

CHORUS CHR-1

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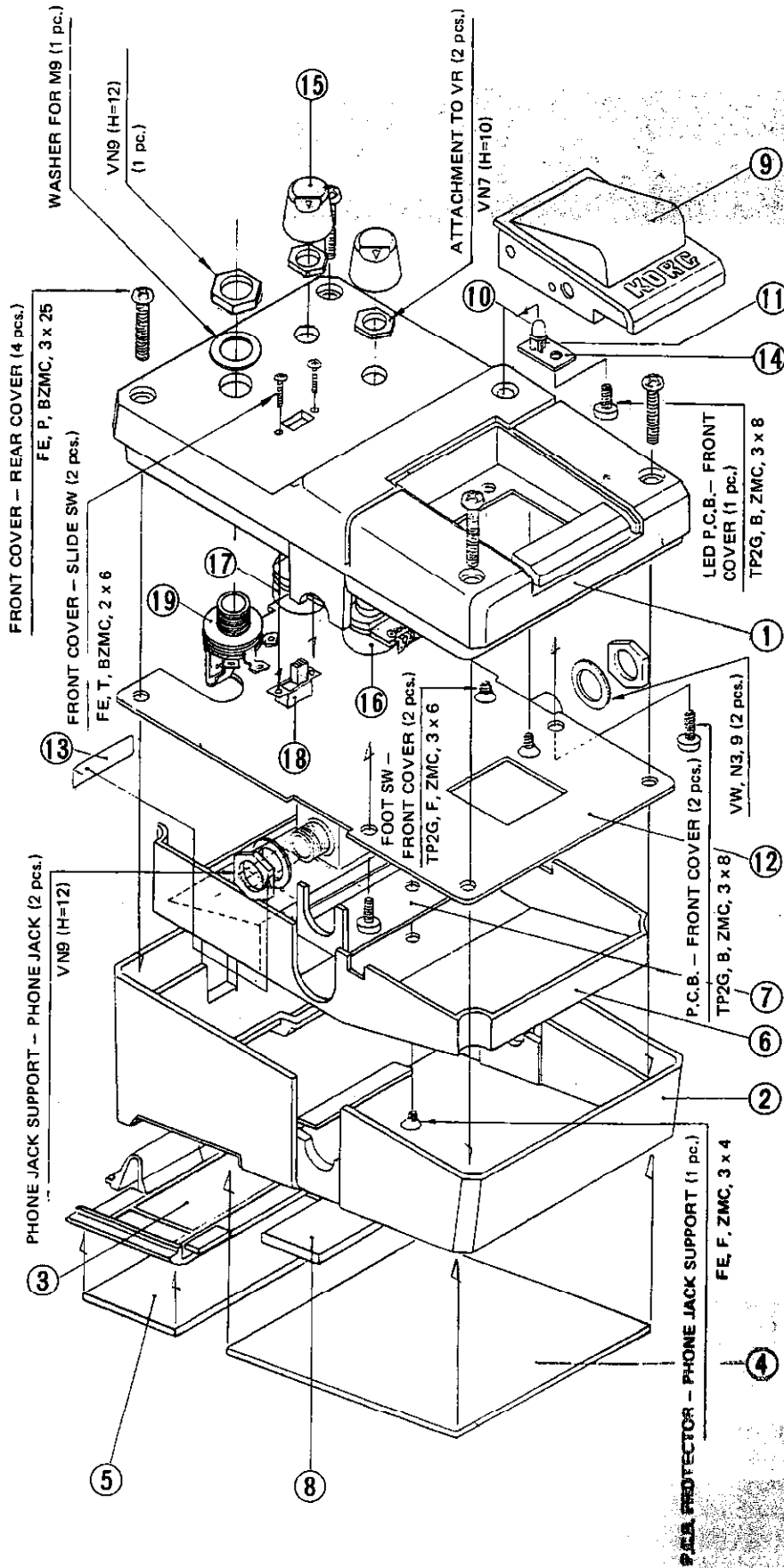
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1. SPECIFICATIONS

- Input impedance 1M Ω
- Output impedance 1k Ω (general), 1k Ω (DIRECT OUT FOR STEREO)
- Maximum input level +3dBm (INTENSITY 0, MODE 1, at 250Hz)
- Maximum output level +3dBm (INTENSITY 0, MODE 1, at 250Hz)
- Delay time 2msec. ~ 5msec.
- Frequency response 20Hz ~ 20kHz +0/-1.5dB [EFFECT OFF]
- Residual noise level -96dBm (INTENSITY 0, MODE 1, input short-circuited, IHF-A)
- Operating voltage 10 ~ 7.5V
- Power consumption 12.8mA
- Pedal switch life Over 10,000 times of switching
- Functions SPEED, INTENSITY, MODE SW, DIRECT OUT FOR STEREO, EFFECT ON/OFF LED, FOOT SW, INPUT, OUTPUT
- Power supply 006P 9V battery/DC jack
- Dimensions 70(W) x 68(H) x 129(D) mm
- Weight 470 g (including battery)

(All values are typical.)

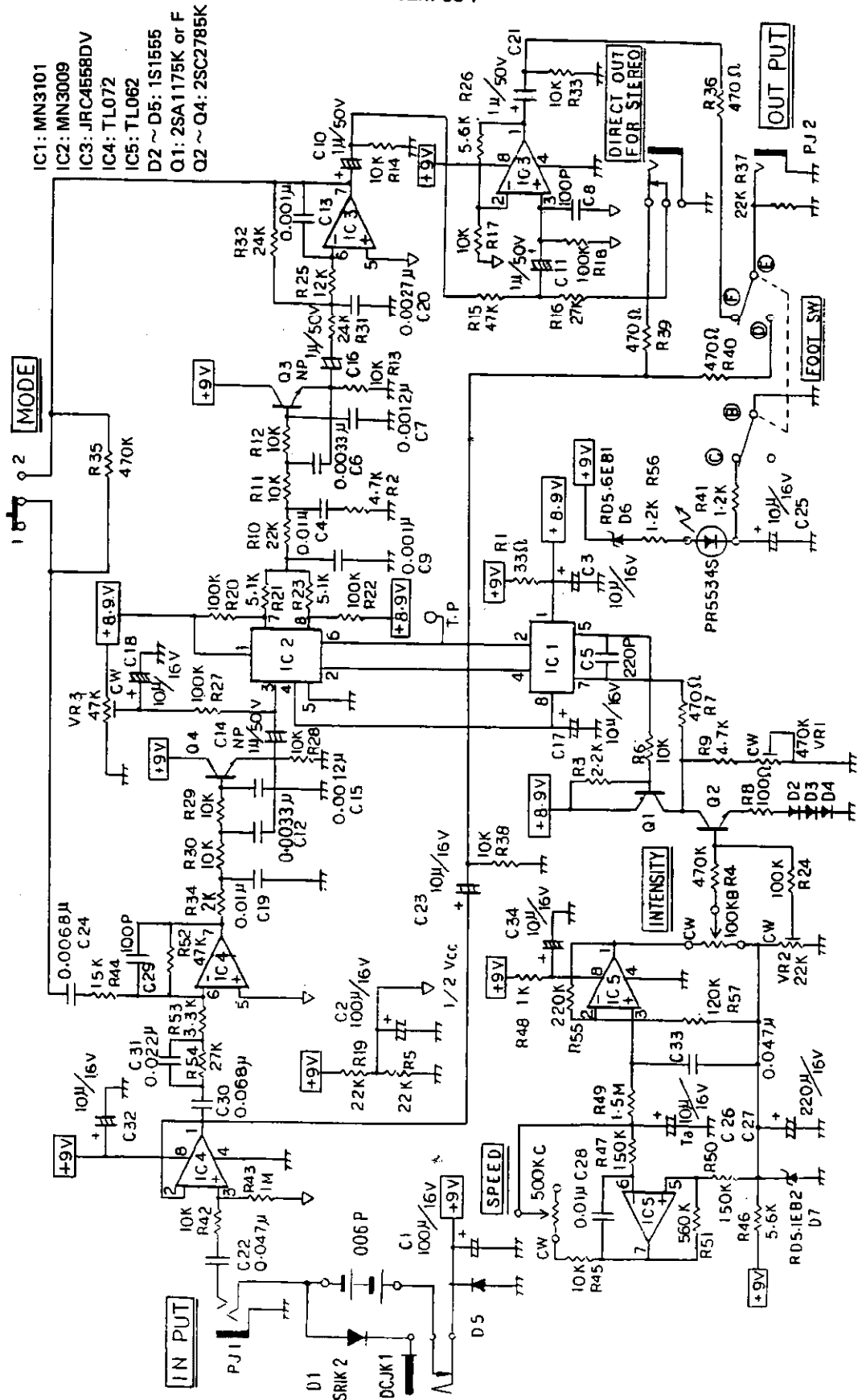
2. STRUCTURAL DIAGRAM



PART NO.	PART NAME	PART CODE
1	FRONT COVER	64703300
2	REAR COVER	64703100
3	BATTERY COVER	64703200
4	RUBBER STOPPER LARGE	50009300
5	RUBBER STOPPER SMALL	50009400
6	P.C.B. PROTECTOR	64607000
7	PHONE JACK SUPPORT	64030500
8	SPONGE	50003400
9	FOOT SW (KFS-2)	37507100
10	LED (PR-85345)	31200700
11	LED HOLDER X-TYPE	57504000
12	P.C.B (KLM-684)	34068400
13	SERIAL NUMBER SEAL	
14	LED P.C.B (KLM-694)	34069400
15	EFFECTS KNOB SMALL	62014300
16	VR 100K8	36012100
17	VR 500K8	36012400
18	SLIDE SW	37301400
19	PHONE JACK	45000700

3. CIRCUIT DIAGRAM

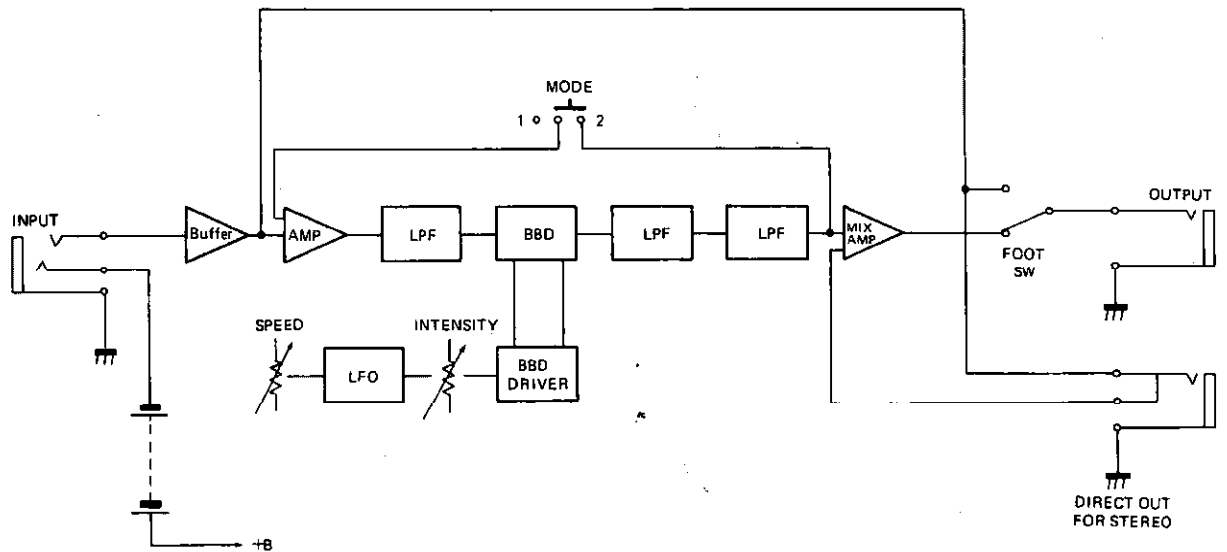
KLM-684



PAGE	PART CODE
ALL	64703300
	64703100
	64703200
	50009300
	50009400
	84607000
	84030600
	50003400
	37507100
	31200700
	57504000
	34068400
	34069400
	62014300
	36012100
	36012400
	37301400
	45000700

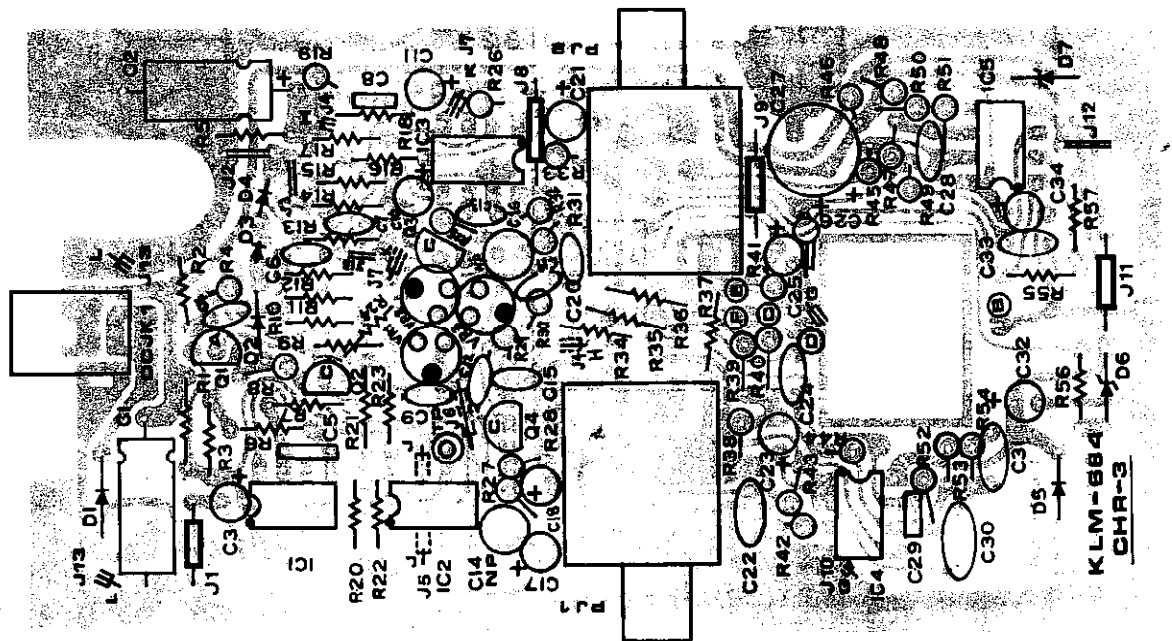
4. BLOCK DIAGRAM

KLM-684



5. P.C. BOARD

KLM-684



6. ADJUSTMENT PROCEDURE

1. BBD Clock check and adjustment

1) Connect oscilloscope to TP1 and confirm the waveform shown in Figure 1.

Set MODE switch to 1, SPEED to 0, INTENSITY to 10.

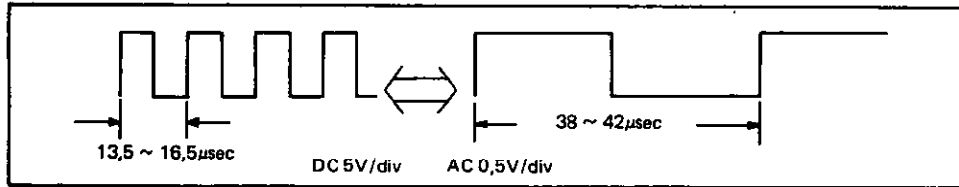


Fig-1

2) Observe cycle on oscilloscope and confirm that it is within the limits shown in figure-4. If necessary, adjust VR2 (clock maximum) to obtain $13 \mu\text{s}$ $16.5 \mu\text{s}$, VR1 (clock minimum) to obtain $38 \mu\text{s}$ $42 \mu\text{s}$. Repeat adjustments as many times as is necessary to obtain desired results.

2. BBD Bias check and adjustment

1) Use signal generator to apply 250 Hz sine wave at 2Vp-p to CHR-1. Set MODE to 1, SPEED to 0, INTENSITY to 0.

2) Connect oscilloscope to R10 and confirm Figure 2 waveform.

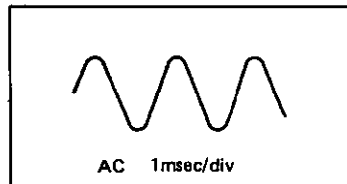
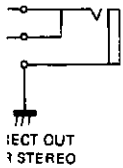
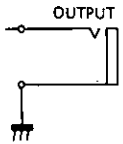


Fig-2

3) Upper and lower parts of waveform should be symmetrical and there should be little distortion. Adjust VR3 if necessary.



KLM-884
CHR-3
D6
R57
J11
J12

7. PARTS LIST

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	QTY
CARBON RESISTORS				
10009000	Y 0Ω			4
10013233	S1/4JY 33Ω	KLM-684		1
10013347	S1/4JY 470Ω			2
10013412	S1/4JY 1.2K			1
10013420	S1/4JY 2K			1
10013422	S1/4JY 2.2K			1
10013447	S1/4JY 4.7K			2
10013451	S1/4JY 5.1K			2
10013510	S1/4JY 10K			6
10013522	S1/4JY 22K			3
10013527	S1/4JY 27K			1
10013547	S1/4JY 47K			1
10013610	S1/4JY 100K			4
10013612	S1/4JY 120K			1
10013622	S1/4JY 220K			1
10013647	S1/4JY 470K			1
10113310	S1/4JT 100Ω			1
10113347	S1/4JT 390Ω			2
10113410	S1/4JT 1K			1
10113412	S1/4JT 1.2K			1
10113433	S1/4JT 3.3K			1
10113456	S1/4JT 5.6K			2
10113510	S1/4JT 10K			7
10113512	S1/4JT 12K			1
10113515	S1/4JT 15K			1
10113522	S1/4JT 22K			1
10113524	S1/4JT 24K			2
10113527	S1/4JT 27K			1
10113547	S1/4JT 47K			1
10113610	S1/4JT 100K			1
10113615	S1/4JT 150K			2
10113647	S1/4JT 470K			1
10113656	S1/4JT 560K			1
10113710	S1/4JT 1M			1
10113715	S1/4JT 1.5M			1
MYLAR CAPACITORS				
20023410	50V 0.001μF	KLM-684		2
20023412	50V 0.0012μF			2
20023427	50V 0.0027μF			1
20023433	50V 0.0033μF			2
20023468	50V 0.0068μF			1
20023510	50V 0.01μF			3
20023522	50V 0.022μF			1
20023547	50V 0.047μF			2
20023568	50V 0.068μF			1

PARTS CODE	PARTS NAME SPECIFICATIONS	P.C. BOARD	IDENTIFICATION NO. FUNCTION	QTY
CERAMIC CAPACITORS				
21256310	50V 100PF	KLM-684		2
21256322	50V 220PFJ			1
TANTALUM CAPACITOR				
22007210	16V 10UFK	KLM-684		1
ELECTROLYTIC CAPACITORS				
23007322	A16V 220μF	KLM-684		1
23107310	B16V 100μF			2
23207210	A16V 10μF			7
23215110	A50V 1μF			3
24515110	A50V 1μF (NON POLAR)			2
TRANSISTORS				
30001311	2SA1175 K	KLM-684		1
30202211	2SC2785 K			3
DIODES				
31000100	1S1555	KLM-684		4
31001500	SR1K-2			1
ZENER DIODES				
31101300	RD 5.1EB2	KLM-684		1
31101600	RD 5.6EB1			1
LED				
31200700	PR-5534S			1
ICs				
32002013	MN-3009	KLM-684		1
32002014	MN-3101			1
32009001	NJM-4558D-V			1
32021011	TL-072			1
32021022	TL-062			1
P.C BOARD WITH PARTS				
34068400	KLM-684			1
34068400	KLM-684			1