

ELECTRONIC MUSICAL INSTRUMENT

ROLAND RHYTHM INSTRUMENT

Rhythm 330

SERVICE NOTE

THE THIRD EDITION

Printed in Japan '75. Oct.



Roland Corporation

CONTENTS

SECTION 1.	SPECIFICATIONS	2
SECTION 2.	GENERAL BLOCK DIAGRAM	3
SECTION 3.	LOGIC CIRCUIT	4
SECTION 4.	MATRIX CIRCUIT	5
SECTION 5.	VOICE GENERATOR CIRCUIT	6
SECTION 6.	RHYTHM SWITCH ASSEMBLY	8
SECTION 7.	AMPLIFIER CIRCUIT	9
SECTION 8.	STANDARD OUTPUT OF PERCUSSION INSTRUMENTS.	10
SECTION 9.	RHYTHM ENSEMBLE PATTERN	10
SECTION 10.	PARTS LIST	11

SECTION 1. SPECIFICATIONS

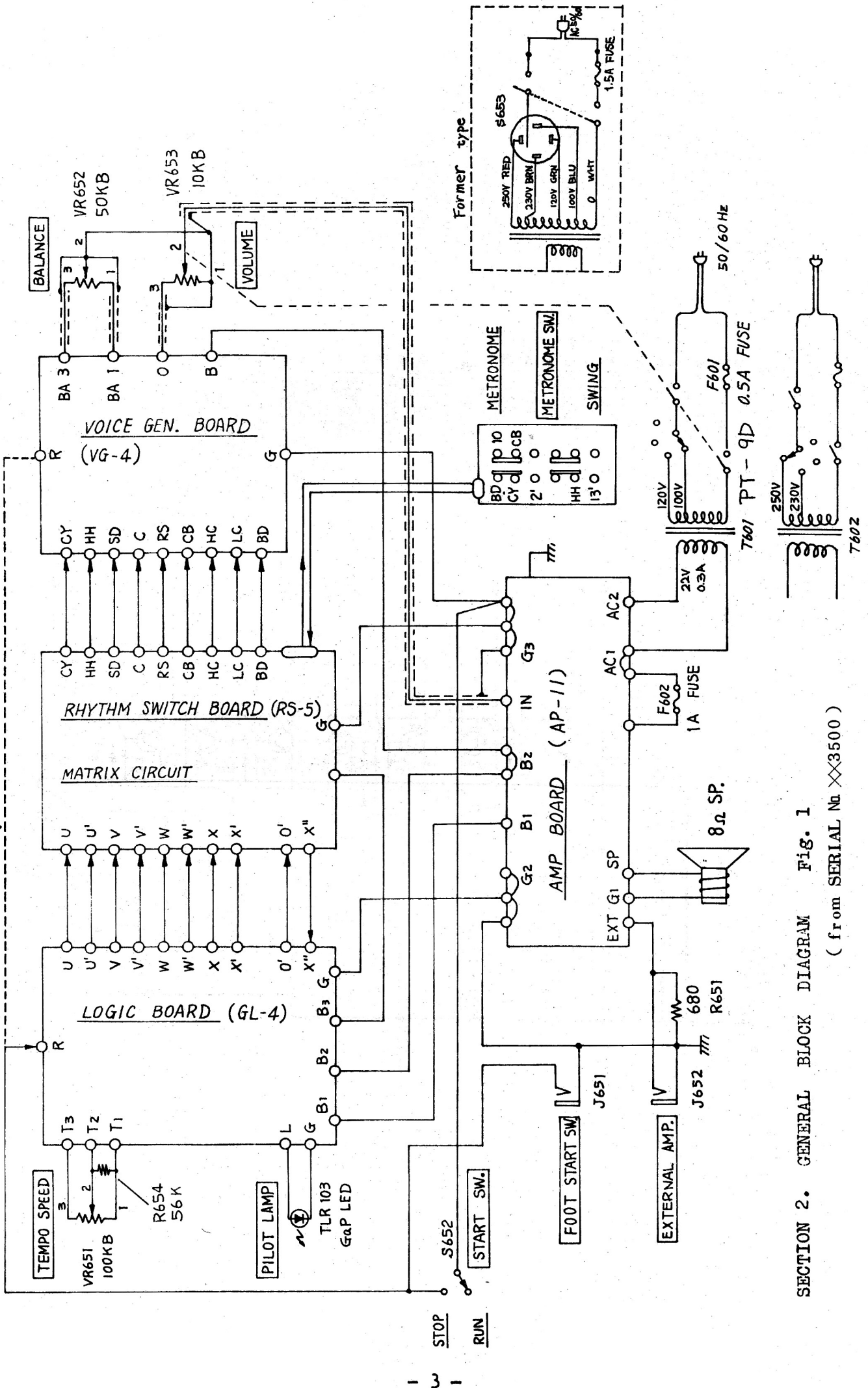
Rhythm Selector	10 Buttons Waltz, Slow Rock, Rock Beat, Beguine, Rhumba, Cha-Cha, Mambo, Bossa-Nova, March, Swing.
Voices	Bass Drum, Low Conga, High Conga, Cowbell, Rim-Shot, Claves, Snare Drum, Cymbal, High- Hat.
Control Knobs	Volume, Balance, Tempo
Control Switches	Start, Metronome
Output	5W
Speaker	12.5 x 17.5cm 1
Jacks 2
	EXTERNAL AMP. (To External Amp.)
	FOOT SWITCH (To Foot Switch)
Pilot Lamp (used as both Power and Tempo Pilot)	ELD
IC	
Silicon Transistors	
Silicon Diodes	
Zena Diode	
AC Voltage	100V, 117V, or 220V, 240V, 50/60Hz
Power Consumption	14VA
Dimensions	184(H) x 236(W) x 295(D)mm
Weight	5 Kg.
Accessory	Foot Switch for Remote Control (Start or Stop) (with 2.5m Cord) 1

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

*** Disassembling**

When disassembling the cabinet, remove 4 screws on the bottom by a screw driver, and take the chassis off from the cabinet.

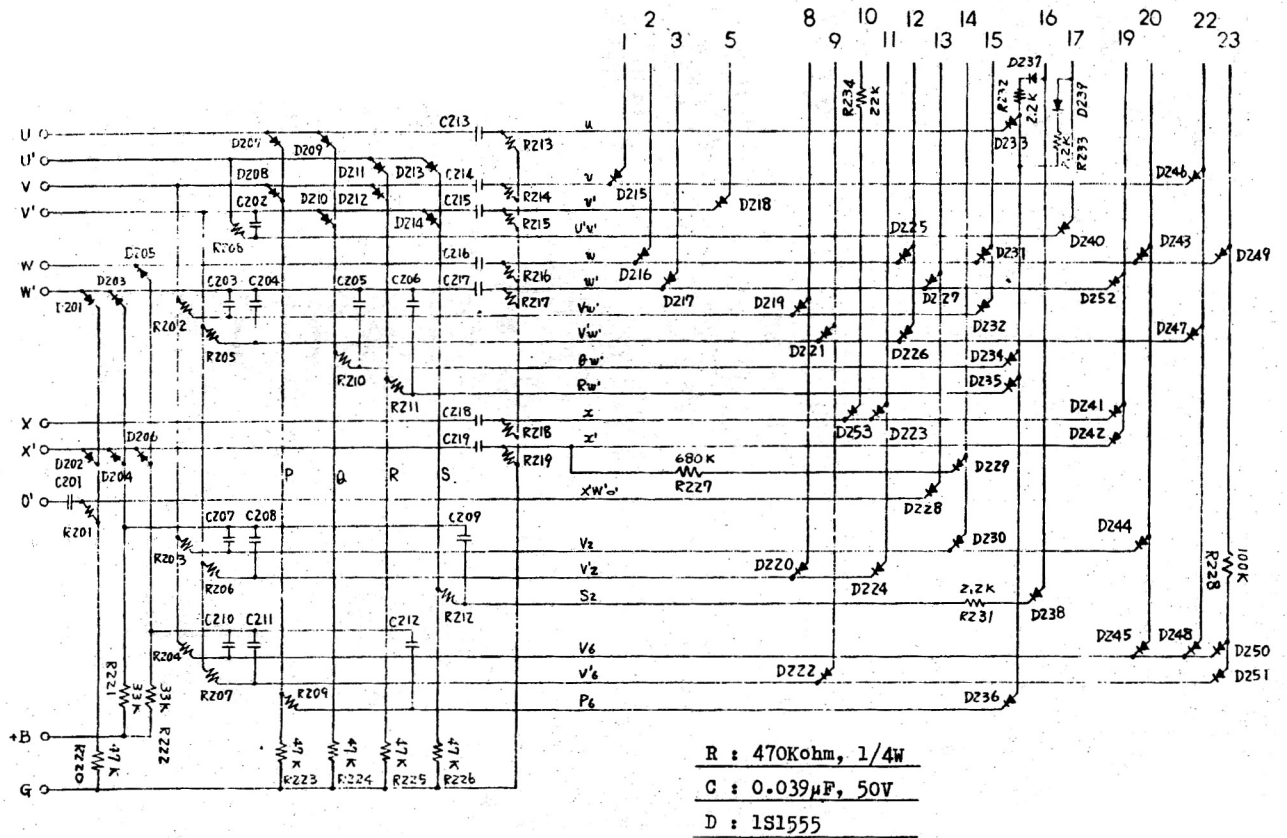
Erase from SERIAL No. X3500



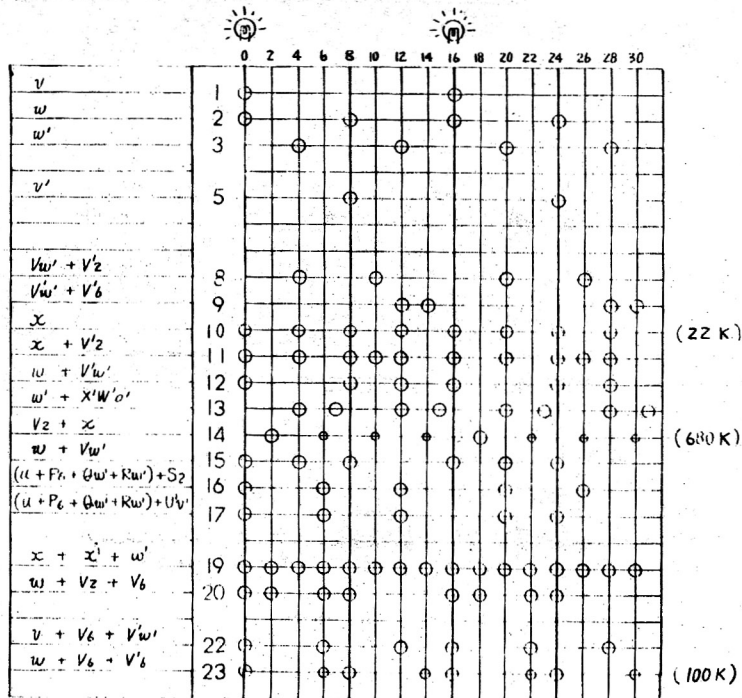
SECTION 2. GENERAL BLOCK DIAGRAM Fig. 1
(from SERIAL No. X3500)

SECTION 4. MATRIX CIRCUIT

4-1. Matrix Circuit Diagram (RS-5) Fig. 4



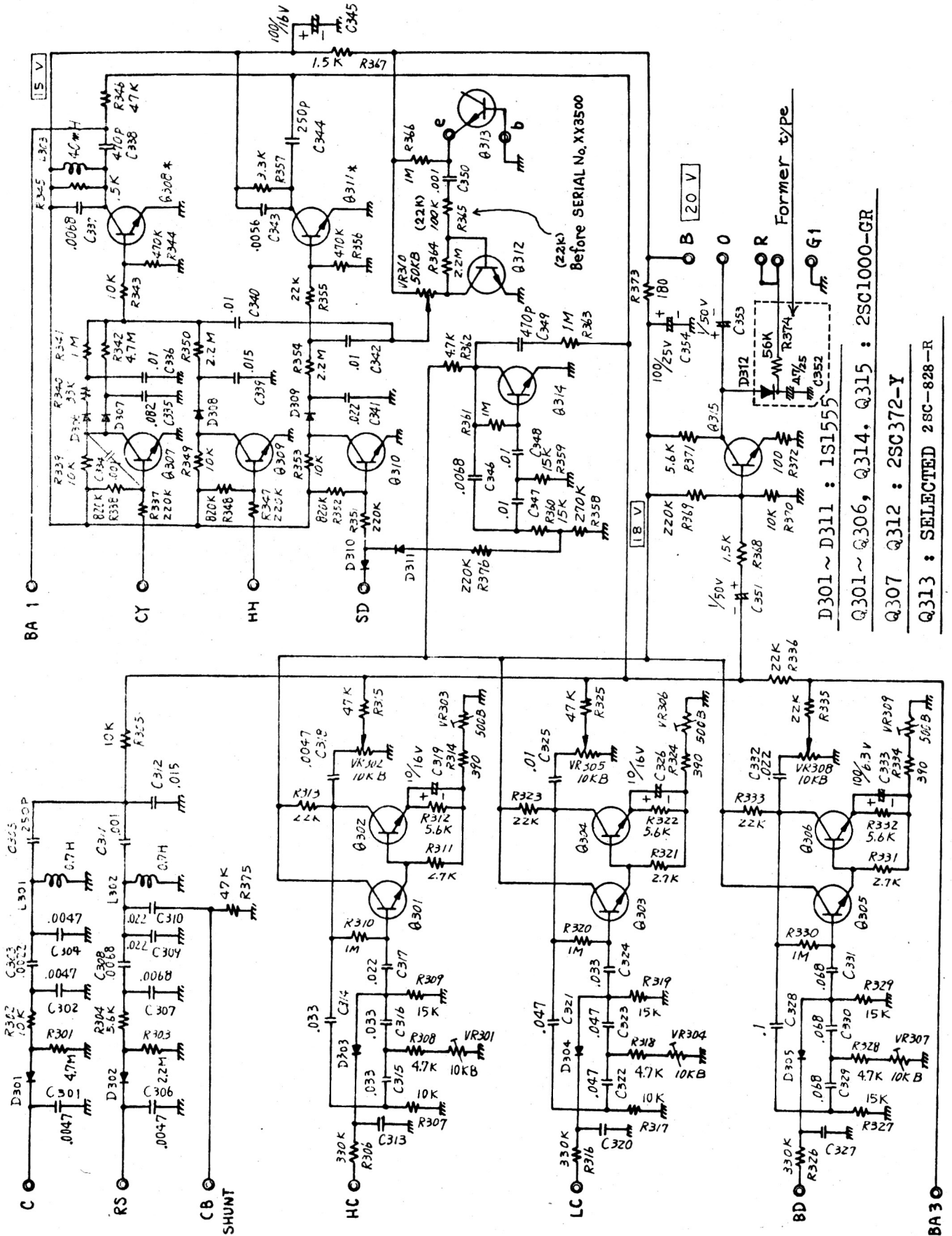
4-2. Matrix Output Timing Chart Fig. 5

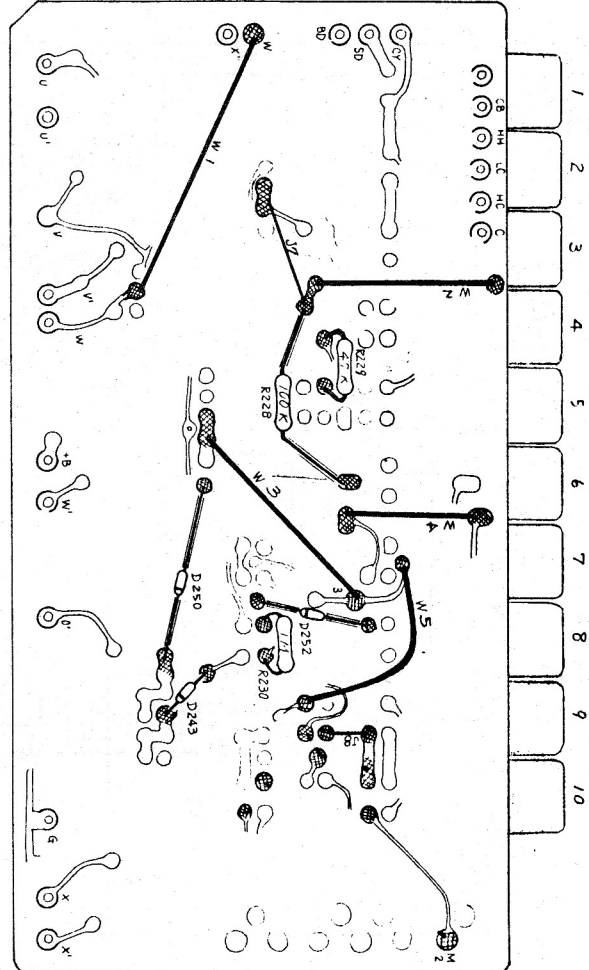
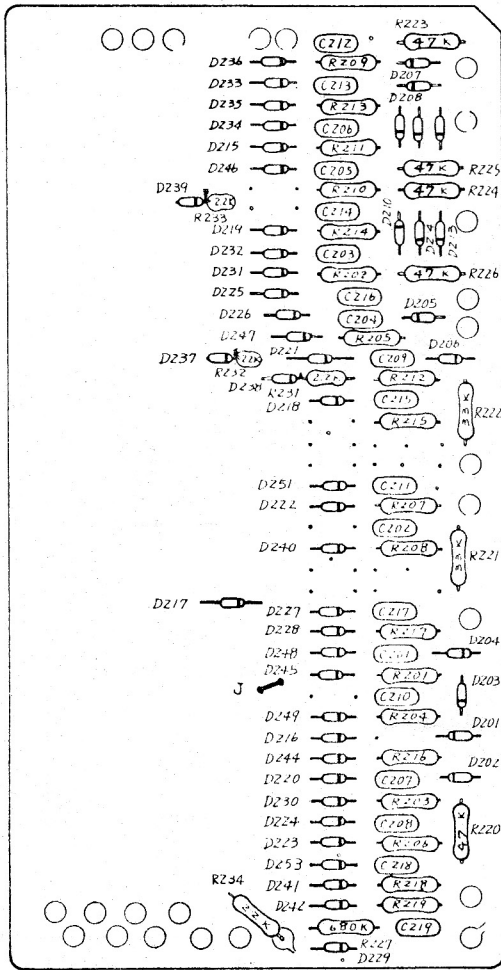


5-2. Voice Generator Circuit Diagram (VG-4)

Fig. 7

(from SERIAL No X3500)





UNLESS OTHERWISE SPECIFIED:
 ALL RESISTOR ARE IN OHMS, 1/4W, 470K.
 ALL CAPACITOR ARE IN MFD, 50V, 0.039μ.
 ALL DIODE ARE TYPE 1S1555.

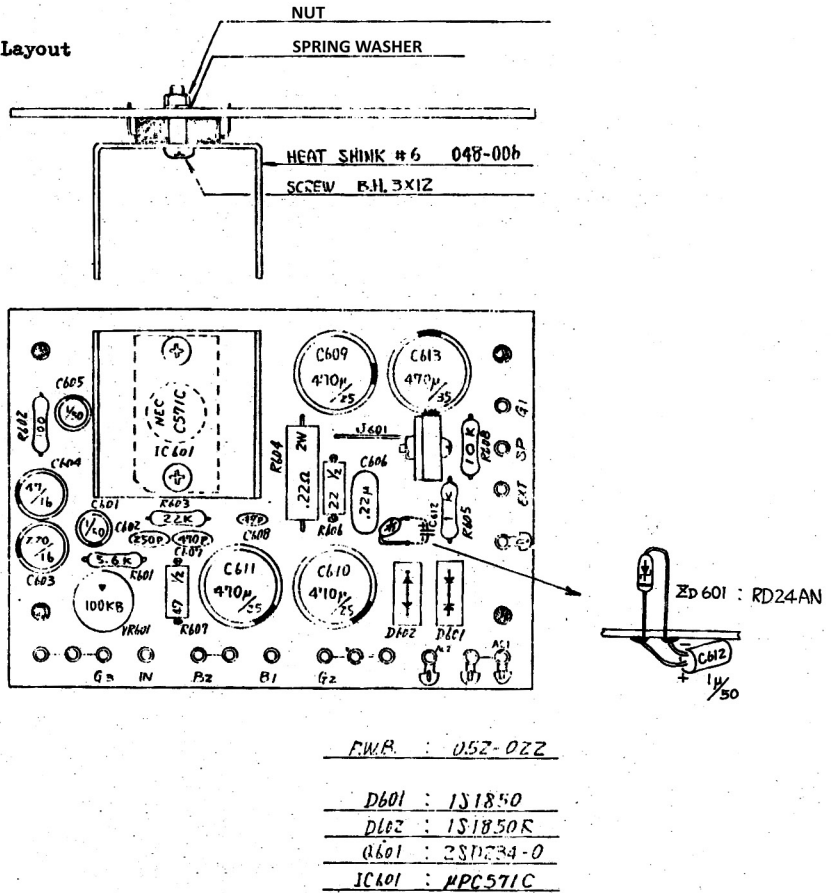
P.W.B. .052-007 A

1, 2, 3	IVORY	016-004
4, 5, 6, 7, 8	MAROON	016-005
9, 10	GRAY	016-008
PUSH SWITCH		001-030

SECTION 7. AMPLIFIER CIRCUIT

7-1. Amplifier Board Assembly Parts Layout

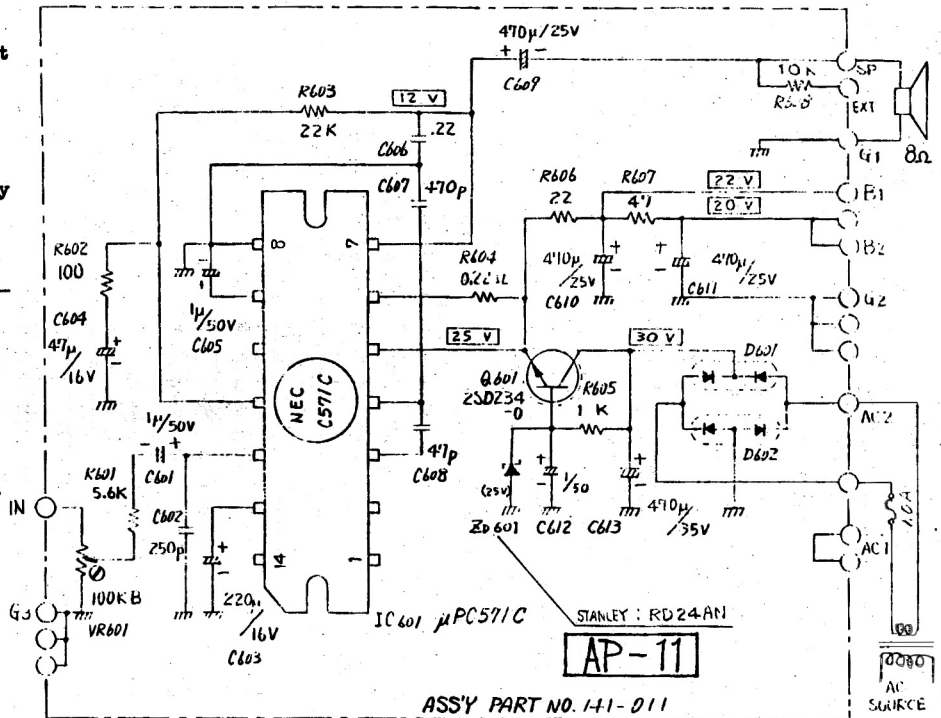
(AP-11) Fig. 9



7-2. Amplifier Circuit Diagram Fig. 10

MPC571C has the protector circuit against short circuit of it's load.

This protector circuit is based on the system which controls the input signals by detect the voltage that will appear on the detector resistor(R604) installed outside of the IC when the load is shorted. So, after short circuit is released, take the AC source off and the IC will automatically reset it-self.or make the terminal No. 8.short to the terminal No.9 to reset it.

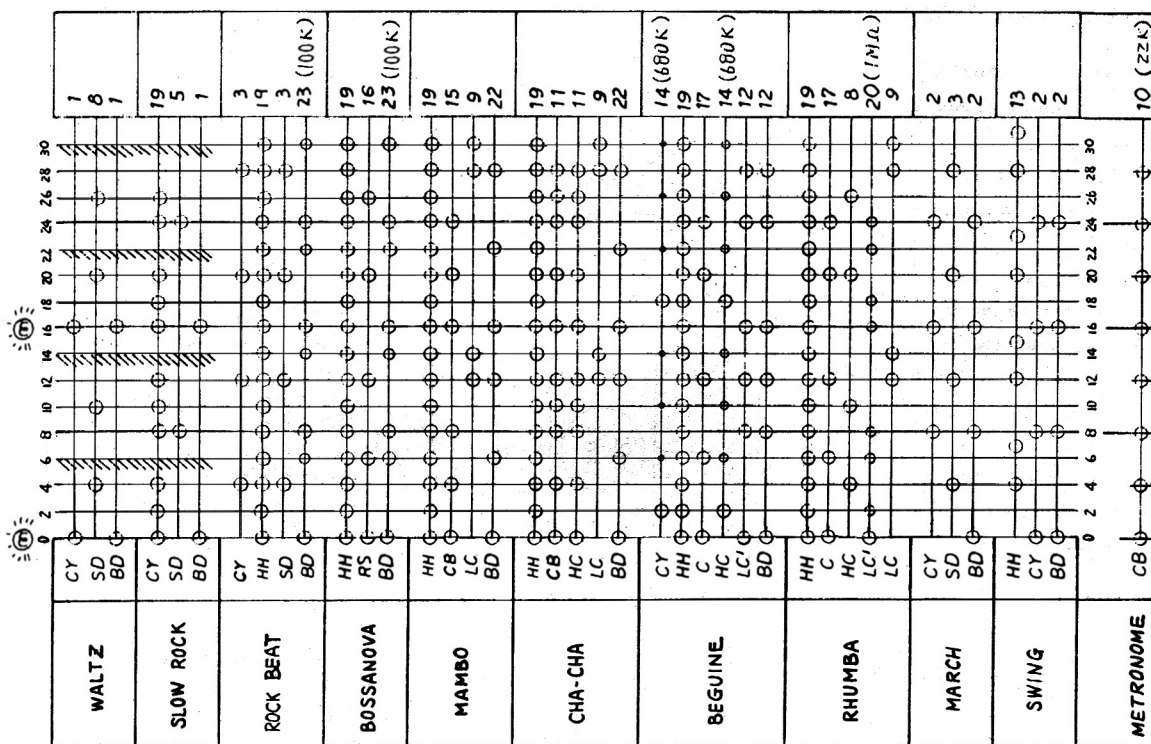


SECTION 8. STANDARD OUTPUT OF PERCUSSION INSTRUMENTS Fig. 11

Trigger Pulse : Track No. 2
 Measure at volume (Vr653) terminal No. 3

	AMPLITUDE [v]			FREQUENCY [μ S] (HZ)			DECAY TIME [mS]		
	MIN.	AVE.	MAX.	MIN.	AVE.	MAX.	MIN.	AVE.	MAX.
BD	0.3	0.35	0.4	15.5 (66)	13.5 (74) _{D2}	12.2 (82)	50	80	110
LC	0.35	0.4	0.45	7.6 (132)	6.8 (147) _{D3}	6.1 (164)	80	150	200
HC	0.26	0.3	0.34	5.05 (198)	4.5 (220) _{A3}	4.2 (246)	40	100	150
RS	0.32	0.4	0.48	1.06 (946)	0.85 (1176) _{D4}	0.74 (1410)	3.5	5	7
CB	0.24	0.3	0.36	1.42 (704)	1.14 (880) _{A5}	0.95 (1056)	20	26	40
C	0.14	0.17	0.21	0.48 (2100)	0.426 (2350) _{D7}	0.38 (2600)	8	13	20
JD	0.25	0.3	0.35	—	—	—	70	100	130
(D)	0.18	0.22	0.26	4.5 (250)	3.4 (294) _{D4}	2.96 (338)	8	14	20
HH	0.22	0.25	0.28	—	—	—	50	70	100
CY	0.25	0.3	0.35	—	—	—	250	350	450

SECTION 9. RHYTHM ENSEMBLE PATTERN Fig. 12



SECTION 10. PARTS LIST

TR-330 PARTS LIST

Be sure to list part names as well as numbers to avoid mistakes when ordering replacements.

CABINET ASSEMBLY

081-021	Cabinet	No. 21
085-005	Baffle Board	No. 5
111-021	Base	No. 21 (black for Bottom) × 4

CHASSIS ASSEMBLY

041-001	Speaker	No. 1	5'x7" EP-181219C
072-029	Panel	No. 29	
016-018	Knob		MAS-22S
016-002	"	No. 2	(for Tempo Control)
061-018	Chassis	No. 18	
061-019	"	No. 19	(rear chassis)
064-014	Holder	No. 14	(for lock of SP)
064-015	"	No. 15	(for Tempo cont)
001-017	Slide Switch		SW-319
001-016	Paddle Switch(Start)		MS-159(Black)((Discontinue))
001-007	"		PW-2022<from SERIAL NoXX3500>
028-153	Potentiometer (with Dpst.Swith)		10K(B) EVC-B07S15B14 (Volume)
028-115	Potentiometer		50K(B) EVC-B0AS15B54((Balance))
028-046	Slide Potentiometer		100K(B) EVC-S0AA00B15 (Tempo)
011-002	Voltage Selector Switch		XW-103-1-10
009-001	Jack		SG-7615 No. 5
047-003	Cord Bush		BU-4801
	"		R-5(Applied from SERIAL No. XX3500)
	Power Transformer	009-C	(O-100V-120V)
	"	009-D	(O-230V-250V)
	"	009-B	(O-100V-120V-230V-250V)((Discontinue))
	Wired-in Fuse		0.5A
	"		1.0A
065-006	Cover	No. 6	(dust cover of Tempo VR)
062-002	Bracket	No. 2	(Lamp lens)
068-001	Bush	No. 1	(for Tempo Lamp)
	Speed Nut		M8P
142-004	LOGIC BOARD ASSEMBLY		GL-4
148-005	PHYTHM SWITCH BOARD ASSEMBLY		RS-5
143-004	VOICE GENERATOR BOARD ASSEMBLY		VG-4
041-011	AMPLIFIER BOARD ASSEMBLY		AP-11
011-025	Push Button Switch		10FS-52U-66
016-004	Button	No. 4	Ivory
016-005	"	No. 5	Maroon
016-008	"	No. 8	Gray

* PRINTED WIRING BOARD ONLY

052-006	Logic	No. 6
052-007A	Rhythm Switch	No. 7
052-023	Voice Generator	No. 23
052-022	Amplifier	No. 22

* SEMICONDUCTORS

020-004	IC		μPC571C
017-004	Silicon Transistor		2SC372-Y
017-003	"		2SC1000-GR
017-010	"		2SD234-O
017-008	"		2SC828-R (for Noise : Selected)
018-015	Silicon Diode		1S1555
018-003	"		1S1850
018-004	"		1S1850R

TR-330 PARTS LIST

	Voltage Regulator Diode	RD-24AN	
019-002	Gap Light Emitting Diode	TLR-103	

*RESISTORS

028-001	Semifixed Resistor	500 ohm	EVL-R4X
028-004	"	10K ohm	"
028-006	"	50K ohm	"
028-007	"	100Kohm	"
	Carbon Film Resistor	56 ohm	1/4 R
	"	100 ohm	"
	"	180 ohm	"
	"	390 ohm	"
	"	560 ohm	"
	"	680 ohm	"
	"	1 Kohm	"
	"	1.5Kohm	"
	"	2.2Kohm	"
	"	2.7Kohm	"
	"	3.3Kohm	"
	"	4.7Kohm	"
	"	5.6Kohm	"
	"	10 Kohm	"
	"	15 Kohm	"
	"	22 Kohm	"
	"	33 Kohm	"
	"	47 Kohm	"
	"	56 Kohm	"
	"	100K ohm	"
	"	220Kohm	"
	"	270Kohm	"
	"	330Kohm	"
	"	470kohm	"
	"	680K ohm	"
	"	820Kohm	"
	"	1 Mohm	"
	Carbon Solid Resistor	22 ohm	ERC12GK
	"	47 ohm	"
	"	220 ohm	"
	"	2.2Mohm	"
	"	4.7Mohm	"
044-173	Wire Wound Resistor	0.22ohm	MS-2
044-490	"	680 ohm	ROG-3

*CAPACITORS

035-001	Plastic Film Capacitor (mylar)	470 pfd	50V
035-005	"	.001mfd	"
035-009	"	.0022mfd	"
035-012	"	.0047mfd	"
035-013	"	.0056mfd	"
035-014	"	.0068mfd	"
035-016	"	.01 mfd	"
035-018	"	.015mfd	"
035-020	"	.022mfd	"
035-022	"	.033mfd	"
035-023	"	.039mfd	"
035-024	"	.047mfd	"
035-026	"	.068mfd	"
035-027	"	.082mfd	"

TR-330 PARTS LIST

035-028	Plastic Film Capacitor	.1 mfd	50V
035-032	"	.22 mfd	"
035-005	Ceramic Capacitor	47 pfd	50V
035-007	"	250 pfd	"
032-071	Electrolytic Capacitor	1 mfd	50V
032-046	"	4.7 mfd	25V
032-033	"	10 mfd	16V
032-036	"	47 mfd	"
032-009	"	100 mfd	6V
032-037	"	100 mfd	16V
032-051	"	100 mfd	25V
032-024	"	220 mfd	10V
032-054	"	470 mfd	25V
032-068	"	470 mfd	35V
032-096	Tantalum Capacitor	.68 mfd	35V K
032-098	"	1 mfd	"

*COILS

022-031	Coil	40 mH	1R or SM-1C
022-033	"	0.7 H	3R or SM-3C

*HEAT SINKER

048-006	"	No.6 (for uPC571C)
048-008	"	No.8 (for 2SD234-0)

