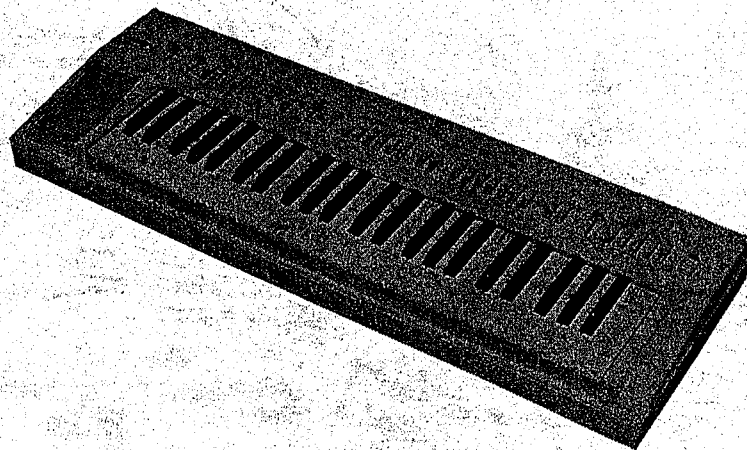


# **YAMAHA**

## **PORTABLE KEYBOARD**

### **PS-30**



## **SERVICE MANUAL**

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27190046

# SPECIFICATIONS



## KEYBOARD

49 keys (C<sub>1</sub> ~ C<sub>5</sub>)

## SOLO TONES

Tone 	Tone 
VIOLIN	SAXOPHONE
TRUMPET	GUITAR 1
TROMBONE	GUITAR 2
PICCOLO	FUNNY
VOLUME	

## ORCHESTRA TONES

Tone 	Tone 
ORGAN 1	ORGAN 2
TRUMPET	STRING
CLARINET	OBOE
PIANO	HARPSICHORD
ACCORDION	VIBRAPHONE

## EFFECT

SUSTAIN

## ENSEMBLE SECTION

SOLO button  
ORCHESTRA button

## AUTO RHYTHM SECTION

### RHYTHM SELECTORS

Rhythm 	Rhythm 
MARCH	DISCO
WALTZ	ROCK
TANGO	SWING
RHUMBA	SAMBA

### RHYTHM CONTROLS

Rhythm START, Rhythm SYNCHRO START,  
TEMPO, VOLUME, 8 BAR VARIATION

### TEMPO LIGHT

## AUTO BASS CHORD SECTION

NORMAL  
SINGLE FINGER CHORD  
FINGERED CHORD  
MEMORY  
MULTI BASS  
VOLUME

## AUTO ARPEGGIO SECTION

VARIATION  
VOLUME

## OTHER CONTROLS AND INDICATORS

POWER Switch  
Pilot Light  
MASTER VOLUME

## AUXILIARY TERMINALS

HEADPHONES  
AUX-OUT (600Ω)  
AUX-IN (30kΩ)  
EXP. PEDAL  
DC 9V IN

## MAIN AMPLIFIER

5W (R.M.S) (4Ω impedance)

## SPEAKER

12cm (5") x 8cm (3") (4Ω)

## RATED VOLTAGE

DC 9V: Batteries (SUM-1, "D" size, R20 or EQU)  
AC power adaptor  
Car battery adaptor (option)

## POWER CONSUMPTION

16W (with AC power adaptor)

## EXTERIOR

Main Unit: ABC resin  
Finish: Polyurethane coating

## DIMENSIONS

Width : 84 cm (35")  
Depth : 29 cm (12") - 33 cm [14"] -  
Height : 9 cm (3-3/4") - 25 cm [10-1/2"] -  
\* - [ ] - indicates the dimensions when the music  
rest is attached.

## WEIGHT

5.9 kg (13 lbs.)

\* This weight does not include the weight of the  
dry-cell batteries.

*Specifications subject to change without notice.*

## ACCESSORIES

DUST COVER	BATTERY PACK
MUSIC REST	AC POWER ADAPTOR

The maximum number of notes which can be simultaneously sounded on this instrument is shown below.

\* Normally: Melody notes . . . . . 10

Solo notes . . . . . 1

\* During ABC playing:

Melody notes . . . . . 4

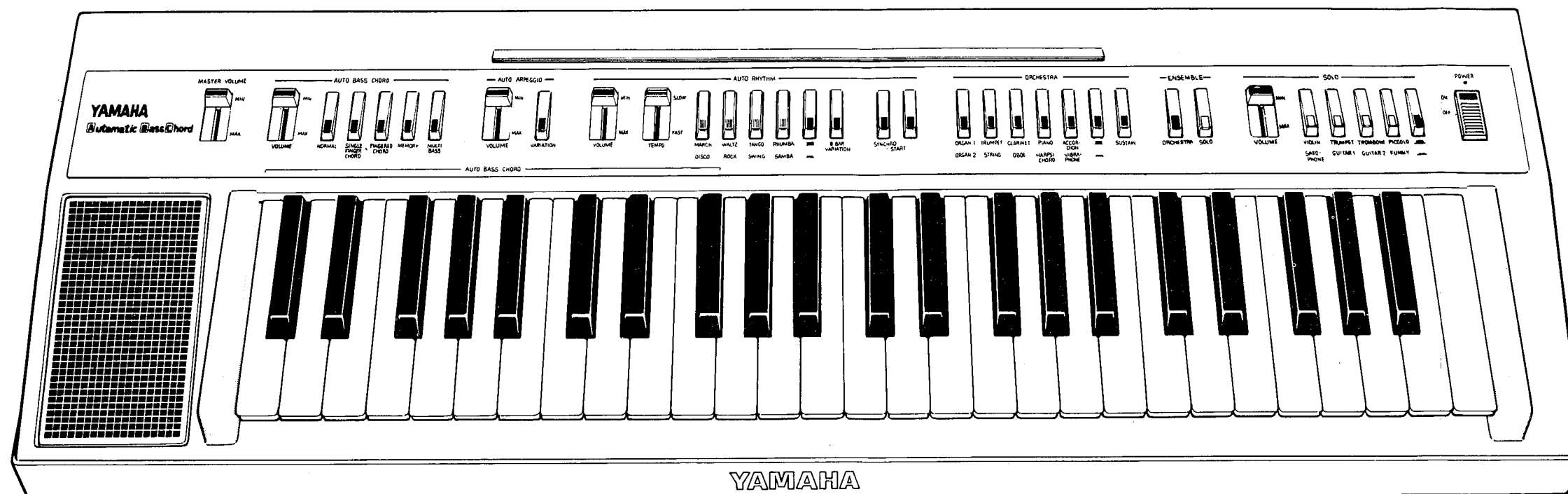
Chord notes . . . . . 4

Solo note . . . . . 1

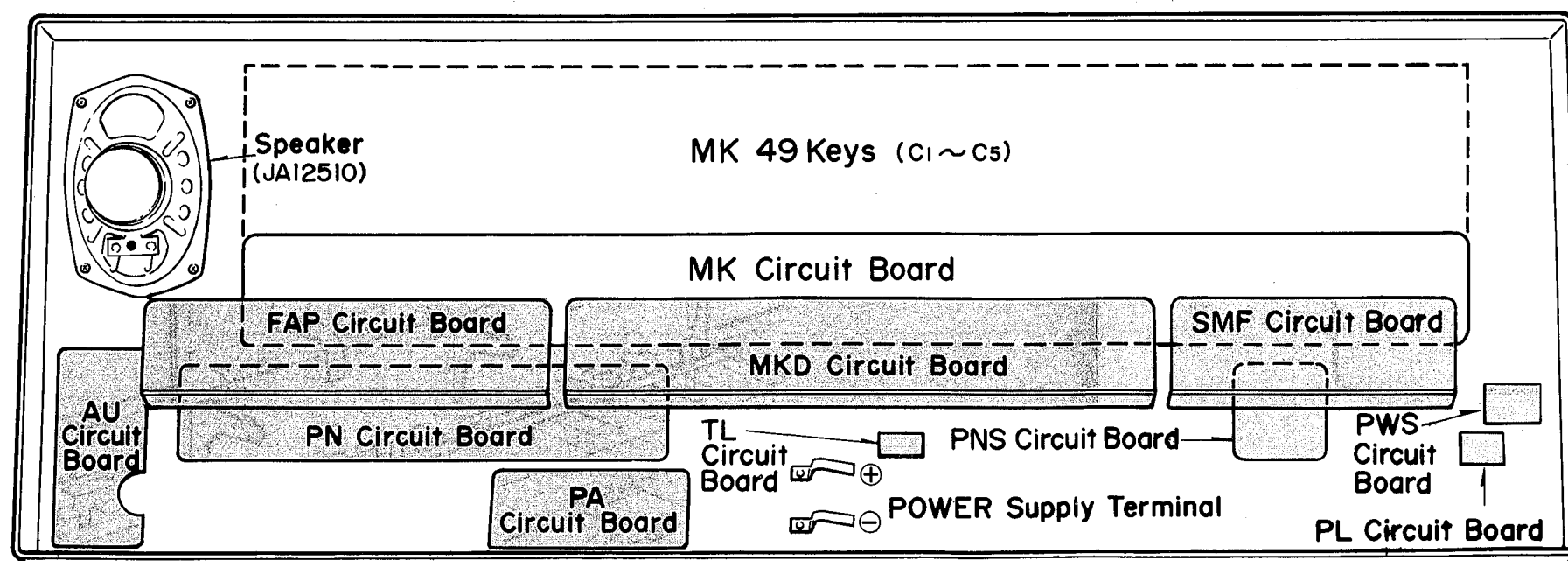
Arpeggio note . . . . . 1

Bass note . . . . . 1

## PANEL LAYOUT



## UNIT LAYOUT (Bottom View)

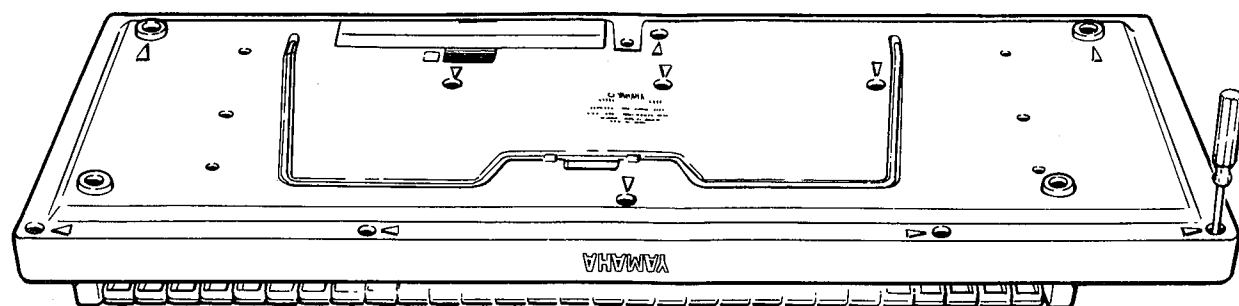


A MOO Circuit Board Assembly consists FAP, MKD, PWS, PL, PN, AU, PA and TL Circuit Board.  
A SMF Circuit Board Assembly consists SMF and PNS Circuit Board.

## DISASSEMBLY PROCEDURE

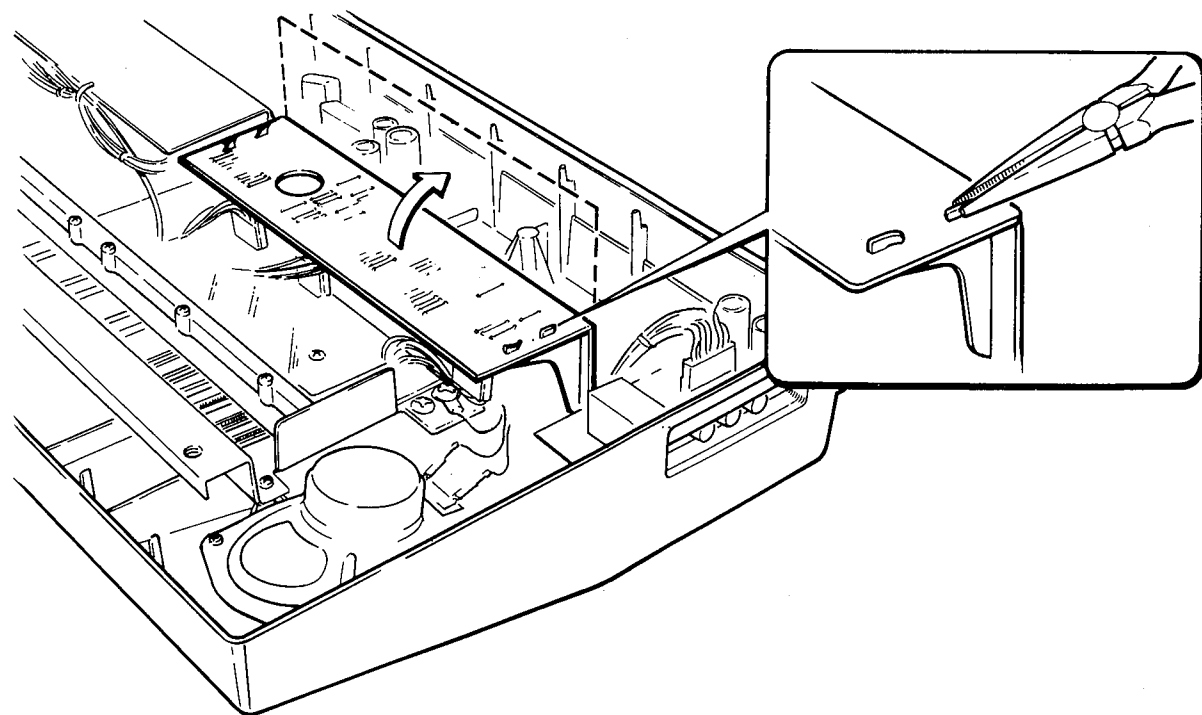
### 1. Removal of bottom case

Turn over the unit, unscrew the fixing screws (11 in all) in the holes marked with ▽ and remove the bottom case by pulling its four sides gradually.

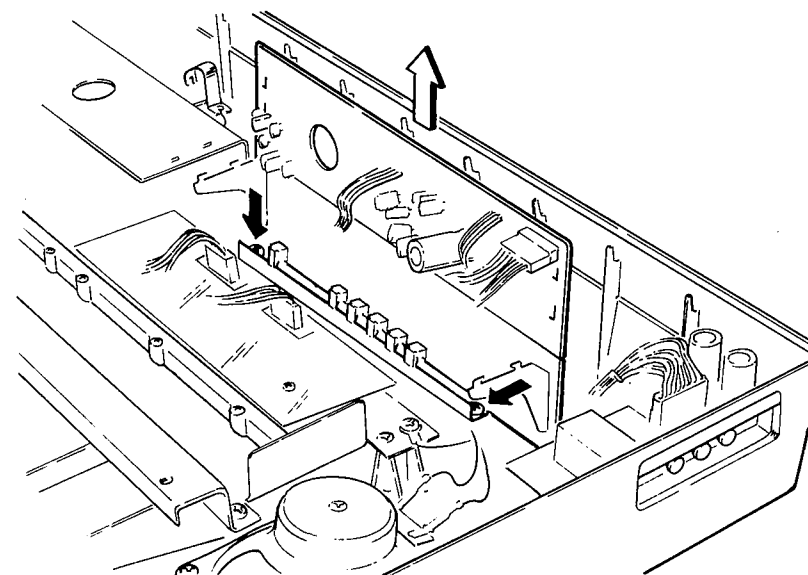


### 2. Removal of FAP circuit board

1) Straighten four fastening plates fixing the circuit board with a Longnose pliers and raise the circuit board gently.

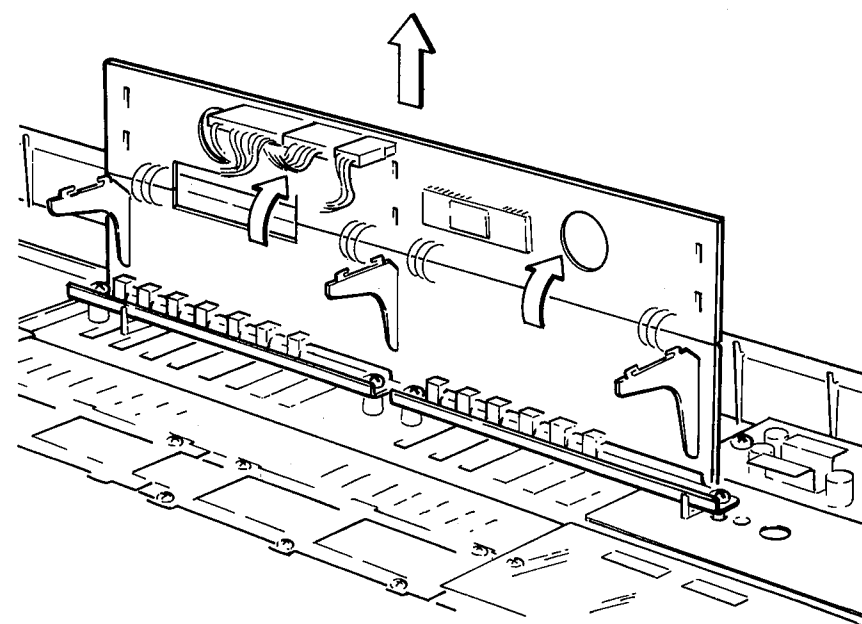


2) Remove two screws shown in the figure, connectors connected to the circuit board and Ribbon Wire. Then FAP circuit board can be removed.



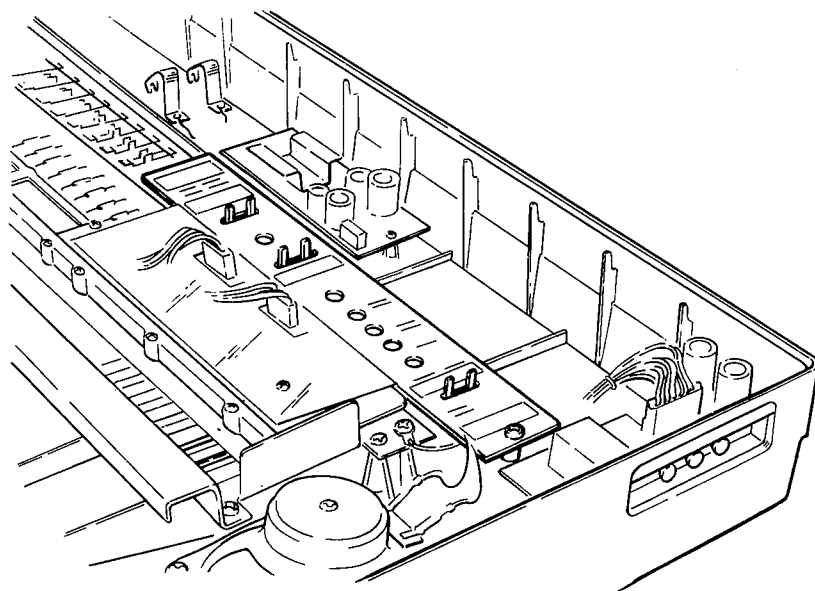
### 3. Removal of MKD & SMF circuit board

1) Follow step 1) of 2 to raise MKD circuit board.  
2) Remove four screws shown in the figure and connectors connected to the circuit board, and the circuit board can be removed.



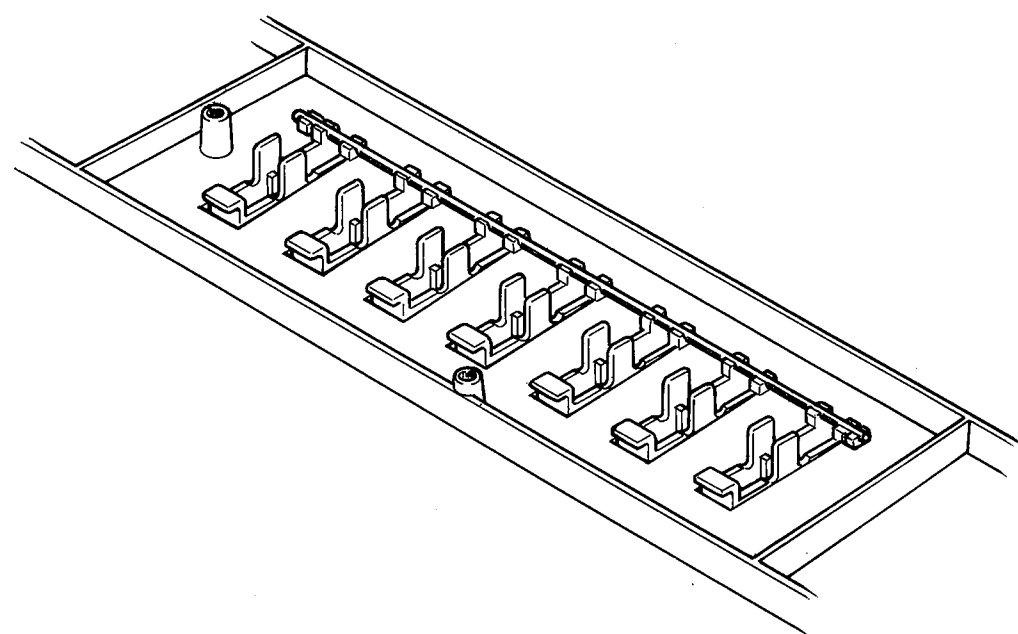
#### 4. Removal of PN circuit board

- 1) Remove slide volume knobs on the panel.
- 2) Remove FAP & MKD circuit boards, referring to 2, 3.
- 3) Remove PN circuit board by unscrewing one fixing screw.



#### 5. Removal of switches

- 1) Remove each circuit board referring to the removal instruction for each circuit board.
- 2) Push the shaft of switches with fingers from the front panel side, and the shaft will come off the bearings.
- 3) Each switch can be removed from the shaft easily.
- 4) When reinstalling them, fit the switches onto the shaft from the back side of the panel, place the shaft on the bearings and push its both ends until locked.

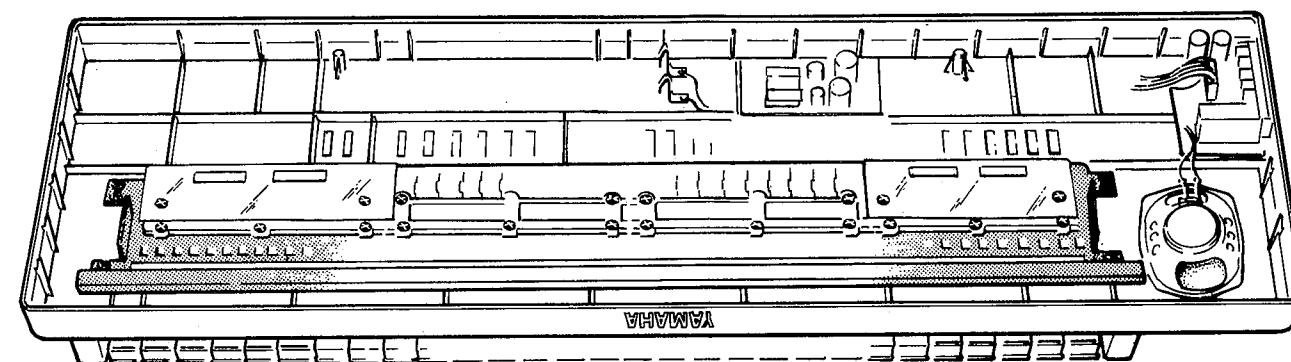


#### 6. Removal of MK circuit board

- 1) Follow step 1) of 2 to raise each circuit board.
- 2) Remove the fixing screws (20 in all) and connectors connected to MK circuit board, and MK circuit board can be removed.

#### 7. Removal of keyboard

- 1) Remove the entire keyboard by unscrewing six fixing screws.



#### 8. Removing Keyboard

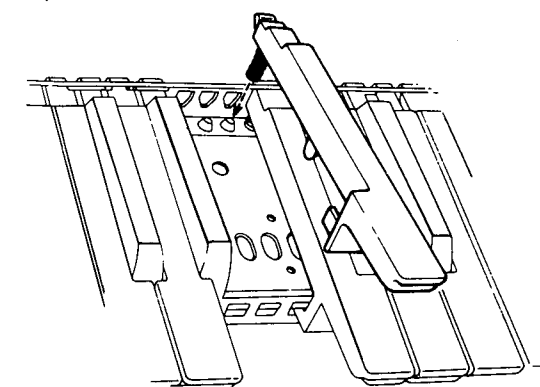
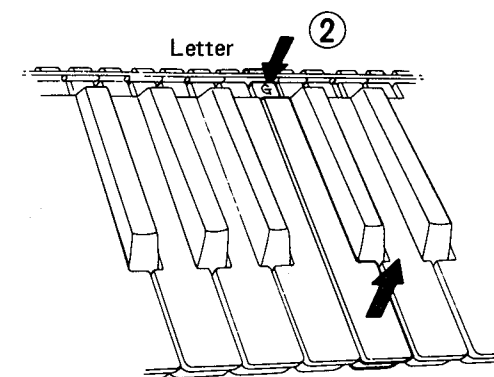
- 1) Remove bottom case.
- 2) Remove MK fastening screws securing keyboard.
- 3) Raise the keyboard, and remove connectors.
- 4) Remove keyboard up.

#### 9. Removing Keys

- 1) Remove white keys first, then black keys, making sure to mark their order.
- 2) Push the key down in the direction of arrow at the point marked with the letter as shown in the figure to release the key hook from its fulcrum.
- 3) Remove your finger from the key and then withdraw the key making sure not to lose the spring.

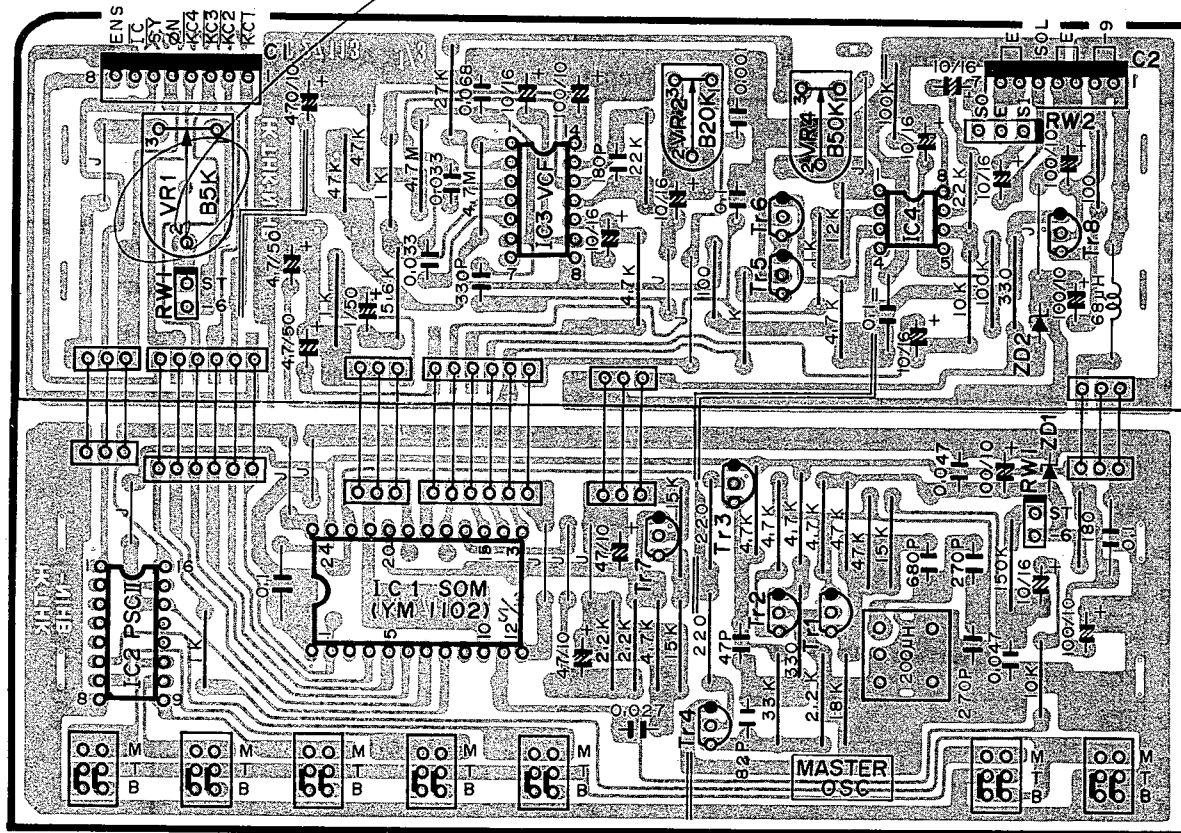
##### Installation Precautions

Insert the spring over the round peg as shown in the figure and push the key down so that the hook falls over the fulcrum. Install black keys before installing white keys.



# SMF, PNS Circuit Board & Wiring

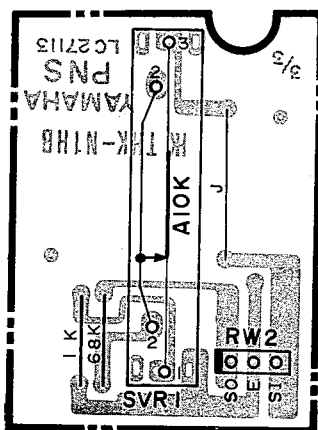
# SMF



 PICCOLO TROMBONE TRUMPET VIOLIN  
FUNNY GUITAR2 GUITAR 1 SAXOPHONE

SOLO ORCHE-  
STRA

# PNS



**SOLO  
VOLUME**

**C1** **[SMF]**

Pin No.	Pin Name	Wire Color	Destination
1	KC1	BR	MKD-KC1 (C3-1)
2	KC2	RE	MKD-KC2 (C3-2)
3	KC3	OR	MKD-KC3 (C3-3)
4	KC4	YE	MKD-KC4 (C3-4)
5	$\phi$ M	GR	MKD- $\phi$ M (C3-5)
6	SY	BE	MKD-SY (C3-6)
7	IC	VI	MKD-IC (C3-7)
8	EMS	GY	MKD-EMS (C3-10)

C2 [SMF]

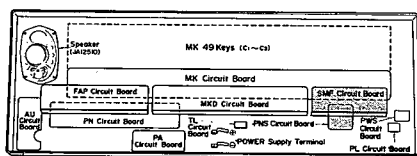
Pin No.	Pin Name	Wire Color	Destination
1	—9	BE	FAP—9 (C4-5)
2	—9	BE	FAP—9 (C4-4)
3	E	RE	FAP-E (C4-3)
4	E	RE	FAP-E (C4-2)
5	SO	S YE	FAP-SL1 (C5-1)
6	E	S YE S	
7	E	RE	FAP-E (C4-1)

Notes)

1. Integrated Circuit  
IC1 : YM1102 (SOM)  
IC2 : YM1002 (PSC II)  
IC3 : iG02612 (VCF)  
IC4 : NJM4558 (OP. Amp)
2. Transistor  
Tr1, 2, 3 : 2SC752  
Tr4, 7 : 2SA733  
Tr5, 6 : 2SC1815  
Tr8 : 2SA509
3. Zener Diode  
ZD1, 2 : WZ061
4. Slide Variable Resistor  
SVR1 : HQ60021 (A10K)

RW1	SMF	↔	SMF
1	ST		ST
2	-6		-6

RW2	SMF ↔ PNS
1	SI SO
2	E E
3	SO SI

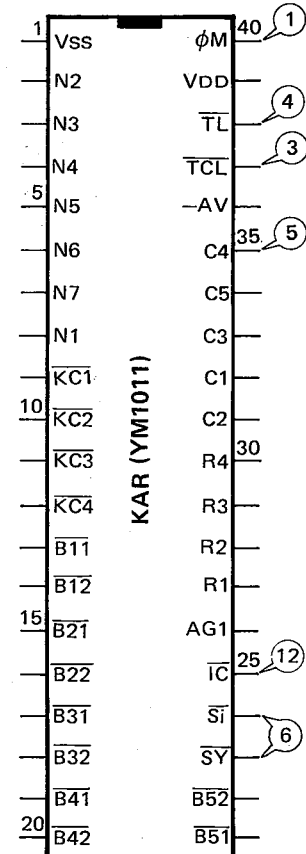


A MOO Circuit Board Assembly consists FAP, MKD, PWS, PL, PH, AU, PA and TL Circuit Board.  
A SMF Cross Board Assembly consists SMF and PWS Circuit Board.

## LSI DATA TABLE

Part Name	YM1011 (YM1001)	Function Name	KAR (Key Assigner & Rhythm)
-----------	-----------------	---------------	-----------------------------

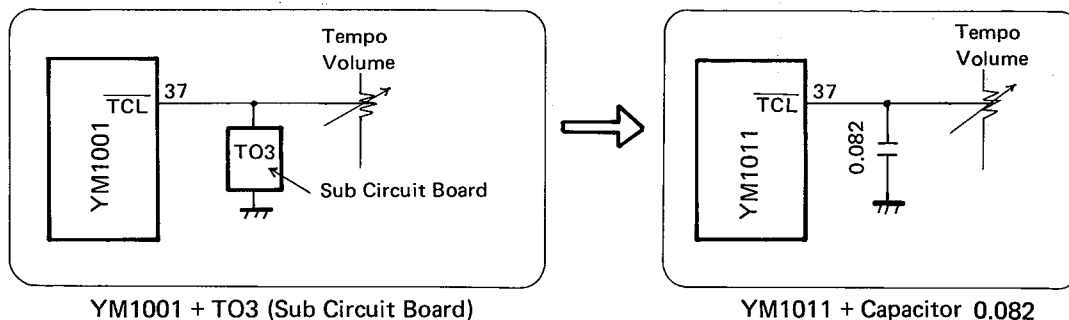
Pin No.	Pin Name	Description	Pin No.	Pin Name	Description
1	VSS	Ground (0V)	40	$\phi M$	Master Clock IN (470kHz)
2	N2	Note Block ( $\Leftarrow$ MK)	39	VDD	DC Supply ( $-9V$ )
3	N3		38	$\overline{TL}$	Tempo lamp Drive OUT
4	N4		37	$\overline{TCL}$	C.R for tempo clock oscillation
5	N5		36	$-AV$	DC supply for Rhythm sound source ( $-2V$ )
6	N6	Key Code Data OUT ( $\Rightarrow$ DOM)	35	C4	HC
7	N7		34	C5	HB
8	N1		33	C3	LC
9	KC1		32	C1	SDN
10	KC2	C.R for Rhythm envelope setting	31	C2	HH
11	KC3		30	R4	BDP
12	KC4		29	R3	DP
13	B11		28	R2	HB/HLC
14	B12	Rhythm sound source OUT	27	R1	HH/SDN
15	B21		26	AG1	Analog GND
16	B22		25	$\overline{IC}$	Initial clear IN
17	B31		24	$\overline{Si}$	Serial data IN ( $\Leftarrow$ PSC II)
18	B32	Octave Block ( $\Leftarrow$ MK)	23	$\overline{SY}$	Synchro data IN ( $\Leftarrow$ KAR)
19	B41		22	B52	Octave block
20	B42		21	B51	



NOTE) Marks ... Refer to MAIN WAVE FORMS (P19 ~ 22)

## SERVICE PART FOR YM1001 (KAR)

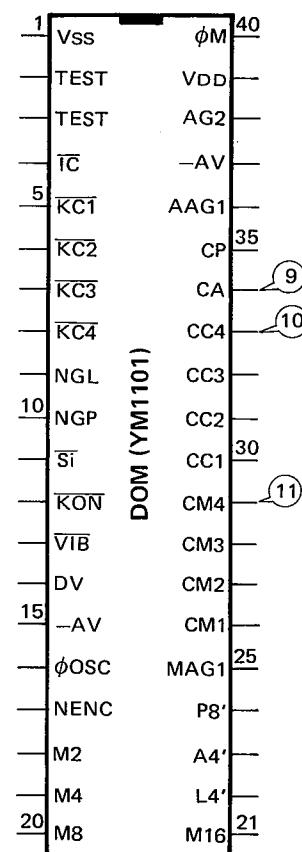
YM1011 should be used as a service part for YM1001. At the same time, be sure to replace TO3 circuit board connected to 37 pin with a capacitor of  $0.082\mu F$ .





Part Name	YM1101	Function Name	DOM (Digital Tone Generator)
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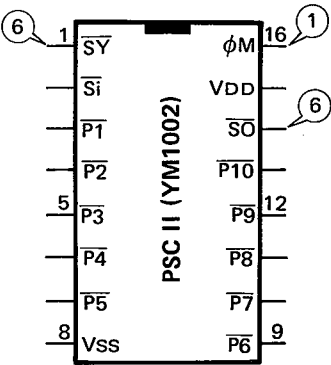
Pin		Description	Pin		Description
No.	Name		No.	Name	
1	VSS	Ground (0V)	40	$\phi$ M	Master clock IN (470kHz)
2	TEST	Test Pin	39	VDD	DC Supply (–9V)
3	TEST	– do. –	38	AG2	Analog GND
4	$\overline{IC}$	Initial clear IN	37	–AV	DC Supply for Sound source (–2V)
5	$\overline{KC1}$	Key code data IN ( $\Leftarrow$ KAR)	36	AAG1	GND (Auto Bass Sound source)
6	$\overline{KC2}$		35	CP	C.R for Auto Bass/Manual Key Sound source envelope setting
7	$\overline{KC3}$		34	CA	C.R for Auto Arpeggio/Manual Key Sound source envelope setting
8	$\overline{KC4}$		33	CC4	C.R for Auto Chord/Manual Key Sound source envelope setting
9	NGL	Normal gate data OUT	32	CC3	
10	NGP	NC	31	CC2	
11	$\overline{Si}$	Serial data IN ( $\Leftarrow$ PSC II)	30	CC1	C.R for Manual Key Sound source envelope setting
12	$\overline{KON}$	KEY ON signal OUT	29	CM4	
13	$\overline{VIB}$	Vibraphone-ON data OUT	28	CM3	C.R for Manual Key Sound source envelope setting
14	DV	Deray vibrato data OUT	27	CM2	
15	–AV	DC supply for sound source (–2V)	26	CM1	GND (Manual Key sound source)
16	$\phi$ OSC	Clock for sound source IN (530kHz)	25	MAG1	
17	NENC	NC	24	P8'	Auto Bass sound source OUT
18	M2'	Sound source OUT	23	A4'	Auto Arpeggio sound source OUT
19	M4'		22	L4'	Auto Code sound source OUT
20	M8'		21	M16'	16' sound source OUT



NOTE) Marks ... Refer to MAIN WAVE FORMS (P19 ~ 22)

Part Name	YM1002	Function Name	PSC II (Parallel – Serial Converter)
-----------	--------	---------------	--------------------------------------

Pin		Description	Pin		Description
No.	Name		No.	Name	
1	$\overline{SY}$	Synchro data IN ( $\Leftarrow$ KAR)	16	$\phi M$	Master clock IN (470kHz)
2	$\overline{Si}$	Serial data IN ( $\Leftarrow$ PSC II)	15	VDD	DC Supply ( $-9V$ )
3	$\overline{P1}$	Parallel data IN 1 ( $\Leftarrow$ SW)	14	$\overline{SO}$	Serial data OUT ( $\Rightarrow$ KAR, DOM)
4	$\overline{P2}$	— do. — 2 ( $\Leftarrow$ SW)	13	$\overline{P10}$	Parallel data IN 10 ( $\Leftarrow$ SW)
5	$\overline{P3}$	— do. — 3 ( $\Leftarrow$ SW)	12	$\overline{P9}$	— do. — 9 ( $\Leftarrow$ SW)
6	$\overline{P4}$	— do. — 4 ( $\Leftarrow$ SW)	11	$\overline{P8}$	— do. — 8 ( $\Leftarrow$ SW)
7	$\overline{P5}$	— do. — 5 ( $\Leftarrow$ SW)	10	$\overline{P7}$	— do. — 7 ( $\Leftarrow$ SW)
8	VSS	Ground (0V)	9	$\overline{P6}$	— do. — 6 ( $\Leftarrow$ SW)

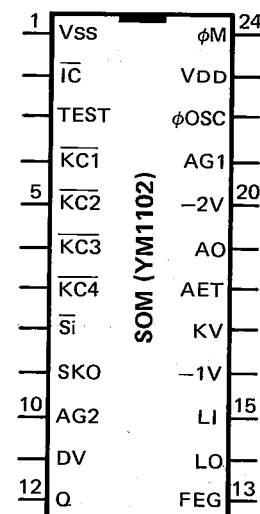


NOTE)  Marks ... Refer to MAIN WAVE FORMS (P19 ~ 22)

Part Name	YM1102	Function Name	SOM (Solo tone Generator)
-----------	--------	---------------	---------------------------

Pin		Description
No.	Name	
1	VSS	Ground (0V)
2	$\overline{\text{IC}}$	Initial clear IN
3	TEST	Test pin
4	$\overline{\text{KC1}}$	Key code data IN
5	$\overline{\text{KC2}}$	
6	$\overline{\text{KC3}}$	
7	$\overline{\text{KC4}}$	
8	$\overline{\text{Si}}$	Serial data IN
9	SKO	Key ON Data OUT
10	AG2	Analog GND
11	DV	Deray vibrato data OUT
12	Q	Q setting voltage OUT

Pin		Description
No.	Name	
24	$\phi\text{M}$	Master clock IN (470kHz)
23	VDD	DC supply (−9V)
22	$\phi\text{OSC}$	Clock for sound source IN (f = 1MHz)
21	AG1	Analog GND
20	−2V	−2V IN
19	AO	Solo tone sound source OUT (⇒ VCF)
18	AEG	Capacitor for VCA-EG
17	KV	Key voltage OUT
16	−1V	−1V IN
15	LI	Solo tone sound source IN (for level control)
14	LO	Solo tone sound source OUT
13	FEG	Capacitor for VCF-EG/VCF-EG voltage OUT

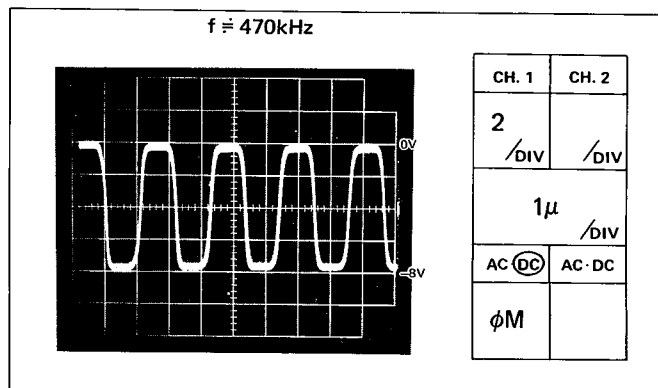


# MAIN WAVE FORMS

## Wave Shape Figures

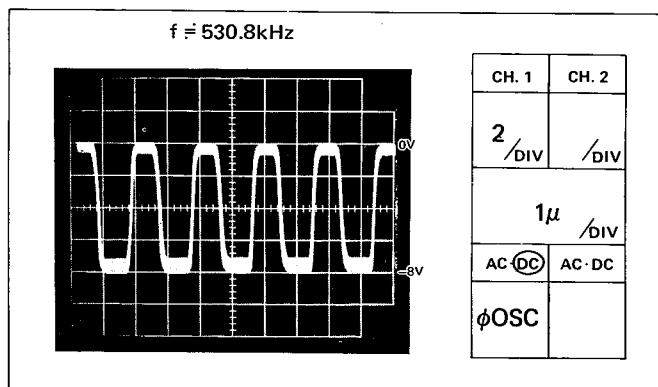
### 1 Master Clock ( $\phi M$ )

- **CHECK POINT** (MKD)  
4th Pin of IC5
- **CONDITION**  
Power SW. — ON



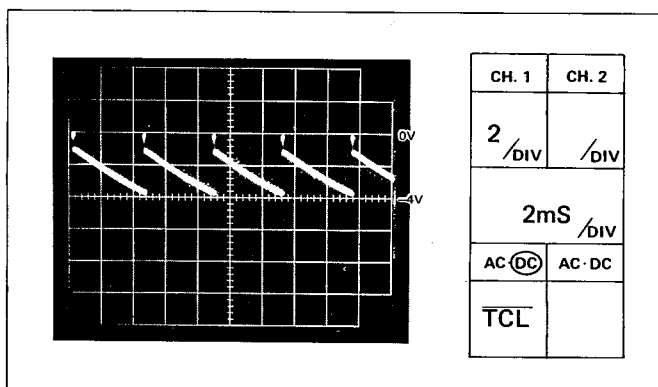
### 2 Sound Source Clock ( $\phi OSC$ )

- **CHECK POINT** (MKD)  
6th Pin of IC5  
[16th Pin of IC2 (DOM)]
- **CONDITION**  
ORGAN 1 — ON  
\* Frequency varies with  
Vibrato in case of ORGAN2,  
TRUMPET, OBOE and  
STRING.



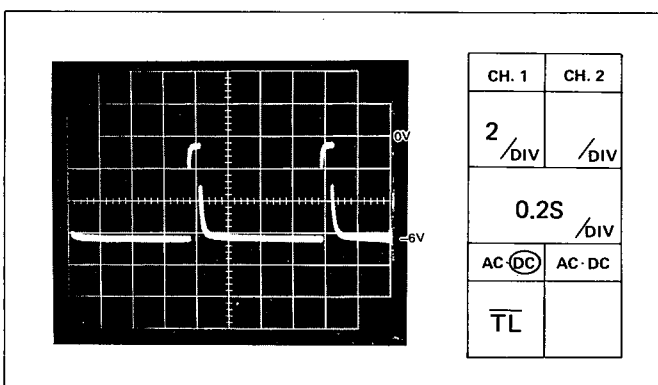
### 3 Tempo Clock ( $\overline{TCL}$ )

- **CHECK POINT** (MKD)  
37th Pin of IC1 (KAR)
- **CONDITION**  
RHYTHM START  
Tempo Volume MAX.



### 4 Tempo Lamp Drive Pulse ( $\overline{TL}$ )

- **CHECK POINT** (MKD)  
38th Pin of IC1 (KAR)
- **CONDITION**  
RHYTHM START  
Tempo Volume MAX.

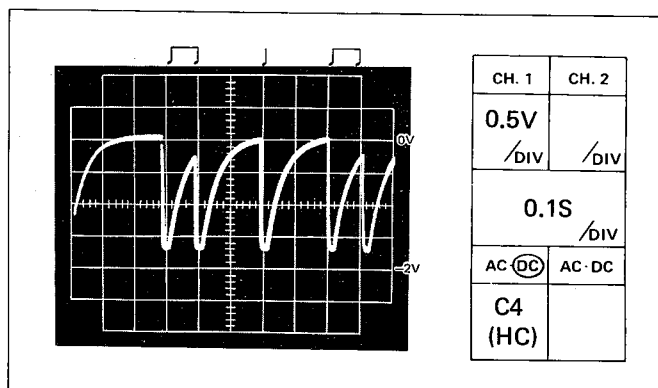


## 5 Rhythm Envelope (HC)

- **CHECK POINT** (MKD)  
35th Pin of IC1 (KAR)  
Envelope of High Conga

- **CONDITION**  
RHYTHM START (RHUMBA)  
Tempo Volume MAX.

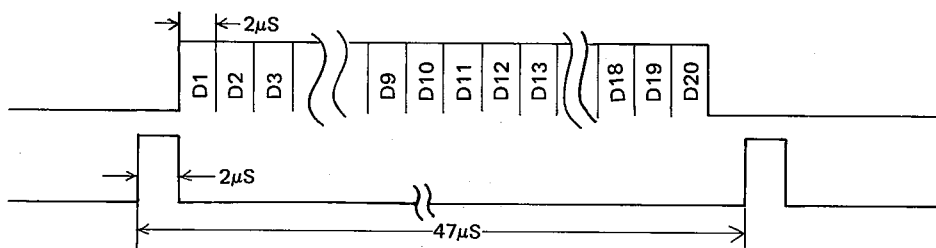
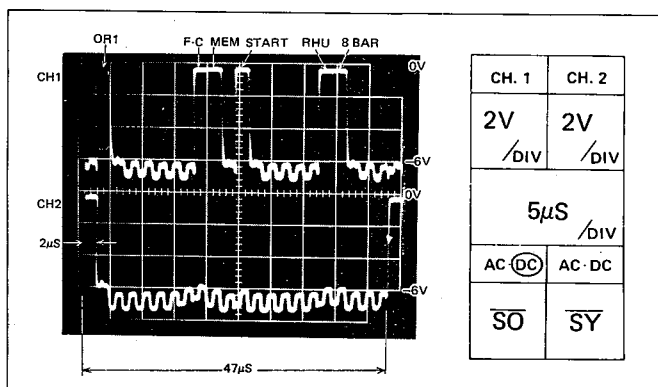
\* The wave form varies with the rhythm.



## 6 Serial Function Data (SO)

- **CHECK POINT** (MKD)  
CH1 .... 14th Pin of IC4  
CH2 .... 1st Pin of IC4

- **CONDITION**  
ORGAN 1 – ON  
RHYTHM START (RHUMBA)  
8 BAR – ON  
FINGERED CHORD MEMORY – ON



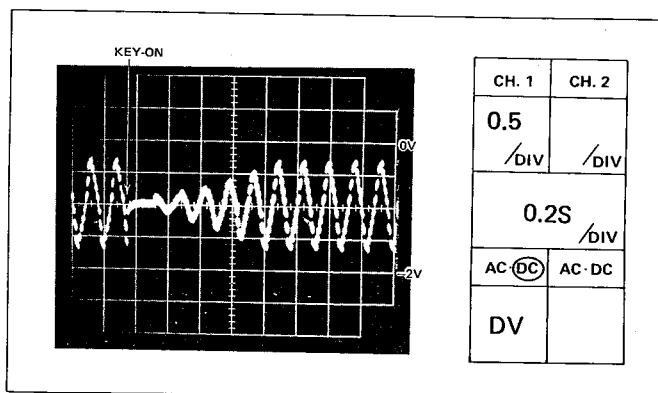
Parallel Data		Serial Data	
PSC II (IC4)	P10	D1	..... ORGAN 1, TRUMPET, CLARINET, OBOE
	P9	D2	..... ORGAN 2
	P8	D3	..... HARPSICHORD
	P7	D4	..... VIBRAPHONE, PIANO
	P6	D5	..... STRING, ACCORDION
	P5	D6	..... VIBRAPHONE, SUSTAIN
	P4	D7	..... SINGLE FINGER CHORD
	P3	D8	..... FINGERED CHORD
	P2	D9	..... MEMORY
	P1	D10	.....
PSC II (IC3)	P10	D11	..... RHYTHM START
	P9	D12	..... SYNCHRO START
	P8	D13	..... RHYTHM SELECT
	P7	D14	..... MARCH (DISCO)
	P6	D15	..... WALTZ (ROCK)
	P5	D16	..... TANGO (SWING)
	P4	D17	..... RHUMBA (SAMBA)
	P3	D18	..... 8 BAR VARIATION
	P2	D19	..... ARPEGGIO VARIATION
	P1	D20	..... MULTI BASS

### 7-a Modulation Signal for Vibrato (DV)

- CHECK POINT (MKD)  
14th Pin of IC2 (DOM)

- CONDITION  
TRUMPET – ON  
KEY – ON

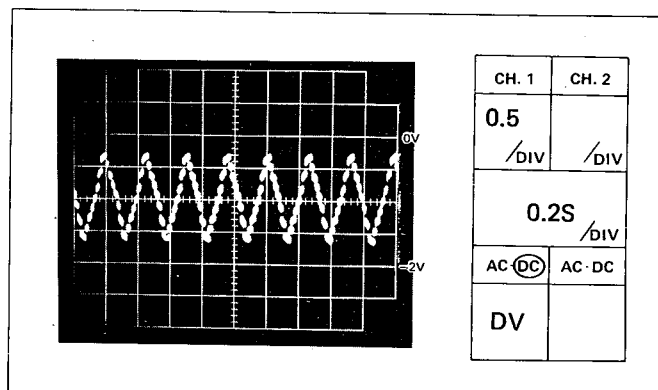
\* The same wave form is obtained for ORGAN2, STRING and OBOE.



### 7-b Modulation Signal for V.C.A. (DV)

- CHECK POINT (MKD)  
14th Pin of IC2 (DOM)

- CONDITION  
Vibraphone – ON

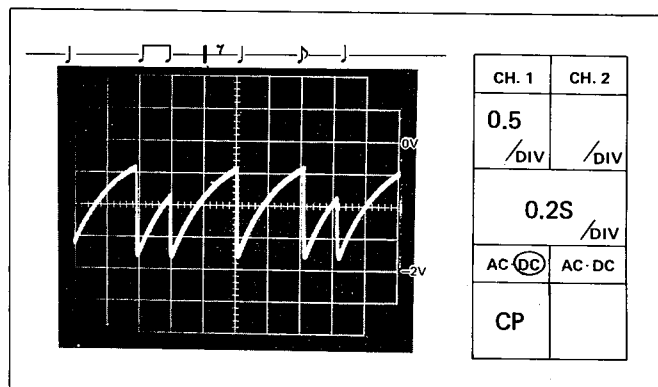


### 8 Auto Bass Envelope (CP)

- CHECK POINT (MKD)  
35th Pin of IC2 (DOM)

- CONDITION  
RHYTHM START (ROCK)  
BASS VARIATION – ON  
A·B·C KEY – ON

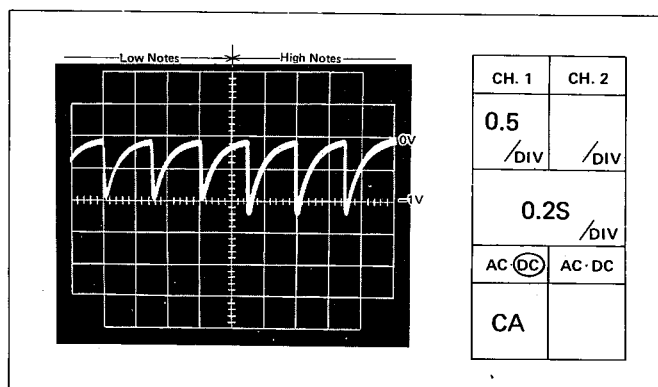
\* The pattern varies with the rhythm.



### 9-a Auto Arpeggio Envelope (CA)

- CHECK POINT (MKD)  
34th Pin of IC2 (DOM)

- CONDITION  
ARPEGGIO START

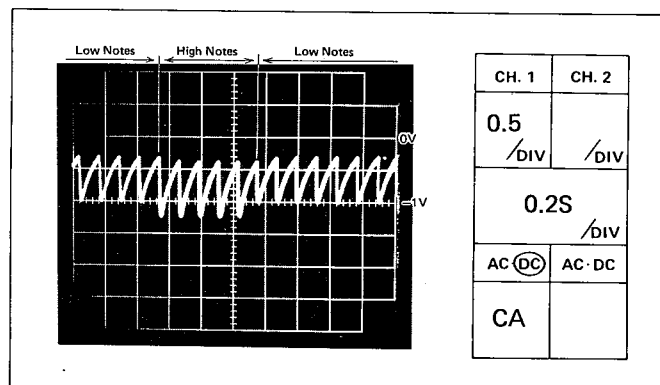


### 9-b Auto Arpeggio Envelope (CA)

- **CHECK POINT** (MKD)  
34th Pin of IC2 (DOM)

**CONDITION**  
ARPEGGIO START

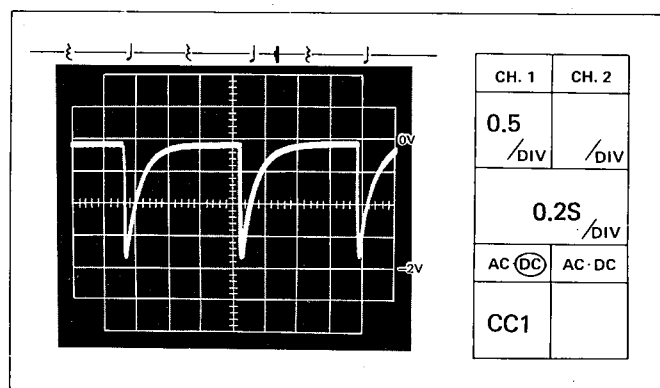
\*When Up Tempo compared with 9-a.



### 10 Auto Chord Envelope (CC1~4)

- **CHECK POINT** (MKD)  
From 30th to 33th Pin of IC2 (DOM)

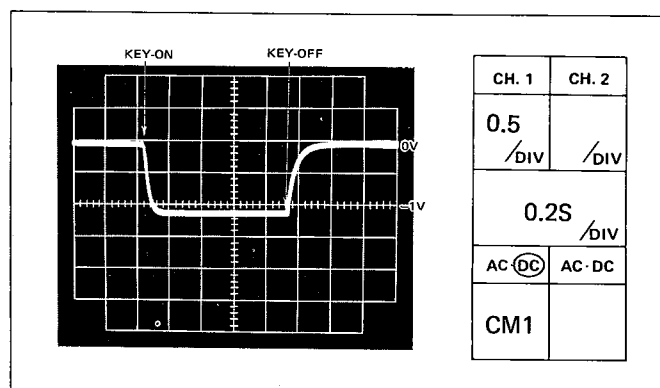
**CONDITION**  
A-B-C — ON  
KEY — ON



### 11 Manual Key Envelope (CM1~4)

- **CHECK POINT** (MKD)  
From 26th to 29th of IC2 (DOM)

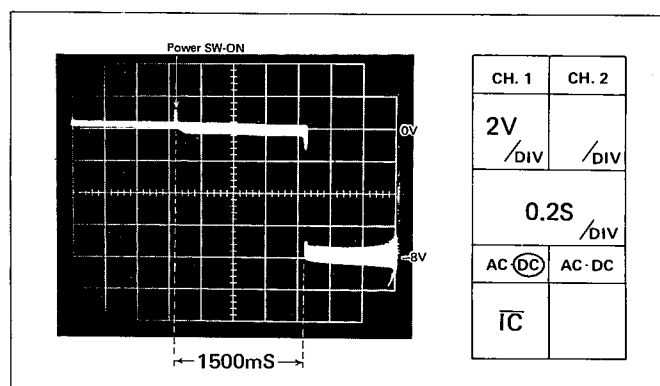
● **CONDITION**  
OBOE — ON  
KEY-ON — OFF



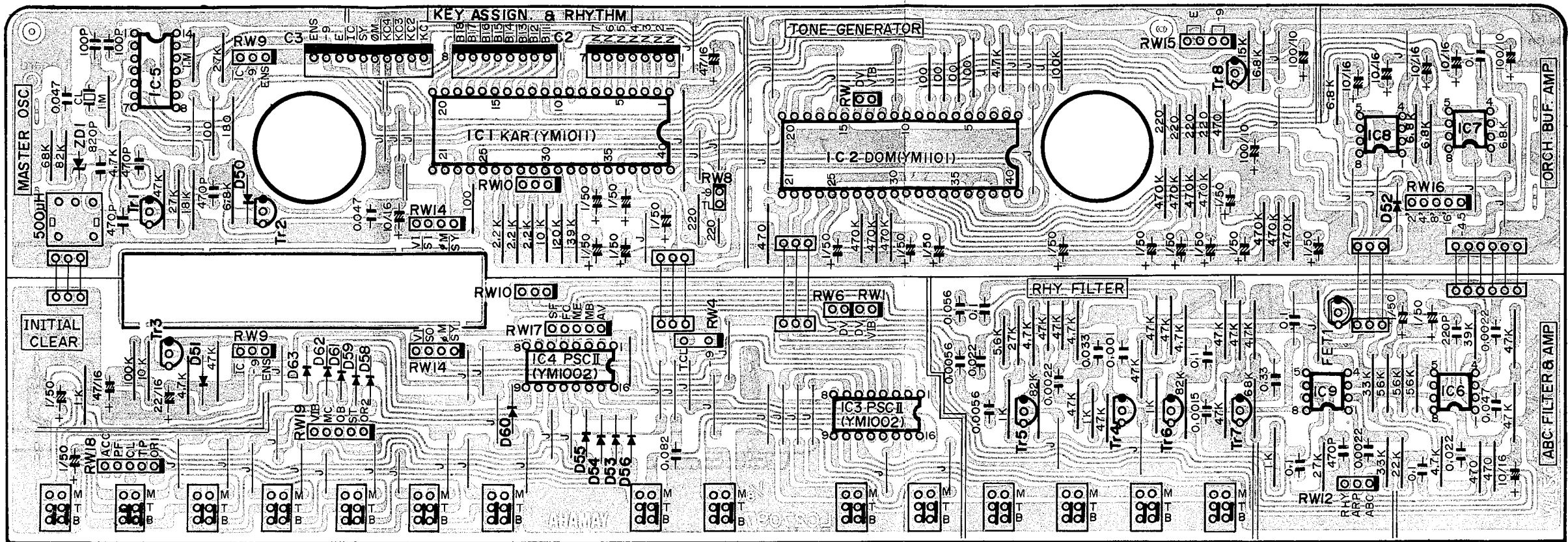
### 12 Initial Clear (IC)

- **CHECK POINT** (MKD)  
10th Pin of IC5

● **CONDITION**  
Power SW. OFF → ON



MKD Circuit Board & Wiring



PS21 SUS PS20 PS19 AC/VIB PS18 PF/HC PS17 CL/OB PS16 TP/ST PS15 ORI/OR2 PS14 ST PS13 S.ST PS12 8 BAR PS11 PS10 RHU/SAM PS9 TAN/SWI PS8 WAL/ROK PS7 MAR/DIS

• Connector Table

C1 [MKD]			
Pin No.	Pin Name	Wire Color	Destination
1	N1	BR	MK-N1 (C1-1)
2	N2	RE	MK-N2 (C1-2)
3	N3	OR	MK-N3 (C1-3)
4	N4	YE	MK-N4 (C1-4)
5	N5	GR	MK-N5 (C1-5)
6	N6	BE	MK-N6 (C1-6)
7	N7	VI	MK-N7 (C1-7)

C2 [MKD]			
Pin No.	Pin Name	Wire Color	Destination
1	B11	BR	MK-B11 (C2-1)
2	B12	RE	MK-B12 (C2-2)
3	B21	OR	MK-B21 (C2-3)
4	B22	YE	MK-B22 (C2-4)
5	B31	GR	MK-B31 (C2-5)
6	B32	BE	MK-B32 (C2-6)
7	B41	VI	MK-B41 (C2-7)
8	B42	GY	MK-B42 (C2-8)

C3 [MKD]			
Pin No.	Pin Name	Wire Color	Destination
1	KC1	BR	SMF-KC1 (C1-1)
2	KC2	RE	SMF-KC2 (C1-2)
3	KC3	OR	SMF-KC3 (C1-3)
4	KC4	YE	SMF-KC4 (C1-4)
5	φM	GR	SMF-φM (C1-5)
6	SY	BE	SMF-SY (C1-6)
7	IC	VI	SMF-IC (C1-7)
8	E	-	-
9	-9	-	-
10	ENS	GY	SMF-ENS (C1-8)

• Wiring Table of Ribbon Wire

RW1 MKD ↔ MKD		
1	VIB	VIB
2	DV	DV

RW4 PN ↔ MKD		
1	-9	-9
2	TCL	TCL

RW6 MKD ↔ FAP		
1	DV	DV
2	VI	VO

RW8 MKD ↔ TL		
1	-9	-9
2	TL	TL

RW9 MKD ↔ MKD		
1	ENS	ENS
2	-9	-9
3	IC	IC

RW10 MKD ↔ MKD		
1	R4	R4
2	R3	R3
3	R2	R2

RW12 PN ↔ MKD		
1	ABC	ABC
2	ARP	ARP
3	RHY	RHY

RW14 MKD ↔ MKD		
1	SY	SY
2	φM	φM
3	SI	SO
4	VI	VI

RW15 FAP ↔ MKD		
1	-9	-9
2	-9	-9
3	E	E
4	E	E

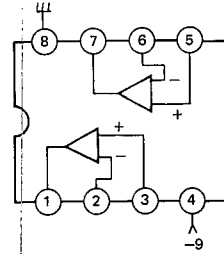
RW16 FAP ↔ MKD		
1	-4.5	-4.5
2	16'	16'
3	8'	8'
4	4'	4'
5	2'	2'

RW17 FAP ↔ MKD		
1	AV	AV
2	MB	MB
3	ME	ME
4	FC	FC
5	SF	SF

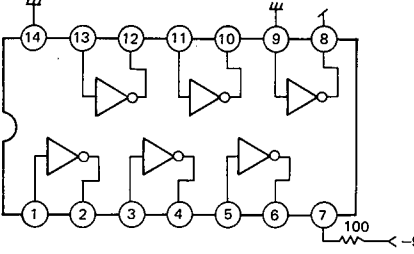
RW18 FAP ↔ MKD		
1	OR1	OR1
2	TP	TP
3	CL	CL
4	PF	PF
5	ACC	ACC

RW19 FAP ↔ MKD		
1	OR2	OR2
2	ST	ST
3	OB	OB
4	MC	MC
5	VIB	VIB

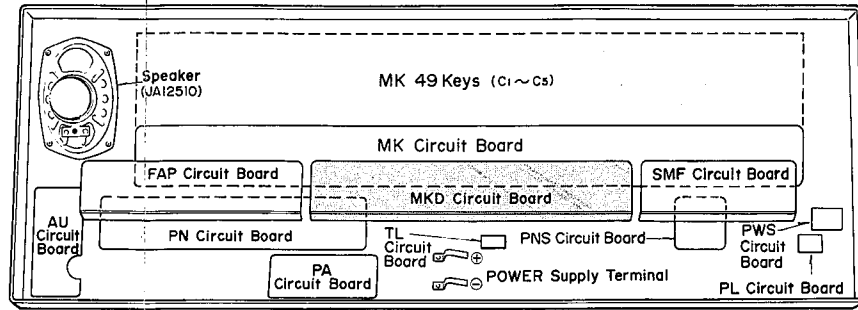
NJM4558 (OP. Amp)



TC4069 (Inverter)



UNIT LAYOUT (Bottom View)



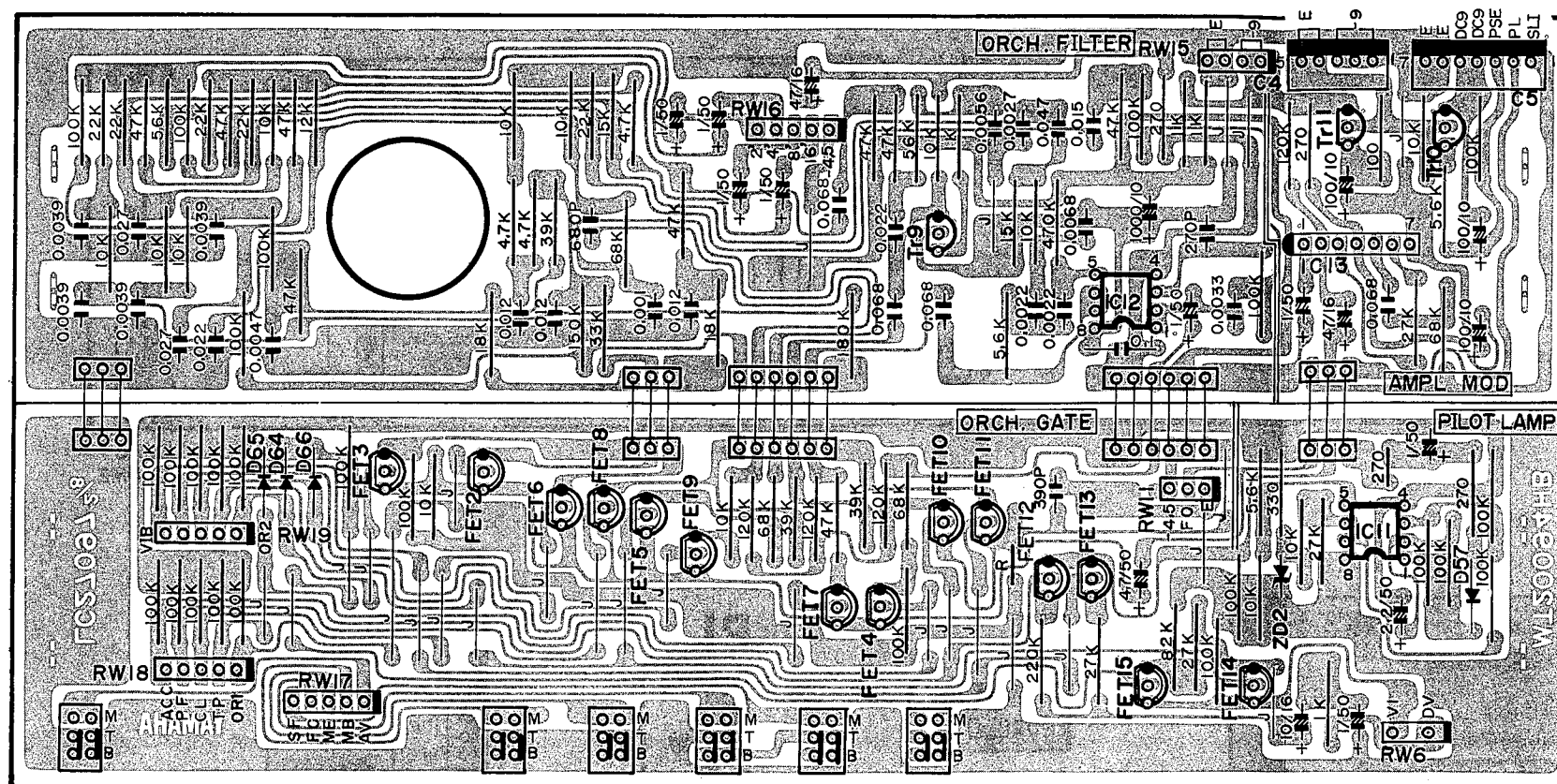
A MOO Circuit Board Assembly consists FAP, MKD, PWS, PL, PN, AU, PA and TL Circuit Board.  
A SMF Circuit Board Assembly consists SMF and PNS Circuit Board.

Notes)

- Integrated Circuit  
IC1 : YM1011 (KAR)  
IC2 : YM1101 (DOM)  
IC3, 4 : YM1002 (PSC II)  
IC5 : TC4069 (Inverter)  
IC6 ~ 9 : NJM4558 (OP. Amp)
- Transistor  
Tr1 : 2SC752TM  
Tr2 ~ 7 : 2SC1815  
Tr8 : 2SA733
- Field Effect Transistor  
FET1 : 2SK105
- Diode  
D50 ~ 56, 58 ~ 63 : 1S1555
- Zener Diode  
ZD1 : WZ061
- Piezoelectric Ceramic Vibrator  
CL1 : QU00090 (470kHz)



# FAP Circuit Board & Wiring



PS6  
ARPEGGIO  
VARIATION

PS5  
MULTI  
BASS

PS4  
MEMORY

PS3  
F·C

PS2  
S·FC

PS1  
NORMAL

## • Connector Table

Pin No.	Pin Name	Wire Color	Destination
1	E	RE	SMF-E (C2-7)
2	E	RE	SMF-E (C2-4)
3	E	RE	SMF-E (C2-3)
4	-9	BE	SMF-9 (C2-2)
5	-9	BE	SMF-9 (C2-1)

Pin No.	Pin Name	Wire Color	Destination
1	SLI	SYE	SMF-SO (C2-5)
2	PL	PK	PWS-PL (C8-1)
3	PSE	SB	PWS-PSE (C8-7)
4	DC9	BE	AU-DC9 (C7-1)
5	DC9	BE	AU-DC9 (C7-2)
6	E	RE	Power Supply Terminal +
7	E	RE	Power Supply Terminal +

## • Wiring Table of Ribbon Wire

RW6	MKD	FAP
1	DV	DV
2	VI	VO

RW11	PN	FAP
1	E	E
2	F1	F0
3	-4.5	-4.5

RW15	FAP	MKD
1	-9	-9
2	-9	-9
3	E	E
4	E	E

RW16	FAP	MKD
1	-4.5	-4.5
2	16'	16'
3	8'	8'
4	4'	4'
5	2'	2'

RW17	FAP	MKD
1	AV	AV
2	MB	MB
3	ME	ME
4	FC	FC
5	SF	SF

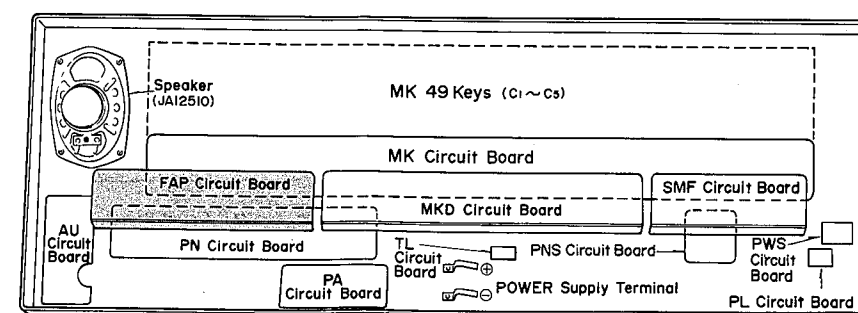
  

RW18	FAP	MKD
1	OR1	OR1
2	TP	TP
3	CL	CL
4	PF	PF
5	ACC	ACC

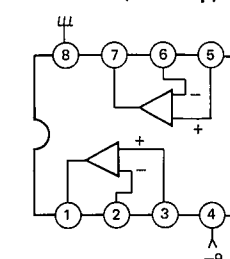
RW19	FAP	MKD
1	OR2	OR2
2	ST	ST
3	OB	OB
4	MC	MC
5	VIB	VIB

UNIT LAYOUT (Bottom View)



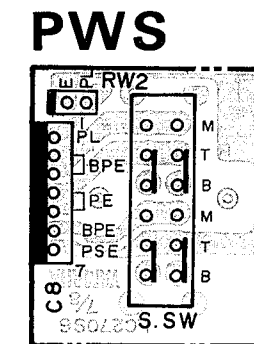
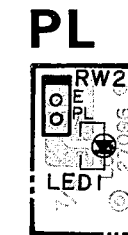
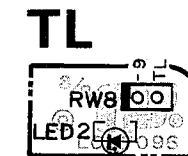
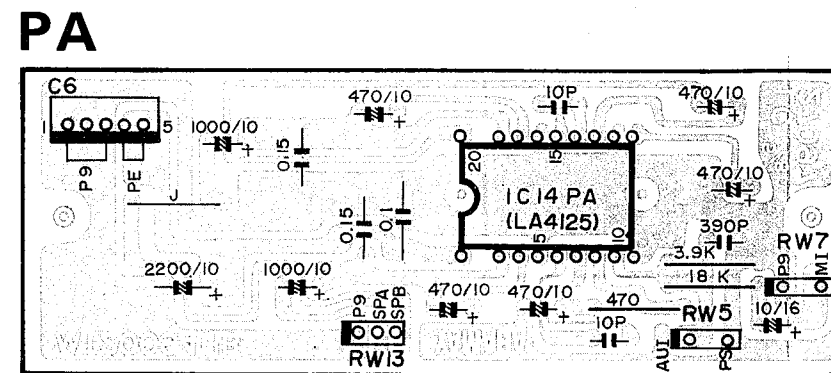
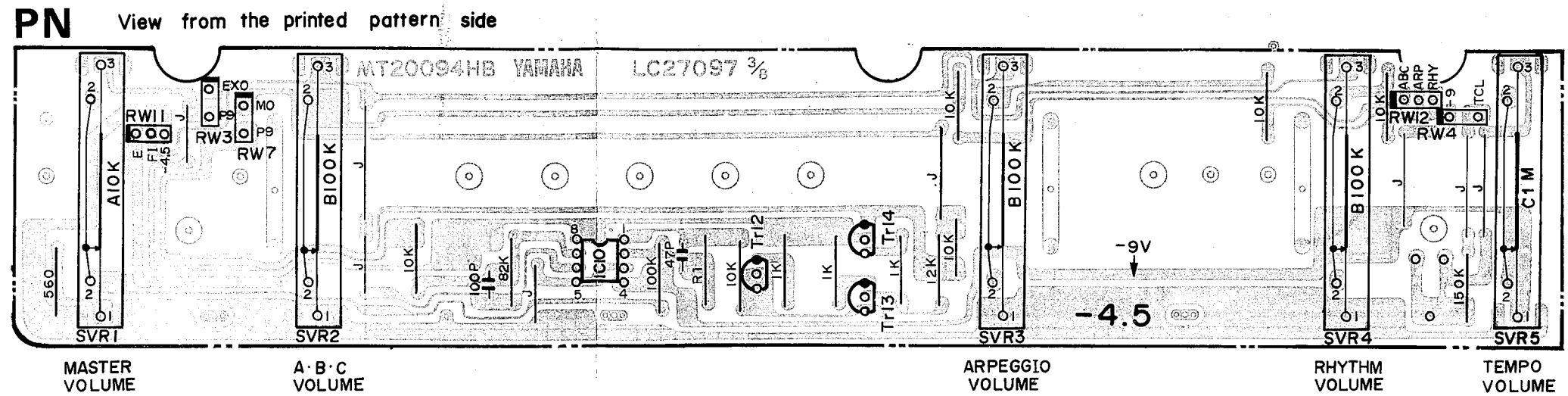
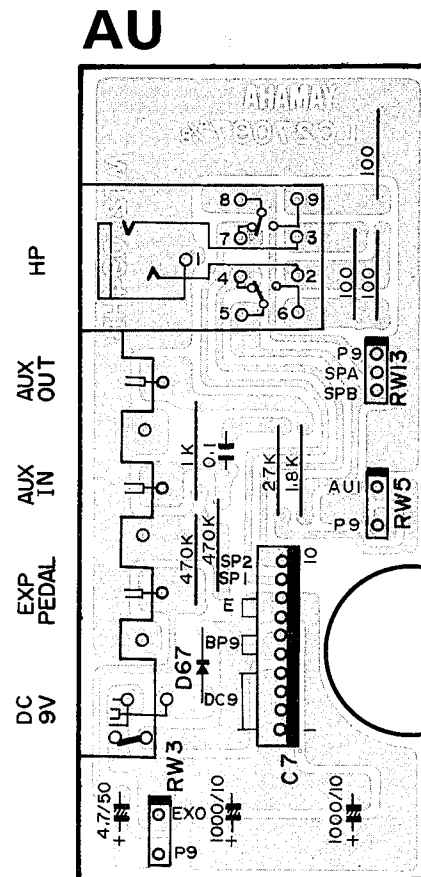
A MOO' Circuit Board Assembly consists FAP, MKD, PWS, PL, PN, AU, PA and TL Circuit Board.  
A SMF Circuit Board Assembly consists SMF and PNS Circuit Board.

NJM4558 (OP. Amp)



## Notes

- Integrated Circuit  
IC11, 12: NJM4558 (OP. Amp)  
IC13 : iG02602 (VCA)
- Transistor  
Tr9 : 2SC1815  
Tr10 : 2SC509  
Tr11 : 2SA509
- Field Effect Transistor  
FET2 ~ 14 : 2SK246  
FET15 : 2SK246
- Diode  
D57, 64 ~ 66 : 1S1555
- Zener Diode  
ZD2 : WZ056

**PN,PL,TL,PW.S,AU,PA** Circuit Board & Wiring

View from the printed pattern side

- Connector Table

C6			[PA]
Pin No.	Pin Name	Wire Color	Destination
1	P9	BE	MK-Shield cover
2	P9	BE	AU-DC9 (C7-3)
3	P9	BE	AU-DC9 (C7-4)
4	PE	OR	PWS-PE (C8-3)
5	PE	OR	PWS-PE (C8-4)

C7	[AU]
----	------

Pin No.	Pin Name	Wire Color	Destination
1	DC9	BE	FAP-DC9 (C5-3)
2	DC9	BE	FAP-DC9 (C5-4)
3	DC9	BE	PA-P9 (C6-2)
4	DC9	BE	PA-P9 (C6-3)
5	BP9	BE	Power Supply Terminal –
6	BP9	BE	Power Supply Terminal –
7	E	RE	Power Supply Terminal +
8	E	RE	Power Supply Terminal +
9	SP1	YE	Speaker +
10	SP2	VI	Speaker –

## C8 [PWS]

Pin No.	Pin Name	Wire Color	Destination
1	PSE	SB	FAP-PSE (C5-3)
2	BPE	RE	Power Supply Terminal +
3	PE	OR	PA-PE (C6-4)
4	PE	OR	PA-PE (C6-5)
5	BPE	RE	Power Supply Terminal +
6	BPE	RE	Power Supply Terminal +
7	PL	PK	FAP-PL (C5-2)

- Wiring Table of Ribbon Wire

RW2	PWS ↔ PL
1	E E
2	PL PL

RW8	MKD $\longleftrightarrow$ TL
1	-9 -9
2	TL TL

<b>RW3</b>	<b>PN</b> ↔ <b>AU</b>
<b>1</b>	<b>EXO</b> <b>EXO</b>
<b>2</b>	<b>P9</b> <b>P9</b>

RW11	PN $\longleftrightarrow$ FAP
1	E E
2	F1 F0

RW4	PN ↔ MKD
1	-9                      -9
2	TCL                      TCL

RW12	PN ↔ MKD
1	ABC ABC

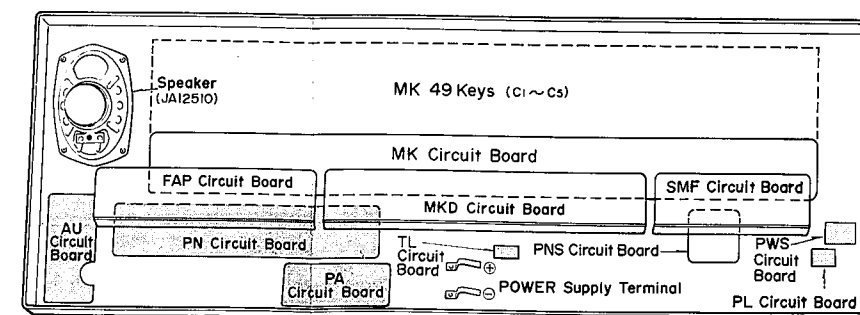
RW5	PA	↔	AU
1	AUI		AUI
2	P9		P9

RW13	PA ↔ AU
------	---------

RW7	PN ↔ PA
1	MO MI
2	— E

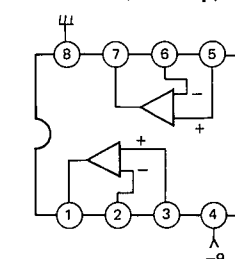
2	SPA	SPA
3	SPB	SPB

### UNIT LAYOUT (Bottom View)



A MOO Circuit Board Assembly consists FAP, MKD, PWS, PL, PN, AU, PA and TL Circuit Board.  
A SMF Circuit Board Assembly consists SMF and PNS Circuit Board.

NJM4558 (OP. Amp)



## Notes)

1. Integrated Circuit  
IC10 : NJM4558 (OP. Amp)  
IC14 : LA4125W (Power Amp)
2. Transistor  
Tr12, 13: 2SA937  
Tr14 : 2SC2021
3. Slide Variable Resistor  
SVR1 : HQ60021 (A10K)  
SVR2 ~ 4: HQ60022 (B100K)  
SVR5 : HQ60024 (C1M)
4. Diode  
D67 : 10E-1
5. Light Emitting Diode  
LED1, 2 : SLC-22UR
6. Power Slide Switch  
S.SW : KA40085

# YAMAHA

PORTABLE KEYBOARD

PS-30

## PARTS LIST

### CONTENTS

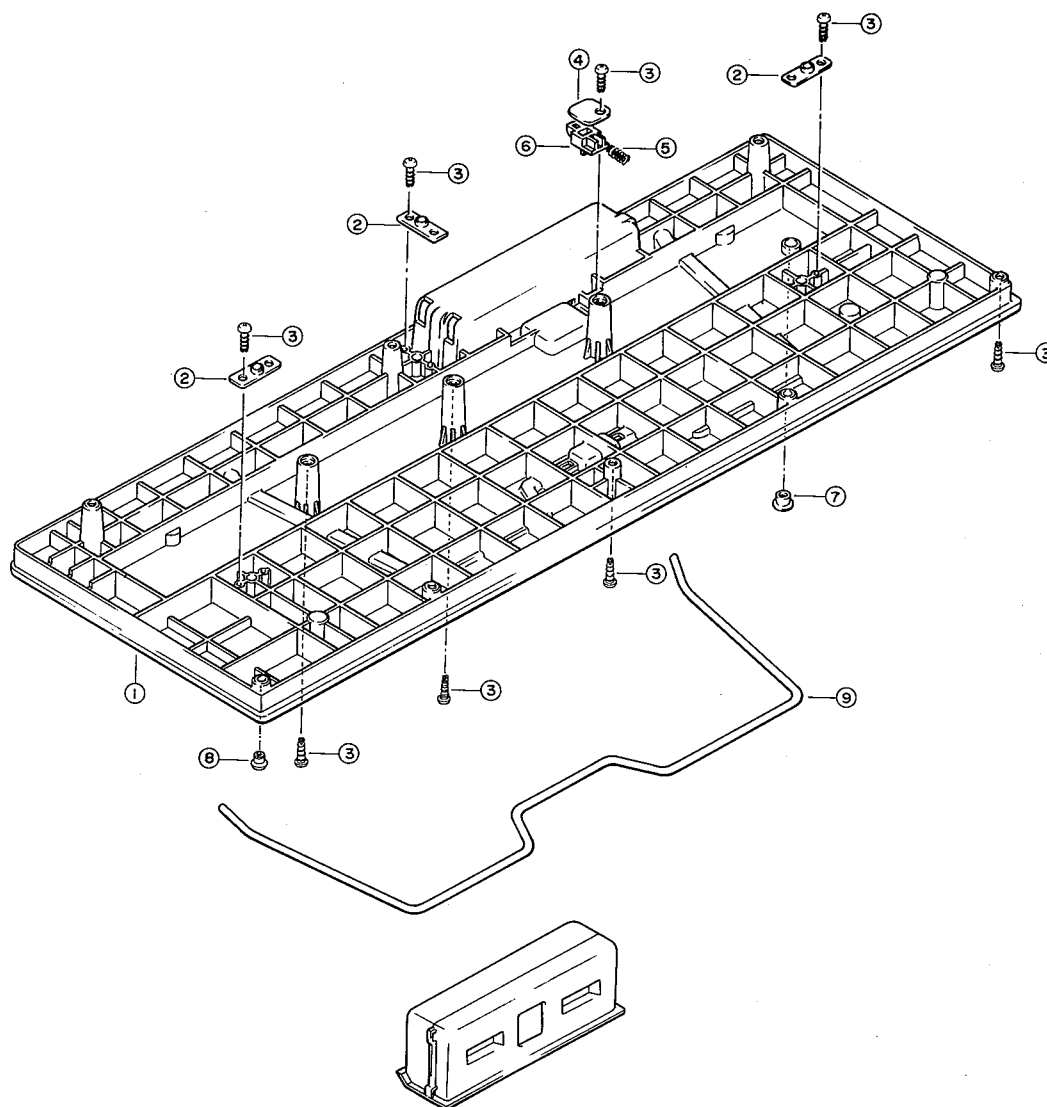
A. Upper Case Assembly & Keyboard Assembly (上ケース, 鍵盤).....	2
B. Bottom Case Assembly (下ケース).....	4
C. Battery Case Assembly (電池ケース).....	5
D. Electronic Components (電気部品).....	6



Ref. No.	Part No.			Description	(部 品 名)	Remarks	Common model	Markets	
				Upper Case Assembly					
* 1	30	10	06	NB 10	07	00	MOO Circuit Board Assembly	MOOシ ー ト Ass'y	
2	30	10	06	NB 10	07	30	SMF Circuit Board Assembly	SMFシ ー ト Ass'y	
3	40	10	00	EJ 03	00	80	Pan Head Tapping Screw 3 x 8	ナベタッピングネジ	Yellow
* 4	30	10	00	CB 03	68	70	Knob, Push DARK BROWN	ツ マ ミ	Variation Sustain
* 5	30	10	00	CB 03	68	80	— do. — RED	//	Function ½
* 6	30	10	00	CB 03	68	90	— do. — BLUE	//	A.B.C.
* 7	30	10	00	CB 03	69	00	— do. — GREEN	//	Orchestra
* 8	30	10	00	CB 03	69	10	— do. — YELLOW	//	Rhythm
9	30	10	00	CB 03	69	20	— do. — (WHITE)	//	Solo Tone
* 10	30	10	00	AA 04	89	90	Shaft φ = 140	シ ャ フ ト	
* 11	30	10	00	AA 04	90	00	— do. — φ = 115	//	
* 12	30	10	00	AA 04	90	20	— do. — φ = 87	//	
13	30	10	00	AA 04	90	30	— do. — φ = 47	//	
* 14	30	10	00	AA 04	90	50	— do. — φ = 25	//	
* 15	30	10	00	CB 03	83	50	Slide Switch Knob	スライドスイッチツマミ	Power Switch
* 16	30	10	00	CB 03	69	30	Knob, Slide DARK BROWN	ツ マ ミ	Volume
* 17	30	10	00	CB 03	69	40	— do. — YELLOW	//	Tempo
* 18	40	10	00	JA 12	51	00	Speaker	ス ピ ー カ	
* 19	30	10	00	AA 04	90	60	Speaker Grille	ス ピ ー カ グ リ ル	
* 20	40	10	00	CA 01	22	10	Cloth	不 織 布	
	40	10	00	CB 06	92	50	Binding Tie	インシュロックタイ	
* 21	30	10	00	AA 04	91	00	Stay	ス テ ー	
* 22	30	10	05	NK 00	55	40	Upper Case	上 ケ ー ス	
				Keyboard Assembly					
* 23	30	10	00	NB 10	11	50	Keyboard Assembly	鍵 盤 Ass'y	
24	40	10	00	EJ 04	01	00	Pan Head Tapping Screw 4 x 10	ナベタッピングネジ	Yellow
25	40	10	00	EV 42	00	40	Toothed Lock Washer B4S	歯 付 座 金	Yellow
26	30	10	00	NB 10	11	60	Switch Unit	スイ ッ チ ユ ニ ッ ト	
27	40	10	00	CB 03	39	80	Rubber Contact	可 動 導 電 ゴ ム	
28	30	10	00	AA 04	37	20	Coil Spring	コ イ ル ス プ リ ン グ	
29	30	10	00	CB 03	22	10	White Key C, F	白 鍵	
	30	10	00	CB 03	22	20	— do. — D	//	
	30	10	00	CB 03	22	30	— do. — B, E	//	
	30	10	00	CB 03	22	40	— do. — G	//	
	30	10	00	CB 03	22	50	— do. — A	//	
	30	10	00	CB 03	22	60	— do. — C	//	
30	30	10	00	CB 03	22	70	Black key	黒 鍵	
	40	10	00	CC 02	17	50	Felt	フ ェ ル ト	
	40	10	00	LB 60	24	90	Bass Post, Top Type 8P	ト ッ プ 型 ベ ー ス ポ ス ト	
	40	10	00	LB 60	24	60	— do. — 7P	//	

\* New Parts (新規部品)

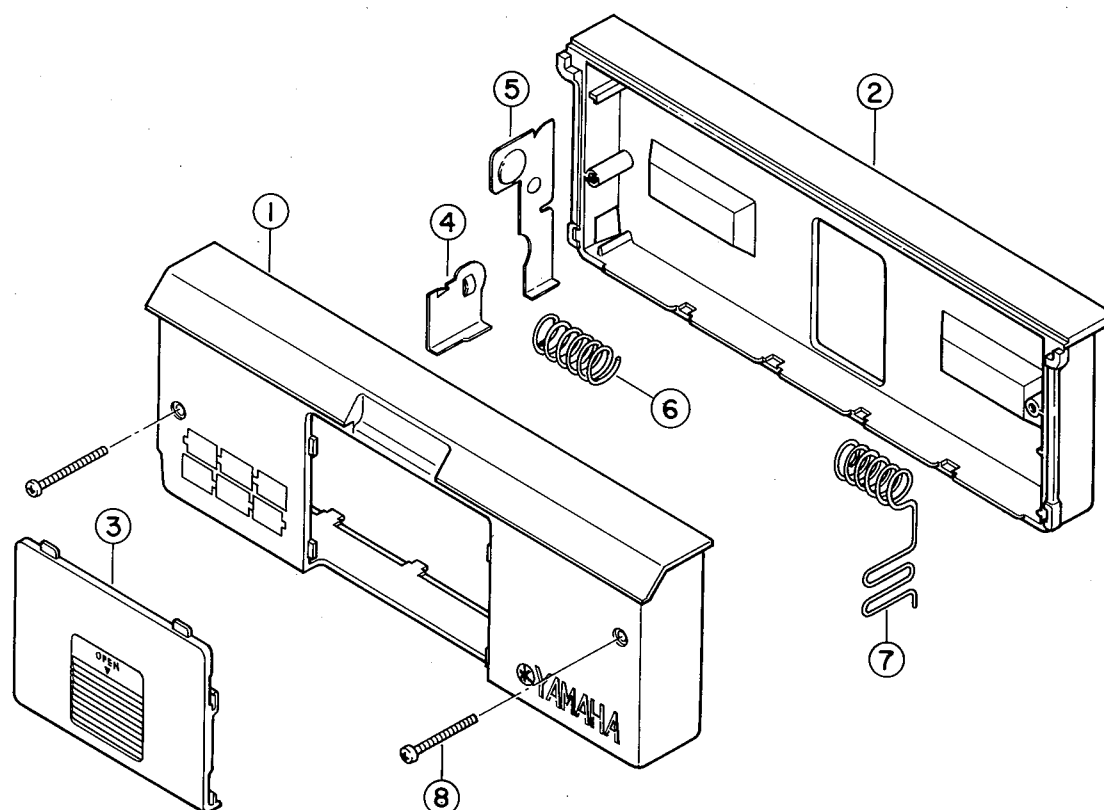
## B. Bottom Case Assembly (下ケース)



Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
1	30,10,00 NB 10,07,40	Bottom Case Assembly	下 ケ ー ス Ass'y			
* 2	30,10,00 AA 04,90,70	Stand Holder	脚 取 付 金 具			
3	40,10,00 EJ 04,01,00	Pan Head Tapping Screw 4 x 10	ナベタッピングネジ			
* 4	30,10,00 AA 04,90,80	Hook Stopper	ツ メ 押 え 板			
* 5	30,10,00 AA 04,90,90	Spring	バ ネ			
* 6	30,10,00 CB 03,70,30	Hook	ツ メ			
3	40,10,00 EJ 04,01,00	Pan Head Tapping Screw 4 x 10	ナベタッピングネジ			
7	30,10,00 CB 02,68,40	Button	ゴ ム ボ タ ン	White		
* 8	30,10,00 CB 03,80,00	Leg	ゴ ム 脚			
* 9	30,10,00 AA 04,89,80	Music Rest	譜 面 ワ イ ヤ ー			

※ New Parts (新規部品)

### C. Battery Case Assembly (電池ケース)

[illegible]

※ New Parts (新規部品)

## D. Electronic Components (電気部品)

Ref. No.	Part No.	Description	(部 品 名)	Remarks	Common model	Markets
	30 10 06 NB 10 07 00	MOO Circuit Board Assembly	MOOシート Ass'y			
	30 10 06 NB 10 07 30	SMF Circuit Board Assembly	SMFシート Ass'y			
	30 10 00 IT 10 11 00	IC YM1011	I C	KAR		
	30 10 00 IT 10 02 00	- do. - YM1002	"	PSC II		
	30 10 00 IT 11 02 00	- do. - YM1102	"	SOM		
	30 10 00 IT 11 01 00	- do. - YM1101	"	DOM		
	40 10 00 IG 00 17 20	- do. - TC4069	"	INVERTER		
	40 10 00 IG 02 60 00	- do. - iG02602	"	VCA		
	40 10 00 IG 01 39 00	- do. - NJM4558	"	OP Amp		
	40 10 00 IG 04 23 00	- do. - LA4125	"	Power Amp		
	40 10 00 IG 02 61 20	- do. - iG02612	"	VCF		
	40 10 00 iA 09 37 00	Transistor 2SA937	ト ラ ン ジ ス タ			
	40 10 00 iA 07 33 40	- do. - 2SA733	"			
	40 10 00 iA 05 09 10	- do. - 2SA509	"			
	40 10 00 iC 05 09 20	- do. - 2SC509	"			
	40 10 00 iC 07 52 30	- do. - 2SC752	"			
	40 10 00 iC 18 15 30	- do. - 2SC1815	"			
	40 10 00 iC 20 21 80	- do. - 2SC2021	"			
	40 10 00 iE 10 12 20	FET 2SK105	F E T			
※	40 10 00 iE 10 26 10	- do. - 2SK246	"			
	40 10 00 iF 00 00 40	Diode 1S1555	ダ イ オ ード			
	40 10 00 iH 00 05 90	- do. - 10E-1	"			
	40 10 00 iF 00 03 20	Zener Diode WZ061	ツェナーダイオード			
	40 10 00 iF 00 08 60	- do. - WZ056	"			
	40 10 00 iF 00 20 00	LED SLC22UR	L E D			
	40 10 00 GE 30 03 50	Choke Coil 68μH	チョークコイル			
	40 10 00 GE 90 03 40	OSC Coil 200μH	O S C コ イ ル			
	40 10 00 GE 90 01 90	- do. - 500μH	"			
※	40 10 00 QU 00 09 00	Ceramic Armature 470 kHz	セラミック振動子			
	40 10 00 FD 65 22 70	Polystyrene Capacitor 270P	スチロールコンデンサ			
	40 10 00 FD 65 24 70	- do. - 470P	"			
	40 10 00 FD 65 26 80	- do. - 680P	"			
	40 10 00 FD 65 28 20	- do. - 820P	"			
※	40 10 00 HQ 60 02 10	Slide Variable Resistor A10k	スライドボリューム	Solo VR Master VR		
※	40 10 00 HQ 60 02 20	- do. - B100k	"	ARP VR, ABC VR, RHY VR		
	40 10 00 HQ 60 02 40	- do. - C1M	"	テンポ VR		
	40 10 00 KA 40 08 50	Slide Switch	スライドスイッチ	Power Switch		
	40 10 00 KA 80 20 30	Push Switch 5	プッシュスイッチ	A-B-C Switch		
	40 10 00 KA 80 20 40	- do. - 6	"	Orchestra Switch		
	40 10 00 KA 80 20 50	- do. - 9	"	Rhythm Switch		
※	40 10 00 LB 10 05 90	Terminal Plate	ジ ャ ッ ク 板			
	30 10 00 BA 01 43 80	Heat Sink	放 熱 板			
	40 10 00 LB 50 02 50	Bass Post, Top Type 5P	トップ型ベースポスト			
	40 10 00 LB 60 24 60	- do. - 7P	"			
	40 10 00 LB 60 24 90	- do. - 8P	"			
	40 10 00 LB 60 24 70	- do. - 10P	"			
	40 10 00 LB 60 30 00	Bass Post, Bottom Type 7P	ボトム型ベースポスト			

※ New Parts (新規部品)