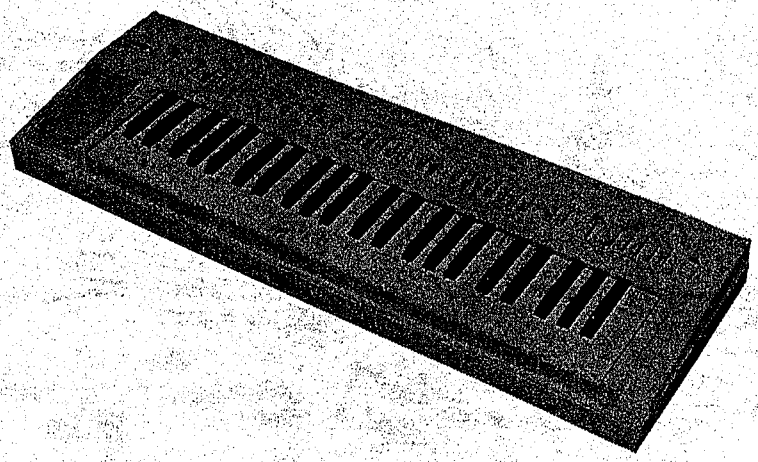
YAMAHA

PORTABLE KEYBOARD

PS-30



SERVICE MANUAL

001128

'80.12 1.6K K·S ⊖ Printed in Japan

CONTENTS

H7190046

SPECIFICATIONS

KEYBOARD
49 keys ($C_1 \sim C_5$)

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.

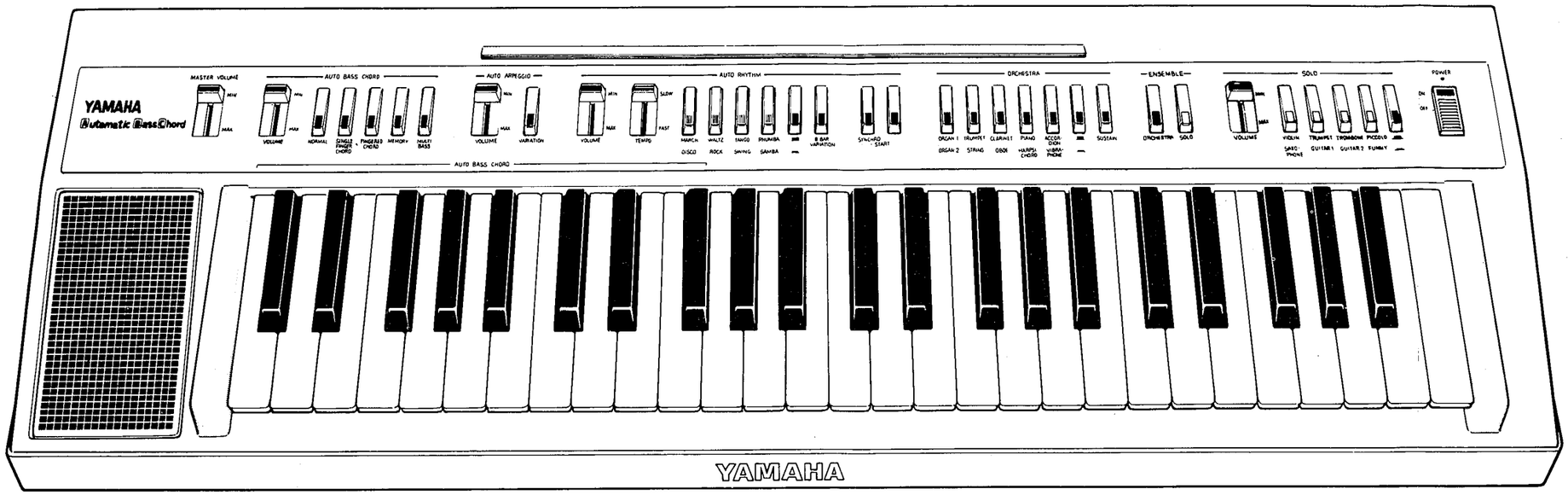
Specifications subject to change without notice.

ACCESSORIES
DUST COVER	BATTERY PACK
MUSIC REST	AC POWER ADAPTOR

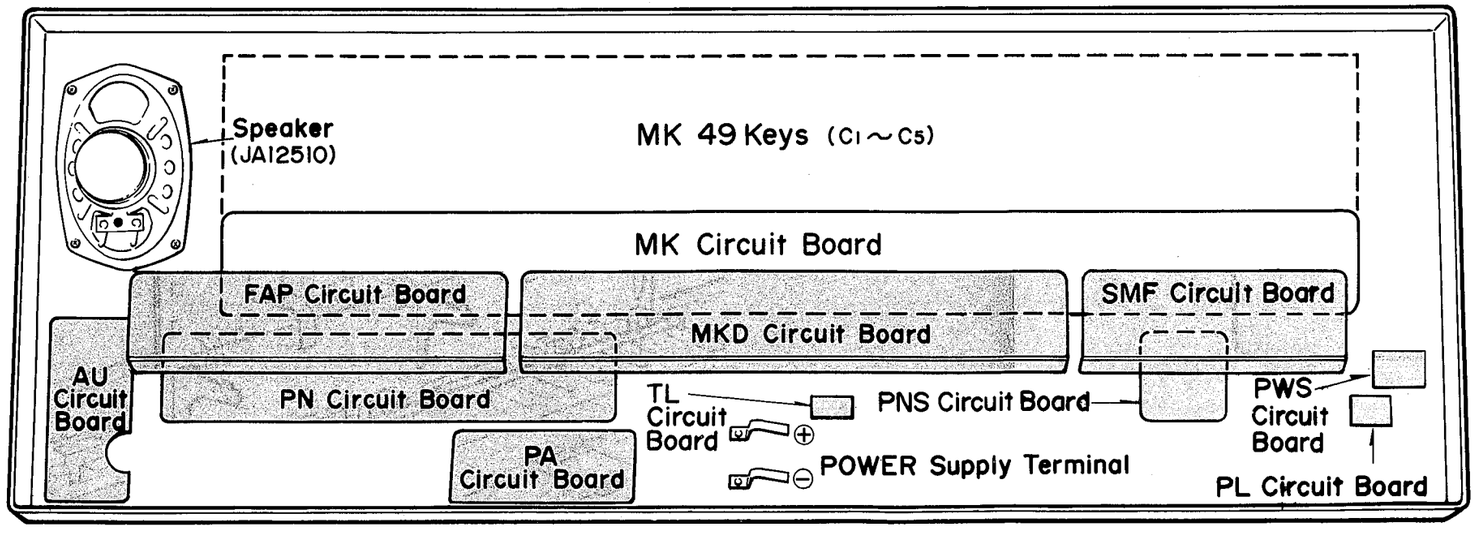
The maximum number of notes which can be simultaneously sounded on this instrument is shown below.

* 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)

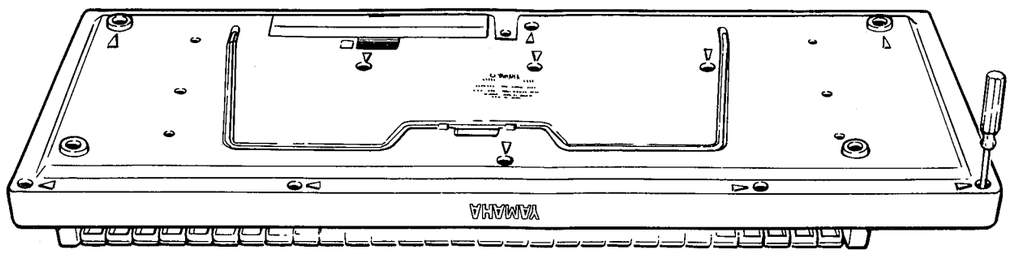


A MOO Circuit Board Assembly consists FAP, MKD, PWS, PL, PN, AU, PA and TL Circuit Board.
A SMF Circuit Board Assembly consists SMF and PNS Circuit Board.

DISASSEMBLY PROCEDURE

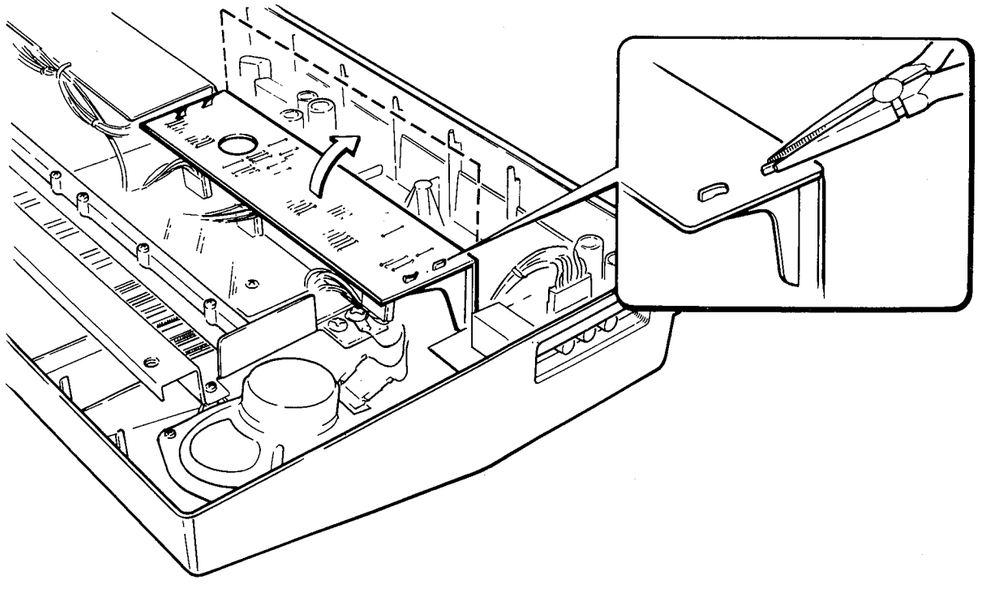
1. Removal of bottom case

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.

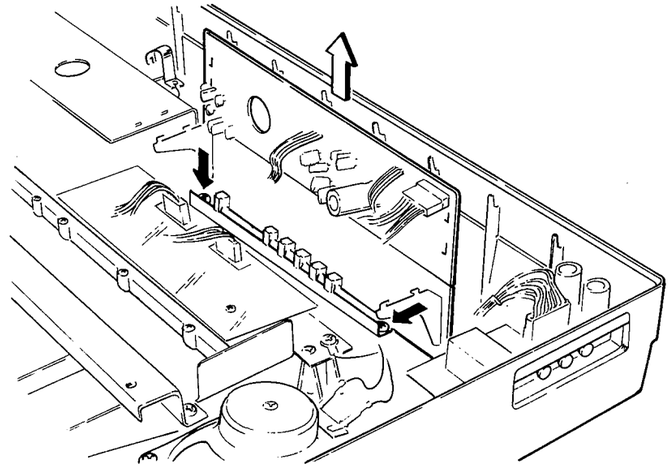


2. Removal of FAP circuit board

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

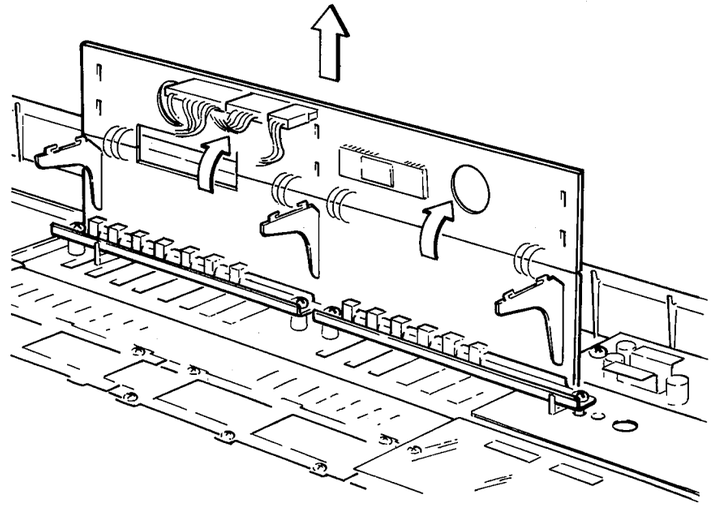


2) Remove two screws shown in the figure, connectors connected to the circuit board and Ribbon Wire. Then FAP circuit board can be removed.



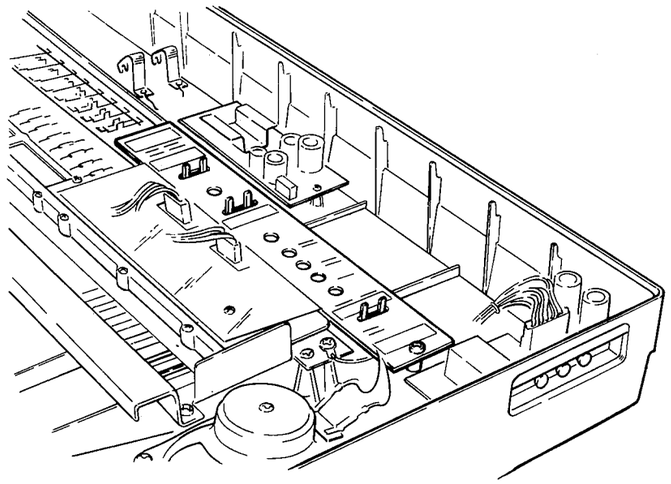
3. Removal of MKD & SMF circuit board

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.



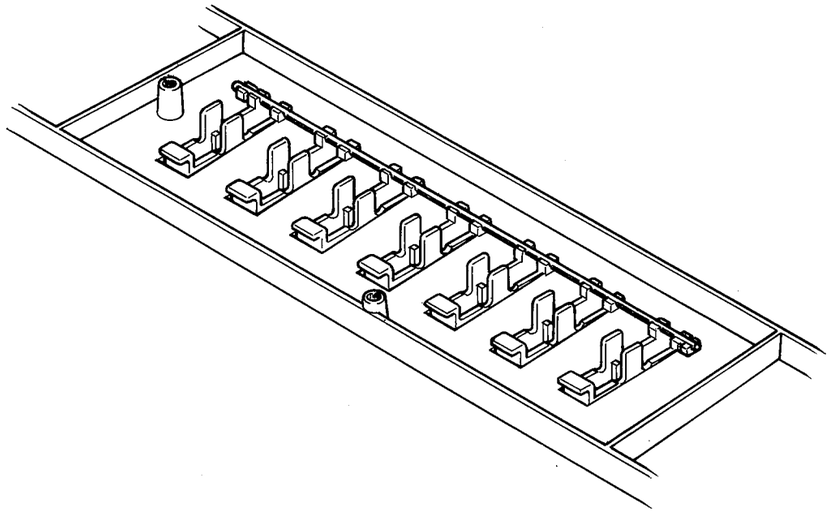
4. Removal of PN circuit board

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.

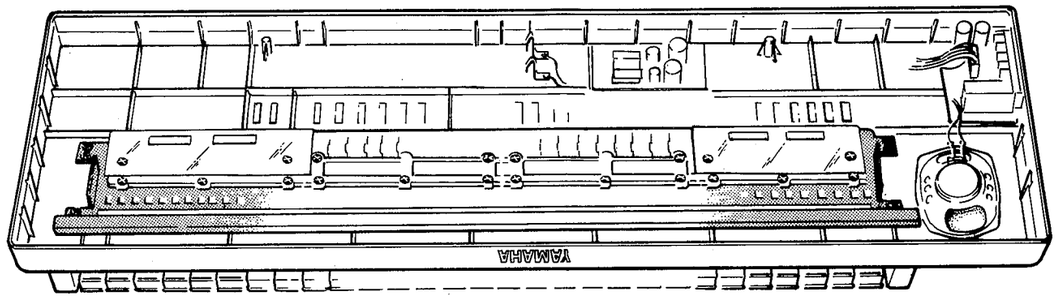


6. Removal of MK circuit board

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

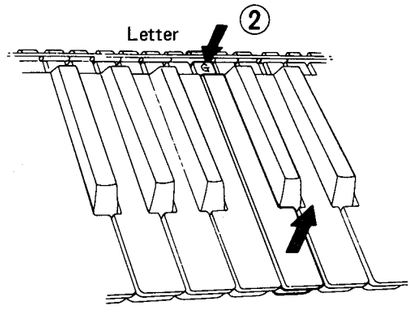
1) Remove botom case.
2) Remove MK fastening screws securing keyboard.
3) Raise the keyboard, and remove connectors.
4) Remove keyboard up.

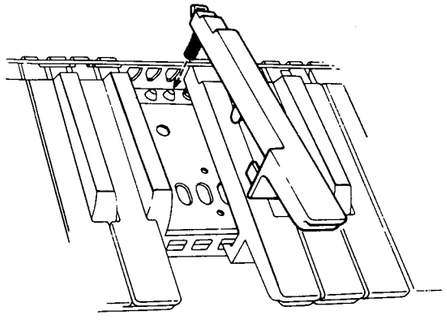
9. Removing Keys

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.

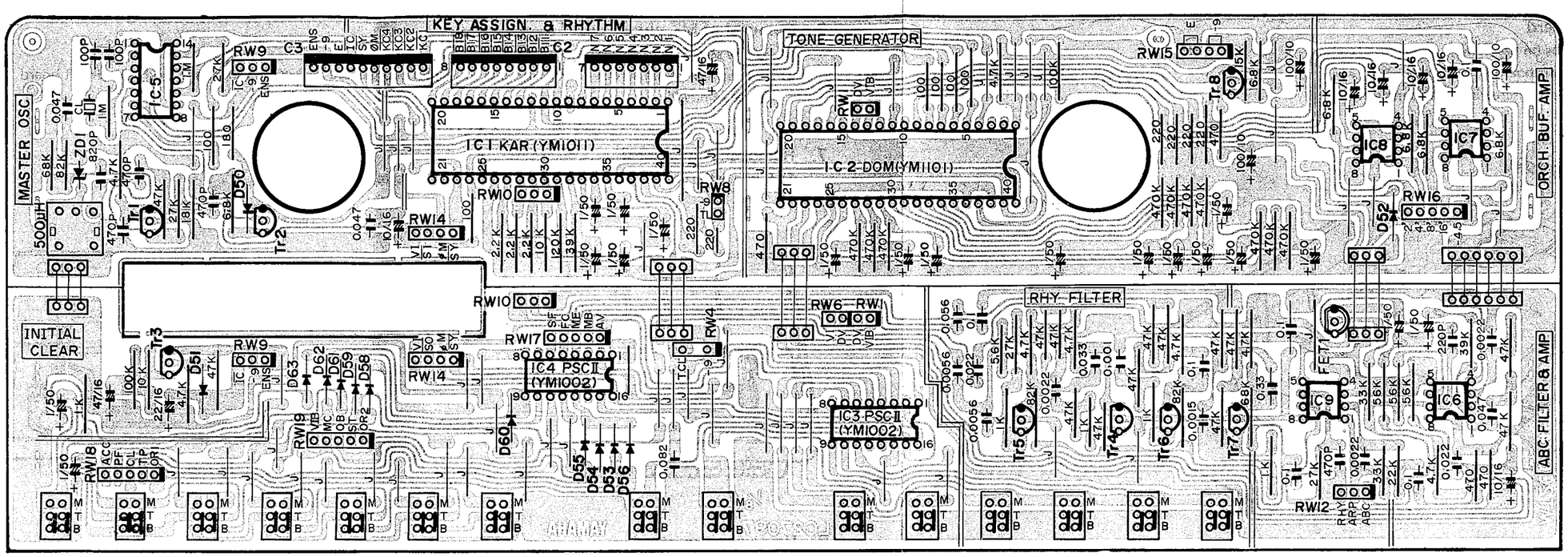
Installation Precautions

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.





MKD Circuit Board & Wiring



• 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	$\overline{B11}$	BR	MK-$\overline{B11}$ (C2-1)
2	$\overline{B12}$	RE	MK-$\overline{B12}$ (C2-2)
3	$\overline{B21}$	OR	MK-$\overline{B21}$ (C2-3)
4	$\overline{B22}$	YE	MK-$\overline{B22}$ (C2-4)
5	$\overline{B31}$	GR	MK-$\overline{B31}$ (C2-5)
6	$\overline{B32}$	BE	MK-$\overline{B32}$ (C2-6)
7	$\overline{B41}$	VI	MK-$\overline{B41}$ (C2-7)
8	$\overline{B42}$	GY	MK-$\overline{B42}$ (C2-8)

C3 [MKD]

Pin No.	Pin Name	Wire Color	Destination
1	$\overline{KC1}$	BR	SMF-$\overline{KC1}$ (C1-1)
2	$\overline{KC2}$	RE	SMF-$\overline{KC2}$ (C1-2)
3	$\overline{KC3}$	OR	SMF-$\overline{KC3}$ (C1-3)
4	$\overline{KC4}$	YE	SMF-$\overline{KC4}$ (C1-4)
5	ϕM	GR	SMF-ϕM (C1-5)
6	$\overline{SY}$	BE	SMF-$\overline{SY}$ (C1-6)
7	$\overline{IC}$	VI	SMF-$\overline{IC}$ (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	$\overline{IC}$ $\overline{IC}$

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	$\overline{SY}$ $\overline{SY}$
2	ϕM ϕM
3	SI $\overline{SO}$
4	VI VI

RW15	FAP ⟷ MKD
1	–9 –9
2	–9 –9
3	E E
4	E E

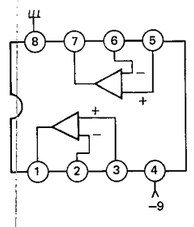
RW16	FAP ⟷ MKD
1	–4.5 –4.5
2	16′ 16′
3	8′ 8′
4	4′ 4′
5	2′ 2′

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

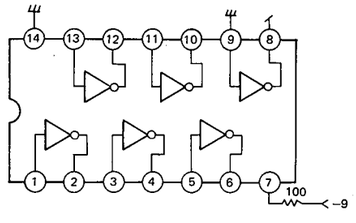
RW18	FAP ⟷ MKD
1	OR1 OR1
2	TP TP
3	CL CL
4	PF PF
5	ACC ACC

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

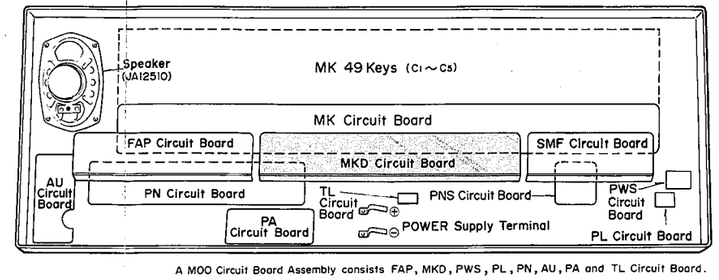
NJM4558 (OP. Amp)



TC4069 (Inverter)



UNIT LAYOUT (Bottom View)

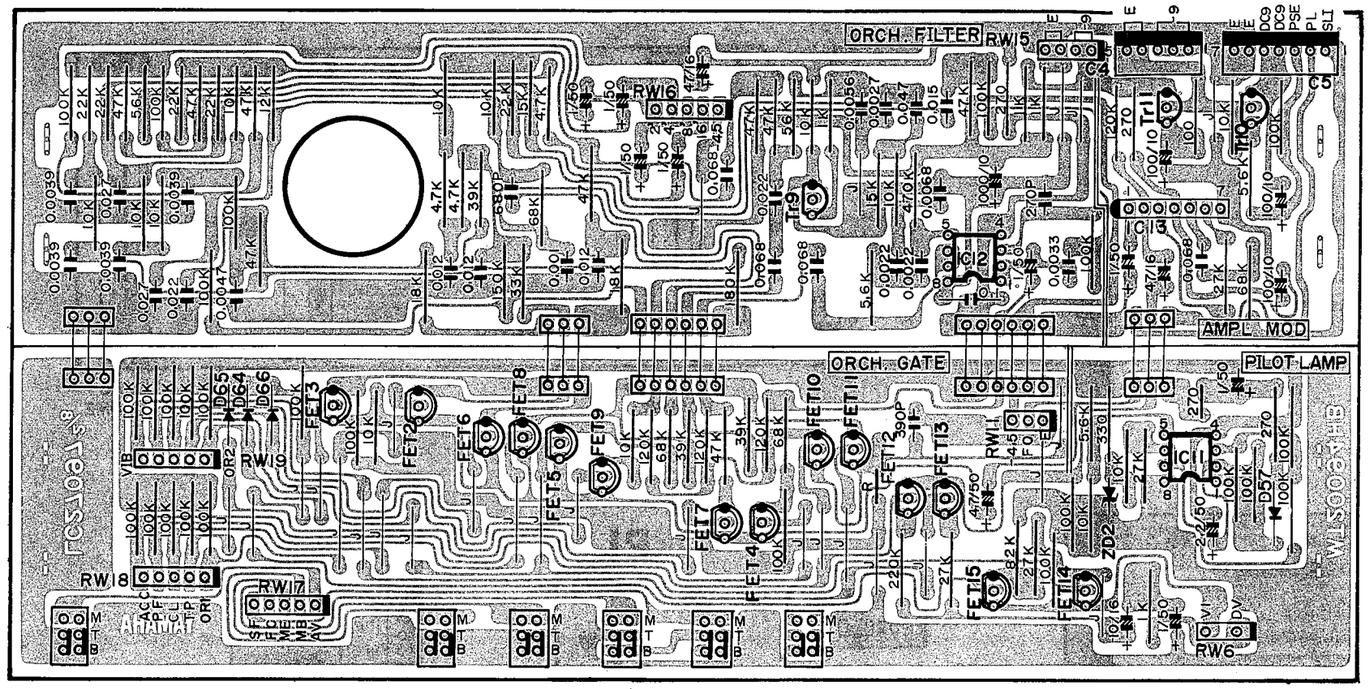


A MOO Circuit Board Assembly consists FAP, MKD, PWS, PL, PN, AU, PA and TL Circuit Board.
A SMF Circuit Board Assembly consists SMF and PNS Circuit Board.

Notes)

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

FAP Circuit Board & Wiring



• Connector Table

C4 [FAP]

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)

C5 [FAP]

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

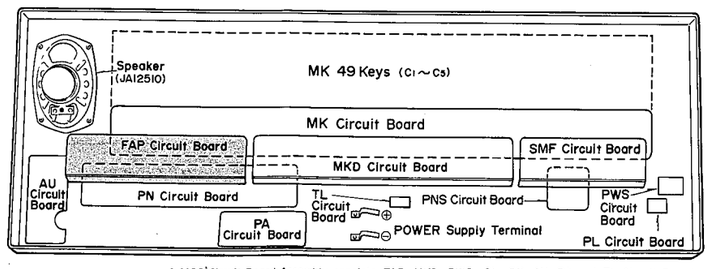
RW16	FAP ⟷ MKD	
1	–4.5	–4.5
2	16′	16′
3	8′	8′
4	4′	4′
5	2′	2′

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

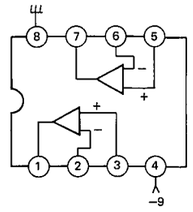
RW19	FAP ⟷ MKD	
1	OR2	OR2
2	ST	ST
3	OB	OB
4	MC	MC
5	VIB	VIB

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.

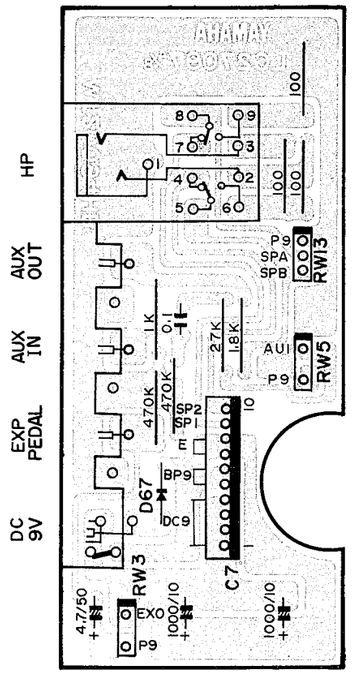
NJM4558 (OP. Amp)



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

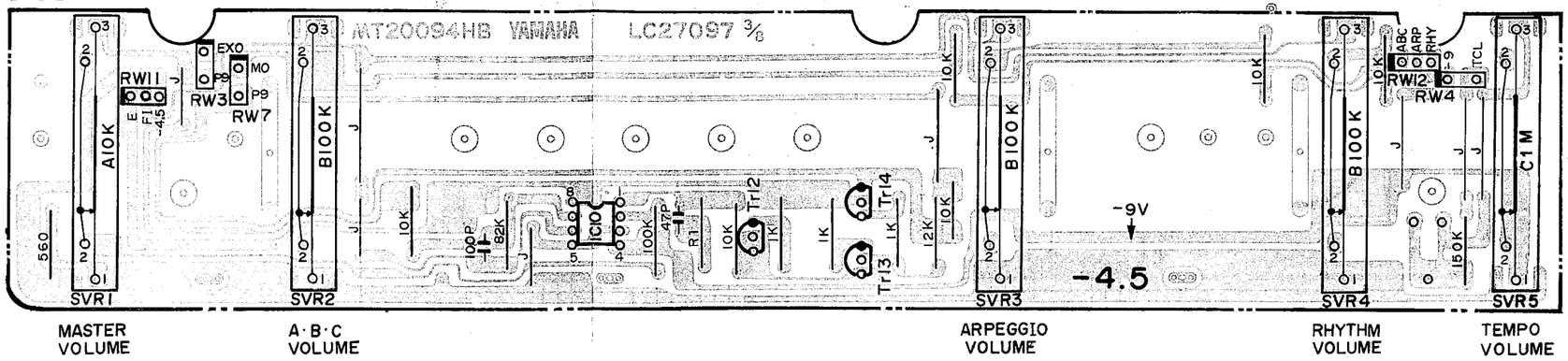
PN, PL, TL, PW.S, AU, PA Circuit Board & Wiring

AU

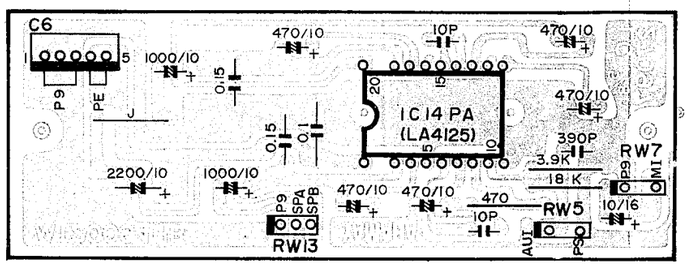


PN

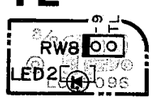
View from the printed pattern side



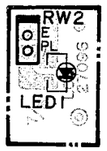
PA



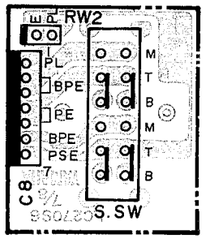
TL



PL



PWS



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

RW3	PN ⟷ AU	
1	EXO	EXO
2	P9	P9

RW4	PN ⟷ MKD	
1	–9	–9
2	TCL	TCL

RW5	PA ⟷ AU	
1	AUI	AUI
2	P9	P9

RW7	PN ⟷ PA	
1	MO	MI
2	–	E

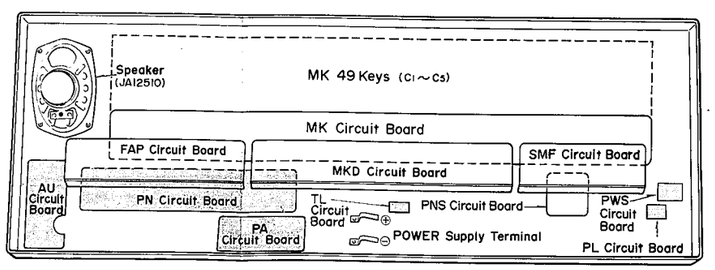
RW8	MKD ⟷ TL	
1	–9	–9
2	TL	TL

RW11	PN ⟷ FAP	
1	E	E
2	F1	F0
3	–4.5	–4.5

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

RW13	PA ⟷ AU	
1	P9	P9
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.
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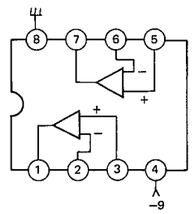
NJM4558 (OP. Amp)

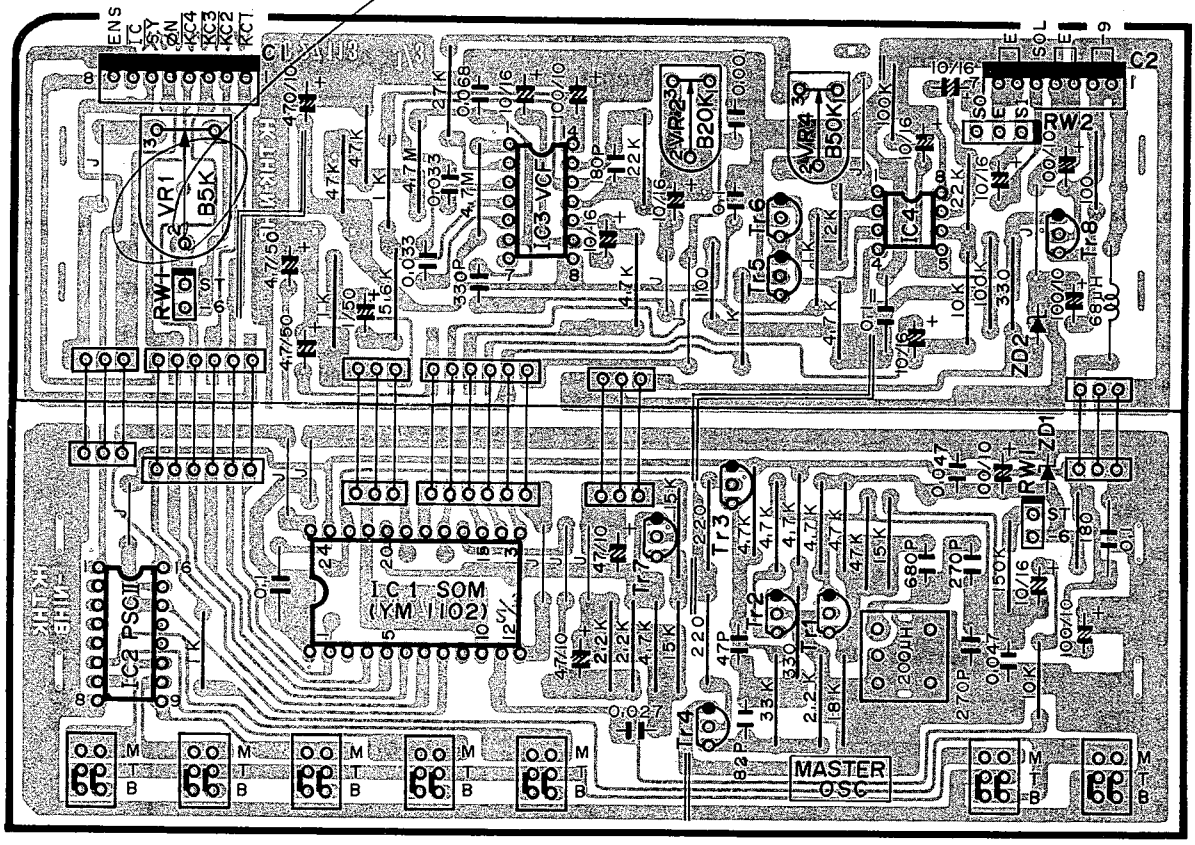


Notes)
1. Integrated Circuit
   IC10 : NJM4558 (OP. Amp)
   IC14 : LA4125W (Power Amp)
2. Transistor
   Tr12, 13 : 2SA937
   Tr14 : 2SC2021
3. Slide Variable Resistor
   SVR1 : HQ60021 (A10K)
   SVR2 ~ 4 : HQ60022 (B100K)
   SVR5 : HQ60024 (C1M)
4. Diode
   D67 : 10E-1
5. Light Emitting Diode
   LED1,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

HT190040

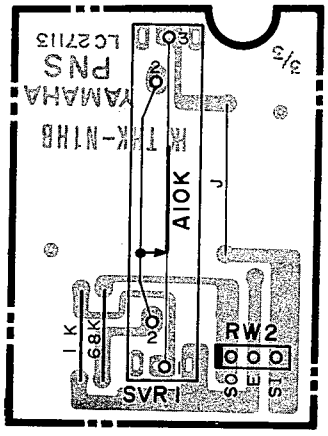
SMF, PNS Circuit Board & Wiring

SMF



PICCOLO TROMBONE TRUMPET VIOLIN SOLO ORCHE-
FUNNY GUITAR2 GUITAR1 SAXOPHONE STRA

PNS



SOLO VOLUME

C1 [SMF]

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

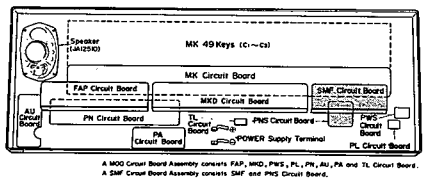
C2 [SMF]

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)

UNIT LAYOUT (Bottom View)



A MOG 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.

RW1	SMF ⟷ SMF
1	ST ST
2	−6 −6

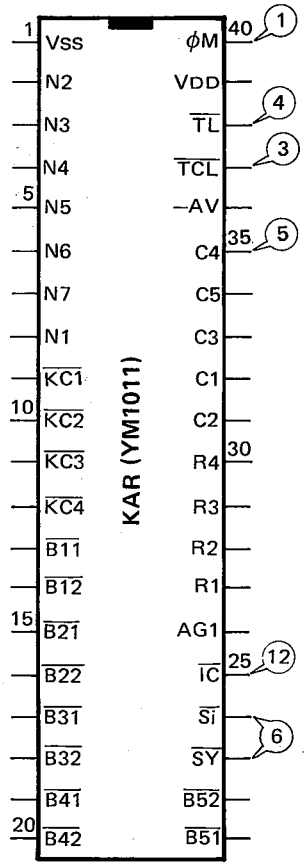
RW2	SMF ⟷ PNS
1	SI SO
2	E E
3	SO SI

LSI DATA TABLE

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

Pin No.	Pin Name	Description
1	VSS	Ground (0V)
2	N2	Note Block (⇐MK)
3	N3	
4	N4	
5	N5	
6	N6	
7	N7	
8	N1	
9	$\overline{KC1}$	Key Code Data OUT (⇒DOM)
10	$\overline{KC2}$	
11	$\overline{KC3}$	
12	$\overline{KC4}$	
13	$\overline{B11}$	Octave Block (⇐MK)
14	$\overline{B12}$	
15	$\overline{B21}$	
16	$\overline{B22}$	
17	$\overline{B31}$	
18	$\overline{B32}$	
19	$\overline{B41}$	
20	$\overline{B42}$	

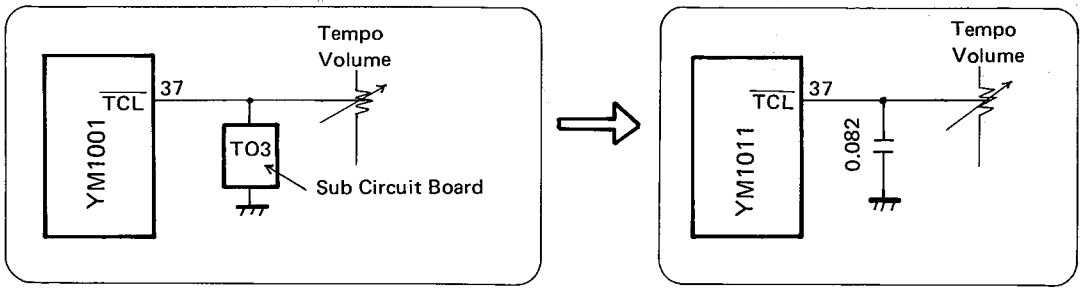
Pin No.	Pin Name	Description	
40	ϕM	Master Clock IN (470kHz)	
39	VDD	DC Supply (−9V)	
38	$\overline{TL}$	Tempo lamp Drive OUT	
37	$\overline{TCL}$	C.R for tempo clock oscillation	
36	−AV	DC supply for Rhythm sound source (−2V)	
35	C4	HC	C.R for Rhythm envelope setting
34	C5	HB	
33	C3	LC	
32	C1	SDN	
31	C2	HH	
30	R4	BDP	Rhythm sound source OUT
29	R3	DP	
28	R2	HB/HLC	
27	R1	HH/SDN	
26	AG1	Analog GND	
25	$\overline{IC}$	Initial clear IN	
24	$\overline{Si}$	Serial data IN (⇐PSC II)	
23	$\overline{SY}$	Synchro data IN (⇐KAR)	
22	$\overline{B52}$	Octave block	
21	$\overline{B51}$		



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 0.082μF.

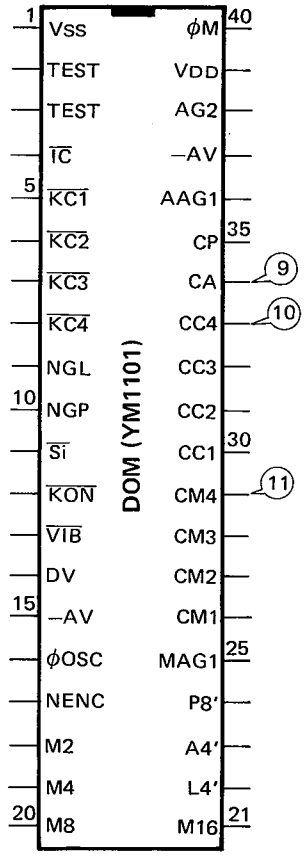


YM1001 + TO3 (Sub Circuit Board) YM1011 + Capacitor 0.082

Part Name	YM1101	Function Name	DOM (Digital Tone Generator)

Pin No.	Pin Name	Description
1	VSS	Ground (0V)
2	TEST	Test Pin
3	TEST	— do. —
4	$\overline{IC}$	Initial clear IN
5	$\overline{KC1}$	Key code data IN (⇐KAR)
6	$\overline{KC2}$	
7	$\overline{KC3}$	
8	$\overline{KC4}$	
9	NGL	Normal gate data OUT
10	NGP	NC
11	$\overline{Si}$	Serial data IN (⇐PSC II)
12	$\overline{KON}$	KEY ON signal OUT
13	$\overline{VIB}$	Vibraphone-ON data OUT
14	DV	Deray vibrato data OUT
15	−AV	DC supply for sound source (−2V)
16	ϕOSC	Clock for sound source IN (530kHz)
17	NENC	NC
18	M2′	2′
19	M4′	4′ Sound source OUT
20	M8′	8′

Pin No.	Pin Name	Description
40	ϕM	Master clock IN (470kHz)
39	VDD	DC Supply (−9V)
38	AG2	Analog GND
37	−AV	DC Supply for Sound source (−2V)
36	AAG1	GND (Auto Bass Sound source)
35	CP	C.R for Auto Bass/Manual Key Sound source envelope setting
34	CA	C.R for Auto Arpeggio/Manual Key Sound source envelope setting
33	CC4	C.R for Auto Chord/Manual Key Sound source envelope setting
32	CC3	
31	CC2	
30	CC1	
29	CM4	C.R for Manual Key Sound source envelope setting
28	CM3	
27	CM2	
26	CM1	
25	MAG1	GND (Manual Key sournd source)
24	P8′	Auto Bass sound source OUT
23	A4′	Auto Arpeggio sound source OUT
22	L4′	Auto Code sound source OUT
21	M16′	16′ sound source OUT

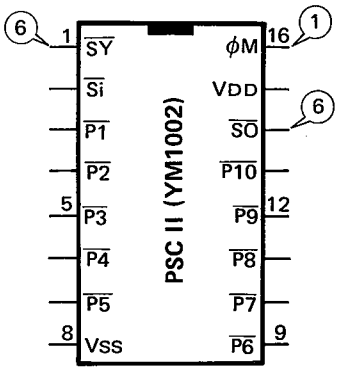


NOTE) ◯ Marks ... Refer to MAIN WAVE FORMS (P19 ~ 22)

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

Pin No.	Pin Name	Description
1	$\overline{SY}$	Synchro data IN (⇐KAR)
2	$\overline{Si}$	Serial data IN (⇐PSC II)
3	$\overline{P1}$	Parallel data IN 1 (⇐SW)
4	$\overline{P2}$	– do. – 2 (⇐SW)
5	$\overline{P3}$	– do. – 3 (⇐SW)
6	$\overline{P4}$	– do. – 4 (⇐SW)
7	$\overline{P5}$	– do. – 5 (⇐SW)
8	VSS	Ground (0V)

Pin No.	Pin Name	Description
16	ϕM	Master clock IN (470kHz)
15	VDD	DC Supply (–9V)
14	$\overline{SO}$	Serial data OUT (⇒KAR, DOM)
13	$\overline{P10}$	Parallel data IN 10 (⇐SW)
12	$\overline{P9}$	– do. – 9 (⇐SW)
11	$\overline{P8}$	– do. – 8 (⇐SW)
10	$\overline{P7}$	– do. – 7 (⇐SW)
9	$\overline{P6}$	– do. – 6 (⇐SW)

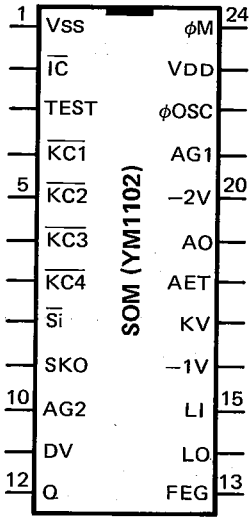


NOTE) (1) Marks ... Refer to MAIN WAVE FORMS (P19～22)

Part Name	YM1102	Function Name	SOM (Solo tone Generator)

Pin No.	Pin Name	Description
1	VSS	Ground (0V)
2	$\overline{IC}$	Initial clear IN
3	TEST	Test pin
4	$\overline{KC1}$	Key code data IN
5	$\overline{KC2}$	
6	$\overline{KC3}$	
7	$\overline{KC4}$	
8	$\overline{Si}$	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 No.	Pin Name	Description
24	ϕM	Master clock IN (470kHz)
23	VDD	DC supply (−9V)
22	ϕOSC	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



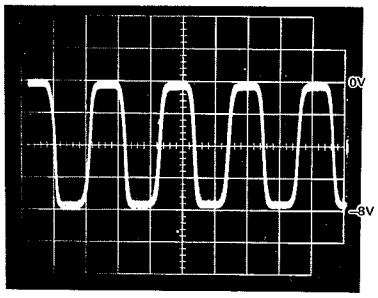
MAIN WAVE FORMS

Wave Shape Figures

1 Master Clock (ϕM)

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

f ≒ 470kHz

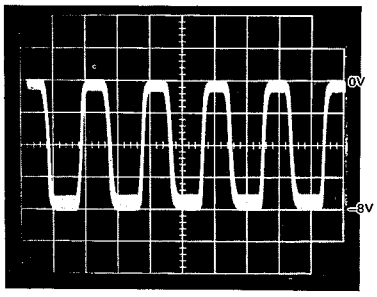


CH. 1	CH. 2
2 /DIV	/DIV
1μ /DIV	
AC (DC)	AC·DC
ϕM	

2 Sound Source Clock (ϕOSC)

- **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.

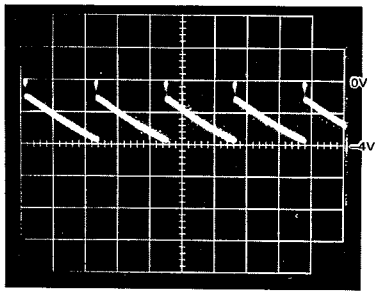
f ≒ 530.8kHz



CH. 1	CH. 2
2 /DIV	/DIV
1μ /DIV	
AC (DC)	AC·DC
ϕOSC	

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

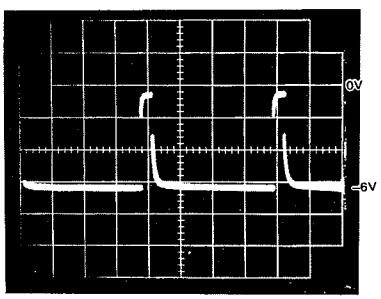
- **CHECK POINT** (MKD)
  37th Pin of IC1 (KAR)
- **CONDITION**
  RHYTHM START
  Tempo Volume MAX.



CH. 1	CH. 2
2 /DIV	/DIV
2mS /DIV	
AC (DC)	AC·DC
$\overline{TCL}$	

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

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

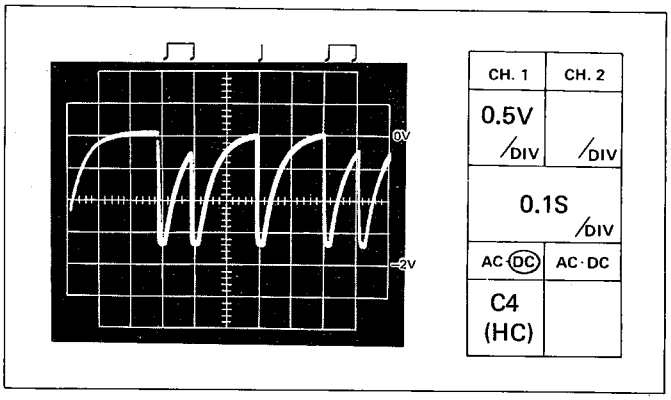


CH. 1	CH. 2
2 /DIV	/DIV
0.2S /DIV	
AC (DC)	AC·DC
$\overline{TL}$	

5 Rhythm Envelope (HC)

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

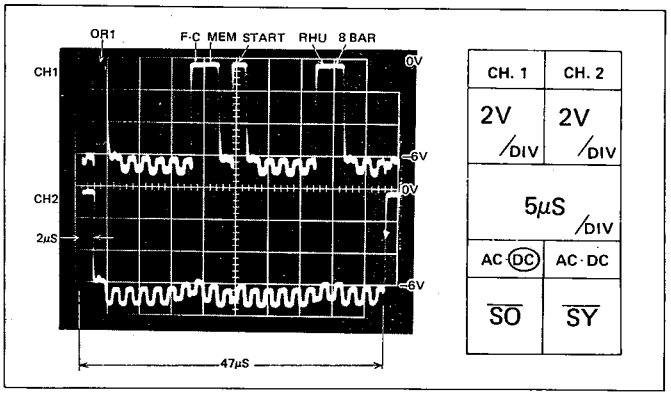
●**CONDITION**
RHYTHM START (RHUMBA)
Tempo Volume MAX.
* The wave form varies with the rhythm.

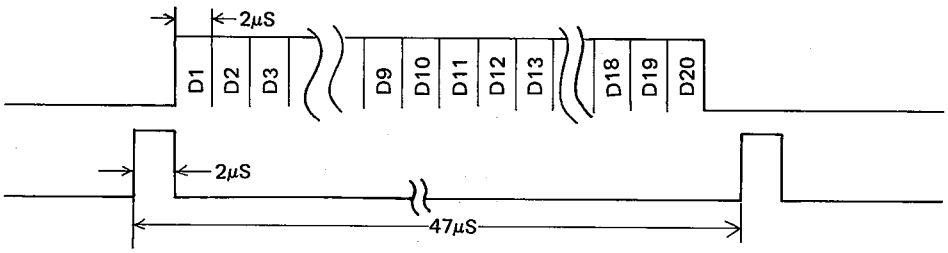


6 Serial Function Data (SO)

●**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



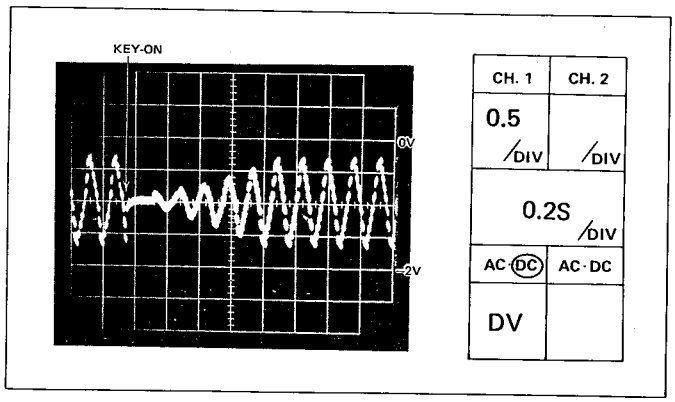


Parallel Data		Serial Data
PSC II (IC4)	$\overline{P10}$	D1 ..... ORGAN 1, TRUMPET, CLARINET, OBOE
	$\overline{P9}$	D2 ..... ORGAN 2
	$\overline{P8}$	D3 ..... HARPSICHORD
	$\overline{P7}$	D4 ..... VIBRAPHONE, PIANO
	$\overline{P6}$	D5 ..... STRING, ACCORDION
	$\overline{P5}$	D6 ..... VIBRAPHONE, SUSTAIN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

7-a Modulation Signal for Vibrato (DV)

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

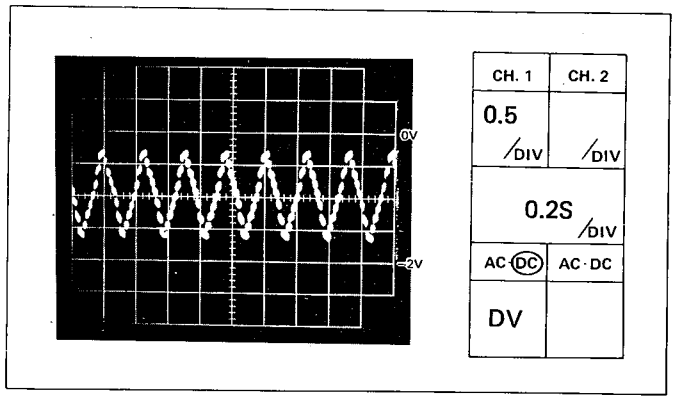
●CONDITION
TRUMPET – ON
KEY – ON
*The same wave form is obtained for ORGAN2, STRING and OBOE.



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

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

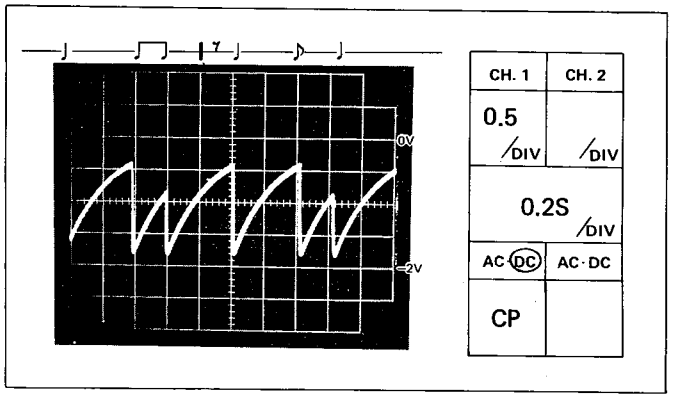
●CONDITION
Vibraphone – ON



8 Auto Bass Envelope (CP)

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

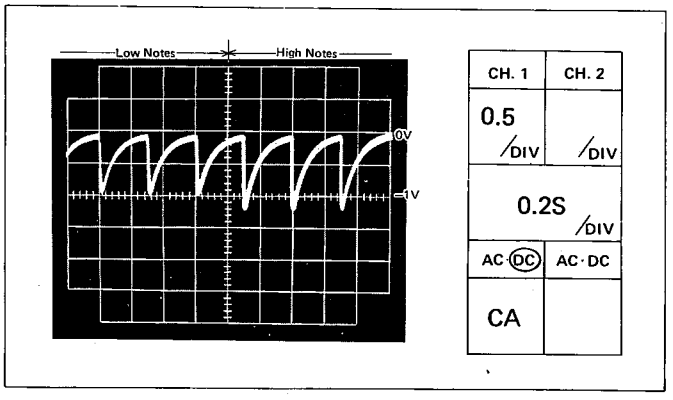
●CONDITION
RHYTHM START (ROCK)
BASS VARIATION – ON
A·B·C KEY – ON
*The pattern varies with the rhythm.



9-a Auto Arpeggio Envelope (CA)

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

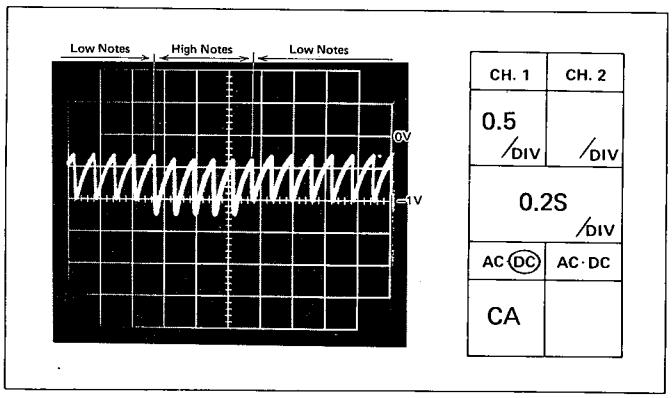
●CONDITION
ARPEGGIO START



9-b Auto Arpeggio Envelope (CA)

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

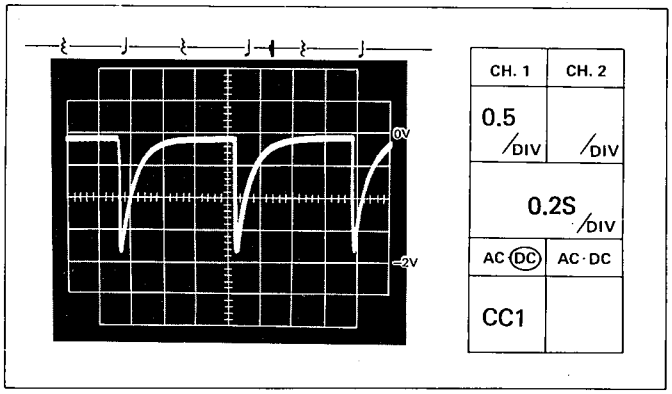
CONDITION
ARPEGGIO START
*When Up Tempo campared with 9-a.



10 Auto Chord Envelope (CC1~4)

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

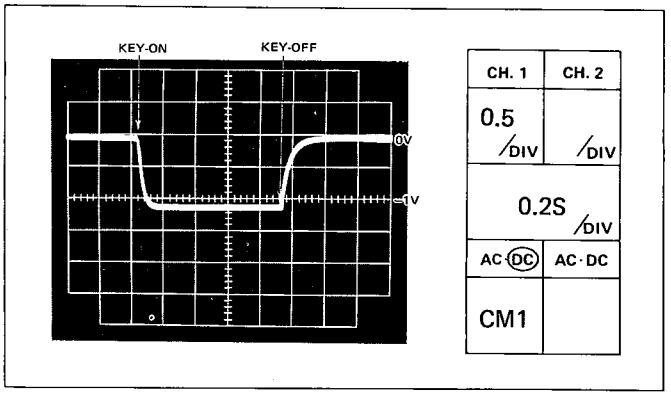
CONDITION
A·B·C – ON
KEY – ON



11 Manual Key Envelope (CM1~4)

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

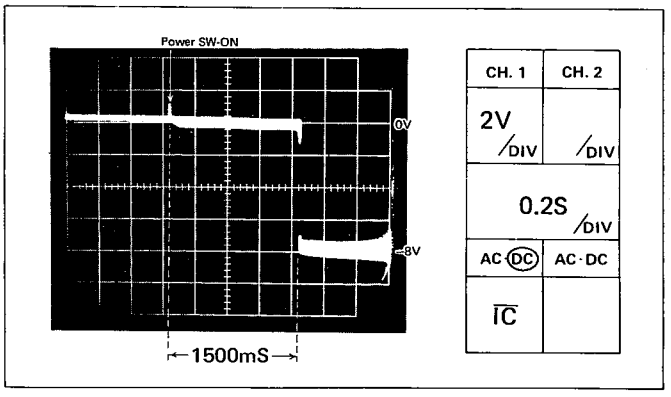
● **CONDITION**
OBOE – ON
KEY-ON – OFF



12 Initial Clear ($\overline{IC}$)

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

● **CONDITION**
Power SW. OFF → ON



YAMAHA

PORTABLE KEYBOARD

PS-30

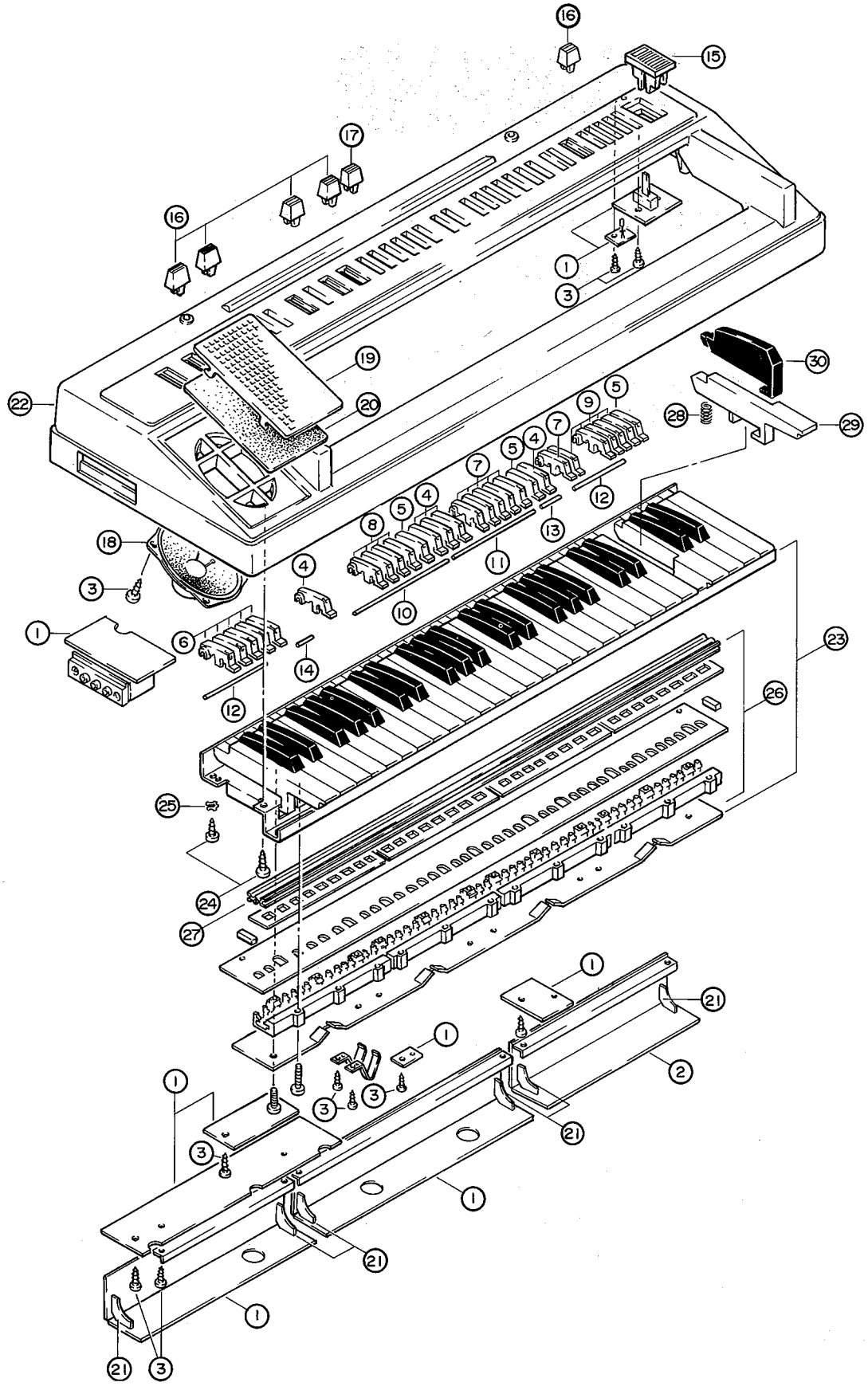
PARTS LIST

CONTENTS

001128

'80.12 1.6K K·S ⊖ Printed in Japan

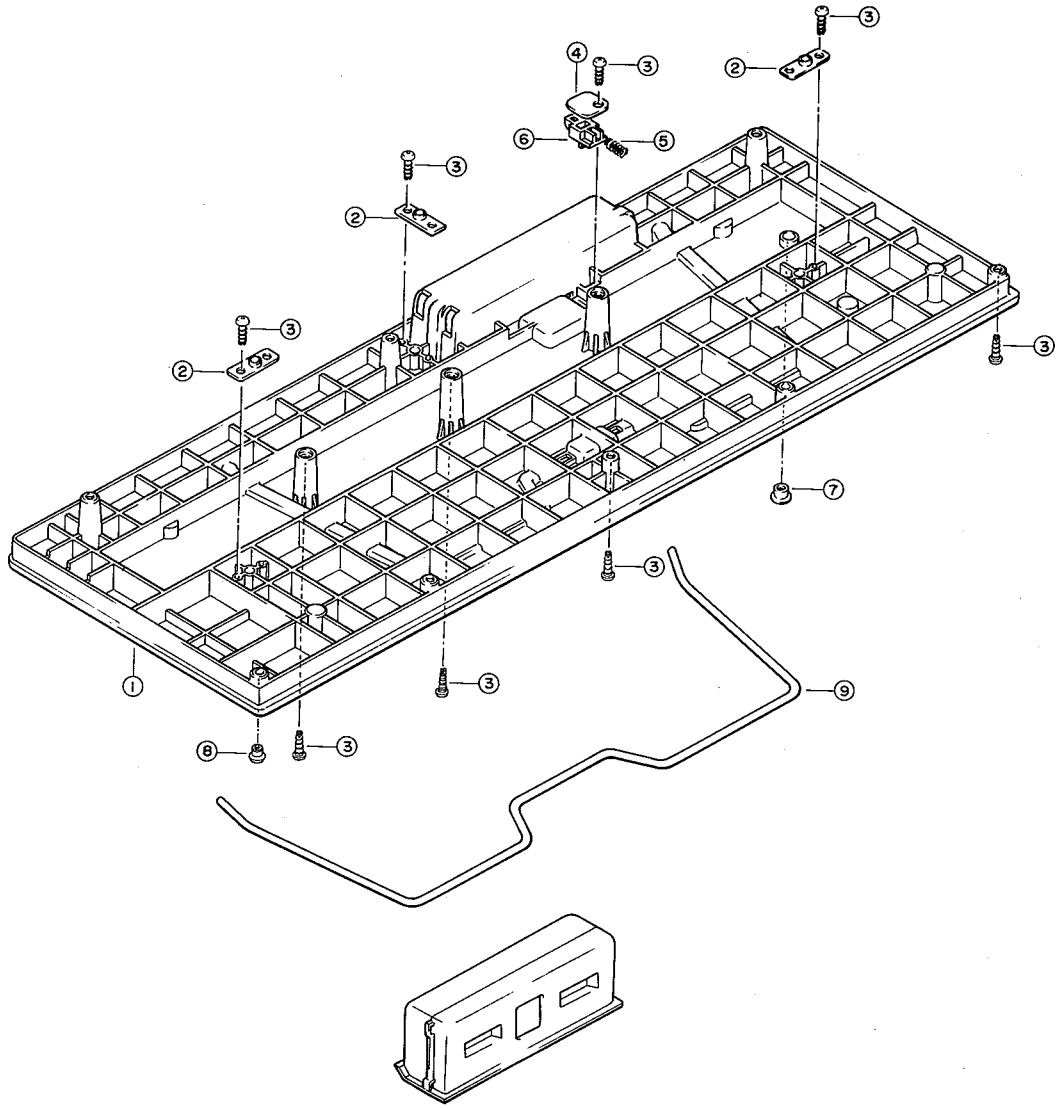
A. Upper Case Assembly & Keyboard Assembly (上ケース，鍵盤)



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 ℓ = 140	シ ャ フ ト			
※ 11	30 10 00 AA 04 90 00	— do. — ℓ = 115	〃			
※ 12	30 10 00 AA 04 90 20	— do. — ℓ = 87	〃			
13	30 10 00 AA 04 90 30	— do. — ℓ = 47	〃			
※ 14	30 10 00 AA 04 90 50	— do. — ℓ = 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)

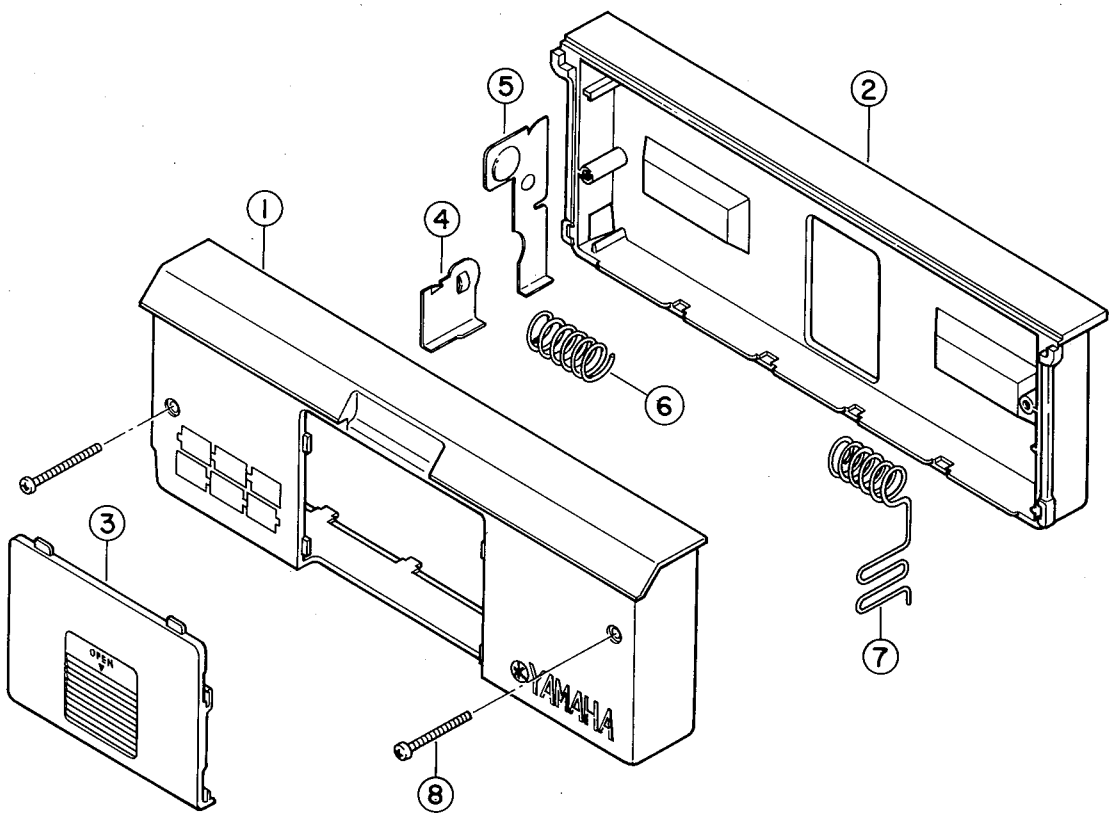
B. Bottom Case Assembly (下ケース)



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)



	Ref. No.	Part No.	Description		(部 品 名)	Remarks	Common model	Markets
※	1	30 10 00 CB 03 70 80	Battery Case A	#03078	電 池 ケ ー ス A			
	2	30 10 00 CB 03 70 90	Battery Case B	#03079	〃 B			
※	3	30 10 00 CB 03 71 00	Battery Case Lid	#03710	電池ケース蓋(クッション付)			
※	4	30 10 00 BB 00 49 10	Battery Terminal A	#00491	電 池 端 子 A			
※	5	30 10 00 BB 00 49 20	Battery Terminal B	#00492	〃 B			
※	6	30 10 00 AA 04 92 30	Spring Terminal A		接 点 バ ネ A			
※	7	30 10 00 AA 04 92 40	Spring Terminal B		〃 B			
	8	40 10 00 EJ 03 03 00	Pan Head Tapping Screw	3 x 30	ナベタッピンネジ 2種	Yellow		

※ 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	FET			
※	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	LED			
	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	OSC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, MasterVR		
※	40 10 00 HQ 60 02 20	– do. –	B100k	〃	ARPVR, ABCVR, RHYVR		
	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)