

YAMAHA PIANO SILENT SERIES

SERVICE MANUAL

- MP80, MP80T
- MP100

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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.

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!.

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ SPECIFICATIONS

Piano silencing mechanism:

Hammer shank stopper operated by center pedal

Key sensor system:

88-key speed sensing (2-beam, 4-point optical fiber sensors)

Pedal sensor system:

Sustain pedal: continuous (allows half-pedaling)

Soft pedal: on/off.

Electronic piano tone generator:

AWM stereo sampling

Polyphony:

16-note stereo, 32-note mono, switchable

Reverberation types (all with 4 depth levels):

Room, Hall 1, Hall 2

Volume control:

Continuous

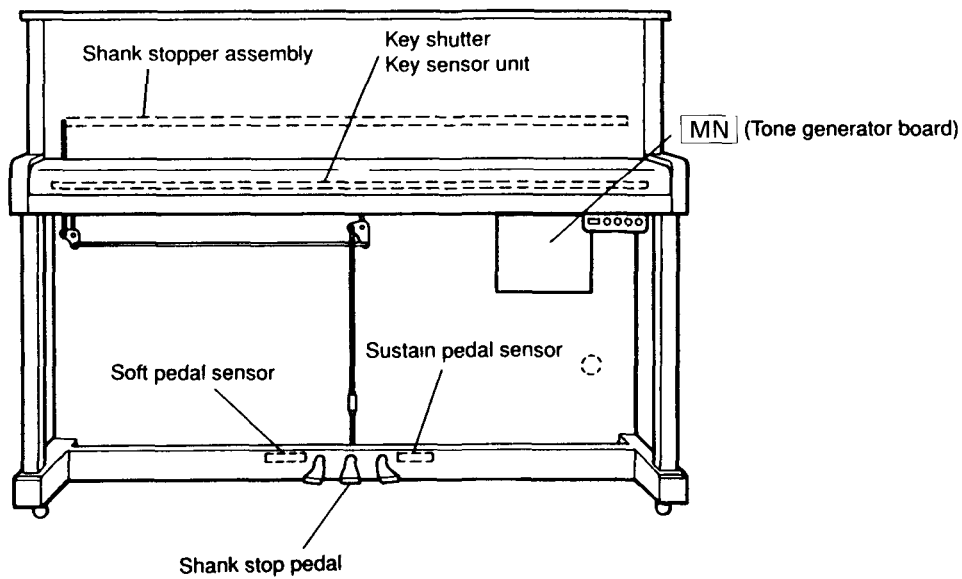
Pitch:

Set at A=440, tunable ±50 cents in 1.2 cent steps

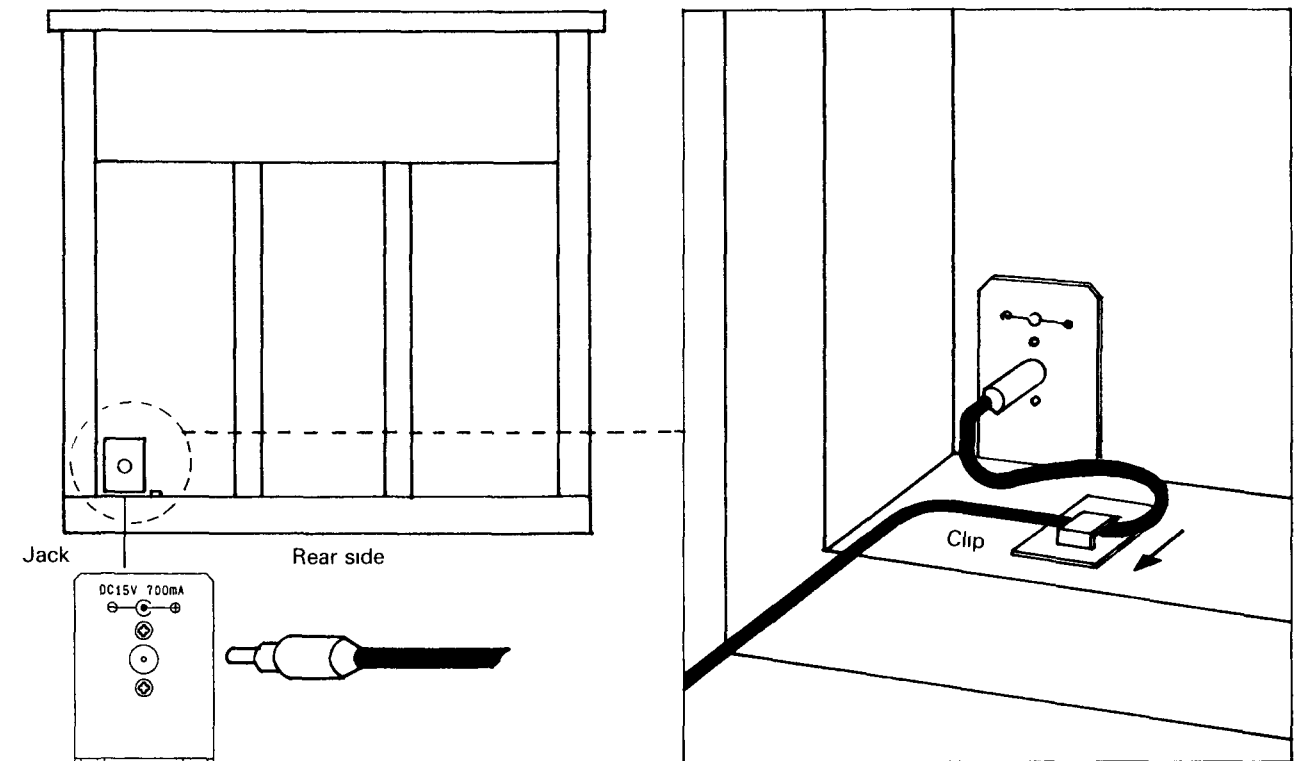
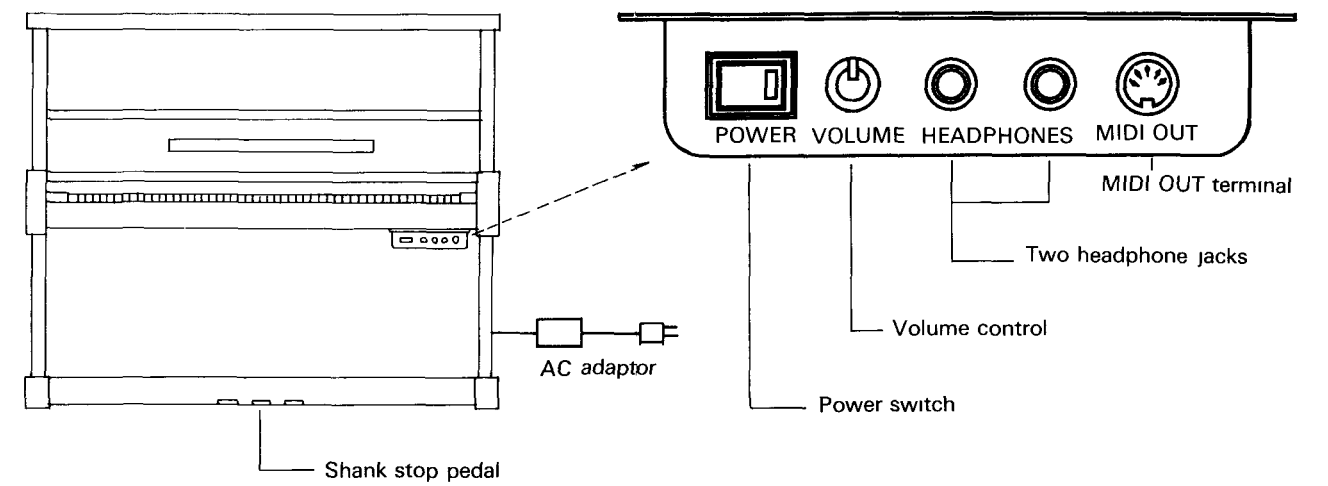
Power supply:

15V DC 700mA supplied from AC adaptor

■ CIRCUIT BOARD LAYOUT

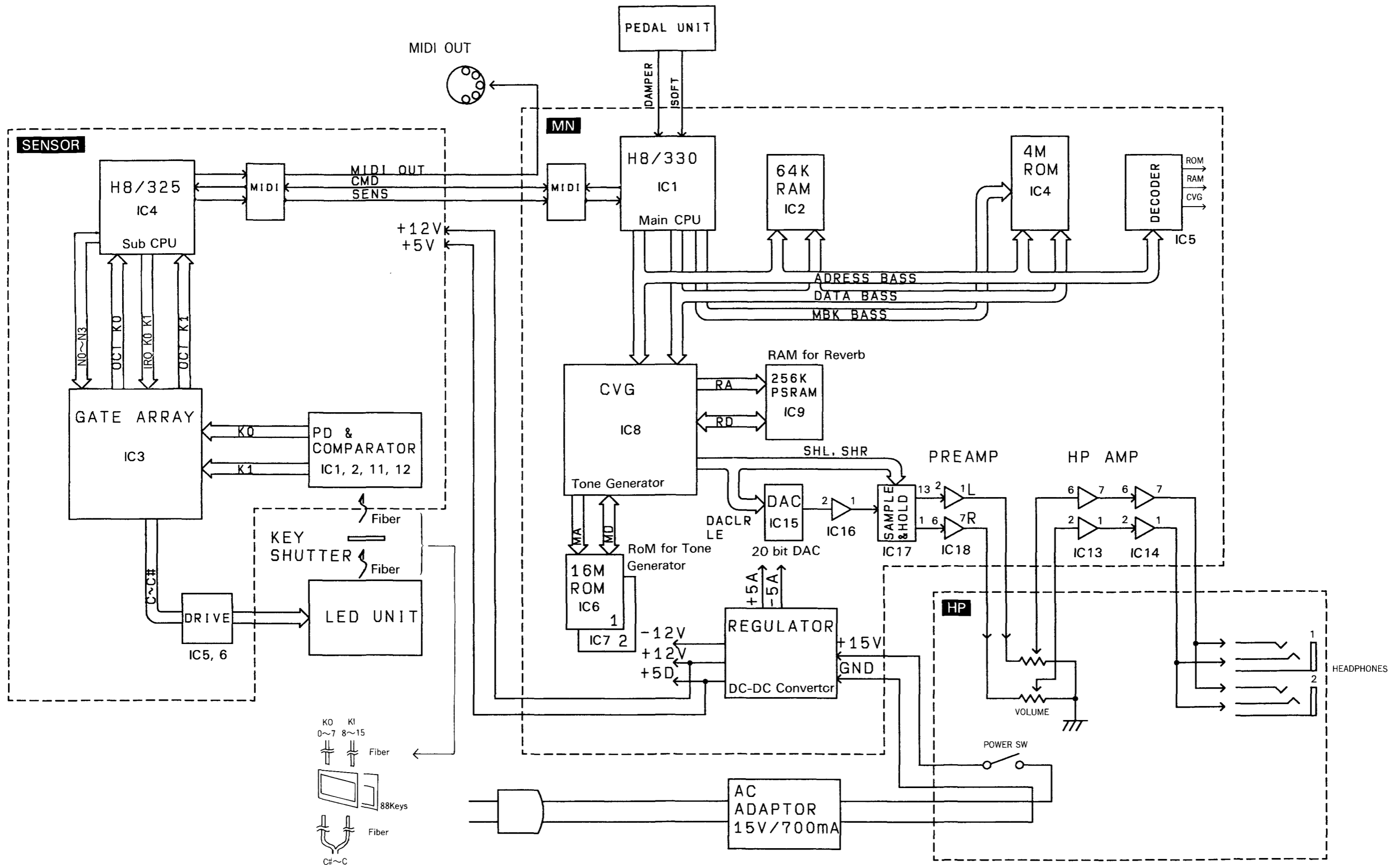


■ PANEL LAYOUT



*Clip the cable from the AC adaptor under this clip to prevent the Silent Series piano from being accidentally disconnected if it is moved, or if the cable is tugged

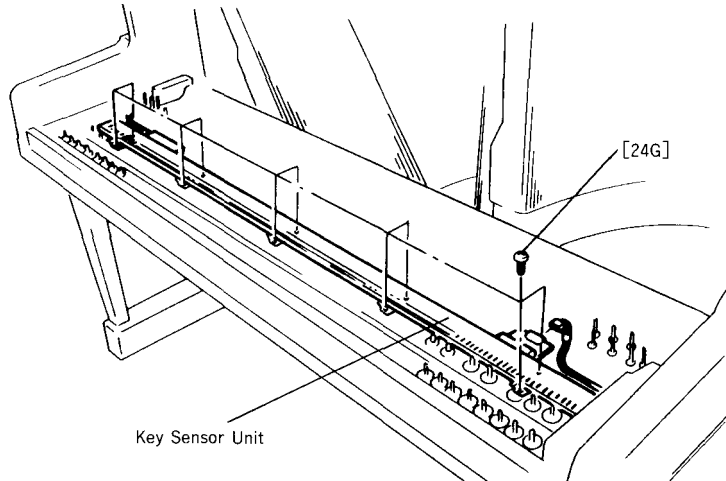
■ BLOCK DIAGRAM



DISASSEMBLY PROCEDURE

1 Key Sensor Unit Removal

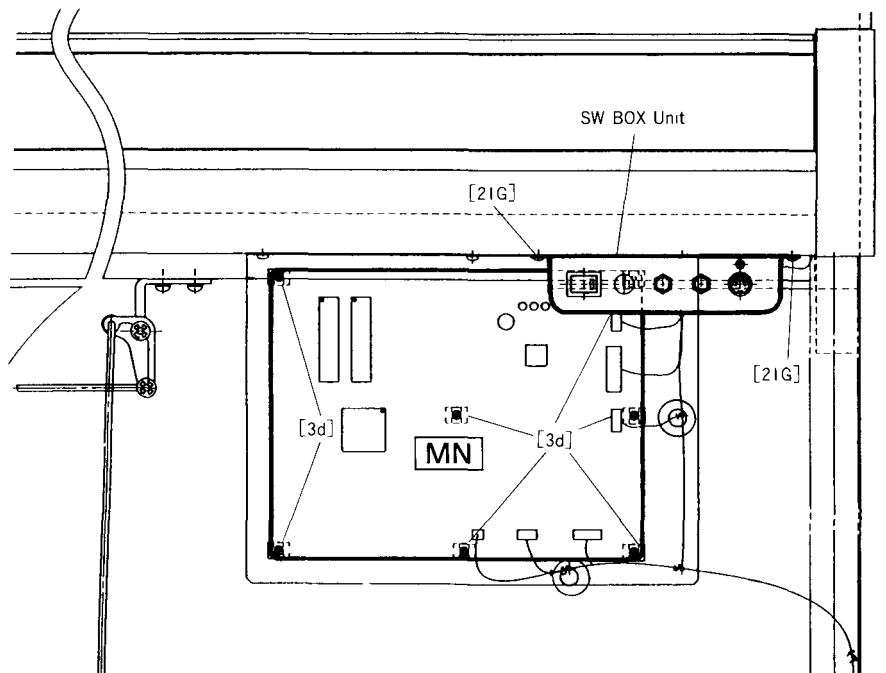
- 1-1 Open the top board.
- 1-2 Remove the upper front board.
- 1-3 Remove the fall board.
- 1-4 Remove the key stop rail.
- 1-5 Remove the all keys.
- 1-6 Remove the ten (10) screws marked [24G], then the key sensor unit can be removed. (Fig. 1)



(fig.1) [24G]:TRUS HEAD TAPPING SCREW-I 4.0×12 ZMC2BL (EX500116)

2 MN Circuit Board Removal

- 2-1 Remove the lower front board.
- 2-2 Remove the seven (7) screws marked [3d], then the MN circuit board can be removed. (Fig. 2)



[3d]:BIND HEAD TAPPING SCREW-S 3.0×5 ZMC2Y (VA078100)
[21G]:TRUS HEAD TAPPING SCREW-I 4.0×12 ZMC2BL (EX500116)

(fig.2)

3 HP Circuit Board Removal

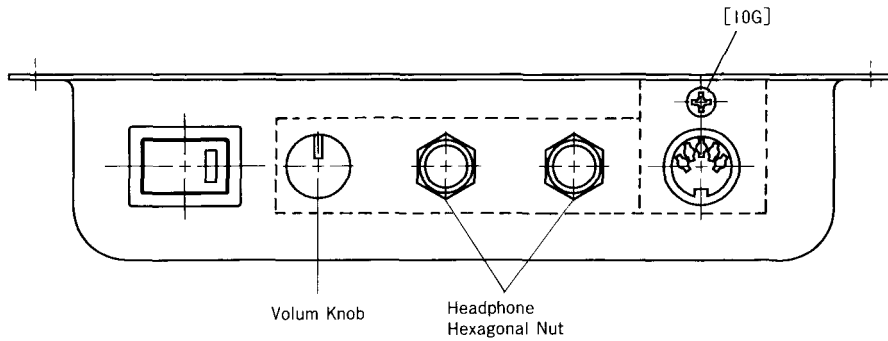
3-1 Remove the four (4) screws marked [21G], then the switch box unit can be removed. (Fig. 2)

3-2 Remove the VOLUME knob. (Fig. 3)

3-3 Remove the one (1) screw marked [10G]. (Fig. 3)

3-4 Remove the two (2) nuts of the headphones jacks, then the HP circuit board can be removed.

(Fig. 3)



[10G]: BIND HEAD TAPPING SCREW-P 3.0×12 ZMC2BL (VC161100)

(fig.3)

LSI PIN DESCRIPTION

• HD6433308RW03F (XN425A00) CPU (H8/330)

Pin No.	Name	I/O	Function	Pin No.	Name	I/O	Function
1	$\overline{\text{RES}}$	I	Reset	41	P42	I/O	Port 4
2	XTAL	I	} Clock	42	P43	I/O	
3	EXTAL	I		43	P44	I/O	
4	MD1	I	} Mode select	44	P45	I/O	
5	$\overline{\text{MOO}}$	I		45	P46	I/O	
6	$\overline{\text{NMI}}$	I	Non-maskable interrupt	46	P47	I/O	Power supply
7	$\overline{\text{STBY}}$	I	stand-by mode signal	47	VCC	I/O	
8	VCC	I/O	Power supply	48	A15	O	Address bus
9	P52	I/O	} Port5 (Receive data)	49	A14	O	
10	ARxD	I/O		50	A13	O	
11	ATxD	I/O	(Transmit data)	51	A12	O	
12	VSS	I/O	Ground	52	A11	O	Ground
13	P97	I/O	} (Address strobe)	53	A10	O	
14	P96	I/O		54	A9	O	
15	AS	I/O		55	A8	O	
16	$\overline{\text{WR}}$	I/O		(Write strobe)	56	VSS	I/O
17	$\overline{\text{RD}}$	I/O	(Read strobe)	57	A7	O	Address bus
18	P92	I/O	} Port 9	58	A6	O	
19	P91	I/O		59	A5	O	
20	P90	I/O		60	A4	O	
21	P60	I/O		61	A3	O	
22	P61	I/O	} Port 6	62	A2	O	Data bus
23	P62	I/O		63	A1	O	
24	P63	I/O		64	A0	O	
25	P64	I/O		65	D0	I/O	
26	P65	I/O	} Analog power supply	66	D1	I/O	
27	P66	I/O		67	D2	I/O	
28	P67	I/O		68	D3	I/O	
29	AVCC	I/O		69	D4	I/O	
30	AN0	I	} Analog input	70	D5	I/O	Ground
31	AN1	I		71	D6	I/O	
32	AN2	I		72	D7	I/O	
33	AN3	I		73	VSS	I/O	
34	AN4	I		74	P80	I/O	Port 8
35	AN5	I		75	P81	I/O	
36	AN6	I		76	P82	I/O	
37	AN7	I	77	P83	I/O		
38	AVSS	I/O	Analog ground	78	P84	I/O	
39	P40	I/O	} Port 4	79	P85	I/O	
40	P41	I/O		80	P86	I/O	

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● HD6433258B24F(XN427B00) CPU

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	XTAL	I	Clock	33	P26	I	Port (Oct. data)
2	EXTAL	I		34	P25	I	
3	MD1	I	Model select	35	P24	I	
4	MD0	I		36	P23	I	
5	NMI	I	Non-maskable interrupt request	37	P22	I	
6	V _{cc}	I	Power supply	38	P21	I	
7	STBY	I	Stand-by mode signal	39	P20	I	
8	V _{ss}	O	Ground	40	V _{ss}	O	Ground
9	P40	I	Note	41	P17	O	Port 1
10	P41	I		42	P16	O	
11	P42	I		43	P15	O	
12	P43	I		44	P14	O	
13	P44	I	Not used	45	P13	O	
14	P45	I		46	P12	O	
15	P46	I		47	P11	O	
16	P47	I		48	P10	O	
17	P50	O	Port 5	49	P30	I	Port 3 (Oct. data)
18	P51	O		50	P31	I	
19	P52	O		51	P32	I	
20	P53	O	Port 7	52	P33	I	
21	P54	O		53	P34	I	
22	P55	O		54	P35	I	
23	P70	O		55	P36	I	
24	P71	O	Port 6	56	P37	I	
25	P72	O		57	P60	I	
26	P73	O		58	P61	I	
27	P74	O		59	P62	I	
28	P75	O	Power supply	60	P63	I	Reset
29	P76	O		61	P64	I	
30	P77	O		62	P65	I	
31	V _{cc}	O		63	P66	I	
32	P27	I	Port 2	64	RES	I	

● PCM1702U (XM896A00) DAC (Digital to Analog Converter)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	DATA	I	Data input	11	+V _{cc}		Power supply (+ 5A)
2	CLK	I	Clock	12	BPO		Bipolar decouple
3	NC	—		13	NC	—	
4	+V _{dd}		Power supply (+ 5A)	14	IOUT	O	Output current
5	D.GND		Digital ground	15	A.GND		Analog ground
6	-V _{dd}		Power supply (-5A)	16	A.GND		
7	LE	I	Latch enable	17	SERV		Servo decouple
8	NC	—		18	NC	—	
9	NC	—		19	REF		Reference decouple
10	NC	—		20	-V _{cc}		Power supply (-5A)

• RF5GF26-028 (XK652A00) GATE ARRAY

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	NC	-	Not used	51	NC	-	Not used
2	Vcc		Power supply	52	Vcc		Power supply
3	M10			53	IRQK	O	Interrupt key
4	M11			54	OCTK0	O	Oct. Key
5	M12			55	OCTK1	O	
6	M13			56	OCTK2	O	
7	M14			57	OCTK3	O	
8	M15			58	OCTK4	O	
9	M16			59	OCTK5	O	
10	M17			60	OCTK6	O	
11	XIN		Clock	61	OCTK7	O	Key 1
12	SYSRE- SIN		Reset	62	K0		
13	N0	O	Note	63	K1		
14	N1	O					
15	N2	O					
16	N3	O					
17	OCTM10	O	Key 0	64	K2		
18	OCTM11	O					
19	OCTM12	O					
20	OCTM13	O					
21	OCTM14	O					
22	OCTM15	O					
23	OCTM16	O					
24	OCTM17	O	Note	65	K3		
25	M20	O					
26	M21	O					
27	M22	O					
28	M23	O					
29	GND			Vss	66	K4	
30	NC	-		Not used	67	K5	
31	Vcc		Power supply	68	K6		
32	M24		Ground	69	K7		
33	M25						
34	M26						
35	M27						
36	OCTM20	O					
37	OCTM21	O					
38	OCTM22	O		Oct. Make 2	70	C	O
39	OCTM23	O					
40	OCTM24	O					
41	NC	-	Not used	71	B	O	
42	OCTM25	O	Oct. Make 2	72	A#	O	
43	OCTM26	O					
44	OCTM27	O					
45	ACKM1		Acknowledge Make 1	73	A	O	
46	ACKM2		Acknowledge Make 2	74	G#	O	
47	GND			75	G	O	
48	IRQM1			76	F#	O	
49	IRQM2	O	Interrupt Make 2	77	F	O	
50	GND		Vss	78	E	O	
				79	GND		Vss
				80	NC	-	Not used
				81	Vcc		Power supply
				82	D#	O	Note
				83	D	O	
				84	C#	O	Not used
				85	OCTR10		
				86	OCTR11		
				87	OCTR12		
				88	OCTR13		Not used
				89	OCTR14		
				90	NC	-	Not used
				91	OCTR15		Not used
				92	OCTR16		
				93	OCTR17		Switch
				94	SW3		
				95	SW2		
				96	SW1		
				97	SW0		Vss
				98	SW1A		
				99	SW1B		
				100	GND		

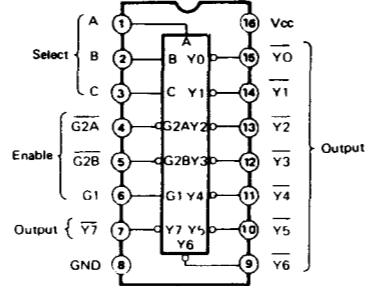
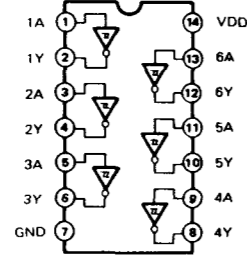
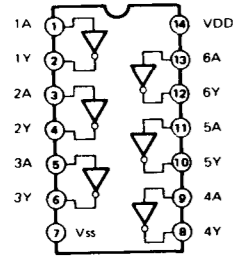
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• YMW265B-F (XK281B00) CVG (Convolution Voice Generator)

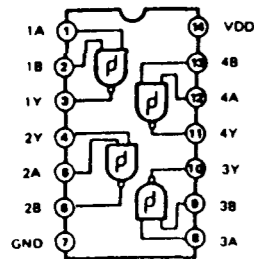
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	<u>RD</u>	I	Read	65	<u>MCS2</u>	O	Wave ROM chip select
2	<u>WR</u>	I	Write	66	<u>MCS3</u>	O	
3	<u>CS</u>	I	Chip select	67	<u>MCS4</u>	O	
4	CD0	O	CD output	68	<u>MCS5</u>	O	
5	MELO0	O	MEL stereo output	69	KONO0	O	Key on & LFO on output
6	MELO1	O					
7	MELO2	O					
8	MELO3	O					
9	MEL1	I	MEL stereo mixing input	71	NSO0	O	NSYS output (8-channel x 4)
10	DACLR	O	DAC L/R output	72	NSO1	O	
11	LE	O	Latch enable	73	NSO2	O	
12	SHL	O	Sample/Hold L channel output	74	NSO3	O	
13	SHR	O	Sample/Hold R channel output	75	KONI0	I	Key on & LFO on input
14	2CHIP	I	2 chips mode (0 = 1 chip, 1 = 2 chips)	76	KONI1	I	
15	<u>S/M</u>	I	Slave/Master select (0 = master, 1 = slave)	77	NSI0	I	NSYS input (8-channel x 4)
16	V _{DD}		Power supply (+ 5V)	78	NSI1	I	
17	V _{SS}		Ground	79	NSI2	I	
18	<u>IC</u>	I	Initial clear	80	V _{DD}		Power supply (+ 5V)
19	XTAL	O	Crystal osc.	81	V _{SS}		Ground
20	EXTAL	I	Crystal/Ext. clock	82	NSI3	I	NSYS input
21	MCLKO	O	12.8MHz osc. output	83	MELI0	I	MEL stereo mixing input
22	MCLKI	I	12.8MHz master clock input	84	REVI0	I	MEL reverberation input
23	HCLKO	O	6.4MHz clock output (NSYS)	85	REVI1	I	
24	QCLKO	O	3.2MHz clock output (MEL, LDSP, DAC)	86	<u>RCS0</u>	O	RAM chip enable
25	SYWI	I	12.8MHz sync, signal input	87	<u>RCS1</u>	O	RAM chip enable
26	SYWO	O	12.8MHz sync, signal output	88	RD0	I/O	RAM data bus
27	SYOD	I	6.4MHz/3.2MHz sync, signal output	89	RD1	I/O	
28	<u>MOE</u>	O	Wave ROM output enable	90	RD2	I/O	
29	MD0	I	Wave ROM data bus	91	RD3	I/O	
30	MD1	I					
31	MD2	I					
32	MD3	I					
33	MD4	I					
34	MD5	I					
35	MD6	I					
36	MD7	I	RAM output enable	92	RD4	I/O	
37	MA0	O					
38	MA1	O					
39	MA2	O					
40	MA3	O					
41	MA4	O					
42	MA5	O					
43	MA6	O					
44	MA7	O					
45	MA8	O					
46	MA9	O					
47	MA10	O					
48	V _{DD}			(Power supply (+ 5V))	93	RD5	I/O
49	V _{SS}			(Ground)	94	RD6	I/O
50	MA11	O	Wave ROM address bus	95	RD7	I/O	
51	MA12	O	RAM address bus	96	<u>ROE</u>	O	
52	MA13	O					
53	MA14	O					
54	MA15	O					
55	MA16	O					
56	MA17	O					
57	MA18	O					
58	MA19	O					
59	MA20	O					
60	MA21	O					
61	MA22	O					
62	<u>MA23</u>	O					
63	<u>MCS0</u>	O		Wave ROM chip select	97	RA0	O
64	<u>MCS1</u>	O					
				98	RA1	O	RAM write enable
				99	RA2	O	
				100	RA3	O	
				101	RA4	O	
				102	RA5	O	
				103	RA6	O	
				104	RA7	O	
				105	RA8	O	
				106	RA9	O	
				107	RA10	O	
				108	RA11	O	
				109	RA12	O	
				110	RA13	O	
				111	RA14	O	
				112	V _{DD}		Power supply (+ 5V)
				113	V _{SS}		Ground
				114	<u>RWE</u>	O	RAM write enable
				115	D0	I/O	Register data bus
				116	D1	I/O	
				117	D2	I/O	
				118	D3	I/O	
				119	D4	I/O	
				120	D5	I/O	
				121	D6	I/O	
				122	D7	I/O	
				123	A0	I	Register address bus
				124	A1	I	
				125	A2	I	
				126	A3	I	
				127	A4	I	
				128	A5	I	

■ IC BLOCK DIAGRAM

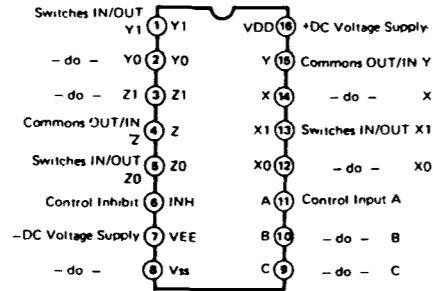
- **SN74HCU04NSR** (XC723A00) Hex Inverter
- **SN74HC14NSR** (XC725A00) Hex Inverter
- **SN74HC138NSR** (XD835A00) 3 to 8 Demultiplexer



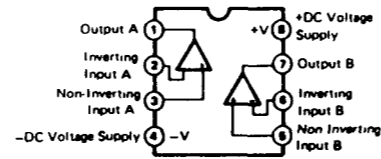
- **SN74HC132NSR** (XL112A00) Quad 2 Input NAND



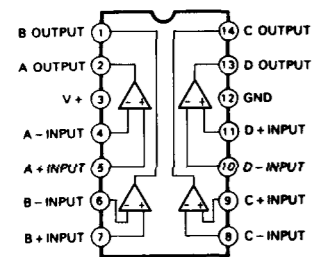
- **TC4053BF** (XB738B00) Triple 2-Ch. Multiplexer/Demultiplexer



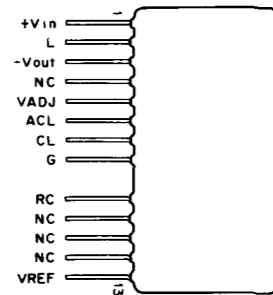
- **μPC4570G2** (XF291A00) Dual Operational Amplifier
- **M5216FP** (XP263A00) Dual Operational Amplifier



- **NJM2901M-T1** (XK910A00) Comparator

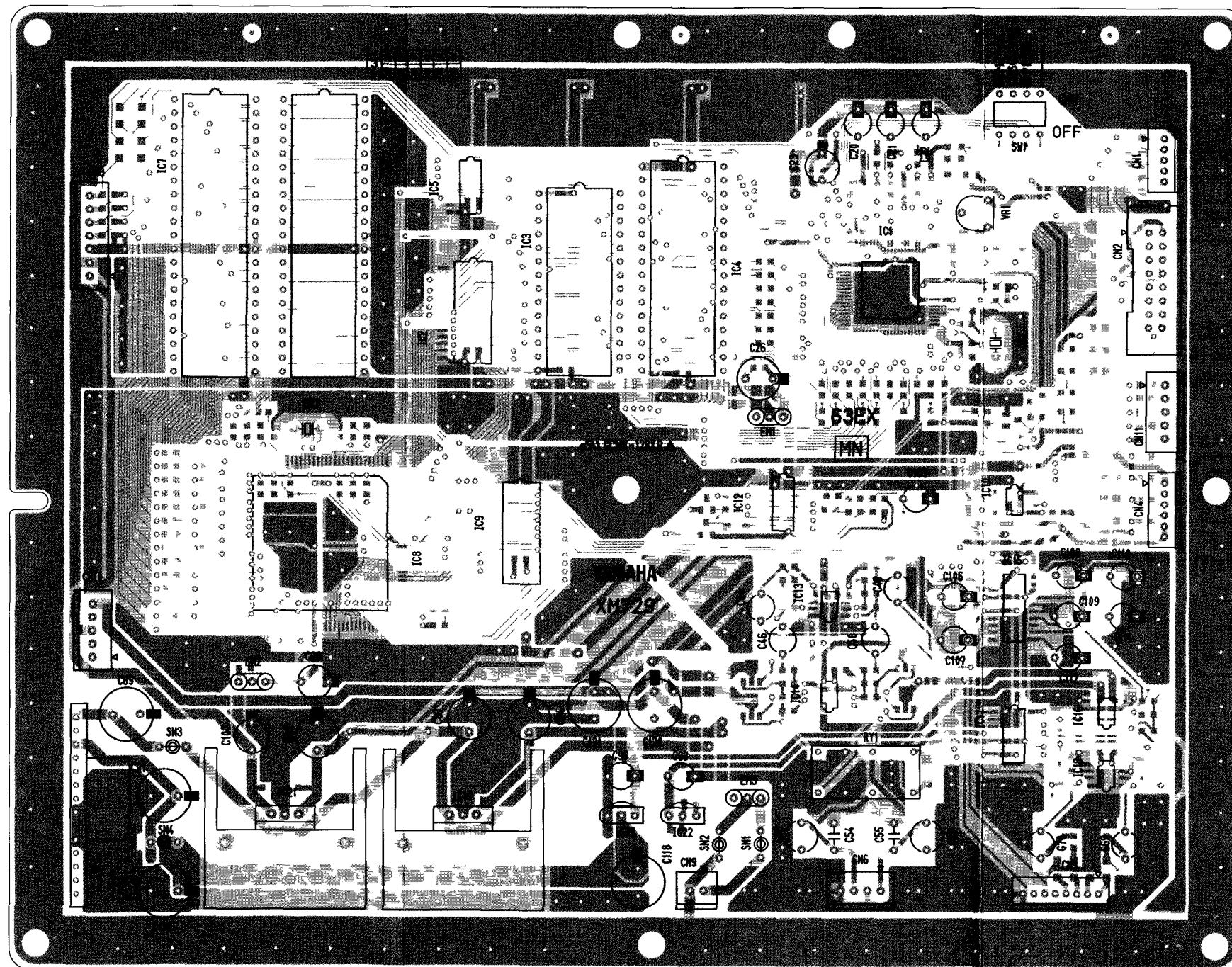


- **HLND12R35M** (XM838A00) DC-DC Converter



■ CIRCUIT BOARD

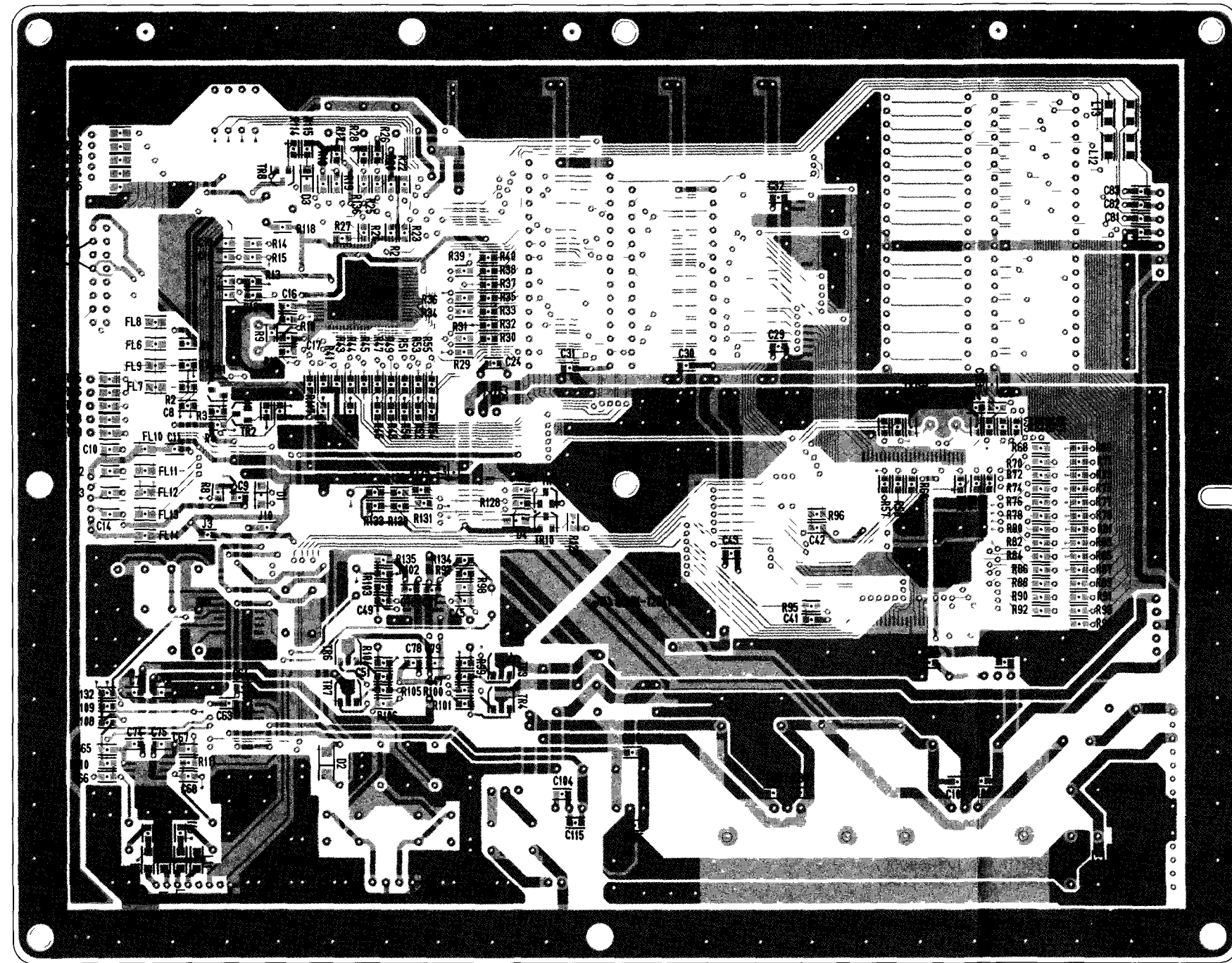
• MN Circuit Board



Component side

Notes)

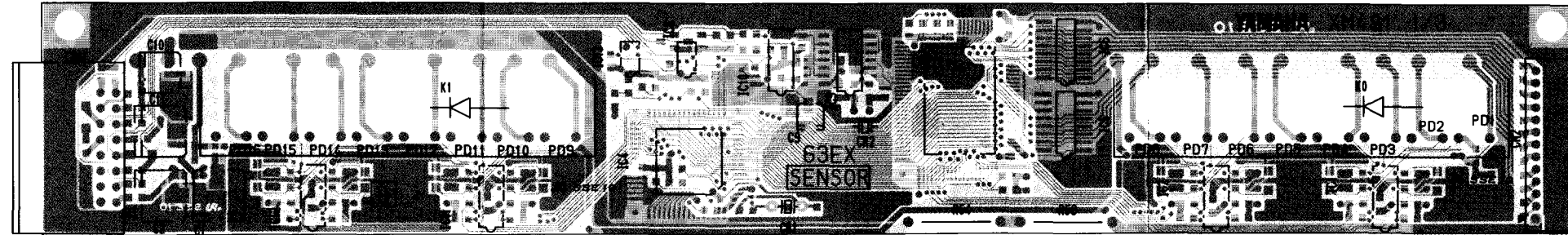
Circuit Board	MN (VQ461000) XM729C0
1 IC	
IC 1	HD6433308RW03F (XN425A00) CPU
IC 2	HY6264ALJ 10 (XK929A00) SRAM 64K or LH5168N 10TL (XM039A00) SRAM 64K (XN426A00) ROM 4M
IC 4	SN74HC138NSR (XD835A00) DECODER
IC 5	HN624116PZ20 (XK973100) ROM 16M
IC 6	HN624116PZ21 (XK974100) ROM 16M
IC 7	YMW265B F (XK281B00) CVG
IC 8	HM65256BLFP 10T (XI020A00) PSRAM 256K or TC51832AFL 10 (XM049A00) PSRAM 256K
IC 9	SN74HC132NS R (XL112A00) NAND
IC12	UPC4570G2 (XF291A00) OP AMP
IC13, 16 18	M5216FP (XP263A00) OP AMP
IC14	PCM1702U (XM896A00) DAC
IC15	TC4053BF (XB738A00) MULTIPLEXER
IC17	UPC2412HF (XN129A00) REGULATOR +12V
IC19	HLND12R35M (XM838A00) DC DC CONVERTER
IC20	NJM7805FA (XJ607A00) REGULATOR +5V
IC21	NJM78L05A (XJ757A00) REGULATOR +5V
IC22	NJM79L05A (XP264A00) REGULATOR -5V
IC23	
2 BASE POST CONNECTOR	
CN 1	PH 5P TE (VB390100) to HP CN6
CN 2	HIF3FC 16P TE (VP214600) to SENSOR CN1
CN 4	PH 6P TE (VB390200) to PEDAL
CN 5	PH 8P TE (VB390400) to HP CN4
CN 6	XH 4P TE (LB918040) to HP CN5
CN 9	XH 2P TE (LB918020) to HP CN2
CN11	XH 5P TE (LB918050) NO CONNECTION
3 LC FILTER	
EMI 1 2	DSS306 93F223Z1 (VD542700)
4 QUARTZ CRYSTAL UNIT	
CR 1	24M AT 49 (VK409400)
CR 2	11 2896M (VI551900)
5 TRANSISTOR	
TR 1 2 8	2SC2412K T147 S (VN416200)
TR 3 6	2SD1664 82 390 (VG013400)
TR 4 7	2SB1132 82 390 (VG013300)
TR 9	2SC2712 Y (VJ927100) or 2SC2462LCTR C (VQ395500)
TR10	2SA1162 O Y (VJ927200) or 2SA1052 B C (VQ395600)
6 DIODE	
	MA221 (VB493900) or RLS 73 (VB797600)
7 PHOTO COUPLER	
IC10	HCPL 0600 500 (VN406200)
8 COIL	
SN 1~4	SNT D20TF (VN381200)
9 CHIP CARBON RESISTOR	
	0 0 0 0 J (RD250000)
	100 0 0 1 J (RD255100)
	220 0 0 1 J (RD255220)
	1 0K 0 1 J (RD256100)
	1 5K 0 1 J (RD256150)
	2 7K 0 1 J (RD256270)
	27 0K 0 1 J (RD257270)
	39 0K 0 1 J (RD257390)
	47 0K 0 1 J (RD257470)
	120 0K 0 1 J (RD258120)
	10 0K 0 1 J (RD257100)
	22 0K 0 1 J (RD257220)
	470 0K 0 1 J (RD258470)
	1 0M 0 1 J (RD259100)
	150 0 0 1 J (RD255150)
	2 2K 0 1 J (RD256220)



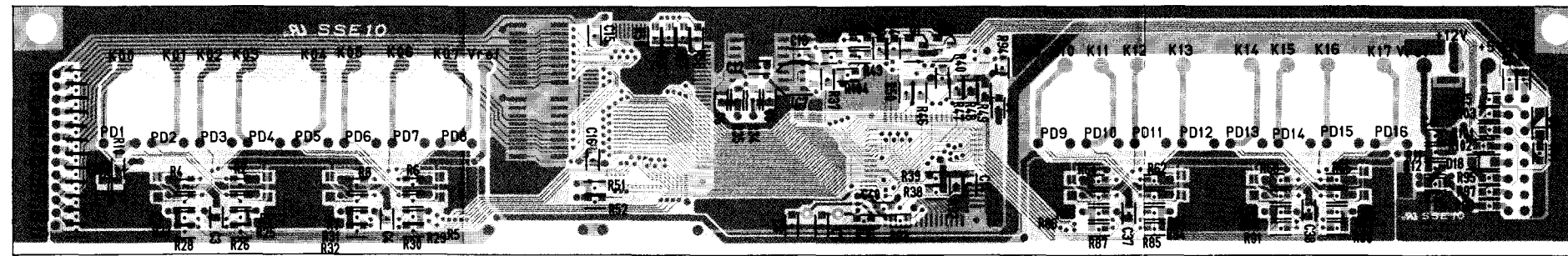
Pattern side

- | | | |
|----|-------------------------------|--|
| 10 | MONOLITHIC CERA CAP (CHIP) | B 470P 50V K (UB012470)
B 2700P 50V K (UB013270)
SL 10P 50V D (UB051100)
SL 15P 50V J (UB051150)
SL 22P 50V J (UB051220)
SL 100P 50V J (UB052100)
F 0 010 50V Z (UB044100)
F 0 100 50V Z (UB045100)
SL 33P 50V J (UB051330)
SL 82P 50V J (UB051820) |
| 11 | CHIP INDUCTANCE | NWL2520 560J (VQ464300)
BLM32A06PT (VJ928500) |
| 12 | MYLAR CAP | 0 047 50V J (UA654470) |
| 13 | CHIP DIODE | EC10DS4 TE12L (VN681100) |
| 14 | RELAY
RY 1 | DC G5V 2 12V (VL406800) or
DC RY12W 12V (KC001900) |
| 15 | EMI FILTER
EMI 3 | LS MT Y223NB (FZ006970) |
| 16 | ELECTROLYTIC CAP | 4 7UF 25V (UI546470)
47 00 16 0V (UI537470)
470 00 16 0V (UJ838470)
220 00 16 0V (UJ838220)
220 00 25 0V (UJ848220)
22 00 16 0V (UJ837220)
10 00 16 0V (UJ837100)
100 00 16 0V (UJ838100)
1 00 50 0V (UJ866100) |
| 17 | ELECTROLYTIC CAP BP | 4 70 50 0V (UK866470)
3 30 50 0V (UK866330)
2 20 50 0V (UK866220)
47 00 16 0V (VD926800) |
| 18 | TRIMMER POTENTIOMETER
VR 1 | B 3 3K 3P RHO (VA787800) |
| 19 | SLIDE SWITCH
SW 1 | 51D-0401 (VD017000) |

• Sensor Circuit Board



Component side

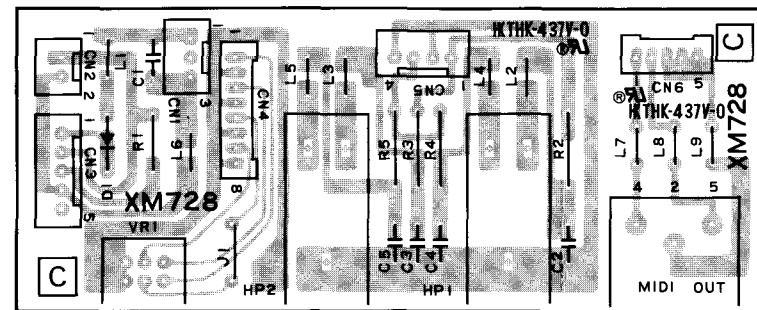


Pattern side

Notes)

- | | |
|---------------------------------|---|
| CIRCUIT BOARD: | SENSOR (VQ206000) XM481B0 |
| 1. IC | |
| IC 1, 2, 11, 12: | NJM2901M-T1 (XK910A00) COMPARATOR (XK652A00) GATE ARRAY |
| IC 3: | HD6433258B10F (XN427B00) CPU |
| IC 4: | PST572CMT-R (XL122A00) RESET |
| IC 7: | SN74HCU04NSR (XC723A00) INV |
| IC 9: | SN74HC14NSR (XC725A00) INV |
| IC 10: | |
| 2. PHOTO COUPLER | |
| IC 8, 13: | HCPL-0600-500 (VN406200) |
| 3. TRANSISTOR ARRAY | |
| IC 5, 6: | TD62003F (VQ867600) |
| 4. PHOTO DIODE | |
| PD 1-16: | (VB434400) |
| 5. CERAMIC RESONATOR | |
| CR 1: | 20.0M CSA20.00M (VI951800) |
| CR 2: | 1M CSB1000J (VD997000) |
| 6. TRANSISTOR | |
| TR 1, 2: | 2SC4639-617 (VR935100) or 2SC2412K Q, R, S (IC241200) |
| 7. DIODE | |
| D 9, 18: | MA221 (VB493900) or RLS-73 (VB797600) |
| 8. CHIP CARBON RESISTOR | |
| | 10.0 0.1 J (RD254100) |
| | 47.0 0.1 J (RD254470) |
| | 220.0 0.1 J (RD255220) |
| | 1.0K 0.1 J (RD256100) |
| | 4.7K 0.1 J (RD256470) |
| | 5.6K 0.1 J (RD256560) |
| | 10.0K 0.1 J (RD257100) |
| | 12.0K 0.1 J (RD257120) |
| | 33.0K 0.1 J (RD257330) |
| | 1.0M 0.1 J (RD259100) |
| 9. METAL OXIDE FILM RESISTOR | |
| R53, 54: | 27.0 2W J (VC757300) |
| 10. ELECTROLYTIC CAP.(CHIP) | |
| C 1, 2, 11: | 100 16V (UF138100) |
| C 9: | 10 16V (UF037100) |
| C10: | 47 25V (UF147470) |
| 11. MONOLITHIC CERA. CAP.(CHIP) | |
| | SL 3P 50V C (UB050300) |
| | SL 100P 50V J (UB052100) |
| | B 1000P 50V K (UB013100) |
| | F 0.100 25V Z (UB245100) |
| 12. HEADER | |
| CN 1: | HIF3F-16PA-2.5 (VE660400) to MN-CN2 |
| 13. BASE POST CONNECTOR | |
| CN 2: | PH 13P SE (VK015400) to KEY EMISSION-CN1 |

• HP Circuit Board



VOLUME

HEADPHONES

MIDI OUT

Notes)

- | | |
|------------------------------|-------------------------------------|
| CIRCUIT BOARD: | HP (VQ461100) XM728C0 |
| 1. CARBON RESISTOR | |
| R 1: | 1.0K 1/4 J (HF756100) |
| R 2-5: | 68.0 1/2 J (VH696500) |
| 2. SEMICONDUCTIVE CERA. CAP. | |
| C 1-5: | 0.1000 25V Z (VC694800) |
| 3. COIL | |
| L 1, 6: | SNT-D20TF 10μ (VN381200) |
| L 2-5: | SBT-0260TF 60μ (VF968800) |
| L 7-9: | FL5R200QN 20μ (VB971100) |
| 4. VARIABLE RESISTOR | |
| VR 1: | A 10.0K RK09712 (VQ862900) VOLUME |
| 5. PHONE JACK | |
| HP 1, 2: | ST HLJ0521 (VQ866600) HEADPHONES |
| 6. DIN JACK | |
| | 3P YKF51-5065 (VQ866700) MIDI OUT |
| 7. DIODE | |
| D 1: | 11ES4 (VB481900) |
| 8. BASE POST CONNECTOR | |
| CN 1: | XH 3P TE (LB918030) to DC IN UNIT |
| CN 2: | XH 2P TE (LB918020) to MN-CN9 |
| CN 3: | XH 5P TE (LB918050) to POWER SWITCH |
| CN 4: | PH 8P TE (VB390400) to MN-CN5 |
| CN 5: | XH 4P TE (LB918040) to MN-CN6 |
| CN 6: | PH 5P TE (VB390100) to MN-CN1 |

■ TEST MODE/ADJUSTMENT OPERATION

OPERATION

(please refer to the Owner's Manual for more detailed information)

Using the Silent Series piano's electronic piano

The shank stopper is activated by pressing the middle pedal and sliding it to the left to lock it in the depressed position. Connect the headphones to the switch box, turn on the power, and adjust the volume.

1. Setting the reverberation (one octave below the center octave)

Preferences

Types	Room (Key 34F#), Hall 1 (Key 36G#), and Hall 2 (Key 38A#); three types, set using black keys
Depth	Shallow (Key 33F), (Key 35G), (Key 37A), and (Key 39B), Deep; Four levels, set using white keys (To set the desired type and depth, hold down one of the "Type" keys and one of the "Depth" keys before turning on the power.)

2. Adjusting the pitch (pitch can be adjusted in units of approximately 1.2 cents, up to approximately 50 cents)

To raise the pitch: Hold down the bottom two white keys of the keyboard: Key 1A and Key 3B, and press any key between Key 40C and Key 51B (the middle octave of the keyboard). To lower the pitch, hold down the lowest white key, Key 1A, and the lowest black key, Key 2A#, while pressing any key in the range mentioned above.

To return the pitch to the initial pitch of A=440 Hz, hold down Key 1A, Key 2A#, and Key 3B at the same time, and press any key in the range mentioned above.

3. Switching the number of voices produced simultaneously

The number of voices can be switched between 16 (stereo) and 32 (mono).

- (1) Make sure that the Silent Series piano's front switch is off.
- (2) Turn on the front switch while holding down the Middle key 40C.
- (3) If you want to add reverberation, hold down the appropriate "reverberation" keys, as well as Middle C, as described in the previous section.

Note

All of the above settings are cancelled when the power switch is turned off.

POINTS CONCERNING MAINTENANCE

This section explains how to adjust those parts of the Silent Series piano which differ from ordinary pianos. Naturally, standard tuning and adjustment procedures should be carried out before adjusting these additional parts.

Adjusting the Silent Series piano as an acoustic piano

With an ordinary upright piano, the hammer approach distance (let off adjustment) is adjusted to approximately 1.5 to 3.0 mm (0.06 to 0.12 inch). With this model, however, because of the configuration of the shank stopper, the standard adjustment should be 12.0 to 13.0 mm (1/2 inch).

If the adjustment is smaller than the standard value, the jack cannot be released, preventing the key from being played again.

If the adjustment is larger than the standard value, it becomes difficult to play pianissimo.

The adjustment standards for other sections are the same as those for an acoustic YAMAHA upright piano.

Adjusting the Silent Series piano as an electronic piano

The Quick Silent System adjustment for the Silent Series piano include adjustment of the shank stoppers and the sensor parts, as shown below.

1. Shank stopper adjustment

Adjust the turnbuckle so that, when the shank stopper is in use, the cushioning surface of the rotating stopper at the locked position is parallel to the angle of the shank.

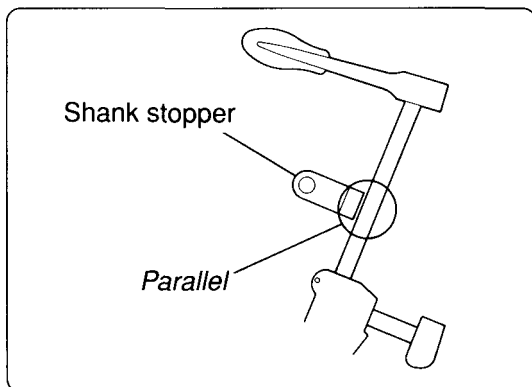


Figure 1

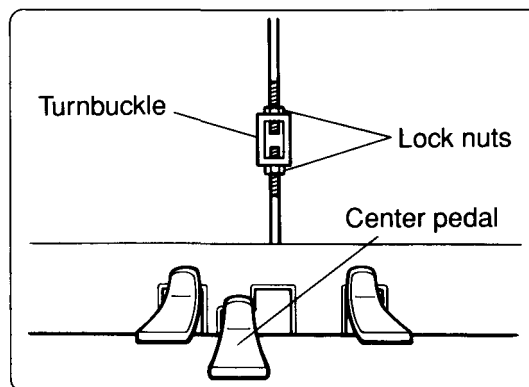


Figure 2

2. Adjustments involving the sensors

The approach to sensor adjustment is basically the same as that of the YAMAHA Disklavier MX80 Series (except for Asia and Australia) and the MX95 (for Asia, Australia).

There are three types of sensors on the Silent Series piano: key sensor, sustain pedal sensor, and soft pedal sensor. To test the various sensors, use the Test Mode and check the test sound through the headphones.

Accessing the sensor test mode

To enter the Sensor Test Mode, hold down the three lowest white keys of the keyboard, and turn on the power switch, then release the keys. A series of beeps is produced when each of the sensors is tested.

1) Adjusting the key sensor height and testing the key sensors

If the key sensors have been adjusted properly, pressing a key down slowly in the Test Mode should produce four different beeps, one at each detecting point, before the key reaches its lowest position. Choose two or three keys, including both white and black keys, in each range of the keyboard (bass, middle and high) for testing. The first beep should be heard when the key has been pressed down about 2.3 mm (about 1/10 inch), and the fourth beep, a rapid beep, should be heard by the time the key is pressed all the way down. (Refer to the table at the top of page 23 which explains the various beeps.)

Note

There are ten screws in five locations for adjusting the height of the key sensors. These are located under Keys 3, 21, 40, 62, and 85 of the keyboard.

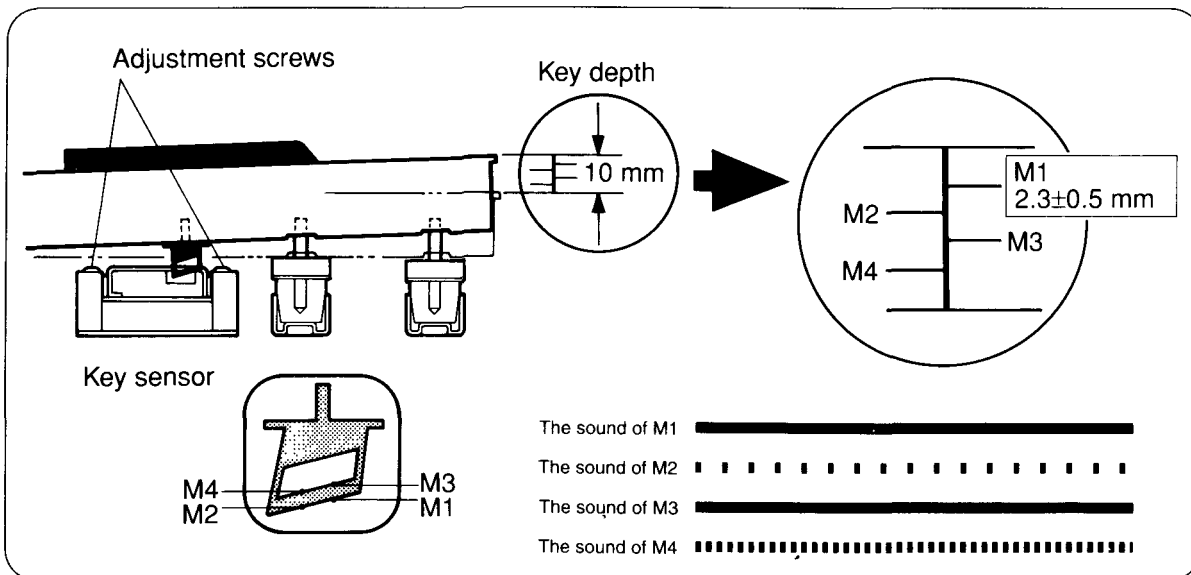


Figure 3

Explains the various beeps

M1 sounds too early	The sensor is set too high Keyboard height is too low	Adjust it lower Adjust them higher
M1 sounds too late	The sensor is set too low Keyboard height is too high	Adjust them higher Adjust them lower
M4 does not sound	The sensor is set too low Keyboard height is too high Key depth is too shallow	Adjust it higher Adjust them lower Adjust them to 10 mm
No sound deep		Check the sensor connector

2) Adjusting the sustain pedal and testing the sustain pedal sensor

(8-stage half-pedal system; MIDI OUT is ON/OFF format)

The Sensor Test Mode is accessed in the same way as for the key sensor test. Three beeps are used to check the sensors, and adjustment is made using the VR1 adjuster on the MN board.

Press the pedal slowly downwards and check the following:

- (1) Does the first beep sound?
- (2) Using the VR1 adjuster, adjust so that the first beep changes to the second beep at a point when the damper is about 1.5 mm (0.06 inch) away from the string.
- (3) Check to see if the third beep sounds before the pedal is pressed all the way down.
- (4) If the appropriate position can not be found with the adjustment made in step (2), turn on DIP switch (SW1) NO.3 in order to double the adjustment range.

Note

DIP switches (SW1) No.1 to No.4 should normally be left in the OFF position.

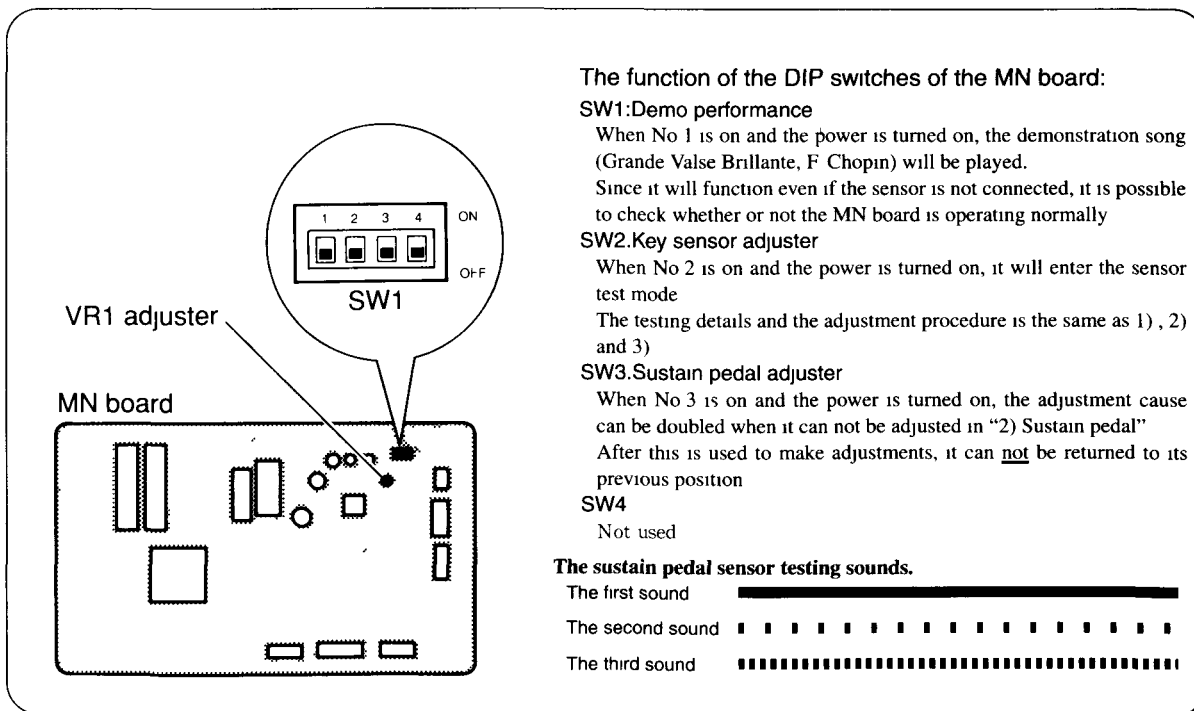


Figure 4

3) Adjusting the soft pedal and testing the pedal sensor

(Leaf switch with ON/OFF detecting)

Use the adjustment screw to adjust the sensor. If the sensor is adjusted correctly, a beep should be produced when the hammer rail has moved 2-3 mm (about 1/10 inch).

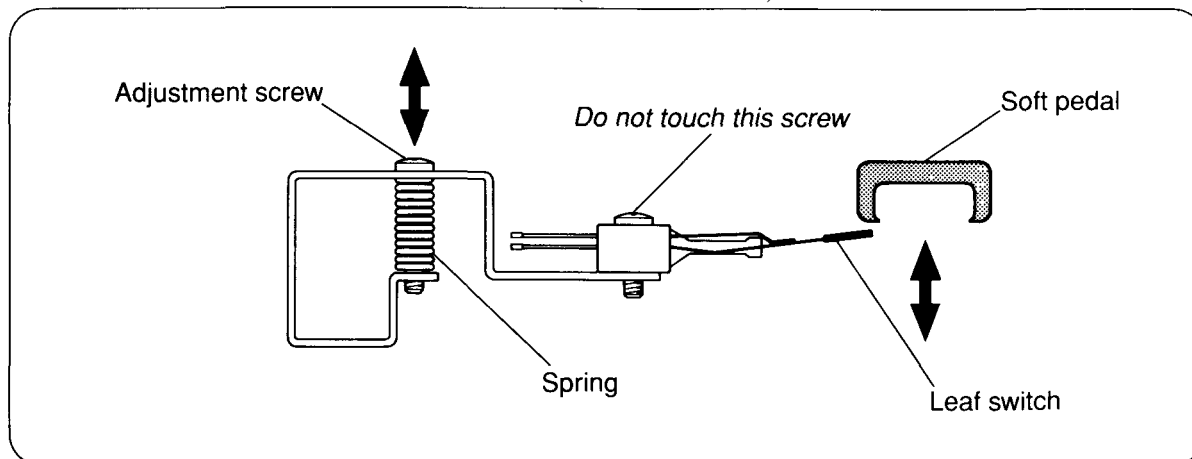


Figure 5

Checking the ROM version

You can check the version number of the ROM on the MN board using sound. This is done by holding down the three lowest black keys of the keyboard and turning on the power supply.

Sensor version: An ascending scale in C major, starting on the lowest C ("do" and "re" are Version 2)

Tone generator version: A descending scale in C major, starting from the highest C ("do" and "si" are Version 2).

3. Action removal procedure

[Removing and installing the action] (Refer to Figure 6)

- (1) Take off the hanging spring (lift it upwards to remove it).
- (2) Rotate the trap hanging hook towards the back and remove the hanging hook.
- (3) Loosen the action bolt nut and remove it.
- (4) Remove the action.

Note

To install the action, reverse the above procedure.

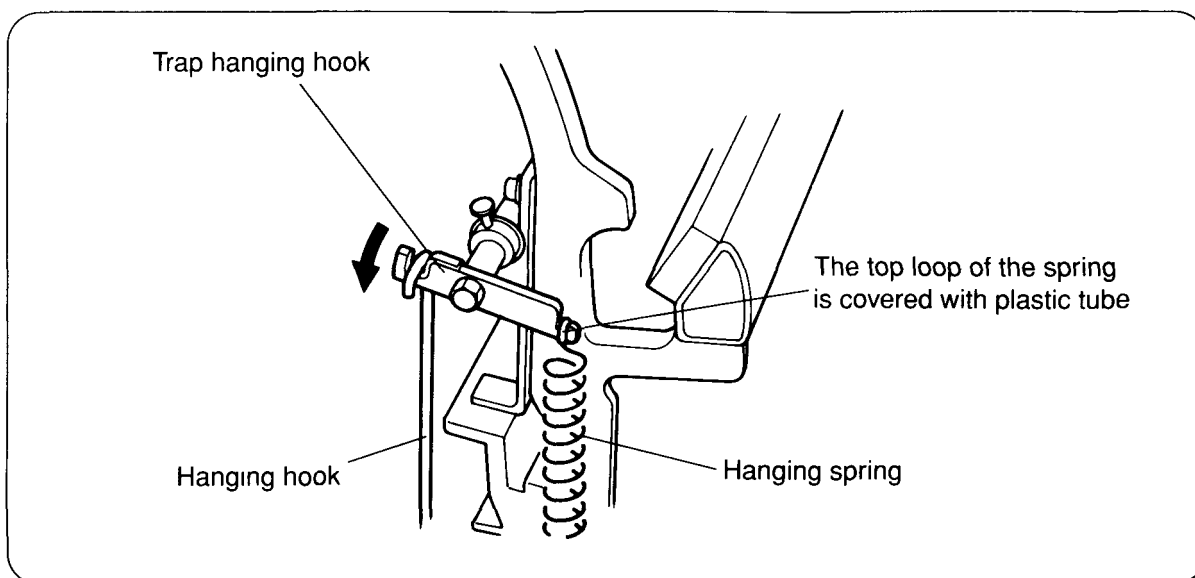


Figure 6

4. Post-delivery checking procedure

The following steps are sufficient to check the functions when the Silent Series piano is delivered to the customer. If any problems are discovered, however, please refer to the appropriate adjustment instructions and correct the problem.

After the piano has been adjusted and the AC adaptor has been connected, the inspection described below should be carried out.

1) Inspecting the shank stop pedal

- Press down the shank stop pedal (the center pedal), and slide it to the left to lock it.
→ Press a key and make sure no sound is produced.
- To check the adjustment, keep the shank stop pedal on, and make sure that, when the hammer shank approaches and comes in contact with the cushion, the interval remains parallel.

2) Inspecting the electronic tone generator

- (1) Turn on the power supply.
→ Check to make sure the pilot lamp lights.
- (2) Set the headphones in position, and play a key on the keyboard.
→ Check to see that the electronic tone generator produces sound.
- (3) Press the pedal and play a key.
→ Check to make sure that the sound is sustained when the sustain pedal is pressed.
→ Make sure the sound is muted when the soft pedal is pressed.

MIDI Implementation Chart

SILENT SERIES

[YAMAHA PIANO]
Model MP80,MP80T,MP100

Date: 28-JUN-1993
 Version: 1.0

Function . . .	Transmitted	Recognized	Remarks
Basic Default Channel Changed	1 x	x x	
Mode Default Messages Altered	3 x *****	x x x	
Note Number : True voice	21-108 *****	x x	
Velocity Note ON Note OFF	O 90H, v=1-127 X 90H, v=0	x x	
After Key's Touch Ch ' s	x x	x x	
Pitch Bend	x	x	
Control Change	07 x 11 x 64 O 66 x 67 O 71 O 121 x	x x x x x x x	Volume Expression Sustain Pedal Sostenuto Pedal Soft Pedal Reverberation Depth Reset All Con- trollers
Prog Change : True #	x *****	x	
System Exclusive	x	x	
Common : Song Pos : Song Sel : Tune	x x x	x x x	
System : Clock Real Time : Commands	x x	x x	
Aux :Local ON/OFF :All Notes OFF Mes- :Active Sense sages :Reset	x x O x	x x x x	
Notes			

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO O : Yes
 Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO X : No

YAMAHA PIANO SILENT SERIES

- MP80, MP80T
- MP100

PARTS LIST

■ CONTENTS

OVERALL ASSEMBLY (MP80, MP80T).....	1
OVERALL ASSEMBLY (MP100)	4
KEY SENSOR UNIT	7
SWITCH BOX UNIT.....	10
PEDAL UNIT, L.....	11
PEDAL UNIT, S	12
DC IN UNIT	13
ELECTRICAL PARTS	14

- The numbers with "pc." or "pcs" in "Remarks" show quantities for each unit.
- The parts with "—" in "Part No." are not available as spare parts.
- The part with "(K)" in "Remarks" is for the product that has the letter N on 1st digit of the serial number.
- The part with "(J)" in "Remarks" is for the product that has all numbers in the serial number.

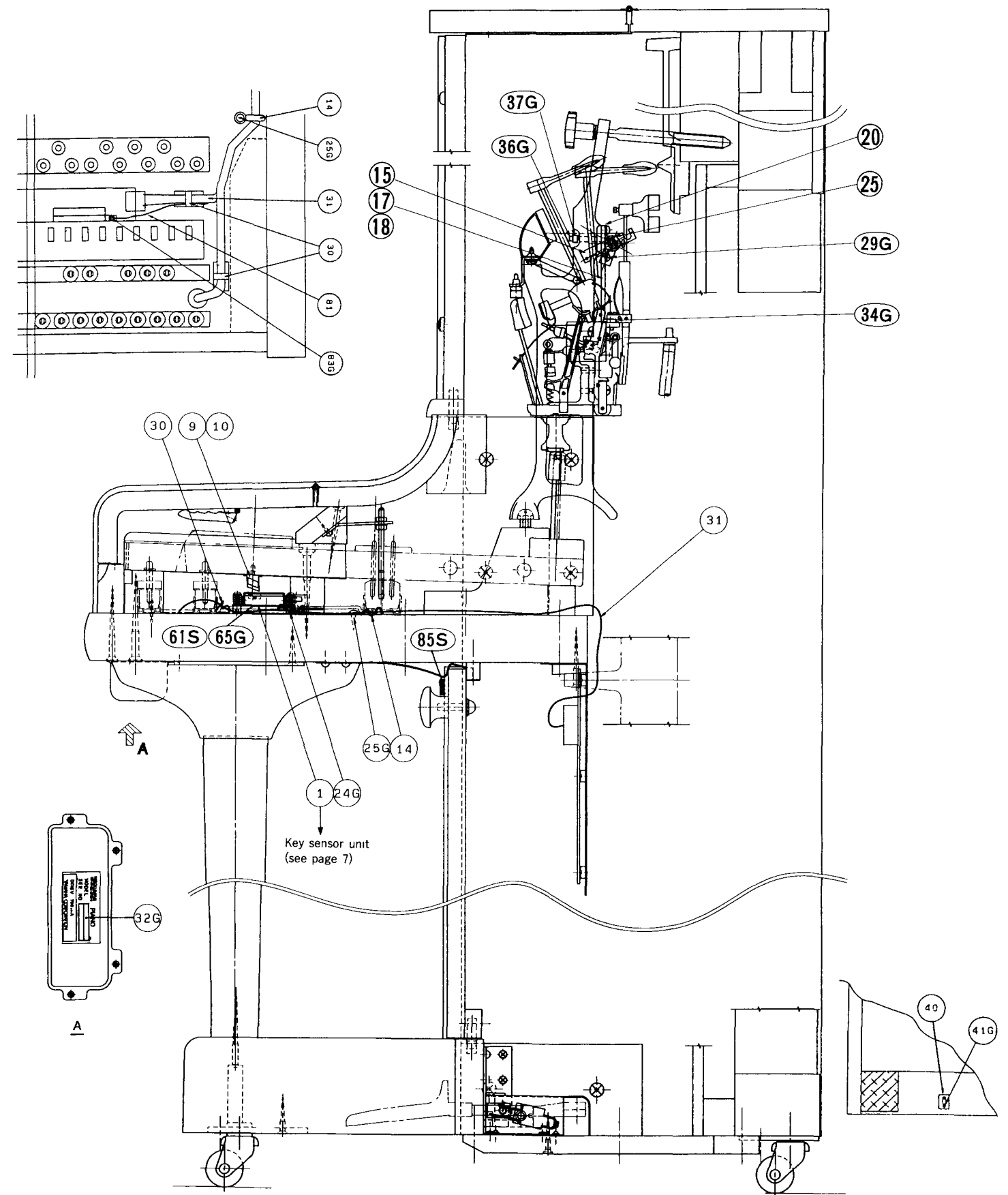
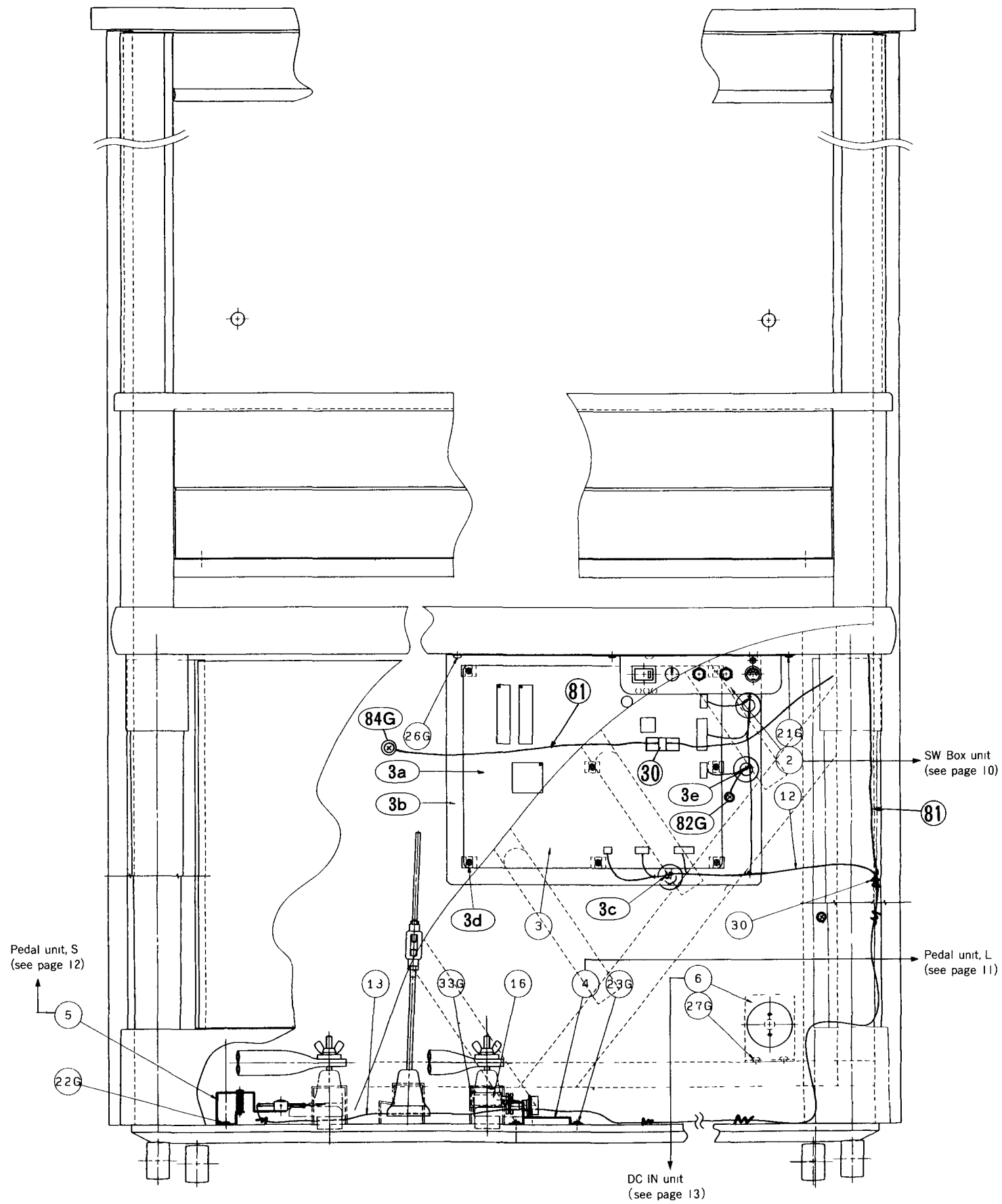
OVERALL ASSEMBLY (MP80,MP80T)

Ref.	Part No.	Description			部品名	Remarks	ランク
1	VQ234200	<OVERALL ASSEMBLY> KEY SENSOR UNIT	110	S	<総組立> キーセンサーユニット	MP80	57
2	--	SWITCH BOX UNIT			SW BOXユニット	(VR47370)	
3	--	MN UNIT			MNユニット	(VQ46130)	
3a	VQ461000	CIRCUIT BOARD	MN		MNシート		55
3b	VQ493500	ANGLE BRACKET, MN			MN金具		07
3c	CB502030	CORD BINDER	S-75B		束線止め		01
3d	VA078100	BIND HEAD TAPPING SCREW-S	3.0X5	ZMC2-Y	+バインドSタイト	11pcs	01
3e	CB817510	CORD BINDER	S-14B		束線止め		01
4	VQ461900	PEDAL UNIT, L			ペダルユニット L		10
5	VQ861200	PEDAL UNIT, S			ペダルユニット S		10
6	VQ462000	DC IN UNIT			DC INユニット		09
9	VQ539500	KEY SHUTTER	WHITE KEY		キーシャッター	52pcs (J)	03
9	VR468800	KEY SHUTTER	WHITE KEY		キーシャッター	52pcs (K)	
10	VQ764200	KEY SHUTTER	BLACK KEY		キーシャッター	36pcs (J)	03
10	VR722100	KEY SHUTTER	BLACK KEY		キーシャッター	36pcs (K)	
12	--	CONNECTOR ASSEMBLY	MN		束線 MN	(VQ46150)	
13	--	CONNECTOR ASSEMBLY	PD-K		束線 PD-K	(VR77000)	
14	VB582500	CORD BINDER	#04054		束線止め		01
15	--	SHANK STOPPER ASSEMBLY			Sストップ軸 ASSY	(VQ76110)	
16	--	ANGLE BRACKET			Pセンサーアングル	(VQ87000)	
17	--	HOLDER, SHANK STOPPER			Sストップ軸受 Ass'y	(VQ76230)	
18	--	STAY			ストップ軸ステー1	(VQ76260)	
19	--	STAY			ストップ軸ステー2	(VQ76270)	
30	CB830070	CORD BINDER	K105G		束線止め		01
31	--	CONNECTOR ASSEMBLY	SENSOR, 0-K		束線 センサー O-K	(VR77010)	
40	VR429000	CLIP	A-2		フラクリップ	1pc.	
81	--	GROUND WIRE			フレームアース線	(VR76980)	
21G	EX500116	TRUSS HEAD TAPPING SCREW-1	4.0X12	ZMC2-BL	+トラスTP 1種	4pcs (0374727)	
22G	EX550130	TRUSS HEAD TAPPING SCREW-1	4.0X16	ZMC2-Y	+トラスTP 1種	2pcs (0374734)	
23G	EX550130	TRUSS HEAD TAPPING SCREW-1	4.0X16	ZMC2-Y	+トラスTP 1種	3pcs (0374734)	
24G	EX500116	TRUSS HEAD TAPPING SCREW-1	4.0X12	ZMC2-BL	+トラスTP 1種	10pcs (0374727)	
25G	EX500116	TRUSS HEAD TAPPING SCREW-1	4.0X12	ZMC2-BL	+トラスTP 1種	1pc. (0374727)	
26G	EX550130	TRUSS HEAD TAPPING SCREW-1	4.0X16	ZMC2-Y	+トラスTP 1種	3pcs (0374734)	
27G	EX500116	TRUSS HEAD TAPPING SCREW-1	4.0X12	ZMC2-BL	+トラスTP 1種	2pcs (0374727)	
29G	VR124400	BW HEAD SCREW	4X4	ZMC2-Y	+BWH小ネジ	8pcs	
32G	--	SEAL, SERIAL No.			製番シール	2pcs (VR14340)	
33G	VM678900	BIND HEAD TAPPING SCREW-S	4.0X16	ZMC2-Y	+バインドSタイト	1pc.	01
34G	VQ758900	BIND HEAD TAPPING SCREW-2	SW 4.0X10	ZMC2-Y	+バインドTP 2種溝	4pcs	
41G	EI330106	BIND HEAD TAPPING SCREW-1	3.0X10	ZMC2-BL	+バインドTP 1種	1pc. (2040420)	
54G	--	NUT	#1 4.0X0.75	ZMC2-Y	六角ナット 左ネジ	1pc. (2291290)	
59G	--	STAPLE	MAX 808FC		ステープル	(K) (2158500)	
82G	VA078100	BIND HEAD TAPPING SCREW-S	3.0X5	ZMC2-Y	+バインドSタイト	1pc.	01
83G	VP887500	BIND HEAD TAPPING SCREW-S	3.0X4	FCM3-BL	+バインドSタイト	1pc.	
84G	--	PW SEMS PAN HEAD TAPPING	4.0X8	ZMC2-Y	PWセムスナベTP	1pc. (2066210)	
85S	--	LABEL	FCC		FCCラベル	U,C (VP60330)	
	--	<ACCESSORIES> HEADPHONES	HPE-170		<付属品> ヘッドホン	SILENT SERIES (VQ78520)	
	VR508000	AC ADAPTOR	15V 700mA 120V		ACアダプター	U,C	
	VR474000	AC ADAPTOR	15V 700mA 230V		ACアダプター	H	
	VR507900	AC ADAPTOR	15V 700mA 240V		ACアダプター	B	

*New Parts (新規部品)

ランク:Japan only

OVERALL ASSEMBLY (MP100)



Ref.	Part No.	Description			部品名	Remarks	ランク
* 1	VR596800	<OVERALL ASSEMBLY> KEY SENSOR UNIT	U10 S		<総組立> キーセンサーユニット S W B O X ユニッ M N ユニッ M N シー	MP100 (VR47370) (VQ46130)	55
2	--	SWITCH BOX UNIT					
3	--	MN UNIT					
3a	VQ461000	CIRCUIT BOARD	MN				
3b	VQ493500	ANGLE BRACKET, MN			M N 金具 束線止め + バインド S タイ 束線止め ペダルユニット L	11pcs	07
3c	CB502030	CORD BINDER	S-75B				01
3d	VA078100	BIND HEAD TAPPING SCREW-S	3.0X5	ZMC2-Y			01
3e	CB817510	CORD BINDER	S-14B				01
4	VQ461900	PEDAL UNIT, L					10
5	VQ861200	PEDAL UNIT, S			ペダルユニット S D C I N ユニッ キーシャッター キーシャッター 束線 M N	52pcs 36pcs (VQ46150)	10
6	VQ462000	DC IN UNIT					09
9	VQ539500	KEY SHUTTER	WHITE KEY				03
10	VQ764200	KEY SHUTTER	BLACK KEY				03
12	--	CONNECTOR ASSEMBLY	MN				
13	--	CONNECTOR ASSEMBLY	PD-K		束線 P D - K 束線止め S ストップ軸 A s s y P センサーアングル S ストップ軸受 Ass'y	(VR77000)	01
14	VB582500	CORD BINDER	#04054				
15	--	SHANK STOPPER ASSEMBLY					
16	--	ANGLE BRACKET					
17	--	HOLDER, SHANK STOPPER					
18	--	STAY			ストップ軸ステー5 ストップ軸プレート 束線止め 束線センサー O - K フラクリップ	(VR66910) (VR12430) (VR77010)	01
20	--	STAY					
30	CB830070	CORD BINDER	K105G				
31	--	CONNECTOR ASSEMBLY	SENSOR, 0-K				
40	VR429000	CLIP	A-2		1pc.		
81	--	GROUND WIRE			フレームアース線 + トラス TP 1種 + トラス TP 1種 + トラス TP 1種 + トラス TP 1種	1pc. (VR76990) 4pcs (0374727) 2pcs (0374734) 3pcs (0374734) 10pcs (0374727)	
21G	EX500116	TRUSS HEAD TAPPING SCREW-1	4.0X12	ZMC2-BL			
22G	EX550130	TRUSS HEAD TAPPING SCREW-1	4.0X16	ZMC2-Y			
23G	EX550130	TRUSS HEAD TAPPING SCREW-1	4.0X16	ZMC2-Y			
24G	EX500116	TRUSS HEAD TAPPING SCREW-1	4.0X12	ZMC2-BL			
25G	EX500116	TRUSS HEAD TAPPING SCREW-1	4.0X12	ZMC2-BL	+ トラス TP 1種	1pc. (0374727)	
26G	EX550130	TRUSS HEAD TAPPING SCREW-1	4.0X16	ZMC2-Y	+ トラス TP 1種	3pcs (0374734)	
27G	EX500116	TRUSS HEAD TAPPING SCREW-1	4.0X12	ZMC2-BL	+ トラス TP 1種	2pcs (0374727)	
29G	VR124400	BW HEAD SCREW	4X4	ZMC2-Y	+ B W H 小ネジ	8pcs	
32G	--	SEAL, SERIAL No.			製番シール	(VR14340)	
33G	VM678900	BIND HEAD TAPPING SCREW-S	4.0X16	ZMC2-Y	+ バインド S タイ	1pc.	01
34G	VQ758900	BIND HEAD TAPPING SCREW-2	SW 4.0X10	ZMC2-Y	+ バインド T P 2種溝	1pc.	
36G	EX001080	FLAT HEAD SCREW	4.0X30	ZMC2-Y	+ 皿小ネジ	2pcs (2218960)	
37G	ET400030	HEXAGONAL NUT	SW 4	ZMC2Y	+ 六角ナット	4pcs	
41G	EI330106	BIND HEAD TAPPING SCREW-1	3.0X10	ZMC2-BL	+ バインド T P 1種	1pc. (2040420)	
* 61S	VR733100	SPACER	T=7		キーセンサスペーサ ステーブル + バインド S タイ + バインド S タイ P W セムスナベ TP	5pcs (2214920)	01
65G	--	STAPLE	97-14				
82G	VA078100	BIND HEAD TAPPING SCREW-S	3.0X5	ZMC2-Y			
* 83G	VP887500	BIND HEAD TAPPING SCREW-S	3.0X4	FCM3-BL			
84G	--	PW SEMS PAN HEAD TAPPING	4.0X8	ZMC2-Y		1pc. 1pc. 1pc. (2066210)	
85S	--	LABEL	FCC		F C C ラベル	U, C (VP60330)	
		<ACCESSORIES>			<付属品>	SILENT SERIES	
* * *	VR508000 VR474000 VR507900	HEADPHONES AC ADAPTOR AC ADAPTOR AC ADAPTOR	HPE-170 15V 700mA 120V 15V 700mA 230V 15V 700mA 240V		ヘッドホーン A C アダプター A C アダプター A C アダプター	U, C H B (VQ78520)	

*New Parts (新規部品)

KEY SENSOR UNIT

Ref.	Part No.	Description	部品名	Remarks	ランク
1	VQ234200	<KEY SENSOR UNIT> KEY SENSOR UNIT	110 S	SILENT SERIES MP80 MP100 (VQ23450)	57
	VR596800	KEY SENSOR UNIT	U10 S		
2	CB502790	ANGLE BRACKET SENSOR HEAD			01
3	--	FIBER COVER	1-S	(VQ23490)	06
4	--	FIBER COVER	2-S	(VQ23500)	
5	--	FIBER COVER	3-S	(VQ23510)	
6	--	FIBER		(VN37120)	
9	VQ849700	PLUG		受光プラグ	
11	VQ235200	PLUG	BL	キー発光プラグ	05
14	CA500660	COVER		バーリングカバー	01
17	--	STAY	S M110	キーセンサー取付台	(VQ23480)
19	CB502030	CORD BINDER	S-75B	束線止め	01
21	VQ235300	SPRING		高さ調整バネ	03
23	VQ234700	STAY		キーセンサステー	05
25	VQ206000	CIRCUIT BOARD	SENSOR	センサーシート	29
28	VN613300	CIRCUIT BOARD	KEY EMISSION	キー発光シート	15
41	--	CONNECTOR ASSEMBLY	SENSOR, I	束線センサー I	(VQ49310)
10G	VP179200	PAN HEAD TAPPING SCREW	3.0X6 ZMC2-BL	+ナベTP 1種	
16G	VP887500	BIND HEAD TAPPING SCREW-S	3.0X4 FCM3-BL	+バインドSタイト	13pcs
22G	EG330180	BIND HEAD SCREW	3.0X18 FCM3-BL	+バインド小ネジ	10pcs
26G	VL280200	FLAT HEAD TAPPING SCREW-P	3.0X10 ZMC2-BL	+サラPタイト	4pcs
29G	VP265600	PAN HEAD TAPPING SCREW-P	3X25 ZMC2-BL	+ナベPタイト	2pcs
30G	CB080100	CLOTH	15X30	アセテートクロス粘着	02
47G	VP887500	BIND HEAD TAPPING SCREW-S	3.0X4 FCM3-BL	+バインドSタイト	1pc.
42	VR468800	KEY SHUTTER	WHITE KEY	キーシャッター	52pcs MP80(K)
43	VR722100	KEY SHUTTER	BLACK KEY	キーシャッター	36pcs MP80(K) MP80(K)VI04020) MP80(K)VI04860)
45	--	TAPE		シャッター両面テープ	
46	--	HOLDER		シャッター押え	

*New Parts (新規部品)

ランク:Japan only

Yamaha produces the MP-80 silent series piano in two separate factories.

One is located in Japan at the YAMAHA factory, and the other is located at the KEMBLE PIANO factory in Great Britain.

There is a difference in how the factories attach the Key Shutter and the Key Shutter form.

The MP-80 key shutters from YAMAHA Japan are attached with adhesive under of the keys, while the key shutters from KEMBLE are affixed with staples under of the keys.

You can distinguish the difference between the two factories from the serial number.

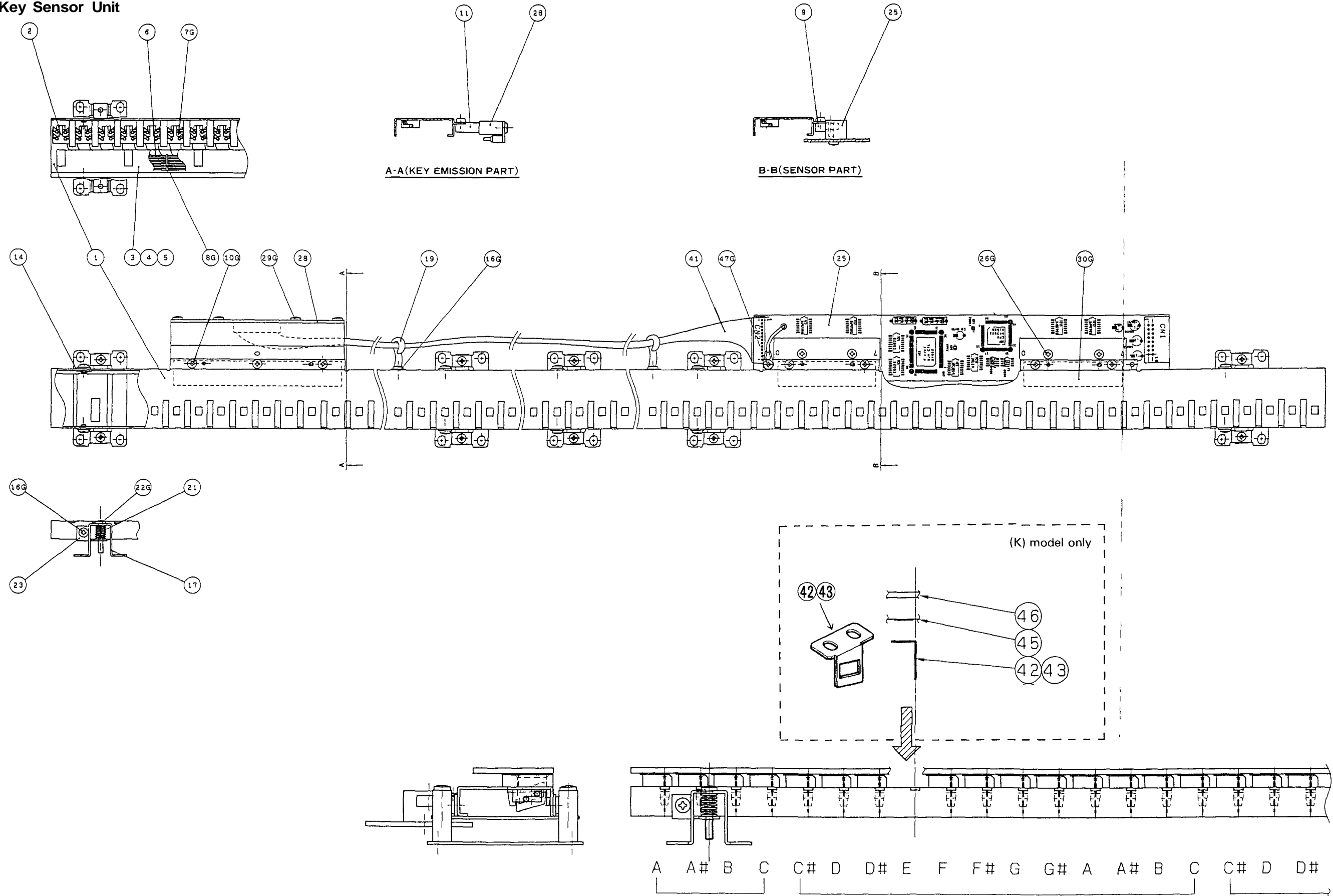
This is important if repairs are required to the shutters and parts are required.

Identification of product through the serial number

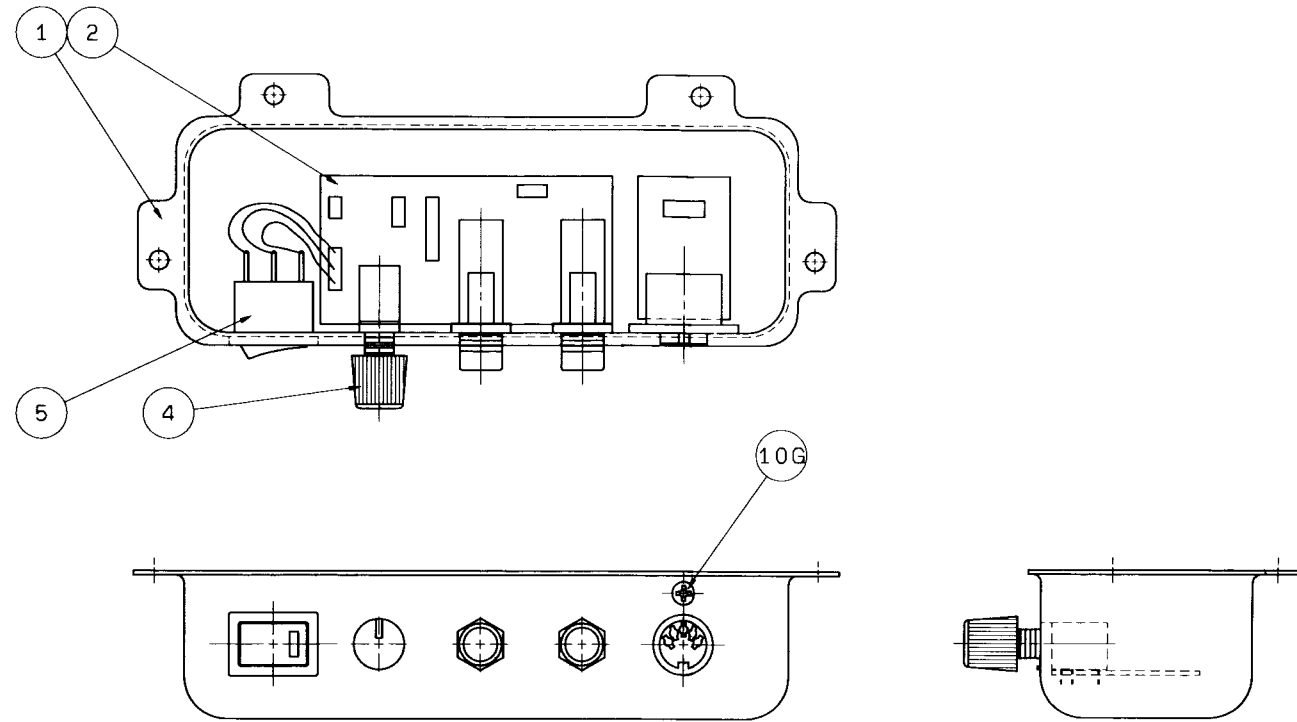
YAMAHA Japan MP-80: All digits in the serial number are numbers.

KEMBLE MP-80: The 1st digit of serial number is alphabet letter N.

• Key Sensor Unit



SWITCH BOX UNIT

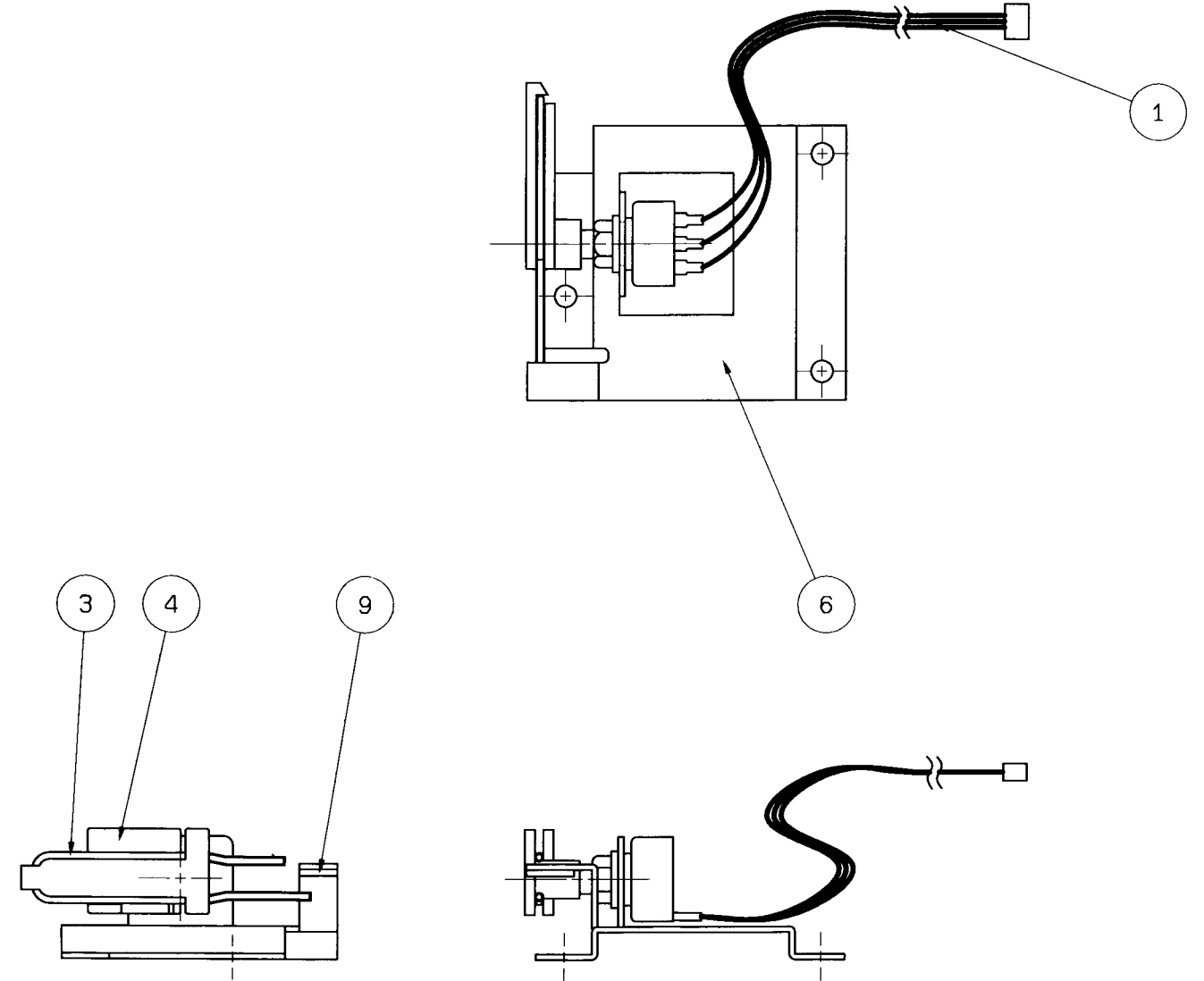


Ref.	Part No.	Description	部品名	Remarks	ランク
*	--	<SWITCH BOX UNIT> SWITCH BOX UNIT	MP80 MP100	<SW BOX ユニット> SILENT SERIES (VR47370)	
1	VR473800	SWITCH BOX			03
2	VQ461100	CIRCUIT BOARD	HP		
4	CB028970	KNOB	BL	VOLUME	
5	VQ861700	CONNECTOR ASSEMBLY	SW	POWER SW	01
10G	VC161100	BIND HEAD TAPPING SCREW-P	3.0X12 ZMC2-BL	+ バインド P タイト 1pc.	

*New Parts (新規部品)

ランク: Japan only

PEDAL UNIT, L

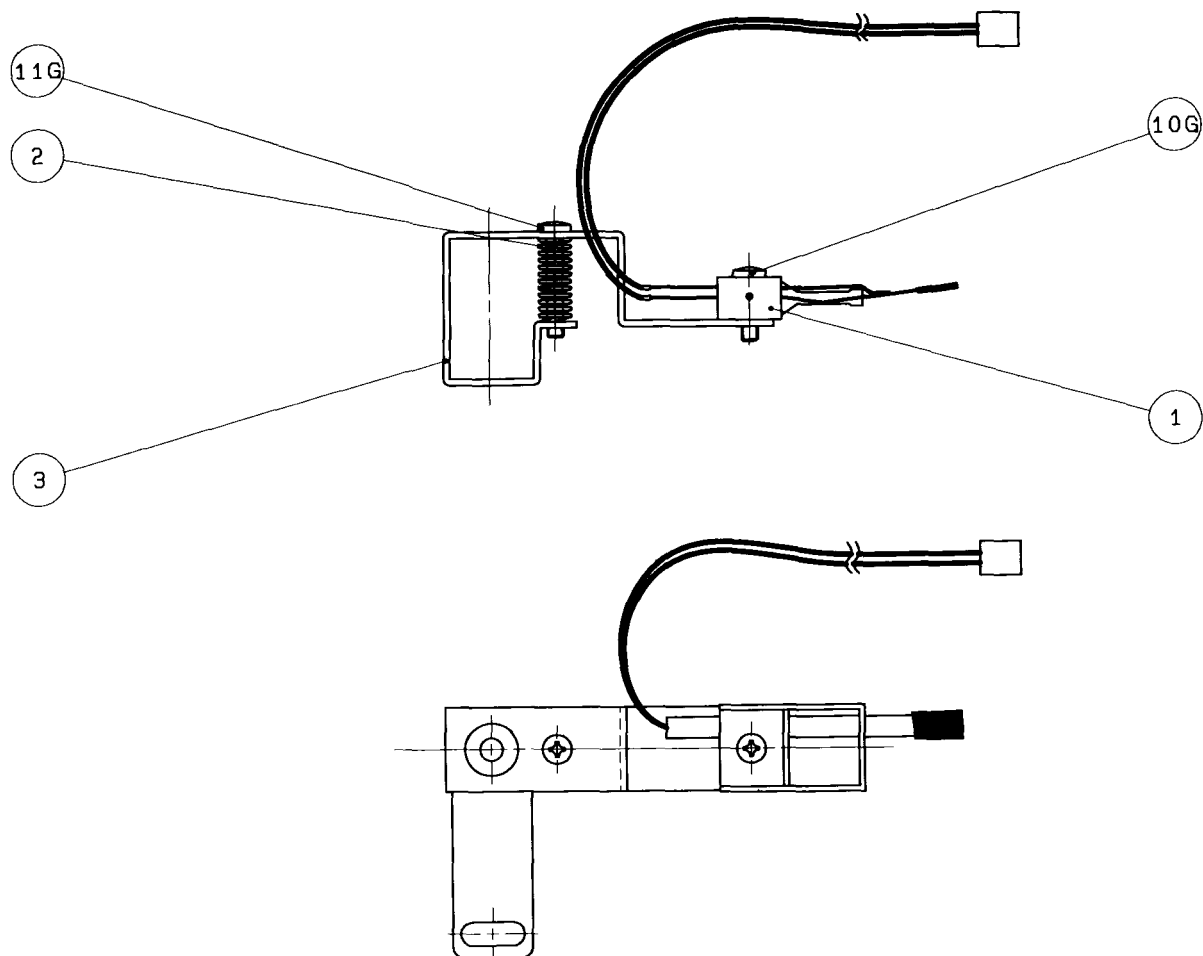


Ref.	Part No.	Description	部品名	Remarks	ランク
		<PEDAL UNIT, L> PEDAL UNIT, L		<ペダルユニット L> SILENT SERIES	10
1	VQ461900	CONNECTOR ASSEMBLY	PDS-L	ペダルユニット L 束線 PDS-L	01
3	AA104230	SPRING	BL	ワイヤーバネ	01
4	CB059320	HOLDER, WIRE		ワイヤーホルダー	
6	--	ANGLE BRACKET	PEDAL	L センサーブラケット	(VQ53750)
9	VQ866400	STOPPER, WIRE	BR	ワイヤーストッパー	

*New Parts (新規部品)

ランク: Japan only

■ PEDAL UNIT, S



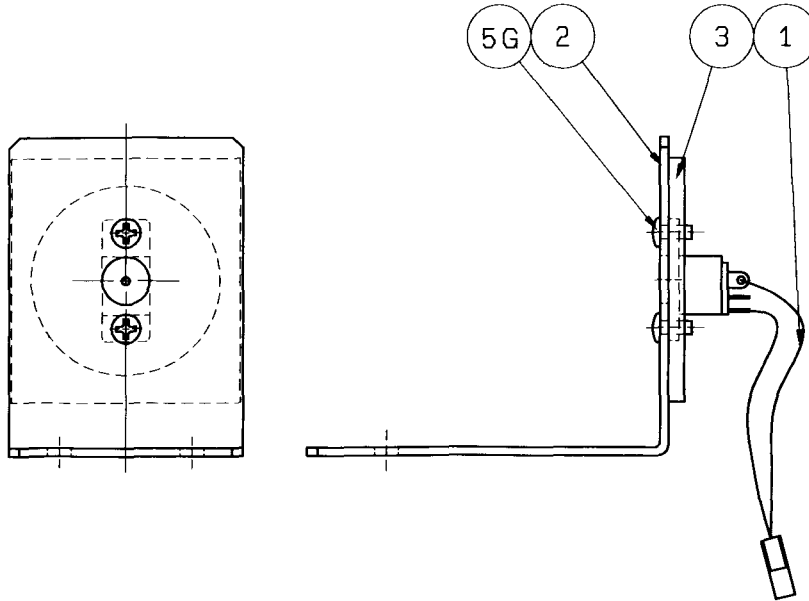
Ref.	Part No.	Description			部品名	Remarks	ランク
1	VQ861200	<PEDAL UNIT, S> PEDAL UNIT, S			<ペダルユニット S> ペダルユニット S	SILENT SERIES	10
2	VQ861100	CONNECTOR ASSEMBLY	PDS-S		東線 PDS-S		
3	VR068900	SPRING	PEDAL		ペダルセンサーバネ	(VQ53760)	
	--	ANGLE BRACKET			Sセンサーブラケット		
10G	VH553800	BIND HEAD TAPPING SCREW-S	3.0X12	ZMC2-Y	+ バインド S タイト	1pc.	01
11G	EG330130	BIND HEAD SCREW	3.0X20	ZMC2-Y	+ バインド 小ネジ	1pc.	01

*New Parts (新規部品)

ランク: Japan only

SILENT SERIES

■ DC IN UNIT



Ref.	Part No.	Description			部品名	Remarks	ランク
		<DC IN UNIT>			<DC IN ユニット>	SILENT SERIES	
1	VQ462000	DC IN UNIT			DC IN ユニット		09
2	VQ493400	CONNECTOR ASSEMBLY	DC IN		束線 DC IN	(VQ49360)	02
3	--	ANGLE BRACKET			DC IN 金具		
3	VE545100	PLATE			電源コード止金具		
5G	EP620160	BIND HEAD TAPPING SCREW-P	2.6X6	ZMC2-BL	+バインドPタイト	1pc.	01

*New Parts (新規部品)

ランク:Japan only

ELECTRICAL PARTS

Ref.	Part No.	Description	部品名	Remarks	ランク	
	VQ461000 VQ461100 VQ206000 VN613300	<ELECTRICAL PARTS> CIRCUIT BOARD CIRCUIT BOARD CIRCUIT BOARD CIRCUIT BOARD	MN HP SENSOR KEY EMISSION	<電気部品> MNシート HPシート センサーシート キー発光シート	MP100,MP80	55 29 15
6 7	VQ461000 XF291A00 XB738A00	CIRCUIT BOARD IC IC	MN UPC4570G2 TC4053BF	MNシート IC IC	OP AMP MULTIPLEXER	55 03 02
8 9 10 11 12	XD835A00 XL112A00 XN425A00 XN426A00 XK973100	IC IC IC IC IC	SN74HC138NSR SN74HC132NS-R HD6433308RW03F HN624116PZ20	IC IC IC IC IC	DECODER NAND CPU MASKED ROM 4M MASKED ROM 16M	02 03 16
13 14 15 16 17	XK974100 XK281B00 XM896A00 LB918020 LB918040	IC IC IC BASE POST CONNECTOR BASE POST CONNECTOR	HN624116PZ21 YMW265B-F PCM1702U XH- 2P TE XH- 4P TE	IC IC IC ベース付きポスト ベース付きポスト	MASKED ROM 16M CVG DAC	16 22 08 01 01
20 21 22 23 24	VB390100 VB390200 VB390400 VD542700 VI551900	BASE POST CONNECTOR BASE POST CONNECTOR BASE POST CONNECTOR LC FILTER QUARTZ CRYSTAL UNIT	PH- 5P TE PH- 6P TE PH- 8P TE DSS306-93F223Z1 11.2896M AF5883CK	コネクタベースポスト コネクタベースポスト コネクタベースポスト LCフィルタ 水晶振動子	11.2896MHz	01 01 01 01 03
25 26 26 27 27	VK409400 VJ927200 VQ395600 VJ927100 VQ395500	QUARTZ CRYSTAL UNIT TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	24M AT- 49 2SA1162 O,Y 2SA1052 B,C 2SC2712 Y 2SC2462LCTR C	水晶振動子 トランジスタ トランジスタ トランジスタ トランジスタ	24MHz	03 01 01 01 01
28 29 29 30 31	VN416200 VB493900 VB797600 VN406200 XK929A00	TRANSISTOR DIODE DIODE PHOTO COUPLER IC	2SC2412K T147 S MA221 RLS-73 HCPL-0600-500 HY6264ALJ-10	トランジスタ ダイオード ダイオード フォトカップラ IC	SRAM 64K	01 01 01 05 08
31 32 32 33 34	XM039A00 XI020A00 XM049A00 VN381200 RD250000	IC IC IC COIL CHIP CARBON RESISTOR	LH5168N-10TL HM65256BLFP-10T TC51832AFL-10 SNT-D20TF 0.0 0.0 J	IC IC IC コイル チップ抵抗	SRAM 64K PSRAM 256K PSRAM 256K	07 08 08 03 01
35 36 37 38 39	RD255100 RD255220 RD256100 RD256150 RD256270	CHIP CARBON RESISTOR CHIP CARBON RESISTOR CHIP CARBON RESISTOR CHIP CARBON RESISTOR CHIP CARBON RESISTOR	100.0 0.1 J 220.0 0.1 J 1.0K 0.1 J 1.5K 0.1 J 2.7K 0.1 J	チップ抵抗 チップ抵抗 チップ抵抗 チップ抵抗 チップ抵抗		01 01 01 01 01
40 41 42 43 44	RD257270 RD257390 RD257470 RD258120 RD257100	CHIP CARBON RESISTOR CHIP CARBON RESISTOR CHIP CARBON RESISTOR CHIP CARBON RESISTOR CHIP CARBON RESISTOR	27.0K 0.1 J 39.0K 0.1 J 47.0K 0.1 J 120.0K 0.1 J 10.0K 0.1 J	チップ抵抗 チップ抵抗 チップ抵抗 チップ抵抗 チップ抵抗		01 01 01 01 01
45 46 47 48 49	RD257220 RD258470 RD259100 UB012470 UB013270	CHIP CARBON RESISTOR CHIP CARBON RESISTOR CHIP CARBON RESISTOR MONOLITHIC CERA. CAP. (CHIP MONOLITHIC CERA. CAP. (CHIP	22.0K 0.1 J 470.0K 0.1 J 1.0M 0.1 J B 470P 50V K B 2700P 50V K	チップ抵抗 チップ抵抗 チップ抵抗 チップ積層セラコン チップ積層セラコン		01 01 01 01 01
50 51 52 53 55	UB051100 UB051150 UB051220 UB052100 UB044100	MONOLITHIC CERA. CAP. (CHIP MONOLITHIC CERA. CAP. (CHIP MONOLITHIC CERA. CAP. (CHIP MONOLITHIC CERA. CAP. (CHIP MONOLITHIC CERA. CAP. (CHIP	SL 10P 50V D SL 15P 50V J SL 22P 50V J SL 100P 50V J F 0.010 50V Z	チップ積層セラコン チップ積層セラコン チップ積層セラコン チップ積層セラコン チップ積層セラコン		01 01 01 01 01
56 57 58 59 61	UB045100 UJ837220 UJ837100 UJ838100 UJ866100	MONOLITHIC CERA. CAP. (CHIP ELECTROLYTIC CAP. ELECTROLYTIC CAP. ELECTROLYTIC CAP. ELECTROLYTIC CAP.	F 0.100 50V Z 22.00 16V 10.00 16V 100.00 16V 1.00 50V	チップ積層セラコン ケミコン ケミコン ケミコン ケミコン		01 01 01 01 01
62 63 64 102 104	UK866470 VQ464300 VJ928500 UB051330 UK866330	ELECTROLYTIC CAP. -BP CHIP INDUCTANCE CHIP INDUCTANCE MONOLITHIC CERA. CAP. (CHIP ELECTROLYTIC CAP. -BP	4.70 50V NWL2520-560J BLM32A06PT SL 33P 50V J 3.30 50V	BPケミコン 巻線チップインダクタ チップインダクタ チップ積層セラコン BPケミコン		01 01 01 01 01

*New Parts (新規部品)

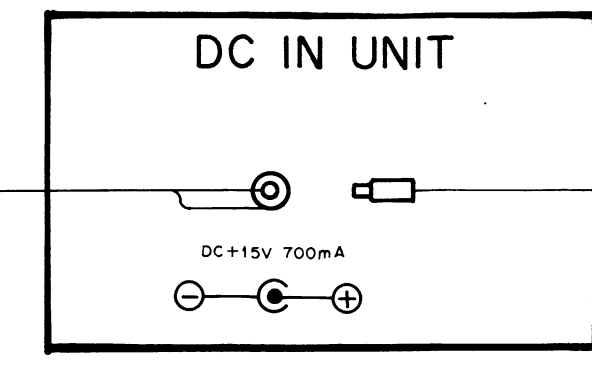
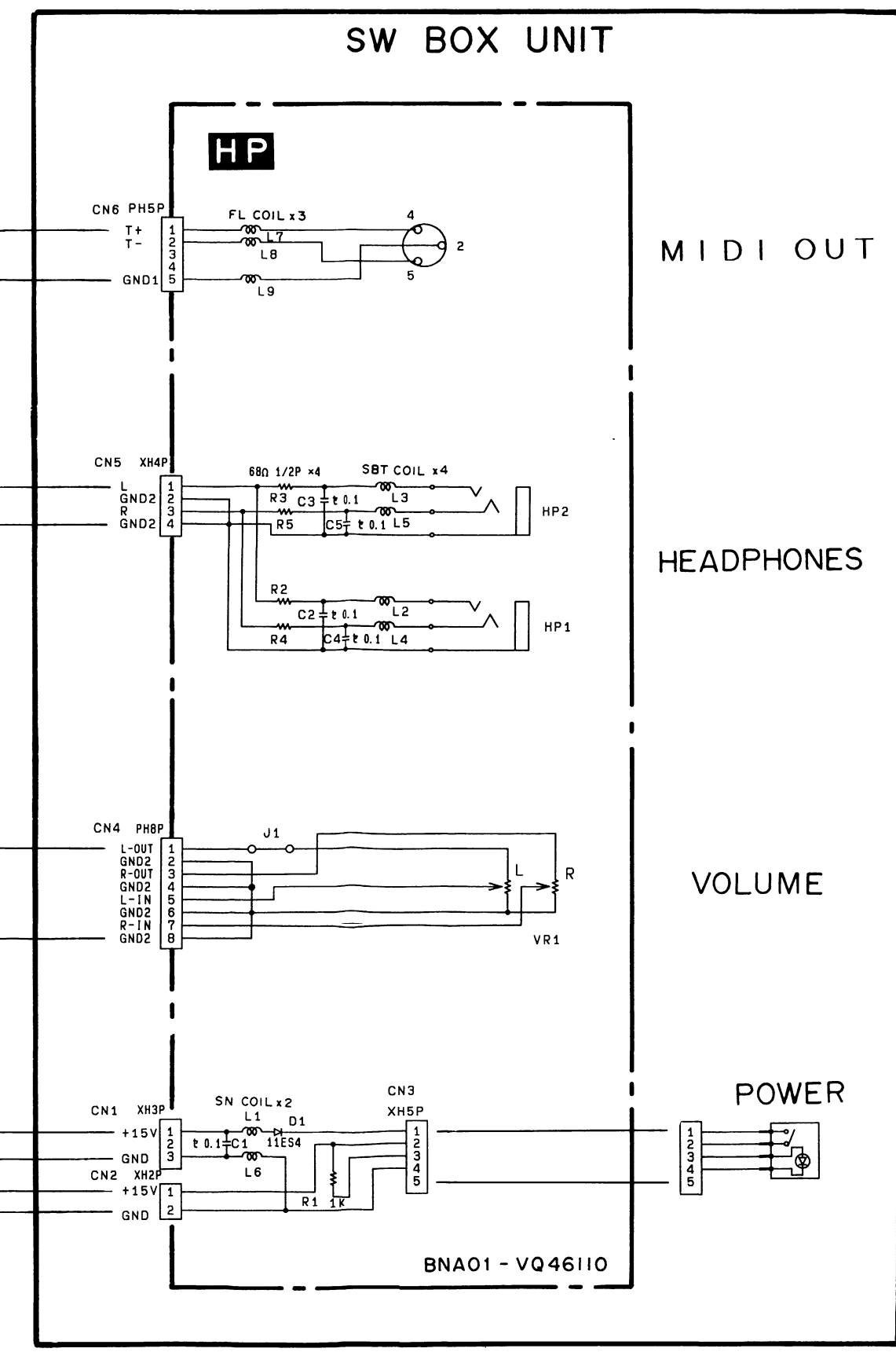
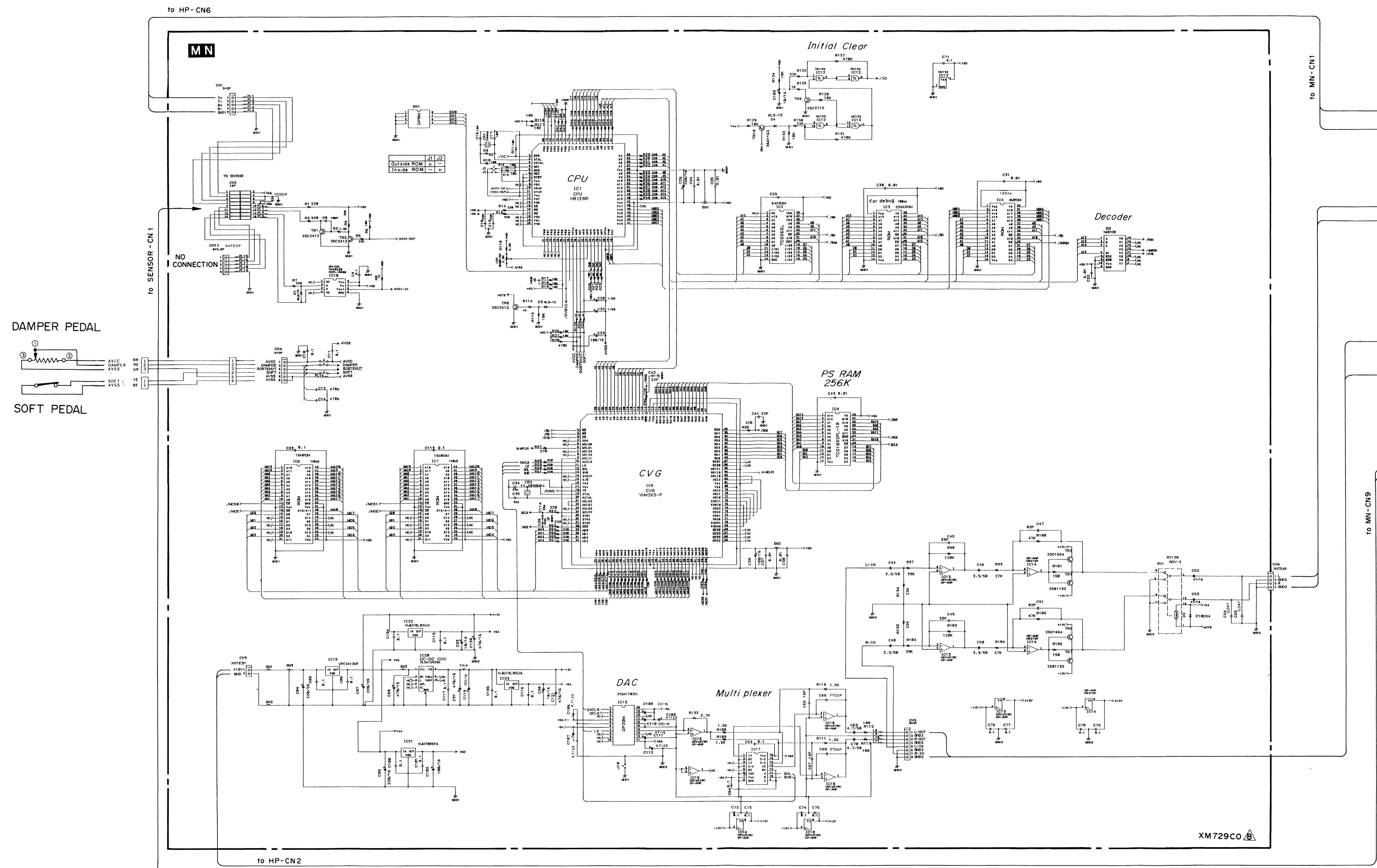
ランク: Japan only

SILENT SERIES

Ref.	Part No.	Description		部品名	Remarks	ランク			
*	105	UB051820	MONOLITHIC CERA. CAP. (CHIP	SL 82P 50V J	チップ積層セラコン	OP AMP	01		
	107	UA654470	MYLAR CAP.	0.047 50V J	マイラーコン		01		
	108	VN681100	CHIP DIODE	EC10DS4-TE12L	チップダイオード		01		
	110	XP263A00	IC	M5216FP-600C	IC				
	111	RD255150	CHIP CARBON RESISTOR	150.0 0.1 J	チップ抵抗		01		
	112	KC001900	RELAY	DC12V RY12W	リレー	DC-DC CONVERTER	07		
	112	VL406800	RELAY	DC12V G5V-2	リレー		05		
	121	VG013400	TRANSISTOR	2SD1664 82-390	トランジスタ		01		
	122	VG013300	TRANSISTOR	2SB1132 82-390	トランジスタ		01		
	123	XM838A00	IC	HLND12R35M	IC				
	124	XJ607A00	IC	NJM7805FA	IC	REGULATOR + 5V	02		
	125	XN129A00	IC	UPC2412HF	IC			REGULATOR +12V	
	126	VP214600	HEADER	HIF3FC 16P TE	ヘッダー		03		
	129	UJ838220	ELECTROLYTIC CAP.	220.00 16.0V	ケミコン			01	
	131	UJ848220	ELECTROLYTIC CAP.	220.00 25.0V	ケミコン			01	
*	133	FZ006970	EMI FILTER	LS MT Y223NB	LCフィルター EMI	REGULATOR + 5V REGULATOR - 5V	02		
	136	XJ757A00	IC	NJM78L05A-T3	IC		01		
	137	XP264A00	IC	NJM79L05A-T3	IC				
	138	UI546470	ELECTROLYTIC CAP.	4.7UF 25V	ケミコン		01		
	139	UI537470	ELECTROLYTIC CAP.	47.00 16.0V	ケミコン		01		
	140	UK866220	ELECTROLYTIC CAP. -BP	2.20 50.0V	BPケミコン		01		
	141	VD926800	ELECTROLYTIC CAP. -BP	47.00 16.0V	BPケミコン		01		
	144	VN638800	HEAT SINK	OSH-3030-SPL	放熱板		02		
	146	LB918050	BASE POST CONNECTOR	XH- 5P TE	ベース付きポスト		01		
	147	RD256220	CHIP CARBON RESISTOR	2.2K 0.1 J	チップ抵抗		01		
	148	UJ838470	ELECTROLYTIC CAP.	470.00 16.0V	ケミコン		(VR23570)	01	
	149	VA787800	TRIMMER POTENTIOMETER	B 3.3K 3P RHO	半固定VR			01	
151	VD017000	SLIDE SWITCH	51D-0401	スライドSW	03				
154	--	JUMPER WIRE	L=23	U字ジャンパー					
155	FG613100	CERAMIC CAP.-B	1000P 50V K	セラコンB	01				
150G	VB659000	BIND HEAD SCREW	3.0X8 ZMC2-BL	+ バインド小ネジ	2pcs	01			
	VQ461100	CIRCUIT BOARD	HP	HPシート					
1	HF756100	CARBON RESISTOR	1.0K 1/4 J	カーボン抵抗		01			
	*	2	VH696500	CARBON RESISTOR	68.0 1/2 J	カーボン抵抗		01	
3		VC694800	SEMICONDUCTIVE CERA. CAP.	0.1000 25V Z	半導体セラコン				
5		VN381200	COIL	SNT-D20TF 10uH	コイル	03			
6		VF968800	COIL	SBT-0260TF 60uH	コイル	01			
7		VB971100	COIL	FL5R200QN 20uH	コイル	01			
9		VQ862900	VARIABLE RESISTOR	A 10.0K 2-GANG	二連ロータリーVR	VOLUME HEADPHONES MIDI OUT			02
10		VQ866600	PHONE JACK	ST HLJ0521	ホンコネクタ				
11	VQ866700	DIN CONNECTOR	3P YKF51-5065	DINコネクタ					
12	VB481900	DIODE	11ES4	ダイオード	01	01			
	13	LB918020	BASE POST CONNECTOR	XH- 2P TE			ベース付きポスト		
14	LB918030	BASE POST CONNECTOR	XH- 3P TE	ベース付きポスト		01			
	15	LB918040	BASE POST CONNECTOR	XH- 4P TE			ベース付きポスト		
	16	LB918050	BASE POST CONNECTOR	XH- 5P TE			ベース付きポスト		
	17	VB390100	BASE POST CONNECTOR	PH- 5P TE			コネクタベースポスト		
	18	VB390400	BASE POST CONNECTOR	PH- 8P TE			コネクタベースポスト		
	1	VQ206000	CIRCUIT BOARD	SENSOR			センサーシート	CPU GATE ARRAY	29
XN427B00		IC	HD6433258B24F	IC					
XK652A00		IC		IC					
3	XC725A00	IC	SN74HC14NSR	IC	INVERTER INVERTER COMPARATOR	03 01 05 02			
	4	XC723A00	IC	SN74HCU04NSR					
	5	VN406200	PHOTO COUPLER	HCPL-0600-500			IC		
	6	XK910A00	IC	NJM2901M-T1			IC		
	7	VQ867600	TRANSISTOR ARRAY	TD62003F			トランジスタアレイ		
	8	VB434400	PHOTO DIODE				シリコンフォトダイオード	20MHz 1MHz RESET	03 02 02 02 01
	9	VI951800	CERAMIC RESONATOR	20.0M CSA20.00M			セラミック振動子		
10	VD997000	CERAMIC RESONATOR	1M CSB1000J	セラミック振動子					
11	XL122A00	IC	PST572CMT-R	IC					
12	IC241200	TRANSISTOR	2SC2412K Q,R,S	トランジスタ					
12	VR935100	TRANSISTOR	2SC4639-6/7-TA 6,7	トランジスタ		01			
	13	VB493900	DIODE	MA221			ダイオード		
	13	VB797600	DIODE	RLS-73			ダイオード		
	21	RD254100	CHIP CARBON RESISTOR	10.0 0.1 J			チップ抵抗		
	22	RD254470	CHIP CARBON RESISTOR	47.0 0.1 J			チップ抵抗		
									01

*New Parts (新規部品)

ランク: Japan only



DESTINATION	Part No.	INPUT	OUTPUT
U.S. & Canadian model	VR508000	AC120V	DC+15V 700mA
European model (European Continental countries)	VR474000	AC230V	DC+15V 700mA
British model	VR507900	AC240V	DC+15V 700mA
Australian model		Local buying	DC+15V 700mA
North European model (Scandinavian countries)		Local buying	AC230V
			DC+15V 700mA

- Notes**
- Circuit Board: MN (VQ461000) XM729C0
- IC:
 - IC1: HD643338RHW03F (MNA25A00) CPU
 - IC2: HV6264L-10 (KX829A00) SRAM 64K or LVH1688-10 (L) (MNA25A00) SRAM 64K
 - IC3: SN74ALS00 (MNA25A00) ROM 4M
 - IC4: SN74ALS00 (MNA25A00) DECODER
 - IC5: HD64116P220 (KX873100) ROM 16M
 - IC6: HD64116P21 (KX873100) ROM 16M
 - IC7: MMW2688F (KX281800) CVG
 - IC8: MMW2688LP (KX281800) PSRAM 256K or TC51832AL-10 (MNA48A00) PSRAM 256K
 - IC9: M51789 (MNA48A00) DRAM
 - IC10: UPC45702 (KX381A00) OP AMP
 - IC11: M51789 (MNA48A00) DRAM
 - IC12: PCM1700J (MNA86A00) DAC
 - IC13: TC40CBT (MNA86A00) MULTIPLEXER
 - IC14: UPC2412HF (MNA28A00) REGULATOR +12V
 - IC15: M51789 (MNA48A00) DRAM
 - IC16: NJM7805FA (KX870A00) REGULATOR +5V
 - IC17: NJM7805SA (KX870A00) REGULATOR +5V
 - IC18: NJM7805BA (KX870A00) REGULATOR -5V
 - IC19: NJM7805BA (KX870A00) REGULATOR -5V
 - IC20: NJM7805BA (KX870A00) REGULATOR -5V
 - IC21: NJM7805BA (KX870A00) REGULATOR -5V
 - IC22: NJM7805BA (KX870A00) REGULATOR -5V
 - IC23: NJM7805BA (KX870A00) REGULATOR -5V
 - BASE POST CONNECTOR:
 - CN1: PH SP TE (VQ390100) to HP CN6
 - CN2: HP SP TE (VQ390200) to PEDAL
 - CN3: PH SP TE (VQ390400) to HP-CN4
 - CN4: XH SP TE (L8B18020) to HP-CN4
 - CN5: XH SP TE (L8B18020) to HP-CN2
 - CN6: XH SP TE (L8B18020) to HP-CN2
 - CN7: XH SP TE (L8B18020) NO CONNECTION
 - LC FILTER:
 - EMI 1, 2: DSS306-9F22321 (VDS42700)
 - QUARTZ CRYSTAL UNIT:
 - CR 1: 24M AT49 (VKA09A00)
 - CR 2: 11.2896M (VMS1900)
 - TRANSISTOR:
 - TR 1, 2, 6: 2SC2413K T147 S (VNA16200)
 - TR 3, 4: 2SD1664 82-390 (VQ013400)
 - TR 5, 7: 2SD1123 82-390 (VQ013500)
 - TR 8: 2SC2713 Y (VJ927100) sp
 - TR 9: 2SC2445SA (VJ927100) sp
 - TR10: 2SA1162 D, Y (VJ927200) sp
 - TR11: 2SA1052 B, C (VQ395600)
 - DIODE:
 - IC10: MA221 (VBA39000) or RLS-73 (VQ797600)
 - CHIP CARBON RESISTOR:
 - 0.0 0.0 J (RD25000)
 - 100 0.0 J (RD25100)
 - 220 0.0 J (RD25220)
 - 1.0K 0.1 J (RD256100)
 - 1.5K 0.1 J (RD256150)
 - 2.7K 0.1 J (RD256270)
 - 27.0K 0.1 J (RD257270)
 - 33.0K 0.1 J (RD257330)
 - 47.0K 0.1 J (RD257470)
 - 120.0K 0.1 J (RD258120)
 - 150.0K 0.1 J (RD258150)
 - 180.0K 0.1 J (RD258180)
 - 150.0 0.1 J (RD258150)
 - 2.2K 0.1 J (RD258220)
 - MONOLITHIC CERA. CAP. (CHIP):
 - B 470P 50V K (UB012470)
 - D 270P 50V K (UB013270)
 - SL 10P 50V D (UB051100)
 - SL 10P 50V J (UB051100)
 - SL 22P 50V J (UB051220)
 - SL 100P 50V J (UB051100)
 - F 0.010 50V Z (UB044100)
 - F 0.100 50V Z (UB044100)
 - SL 33P 50V J (UB051330)
 - SL 68P 50V J (UB051680)
 - CHIP INDUCTANCE:
 - MN 3230-560 (VQ464300)
 - BLM32A00T (VJ929500)
 - MYLAR CAP.:
 - 0.047 50V J (UA654470)
 - CHIP DIODE:
 - EC10D54-TE12L (VNB681100)
 - RELAY:
 - DC 50V 2.12V (LJ408800) or DC RY12V 12V (KC01900)
 - EMI FILTER:
 - LS MT Y233NB #2008970)
 - ELECTROLYTIC CAP.:
 - 4.7UF 25V (UJ46470)
 - 47.0UF 16V (UJ837470)
 - 470.0UF 16V (UJ838470)
 - 220.0UF 16V (UJ837220)
 - 220.0UF 25V (UJ848220)
 - 10.0UF 16V (UJ837220)
 - 100.0UF 16V (UJ837100)
 - 1.00 50V (UJ366100)
 - ELECTROLYTIC CAP. BP:
 - 4.7 50 50V (KJ866470)
 - 3.30 50 50V (KJ866330)
 - 2.20 50 50V (KJ866220)
 - 47.00 16 0V (VQ326800)
 - TRIMMER POTENTIOMETER:
 - B 3.3K 3P RHO (VA787800)
 - SLIDE SWITCH:
 - SW 1: 51D-0401 (VDD17000)
 - METAL OXIDE FILM RESISTOR:
 - RS3, 54: 27.0 2W J (VJ757300)
 - ELECTROLYTIC CAP. (CHIP):
 - R 1, 2, 11: 100 16V (UJ138100)
 - C 9: 10 16V (UJ037100)
 - C 8: 47 25V (UJ147470)
 - MONOLITHIC CERA. CAP. (CHIP):
 - SL 3P 50V C (UB050300)
 - SL 100P 50V J (UB051100)
 - B 1000P 50V K (UB013100)
 - F 0.100 25V Z (UB245100)
 - HEADER:
 - PH 3P TE (VQ390100) to MN-CN2
 - BASE POST CONNECTOR:
 - CN 2: PH 13P SE (VQ015400) to KEY EMISSION CN1

