	0.039	0.12
				20			
NO 2	5.6K	180K	8.2K	10	0.047	0.033	0.1
				10			
	5.6K	180K	8.2K	10	0.047	0.027	0.082
				10			
	5.6K	180K	8.2K	10	0.047	0.022	0.068
				10			
NO 3	4.7K	150K	8.2K	J	0.047	0.018	0.056
				J			
	4.7K	150K	8.2K	J	0.047	0.015	0.047
				J			
	4.7K	150K	8.2K	J	0.047	0.012	0.039
				J			
NO 4	3.9K	120K	8.2K	10	0.047	0.01	0.033
				10			
	3.9K		8.2K	10	0.047	0.01	0.027
				10			
	3.9K	100K	12K	10	0.047	0.01	0.022
				10			
NO 5	3.3K	68K	18K	20	0.047	0.01	0.018
				20			
	3.3K		47K	20	0.047	0.01	0.015
				20			
	3.3K	47K	82K	20	0.047	0.01	0.012
				20			

High

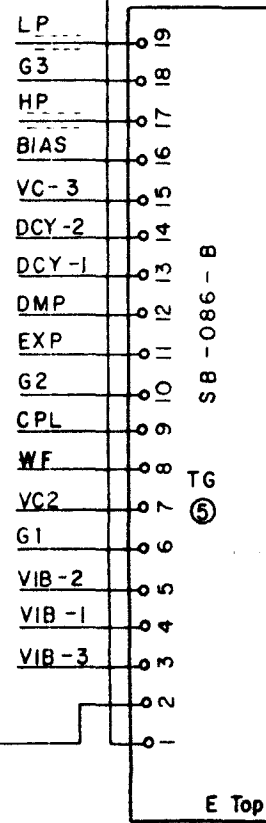
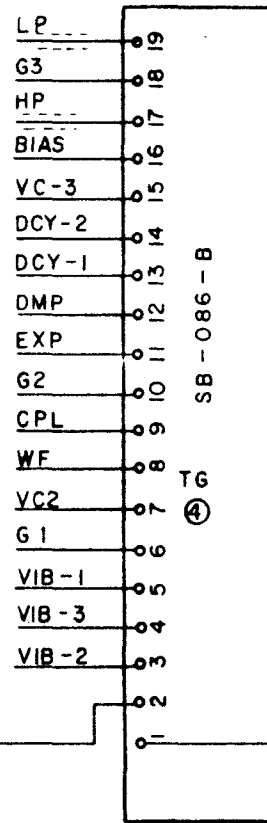
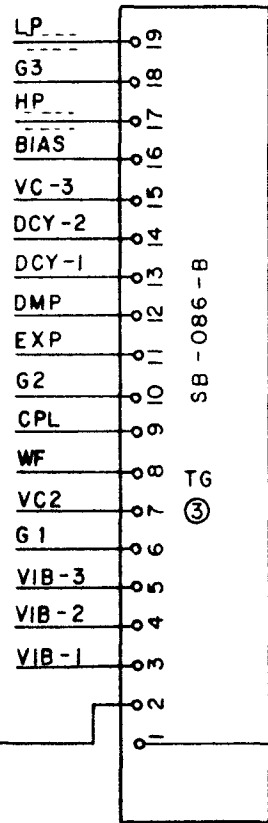
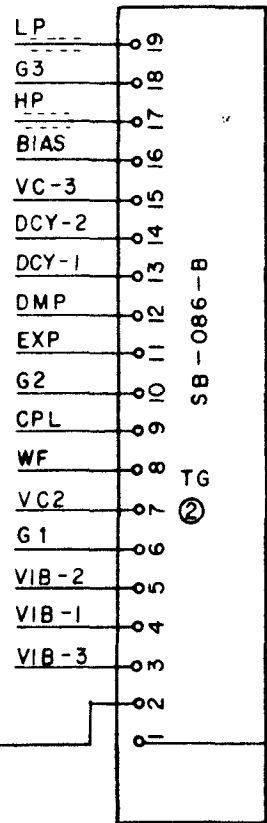
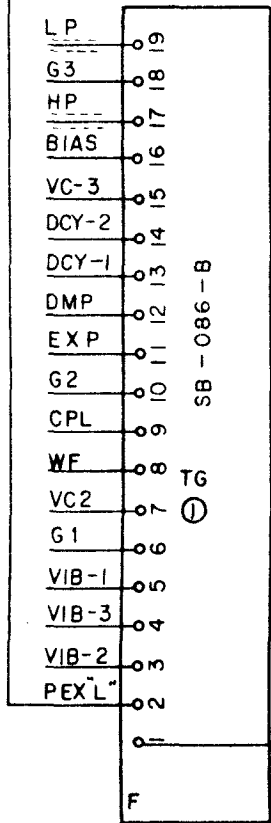
J. Jumper

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# Tone Generator Wiring (1)

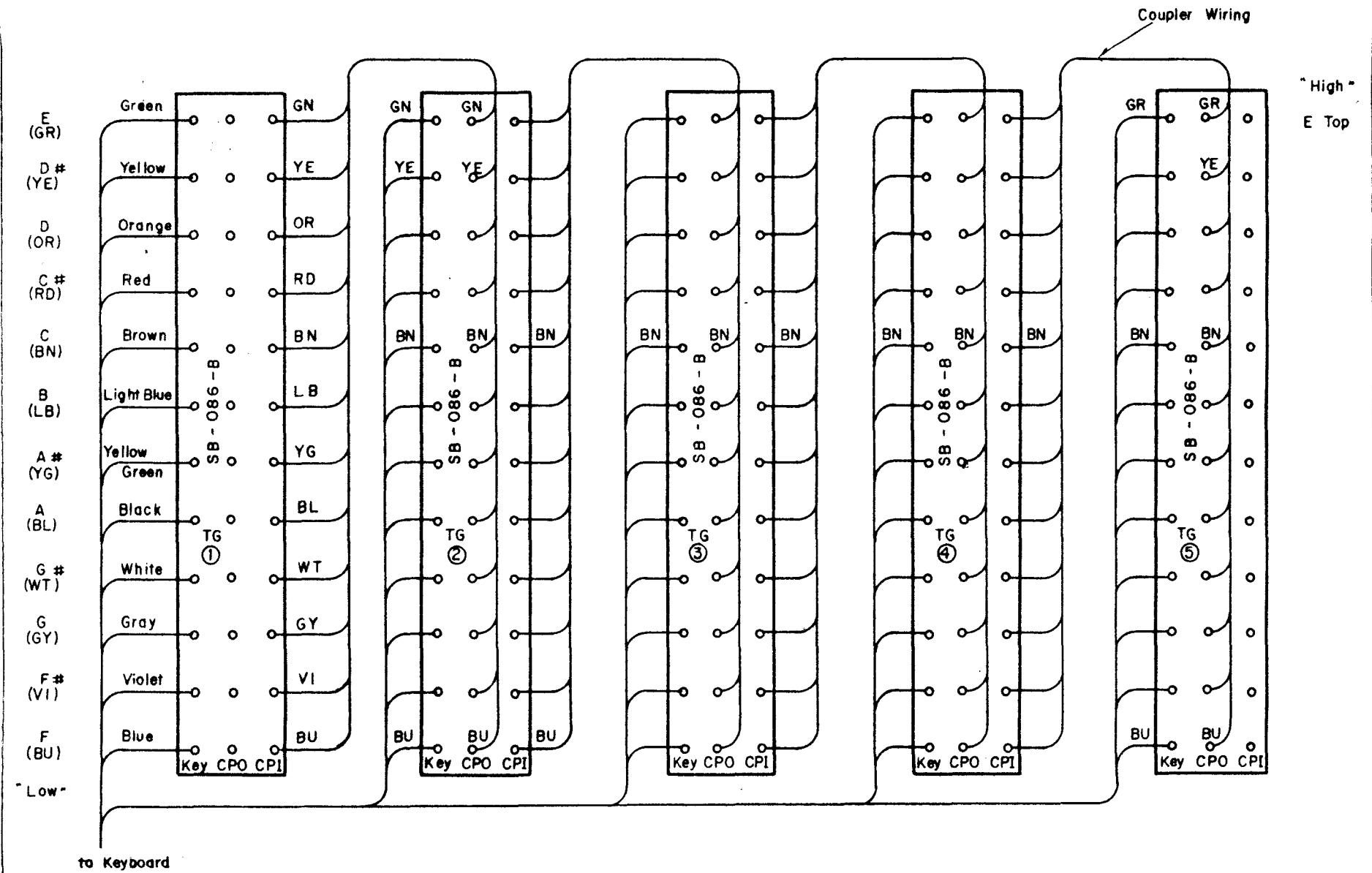


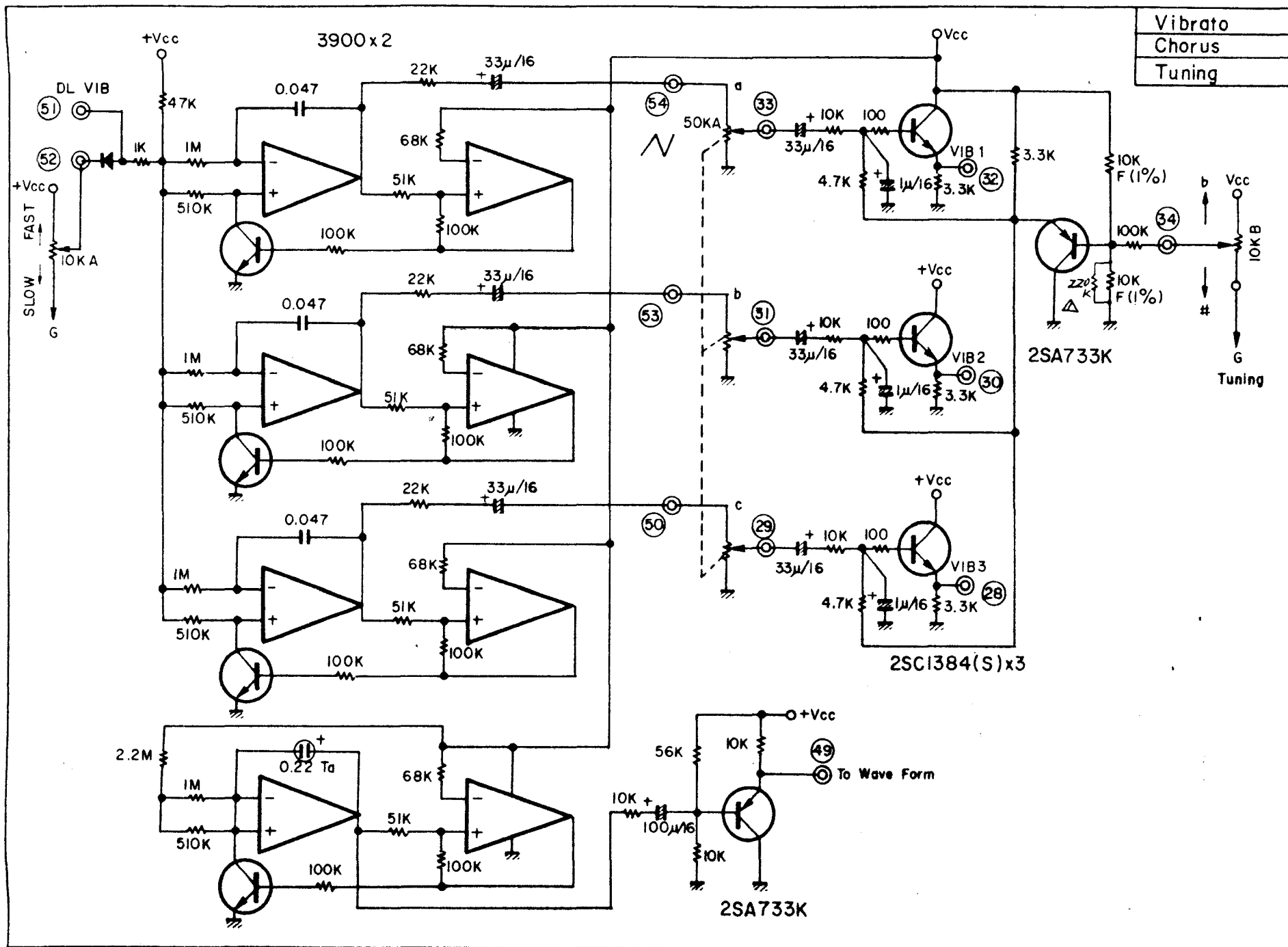
Terminal



to Keyboard

Tone Generator  
Wiring (2)

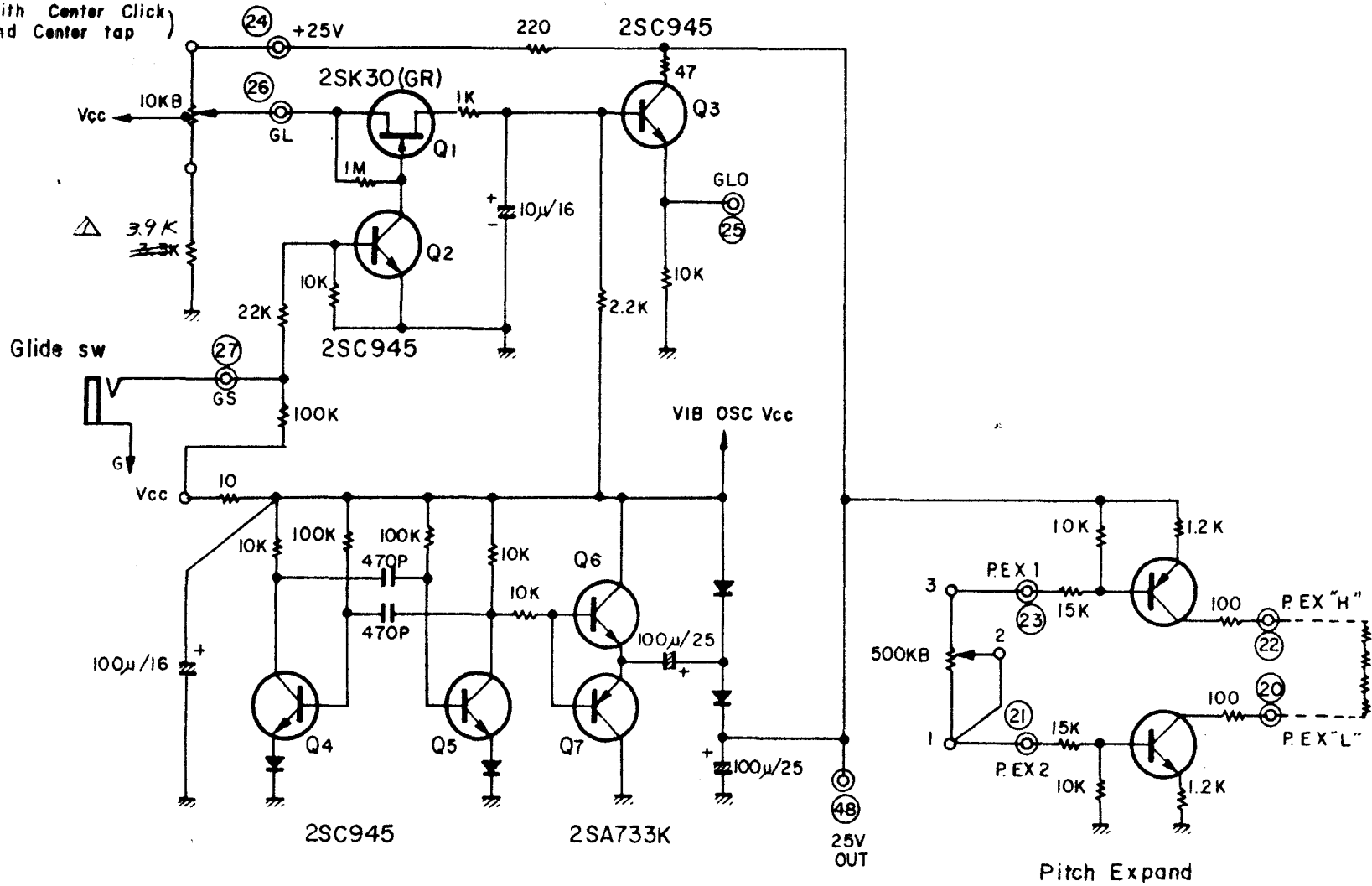




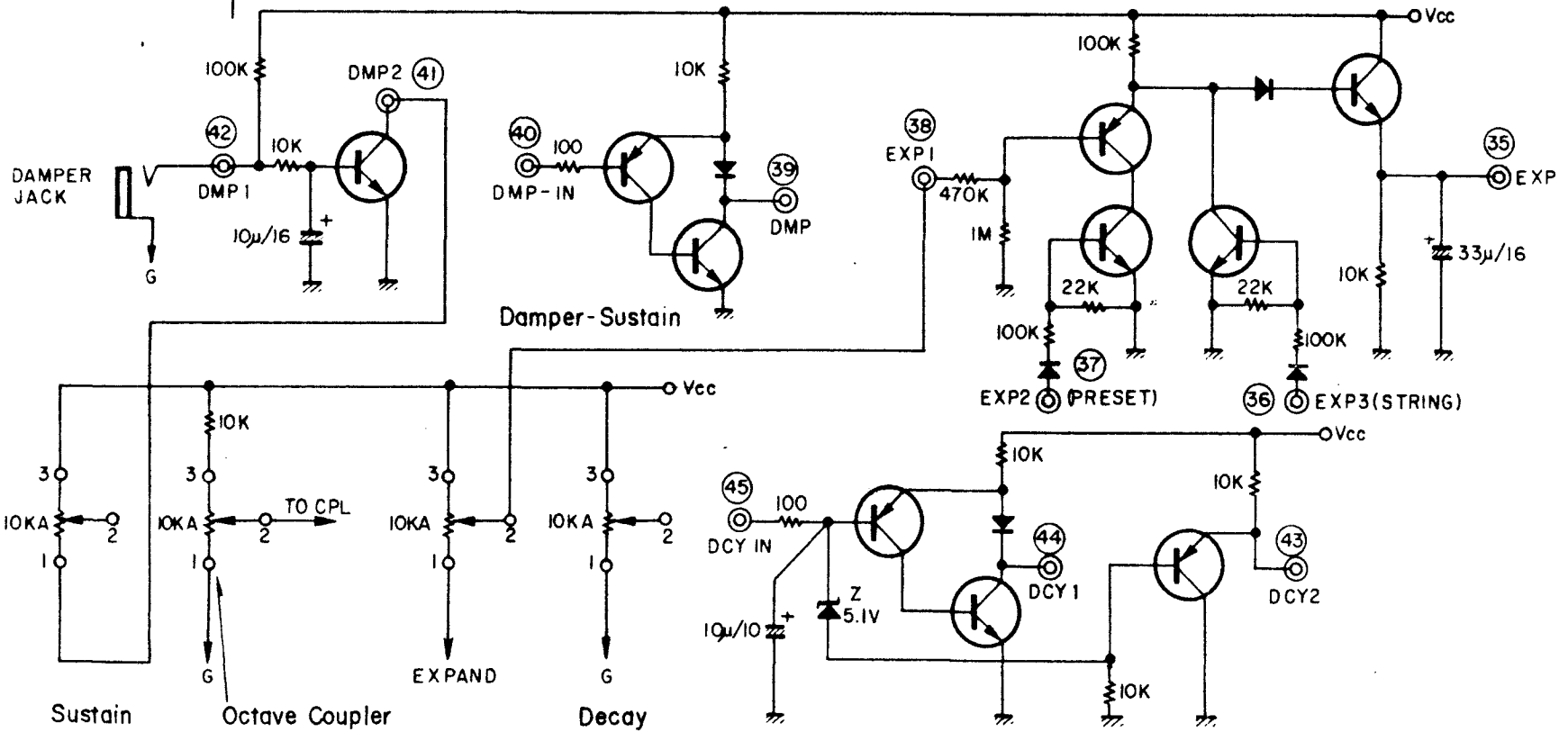
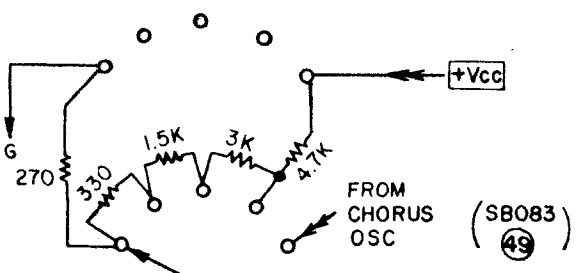
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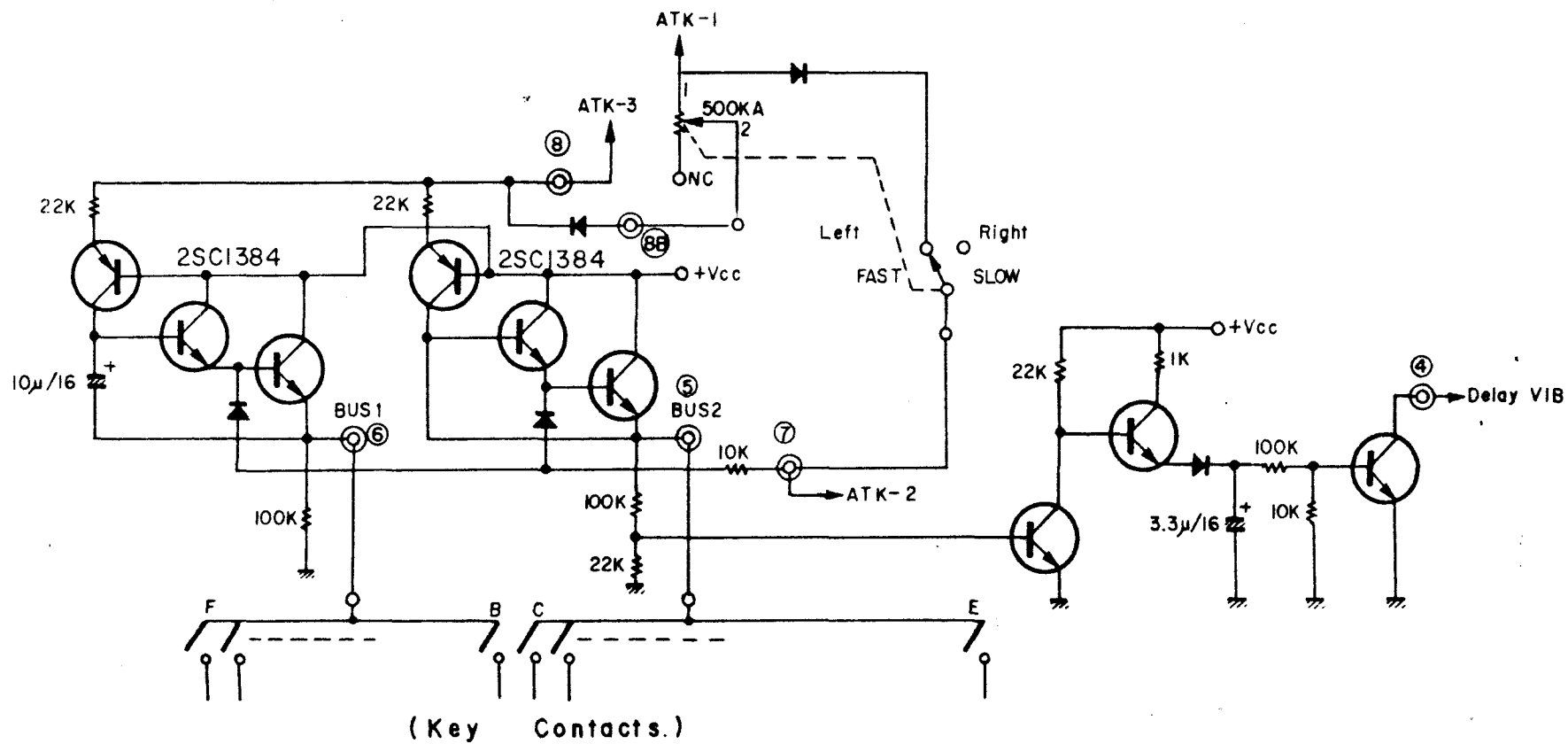
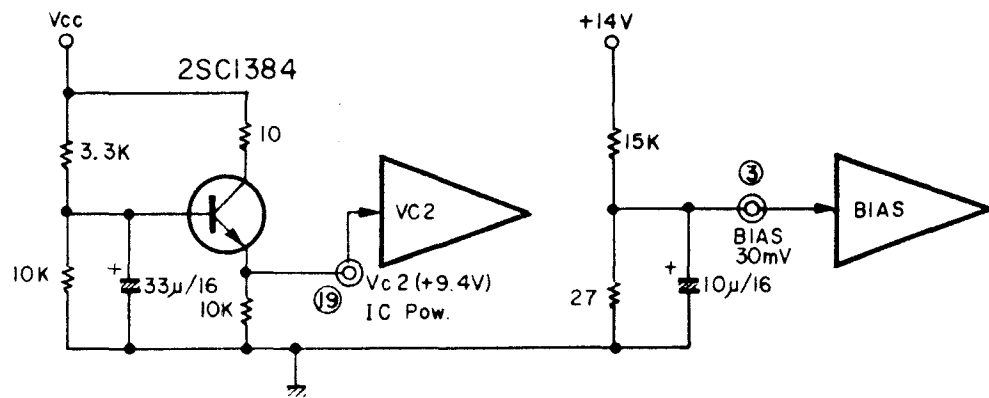
Glide VR  
(With Center Click  
and Center tap)



Damper - Sustain
Decay
Expand
Octave Coupler
Wave Form



{ 2SA733K  
2SC945(L) K



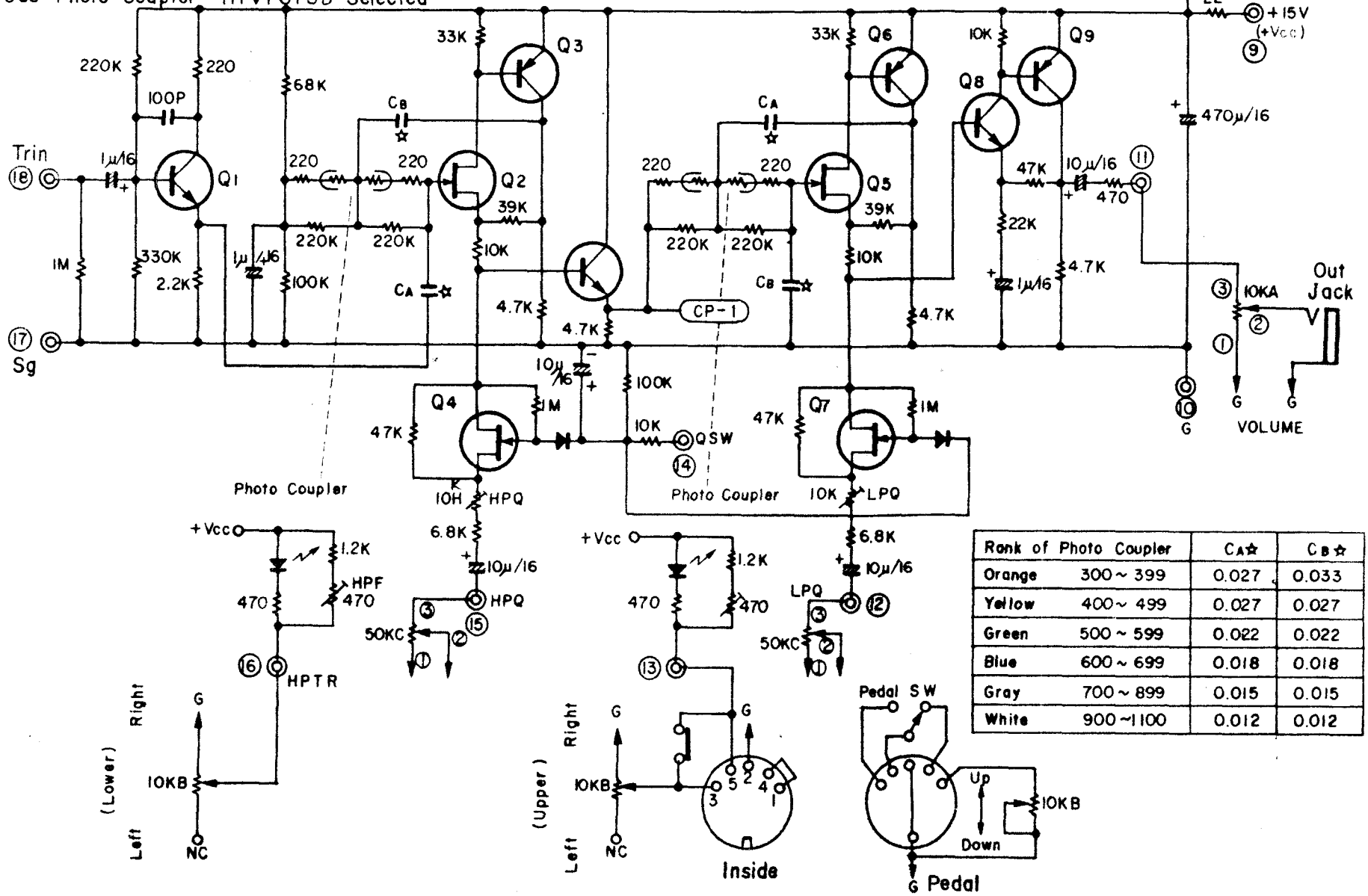
Traveler

2SC ---- 2SC945 (K)

2SA ---- 2SA733K

FET ---- 2SK30 (O)

Cds Photo Coupler HTVP873D Selected



Rank of Photo Coupler	CA★	CB★
Orange	300 ~ 399	0.027
Yellow	400 ~ 499	0.027
Green	500 ~ 599	0.022
Blue	600 ~ 699	0.018
Gray	700 ~ 899	0.015
White	900 ~ 1100	0.012

P : Preset  
SB-095-D

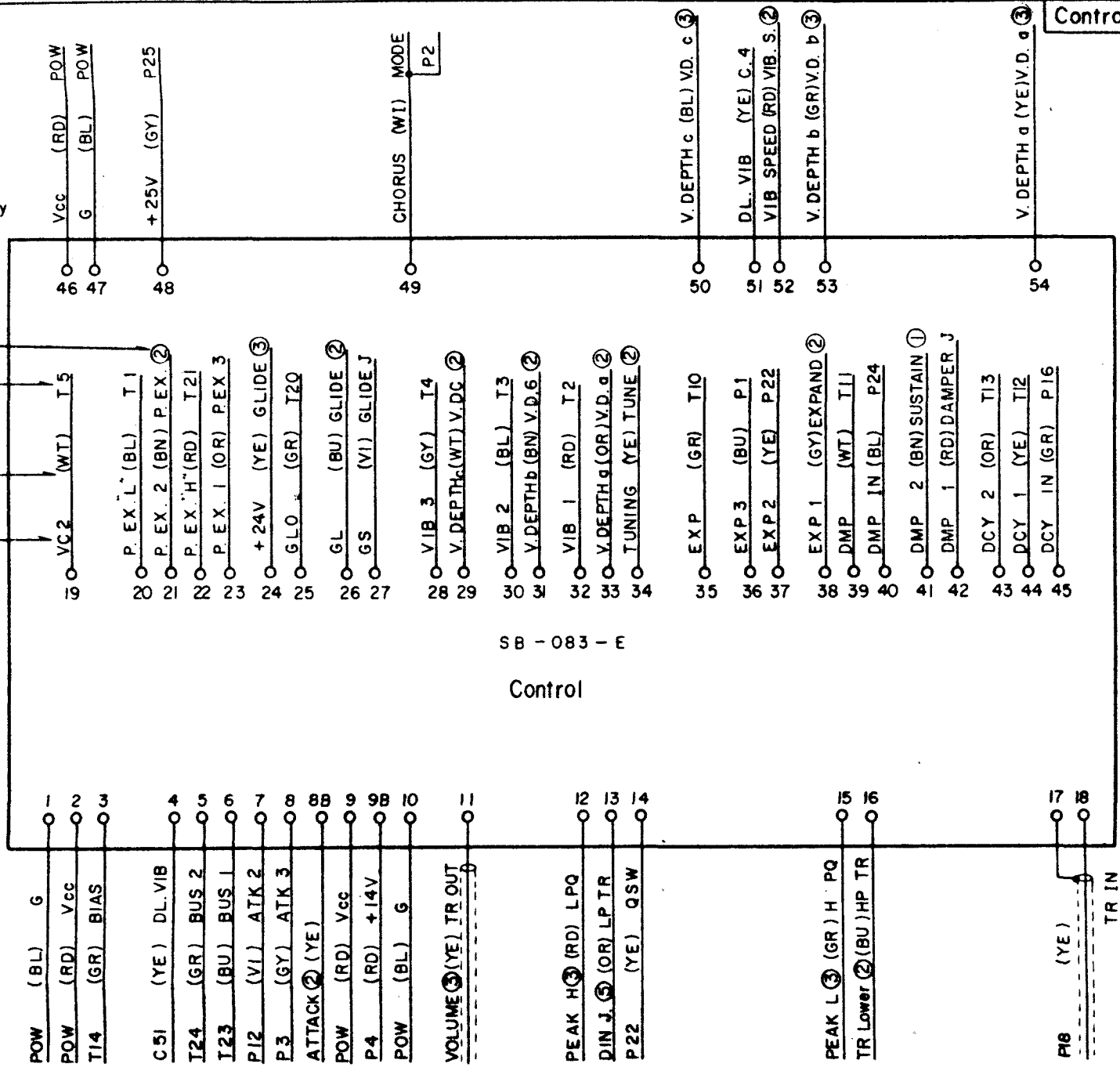
C : Control  
SB-083-E

T : Terminal

POW: Power Supply

2 means No.2 terminal of V.R.

Signal Name  
Color  
Connection



SB-083-E  
Control

Control Wiring

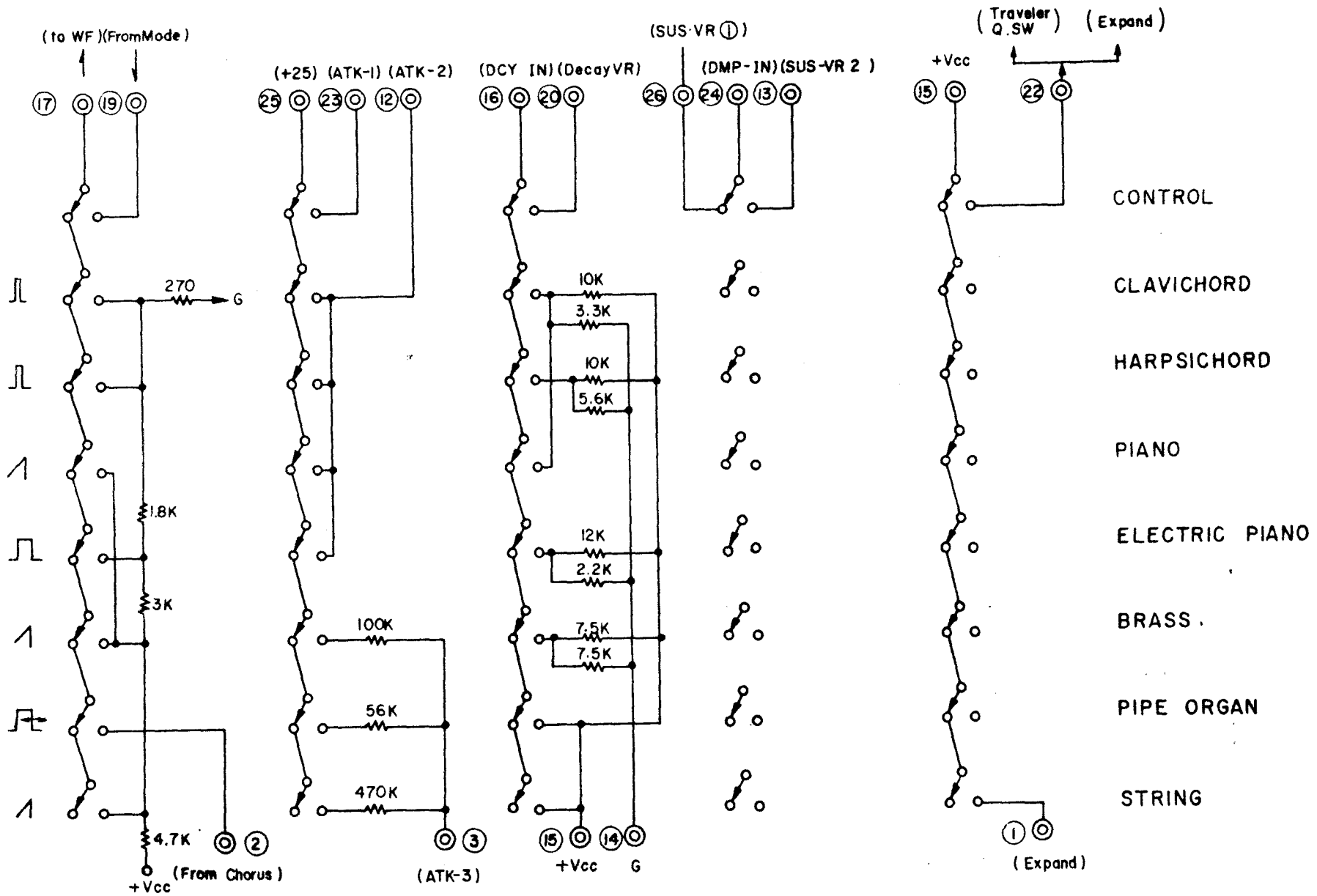
Wave Form

Attack

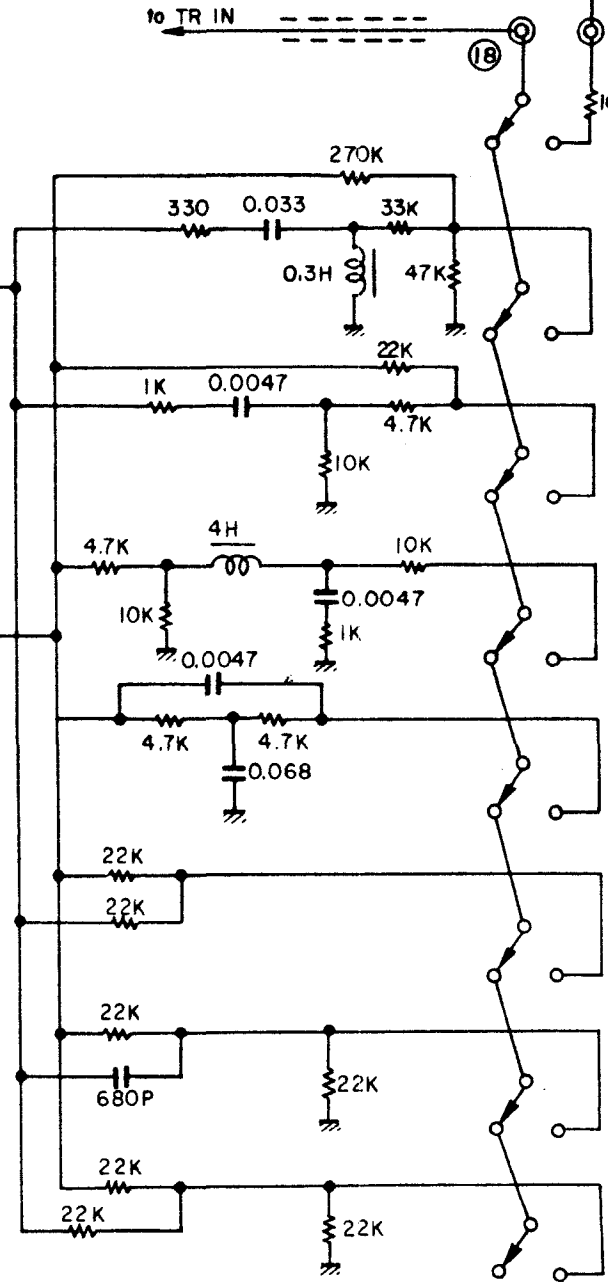
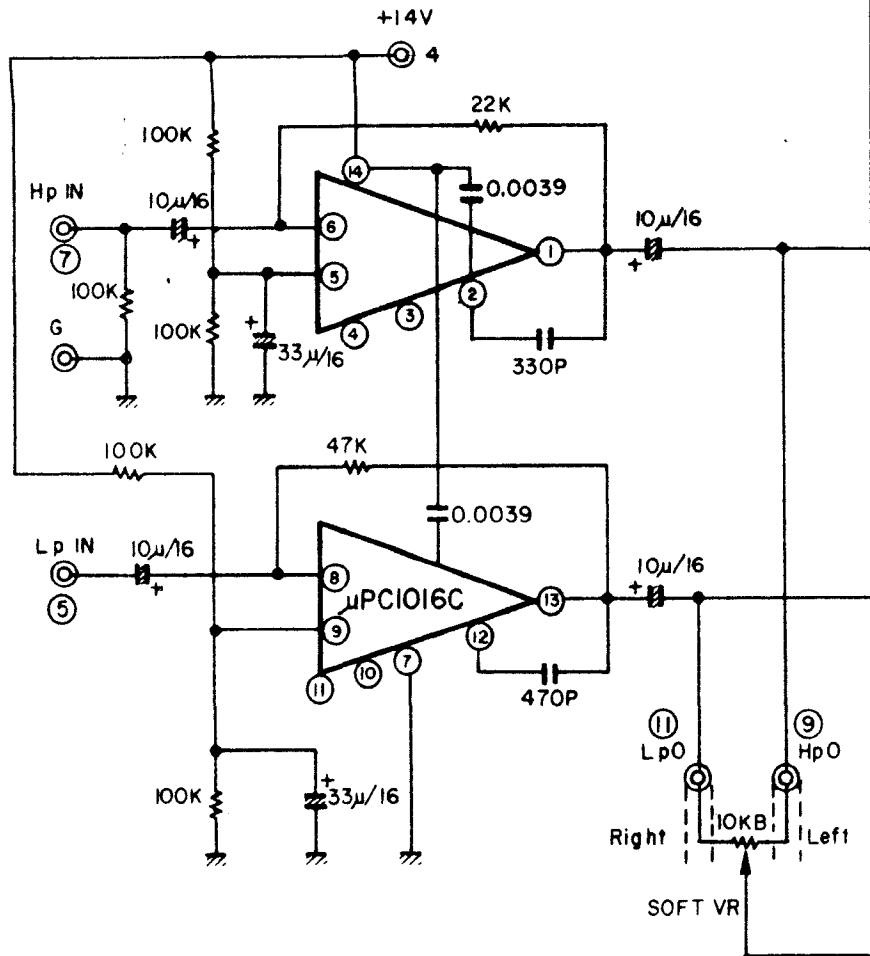
Decay

Damper - Sustain

Control Signal



Preset Tone  
Pre Amps.

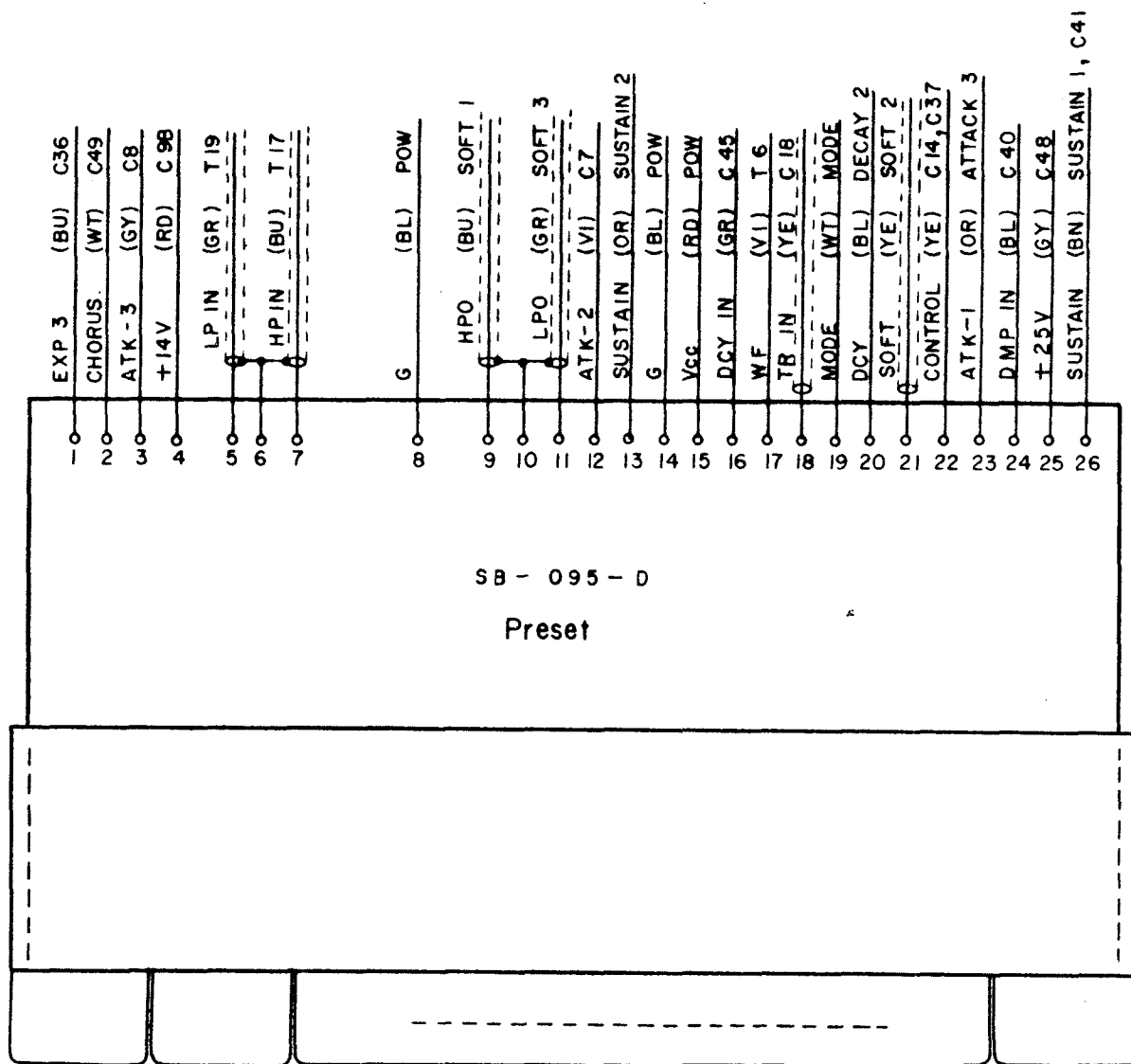


# Preset Wiring

## Notice

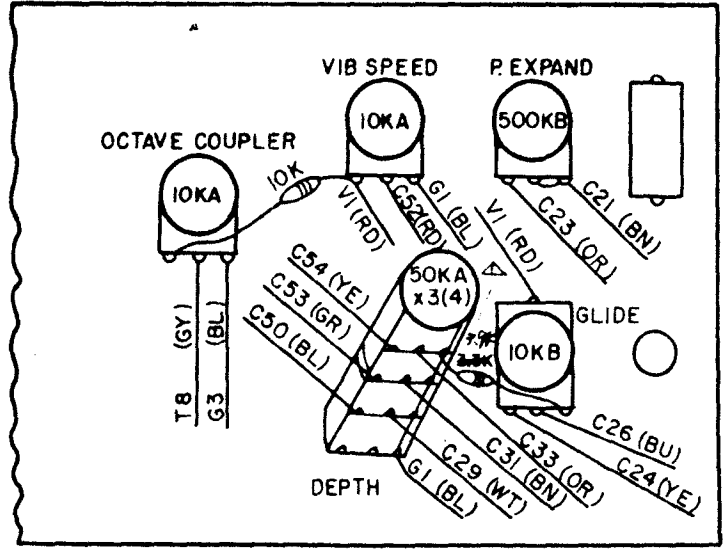
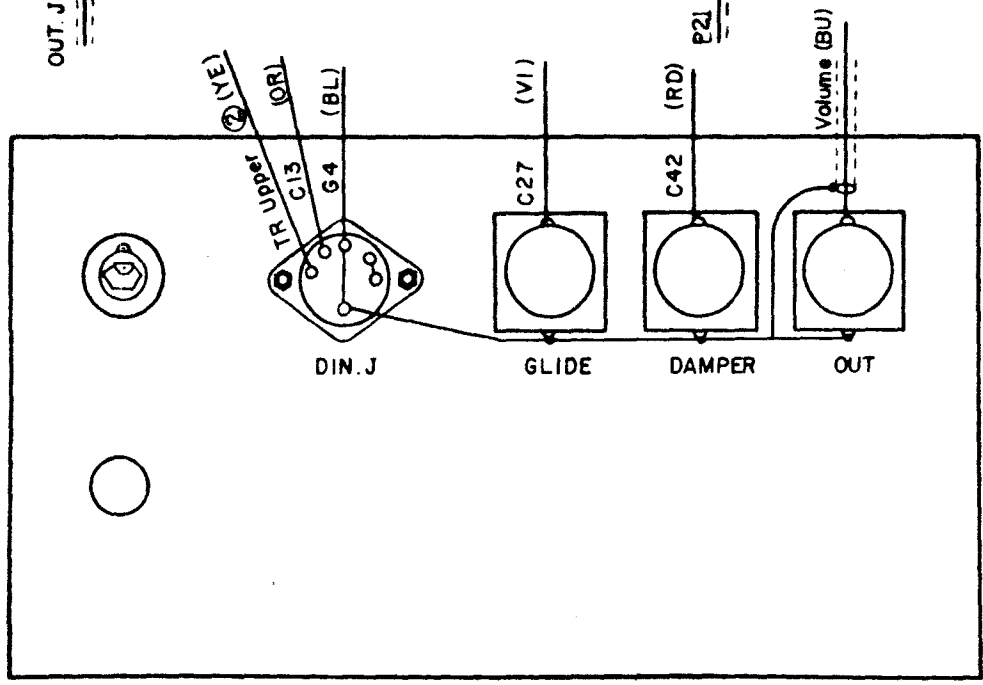
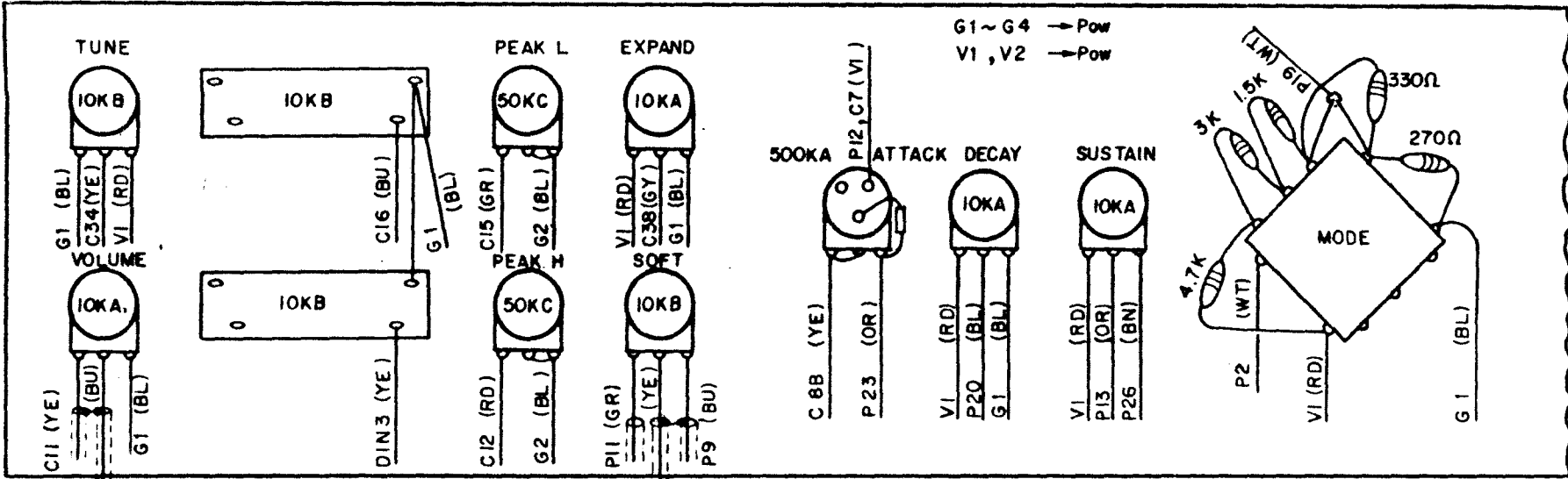
- P : Preset  
SB-095-D
- C : Control  
SB-083-E
- T : Terminal
- POW: Power Unit

- BN : Brown
- RD : Red
- OR : Orange
- YE : Yellow
- GR : Green
- BU : Blue
- VI : Violet
- GY : Gray
- WT : White
- BL : Black
- YG : Yellow Green
- LB : Light Blue

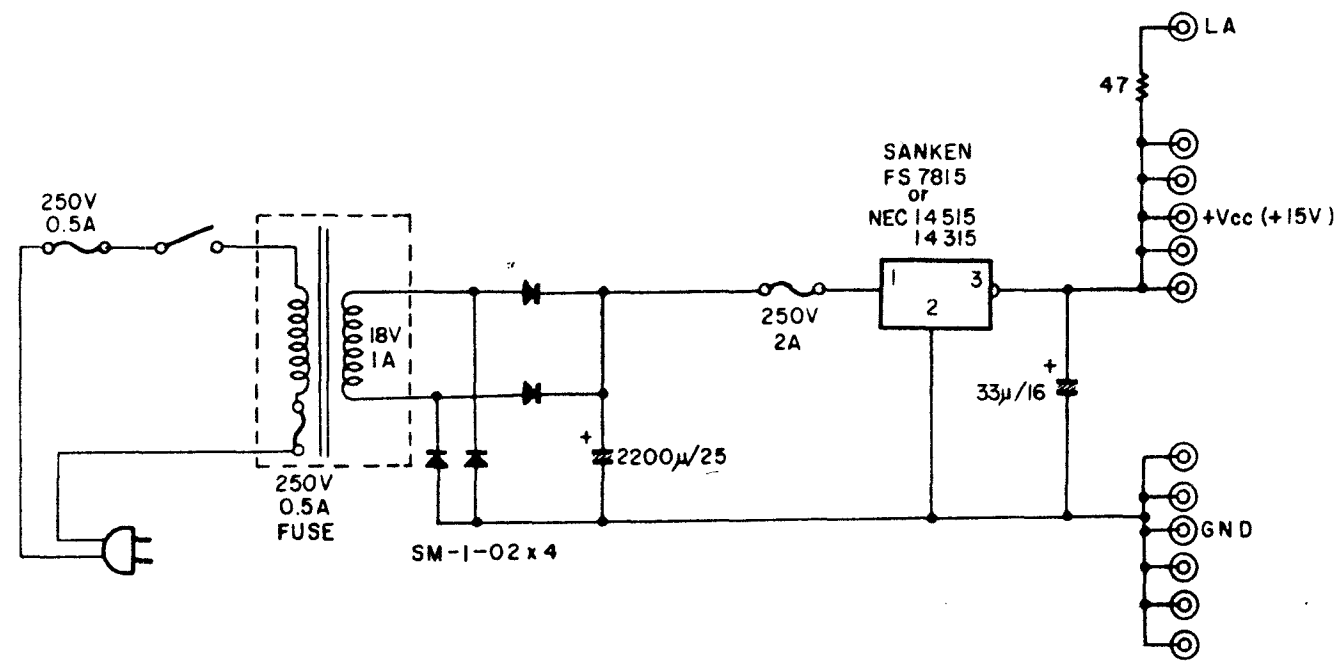


Grey Push Button



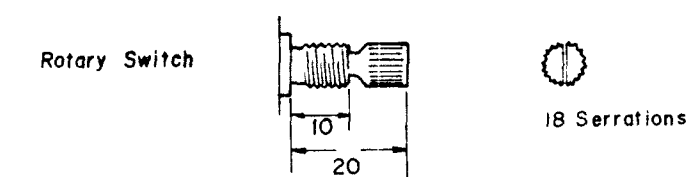
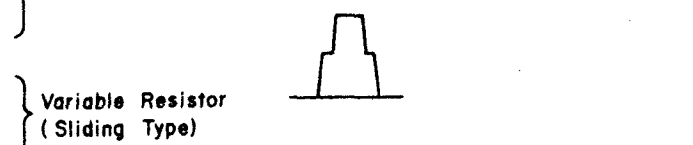
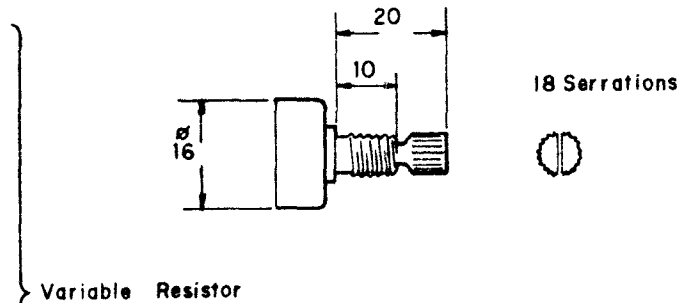


Power Supply



Front Panel Parts List

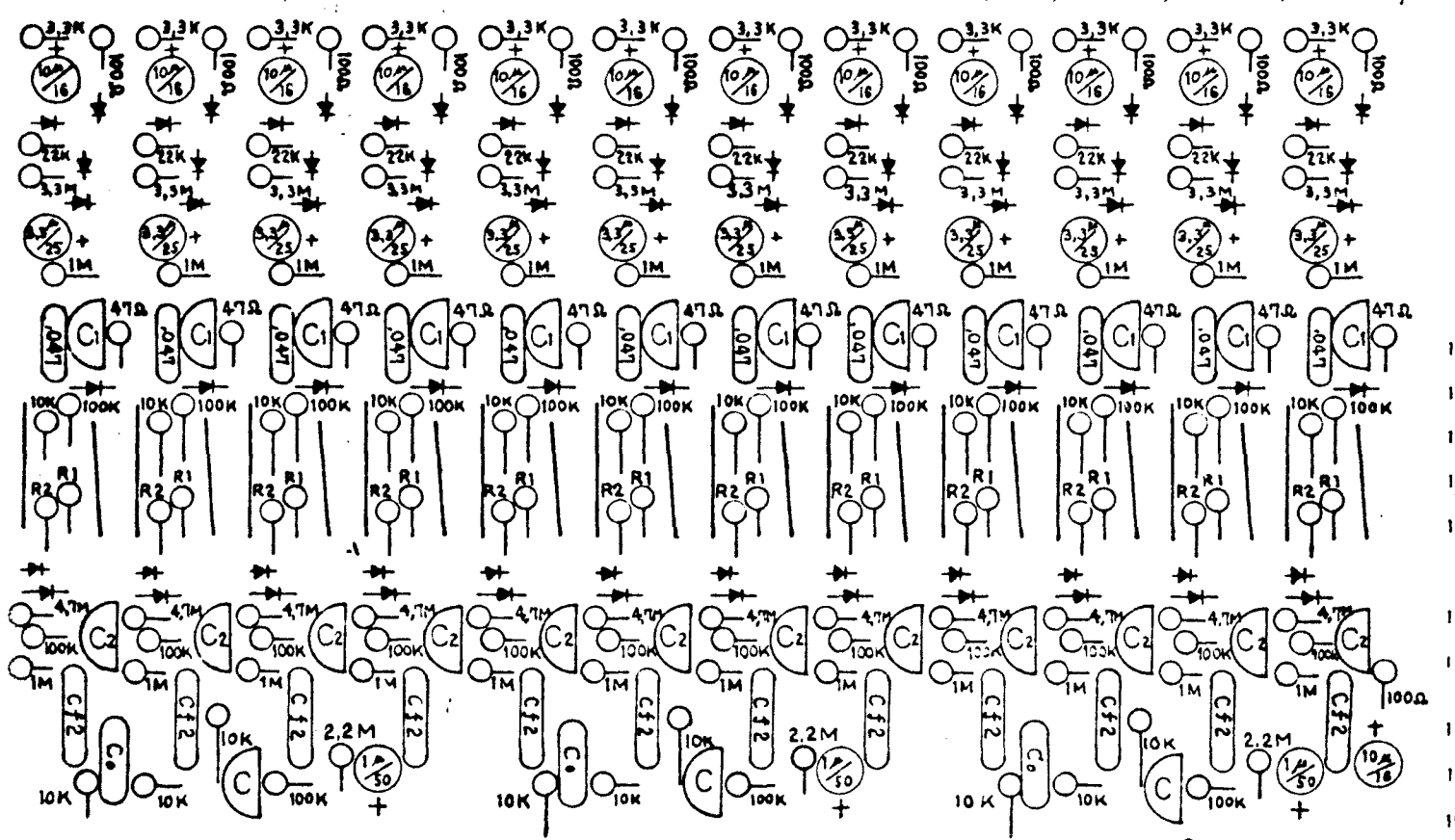
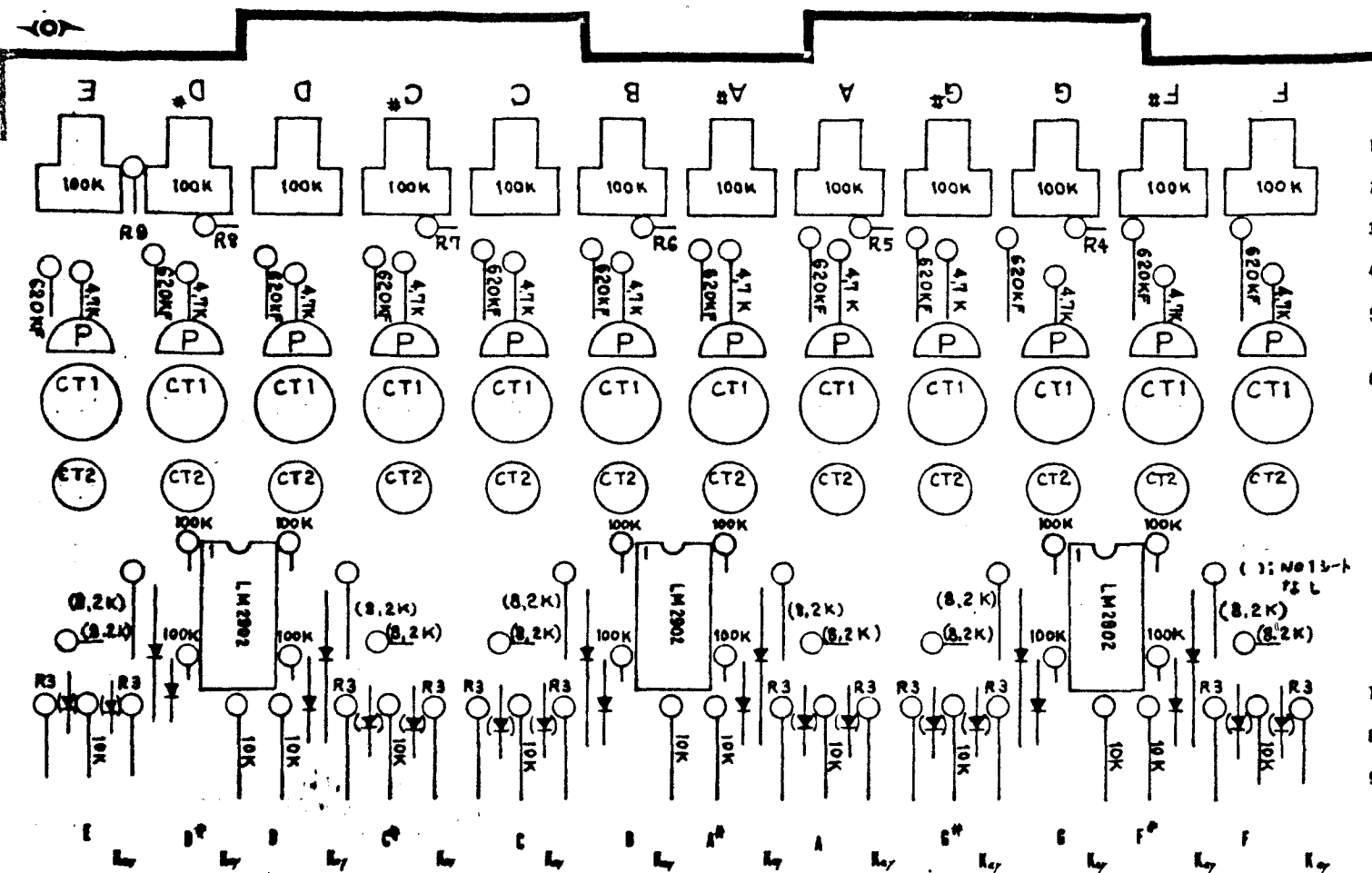
1	VOLUME	16 $\phi$	10KA	VM10A	10KA
2	TUNE	16 $\phi$	10KB	VM10A	10KB
3	PEAK H	16 $\phi$	50KC	VM10A	50KC
4	PEAK L	16 $\phi$	50KC	VM10A	50KC
5	SOFT	16 $\phi$	10KB	VM10A	10KB
6	EXPAND	16 $\phi$	10KA	VM10A	10KA
7	ATTACK	16 $\phi$ with Switch	500KA	VM11A	5M1222 - 500KA
8	DECAY	16 $\phi$	10KA	VM10A	10KA
9	DAMPER	16 $\phi$	10KA	VM10A	10KA
10	COUPLER	16 $\phi$	10KA	VM10A	10KA
11	VIBRATO DEP.	16 $\phi$ 3-Ganged	50KA	HM10A	50KA x 3
12	VIB SPEED	16 $\phi$	10KA	VM10A	10KA
13	GLIDE	16 $\phi$ with Center Click and Center Tap	10KB	VM10E	10KB
14	PITCH EXPAND	16 $\phi$	500KB	VM10A	500KB
15	TRAVELER(Upper)	60mm	10KB	EVA - SOAB00B14	
16	TRAVELER(Lower)	60mm	10KB	EVA - SOAB00B14	
17	MODE	2-4-5 Rotary Switch		ESR - N245K20	
18	PRESET SWITCH	8 Push Buttons		MBS - 086 - e	
19	POWER SWITCH			MIYAMA 63	
20	PILOT LAMP	RED		BQ054 - 32715A	



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POLYPNIC ENSEMBLE I  
SB-000-C

No.

CHECK

20/21