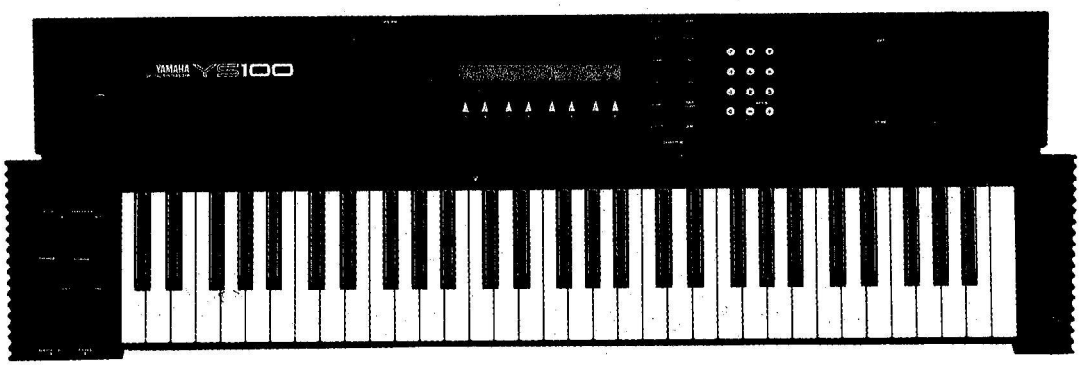
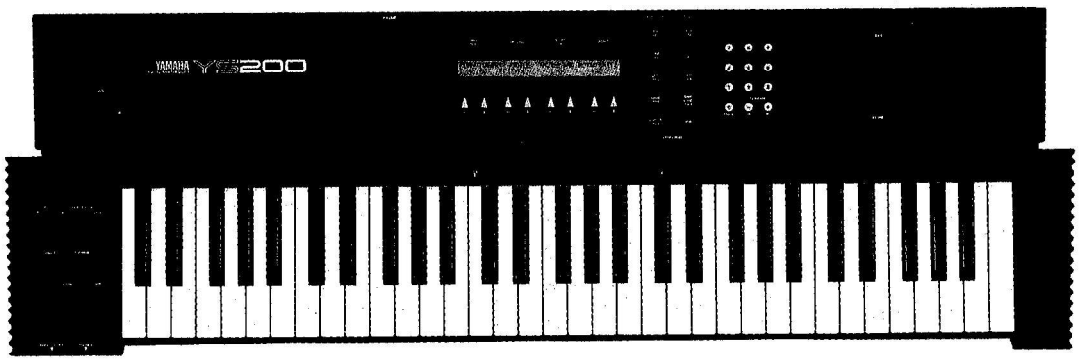
DIGITAL SYNTHESIZER

YS100/200

SERVICE MANUAL





■ CONTENS

LM 006874

YAMAHA CORP.
HAMAMATSU. JAPAN
2.17K-145 ㊀ Printed in Japan '88.8

IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification, recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

This product uses a lithium battery for memory back-up.

WARNING: Lithium batteries are dangerous because they can be exploded by improper handling. Observe the following precautions when handling or replacing lithium batteries.

- Leave lithium battery replacement to qualified service personnel.
- Always replace with batteries of the same type.
- When installing on the PC board, solder using the connection terminals provided on the battery cells. Never solder directly to the cells. Perform the soldering as quickly as possible.
- Never reverse the battery polarities when installing.
- Do not short the batteries.
- Do not attempt to recharge these batteries.
- Do not disassemble the batteries.
- Never heat batteries or throw them into fire.

ADVARSEL!

Lithiumbatteri. Eksplosionsfare.

Udskiftning må kun foretages af en sagkyndig, og som beskrevet i servicemanualen.

■ SPECIFICATIONS

● YS100

Keyboard:	61 velocity-sensitive keys
Sound Source:	FM (4-operator/8-algorithm), simultaneous 8 notes output
Internal Program RAM:	100
Internal Program ROM:	100
External Memory:	RAM/ROM card (32 kBytes), for programs (100 programs × 1 bank)
Display:	LCD: 40 characters × 2 lines
Controls:	Rotary Volume, Pitch Bend Wheel, Modulation Wheel
Front Panel Terminals:	Phones × 1 Breath Control × 1 (for optional BC-1 or BC-2 Breath Controller)
Rear Panel Terminals:	Output × 2 L/R Volume × 1 (for optional FC-7 Foot Controller) Sustain × 1 (for optional FC-4 Footswitch) MIDI IN × 1 MIDI OUT × 1 MIDI THRU × 1
Dimensions (W × D × H):	990 × 320 × 105 mm (39 × 12-5/8 × 4-1/8")
Weight:	6.9 kg (15 lb 3 oz)

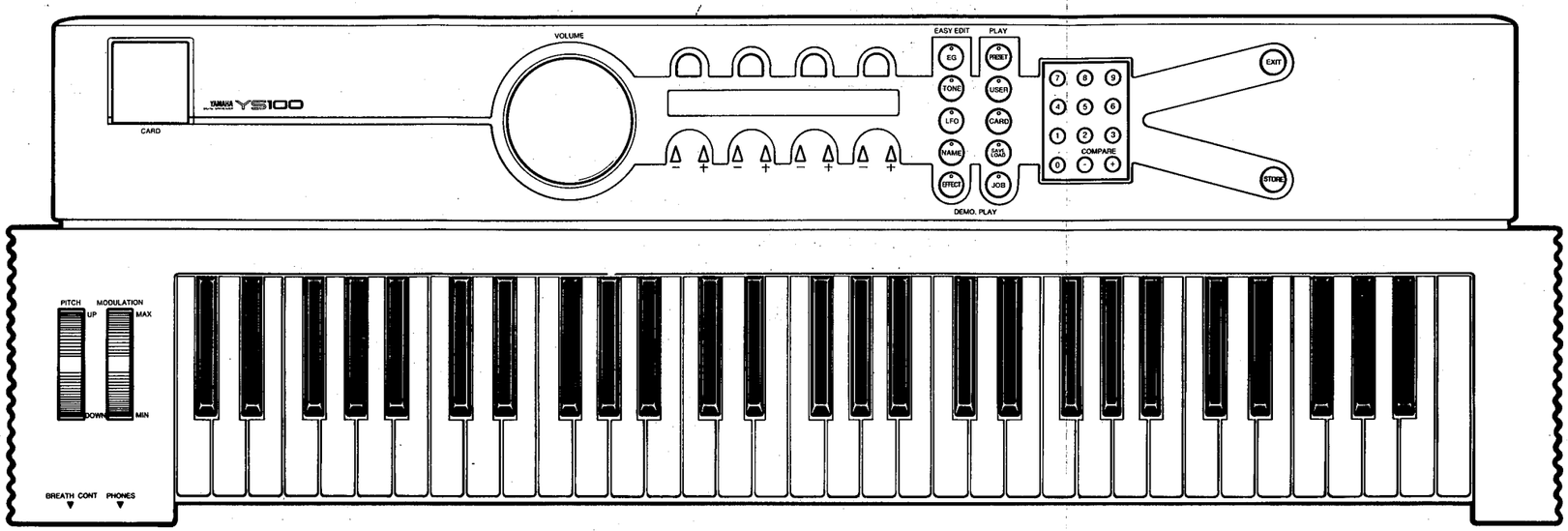
● YS200

Keyboard:	61 velocity-sensitive keys with aftertouch
Sound Source:	FM (4-operator/8-algorithm), simultaneous 8 notes output
Internal Program RAM:	100 voice programs
Internal Program ROM:	100 voice programs
External Memory:	RAM/ROM card (32 kBytes), for programs (100 programs × 1 bank), for sequencer (to save 1 song bank to internal memory)
Display:	LCD: 40 characters × 2 lines
Controls:	Rotary Volume, Pitch Bend Wheel, Modulation Wheel
Front Panel Terminals:	Phones × 1 Breath Control × 1 (for optional BC-1 or BC-2 Breath Controller)
Rear Panel Terminals:	Output × 2 L/R Volume × 1 (for optional FC-7 Foot Controller) Sustain × 1 (for optional FC-4 Footswitch) MIDI IN × 1 MIDI OUT × 1 MIDI THRU × 1
Power Consumption:	General model 220 — 240 V 50/60 Hz, 15 W US & Canada models 120 V 50/60 Hz, 15 W
Dimensions (W × D × H):	990 × 320 × 105 mm (39" × 12-5/8" × 4-1/8")
Weight:	6.9 kg (15 lb 3 oz)

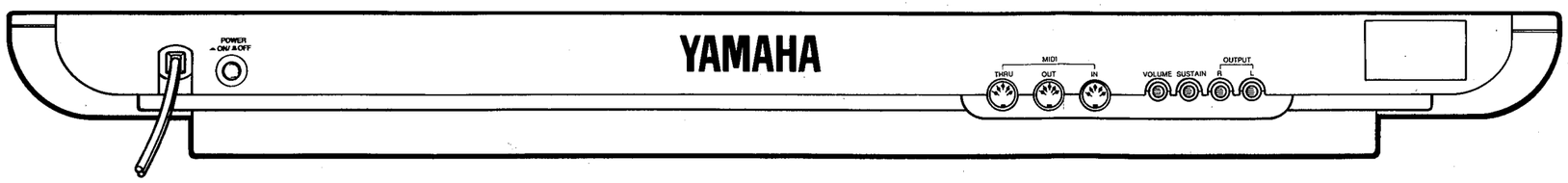
YS100/YS200

■ PANEL LAYOUT (YS100)

● Front Panel



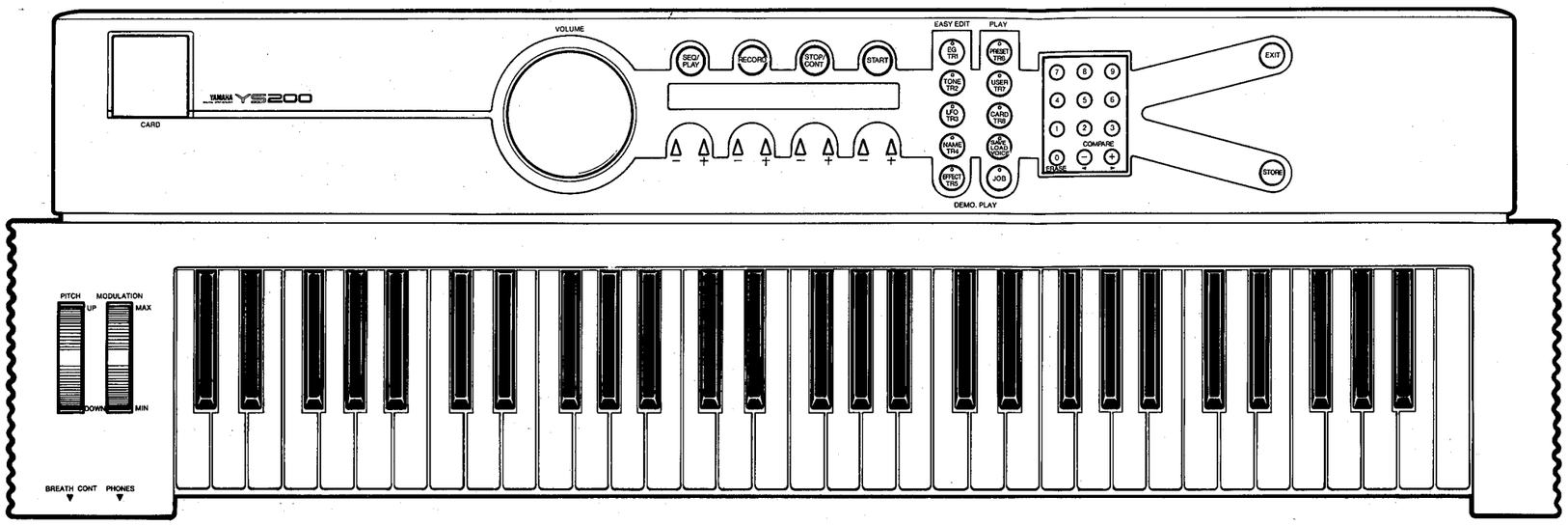
● Rear Panel



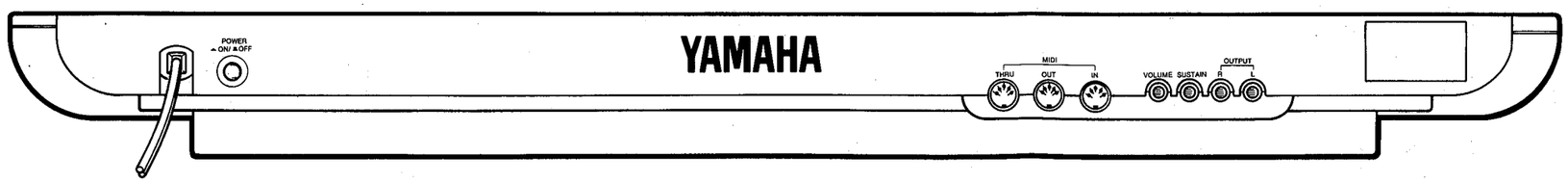
YS100/YS200

■ PANEL LAYOUT (YS200)

● Front Panel

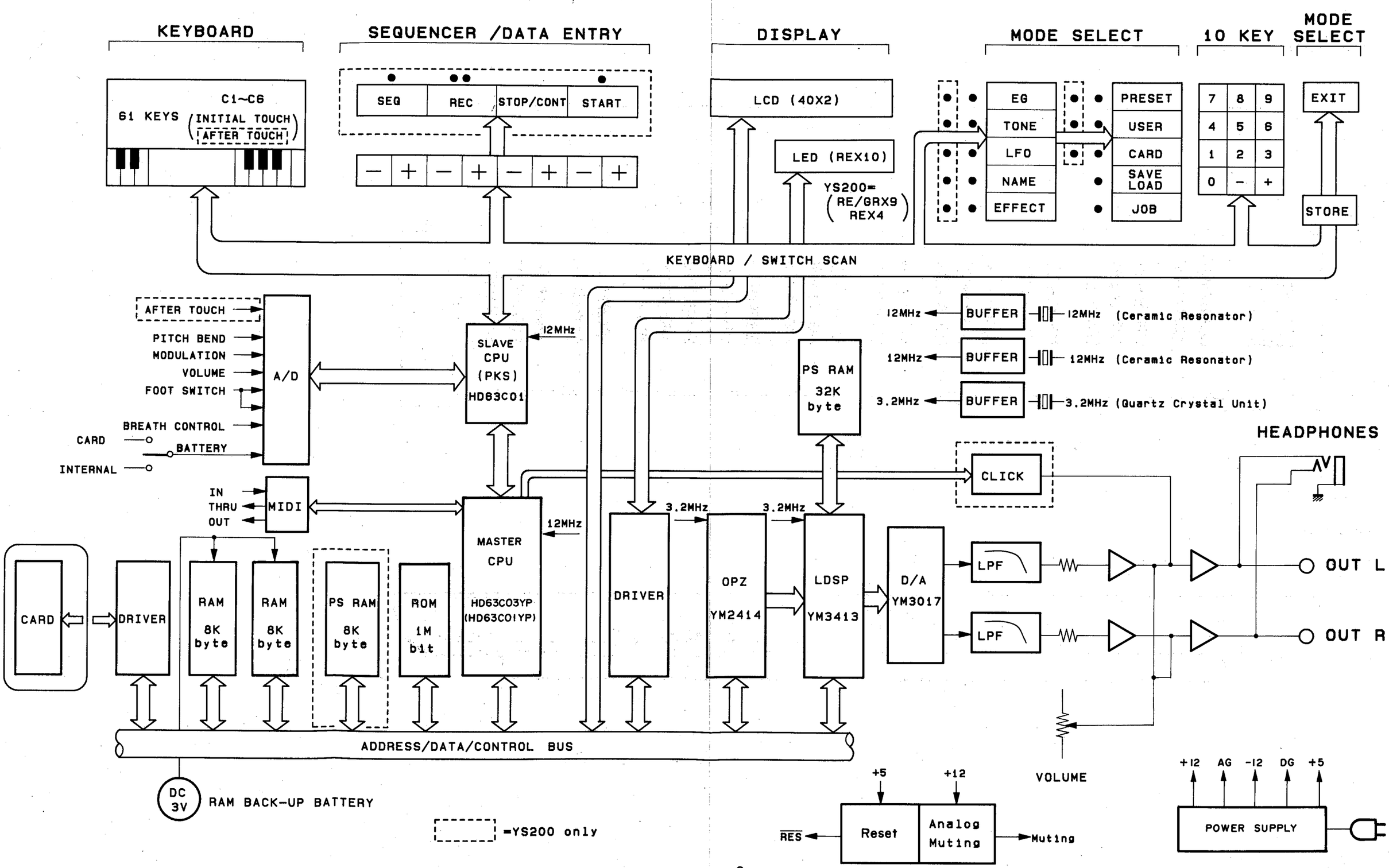


● Rear Panel



YS100/YS200

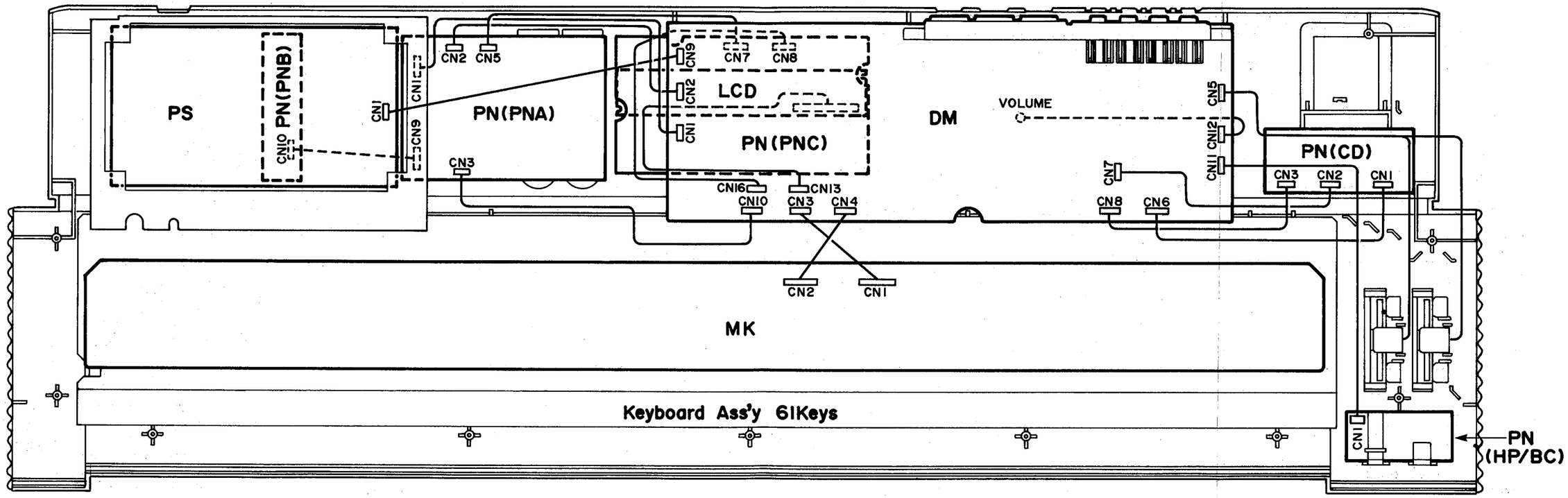
■ BLOCK DIAGRAM



YS100/YS200

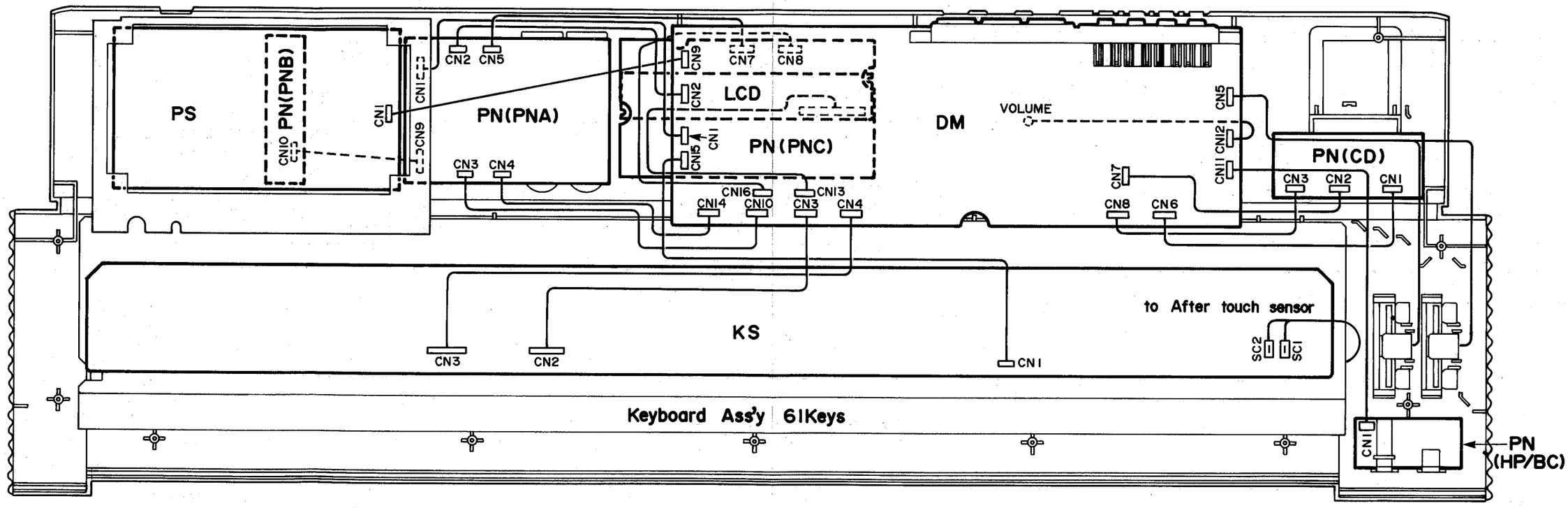
■ CIRCUIT BOARD LAYOUT (YS100)

• Bottom View



■ CIRCUIT BOARD LAYOUT (YS200)

• Bottom View



■ LSI DATA TABLE

- **HD63C03YP** (XB529001) CPU (Main)
- **HD63B01Y0D60P** (XD681001) CPU (Sub)

PIN NO.	PIN NAME	I/O	FUNCTION	PIN NO.	PIN NAME	I/O	FUNCTION
1	VSS		Ground	33	VCC		DC Supply
2	XTAL	I	Clock	34	P47	O	Port 4
3	EXTAL	I		35	P46	O	
4	MP0	I	Mode program	36	P45	O	
5	MP1	I		37	P44	O	
6	$\overline{RES}$	I	Reset	38	P43	O	
7	$\overline{STBY}$	I	Stand-by mode signal	39	P42	O	
8	$\overline{NMI}$	I	Non-maskable interrupt	40	P41	O	
9	P20	I/O	Port 2	41	P40	O	
10	P21	I/O		42	VSS		Ground
11	P22	I/O		43	P17	O	Port 1
12	P23	I/O		44	P16	O	
13	P24	I/O		45	P15	O	
14	P25	I/O		46	P14	O	
15	P26	I/O		47	P13	O	
16	P27	I/O		48	P12	O	
17	P50	I	Port 5	49	P11	O	
18	P51	I		50	P10	O	
19	P52	I		51	P37	I/O	Port 3
20	P53	I		52	P36	I/O	
21	P54	I		53	P35	I/O	
22	P55	I		54	P33	I/O	
23	P56	I		55	P32	I/O	
24	P57	I		56	P31	I/O	
25	P60	I/O	Port 6	57	P30	I/O	
26	P61	I/O		58	P74	O	Port 7
27	P62	I/O		59	P73	O	
28	P63	I/O		60	P72	O	
29	P64	I/O		61	P72	O	
30	P65	I/O		62	P71	O	
31	P66	I/O		63	P70	O	
32	P67	I/O		64	E	O	Enable

- **M58990P-1** (IG106100) Analog Digital Converter

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	IN3	I	Analog data in	15	OB6	O	Digital data output
2	IN4	I		16	REF (–)		Reference voltage (–)
3	IN5	I		17	OB4L	O	Digital data output
4	IN6	I		18	OB4	O	
5	IN7	I		19	OB3	O	
6	START	I	Start data in	20	OB2	O	
7	EOC	O	End of conversion data output	21	OB1M	O	
8	OB5	O	Digital data output	22	ALE	I	Address latch enable data in
9	OE	I	Output enable data in	23	ADD C	I	Address data in
10	CLK	I	Clock data in	24	ADD B	I	
11	Vcc		Supply power (+5V)	25	ADD A	I	
12	REF(+)		Reference voltage (+)	26	IN 0	I	Analog data in
13	GND		Supply power (0V)	27	IN 1	I	
14	OB7	O	Digital data output	28	IN 2	I	

• YM2414 (XB768001) OPZ (Operator)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VSS		Ground	13	D2	I/O	Data bus
2	$\overline{IRQ}$	O	Interrupt request	14	D3	I/O	
3	$\overline{IC}$	I	Initial Clear	15	D4	I/O	
4	A0	I	Address bus	16	D5	I/O	
5	$\overline{WR}$	I	Write control	17	D6	I/O	
6	$\overline{RD}$	I	Read control	18	D7	I/O	
7	$\overline{CS}$	I	Chip Select	19	SH2	O	Sample and hold (Ch2)
8	CT_1	O	Control data 1	20	SH1	O	Sample and hold (Ch1)
9	CT_2	O	Control data 2	21	SD	O	Tone signal data
10	D0	I/O	Data bus	22	Vcc		DC Supply (+5V)
11	VSS		Ground	23	$\phi 1$	I	Synchro pulse
12	D1	I/O	Data bus	24	ϕM	I	Clock

• YM3017 (XA800001) DAC Logic

Pin No.	Name	I/O	Function	Pin No.	Name	I/O	Function
1	DVDD		Digital Power supply (+12V)	13	to Buf	O	Analog output to buffer amp.
2	SYW	I	System synchro pulse	14	MP	I	Middle point 1/2 VDD bias
3	DGND		Digital ground	15	RC	O	Bias compensation
4	CLK	I	Clock	16	RB	O	Bias-R
5	$\overline{CRASH}$	O	Crash detect	17	AGNG		Analog ground
6	ZERO	O	Zero detect	18	AVDD		Analog power supply (+12V)
7	O4	O	Analog signal output	19	LMTEN	I	Limiter Enable
8	O3	O		20	IN1	I	Digital data input
9	O2	O		21	IN2	I	
10	O1	O		22	SEL1	I	Data shift
11	NS	I	Chip test	23	SEL2	I	
12	COM	I	Analog input from buffer amp.	24	$\overline{IC}$	I	Initial clear

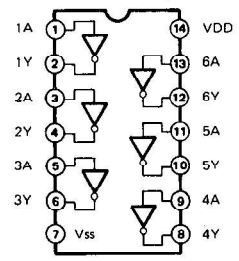
• YM3413 (XE449A00) LDSP

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VDD		DC supply (+5V)	21	A5	O	Address bus
2	D7	I/O	Data bus	22	A6	O	
3	D6	I/O		23	A7	O	
4	D5	I/O		24	A8	O	
5	D4	I/O		25	A9	O	
6	D3	I/O		26	A10	O	
7	D2	I/O		27	A11	O	
8	D1	I/O		28	A12	O	
9	D0	I/O		29	A13	O	
10	SIC	I	Serial data input	30	A14	O	
11	$\overline{SI1}$	I		31	A15	O	
12	SYW	I	Synchro pulse	32	A16	O	
13	$\overline{WE}$	O	Write enable	33	SO0	O	Serial data output
14	$\overline{OE}$	O	Output enable	34	XCLK	I	Clock
15	A0	O	Address bus	35	$\overline{IC}$	I	Initial Clear
16	A1	O		36	$\overline{CRS}$	I	CD counter reset
17	A2	O		37	CDI	I	CD input
18	A3	O		38	CDo	O	CD output
19	A4	O		39	SO1	O	Serial data output
20	Vss		Ground	40	CLK		Clock

■ IC BLOCK DIAGRAM

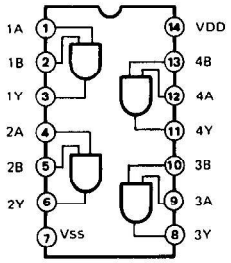
- **MC74HC04N** (IR000470)
- **TC40H004P** (IG051000)

Hex Inverter



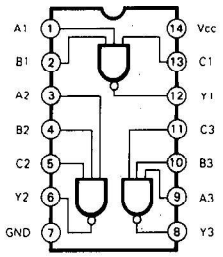
- **SN74HC08N** (IR000850)

Quad 2 Input AND



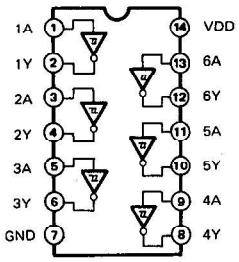
- **TC74HC10P** (IR001000)

Triple 3 Input NAND



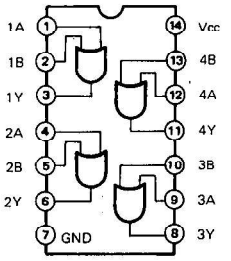
- **MC74HC14N** (IR001470)

Hex Inverter



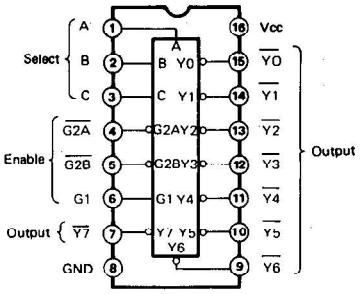
- **MC74HC32N** (IR003270)

Quad 2 Input OR



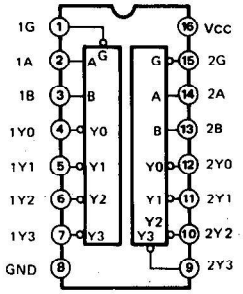
- **MC74HC138N** (IR013870)

3 to 8 Demultiplexer



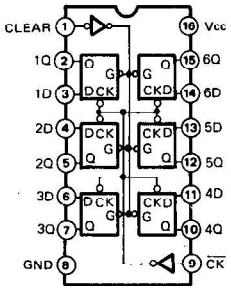
- **MC74HC139N** (IR013970)

Dual 2 to 4 Demultiplexer



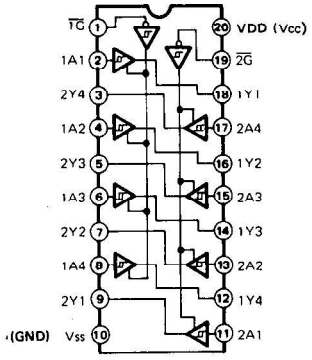
- **MC74HC174N** (IR017470)

Hex D-Type Flip-Flop

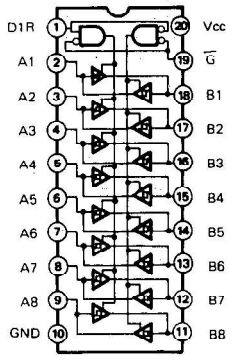


- **TC74HC244P** (IR024400)

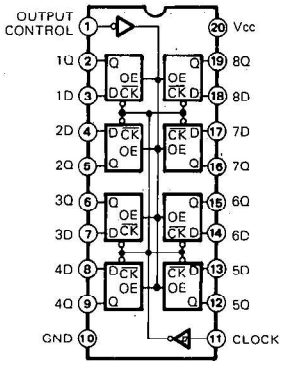
Octal 3-State Bus Buffer



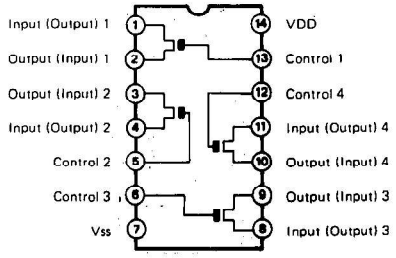
- **MC74HC245AN** (XD715001)
  Octal 3-State Bus Transceiver



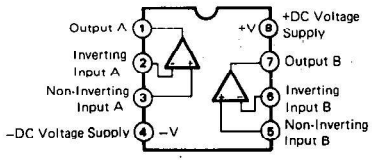
- **TC74HC374P** (IR037400)
  Octal 3-State D-Type Flip-Flop



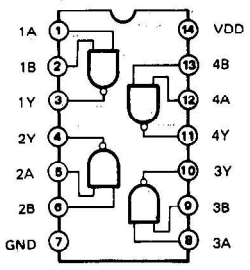
- **TC4066BP** (IG001270)
  Quad Bilateral Switch



- **NJM072D** (IG107000)
- **NJM4556** (IG042500)
- **NJM4558D-V** (IG001390)
  Dual Operational Amplifier



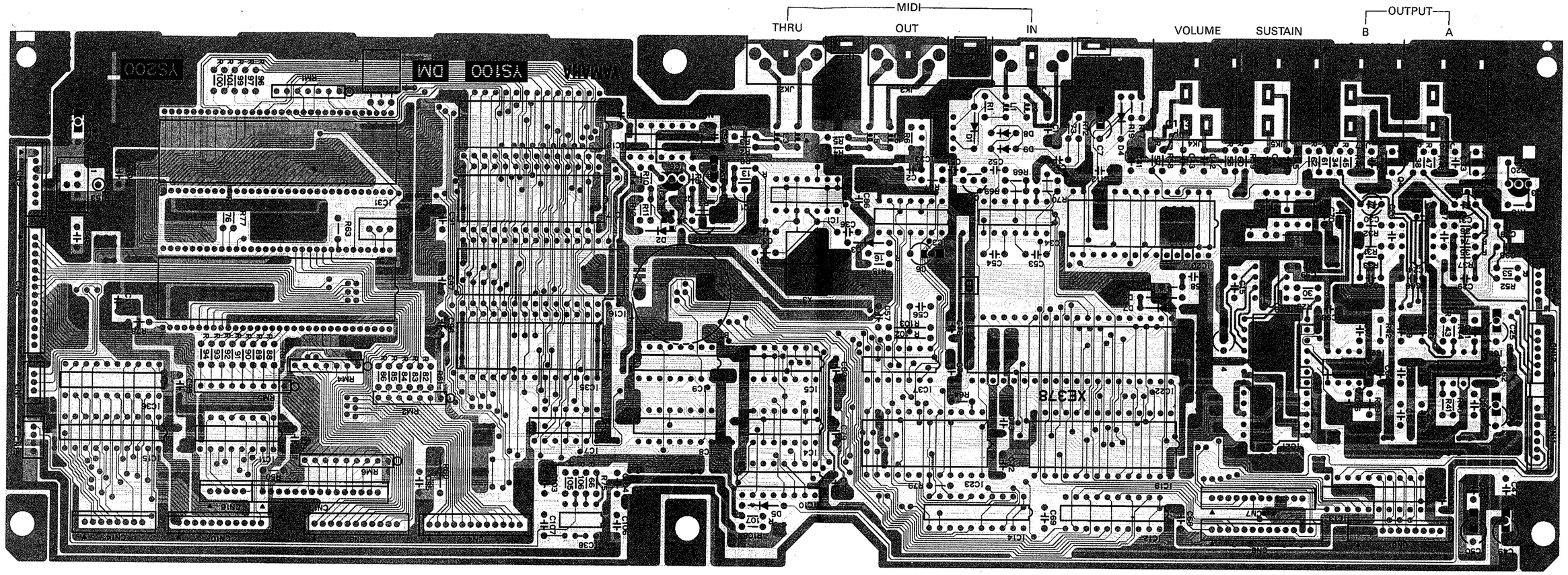
- **TC4093BP** (IG043300)
  Quad 2 Input NAND



YS100/YS200

■ CIRCUIT BOARDS

● DM Circuit board (YS100, YS200)



< Components side >

Notes)

Circuit Board: XE378B0 (VF138900) DM 〈YS100〉
Circuit Board: XE378B0 (VF093900) DM 〈YS200〉

1. IC
   - IC 1: TC40H004P (IG051000) INV
   - IC 3: MC74HC04N (IR000470) INV
   - IC 4: SN74HC08N (IR000850) AND
   - IC 5: TC74HC10P (IR001000) NAND
   - IC 6: MC74HC14N (IR001470) INV
   - IC 7: MC74HC32N (IR003270) OR
   - IC 8, 9: MC74HC138N (IR013870) DECO-8
   - IC10: MC74HC139N (IR013970) DEC
   - IC11: MC74HC174N (IR017470) D.FF
   - IC12, 14: TC74HC244P (IR024400) BUS BUFF
   - IC13: MC74HC245AN (XD715001) BUS DRIVER
   - IC15, 36*: TC74HC374P (IR037400) D.FF
   - IC16: 036V103 (XE939B00) EPROM-YS100
     037V100 (XF499A00) EPROM-YS200
   - IC17, 18: TC5564APL-15 (XC890001) SRAM 64K
   - IC19: HM65256BLP-12 (XB243001) PSRAM
   - IC20: M58990P-1 (IG106100) ADC
   - IC21: YM3017 (XA800001) DAL
   - IC22: YM3413 (XE449A00) LDSP
   - IC23: YM2414 (XB768001) OPZ
   - IC24: NJM4556 (IG042500) OP AMP.
   - IC25, 26, 38: NJM4558D-V (IG001390) OP AMP.
   - IC28, 29: NJM072D (IG107000) OP AMP.
   - IC30: HD63B01Y (XD681001) CPU (Sub) 1CH 1P
   - IC31: HD63C03YP (XB529001) CPU (Main)
     HD63C01Y0F64P (XF148A00) CPU (Main)
   - IC32: PST518B-2 (IG116200) SYSTEM RESET
   - IC34*: TC4093BP (IG043300) NAND
   - IC35*: μPD43257C-12L (XC869001) SRAM
   - IC37: TC4066BP (IG001270) ANALOG SWITCH
2. Photo Coupler
   - IC33: 6N137 (VD473200)
3. Transistor
   - Q 1: 2SC2603 E, F (IC260320)
   - Q 2, 3: 2SA1115 E, F (IA111510)
   - Q 4, 5: 2SC2878 A, B (IX604200)
   - Q 6: 2SC1815 O, Y, GR (IC181501)
4. Diode (D5, 8, 9 YS200 only)
   - D 1～9: 1SS176 (VA240700)
5. Resistor Array
   - RM 1, 2, 4: RMLS6-103J (HZ004650)
   - RM 5, 6: EXB-F9E103J5 (VB187500)
6. Metal Film Resistor
   - R54, 55: 10KΩ 1/4W F (HU577100)
7. Semiconductive Cera. Cap.
   - C32, 33: 3300P 25V K (FS783330)
8. Coil
   - L 1～6: 20μ FL5R200QNT (VB83500)
9. EMI Filter
   - EMI 1: LS MT Y223NB (FZ006970)
10. Quartz Crystal Unit
    - X 3: 3.2MHz CST12.0MT (VF579400)
11. Ceramic Resonator
    - X1: 8MHz CST8.00MT (VB657100)
    - X2: 12MHz CST12.0MT (VF579400)
12. Phone Jack
    - JK 4: HLJ4306 Stereo (VC130700) VOLUME
    - JK 5～7: HLJ4306 Mono (VC017500) OUTPUT (A/B)/SUS
13. DIN Jack
    - JK 1～3: 5P TCS4650 (LB500520) MIDI IN/OUT/THR

Marked * = YS200 only

YS100: 3NA-VF13890 ⚠3
YS200: 3NA-VF09390 ⚠4

DM CN1

Pin No.	Pin Name	Wire Color	Destination
1	P50	RE	PNA-CN1-1
2	P51	WH	PNA-CN1-2
3	P52	WH	PNA-CN1-3

DM CN2

Pin No.	Pin Name	Wire Color	Destination
1	P10	RE	PNA-CN2-1
2	P11	WH	PNA-CN2-2
3	P12	WH	PNA-CN2-3
4	P13	WH	PNA-CN2-4
5	P14	WH	PNA-CN2-5
6	P15	WH	PNA-CN2-6
7	P16	WH	PNA-CN2-7
8	P17	WH	PNA-CN2-8
9	P20	WH	PNA-CN2-9
10	P21	WH	PNA-CN2-10
11	P22	WH	PNA-CN2-11
12	P23	WH	PNA-CN2-12
13	P24	WH	PNA-CN2-13
14	P25	WH	PNA-CN2-14

DM (YS100) CN3

Pin No.	Pin Name	Wire Color	Destination
1	P32	RE	Keyboard CN1-1
2	P33	WH	Keyboard CN1-2
3	P34	WH	Keyboard CN1-3
4	P35	WH	Keyboard CN1-4
5	P36	WH	Keyboard CN1-5
6	P37	WH	Keyboard CN1-6
7	P40	WH	Keyboard CN1-7
8	P41	WH	Keyboard CN1-8
9	P42	WH	Keyboard CN1-9
10	P43	WH	Keyboard CN1-10
11	P44	WH	Keyboard CN1-11

DM (YS200) CN3

Pin No.	Pin Name	Wire Color	Destination
1	P32	RE	Keyboard CN2-1
2	P33	WH	Keyboard CN2-2
3	P34	WH	Keyboard CN2-3
4	P35	WH	Keyboard CN2-4
5	P36	WH	Keyboard CN2-5
6	P37	WH	Keyboard CN2-6
7	P40	WH	Keyboard CN2-7
8	P41	WH	Keyboard CN2-8
9	P42	WH	Keyboard CN2-9
10	P43	WH	Keyboard CN2-10
11	P44	WH	Keyboard CN2-11

DM (YS100) CN4

Pin No.	Pin Name	Wire Color	Destination
1	P15	RE	Keyboard CN2-1
2	P14	WH	Keyboard CN2-2
3	P13	WH	Keyboard CN2-3
4	P12	WH	Keyboard CN2-4
5	P11	WH	Keyboard CN2-5
6	P10	WH	Keyboard CN2-6
7	P25	WH	Keyboard CN2-7
8	P24	WH	Keyboard CN2-8
9	P23	WH	Keyboard CN2-9
10	P22	WH	Keyboard CN2-10
11	P21	WH	Keyboard CN2-11
12	P20	WH	Keyboard CN2-12

DM (YS200) CN4

Pin No.	Pin Name	Wire Color	Destination
1	P15	RE	Keyboard CN3-1
2	P14	WH	Keyboard CN3-2
3	P13	WH	Keyboard CN3-3
4	P12	WH	Keyboard CN3-4
5	P11	WH	Keyboard CN3-5
6	P10	WH	Keyboard CN3-6
7	P25	WH	Keyboard CN3-7
8	P24	WH	Keyboard CN3-8
9	P23	WH	Keyboard CN3-9
10	P22	WH	Keyboard CN3-10
11	P21	WH	Keyboard CN3-11
12	P20	WH	Keyboard CN3-12

DM CN5

Pin No.	Pin Name	Wire Color	Destination
1	1(+5)	RE	PB/MW-VR-3
2	2(PS)	OR	PB-VR-2
3	3(MW)	YE	MW-VR-2
4	4(+25)	GR	PB-VR-4
5	5(G)	BL	PB/MW-VR-1

DM CN6

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	CD-CN1-1
2	NC	WH	CD-CN1-2
3	NC	WH	CD-CN1-3
4	CD3	WH	CD-CN1-4
5	CD4	WH	CD-CN1-5
6	CD5	WH	CD-CN1-6
7	CD6	WH	CD-CN1-7
8	CD7	WH	CD-CN1-8
9	$\overline{CE1}$	WH	CD-CN1-9
10	CA10	WH	CD-CN1-10
11	$\overline{OE}$	WH	CD-CN1-11

DM CN7

Pin No.	Pin Name	Wire Color	Destination
1	CA11	RE	CD-CN2-1
2	CA9	WH	CD-CN2-2
3	CA8	WH	CD-CN2-3
4	CA13	WH	CD-CN2-4
5	CA14	WH	CD-CN2-5
6	$\overline{WE}$	WH	CD-CN2-6
7	LOOP	WH	CD-CN2-7
8	Vcc	WH	CD-CN2-8
9	GND	WH	CD-CN2-9
10	GND	WH	CD-CN2-10
11	CA12	WH	CD-CN2-11
12	CA7	WH	CD-CN2-12

DM CN8

Pin No.	Pin Name	Wire Color	Destination
1	CA6	RE	CD-CN3-1
2	CA5	WH	CD-CN3-2
3	CA4	WH	CD-CN3-3
4	CA3	WH	CD-CN3-4
5	CA2	WH	CD-CN3-5
6	CA1	WH	CD-CN3-6
7	CA0	WH	CD-CN3-7
8	CD0	WH	CD-CN3-8
9	CD1	WH	CD-CN3-9
10	CD2	WH	CD-CN3-10
11	PROTECT	WH	CD-CN3-11
12	GND	WH	CD-CN3-12
13	CBT	WH	CD-CN3-13

DM CN9

Pin No.	Pin Name	Wire Color	Destination
1	1(+12)	RE	AD-CN1-1
2	2(A.G)	WH	AD-CN1-2
3	3(−12)	WH	AD-CN1-3
4	4(+5)	WH	AD-CN1-4
5	5(+5)	WH	AD-CN1-5
6	6(D.G)	WH	AD-CN1-6
7	7(D.G)	WH	AD-CN1-7

DM CN10

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	PNA-CN3-1
2	LO0	WH	PNA-CN3-2
3	LO1	WH	PNA-CN3-3
4	LO2	WH	PNA-CN3-4
5	LO3	WH	PNA-CN3-5
6	LO4	WH	PNA-CN3-6
7	LO5	WH	PNA-CN3-7
8	LO6	WH	PNA-CN3-8
9	LO7	WH	PNA-CN3-9
10	LO8	WH	PNA-CN3-10
11	LO9	WH	PNA-CN3-11

DM CN11

Pin No.	Pin Name	Wire Color	Destination
1	1	RE	HP/BC CN1-1
2	2	WH	HP/BC CN1-2
3	3	WH	HP/BC CN1-3
4	4	WH	HP/BC CN1-4
5	5	WH	HP/BC CN1-5
6	6	WH	HP/BC CN1-6
7	7	WH	HP/BC CN1-7

DM CN12

Pin No.	Pin Name	Wire Color	Destination
1	(OUT2)	RE	Volume F-3
2	(IN2)	OR	Volume F-2
3	(GND)	YE	Volume F-1
4	(OUT1)	GR	Volume R-3
5	(IN1)	BE	Volume R-2
6	(GND)	BL	Volume R-1

DM CN13

Pin No.	Pin Name	Wire Color	Destination
1	(V_{SS})	RE	LCD-CN1-1
2	(VDD)	WH	LCD-CN1-2
3	(VO)	WH	LCD-CN1-3
4	AO	WH	LCD-CN1-4
5	R/$\overline{W}$	WH	LCD-CN1-5
6	(E)	WH	LCD-CN1-6
7	DB0	WH	LCD-CN1-7
8	DB1	WH	LCD-CN1-8
9	DB2	WH	LCD-CN1-9
10	DB3	WH	LCD-CN1-10
11	DB4	WH	LCD-CN1-11
12	DB5	WH	LCD-CN1-12
13	DB6	WH	LCD-CN1-13
14	DB7	WH	LCD-CN1-14
15	(R80)	WH	LCD-CN1-15

DM (YS200) CN14

Pin No.	Pin Name	Wire Color	Destination
1	LO13	RE	PNA-CN4-1
2	LO14	WH	PNA-CN4-2
3	LO15	WH	PNA-CN4-3
4	LO16	WH	PNA-CN4-4
5	LO17	WH	PNA-CN4-5
6	LO18	WH	PNA-CN4-6
7	LO19	WH	PNA-CN4-7
8	LO20	WH	PNA-CN4-8

DM (YS200) CN15

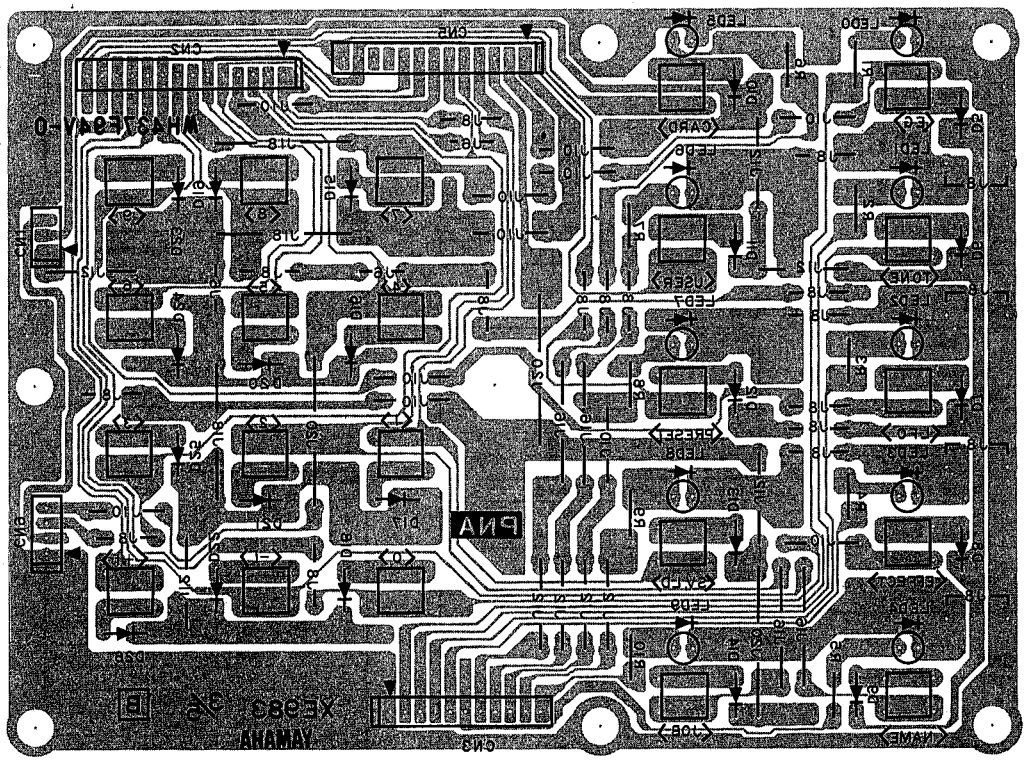
Pin No.	Pin Name	Wire Color	Destination
1	1(AT)	RE	Key Board CN1-1
2	2(G)	WH	Key Board CN1-2
3	3(+12)	WH	Key Board CN1-3
4	4(−12)	WH	Key Board CN1-4

DM CN16

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	PNC-CN8-1
2	LO10	WH	PNC-CN8-2
3	LO11	WH	PNC-CN8-3
4	LO12	WH	PNC-CN8-4
5	LO21	WH	PNC-CN8-5

● PN Circuit boards (YS100)

PNA



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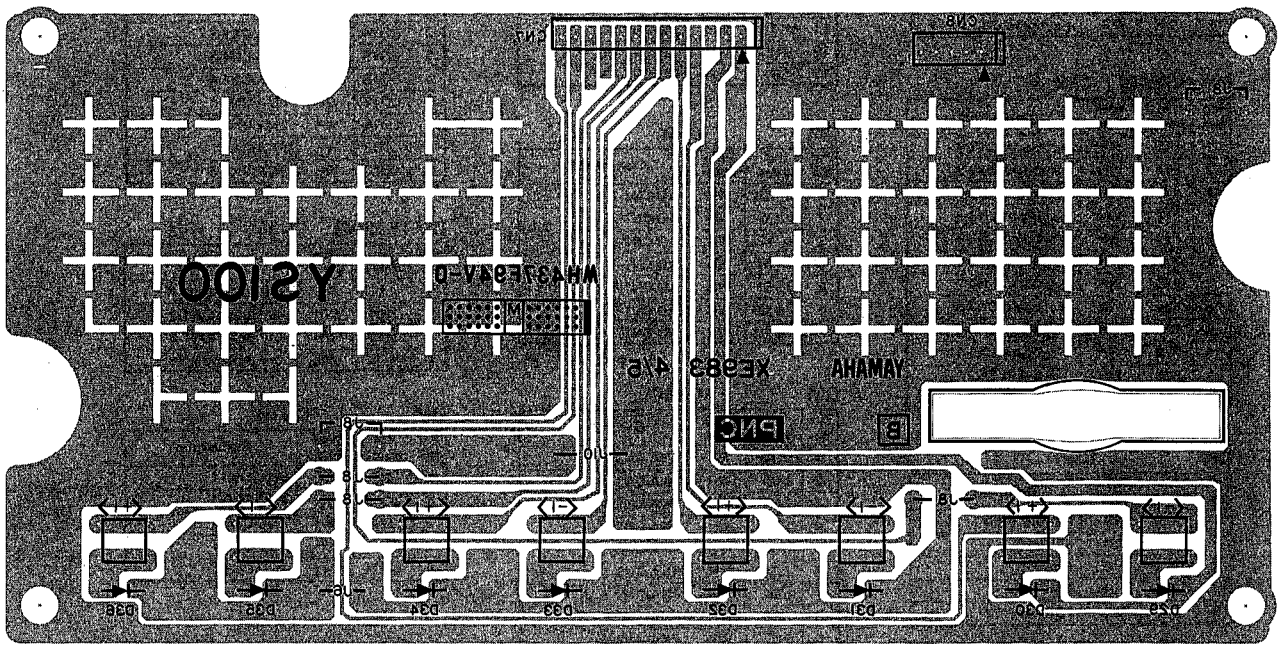

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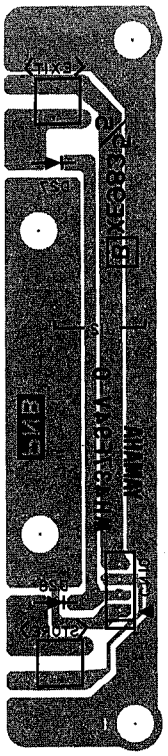

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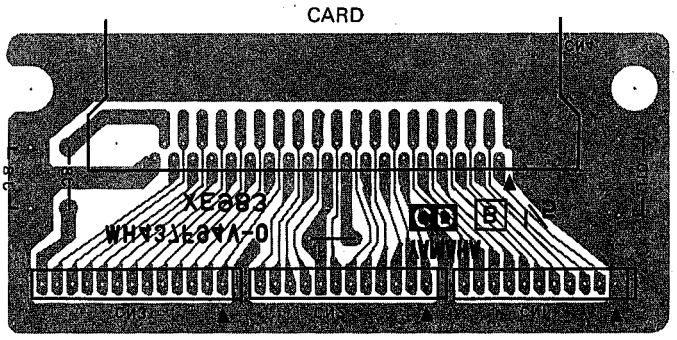

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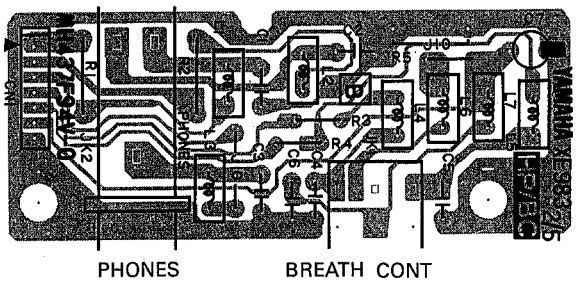
HP/BC



< Components side >

Notes)

Circuit Board: XE983A0 (VF777700) PN〈YS100〉

1. Diode
   D 5～36: 1SS176 (VA240700)
2. LED
   LED 0～9: GL5HD47 RE (VF576100)
3. Semiconductive Cera. Cap
   C 1, 2: 0.1μ 25V Z (FZ005030)
4. Coil
   L 1～7: 20μ FL5R200QNT (VB835000)
5. Phone Jack
   JK 1: HSJ0912 ST.Mini (LB302010) BREATH CONT
   JK 2: HLJ0521 Stereo (LB203090) PHONES
6. Connector, Card
   CN 4: MC2-38PS-1.27DS (VF576900)
7. Push Switch: SOA-111HS (VF946200) FUNCTION KEYS

PN (PNA) CN1

Pin No.	Pin Name	Wire Color	Destination
1	Sa	RE	DM-CN1-1
2	Sb	WH	DM-CN1-2
3	Sc	WH	DM-CN1-3

PN (PNA) CN2

Pin No.	Pin Name	Wire Color	Destination
1	S0	RE	DM-CN2-1
2	S1	WH	DM-CN2-2
3	S2	WH	DM-CN2-3
4	S3	WH	DM-CN2-4
5	S4	WH	DM-CN2-5
6	S5	WH	DM-CN2-6
7	S6	WH	DM-CN2-7
8	S7	WH	DM-CN2-8
9	S8	WH	DM-CN2-9
10	S9	WH	DM-CN2-10
11	S10	WH	DM-CN2-11
12	S11	WH	DM-CN2-12
13	S12	WH	DM-CN2-13
14	S13	WH	DM-CN2-14

PN (PNA) CN3

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	DM-CN10-1
2	L0	WH	DM-CN10-2
3	L1	WH	DM-CN10-3
4	L2	WH	DM-CN10-4
5	L3	WH	DM-CN10-5
6	L4	WH	DM-CN10-6
7	L5	WH	DM-CN10-7
8	L6	WH	DM-CN10-8
9	L7	WH	DM-CN10-9
10	L8	WH	DM-CN10-10
11	L9	WH	DM-CN10-11

PN (PNA) CN4

Pin No.	Pin Name	Wire Color	Destination
1	L13	RE	DM-CN14-1
2	L14	WH	DM-CN14-2
3	L15	WH	DM-CN14-3
4	L16	WH	DM-CN14-4
5	L17	WH	DM-CN14-5
6	L18	WH	DM-CN14-6
7	L19	WH	DM-CN14-7
8	L20	WH	DM-CN14-8

PN (PNA) CN5

Pin No.	Pin Name	Wire Color	Destination
1	Sa	RE	PNC-CN7-1
2	Sb	WH	PNC-CN7-2
3	Sc	WH	PNC-CN7-3
4	S0	WH	PNC-CN7-4
5	S1	WH	PNC-CN7-5
6	S2	WH	PNC-CN7-6
7	S3	WH	PNC-CN7-7
8	S4	WH	PNC-CN7-8
9	S5	WH	PNC-CN7-9
10	S6	WH	PNC-CN7-10
11	S7	WH	PNC-CN7-11
12	S12	WH	PNC-CN7-12
13	S13	WH	PNC-CN7-13

PN (PNC) CN7

Pin No.	Pin Name	Wire Color	Destination
1	Sa	RE	PNA-CN5-1
2	Sb	WH	PNA-CN5-2
3	Sc	WH	PNA-CN5-3
4	S0	WH	PNA-CN5-4
5	S1	WH	PNA-CN5-5
6	S2	WH	PNA-CN5-6
7	S3	WH	PNA-CN5-7
8	S4	WH	PNA-CN5-8
9	S5	WH	PNA-CN5-9
10	S6	WH	PNA-CN5-10
11	S7	WH	PNA-CN5-11
12	S12	WH	PNA-CN5-12
13	S13	WH	PNA-CN5-13

PN (PNC) CN8

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	DM-CN16-1
2	L10	WH	DM-CN16-2
3	L11	WH	DM-CN16-3
4	L12	WH	DM-CN16-4
5	L21	WH	DM-CN16-5

PN (PNA) CN9

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	PNB-CN10-1
2	Sc	WH	PNB-CN10-2
3	S2	WH	PNB-CN10-3
4	S3	WH	PNB-CN10-4

PN (PNB) CN10

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	PNA-CN9-1
2	Sc	WH	PNA-CN9-2
3	S2	WH	PNA-CN9-3
4	S3	WH	PNA-CN9-4

PN (HP/BC) CN1

Pin No.	Pin Name	Wire Color	Destination
1	1	RE	DM-CN11-1
2	2	WH	DM-CN11-2
3	3	WH	DM-CN11-3
4	4	WH	DM-CN11-4
5	5	WH	DM-CN11-5
6	6	WH	DM-CN11-6
7	7	WH	DM-CN11-7

PN(CD) CN1

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	DM-CN6-1
2	A17	WH	DM-CN6-2
3	A18	WH	DM-CN6-3
4	D3	WH	DM-CN6-4
5	D4	WH	DM-CN6-5
6	D5	WH	DM-CN6-6
7	D6	WH	DM-CN6-7
8	D7	WH	DM-CN6-8
9	$\overline{CE1}$	WH	DM-CN6-9
10	A10	WH	DM-CN6-10
11	$\overline{OE}$	WH	DM-CN6-11

PN(CD) CN2

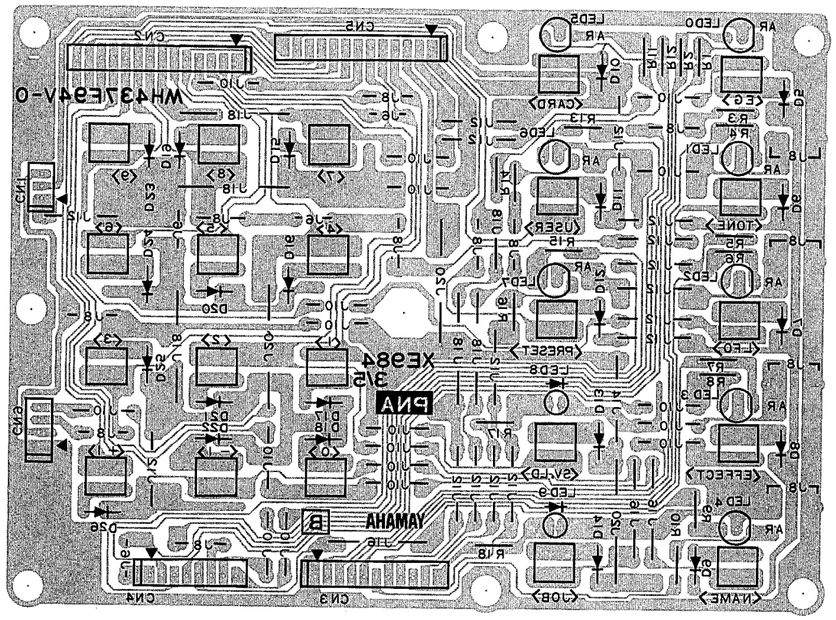
Pin No.	Pin Name	Wire Color	Destination
1	A11	RE	DM-CN7-1
2	A9	WH	DM-CN7-2
3	A8	WH	DM-CN7-3
4	A13	WH	DM-CN7-4
5	A14	WH	DM-CN7-5
6	$\overline{WE}$	WH	DM-CN7-6
7	LOOP	WH	DM-CN7-7
8	Vcc	WH	DM-CN7-8
9	A16	WH	DM-CN7-9
10	A15	WH	DM-CN7-10
11	A12	WH	DM-CN7-11
12	A7	WH	DM-CN7-12

PN(CD) CN3

Pin No.	Pin Name	Wire Color	Destination
1	A6	RE	DM-CN8-1
2	A5	WH	DM-CN8-2
3	A4	WH	DM-CN8-3
4	A3	WH	DM-CN8-4
5	A2	WH	DM-CN8-5
6	A1	WH	DM-CN8-6
7	A0	WH	DM-CN8-7
8	D0	WH	DM-CN8-8
9	D1	WH	DM-CN8-9
10	D2	WH	DM-CN8-10
11	WP	WH	DM-CN8-11
12	A19	WH	DM-CN8-12
13	Vbb	WH	DM-CN8-13

● PN Circuit boards (YS200)

PNA



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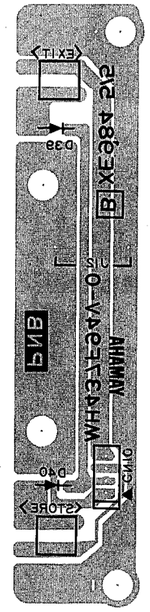

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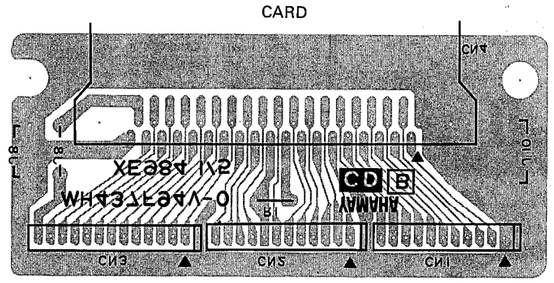

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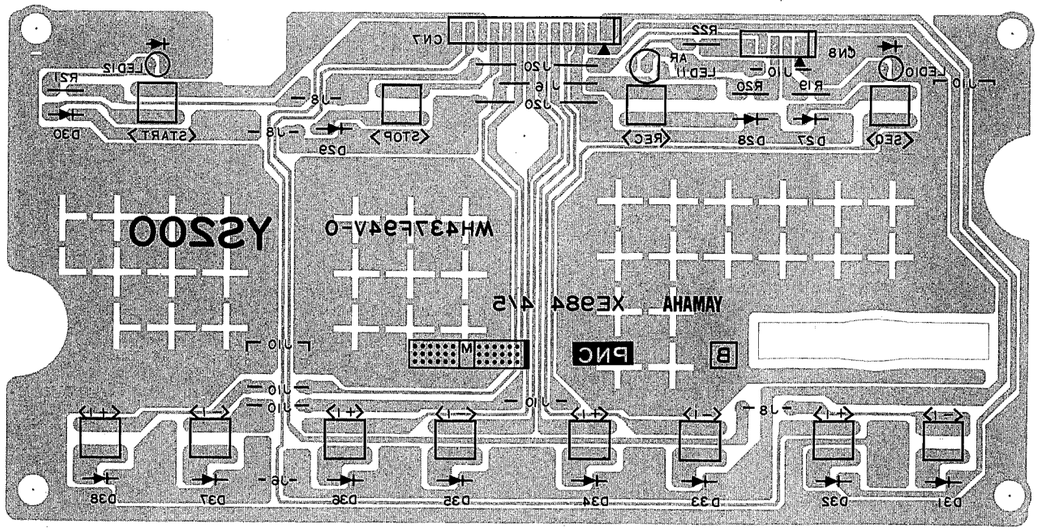

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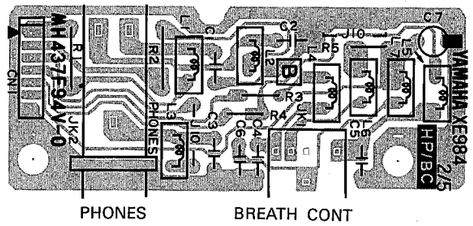

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Notes)

Circuit Board: XE984A0 (VF777800) PN〈YS200〉

1. Diode
   D 5～40: 1SS176 (VA240700)
2. LED
   LED 0～7, 11: GL5ED27 RE, GR (VF576300)
   LED 8～10, 12: GL5HD47 RE (VF576100)
3. Semiconductive Cera. Cap.
   C 1, 2: 0.1μ 25V Z (FZ005030)
4. Coil
   L 1～7: 20μ FL5R200QNT (VB835000)
5. Phone Jack
   JK 1: HSJ0912 ST.Mini (LB302010) BREATH CONT
   JK 2: HLJ0521 Stereo (LB203090) PHONES
6. Connector, Card
   CN 4: MC2-38PS-1.27DS (VF576900)
7. Push Switch: SOA-111HS (VF946200) FUNCTION KEYS

PN (PNA) CN1

Pin No.	Pin Name	Wire Color	Destination
1	Sa	RE	DM-CN1-1
2	Sb	WH	DM-CN1-2
3	Sc	WH	DM-CN1-3

PN (PNA) CN2

Pin No.	Pin Name	Wire Color	Destination
1	S0	RE	DM-CN2-1
2	S1	WH	DM-CN2-2
3	S2	WH	DM-CN2-3
4	S3	WH	DM-CN2-4
5	S4	WH	DM-CN2-5
6	S5	WH	DM-CN2-6
7	S6	WH	DM-CN2-7
8	S7	WH	DM-CN2-8
9	S8	WH	DM-CN2-9
10	S9	WH	DM-CN2-10
11	S10	WH	DM-CN2-11
12	S11	WH	DM-CN2-12
13	S12	WH	DM-CN2-13
14	S13	WH	DM-CN2-14

PN (PNA) CN3

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	DM-CN10-1
2	L0	WH	DM-CN10-2
3	L1	WH	DM-CN10-3
4	L2	WH	DM-CN10-4
5	L3	WH	DM-CN10-5
6	L4	WH	DM-CN10-6
7	L5	WH	DM-CN10-7
8	L6	WH	DM-CN10-8
9	L7	WH	DM-CN10-9
10	L8	WH	DM-CN10-10
11	L9	WH	DM-CN10-11

PN (PNA) CN4

Pin No.	Pin Name	Wire Color	Destination
1	L13	RE	DM-CN14-1
2	L14	WH	DM-CN14-2
3	L15	WH	DM-CN14-3
4	L16	WH	DM-CN14-4
5	L17	WH	DM-CN14-5
6	L18	WH	DM-CN14-6
7	L19	WH	DM-CN14-7
8	L20	WH	DM-CN14-8

PN (PNA) CN5

Pin No.	Pin Name	Wire Color	Destination
1	Sa	RE	PNC-CN7-1
2	Sb	WH	PNC-CN7-2
3	Sc	WH	PNC-CN7-3
4	S0	WH	PNC-CN7-4
5	S1	WH	PNC-CN7-5
6	S2	WH	PNC-CN7-6
7	S3	WH	PNC-CN7-7
8	S4	WH	PNC-CN7-8
9	S5	WH	PNC-CN7-9
10	S6	WH	PNC-CN7-10
11	S7	WH	PNC-CN7-11
12	S12	WH	PNC-CN7-12
13	S13	WH	PNC-CN7-13

PN (PNC) CN7

Pin No.	Pin Name	Wire Color	Destination
1	Sa	RE	PNA-CN5-1
2	Sb	WH	PNA-CN5-2
3	Sc	WH	PNA-CN5-3
4	S0	WH	PNA-CN5-4
5	S1	WH	PNA-CN5-5
6	S2	WH	PNA-CN5-6
7	S3	WH	PNA-CN5-7
8	S4	WH	PNA-CN5-8
9	S5	WH	PNA-CN5-9
10	S6	WH	PNA-CN5-10
11	S7	WH	PNA-CN5-11
12	S12	WH	PNA-CN5-12
13	S13	WH	PNA-CN5-13

PN (PNC) CN8

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	DM-CN16-1
2	L10	WH	DM-CN16-2
3	L11	WH	DM-CN16-3
4	L12	WH	DM-CN16-4
5	L21	WH	DM-CN16-5

PN (PNA) CN9

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	PNB-CN10-1
2	Sc	WH	PNB-CN10-2
3	S2	WH	PNB-CN10-3
4	S3	WH	PNB-CN10-4

PN (PNB) CN10

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	PNA-CN9-1
2	Sc	WH	PNA-CN9-2
3	S2	WH	PNA-CN9-3
4	S3	WH	PNA-CN9-4

PN (HP/BC) CN1

Pin No.	Pin Name	Wire Color	Destination
1	1	RE	DM-CN11-1
2	2	WH	DM-CN11-2
3	3	WH	DM-CN11-3
4	4	WH	DM-CN11-4
5	5	WH	DM-CN11-5
6	6	WH	DM-CN11-6
7	7	WH	DM-CN11-7

PN(CD) CN1

Pin No.	Pin Name	Wire Color	Destination
1	GND	RE	DM-CN6-1
2	A17	WH	DM-CN6-2
3	A18	WH	DM-CN6-3
4	D3	WH	DM-CN6-4
5	D4	WH	DM-CN6-5
6	D5	WH	DM-CN6-6
7	D6	WH	DM-CN6-7
8	D7	WH	DM-CN6-8
9	$\overline{CE1}$	WH	DM-CN6-9
10	A10	WH	DM-CN6-10
11	$\overline{OE}$	WH	DM-CN6-11

PN(CD) CN2

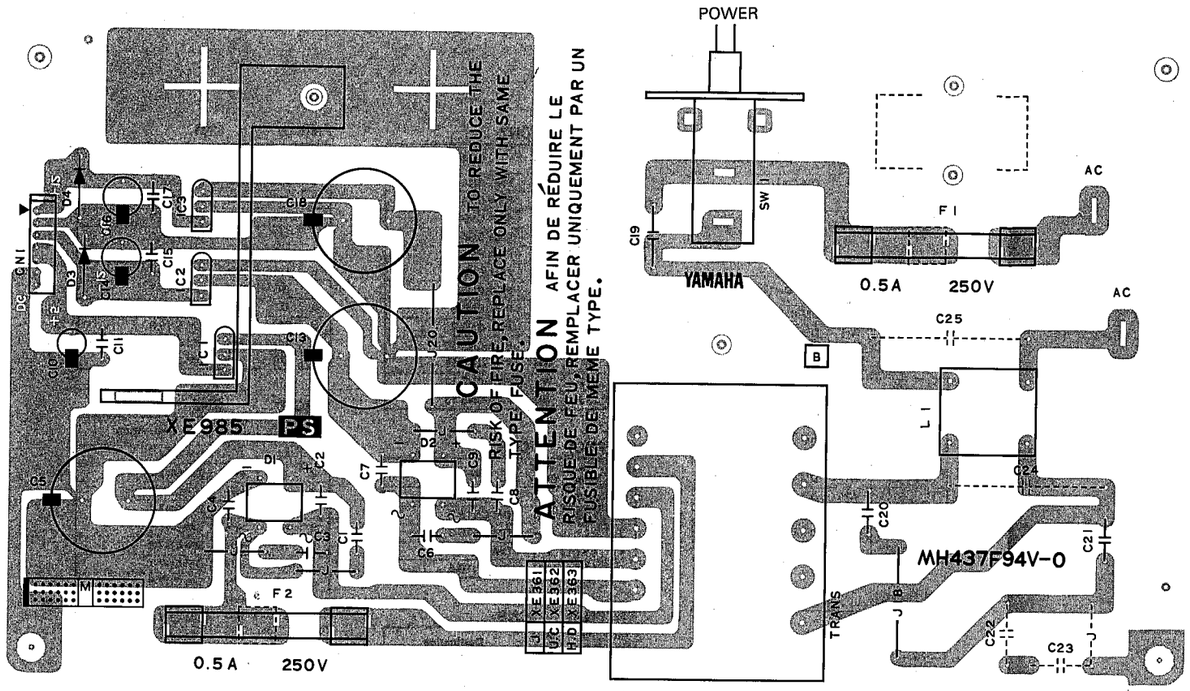
Pin No.	Pin Name	Wire Color	Destination
1	A11	RE	DM-CN7-1
2	A9	WH	DM-CN7-2
3	A8	WH	DM-CN7-3
4	A13	WH	DM-CN7-4
5	A14	WH	DM-CN7-5
6	$\overline{WE}$	WH	DM-CN7-6
7	LOOP	WH	DM-CN7-7
8	Vcc	WH	DM-CN7-8
9	A16	WH	DM-CN7-9
10	A15	WH	DM-CN7-10
11	A12	WH	DM-CN7-11
12	A7	WH	DM-CN7-12

PN(CD) CN3

Pin No.	Pin Name	Wire Color	Destination
1	A6	RE	DM-CN8-1
2	A5	WH	DM-CN8-2
3	A4	WH	DM-CN8-3
4	A3	WH	DM-CN8-4
5	A2	WH	DM-CN8-5
6	A1	WH	DM-CN8-6
7	A0	WH	DM-CN8-7
8	D0	WH	DM-CN8-8
9	D1	WH	DM-CN8-9
10	D2	WH	DM-CN8-10
11	WP	WH	DM-CN8-11
12	A19	WH	DM-CN8-12
13	Vbb	WH	DM-CN8-13

YS100/YS200

● PS Circuit board (YS100, YS200)



<Components side>

Notes)

Circuit Board: XE985A0 (VF777900) PS J
Circuit Board: XE985A0 (VF778000) PS U, C
Circuit Board: XE985A0 (VF778100) PS H, D, A

1. IC
   IC 1: AN7805F (XD338001) REGULATOR +5V
   IC 2: AN79M12F (XD342001) REGULATOR −12V
   IC 3: AN78M12F (XD340001) REGULATOR +12V

2. Diode
   D 3, 4: 10E-1 (IH000590)

3. Diode Stack
   D 1, 2: RDF04M 1A 400V (VD488400)

4. Semiconductive Cera. Cap.
   C11, 15, 17: 0.1μ 25V Z (FZ005030)

5. Ceramic Cap.
   C19: 0.01μ 400V (FI494100)
   C20, 21: 2200P 400V (VA879900)
   C22, 23: 4700P 400V (VA880100) H, D, A

6. Electrolytic Cap.
   C 5: 3300μ 16V (UW939330)

7. Coil
   L 1: PLA3021A (GD900760)

8. Push Switch
   SW 1: ESB-8236V JUCS (VF576000) POWER

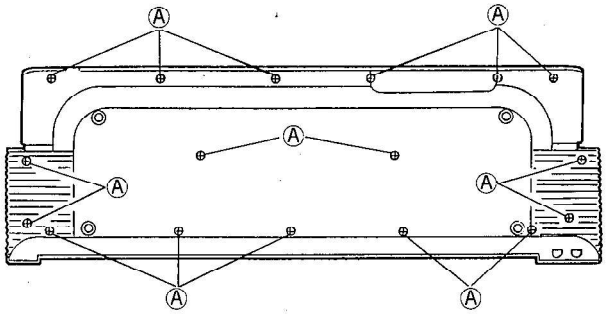
● **Fuse & Power Transformer**

Market	Japanese	U.S. & Canadian	North European, West German, Australian
F 1, 2	▽ 500mA 250V	(UL) 500mA 250V	(T) 500mA 250V S
Power Transformer	XE361A00	XE362A00	XE363A00
J 1	○	○	X

■ DISASSEMBLY PROCEDURE

1. Lower Case Removal (Refer to Fig. 1.)

Remove the 17 screws Ⓐ (3x12 Bind head tapping screw) and then remove the lower case.



(Fig. 1)

2. DM Circuit Board Removal (Refer to Fig. 2.)

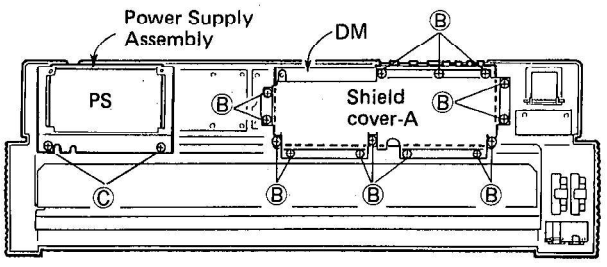
- Remove the lower case. (Refer to step 1.)

Remove the 14 screws Ⓑ (3x8 Bind head tapping screw) and then remove the shield cover-A. Disconnect the connectors and then remove the DM circuit board.

3. Power Supply Assembly Removal (Refer to Fig. 2.)

- Remove the lower case (Refer to step 1.)

Remove the 2 screws Ⓒ (3x8 Bind head tapping screw) and then remove the power supply assembly.



(Fig. 2)

4. PNA Circuit Board, PNB Circuit Board Removal (Refer to Fig. 3.)

- Remove the lower case (Refer to step 1.)
- Remove the power supply assembly. (Refer to step 3.)

4-1. To remove the PNA circuit board, remove the 8 screws Ⓓ (3x8 Bind head tapping screw).

4-2. To remove the PNB circuit board, remove the 4 screws Ⓔ (3x8 Bind head tapping screw).

5. PNC Circuit Board Removal (Refer to Fig. 3.)

- Remove the lower case. (Refer to step 1.)
- Remove the DM circuit board. (Refer to step 2.)

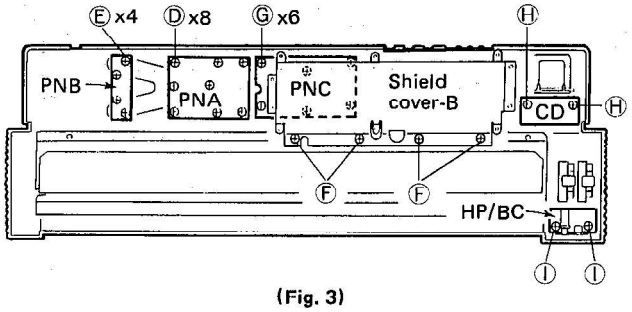
Remove the 4 screws Ⓕ (3x8 Bind head tapping screw) and then remove the shield cover-B. Remove the 6 screws Ⓖ (3x8 Bind head tapping screw) and then remove the PNC circuit board.

6. CD Circuit Board, HP/BC Circuit Board Removal (Refer to Fig. 3.)

- Remove the lower case. (Refer to step 1.)

6-1. To remove the CD circuit board, remove the 2 screws Ⓗ (3x8 Bind head tapping screw).

6-2. To remove the HP/BC circuit board, remove the 2 screws Ⓘ (3x8 Bind head tapping screw).



(Fig. 3)

7. **LCD Display Assembly Removal (Refer to Fig. 4.)**
   - Remove the lower case. (Refer to step 1.)
   - Remove the DM circuit board. (Refer to step 2.)
   - Remove the PNC circuit board. (Refer to step 5.)

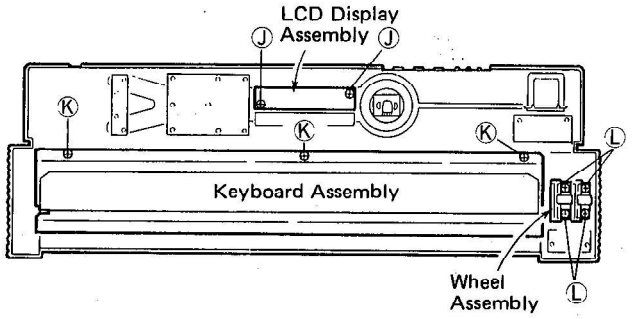
   Remove the 2 screws Ⓙ (3x8 Bind head tapping screw) and then remove the LCD display assembly.

8. **Keyboard Assembly Removal (Refer to Fig. 4.)**
   - Remove the lower case. (Refer to step 1.)
   - Remove the DM circuit board. (Refer to step 2.)
   - Remove the power supply assembly. (Refer to step 3.)
   - Remove the shield cover-B. (Refer to step 5.)

   Remove the 3 screws Ⓚ (3x8 Bind head tapping screw) and then remove the keyboard assembly.

9. **Wheel Assembly Removal (Refer to Fig. 4.)**
   - Remove the lower case. (Refer to step 1.)

   Remove the 4 screws Ⓛ (3x8 Bind head tapping screw) and then remove the wheel assembly.



(Fig. 4)

■ TEST PROGRAM

1. TEST PROGRAM ENTRY

(1) Press and hold down the EXIT switch, then press the STORE switch while pressing the NAME switch.

(2) The following message will appear on the LCD.

```
YS V#.##   Manual
Test Entry ?
```

(3) Press the TEN key [+] switch to activate the test program.

2. Panel Switch Event Queue ([D] state)

(1) After each test is performed, the system automatically enters the [D] state (Panel Switch Event Queue).

(2) The TESTS can be executed by pressing the following Panel selectors.

- TEN key [+]: The TEST immediately following the previous one is performed.
- TEN key [−]: The Test just performed is re-executed. If the system has just entered the Test Program mode, the switch does not work.
- [0]−[9]: The Test which corresponds to a number is input with numeric switches will be executed.

(3) If the test is "No Good" for some reason or as result of no change in A/D check, Foot Switch check, Keyboard Scalling check, Panel Switch check, Card Protect switch check and Card Insert check, you might perform the following procedure to return the system to the [D] state.

- While pressing the left-hand side [−] switch of the panel, press the [+] switch.

3. [TEST 1] RAM Check

(1) If the test is initiated, the internal RAM is automatically checked.

(2) If the test is OK, "OK" will appear on the LCD. If not, "NG" shows.

```
01;RAM
              OK
```

```
01;RAM
              NG
```

4. [TEST 2] Battery Check

The Battery is automatically checked.

- Result OK: The battery voltage is adequate (2.6V ~ 4.1V)
- Result NG: The battery voltage is too low or too high.

Whether or not the test is OK, the system will enter the [D] state.

```
02;BATTERY   #.#V
              OK
```

```
02;BATTERY   #.#V
          lo  NG
```

```
02;BATTERY   #.#V
          hi  NG
```

5. [TEST 3] A4 Sound Generation (OUTPUT L)

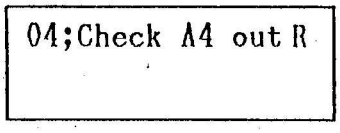
```
03;Check A4 out L
```

(1) Attach phone jacks to the OUTPUT L and R connectors.

(2) The following 880 Hz ± 5 cents sine wave is detected at each connectors.

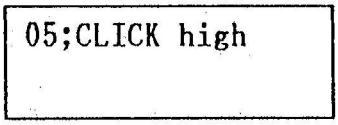
- −6.0 ± 2 dBm at the OUTPUT R. (distortion factor 0.3%, load 10k ohms)
- less than −66 dBm at the OUTPUT R.
- −1.0 ± 2dBmat the PHONES L. (distortion factor 0.3%, load 150 ohms)
- less than −50 dBm at the PHONES R.

6. [TEST 4] A4 Sound Generation (OUTPUT R)



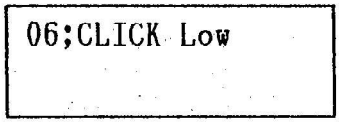
(1) Attach phone jacks to the OUTPUT L and R connectors.
(2) The following 880 Hz ± 5 cents sine wave is detected at each connectors.
- –6.0 ± 2 dBm at the OUTPUT R. (distortion factor 0.3%, load 10k ohms)
- less than –66 dBm at the OUTPUT L.
- –1.0±2 dBm at the PHONES R. (distortion factor 0.3%, load 150 ohms)
- less than –50 dBm at the PHONES L.

7. [TEST 5] High Note Click check



(1) Attach phone jacks to the OUTPUT L and R connectors.
(2) The following Square wave is detected at each connectors.
- –23.0 ± 5 dBm of 1 kHz ± 150 Hz at the OUTPUT L. (load 10k ohms.)
- less than –66 dBm at the OUTPUT R.

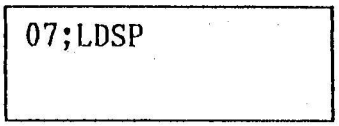
8. [TEST 6] Low Note Click check



(1) Attach phone jacks to the OUTPUT L and R connectors.
(2) The following Square wave is detected at each connectors.
- –23.0 ± 5 dBm of 850 Hz ± 150 Hz cents at the OUTPUT L. (load 10k ohms)
- less than –66 dBm at the OUTPUT R.

9. [TEST 7] LDSP and PSRAM check

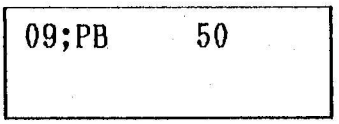
(1) Attach phone jacks to the OUTPUT L and R connectors.
(2) An 880 Hz±5 cents sine wave of –13.5±2 dBm is detected at the OUTPUT L connector.
(3) Verify each note of channels 1 through 8.



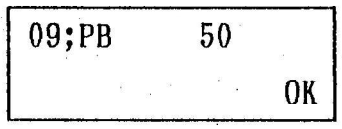
10. [TEST 8] LCD Check

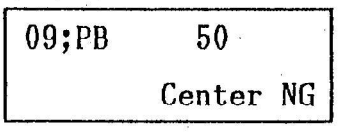
The LCD will flash "ON" and "OFF" continuously, allowing proper LCD lighting to be verified.

11. [TEST 9] Pitch Bend Check



(1) Rotate the Pitch Bend Wheel through a sequence of 50 to 99 down to 0 and back to 50.
(2) Check to see that the numerals shown on the display change smoothly.
(3) If the Pitch Bend check is OK, the OK message is displayed on the LCD and the system enters the [D] state.
If the center decent is out of alignment, the NG message will be displayed.





12. [TEST 10] Modulation Wheel Check

```
10;MW        0
```

(1) Move the Modulation Wheel through from 0 to 99 and back to 0. Check to see that the numerals on the display change smoothly.
(2) If the test is good, an OK will be displayed and the system will enter the [D] state.

```
10;MW        0
                    OK
```

13. [TEST 11] After Touch Check

0-1 – 20-8 – 95-99 – 20-50 – 0-1

```
11;AFT       0
```

14. [TEST 12] Foot Switch Jack Check

```
12;FSW Jack #
```

When a phone plug is attached to the SUSTAIN connector and disconnected, then reinserted, the number on the right-hand of the LCD should change from 1 to 0 to 1.

```
12;FSW Jack 1
```

15. [TEST 13] Card Read/Write Check

(1) The LCD will indicate the message as shown below.

```
13;R/W  ->(TEN +)
   Load ->(CARD )
```

(2) Insert a RAM card with the protect switch off.
(3) Pressing the TEN key [+] switch will initiate the test.

```
13;R/W
                    OK
```

```
13;R/W
                    NG
```

16. [TEST 14] Card Protect Switch Check

When the protect switch is turned off, the number on the right-hand of the LCD should change from 0 to 1, and "OK" will appear.

```
14;PROTECT   1
                    OK
```

17. [TEST 15] Card Insert Check

When a RAM card is inserted, the number on the right-hand of the LCD should change from 0 to 1, and "OK" will appear.

```
15;INSERT    1
                    OK
```

18. [TEST 16] Card Battery Check

The LCD will indicate the Card battery voltage at "#.#" section on the LCD.

```
16;CARD BATTERY
                  #.#V
```

19. [TEST 17] LED Check

```
17;LED
```

The LED will flash "ON" and "OFF" continuously, allowing proper lighting to be verified.

20. [TEST 18] Foot Volume Check

Same as After Touch check.

```
18;FV      0
```

If the foot volume is disconnected, "99" will be displayed on the left-hand side of the LCD.

21. [TEST 19] Breath Control Check

Same as After Touch check.

```
19;BC      0
```

If the breath controller is disconnected, "99" will be displayed on the left-hand side of the LCD.

22. [TEST 20] Foot Switch Check

```
20;FSW     0
```

When switch is turned OFF and ON and OFF again, the numeral on the right-hand side of the LCD will change from 0 to 1 to 0.
If the check is good, an OK is displayed and the system enters the [D] state.

23. [TEST 21] Keyboard Scalling Check

(1) Scale from 36 (=C1) through 96 (=C6)

```
21;KBD push  C1
```

(2) Touch the key with a force of initial touch $10 – $6F.

(3) If the test is OK, the "OK" message will appear on the LCD and sign wave is produced. If the test is no good, "NG" will appear on the LCD and sine wave is not produced.

```
21;KBD push  C1
                OK
```

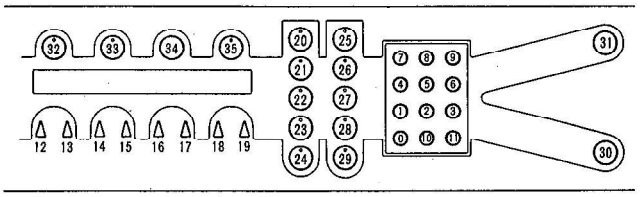
```
21;KBD push  C1
                NG
```

(4) If a scaling up to 96 (=C6) checks OK, the system will enter the [D] state.

24. [TEST 22] Panel Switch Check

```
22;PSW push  1
```

(1) When this test is initiated, switch number 1 will appear on the LCD. Turn the switch ON and OFF in the following sequence.



(2) If a switch does not check OK, you cannot proceed with the subsequent switch. When all switches check OK, the LCD indicates "OK" as shown below, and the system enters the [D] state.

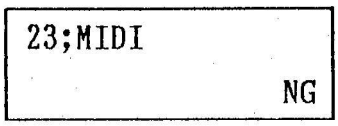
```
22;PSW push  1
                OK
```

```
22;PSW push  1
                NG
```

25. [TEST 23] MIDI Check

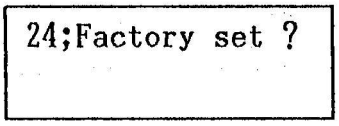
(1) Connect the MIDI IN to MIDI OUT jack with a MIDI cable and execute the program.

(2) If the loop test is OK, the "OK" message will appear on the LCD; if not, "NG" shows.



26. [TEST 24] Factory Set

(1) If the test is activated, the LCD will indicate a message as shown below.



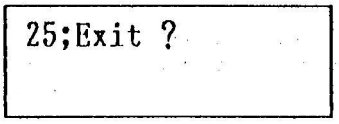
(2) If the TEN key [+] switch is pressed, memories will be set with factory set data.

- Initialized memories
  1 Internal voices (100)
  2 Internal sequence data (only YS200)
  3 System set up data

(4) Pressing the TEN key [−] switch causes the system to return to the [D] state.

27. [TEST 25] EXIT

(1) If this function is initiated, a message will appear on the LCD as shown below.



(2) If the YEN key [+] switch is pressed, normal operation will be restored.

(3) Pressing the TEN key [−] switch will return the system to the [D] state.

■ERROR MESSAGES

VOICE LOADING AND SAVING MESSAGES

‡ERROR‡ Verify NG!-----Please try again!	This appears if a mistake was made during saving or loading. Inserting a card while in the saving or loading process will result in this message.
‡ERROR‡ Protect!---Reset memory protect!	This appears when internal memory protect or write protect switch of RAM is on when executing a saving or loading operation. This message will also result when MIDI data (including voice data) is received while internal memory protect is on. When memory protect (or write protect) is on, data cannot be saved or received.
‡ERROR‡ Format!------Please format card!	This message will appear when trying to save from or load to an unformatted card. This will also result when a card formatted to a system other than the YS100 or YS200 is used.
‡ERROR‡ Not ready!---Please insert card!	This message will appear if a card has not been inserted properly when card voices are selected or when save, load or store operations are attempted.
B_T	This message will appear if User voices or Card voices are selected when battery power is low. When User voices are selected, this message indicates that the battery inside the unit is getting low. When Card voices are selected, this message indicates that the battery inside the RAM memory card is getting low. When the battery is replaced, all the data memorized in the card will be erased. Transfer the data to the internal memory or another card before replacing the battery.

MIDI RECEPTION AND TRANSMISSION MESSAGES

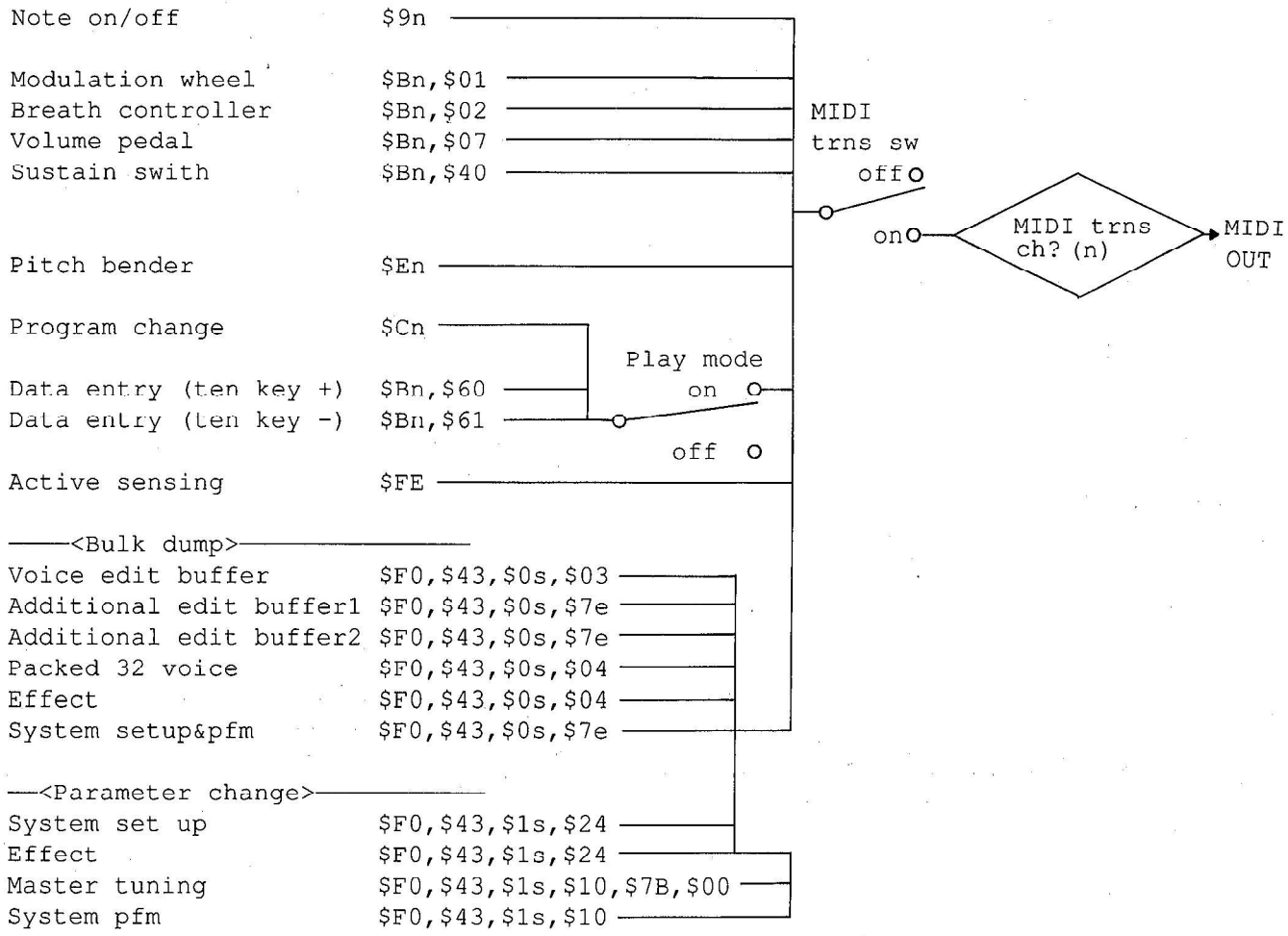
ERROR Check sum NG!--Please try again!	
ERROR MIDI data error!------try again!	This will appear when MIDI data has not been received during a transfer operation.
ERROR MIDI buffer full!-----try again!	This will appear when MIDI data has been received more quickly than can be handled.
ERROR MIDI ch!-Please set Transmit ch!	This will appear when voice data is transmitted when the MIDI transmit channel is off. Set the MIDI transmit channel to a value other than OFF.

MULTI MODE MESSAGES

ATTENTION effect data was ignored!	This message will appear if an effect setting is adjusted for a voice while that voice or any other in the Multi Mode arrangement has a pan setting. The pan setting(s) will be ignored in the Multi Mode when effects are used.
ATTENTION Pan data was ignored!	This message will appear if a pan setting of left or right is adjusted for a voice while that voice or any other in the Multi Mode arrangement has an effect setting. The effect setting(s) will be ignored in the Multi Mode when pan is used.

■MIDI DATA FORMAT

(1) Transmitting Conditions



(2) Transmitting Conditions

Transmits when the transmit channel is set to a value other than OFF.

2-1 Channel Information

(1) Channel Voice Message

1) KEY ON/OFF

STATUS	1001nnnn	(9n)	n=channel number
NOTE No.	0kkkkkkk		k=36(C1)~96(C6)
VELOCITY	0vvvvvvv	(v=0)	KEY ON
CONTROL value	00000000	(v=0)	KEY OFF

2) CONTROL CHANGE

STATUS	1011nnnn	(Bn)	n=channel number
CONTROL No.	0ccccccc		
DATA	0vvvvvvv		

—— CONTROL NUMBER ——

C=1	Modulation wheel	v=0~127
C=2	Breath controller	v=0~127
C=7	Foot volume	v=0~127
C=64	Sustain switch	v=0:off,127:on
C=96	Data entry switch inc	v=127:on (play mode only)
C=97	Data entry switch dec	v=127:on (play mode only)

3) PROGRAM CHANGE (play mode only)

STATUS	1100nnnn	(Cn)	n=channel number
PROGRAM No.	0ppppppp		p=0~99

4) PITCH BENDER

STATUS	1110nnnn	(En)	n=channel number
VALUE (LSB)	0uuuuuuu		
VALUE (MSB)	0vvvvvvv		

Resolution: 7bit
Transmission of data occurs as follows:

MSB		LSB		
0000 0000	(00)	0000 0000	(00)	minimum value
0100 0000	(40)	0000 0000	(00)	middle value
0111 1111	(7F)	0111 1110	(7E)	maximum value

2-2 System Information

(1) System Realtime Messages

ACTIVE SENSING CLOCK

STATUS	11111110	(FE)

(2) System Exclusive Messages

1) PARAMETER CHANGE

STATUS	11110000	(F0)	
ID No.	01000011	(43)	
SUB STATUS	0001ssss	(1s)	s=Transmit channel
GROUP NUMBER	0ggggghh		g=Group number h=Sub group number
PARAMETER No.	0ppppppp		
DATA	0ddddddd		
|	|		
DATA	0ddddddd		
EOX	11110111	(F7)	

This is a list of the parameter group numbers and parameter numbers of the 3 types.

Type	g	h	p	Data bit number
SYSTEM SET UP	9	0	1~3,7	1
SYSTEM PFM	4	0	0~95	1
EFFECT	9	0	88~90	1
MASTER TUNING	4	0	123	2

2) BULK DUMP

STATUS	11110000	(F0)	
ID No.	01000011	(43)	
SUB STATUS	0000ssss	(0s)	s=Transmit channel
GROUP NUMBER	0fffffff		f=Format number
BYTE COUNT(MSB)	0bbbbbbb		
BYTE COUNT(LSB)	0bbbbbbb		
DATA	0ddddddd	┐	
	|	|	
	0ddddddd	┘	
CHECK SUM	0eeeeeee		
EOX	11110111	(F7)	

This is a list of the format numbers of the 3 types.

Type	f	Byte count
VOICE EDIT BUFFER	3	93
PACKED 32 VOICE	4	4096

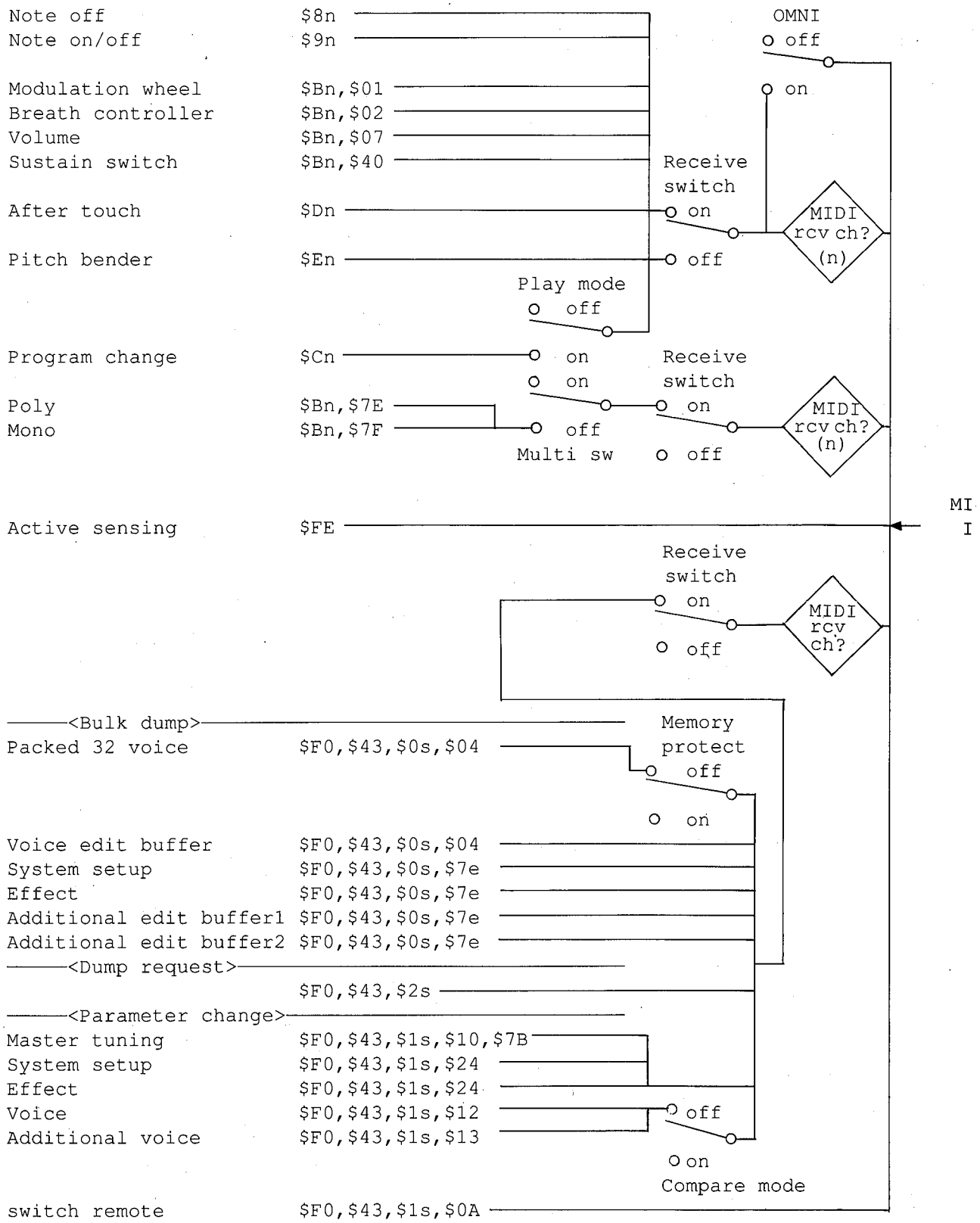
2) UNIVERSAL BULK DUMP

STATUS	11110000	(F0)	
ID No.	01000011	(43)	
SUB STATUS	0000ssss	(0s)	s=Transmit channel
GROUP NUMBER	01111110	(7E)	
BYTE COUNT(MSB)	0bbbbbbb		
BYTE COUNT(LSB)	0bbbbbbb		
CLASIFICATION-	0aaaaaaa	ASCII'L	
NAME	0aaaaaaa	ASCII'M	
	0aaaaaaa	ASCII'_	
	0aaaaaaa	ASCII'_	
DATA FORMAT-	0mmmmmmm	ASCII	
NAME			
	0mmmmmmm		
DATA	0ddddddd		
	0ddddddd		
CHECK SUM	0eeeeeee		
EOX	11110111	(F7)	

This is a list of the formats of 1 type.

Type	b	a	m
SYSTEM SETUP & PFM	100	LM__	8036S_
EFFECT	3	LM__	EFEDS_
Additional Edit Buffer1	23	LM__	8976AE
Additional Edit Buffer2	10	LM__	8023AE

(1.3) Receiving Condition



Reception Data

4-1 Channel Information

There are 8 MIDI reception channels, from INST 1 to INST 8, when MULTI is ON.

(1) Channel Voice Messages

1) KEY OFF

STATUS	1000nnnn	(8n)	n=channel number
NOTE No.	0kkkkkkk		k=0(C-2)~127(G8)
VELOCITY	0vvvvvvv		v is ignored

2) KEY ON/OFF

STATUS	1001nnnn	(9n)	n=channel number
NOTE No.	0kkkkkkk		k=0(C-2)~127(G8)
VELOCITY	0vvvvvvv	(v=0)	KEY ON
	00000000	(v=0)	KEY OFF

3) CONTROL CHANGE

STATUS	1011nnnn	(Bn)	n=channel number
CONTROL No.	0ccccccc		
CONTROL VALUE	0vvvvvvv		

—— CONTROL NUMBER ————

C=1	Modulation wheel	v=~127
C=2	Breath controller	v=~127
C=7	Volume	v=~127
C=64	Sustain switch	v=0:off,127:on

4) PROGRAM CHANGE (play mode only)

STATUS	1100nnnn	(Cn)	n=channel number
PROGRAM No.	0ppppppp		p=0~127

Selection of CARD/PRESET/USER can be done only form the front panel switchs.
p=100~127 are received as 0~27.

5) AFTER TOUCH

STATUS	1101nnnn	(Dn)	n=channel number
	0vvvvvvv		v=0~127

6) PITCH BENDER

STATUS	1110nnnn	(En)	n=channel number
VALUE (LSB)	0uuuuuuu		
VALUE (MSB)	0vvvvvvv		

Only data of the MSB side are active.

Resolution: 7bit

MSB	
0000 0000 (00)	minimum value
0100 0000 (40)	middle value
0111 1111 (7F)	maximum value

(2) Channel Mode Messages

Not received when MULTI is ON.
OMNI switch is not available.

1) MONO/ALL NOTE OFF

STATUS	1011nnnn	(Bn)	n=channel number
CONTROL No.	01111111	(7E)	
CONTROL VALUE	0mmmmmmm		Only 1 is recognized and sets MONO MODE.
			Ignored when m=1

2) POLY/ALL NOTE OFF

STATUS	1011nnnn	(Bn)	n=channel number
CONTROL No.	01111110	(7F)	
CONTROL	00000000		

4-2 System Information

(1) System Common Messages

Same as transmitting.

(2) System Realtime Messages

ACTIVE SENSING CLOCK

STATUS	11111110	(FE)

Sensing starts once this code is received. When neither status nor data are detected for longer than 300 msec., the MIDI receiving buffer will be cleared and all currently sounding voices and sustain switch data will be set to OFF. Also after touch, foot volume, modulation wheel and pitch bend data will be initialized.

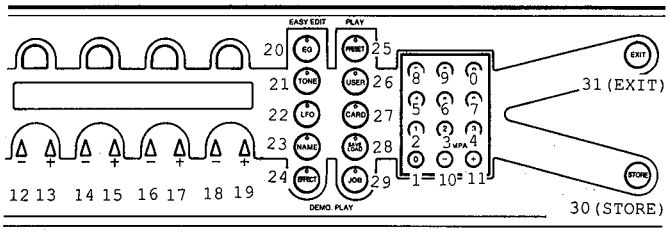
(3) System Exclusive Messages

INST 1 channel receives when MULTI is ON.

1) PARAMETER CHANGE SWITCH REMOTE

STATUS	11110000	(F0)
ID No.	01000011	(43)
SUB STATUS	0001ssss	(1s)
GROUP NUMBER		(24)
PARAMETER No.	0ppppppp	p=switch number+91(91~127)
DATA	0ddddddd	d=0:off,d=127:on
EOX	11110111	(F7)

This is received regardless of the Receive sw/channel setting.
Switch numbers correspond to the positions indicated on the chart below.
p=127 is power on reset.



The following messages are received when Receive channels match.

3) PARAMETER CHANGE

STATUS	11110000	(F0)	
ID No.	01000011	(43)	
SUB STATUS	0001ssss	(1s)	s=Receive channel
GROUP NUMBER	0ggggghh		g=Group number
			h=sub group number
PARAMETER No.	0ppppppp		
DATA	0ddddddd		
|	|		
DATA	0ddddddd		
EOX	11110111	(F7)	

Type	g	h	p	Data byte number
VOICE	4	2	0~93	1
ADDITIONAL VOICE	4	3	0~26	1
EFFECT	9	0	4~6	1
SYSTEM SET UP	9	0	1~3,7	1
SYSTEM PFM	4	0	0~95	1
MASTER TUNING	4	0	123	2

4) BULK DUMP
Same as transmission.

5) UNIVERSAL BULK DUMP
Same as transmission.

6) DUMP REQUEST

VOICE EDIT BUFFER		(f=3)	┐ In this condi-
PACKED 32VOICE		(f=4)	┘ tion.
SONG SEQUENCE		(f=10)	
STATUS	11110000	(F0)	
ID No.	01000011	(43)	
SUB STATUS	0010ssss	(2s)	s=Receive channel
GROUP NUMBER	0fffffff		f=FormatNo.(3,4,10)
EOX	11110111	(F7)	

7) UNIVERSAL BULK DUMP REQUEST

STATUS	11110000	(F0)
ID No.	01000011	(43)
SUB STATUS	0010ssss	(2s) s=Receive channel
GROUP NUMBER	01111110	(7E)
CLASIFICATION-	0aaaaaaa	ASCII'L
NAME	0aaaaaaa	ASCII'M
	0aaaaaaa	ASCII'_
	0aaaaaaa	ASCII'_
DATA FORMAT-	0mmmmmmm	ASCII
NAME	|	
	0mmmmmmm	
EOX	11110111	(F7)

This is a list of the formats of 4 types.

Type	a	m
ACED + VCED	LM__	8976AE
ACED2 + ACED +VCED	LM__	8023AE
EFEDS + ACED2 + ACED +VCED	LM__	8036EF
EFEDS + SYSTEM SETUP	LM__	8036S_

Attached list 1 >

Parameters indicated as %%% in the list are of common format with the DX11, but they do not function with YS100/200.

Parameter list of parameter change and bulk

* VCED *** 93 byte voice edit parameter (1 bulk edit format)
para. cng g=4, h=2

	VCED address (para.cng)	b7	b6	b5	b4	b3	b2	b1	b0		
edit	0	0	0	0	———		AR	———		1-31	
	1	0	0	0	———		D1R	———		0-31	
	2	0	0	0	———		D2R	———		0-31	
	3	0	0	0	0	———	RR	———		1-15	
	4	0	0	0	0	———	D1L	———		0-15	
	5	0	———		LS			———		0-99	
	6	0	0	0	0	0	0	-RS—		0-3	OP.4
	7	0	0	0	0	0	——EBS—			0-7	
	8	0	0	0	0	0	0	0	AME	0-1	
	9	0	0	0	0	0	—	KVS—		0-7	
	10	0	———		OUT			———		0-99	
	11	0	0	———		CRS		———		0-63	(RATIO)
		0	0	—	CRS	———		x	x	0-63	(FIX)
	12	0	0	0	0	0	—DET	—		0-6	(center=3)
	13										
	.										OP.2
	.										
	26										
	.										OP.3
	.										
	39										
	.										OP.1
	.										
	52	0	0	0	0	0	—ALG—			0-7	
	53	0	0	0	0	0	—FBL—			0-7	
	54	0	———		LFS			———		0-99	
	55	0	—	LFD				———		0-99	
	56	0	—	PMD				———		0-99	
	57	0	—	AMD				———		0-99	
	58	0	0	0	0	0	0	0	SY	0-1	LFO SYNC
	59	0	0	0	0	0	0	-LFW-		0-3	
	60	0	0	0	0	0	—PMS—			0-7	
	61	0	0	0	0	0	0	-AMS-		0-3	
	62	0	0	———		TRPS		———		0-48	(center=24)

```
*                                                                          *
*      function     63    0  0  0  0  0  0  0 MO  : MONO                  *
*                   64    0  0  0  0 ——— PBR ——   0-12                    *
*                   65    0  0  0  0  0  0  0 PM  : PORMOD                *
*              %%%  66    0 ———————— PORT ————————   0-99                 *
*                   67    0 ———————— FC VOL ————————   0-99               *
*              %%%  68    0  0  0  0  0  0  0 SU   0-1 sus.(F.SW)         *
*              %%%  69    0  0  0  0  0  0  0 PO   0-1 por.(F.SW)         *
*              %%%  70    0  0  0  0  0  0  0 CH   0-1 chorus  set 0      *
*                   71    0 ——— MW PITCH ———   0-99                      *
*                   72    0 ——— MW AMPLI ———   0-99                      *
*                   73    0 ——— BC PITCH ———   0-99                      *
*                   74    0 ——— BC AMPLI ———   0-99                      *
*                   75    0 ——— BC P BIAS ———   0-100  (center0=50)      *
*                   76    0 ——— BC E BIAS ———   0-99                     *
*                   77    0 —— VOICE NAME  1 —   32-127                  *
*                   78    0 —— VOICE NAME  2 —                           *
*                   79    0 —— VOICE NAME  3 —                           *
*                   80    0 —— VOICE NAME  4 —                           *
*                   81    0 —— VOICE NAME  5 —                           *
*                   82    0 —— VOICE NAME  6 —                           *
*                   83    0 —— VOICE NAME  7 —                           *
*                   84    0 —— VOICE NAME  8 —                           *
*                   85    0 —— VOICE NAME  9 —                           *
*                   86    0 —— VOICE NAME 10 —                           *
*      ————————————————————————————————————————————————————————————————*
*              %%%  87    0 ———————— PR1 ————————   0-99  PEG            *
*              %%%  88    0 ———————— PR2 ————————   0-99                 *
*              %%%  89    0 ———————— PR3 ————————   0-99                 *
*              %%%  90    0 ———————— PL1 ————————   0-99   (center=50)   *
*              %%%  91    0 ———————— PL2 ————————   0-99                 *
*              %%%  92    0 ———————— PL3 ————————   0-99                 *
*                                                                          *

*** parameter change only ***
*                                                                          *
*       nn      b7  b6  b5  b4  b3  b2  b1  b0    dd     comment         *
*   (para.no)                                   (value)                  *
*       93       0   0   0   0 OP1 OP2 OP3 OP4    0-1   op. on(1)/off(0)  *
```

*** ACED *** 23 byte additional parameters (1 bulk edit format)
para. cng g=4, h=3

NO.	(para)	b7	b6	b5	b4	b3	b2	b1	b0	Data	note
0	0	0	0	0	0	0	0	0	FIX	0-1	OP.4
1	1	0	0	0	0	0	—— FIXRG ——			0-7	0(255Hz)-7(32KHz)
2	2	0	0	0	0	——— FINE ———				0-15	(7:F=0-3)
3	3	0	0	0	0	0	—— OSW ——			0-7	
4	4	0	0	0	0	0	0	-EGSFT-		0-3	0(off)-3(12dB)
5	5										OP.2
10	10										OP.3
15	15										OP.1
19	19									0(off)	
20	20	0	0	0	0	0	—REV—			0-7	0(off),7(first)
21	21	0	——— FC PITCH ———							0-99	
22	22	0	——— FC AMPLI ———							0-99	

*** ACED2 *** 10 byte additional parameter 2 for V2
para. cng g=4, h=3

NO.	para.	Nob	7	6	5	4	3	2	1	0	Data	note
0	23	0	——— AT PITCH ———								0-99	
1	24	0	——— AT AMPLI ———								0-99	
2	25	0	——— AT P.BIAS ———								0-100	center 0 = 50
3	26	0	——— AT EG BIAS ———								0-99	
4	27	0	——— reserved ———									
5	28	0	——— reserved ———									
6	29	0	——— reserved ———									
7	30	0	——— reserved ———									
8	31	0	——— reserved ———									
9	32	0	——— reserved ———									

*** EFEDS *** 3 byte effect parameter for YS
para. cng g=9, h=0

NO.	para.	Nob	7	6	5	4	3	2	1	0	Data	note
0	4	0	0	0	0	0	EFFECT PRESET No.				0-10	
1	5	0	0	——— EFFECT TIME ———							0-40	
2	6	0	——— EFFECT BALANCE ———								0-99	

*** remote switch ***
para. cng g=9, h=0

g	h p	switch
9	0 91	ten key 0
92		ten key 1
93		ten key 2
94		ten key 3
95		ten key 4
96		ten key 5
97		ten key 6
98		ten key 7
99		ten key 8
100		ten key 9
101		ten key -
102		ten key +
103		left -
104		left +
105		left center -
106		left center +
107		right center -
108		right center +
109		right -
110		right +
111		eg
112		tone
113		lfo
114		effect
115		name
116		card
117		user
118		preset
119		sv,ld
120		job
121		store
122		exit
123		seq/play
124		rec
125		stop/cont.
126		start
127		power on reset

<Attached list 2 >

Detail of Bulk Dump Format

★ VCED

f = 3
data size = 93 ($005D)
data format = 7bit binary
total bulk size = 93+8 = 101

f0,43,0n,03,00,5D,<VCED data>,sum,f7

★ VMEM

f = 4
data size = 128x32 = 4096 ($1000)
data format = 7bit binary
total bulk size = 4096+8 = 4104

f0,43,0n,04,20,00,<VMEM data>,sum,f7

★ ACED

f = 126 LM__8976AE
data size = 23+10 = 33 ($0021)
data format = 7bit binary
total bulk size = 33+8 = 41

f0,43,0n,7e,00,21,LM__8976AE,<ACED data>,sum,f7

★ ACED2

f = 126 LM__8023AE
data size = 10+10 = 20 ($0014)
data format = 7bit binary
total bulk size = 20+8 = 28

f0,43,0n,7e,00,14,LM__8023AE,<ACED2 data>,sum,f7

★ EFEDS

f = 126 LM__8036EF
data size = 3+10 = 13 ($000D)
data format = 7bit binary
total bulk size = 13+8 = 21

f0,43,0n,7e,00,0D,LM__8036EF,<EFEDS data>,sum,f7

★ SYSTEM SETUP + PFM

f = 126 LM__8036S_

data size = 10+100 = 110 ($006E)
data format = 7bit binary
total data size = 110+8 = 118

f0,43,0n,7e,00,62,LM__8036S_,<system data>,sum,f7

<Attached list 3 >

*** VMEM *** 128 byte (91 byte is used) voice data (memory format)

adrress	b7	b6	b5	b4	b3	b2	b1	b0	dd (value)	comment	
0	0	0	0	———	AR	———			1-31		
1	0	0	0	———	D1R	———			0-31		
2	0	0	0	———	D2R	———			0-31		
3	0	0	0	0	———	RR	———		1-15		
4	0	0	0	0	———	D1L	———		0-15		OP.4
5	0	———	———	———	LS	———	———	———	0-99		
6	0	AME	———	EBS	———	———	KVS	———	0-1,0-7,0-7		
7	0	———	———	———	OUT	———	———	———	0-99		
8	0	0	———	———	CRS	———	———	———	0-63 (RATIO)		
	0	0	———	CRS	———	———	x	x	0-63 (FIX)		
9	0	0	0	———RS———		———	DET	———	0-3,0-6		
10											
.											OP.2
.											
20											
.											OP.3
.											
30											
.											OP.1
.											
40	0	SY	———	FBL	———	———	ALG	———	0-1,0-7,0-7		
41	0	———	———	———	LFS	———	———	———	0-99		
42	0	———	———	———	LFD	———	———	———	0-99		
43	0	———	———	———	PMD	———	———	———	0-99		
44	0	———	———	———	AMD	———	———	———	0-99		
45	0	———	PMS	———	———	-AMS———		-LFW———	0-7,0-3,0-3		
46	0	0	———	———	———	TRPS	———	———	0-48		
47	0	0	0	0	———	PBR	———		0-12		
48	0	0	0	CH	MO	SU	PO	PM	0-1,0-1,0-1,0-1,0-1		
%%% 49	0	———	———	———	PORT	———	———	———	0-99		
50	0	———	———	———	FC VOL	———	———	———	0-99		
51	0	———	———	———	MW PITCH	———	———	———	0-99		
52	0	———	———	———	MW AMPLI	———	———	———	0-99		
53	0	———	———	———	BC PITCH	———	———	———	0-99		
54	0	———	———	———	BC AMPLI	———	———	———	0-99		
55	0	———	———	———	BC P BIAS	———	———	———	0-100		
56	0	———	———	———	BC E BIAS	———	———	———	0-99		

```
*       57      0  ———— VOICE NAME  1 ————    32-127              *
*       58      0  ———— VOICE NAME  2 ————                        *
*       59      0  ———— VOICE NAME  3 ————                        *
*       60      0  ———— VOICE NAME  4 ————                        *
*       61      0  ———— VOICE NAME  5 ————                        *
*       62      0  ———— VOICE NAME  6 ————                        *
*       63      0  ———— VOICE NAME  7 ————                        *
*       64      0  ———— VOICE NAME  8 ————                        *
*       65      0  ———— VOICE NAME  9 ————                        *
*       66      0  ———— VOICE NAME 10 ————                        *
*  ————————————————————————————————————————————————————————————   *
* %%%   67      0  ————————— PR1 —————————   0-99                 *
* %%%   68      0  ————————— PR2 —————————   0-99                 *
* %%%   69      0  ————————— PR3 —————————   0-99                 *
* %%%   70      0  ————————— PL1 —————————   0-99                 *
* %%%   71      0  ————————— PL2 —————————   0-99                 *
* %%%   72      0  ————————— PL3 —————————   0-99                 *
*                                                                 *
*******************************************************************
```

*** VMEM ***

No.	b7	b6	b5	b4	b3	b2	b1	b0	Data	note
0 . .	same as DX21 VMEM									
67	PEG PR1									
.	.									
72	PEG PL3									
73	0	0	-EGSFT-		FIX	——FIXRG ——				OP.4
74	0	—— OSW ——			——— FINE ——					
75										OP.2
77										OP.3
79										OP.1
81	0	0	0	0	0	———REV——				FUNCTION
82	0	———— FC PITCH ————								
83	0	———— FC AMPLI ————								

*** VMEM for V2 ***

No.	b7	b6	b5	b4	b3	b2	b1	b0	Data	note
84	0	———— AT PITCH ————								
85	0	———— AT AMPLI ————								
86	0	———— AT P.BIAS ————								center=0
87	0	———— AT EG BIAS ————								
88-90	0	0	0	0	0	0	0	0		

*** VMEM for YS ***

No.	b7	b6	b5	b4	b3	b2	b1	b0	Data	note
91	0	0	0	0	EFFECT PRESET No.				0-10	
92	0	0	———EFFECT TIME ———						0-40	
93	0	——— EFFECT BALANCE ———							0-99	
94-127	0	0	0	0	0	0	0	0		

note) AT P.BIAS

data	0,,,,,,49,50,51,,,,,,100
LCD	-50,,,,-1, 0,+1,,,,,,+50
MIDI	51,,,,,100,0,+1,,,,,,+50

*** SYSTEM SETUP *** 100 byte sytem set up

para. cng g=4, h=0

No.	para	b7	b6	b5	b4	b3	b2	b1	b0	Data	note
0	123,0	0	TUNE							0-127	master tune center=64

para. cng g=9, h=0

1	1	0	0	0	MIDBCH					0-16	basic rcv ch 16:omni,17:off
2	2	0	0	0	0	MIDTCH				0-15	trans ch,16:off
3	3	0	0	0	0	0	0	0	MLOCK	0-1	mem. protect

para. cng g=4, h=0

4	0	0	0	0	0	NUM of NOTE				0-8	INST1
5	1	0	0	0	0	0	0	Mem type		0-2	0:preset,1:user,2:card
6	2	0	Voice Number							0-99	
7	3	0	0	0	Recv. ch					0-16	16(omni)
8	4	0	LIMIT/L							0-127	0(C-2)-127(G8)
9	5	0	LIMIT/H							0-127	
10	6	0	0	0	0	DETUNE				0-14	7(center)
11	7	0	0	NOTE SHIFT						0-48	24 (center)
12	8	0	VOLUME							0-99	
13	9	0	0	0	0	0	0	OUT_ASGN		0-3	0(off),1(I),2(II),3(I II)
14	10	0	0	0	0	0	0	LFO SEL		0-3	0(off),1(I),2(II),3(vib)
15	11	0	0	0	0	0	0	0	0	0	reserved
16	12										INST2
.											
28	24										INST3
.											
40	36										INST4
.											
52	48										INST5
.											
64	60										INST6
.											
76	72										INST7
.											
88	84										INST8
.											
99	95										

para. cng (only)g=9, h=0

7	0	0	0	0	0	0	bulk block	0-4	midi bulk block

<Attached list 4 >

Dump Request Messages

★ VCED	f0,43,2n,03,f7
★ VMEM	f0,43,2n,04,f7
★ ACED + VCED	f0,43,2n,7e,LM__8976AE,f7
★ ACED2 + ACED + VCED	f0,43,2n,7e,LM__8023AE,f7
★ EFEDS + ACED2 + ACED + VCED	f0,43,2n,7e,LM__8036EF,f7
★ EFEDS + system setup	f0,43,2n,7e,LM__8036S_,f7

note) Ascii number	HEX
★ LM__8976AE	4c,4d,20,20,38,39,37,36,41,45
★ LM__8023AE	4c,4d,20,20,38,30,32,33,41,45
★ LM__8036EF	4c,4d,20,20,38,30,33,36,45,46
★ LM__8976S_	4c,4d,20,20,38,39,37,36,53,20

<Attached list 5 >

parameter change No. List

<<< $F0,$43,$1n,... >>>

VCED	$12(g=4,h=2),p=0-92,93
ACED	$13(g=4,h=3),p=0-22
ACED2(V2)	$13(g=4,h=3),p=23-33
SYS(sw remote)	$24(g=9,h=0),p=91-127
SYS(setup)	$24(g=9,h=0),p=0-7
SYS(pfm)	$10(g=4,h=0),p=0-95
MASTER TUNING	$10(g=4,h=0),p=123

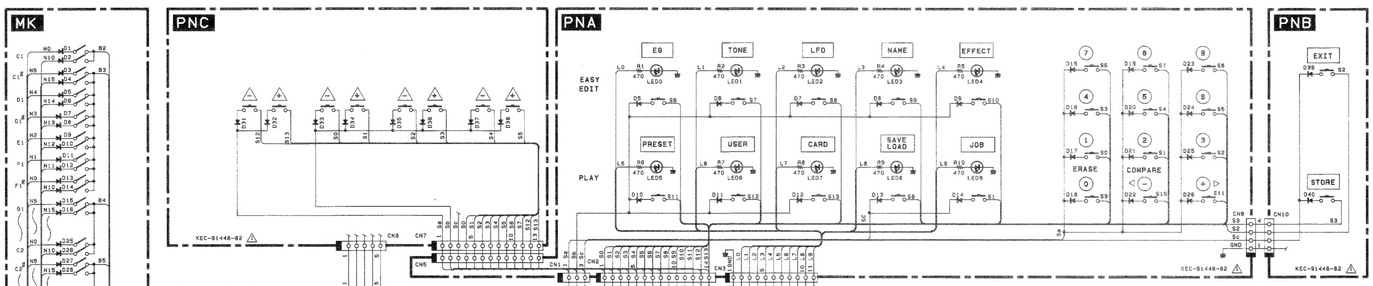
YAMAHA [Digital synthesizer] Date : 6/16, 1988
Model YS100/YS200 MIDI Implementation Chart Version : 1.0

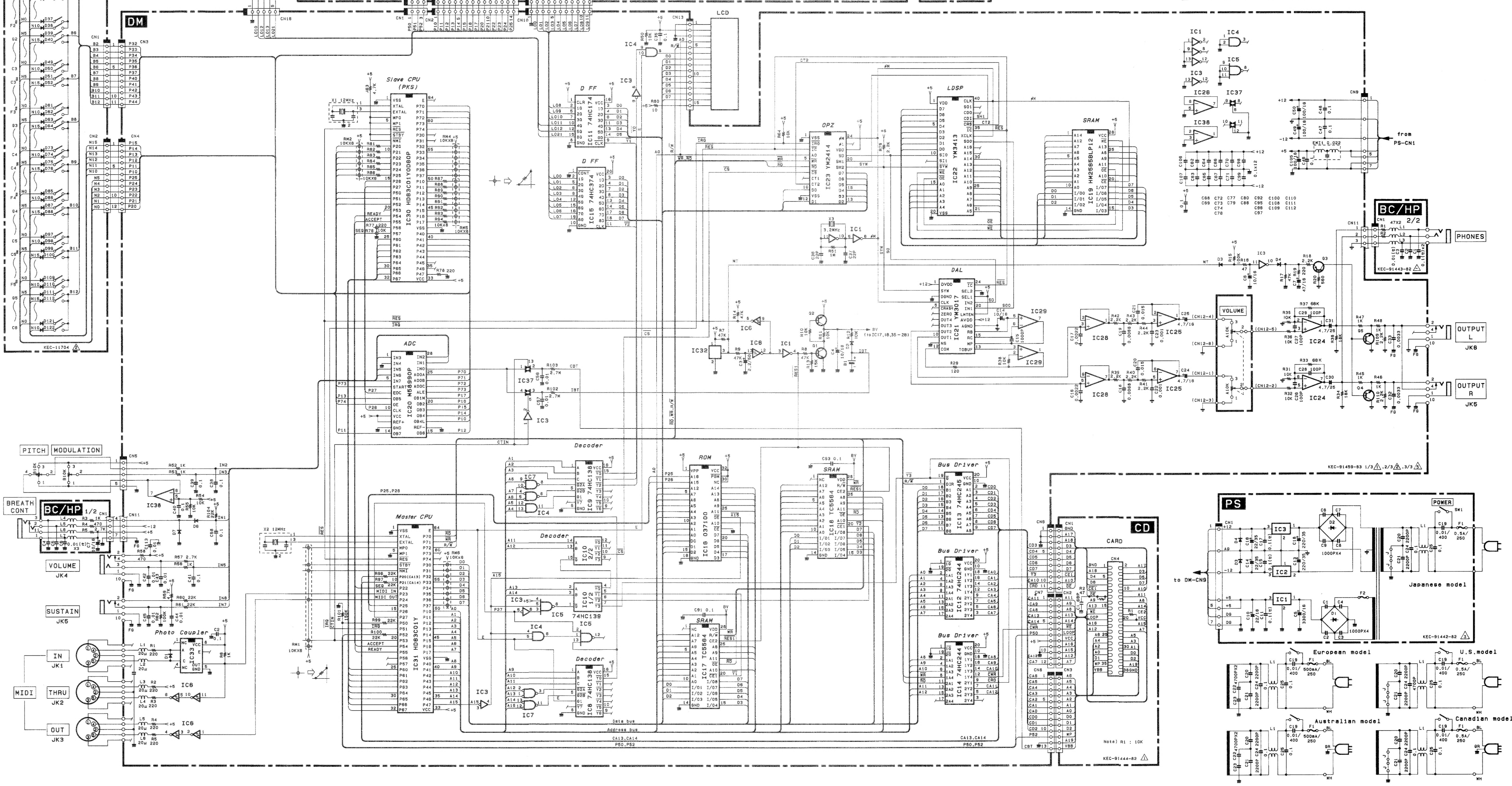
Function ...		Transmitted	Recognized	Remarks
Basic	Default	1 - 16	1 - 16	memorized
Channel	Changed	1 - 16	1 - 16	
Mode	Default	3	1, 2, 3, 4	memorized
	Messages	x	POLY, MONO(M=1)	single mode only
	Altered	**********	x	
Note Number		36 - 96	0 - 127	
	True voice	**********	12 - 107	
Velocity	Note ON	o 9nH,v=1-127	o v=1-127	
	Note OFF	x 9nH,v=0	x	
After Touch	Key's	x	x	
	Ch's	x	o	
Pitch Bender		o	o 0-12 semi	7 bit resolution
Control Change	1	o	o	Modulation wheel
	2	o	o	Breath control
	7	o	o	Volume
	64	o	o	Sustain
	96	o	x	Data entry +1
	97	o	x	Data entry -1 (Play mode only)
Prog Change		o 0 - 99	o 0 - 127 *1	
	True #	**********	0 - 99	
System Exclusive		o	o	Voice parameters
System Common	Song Pos	x	x	
	Song Sel	x	x	
	Tune	x	x	
System Real Time	Clock	x	x	
	Commands	x	x	
Aux Mes- sages	Local ON/OFF	x	x	
	All Notes OFF	x	o (126,127)	single mode only
	Active Sense	o	o	
	Reset	x	x	

Notes: *1 = play mode only

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No

YS100 OVERALL CIRCUIT DIAGRAM





Notes)

Circuit Board XE378B0 (VF138900) DM (YS100)

1. IC
   - IC 1: TC40H004P (IG051000) INV
   - IC 3: MC74HC04N (IR000470) INV
   - IC 4: SN74HC08N (IR000850) AND
   - IC 5: TC74HC10P (IR001000) NAND
   - IC 6: MC74HC14N (IR001470) INV
   - IC 7: MC74HC32N (IR003270) OR
   - IC 8, 9: MC74HC138N (IR013870) DECO-8
   - IC10: MC74HC139N (IR013970) DEC
   - IC11: MC74HC174N (IR017470) D.FF
   - IC12, 14: TC74HC244P (IR024400) BUS BUFF
   - IC13: MC74HC245AN (XD715001) BUS DRIVER
   - IC15, 36*: TC74HC374P (IR037400) D.FF
   - IC16: 036V103 (XE939B00) EPROM-YS100
   - IC17, 18: TC5564APL-15 (XC890001) SRAM 64K
   - IC19: HM65256BLP-12 (XB243001) PSRAM
   - IC20: M58990P-1 (IG106100) ADC
   - IC21: YM3017 (XA800001) DAL
   - IC22: YM3413 (XE449A00) LDSP
   - IC23: YM2414 (XB768001) OPZ
   - IC24: NJM4556 (IG042500) OP AMP.
   - IC25, 26, 38: NJM4558D-V (IG001390) OP AMP.
   - IC28, 29: NJM072D (IG107000) OP AMP.
   - IC30: HD63B01Y (XD681001) CPU (Sub) 1CH 1P
   - IC31: HD63C03YP (XB529001) CPU (Main)
     HD63C01Y0F64P (XF148A00) CPU (Main)
   - IC32: PST518B-2 (IG116200) SYSTEM RESET
   - IC34*: TC4093BP (IG043300) NAND
   - IC35*: μPD43257C-12L (XC869001) SRAM
   - IC37: TC4066BP (IG001270) ANALOG SWITCH
2. Photo Coupler
   - IC33: 6N137 (VD473200)
3. Transistor
   - Q 1: 2SC2603 E, F (IC260320)
   - Q 2, 3: 2SA1115 E, F (IA111510)
   - Q 4, 5: 2SC2878 A, B (IX604200)
   - Q 6: 2SC1815 O, Y, GR (IC181501)
4. Diode (D5, 8, 9 YS200 only)
   - D 1～9: 1SS176 (VA240700)
5. Resistor Array
   - RM 1, 2, 4: RMLS6-103J (HZ004650)
   - RM 5, 6: EXB-F9E103J5 (VB187500)
6. Metal Film Resistor
   - R54, 55: 10KΩ 1/4W F (HU577100)
7. Semiconductive Cera. Cap.
   - C32, 33: 3300P 25V K (FS783330)
8. Coil
   - L 1～6: 20μ FL5R200QNT (VB835000)
9. EMI Filter
   - EMI 1: LS MT Y223NB (FZ006970)
10. Quartz Crystal Unit
    - X 3: 3.2MHz KD0855F (VD032300)
11. Ceramic Resonator
    - X 1: 8MHz CST8.00MT (VB657100)
    - X 2: 12MHz CST12.0MT (VF579400)
12. Phone Jack
    - JK 4: HLJ4306 Stereo (VC130700) VOLUME
    - JK 5～7: HLJ4306 Mono (VC017500) OUTPUT (A/B)/SUB
13. DIN Jack
    - JK 1～3: 5P TCS4650 (LB500520) MIDI IN/OUT/THR

Marked * = YS200 only

Circuit Board: XE985A0 (VF777900) PS J
Circuit Board: XE985A0 (VF778000) PS U, C
Circuit Board: XE985A0 (VF778100) PS H, D, A

1. IC
   - IC 1: AN7805F (XD338001) REGULATOR +5V
   - IC 2: AN79M12F (XD342001) REGULATOR −12V
   - IC 3: AN78M12F (XD340001) REGULATOR +12V
2. Diode
   - D 3, 4: 10E-1 (IH000590)
3. Diode Stack
   - D 1, 2: RDF04M 1A 400V (VD488400)
4. Semiconductive Cera. Cap.
   - C11, 15, 17: 0.1μ 25V Z (FZ005030)
5. Ceramic Cap.
   - C19: 0.01μ 400V (FI494100)
   - C20, 21: 2200P 400V (VA879900)
   - C22, 23: 4700P 400V (VA880100) H, D, A
6. Electrolytic Cap.
   - C 5: 3300μ 16V (UW939330)
7. Coil
   - L 1: PLA3021A (GD900760)
8. Push Switch
   - SW 1: ESB-8236V JUCS (VF576000) POWER

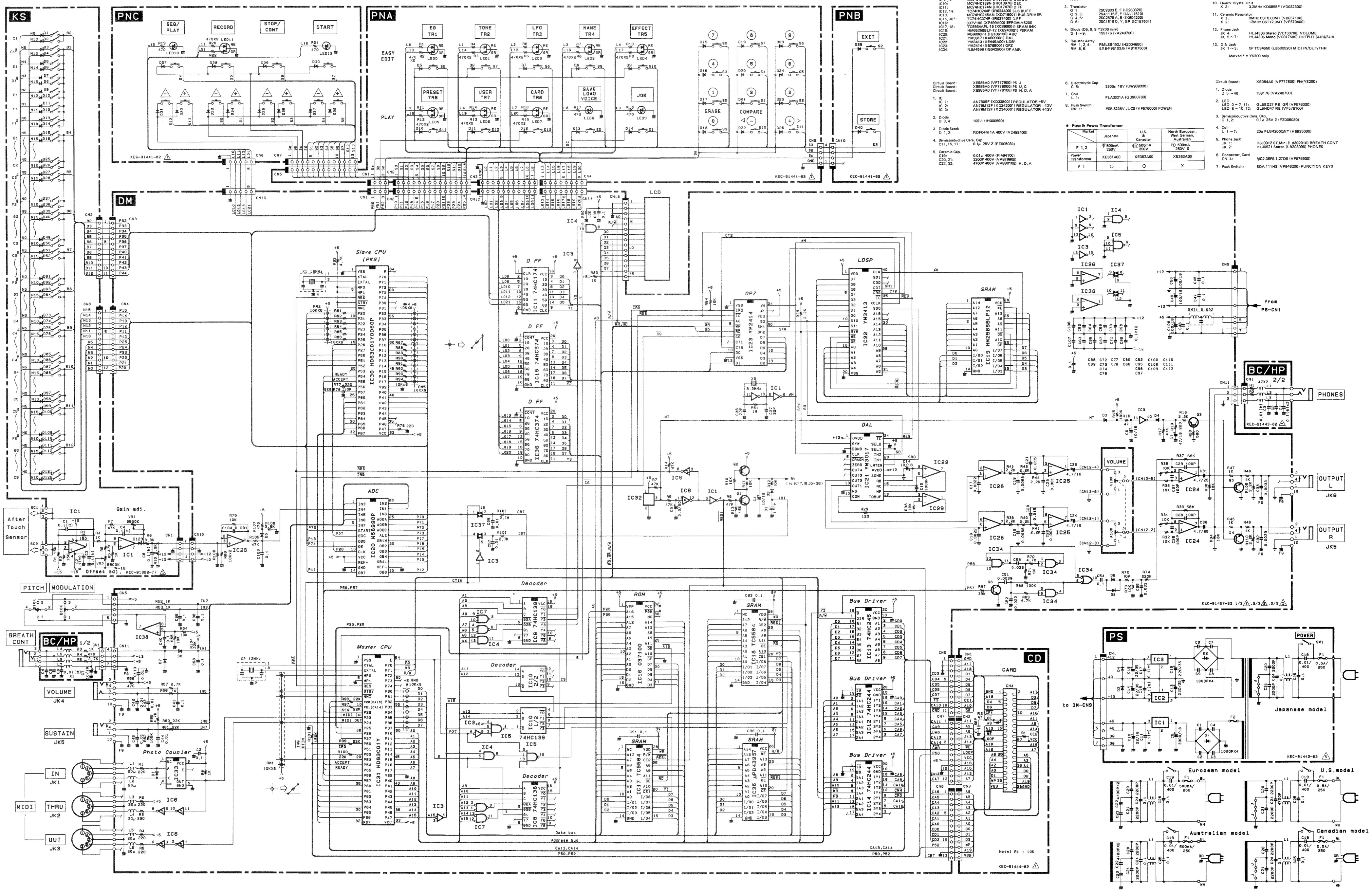
● Fuse & Power Transformer

Market	Japanese	U.S. & Canadian	North European, West German, Australian
F 1, 2	500mA 250V	(UL) 500mA 250V	(T) 500mA 250V S
Power Transformer	XE361A00	XE362A00	XE363A00
F 1	○	○	X

Circuit Board: XE983A0 (VF777700) PN (YS100)

1. Diode
   - D 5～36: 1SS176 (VA240700)
2. LED
   - LED 0～9: GL5HD47 RE (VF576100)
3. Semiconductive Cera. Cap
   - C 1, 2: 0.1μ 25V Z (FZ005030)
4. Coil
   - L 1～7: 20μ FL5R200QNT (VB835000)
5. Phone Jack
   - JK 1: HSJ0912 ST.Mini (LB302010) BREATH CONT
   - JK 2: HLJ0521 Stereo (LB203090) PHONES
6. Connector, Card
   - CN 4: MC2-38PS-1.27DS (VF576900)
7. Push Switch: SOA-111HS (VF946200) FUNCTION KEYS

YS200 OVERALL CIRCUIT DIAGRAM



Notes)

Circuit Board XE37880 (VF093900) DM (YS200)

1. IC
   - IC 1: TC40H004P (IG051000) INV
   - IC 3: MC74HC04N (IR000470) INV
   - IC 4: SN74HC08N (IR000850) AND
   - IC 5: TC74HC10P (IR001000) NAND
   - IC 6: MC74HC14N (IR001470) INV
   - IC 7: MC74HC32N (IR003270) OR
   - IC 8, 9: MC74HC138N (IR013870) DECO-8
   - IC10: MC74HC139N (IR013970) DEC
   - IC11: MC74HC174N (IR017470) D.FF
   - IC12, 14: TC74HC244P (IR024400) BUS BUFF
   - IC13: MC74HC245AN (XD715001) BUS DRIVER
   - IC15, 36*: TC74HC374P (IR037400) D.FF
   - IC16: 037V100 (XF499A00) EPROM-YS200
   - IC17, 18: TC5564APL-15 (XC890001) SRAM 64K
   - IC19: HM65256BLP-12 (XB243001) PSRAM
   - IC20: M58990P-1 (IG106100) ADC
   - IC21: YM3017 (XA800001) DAL
   - IC22: YM3413 (XE449A00) LDSP
   - IC23: YM2414 (XB768001) OPZ
   - IC24: NJM4556 (IG042500) OP AMP.
   - IC25, 26, 38: NJM4558D-V (IG001390) OP AMP.
   - IC28, 29: NJM072D (IG107000) OP AMP.
   - IC30: HD63B01Y (XD681001) CPU (Sub) 1CH 1P
   - IC31: HD63C03YP (XB529001) CPU (Main)
     HD63C01Y0F64P (XF148A00) CPU (Main)
   - IC32: PST518B-2 (IG116200) SYSTEM RESET
   - IC34*: TC4093BP (IG043300) NAND
   - IC35*: μPD43257C-12L (XC869001) SRAM
   - IC37: TC4066BP (IG001270) ANALOG SWITCH
2. Photo Coupler
   - IC33: 6N137 (VD473200)
3. Transistor
   - Q 1: 2SC2603 E, F (IC260320)
   - Q 2, 3: 2SA1115 E, F (IA111510)
   - Q 4, 5: 2SC2878 A, B (IX604200)
   - Q 6: 2SC1815 O, Y, GR (IC181501)
4. Diode (D5, 8, 9 YS200 only)
   - D 1～9: 1SS176 (VA240700)
5. Resistor Array
   - RM 1, 2, 4: RMLS6-103J (HZ004650)
   - RM 5, 6: EXB-F9E103J5 (VB187500)
6. Metal Film Resistor
   - R54, 55: 10KΩ 1/4W F (HU577100)
7. Semiconductive Cera. Cap.
   - C32, 33: 3300P 25V K (FS783330)
8. Coil
   - L 1～6: 20μ FL5R200QNT (VB835000)
9. EMI Filter
   - EMI 1: LS MT Y223NB (FZ006970)
10. Quartz Crystal Unit
    - X 3: 3.2MHz KD0855F (VD032300)
11. Ceramic Resonator
    - X 1: 8MHz CST8.00MT (VB657100)
    - X 2: 12MHz CST12.0MT (VF579400)
12. Phone Jack
    - JK 4: HLJ4306 Stereo (VC130700) VOLUME
    - JK 5～7: HLJ4306 Mono (VC017500) OUTPUT (A/B)/SUB
13. DIN Jack
    - JK 1～3: 5P TCS4650 (LB500520) MIDI IN/OUT/THR

Marked * = YS200 only

Circuit Board: XE985A0 (VF777900) PS J
Circuit Board: XE985A0 (VF778000) PS U, C
Circuit Board: XE985A0 (VF778100) PS H, D, A

1. IC
   - IC 1: AN7805F (XD338001) REGULATOR +5V
   - IC 2: AN79M12F (XD342001) REGULATOR −12V
   - IC 3: AN78M12F (XD340001) REGULATOR +12V
2. Diode
   - D 3, 4: 10E-1 (IH000590)
3. Diode Stack
   - D 1, 2: RDF04M 1A 400V (VD488400)
4. Semiconductive Cera. Cap.
   - C11, 15, 17: 0.1μ 25V Z (FZ005030)
5. Ceramic Cap.
   - C19: 0.01μ 400V (FI494100)
   - C20, 21: 2200P 400V (VA879900)
   - C22, 23: 4700P 400V (VA880100) H, D, A
6. Electrolytic Cap.
   - C 5: 3300μ 16V (UW939330)
7. Coil
   - L 1: PLA3021A (GD900760)
8. Push Switch
   - SW 1: ESB-8236V JUCS (VF576000) POWER

● Fuse & Power Transformer

Market	Japanese	U.S. & Canadian	North European, West German, Australian
F 1, 2	500mA 250V	(UL) 500mA 250V	(T) 500mA 250V S
Power Transformer	XE361A00	XE362A00	XE363A00
F 1	○	○	X

Circuit Board: XE984A0 (VF777800) PN〈YS200〉

1. Diode
   - D 5～40: 1SS176 (VA240700)
2. LED
   - LED 0～7, 11: GL5ED27 RE, GR (VF576300)
   - LED 8～10, 12: GL5HD47 RE (VF576100)
3. Semiconductive Cera. Cap.
   - C 1, 2: 0.1μ 25V Z (FZ005030)
4. Coil
   - L 1～7: 20μ FL5R200QNT (VB835000)
5. Phone Jack
   - JK 1: HSJ0912 ST.Mini (LB302010) BREATH CONT
   - JK 2: HLJ0521 Stereo (LB203090) PHONES
6. Connector, Card
   - CN 4: MC2-38PS-1.27DS (VF576900)
7. Push Switch: SOA-111HS (VF946200) FUNCTION KEYS

YS200

DIGITAL SYNTHESIZER

YS100

PARTS LIST

Notes DESTINATION ABBREVIATIONS

J : Japanese model	A : Australian model
U : U.S. model	E : European model
C : Canadian model	D : West German model
X : General model	B : British model
M : South African model	I : Indonesian model
H : North European model	

■ELECTRICAL PARTS

Ref. No.	Part No.	Description		部品名	Remarks	ランク
*	VF138900	Circuit Board	DM	DMシート		46
*	VF777700	Circuit Board	PN	PNシート		18
*	VF777900	Circuit Board	PS	PSシート	J	15
*	VF778000	Circuit Board	PS	PSシート	U,C	
*	VF778100	Circuit Board	PS	PSシート	H,D,A	
	VC099400	Circuit Board	MK C61	MKシート		13
*	VF138900	Circuit Board	DM	DMシート		46
	IG116200	IC	PST518B-2	IC	SYSTEM RESET	04
	IG001390	IC	RC4558D-V	IC	OP AMP.	03
	IG042500	IC	NJM4556	IC	OP AMP.	04
	IG107000	IC	NJM072D	IC	OP AMP.	04
	IG001270	IC	TC4066BP	IC	ANALOG SWITCH	05
	IG051000	IC	TC40H004P	IC	INV	03
	IR000470	IC	MC74HC04N	IC	INV	01
	IR000850	IC	SN74HC08N	IC	AND	03
	IR001000	IC	TC74HC10P	IC	NAND	03
	IR001470	IC	MC74HC14N	IC	INV	03
	IR003270	IC	MC74HC32N	IC	OR	02
	IR013870	IC	MC74HC138N	IC	DECO-8	02
	IR013970	IC	MC74HC139N	IC	DEC	02
	IR017470	IC	MC74HC174N	IC	D-FF	03
	IR024400	IC	TC74HC244P	IC	BUS BUFF	07
	XD715001	IC	MC74HC245AN	IC	BUS DRIVER	04
	IR037400	IC	TC74HC374P	IC	D-FF	06
	XB529001	IC	HD63C03YP	IC	CPU(Main)	13
*	XF148A00	IC	HD63C01Y0F64P	IC	CPU(Main)	09
	XD681001	IC	HD63B01Y0D60P	IC	CPU(Sub) 1CH 1P	09
	IG106100	IC	M58990P-1	IC	ADC	09
	XB768001	IC	YM2414	IC	OPZ	12
	XA800001	IC	YM3017	IC	DAL	11
	XE449A00	IC	YM3413	IC	LDSP	10
	XB243001	IC	HM65256BLP-12	IC	PSRAM	12
	XC890001	IC	TC5564APL-15	IC	SRAM 64K	08
*	XE939B00	IC	036V103	IC	EPROM	
	VD473200	Photo Coupler	6N137	フォトカプラ		05
	IA111510	Transistor	2SA1115 E,F	トランジスタ		03
	IC181501	Transistor	2SC1815 O,Y,GR	トランジスタ		03
	IC260320	Transistor	2SC2603 E,F	トランジスタ		03
	IX604200	Transistor	2SC2878 A,B	トランジスタ		03
	VA240700	Diode	1SS176	ダイオード		01
	HZ004650	Resistor Array	RMLS6-103J	抵抗アレイ		02
	VB187500	Resistor Array	EXB-F9E103J5	抵抗アレイ		01
	HU577100	Metal Film Resistor	10KΩ 1/4W F	金属被膜抵抗		02
*	FS783330	Semiconductive Cera. Cap.	3300P 25V K	半導体セラコン		01
	FZ005030	Semiconductive Cera. Cap.	0.1μ 25V Z	半導体セラコン		01
	VB835000	Coil	20μ FL5R200QNT	コイル		01
	FZ006970	EMI Filter	LS MT Y223NB	LCフィルターEMI		02
	VD032300	Quartz Crystal Unit	3.2MHz KD0855F	水晶振動子		04
	VB657100	Ceramic Resonator	8MHz CST8.00MT	セラミック振動子		02
*	VF579400	Ceramic Resonator	12MHz CST12.0MT	セラミック振動子		02
	VC017500	Phone Jack	HLJ4306 Mono	ホーンジャック	OUTPUT(L/R)/SUS	02
	VC130700	Phone Jack	HLJ4306 Stereo	ホーンジャック	VOLUME	02
	LB500520	DIN Jack	5P TCS4650	DINコジャック	MIDI IN/OUT/THR	03
	VB436900	Lithium Battery	CR2032-P5-2	リチュウム電池		05
*	VF777700	Circuit Board	PN	PNシート		18
	VA240700	Diode	1SS176	ダイオード		01
*	VF576100	LED	GL5HD47 RE	LED		01
*	VF576400	LED Spacer		LEDスペーサー		01
	FZ005030	Semiconductive Cera. Cap.	0.1μ 25V Z	半導体セラコン		01
	VB835000	Coil	20μ FL5R200QNT	コイル		01
*	VF946200	Push Switch	SOA-111HS	プッシュスイッチ	FUNCTION KEYS	01
	LB203090	Phone Jack	HLJ0521 Stereo	ホーンジャック	PHONES	02
	LB302010	Phone Jack	HSJ0912 ST.Mini	ホーンジャック	BREATH CONT	02
*	VF576900	Connector,Card	MC2-38PS-1.27DS	ICカード用コネクタ		06
*	VF777900	Circuit Board	PS	PSシート	J	15
*	VF778000	Circuit Board	PS	PSシート	U,C	
*	VF778100	Circuit Board	PS	PSシート	H,D,A	
	XD338001	IC	AN7805F	IC	REGULATOR +5V	03
	XD340001	IC	AN78M12F	IC	REGULATOR +12V	03
	XD342001	IC	AN79M12F	IC	REGULATOR -12V	03
	IH000590	Diode	10E-1	ダイオード		01
	VD488400	Diode Stack	RDF04M 1A 400V	ダイオードスタック		02
	FZ005030	Semiconductive Cera. Cap.	0.1μ 25V Z	半導体セラコン		01
	VA879900	Ceramic Cap.	2200P 400V	規格認定コン		01
	VA880100	Ceramic Cap.	4700P 400V	規格認定コン	H,D,A	01
	FI494100	Ceramic Cap.	0.01μ 400V	規格認定コン		01

*New Parts (新規部品)

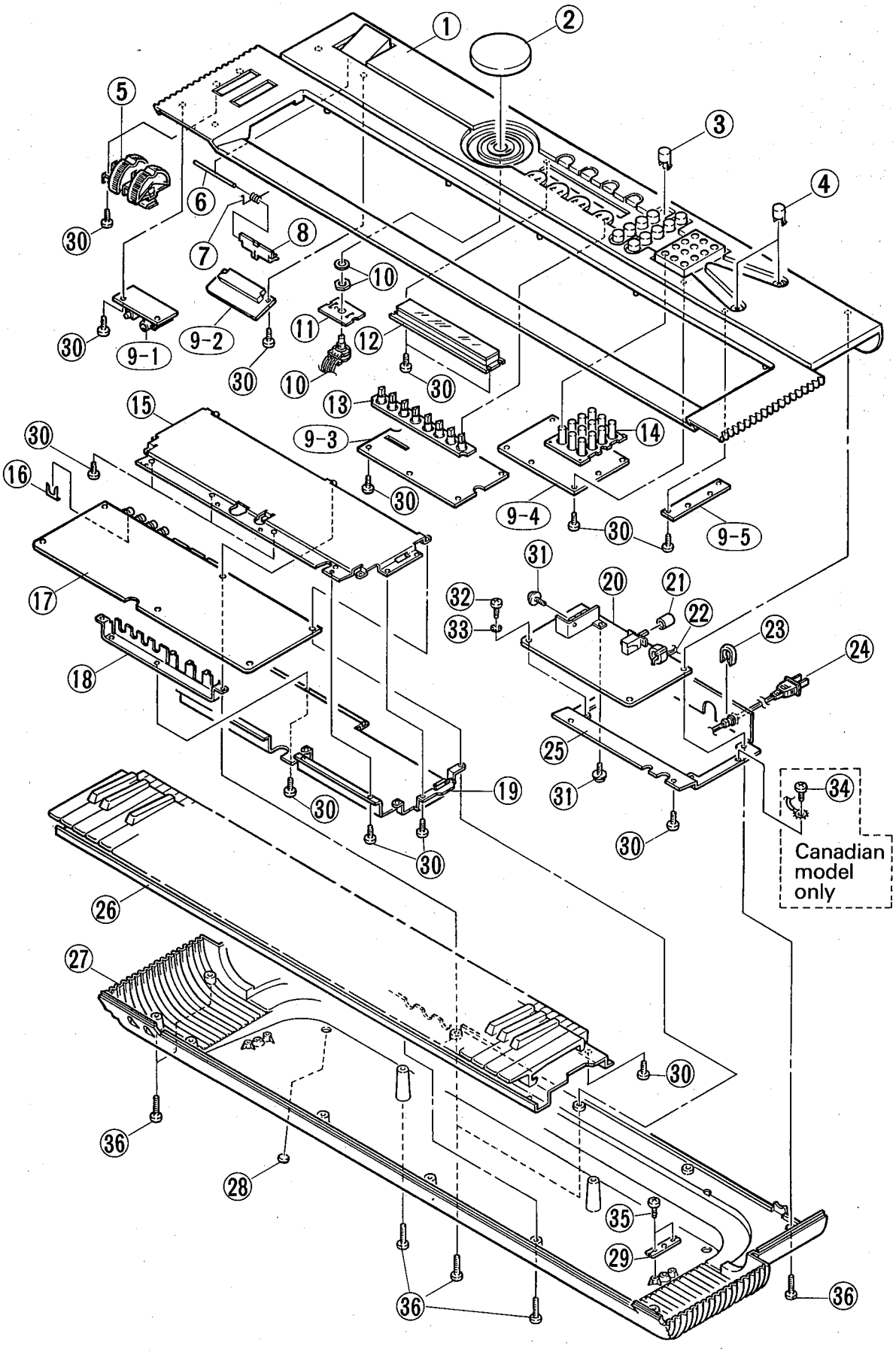
ランク：Japan only

Ref. No.	Part No.	Description		部品名	Remarks	ランク
	UW959100	Electrolytic Cap.	1000μ 35V	ケミコン		03
	UW939330	Electrolytic Cap.	3300μ 16V	ケミコン		03
	GD900760	Coil	PLA3021A	コイル		06
*	VF576000	Push Switch	ESB-8236V JUCS	プッシュスイッチ	POWER	03
	KB000310	Fuse	T500mA 250V	ヒューズ	J	01
	KB001150	Fuse	T500mA 250V	ヒューズ	U,C	
	KB000710	Fuse	T500mA 250V S	ヒューズ	H,D,A	02
	LB201530	Fuse Holder	PC-FH1	ヒューズホルダー		01
*	XE361A00	Power Transformer		電源トランス	J	08
*	XE362A00	Power Transformer		電源トランス	U,C	08
*	XE363A00	Power Transformer		電源トランス	H,D,A	08
	VC099400	Circuit Board	MK C61	MKシート		13
	VA240700	Diode	1SS176	ダイオード		01
*	VF093800	Variable Resistor	A10K EWKDWA01	二連ロータリーボリューム	VOLUME	05
	VC362700	Ferrite Core	FR25/15/12-1400	フェライトコア		04
	MG001820	AC Cord	7A 3.0m	電源コード	J	05
	MG000100	AC Cord	10A 12FT	電源コード	U	08
	MG000270	AC Cord	10A 3.3m	電源コード	C	09
	VC309900	AC Cord	2.5A 3.3m	電源コード	H,D	06
	MG001300	AC Cord	7.5A 3.05m	電源コード	A	

*New Parts（新規部品）

ランク：Japan only

■ OVERALL ASSEMBLY

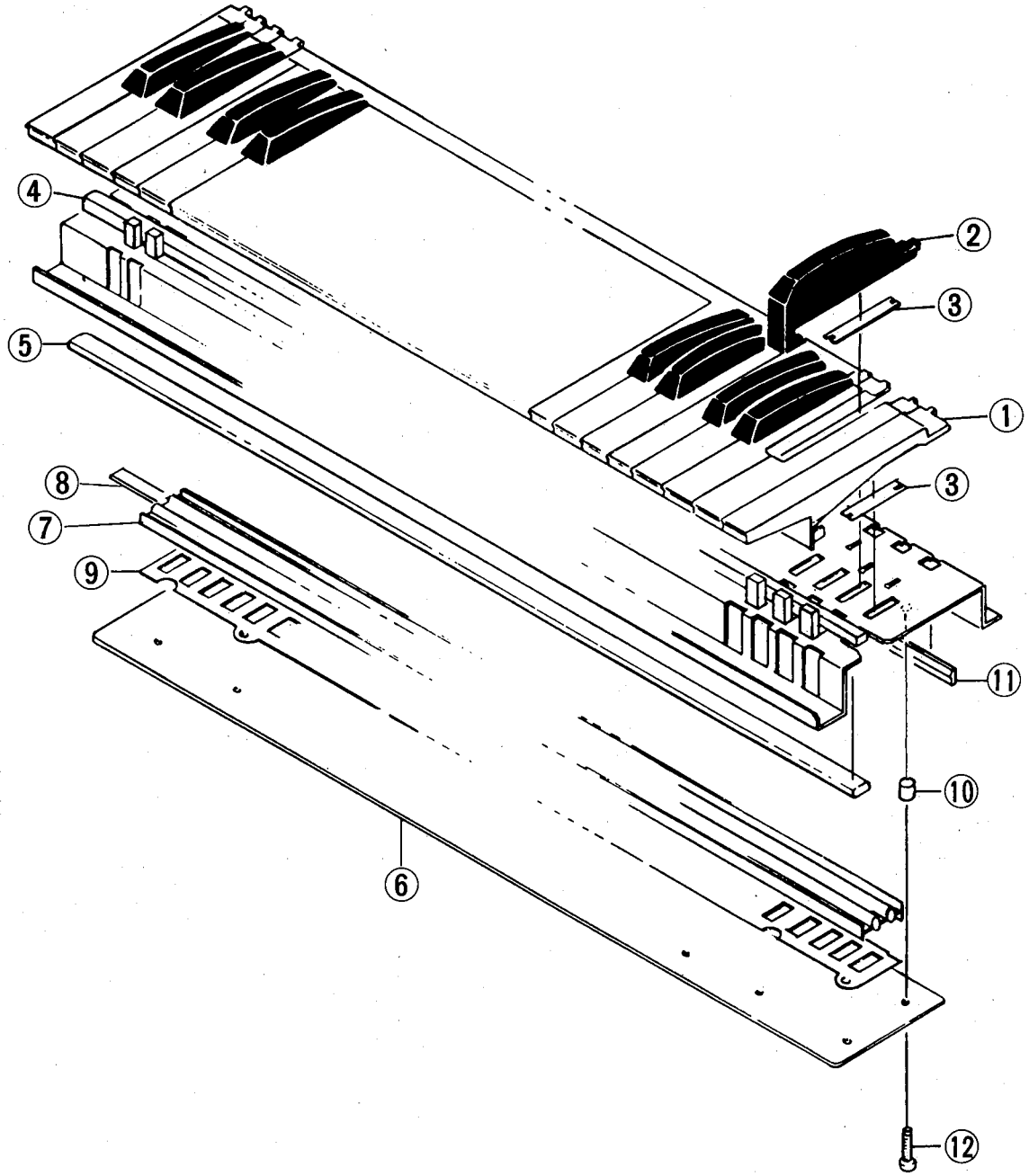


	Ref. No.	Part No.	Description		部品名	Remarks	ランク
*	1	VG167200	Upper Case		上ケース	J	
*	1	VF609200	Upper Case		上ケース	U,C,H,D,A	
*	2	VF092700	VR Knob		ボリュームツマミ	VOLUME	02
*	3	VF679200	Push Knob-A	YE	プッシュツマミ(A)	EG	01
*	3	VF679300	Push Knob-B	YE	プッシュツマミ(B)	TONE	01
*	3	VF679400	Push Knob-C	YE	プッシュツマミ(C)	LFO	01
*	3	VF679500	Push Knob-D	YE	プッシュツマミ(D)	EFFECT	01
*	3	VF679600	Push Knob-E	YE	プッシュツマミ(E)	NAME	01
*	3	VF679700	Push Knob-F	VI	プッシュツマミ(F)	CARD	01
*	3	VF679800	Push Knob-G	VI	プッシュツマミ(G)	USER	01
*	3	VF679900	Push Knob-H	VI	プッシュツマミ(H)	PRESET	01
*	3	VF682600	Push Knob-I	Light GY	プッシュツマミ(I)	SAVE/LOAD	01
*	3	VF539100	Push Knob-J	Light GY	プッシュツマミ(J)	JOB	01
*	4	VF539700	Push Knob-O	Light GY	プッシュツマミ(O)	EXIT	01
*	4	VF539800	Push Knob-P	Light GY	プッシュツマミ(P)	STORE	01
	5		Wheel Assembly		ホイールAss'y	PITCH/MOD.	
	6	VB670800	Shaft		軸		01
	7	AA826090	Spring		スプリング		01
*	8	VF649100	Shutter		シャッター		
*	9	VF777700	Circuit Board	PN	PNシート		18
	9-1		Circuit Board	HP/BC	HP/BCシート		
	9-2		Circuit Board	CD	CDシート		
	9-3		Circuit Board	PNC	PNCシート		
	9-4		Circuit Board	PNA	PNAシート		
	9-5		Circuit Board	PNB	PNBシート		
*	10	VF093800	Variable Resistor	A10K EWKDWA01	二連ﾛｰﾀﾘｰﾎﾞﾘｭｰﾑ	VOLUME	05
*	11	VF093500	VR Plate		ボリュームプレート		01
*	12	VF093600	LCD Display Assembly		ディスプレイAss'y		22
*	13	VF092900	SW Knob-A		スイッチツマミ(A)	<-/+>×4	04
*	14	VF093000	SW Knob-B		スイッチツマミ(B)	10-KEYS/-/+	05
*	15	VF538200	Shield Cover-B		シールドカバー(B)		05
	16	LB301910	U-Angle	HLJ0999-01-480	U字金具		01
*	17	VF138900	Circuit Board	DM	DMシート		46
*	18	VF092000	Angle Bracket, JK		JKアングル		03
*	19	VF538100	Shield Cover-A		シールドカバー(A)		05
*	20	VF777900	Circuit Board	PS	PSシート	J	15
*	20	VF778000	Circuit Board	PS	PSシート	U,C	
*	20	VF778100	Circuit Board	PS	PSシート	H,D,A	
	21	CB825380	Push Button		プッシュボタン	POWER	01
	22	VC362700	Ferrite Core	FR25/15/12-1400	フェライトコア		04
	23	CB811230	Cord Strain Relief	SR-6N-4	コードストッパー	U	02
	23	CB806850	Cord Strain Relief	SR-6N3-4	コードストッパー	C	02
	23	CB072750	Cord Strain Relief	SR-4N-4	コードストッパー	H,D	01
	23	CB032840	Cord Strain Relief	SR-5N-4	コードストッパー	A	01
	24	MG001820	AC Cord	7A 3.0m	電源コード	J	05
	24	MG000100	AC Cord	10A 12FT	電源コード	U	08
	24	MG000270	AC Cord	10A 3.3m	電源コード	C	09
	24	VC309900	AC Cord	2.5A 3.3m	電源コード	H,D	06
	24	MG001300	AC Cord	7.5A 3.05m	電源コード	A	
*	25	VF091300	AC Panel		ACパネル	J	05
*	25	VF091400	AC Panel		ACパネル	U	05
*	25	VF091500	AC Panel		ACパネル	C	05
*	25	VF091600	AC Panel		ACパネル	A	05
	26	VC245400	Keyboard Assembly	LC C61K6	LC鍵盤Ass'y		25
*	27	VF092600	Lower Case		下ケース		
	28	CB043750	Foot		ゴム足		01
	29	AA056250	Angle Bracket, Leg		脚取り付け金具		01
	30	EI330086	Bind Head Tapping Screw	3.0×8 FCM3BL	ﾊﾞｲﾝﾄﾞﾀｯﾋﾟﾝｸﾞﾈｼﾞ		01
	31	EZ001610	Cup Tapping Screw	3.0×8 FCM3BL	ｶｯﾌﾟﾀｯﾋﾟﾝｸﾞﾈｼﾞ		01
	32	ED330086	Bind Head Screw	3.0×8 FCM3BL	バインド小ネジ		01
	33	EV413036	Toothed Lock Washer	φ3.0 FCM3BL	歯付座金内歯形		01
	34	ED340066	Bind Head Screw	4.0×6 FCM3BL	バインド小ネジ	C	01
	35	EJ030086	Pan Head Tapping Screw	3.0×8 ZMC2Y	ナベタッピングネジ		01
	36	EI330126	Bind Head Tapping Screw	3.0×12 ZMC2BL	ﾊﾞｲﾝﾄﾞﾀｯﾋﾟﾝｸﾞﾈｼﾞ		01

*New Parts (新規部品)

ランク：Japan only

■ KEYBOARD ASSEMBLY

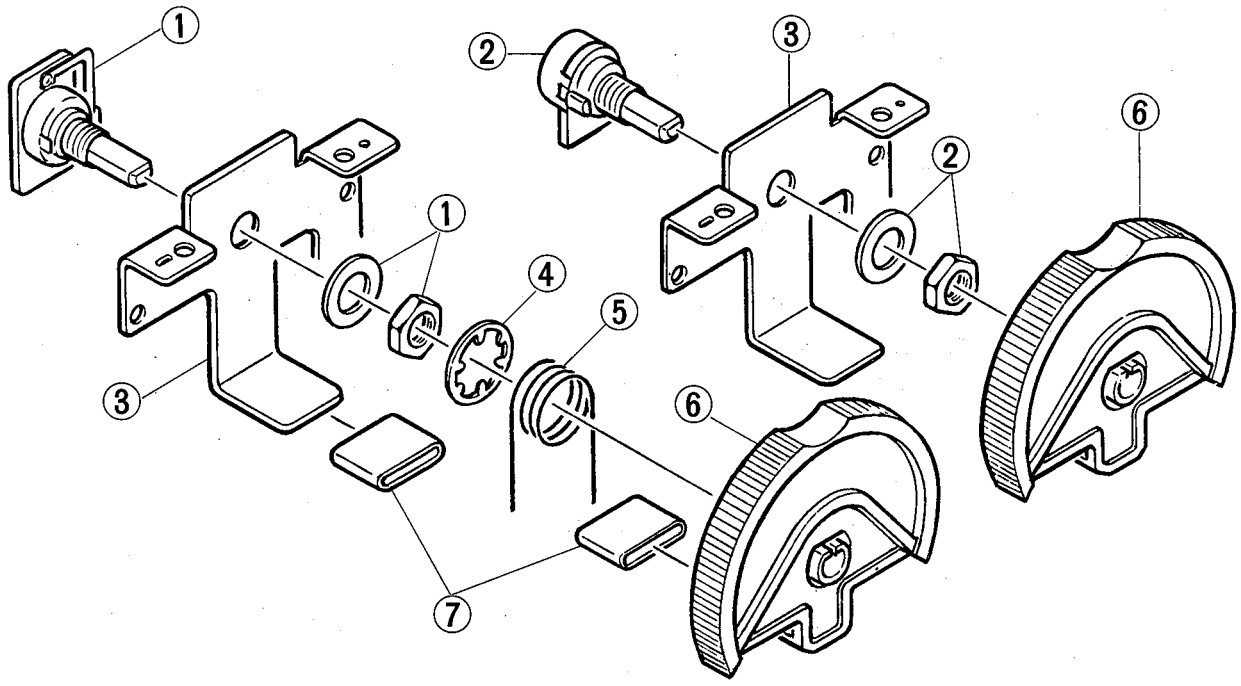


Ref. No.	Part No.	Description		部品名	Remarks	ランク
	VC245400	Keyboard Assembly	LC C61K6	LC鍵盤Ass'y		25
1	VA850000	White Key	C,F	白鍵C,F		02
1	VA850100	White Key	D	白鍵D		02
1	VA850200	White Key	B,E	白鍵B,E		02
1	VA850300	White Key	G	白鍵G		02
1	VA850400	White Key	A	白鍵A		02
1	VA853800	White Key	C'	白鍵C'		02
2	VA850500	Black Key		黒鍵		01
3	VC077600	Spring		バネ		
4	VC078900	Felt	820×6×4 RE	フェルト(赤)		03
5	VC079500	Felt	830×9×3.5 RE	フェルト(赤)		03
6	VC099400	Circuit Board	MK C61	MKシート		13
7	VC077700	Rubber Contact		可動導電ゴム		08
8	VD067100	Film		保護フィルム		01
9	VC078600	Insulation Spacer		絶縁スペーサー		03
10	EK003740	Spacer	φ4.0×5	スペーサー		01
11	VC079800	Stopper		ストッパー		02
12	ED030160	Bind Head Screw	3.0×10 ZMC2Y	バインド小ネジ		01

*New Parts (新規部品)

ランク：Japan only

■ WHEEL ASSEMBLY

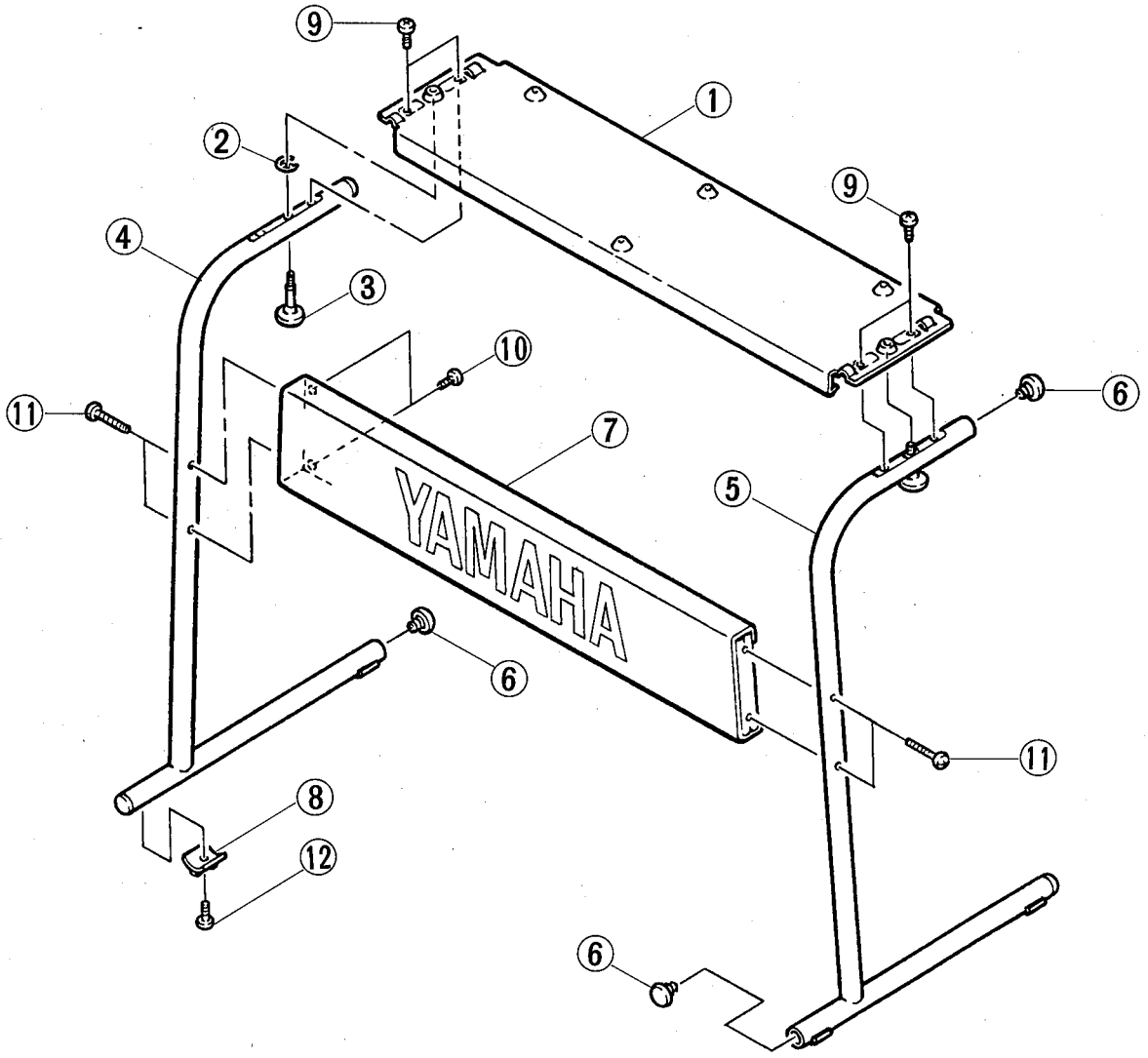


Ref. No.	Part No.	Description		部品名	Remarks	ランク
		Wheel Assembly		ホイールAss'y	PITCH/MOD.	
1	VC363100	Variable Resistor	B10K	ロータリーボリューム	PITCH	04
2	HS412160	Variable Resistor	B10K K161100S	ロータリーボリューム	MODULATION	03
* 3	VF536800	Frame		フレーム		
4	EW600110	Wheel Ring	φ12.0	CS形止め輪	PITCH	01
5	VC792800	Return Spring		リターンスプリング	PITCH	01
* 6	VF537400	Wheel		ホイール		02
7	CB819020	Wheel Tube		ホイールチューブ		02

*New Parts（新規部品）

ランク：Japan only

■ STAND LG-8



	Ref. No.	Part No.	Description		部品名	Remarks	ランク
			Stand	(LG-8)	スタンド		
	1	VE323600	Base Plate		台座		09
	2	EV501406	Stop Ring	φ4.0 FNM3-3G	E形止め輪		01
	3	VE339200	Stand Screw		スタンドスクリュー		03
*	4	VF923600	Leg Assembly-L	Left	脚Ass'y(左)		
*	5	VF923900	Leg Assembly-R	Right	脚Ass'y(右)		
	6	VE158100	Cap	BL	キャップ		01
	7	VE324300	Name Plate		ネームプレート		09
	8	VE159100	Slip Fitting	BL	すべり座		01
	9	ED350086	Bind Head Screw	5.0×8 FCM3BL	バインド小ネジ		01
	10	ED040066	Bind Head Screw	4.0×6 ZMC2Y	バインド小ネジ		01
	11	EA350402	Pan Head Screw	5.0×40 FCM3BL	ナベ小ネジ		01
	12	ED330086	Bind Head Screw	3.0×8 FCM3BL	バインド小ネジ		01

*New Parts (新規部品)

ランク：Japan only

DIGITAL SYNTHESIZER

YS200

PARTS LIST

Notes DESTINATION ABBREVIATIONS

J : Japanese model	A : Australian model
U : U.S. model	E : European model
C : Canadian model	D : West German model
X : General model	B : British model
M : South African model	I : Indonesian model
H : North European model	

■ ELECTRICAL PARTS

	Ref. No.	Part No.	Description		部品名	Remarks	ランク
*		VF093900	Circuit Board	DM	DMシート		51
**		VF777800	Circuit Board	PN	PNシート		19
**		VF777900	Circuit Board	PS	PSシート	J	15
**		VF778000	Circuit Board	PS	PSシート	U,C	
**		VF778100	Circuit Board	PS	PSシート	H,D,A	
		VE197500	Circuit Board	KS	KSシート		15
*		VF093900	Circuit Board	DM	DMシート		51
		IG116200	IC	PST518B-2	IC	SYSTEM RESET	04
		IG001390	IC	RC4558D-V	IC	OP AMP.	03
		IG042500	IC	NJM4556	IC	OP AMP.	04
		IG107000	IC	NJM072D	IC	OP AMP.	04
		IG001270	IC	TC4066BP	IC	ANALOG SWITCH	05
		IG043300	IC	TC4093BP	IC	NAND	05
		IG051000	IC	TC40H004P	IC	INV	03
		IR000470	IC	MC74HC04N	IC	INV	01
		IR000850	IC	SN74HC08N	IC	AND	03
		IR001000	IC	TC74HC10P	IC	NAND	03
		IR001470	IC	MC74HC14N	IC	INV	03
		IR003270	IC	MC74HC32N	IC	OR	02
		IR013870	IC	MC74HC138N	IC	DECO-8	02
		IR013970	IC	MC74HC139N	IC	DEC	02
		IR017470	IC	MC74HC174N	IC	D-FF	03
		IR024400	IC	TC74HC244P	IC	BUS BUFF	07
		XD715001	IC	MC74HC245AN	IC	BUS DRIVER	04
		IR037400	IC	TC74HC374P	IC	D-FF	06
		XB529001	IC	HD63C03YP	IC	CPU(Main)	13
*		XF148A00	IC	HD63C01Y0F64P	IC	CPU(Main)	09
		XD681001	IC	HD63B01Y0D60P	IC	CPU(Sub) 1CH 1P	09
		IG106100	IC	M58990P-1	IC	ADC	09
		XB768001	IC	YM2414	IC	OPZ	12
		XA800001	IC	YM3017	IC	DAL	11
		XE449A00	IC	YM3413	IC	LDSP	10
		XB243001	IC	HM65256BLP-12	IC	PSRAM	12
		XC869001	IC	μPD43257C-12L	IC	SRAM	13
		XC890001	IC	TC5564APL-15	IC	SRAM 64K	08
*		XF499A00	IC	037V100	IC	EPROM	
		VD473200	Photo Coupler	6N137	フォトカプラ		05
		IA111510	Transistor	2SA1115 E,F	トランジスタ		03
		IC181501	Transistor	2SC1815 O,Y,GR	トランジスタ		03
		IC260320	Transistor	2SC2603 E,F	トランジスタ		03
		IX604200	Transistor	2SC2878 A,B	トランジスタ		03
		VA240700	Diode	1SS176	ダイオード		01
		HZ004650	Resistor Array	RMLS6-103J	抵抗アレイ		02
		VB187500	Resistor Array	EXB-F9E103J5	抵抗アレイ		01
		HU577100	Metal Film Resistor	10KΩ 1/4W F	金属被膜抵抗		02
*		FS783330	Semiconductive Cera. Cap.	3300P 25V K	半導体セラコン		01
		FZ005030	Semiconductive Cera. Cap.	0.1μ 25V Z	半導体セラコン		01
		VB835000	Coil	20μ FL5R200QNT	コイル		01
		FZ006970	EMI Filter	LS MT Y223NB	LCフィルターEMI		02
		VD032300	Quartz Crystal Unit	3.2MHz KD0855F	水晶振動子		04
		VB657100	Ceramic Resonator	8MHz CST8.00MT	セラミック振動子		02
*		VF579400	Ceramic Resonator	12MHz CST12.0MT	セラミック振動子		02
		VC017500	Phone Jack	HLJ4306 Mono	ホーンジャック	OUTPUT(L/R)/SUS	02
		VC130700	Phone Jack	HLJ4306 Stereo	ホーンジャック	VOLUME	02
		LB500520	DIN Jack	5P TCS4650	DINジャック	MIDI IN/OUT/THR	03
		VB436900	Lithium Battery	CR2032-P5-2	リチュウム電池		05
*		VF777800	Circuit Board	PN	PNシート		19
		VA240700	Diode	1SS176	ダイオード		01
**		VF576100	LED	GL5HD47 RE	LED		01
**		VF576300	LED	GL5ED27 RE,GR	LED		01
**		VF576400	LED Spacer		LEDスペーサー		01
		FZ005030	Semiconductive Cera. Cap.	0.1μ 25V Z	半導体セラコン		01
		VB835000	Coil	20μ FL5R200QNT	コイル		01
*		VF946200	Push Switch	SOA-111HS	プッシュスイッチ	FUNCTION KEYS	01
		LB203090	Phone Jack	HLJ0521 Stereo	ホーンジャック	PHONES	02
		LB302010	Phone Jack	HSJ0912 ST.Mini	ホーンジャック	BREATH CONT	02
*		VF576900	Connector,Card	MC2-38PS-1.27DS	ICカード用コネクタ		06
**		VF777900	Circuit Board	PS	PSシート	J	15
**		VF778000	Circuit Board	PS	PSシート	U,C	
**		VF778100	Circuit Board	PS	PSシート	H,D,A	
		XD338001	IC	AN7805F	IC	REGULATOR +5V	03
		XD340001	IC	AN78M12F	IC	REGULATOR +12V	03
		XD342001	IC	AN79M12F	IC	REGULATOR -12V	03
		IH000590	Diode	10E-1	ダイオード		01
		VD488400	Diode Stack	RDF04M 1A 400V	ダイオードスタック		02
		FZ005030	Semiconductive Cera. Cap.	0.1μ 25V Z	半導体セラコン		01

※New Parts (新規部品)

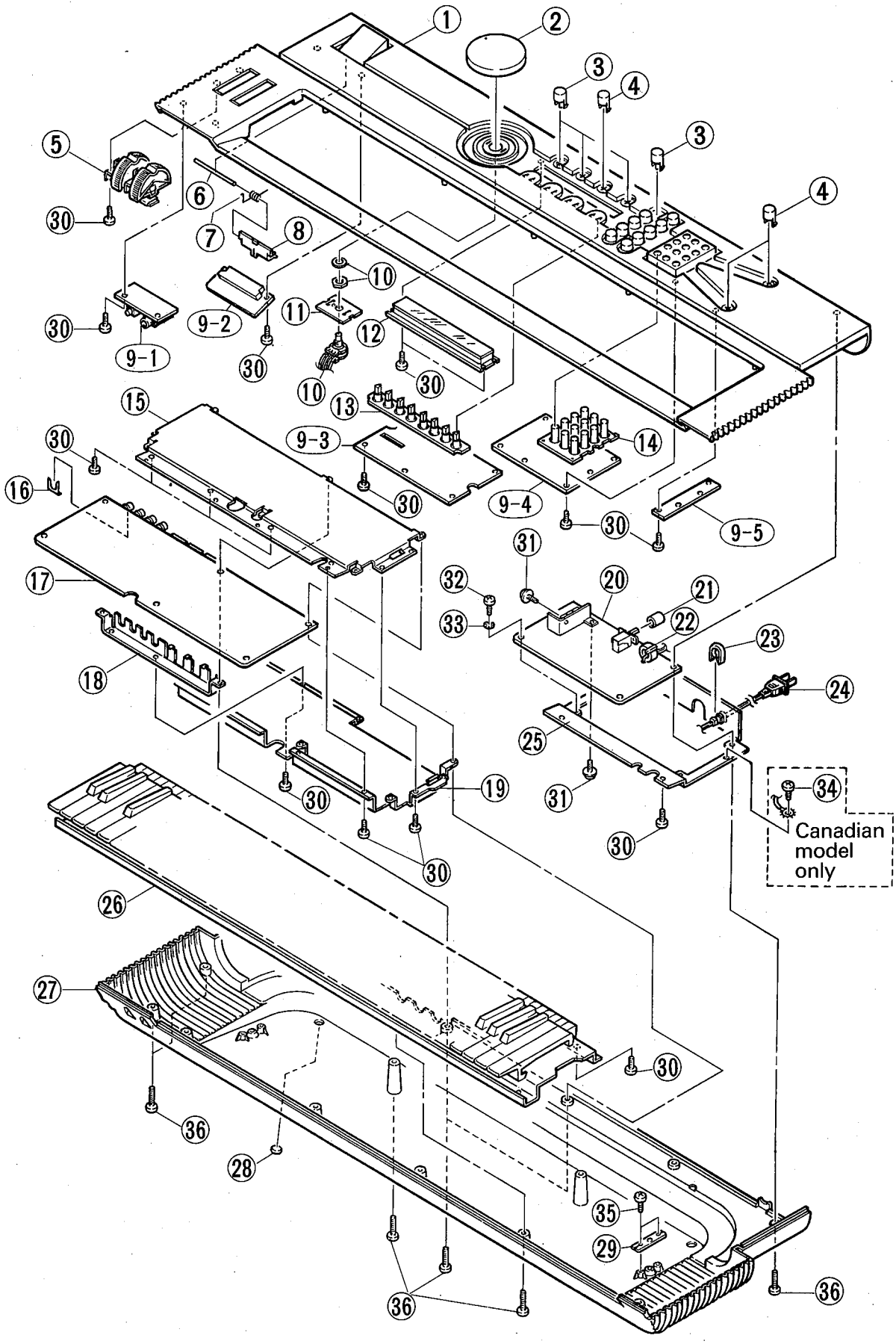
ランク：Japan only

	Ref. No.	Part No.	Description		部品名	Remarks	ランク
		VA879900	Ceramic Cap.	2200P 400V	規格認定コン		01
		VA880100	Ceramic Cap.	4700P 400V	規格認定コン	H,D,A	01
		FI494100	Ceramic Cap.	0.01μ 400V	規格認定コン		01
		UW959100	Electrolytic Cap.	1000μ 35V	ケミコン		03
		UW939330	Electrolytic Cap.	3300μ 16V	ケミコン		03
		GD900760	Coil	PLA3021A	コイル		06
*		VF576000	Push Switch	ESB-8236V JUCS	プッシュスイッチ	POWER	03
		KB000310	Fuse	T500mA 250V	ヒューズ	J	01
		KB001150	Fuse	T500mA 250V	ヒューズ	U,C	
		KB000710	Fuse	T500mA 250V S	ヒューズ	H,D,A	02
		LB201530	Fuse Holder	PC-FH1	ヒューズホルダー		01
**		XE361A00	Power Transformer		電源トランス	J	08
**		XE362A00	Power Transformer		電源トランス	U,C	08
**		XE363A00	Power Transformer		電源トランス	H,D,A	08
		VE197500	Circuit Board	KS	KSシート		15
		IG001390	IC	RC4558D-V	IC	OP AMP.	03
		VA240700	Diode	1SS176	ダイオード		01
		HT370280	Trimmer Potentiometer	B500K 3P EVN	半固定ボリューム		02
		FZ005030	Semiconductive Cera. Cap.	0.1μ 25V Z	半導体セラコン		01
*		VF093800	Variable Resistor	A10K EWKDWA01	二連ロータリーボリューム	VOLUME	05
		VC362700	Ferrite Core	FR25/15/12-1400	フェライトコア		04
		MG001820	AC Cord	7A 3.0m	電源コード	J	05
		MG000100	AC Cord	10A 12FT	電源コード	U	08
		MG000270	AC Cord	10A 3.3m	電源コード	C	09
		VC309900	AC Cord	2.5A 3.3m	電源コード	H,D	06
		MG001300	AC Cord	7.5A 3.05m	電源コード	A	

*New Parts（新規部品）

ランク：Japan only

■ OVERALL ASSEMBLY

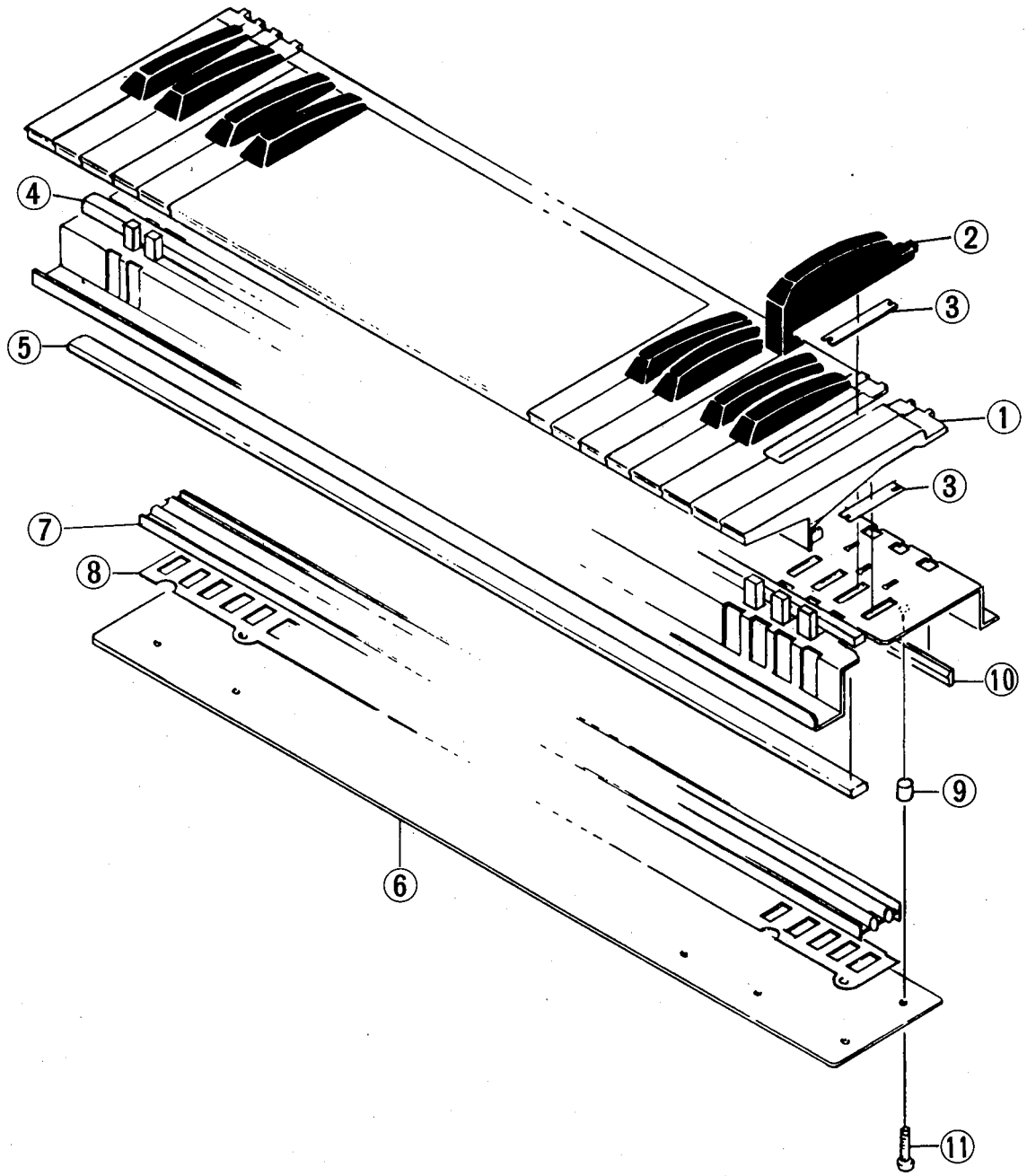


	Ref. No.	Part No.	Description		部品名	Remarks	ランク
*	1	VG167300	Upper Case		上ケース	J	
*	1	VF092500	Upper Case		上ケース	U,C,H,D,A	
*	2	VF092700	VR Knob		ボリュームツマミ	VOLUME	02
*	3	VF092800	Push Knob-A	YE/GR	プッシュツマミ(A)	EG/TR1	02
*	3	VF538300	Push Knob-B	YE/GR	プッシュツマミ(B)	TONE/TR2	02
*	3	VF538400	Push Knob-C	YE/GR	プッシュツマミ(C)	LFO/TR3	02
*	3	VF538500	Push Knob-D	YE/GR	プッシュツマミ(D)	NAME/TR4	02
*	3	VF538600	Push Knob-E	YE/GR	プッシュツマミ(E)	EFFECT/TR5	02
*	3	VF538700	Push Knob-F	VI/GR	プッシュツマミ(F)	PRESET/TR6	02
*	3	VF538800	Push Knob-G	VI/GR	プッシュツマミ(G)	USER/TR7	02
*	3	VF538900	Push Knob-H	VI/GR	プッシュツマミ(H)	CARD/TR8	02
*	3	VF539000	Push Knob-I	Light GY/GR	プッシュツマミ(I)	SAVE/LOAD/VOICE	02
*	3	VF539100	Push Knob-J	Light GY	プッシュツマミ(J)	JOB	01
*	3	VF539200	Push Knob-K	GR	プッシュツマミ(K)	SEQ/PLAY	01
*	3	VF539300	Push Knob-L	GR	プッシュツマミ(L)	RECORD	01
*	3	VF539400	Push Knob-M	GR	プッシュツマミ(M)	START	01
*	4	VF539600	Push Knob-N	GR	プッシュツマミ(N)	STOP/CONT	01
*	4	VF539700	Push Knob-O	Light GY	プッシュツマミ(O)	EXIT	01
*	4	VF539800	Push Knob-P	Light GY	プッシュツマミ(P)	STORE	01
	5		Wheel Assembly		ホイールAss'y	PITCH/MOD.	
	6	VB670800	Shaft		軸		01
	7	AA826090	Spring		スプリング		01
*	8	VF649100	Shutter		シャッター		
*	9	VF777800	Circuit Board	PN	PNシート		19
	9-1		Circuit Board	HP/BC	HP/BCシート		
	9-2		Circuit Board	CD	CDシート		
	9-3		Circuit Board	PNC	PNCシート		
	9-4		Circuit Board	PNA	PNAシート		
	9-5		Circuit Board	PNB	PNBシート		
*	10	VF093800	Variable Resistor	A10K EWKDWA01	二連ロータリーボリューム	VOLUME	05
*	11	VF093500	VR Plate		ボリュームプレート		01
*	12	VF093600	LCD Display Assembly		ディスプレイAss'y		22
*	13	VF092900	SW Knob-A		スイッチツマミ(A)	<-/+>×4	04
*	14	VF093000	SW Knob-B		スイッチツマミ(B)	10-KEYS/-/+	05
*	15	VF538200	Shield Cover-B		シールドカバー(B)		05
	16	LB301910	U-Angle	HLJ0999-01-480	U字金具		01
*	17	VF093900	Circuit Board	DM	DMシート		51
*	18	VF092000	Angle Bracket, JK		JKアングル		03
*	19	VF538100	Shield Cover-A		シールドカバー(A)		05
*	20	VF777900	Circuit Board	PS	PSシート	J	15
*	20	VF778000	Circuit Board	PS	PSシート	U,C	
*	20	VF778100	Circuit Board	PS	PSシート	H,D,A	
	21	CB825380	Push Button		プッシュボタン	POWER	01
	22	VC362700	Ferrite Core	FR25/15/12-1400	フェライトコア		04
	23	CB811230	Cord Strain Relief	SR-6N-4	コードストッパー	U	02
	23	CB806850	Cord Strain Relief	SR-6N3-4	コードストッパー	C	02
	23	CB072750	Cord Strain Relief	SR-4N-4	コードストッパー	H,D	01
	23	CB032840	Cord Strain Relief	SR-5N-4	コードストッパー	A	01
	24	MG001820	AC Cord	7A 3.0m	電源コード	J	05
	24	MG000100	AC Cord	10A 12FT	電源コード	U	08
	24	MG000270	AC Cord	10A 3.3m	電源コード	C	09
	24	VC309900	AC Cord	2.5A 3.3m	電源コード	H,D	06
	24	MG001300	AC Cord	7.5A 3.05m	電源コード	A	
*	25	VF091300	AC Panel		ACパネル	J	05
*	25	VF091400	AC Panel		ACパネル	U	05
*	25	VF091500	AC Panel		ACパネル	C	05
*	25	VF091600	AC Panel		ACパネル	H,D,A	05
	26	VE452800	Keyboard Assembly	LC C61K6	LC鍵盤Ass'y		31
*	27	VF092600	Lower Case		下ケース		
	28	CB043750	Foot		ゴム足		01
	29	AA056250	Angle Bracket, Leg		脚取り付け金具		01
	30	EI330086	Bind Head Tapping Screw	3.0×8 FCM3BL	ﾊﾞｲﾝﾄﾞﾀｯﾋﾟﾝｸﾞﾈｼﾞ		01
	31	EZ001610	Cup Tapping Screw	3.0×8 FCM3BL	ｶｯﾌﾟﾀｯﾋﾟﾝｸﾞﾈｼﾞ		01
	32	ED330086	Bind Head Screw	3.0×8 FCM3BL	バインド小ネジ		01
	33	EV413036	Toothed Lock Washer	φ3.0 FCM3BL	歯付座金内歯形		01
	34	ED340066	Bind Head Screw	4.0×6 FCM3BL	バインド小ネジ	C	01
	35	EJ030086	Pan Head Tapping Screw	3.0×8 ZMC2Y	ナベタッピングネジ		01
	36	EI330126	Bind Head Tapping Screw	3.0×12 ZMC2BL	ﾊﾞｲﾝﾄﾞﾀｯﾋﾟﾝｸﾞﾈｼﾞ		01

*New Parts (新規部品)

ランク：Japan only

■ KEYBOARD ASSEMBLY

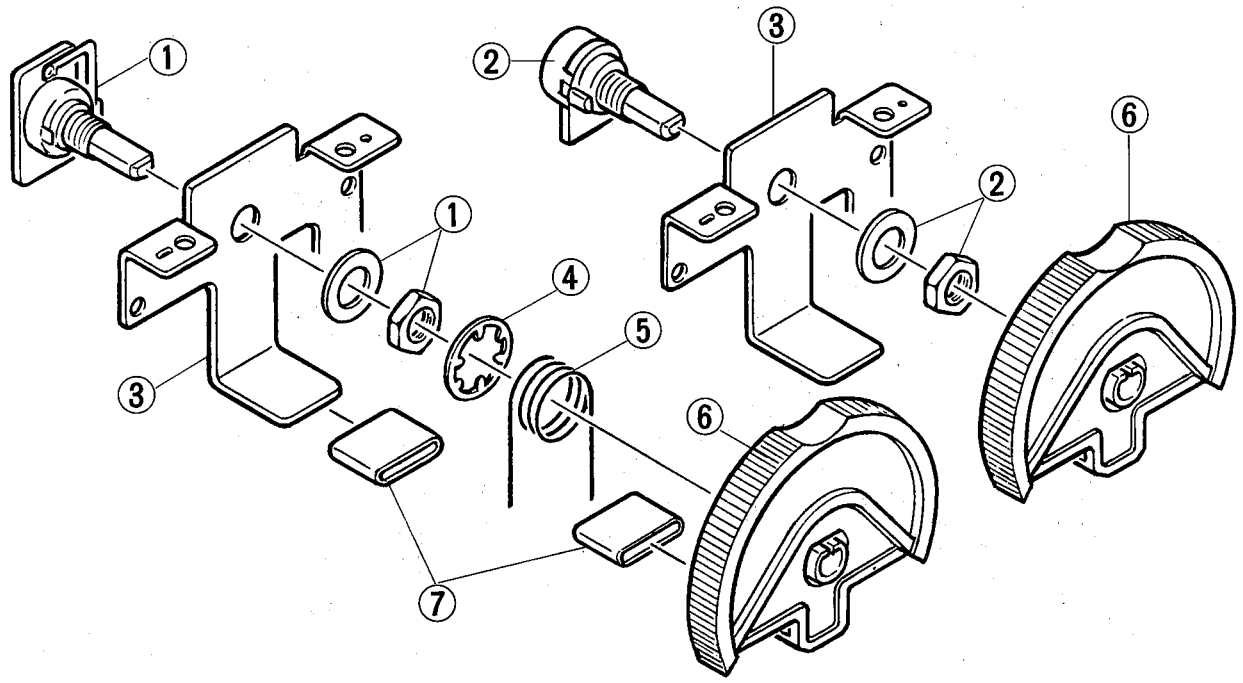


Ref. No.	Part No.	Description		部品名	Remarks	ランク
	VE452800	Keyboard Assembly	LC C61K6	LC鍵盤Ass'y		31
1	VA850000	White Key	C,F	白鍵C,F		02
1	VA850100	White Key	D	白鍵D		02
1	VA850200	White Key	B,E	白鍵B,E		02
1	VA850300	White Key	G	白鍵G		02
1	VA850400	White Key	A	白鍵A		02
1	VA853800	White Key	C'	白鍵C'		02
2	VA850500	Black Key		黒鍵		01
3	VC077600	Spring		バネ		
4	VE453100	PC Sensor	MK-LC	PCセンサー		14
5	VC078900	Felt	820×6×4 RE	フェルト(赤)		03
6	VE197500	Circuit Board	KS	KSシート		15
7	VC077700	Rubber Contact		可動導電ゴム		08
8	VC078600	Insulation Spacer		絶縁スペーサー		03
9	EK003740	Spacer	φ4.0×5	スペーサー		01
10	VC079800	Stopper		ストッパー		02
11	ED030106	Bind Head Screw	3.0×10 ZMC2Y	バインド小ネジ		01

※New Parts (新規部品)

ランク：Japan only

■ WHEEL ASSEMBLY

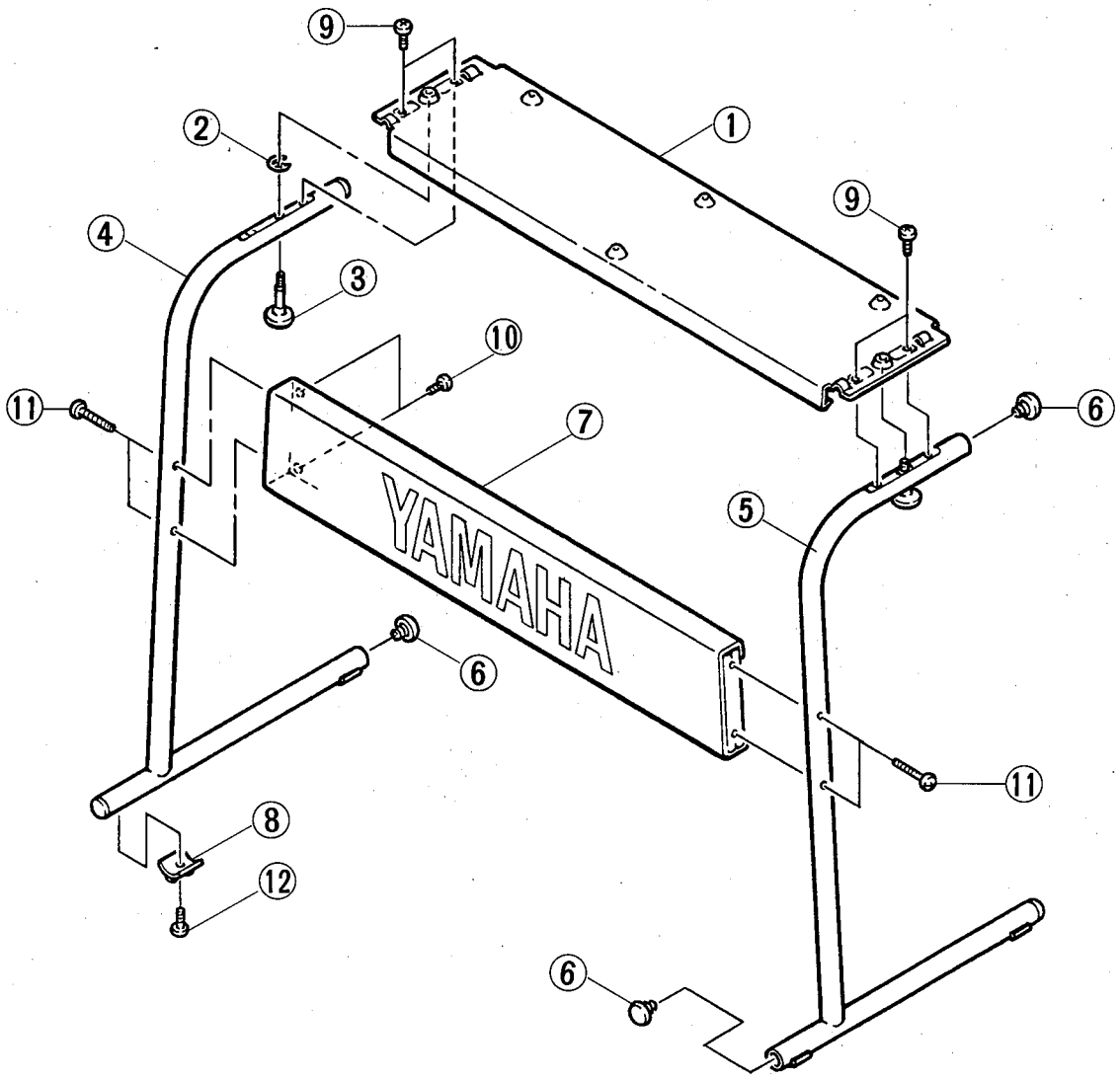


Ref. No.	Part No.	Description		部品名	Remarks	ランク
		Wheel Assembly		ホイールAss'y	PITCH/MOD.	
1	VC363100	Variable Resistor	B10K	ロータリーボリューム	PITCH	04
2	HS412160	Variable Resistor	B10K K161100S	ロータリーボリューム	MODULATION	03
* 3	VF536800	Frame		フレーム		
4	EW600110	Wheel Ring	φ12.0	CS形止め輪	PITCH	01
5	VC702800	Return Spring		リターンスプリング	PITCH	01
* 6	VF537400	Wheel		ホイール		02
7	CB819020	Wheel Tube		ホイールチューブ		02

※New Parts（新規部品）

ランク：Japan only

■ STAND LG-8



Ref. No.	Part No.	Description		部品名	Remarks	ランク
		Stand	(LG-8)	スタンド		
1	VE323600	Base Plate		台座		09
2	EV501406	Stop Ring	φ4.0 FNM3-3G	E形止め輪		01
3	VE339200	Stand Screw		スタンドスクリュー		03
※ 4	VF923600	Leg Assembly-L	Left	脚Ass'y(左)		
※ 5	VF923900	Leg Assembly-R	Right	脚Ass'y(右)		
6	VE158100	Cap	BL	キャップ		01
7	VE324300	Name Plate		ネームプレート		09
8	VE159100	Slip Fitting	BL	すべり座		01
9	ED350086	Bind Head Screw	5.0×8 FCM3BL	バインド小ネジ		01
10	ED040066	Bind Head Screw	4.0×6 ZMC2Y	バインド小ネジ		01
11	EA350402	Pan Head Screw	5.0×40 FCM3BL	ナベ小ネジ		01
12	ED330086	Bind Head Screw	3.0×8 FCM3BL	バインド小ネジ		01

※New Parts (新規部品)

ランク：Japan only