

YAMAHA[®] **disklavier**[®]

With Silent Function

Service Manual

MPX100II
Upright Piano

YAMAHA **disklavier**TM

*Silent*TM

S E R I E S

SERVICE MANUAL

MP100II

The DISKLAVIER silent piano MPX100II is essentially the same as a MX100II, with an additional silent function.

This service manual describes only the different part from the MX100II.

You must have the MX100II service manual(008659) before servicing this unit.

For the following sections of the service manual, please refer to the MX100II service manual (008659).

Main content:

Formatting floppy disk

Panel layout

Controller front panel, Remote control

LCD error messages

Disassembly procedure

Upper front board, Lower front board, Action unit, Control unit, Controller board, FDD unit, Key sensor unit, PK-CTL circuit board, Drive A circuit board, Drive B circuit board, Drive C circuit board
Plunger assembly, Coil assembly, Pedal drive unit, PS assembly

Sensor output voltage(Pedal drive unit) adjustment.

LSI pin description(except the LSIs in MN circuit board and Motor drive circuit board)

IC block diagram(except the ICs in MN circuit board and Motor drive circuit board)

Circuit boards

CONTROLLER, 7 SEG LED, POWER SWITCH, CTRL-OUT, CTRL-IN, PANEL SWITCH, HAMMER EMISSION, KEY RECEIVE, KEY EMISSION, DRIVE A, DRIVE B, DRIVE C, POWER SUPPLY unit

Parts list

Mechanical parts

KEY SENSOR UNIT, KEY DRIVE UNIT

Electrical parts

Circuit boards(CONTROL OUT, CONNECTION, PANEL SWITCH, HAMMER EMISSION, KEY RECEIVE, KEY EMISSION, DRIVE A, DRIVE B, DRIVE C), POWER SUPPLY UNIT

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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.

■ **WARNING:**

Components having special characteristics are marked \triangle and must be replaced with parts having specifications equal to those originally installed.

SPECIFICATIONS

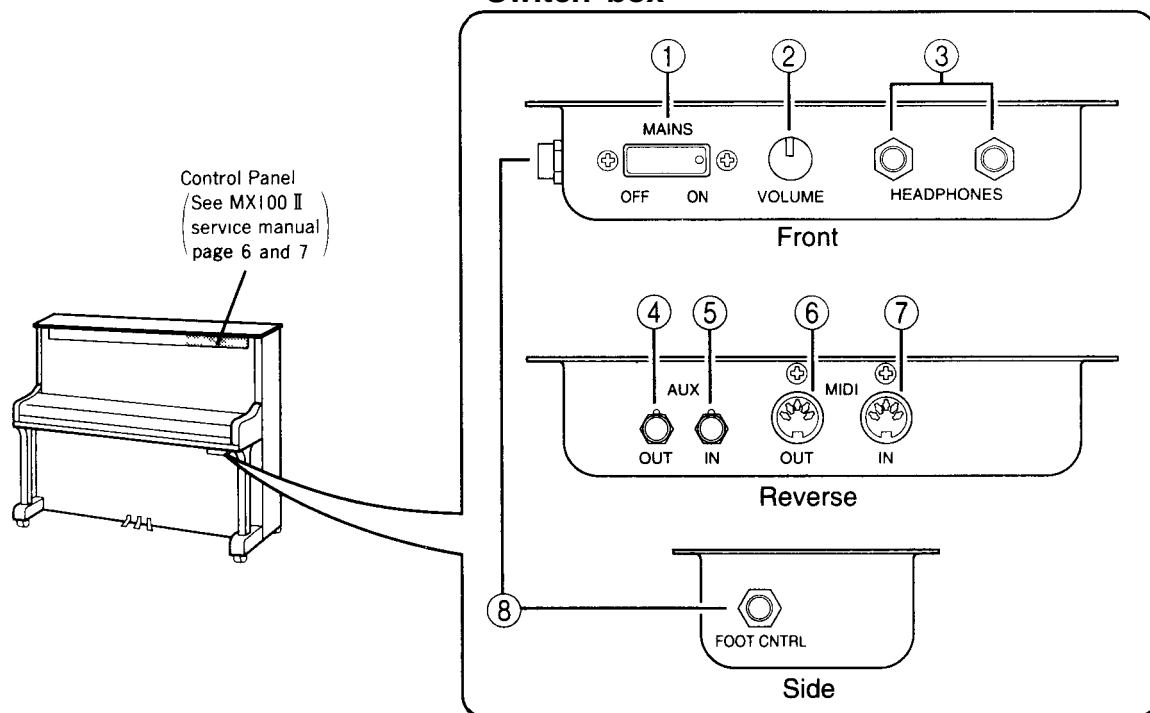
Sensor System	Action Sensor	88 key, speed sensing, single-beam optical sensors		
		Dual key/Hammer locations		
		16-note polyphonic		
	Pedal Sensor	Sustain Continuous (half pedal) Soft Continuous (half pedal)	Position sensing optical sensors	
Drive System	Key Drive	Self-calibrating, long-stroke, key-end solenoids, 16-note polyphonic		
	Pedal Drive	Sustain: Continuous (half pedal)	Trapwork integrated solenoids	
		Soft Continuous (half pedal)		
	Song Storage	Media	3.5" 2DD floppy disk	
Capacity		Max 60 songs (depends on song file size)		
Disk Capacity		628KByte		
File Format		E-SEQ		
Control panel	Switches	Power on/off		
	Buttons *with LED Indicator	Song Select Rev•Fwd, Play/Pause*, Stop, Part Select L*•R*, Record*, Volume*, Transpose*, Tempo*, Repeat*, -/NO, 0, +/YES, <> Cursors, Enter, Disk*, Metronome*, Function/Edit*		
	Controls	Rotary dial with ring of LED indicators		
	LCD	24 character, 2 line		
	Song Number Indicator	7 segment, 2 digit display		
Remote Control	Buttons	Record, Part Select L•R, 0-9 keypad, Search, Repeat, A-B, Transpose -/0/+, Tempo -/0/+, Rev•Fwd, Volume -/+, Song Select Rev•Fwd, Play, Pause, Stop		
Playback Functions	Volume	11 levels (0 ~ -10)w/power-off memory		
	Tempo	-50% ~ +20% by 1% steps		
	Transposition	±24 semitones (2 octaves) in 1 -semitone steps		
	Repeat	Disk, song, segment A-B, random		
	Song Select	Rev/Fwd, song by song, numerical selection		
	Music Search	Rev/Fwd, w/or w/o sound, direct by time or measure		
	Others	L/R Part Select, Pedal Cancel, Programmed Playback, Space Play, Auto Start		
Recording Functions	L/R Dual Recording	Separate L/R (full keyboard) or assignable splitpoint, Pedal Count-In		
	Re-recording	Full keyboard		
	Punch In	Full keyboard		
	Note Edit	Note, velocity, length, timing, insert, delete		
Metronome	bpm	40-230		
	Time Signature	1/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 8/4, 9/4		
	Beep	on/off, Volume controllable in Silent mode with flashing LED and click tone		
Utility Functions	Song	Copy, Sort, Delete, MX100A/B conversion		
	Disk	Format, Copy, Convert		
	Title Entry	Disk 64 characters max		
Song 32 characters max				
Quick Silent System	Hammer shank stopper operated by center pedal			
	Digital Piano Tone Generator	AWM stereo sampling		
	Polyphony	16-note stereo, 32-note mono, switchable and memorizable		
	Volume	Continuous		
	Reverberation Types	Room, Hall 1, Hall2 (4 depth levels each), memorizable		
	Pitch	Set at A=440, tunable ±50 cents in 1 2 cent steps w/power-off memory		
Terminals	Headphones (2), MIDI In, MIDI Out, AUX In, AUX Out, FOOT CNTRL			
Power Source	Local AC current			
Dimensions (H x W x D)	121 x 150 x 61 cm (47-3/4" x 59" x 24")			
Weight	238 kg (524 lbs)			

Finish	Polished ebony
Supplied Accessories	Remote control & batteries
	Disklavier Silent piano sample disk (PianoSoft)
	Blank 3.5" 2DD floppy disk
	HPE-170 headphones
	<i>Getting Started & Playback Manual</i>
	<i>Advanced Operation Manual</i>
	<i>HOW TO CARE FOR YOUR YAMAHA PIANO</i> guide
Optional Accessories	FC-4, FC-5 Foot Switches (cable length 1.7m)
	FC-7 Foot Controller (cable length 1.7m)
Location Temperature	5~40°C(41~104°F)
Power Requirement & Consumption	See Disklavier Silent piano's Serial No. plate

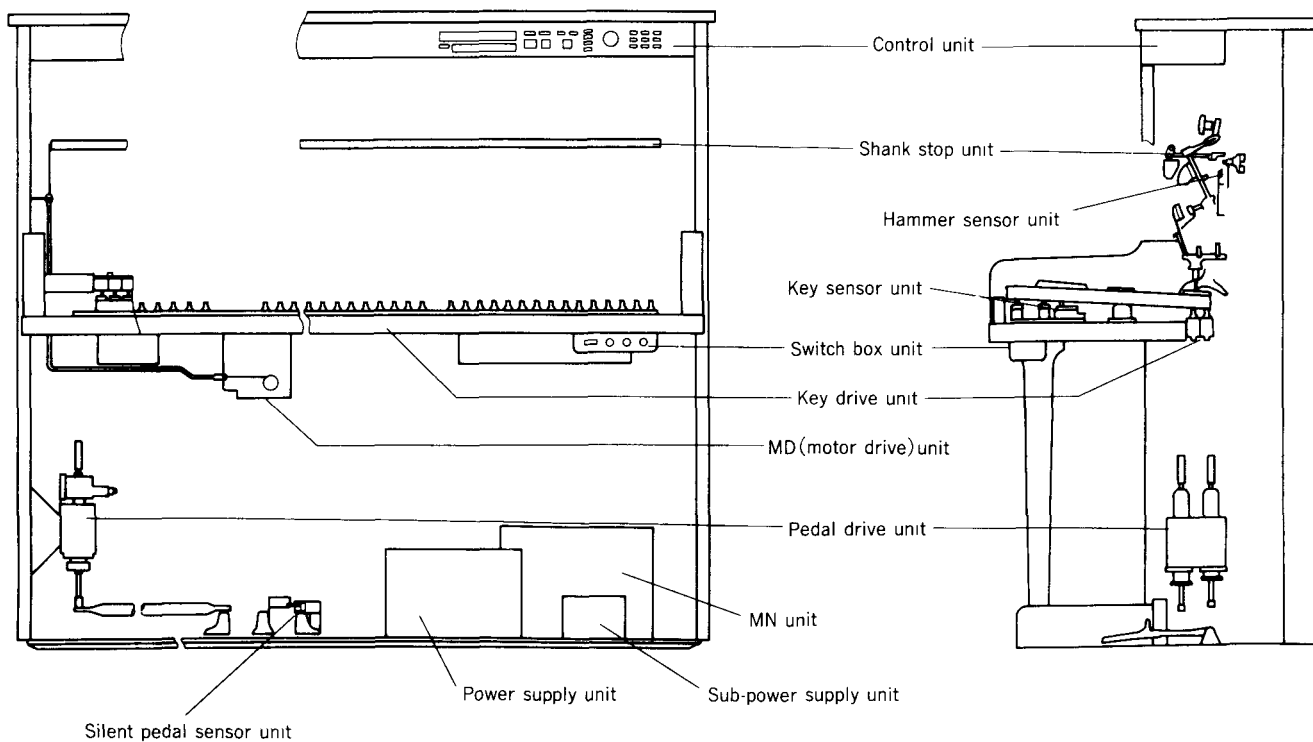
■ PANEL LAYOUT

• Main Switch, MIDI Connections & Foot Controller

• Switch box



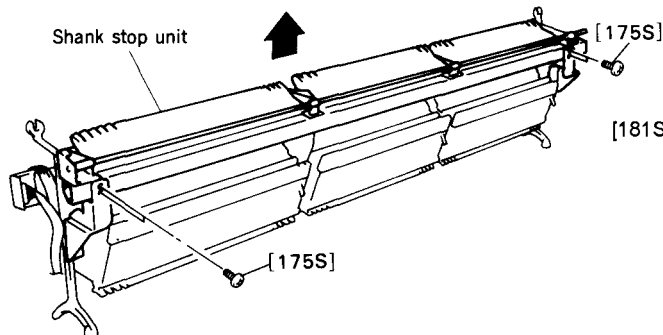
UNIT LOCATION



DISASSEMBLY PROCEDURE

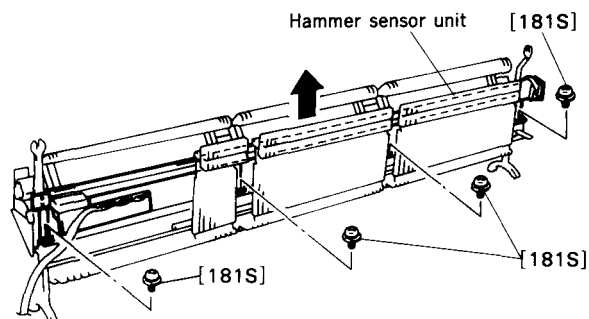
1 Hammer sensor unit

- 1-1 Open and lock the top board.
- 1-2 Remove the upper front board.
- 1-3 Remove the action unit.
- 1-4 Remove the four (4) screws marked [175S], then remove the shank stop unit. (Fig. 1)
- 1-5 Remove the four (4) screws marked 181S, then remove the hammer sensor unit. (Fig. 2)



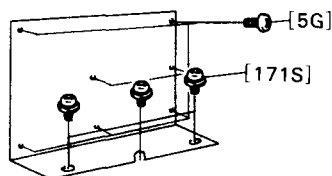
[175S]: Bind Head Screw 4.0X16 MFCR33 (VT490300)

(Fig. 1)



[181S]: Truss Head Tapping Screw-1 4X12.2 MFZN2Y (EX500026)

(Fig. 2)

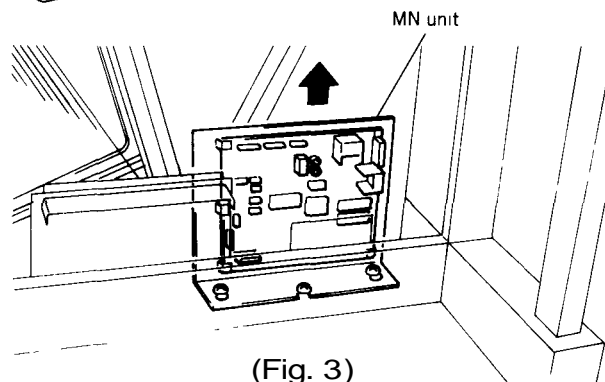


2 MN unit

- 2-1 Remove the lower front board.
- 2-2 Loosen the three (3) screws marked [171S], then slightly shift the MN unit to the rear and remove the MN unit. (Fig. 3)
- 2-3 Remove the seven (7) screws marked [5G], then remove the MN circuit board from MN unit. (Fig. 3)

[5G]: Bind Head Screw 3.0X8 MFZN2Y (ED030066)

[171S]: Truss Head Tapping Screw-1 4.0X16 MFZN2Y (EX550130)

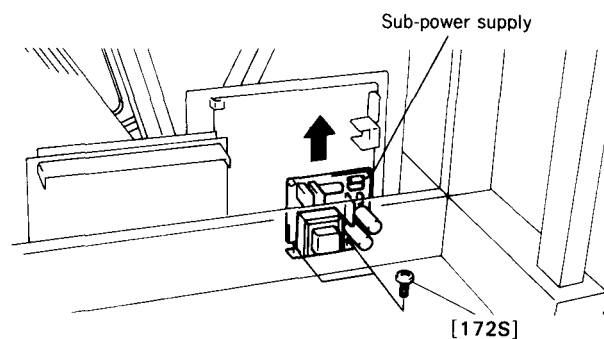


(Fig. 3)

3 Sub-power supply unit

- 3-1 Remove the lower front board.
- 3-2 Remove the two (2) screws marked [172S], then remove the Sub-power supply unit. (Fig. 4)

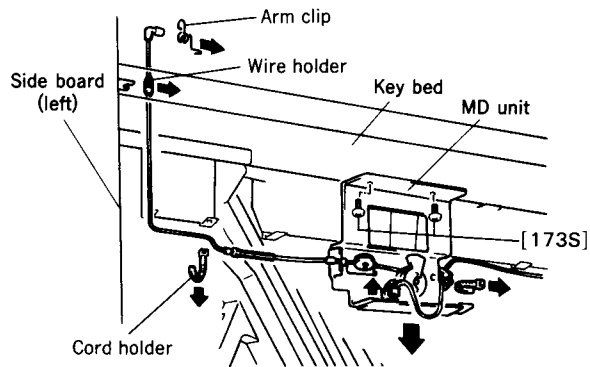
[172S]: Truss Head Tapping Screw-1 4.0X16 MFZN2Y (EX550130)



(Fig. 4)

4 MD(motor drive) unit

- 4-1 Remove the upper front board and the lower front board.
- 4-2 Remove the arm clip(spring) which is connected to the shank stop unit lever.
- 4-3 Remove the wire holder.
- 4-4 Cut the cord holder.
- 4-5 Loosen the two (2) screws marked [173S], then slightly shift the MD unit to the right side and remove the MD unit. (Fig.5)

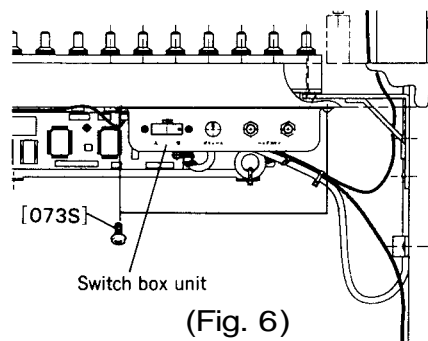


(Fig. 5)

[173S]:Truss Head Tapping Screw-1 4.0X16 MFZN2Y (EX550130)

5 Switch box

- 5-1 Remove the four (4) screws marked [073S], then remove the switch box. (Fig. 6)



(Fig. 6)

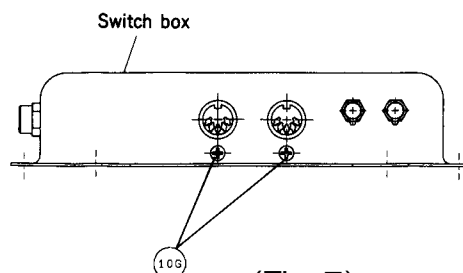
[073S]:Truss Head Tapping Screw-1 4.0X12 MFZN2BL (EX500116)

6 HP(1/2) circuit board

- 6-1 Remove the switch box.(See procedure 5)
- 6-2 Remove the volume knob.
- 6-3 Remove the three (3) hexagonal nuts for the volume and headphones, then remove the HP(1/2) circuit board. (Fig. 6)

7 HP(2/2) circuit board

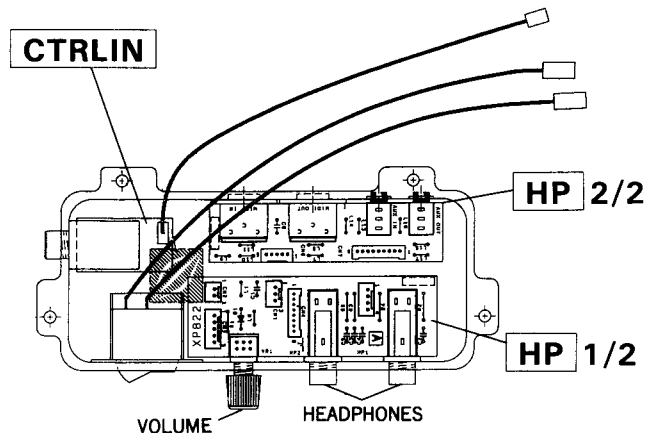
- 7-1 Remove the switch box.(See procedure 5)
- 7-2 Remove the two (2) screws marked [10G].
- 7-3 Remove the two (2) hexagonal nuts for the AUX IN and the AUX OUT, then remove the HP(2/2) circuit board. (Fig. 7)



(Fig. 7)

8 CTRL IN circuit board

- 8-1 Remove the switch box.(See procedure 5)
- 8-2 Remove the hexagonal nut for the foot control, then remove the CTRL IN circuit board. (Fig. 8)



(Fig. 8)

LSI PIN DESCRIPTION

• HD6473308F10 (XQ458A00) CPU (H8/330)

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

• PCM1702U (XP551A00) DAC (Digital to Analog Converter)

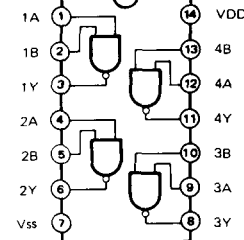
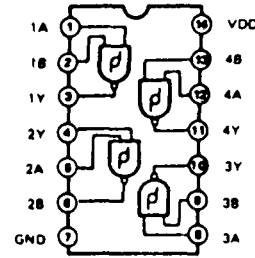
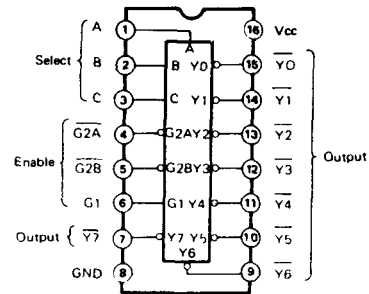
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	DATA	I	Data input	11	+Vcc		Power supply (+ 5A)
2	CLK	I	Clock	12	BPO		Bipolar decouple
3	NC	—		13	NC	—	
4	+Vdd		Power supply (+ 5A)	14	IOUT	O	Output current
5	D GND		Digital ground	15	A GND		Analog ground
6	-Vdd		Power supply (- 5A)	16	A GND		
7	LE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

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

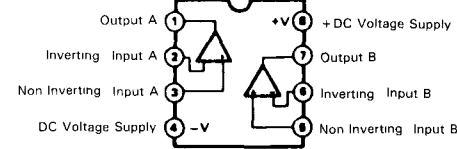
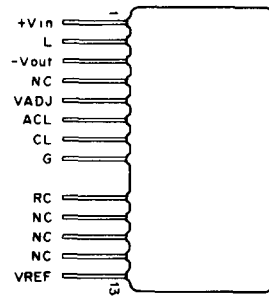
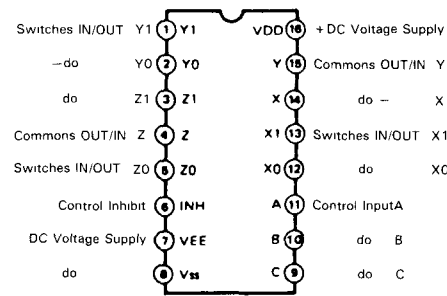
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	RD	I	Read	65	MCS2	O	Wave ROM chip select
2	WR	I	Write	66	MCS3	O	
3	CS	I	Chip select	67	MCS4	O	
4	CDO	O	CD output	68	MCS5	O	
5	MELO0	O	MEL stereo output	69	KONO0	O	Key on & LFO on output
6	MELO1	O					
7	MELO2	O					
8	MELO3	O					
9	MELI1	I	MEL stereo mixing input	71	NSO0	O	NSYS output (8-channel x 4)
10	DACL/R	O	DACL/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	S/M	I	Slave/Master select (0=master, 1=slave)	77	NSI0	I	NSYS input (8-channel x 4)
16	VDD		Power supply (+5V)	78	NSI1	I	
17	VSS		Ground	79	NSI2	I	
18	IC	I	Initial clear	80	VDD		Power supply (+5V)
19	XTAL	O	Crystal osc.	81	VSS		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	REVIO	I	MEL reverberation input
23	HCLKO	O	6.4MHz clock output (NSYS)	85	REV11	I	
24	QCLKO	O	3.2MHz clock output (MEL, LDSP, DAC)	86	RCS0	O	RAM chip enable
25	SYWI	I	12.8MHz sync. signal input	87	RCS1	O	RAM chip enable
26	SYWO	O	12.8MHz sync. signal output	88	RD0	I/O	RAM data bus
27	SYOD	O	6.4MHz/3.2MHz sync. signal output	89	RD1	I/O	
28	MOE	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 address bus	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	Power supply (+5V)	93	RD5	I/O	
48	VDD			(Ground)	94	RD6	I/O
49	VSS		Wave ROM address bus	95	RD7	I/O	
50	MA11	O	Wave ROM chip select	96	ROE	O	RAM output enable
51	MA12	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	Register data bus	97	RA0	O	
62	MA23	O					
63	MCS0	O					
64	MCS1	O					
			Power supply (+5V)	98	RA1	O	
				Ground	99	RA2	O
			RAM write enable	100	RA3	O	
			Register address bus	101	RA4	O	
			Register data bus	102	RA5	O	
			Register address bus	103	RA6	O	
			Register data bus	104	RA7	O	
			Register address bus	105	RA8	O	
			Register data bus	106	RA9	O	
			Register address bus	107	RA10	O	
			Register data bus	108	RA11	O	
			Register address bus	109	RA12	O	
			Register data bus	110	RA13	O	
			Register address bus	111	RA14	O	
			Register data bus	112	VDD		
			Register address bus	113	VSS		
			Register data bus	114	RWE	O	
			Register address bus	115	D0	I/O	
			Register data bus	116	D1	I/O	
			Register address bus	117	D2	I/O	
			Register data bus	118	D3	I/O	
			Register address bus	119	D4	I/O	
			Register data bus	120	D5	I/O	
			Register address bus	121	D6	I/O	
			Register data bus	122	D7	I/O	
			Register address bus	123	A0	I	
			Register data bus	124	A1	I	
			Register address bus	125	A2	I	
			Register data bus	126	A3	I	
			Register address bus	127	A4	I	
			Register data bus	128	A5	I	

■ IC BLOCK DIAGRAM

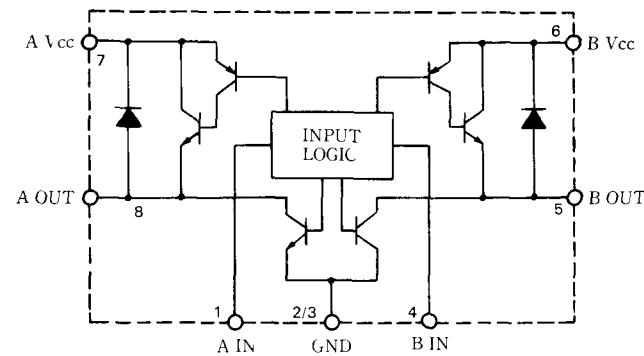
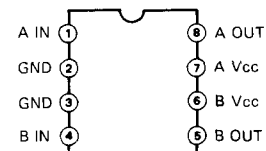
- **SN74HC138NSR** (XD835A00) 3 to 8 Demultiplexer
- **SN74HC132NSR** (XL112A00) Quad 2 Input NAND
- **SN74HC00N** (iR000050) Quad 2 Input NAND



- **TC4053BF** (XB738B00) Triple 2-Ch. Multiplexer/Demultiplexer
- **HLND12R35M** (XM838A00) DC-DC Converter
- **NJM2403D** (XG061A00) Dual Operational Amplifier
- **μPC4570G2** (XF291A00) Dual Operational Amplifier



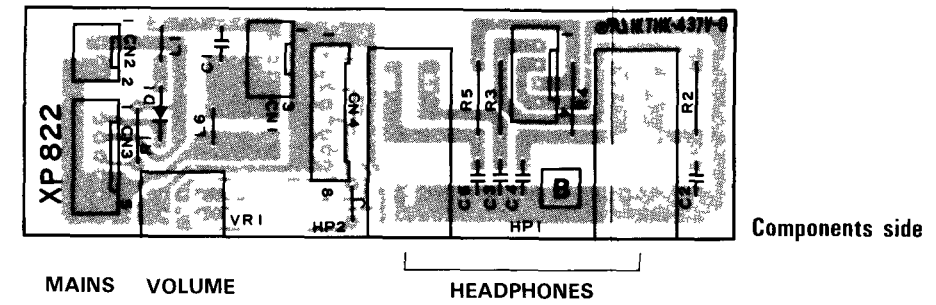
- **MB3763** (XQ061A00) Bi-directional Motor Driver



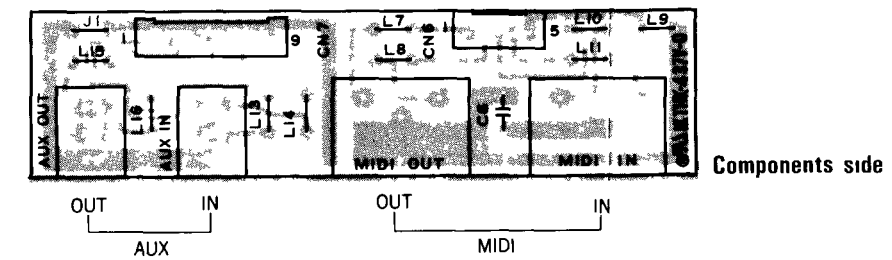
■ CIRCUIT BOARDS

- **HP Circuit Board**

HP1/2



HP2/2

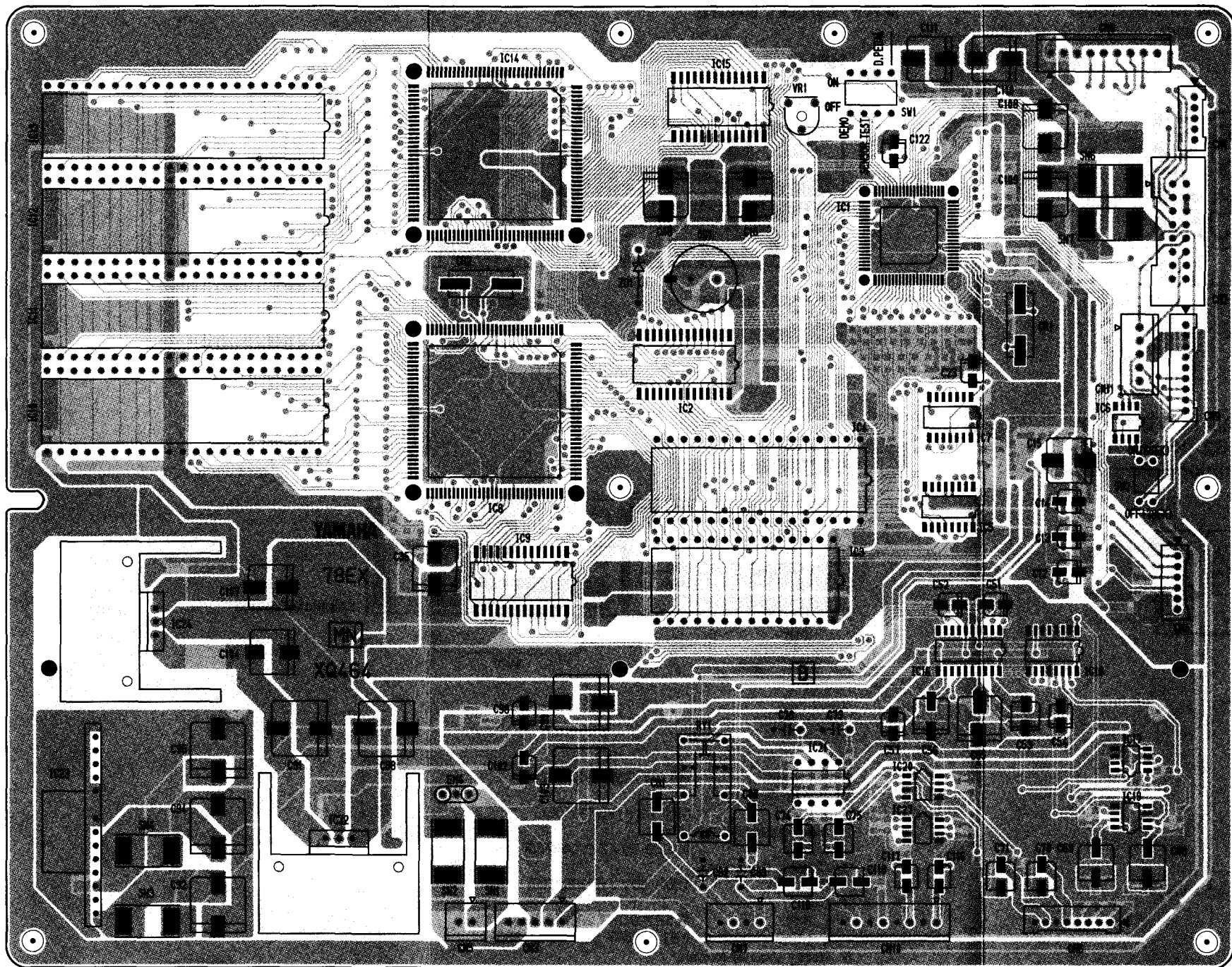


Notes)

- Circuit board HP (VT123600) XP822B0
- 1 Carbon Resistor R 2-5 68 0 1/2 J (VH696500)
 - 2 Semiconductive Cera Cap C 2-5 0 1000 25V Z (VC694800)
 - 3 Ceramic Capacitor C 6 100P 50V J (FG652100)
 - 4 Coil L 7-11 FL5R200QNT 20uH (VB835000)
L 13-16 SBT-0260TF 60uH (VF968800)
 - 5 Rotary Variable Resistor VR1 A100KX2 RK0971210(VQ862900) Volume
 - 6 DIN Connector MIDI IN OUT YKF51-5057 3P (VQ098700) MIDI IN, MIDI OUT
 - 7 Phone Connetor HP1 2 HLJ0521 STEREO (VQ866600) Headphone
AUX IN,OUT HSJ0857 ST-MINI (LB301870) AUX IN, AUX OUT
 - 8 Base Post Connector
CN 4 PH-8P TE (VB390400)
CN 5 XH-4P TE(LB918040)
CN 6 PH-5P TE(VB390100)
CN 7 PH-9P TE (VB390500)

• MN Circuit Board

to MOTOR-XH6P



to SUB-POWER SUPPLY
UNIT-CN5

NC

to HP-CN5

to HP-CN7

to HP-CN4

Components
side

N.C

N.C

N.C

N.C

Notes
Circuit Board

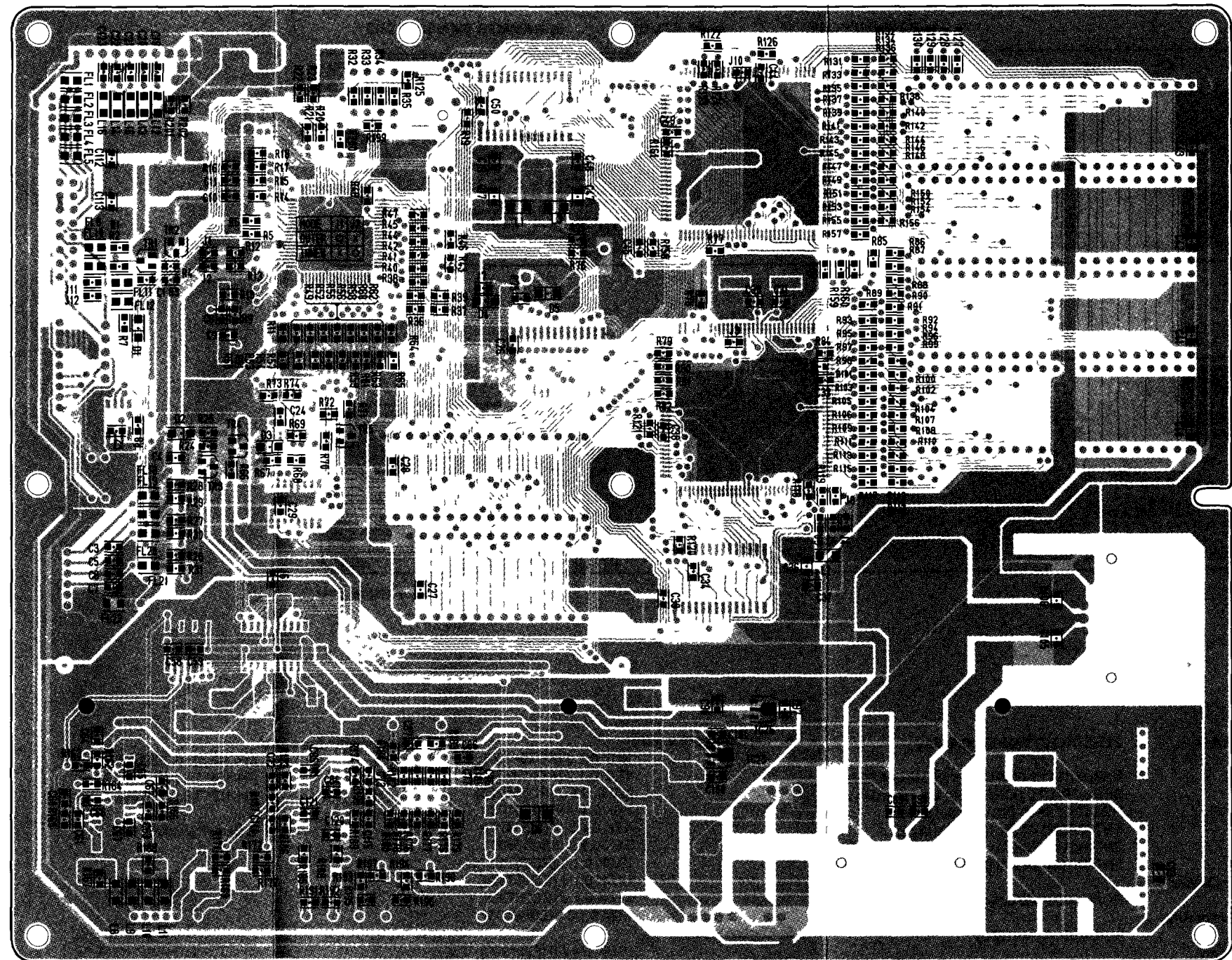
MN (VT109000) XQ464B0

1. IC
 - IC 1: HD6473308F10 (XQ458A00) CPU
 - IC 2: HY6264ALJ-10 (XK929A00) SRAM 64K
 - IC 2: LH5168N-10TL (XM039A00) SRAM 64K
 - IC 4: TMS27C040-10JL (XQ459A00) ROM 4M
 - IC 5: SN74HC138NSR (XD835A00) DECODER
 - IC 7: SN74HC132NS-R (XL112A00) NAND
 - IC 8: YMW265B-F (XK281B00) CVG
 - IC 9: HM65256BLFP-10T (XI020A00) PSRAM 256
or
TC51832AFL-10 (XM049A00) PSRAM 256K
 - IC 10: HN624116PZ20 (XK973100) ROM 16M WAVE1
 - IC 11: HN624116PZ21 (XK974100) ROM 16M WAVE2
 - IC 16: PCM1702U (XP551A00) DAC
 - IC 17,19,20,27: UPC4570G2 (XF291A00) OP AMP
 - IC 18: TC4053BF (XB738A00) MULTIPLEXER
 - IC 21: LA6517 (XM804A00) POWER OP AMP
 - IC 22: UPC2412HF (XN129A00) REGULATOR +12V
 - IC 23: HLND12R35M (XM838A00) DC-DC
CONVERTER
 - IC 24: NJM7805FA (XJ607A00) REGULATOR +5V
 - IC 25: NJM78L05UA (XJ598A00) REGULATOR +5V
 - IC 27: NJM79L05UA (XN086A00) REGULATOR -5V
2. Transistor
 - TR1-3: 2SC2412K T147 S (VN416200)
 - TR4: 2SA1162 O,Y (VJ927200) or
2SA1052 B,C (VQ395600)
 - TR5: 2SC2712 Y (VJ927100)
3. Diode
 - D 1-3: RLS-73 (VB797600) or
MA221 (VB493900)
 - D 6: EC10DS4-TE12L (VN681100)
4. Photo Coupler
 - IC 6: HCPL-0600-500 (VN406200)
5. Monolithic Ceramic Cap.
 - C 1: SL 100P 50V J (UB052100)
 - C 2-4,17,18,24-29,36,
37,39-41,58,59,64-67,
84-87,89,90,93,96,97,
100,101,105,106,112,
113,120,121: F 0.100 25V Z (UB245100)
 - C 5-7,19-21: B 470P 50V K (UB012470)
 - C 8,9: SL 10P 50V D (UB051100)
 - C 10,11,32-34,38,
44,45,49: SL 22P 50V J (UB051220)
 - C 30,31,72,73,114,
115: SL 33P 50V J (UB051330)
 - C 61,63: B 2700P 50V K (UB013270)
 - C 60,62: SL 15P 50V J (UB051150)
 - C 76,77: SL 82P 50V J (UB051820)
6. Electrolytic Cap. (chip)
 - C 12,14,116,117,
122: 1 50V (UF066100)
 - C 15,35,46,55,107,
109: 100 16V UUR1C1 (UF138100)
 - C 16,104,108: 220 16V UUR1C2 (UF138220)
 - C 23,98,102: 10 16V (UF037100)
 - C 51,52,54,57: 4.7 25V (UF046470)
 - C 53: 22 16V (UF037220)
 - C 56: 47 16V (UF037470)
 - C 68,69: BP 4.7 50V (UF266470)
 - C 70,71: BP 2.2 50V (UF266220)
 - C 74,75: BP 3.3 50V (UF266330)
 - C 80,81: BP 10 25V (UF247100)
 - C 88,91: 220 25V UUR1E2 (UF148220)
 - C 92,94,95,99,103: 470 16V UUR1C4 (UF138470)
 - C 116,117: BP 1.0 50V (UF266100)
 - C 118,119: BP 4.7 25V (UF246470)

MN: BNA01-VT10900

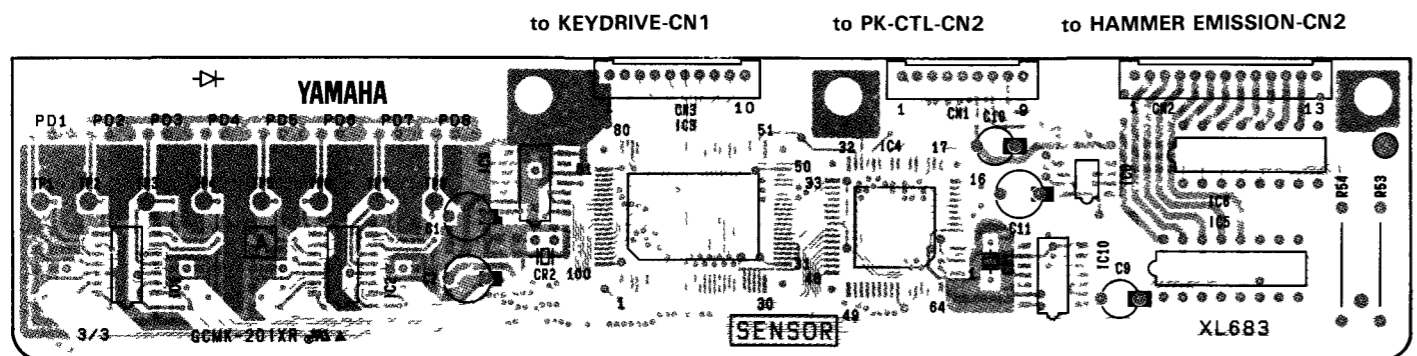
• MN Circuit Board

- 7 Carbon Resistor (chip)
 - R 1,2,7,14,15,36-47, 54-65,77-121 220 0 0 1 J (RD255220)
 - R 3,163-166 1 5K 0 1 J (RD256150)
 - R 4,5,49-51,68,73, 169-172 185-192, 201,202 22 0K 0 1 J (RD257220)
 - R 6,11-13,16-18,20-23, 25,27,32-35,48,52,53, 66,67,70,72,125 10 0K 0 1 J (RD257100)
 - R 8,24,29-31,71, 200 1 0K 0 1 J (RD256100)
 - R 9 1 0M 0 1 J (RD259100)
 - R 10,167,168 100 0 0 1 J (RD255100)
 - R 26,28,69 74,199 470 0K 0 1 J (RD258470)
 - R 162 2 7K 0 1 J (RD256270)
 - R 173,174,177 178,181, 182 47 0K 0 1 J (RD257470)
 - R 175,176 179,180 18 0K 0 1 J (RD257180)
 - R 193,194,197,198 330 0 0 1 J (RD255330)
 - R 19,195,196 2 2K 0 1 J (RD256220)
- 8 Chip Inductance
 - FL 1-5,9-12 18-22 NWL2520-560J (VQ464300)
 - L 1-3 8-11 BLM32A06PT 3216 (VJ928500)
 - SN1-7 5 0U SF-M0520(T) (VQ332000) or 10U SN-S3M-1010T (VQ332100)
- 9 LC Filter
 - EM 4 LS MT Y223NB (FZ005920)
- 10 Quartz Crystal Unit
 - CR 1 24 0M SMD-49 (VQ274800)
 - CR 2 11 2896M SMD-49 (VP864800)
- 11 Slide Switch
 - SW 1 51D-0401 (VD017000) DIP switch for servicing
- 12 Relay
 - RY1 DC RY12W DC12V (KC001900) or DC G5V-2 DC12V (VL406800)
- 13 Trimmer Potentiometer
 - VR1 B 3 3K 3P RH0 (VA787800) Damper pedal adjustment
- 14 IC Socket
 - IC4 DICF-32CS-E (VJ532800)
- 15 Connector
 - CN 1 PH- 5P TE (VB390100)
 - CN 2 HIF3FC-16P TE (VP214600)
 - CN 4 PH- 6P TE (VB390200)
 - CN 5 XH- 2P TE (LB918020)
 - CN 6 PH- 8P TE (VB390400)
 - CN 7 XH- 4P TE (LB918040)
 - CN 8 XH- 9P TE (LB918090)
 - CN 10 XH- 8P TE (LB918080)
 - CN 11 XH- 5P TE (LB918050)
- 16 Jumper Wire
 - J 2,6-12 0 0 0 0 J (RD250000)
 - J 1,3-5 not installed

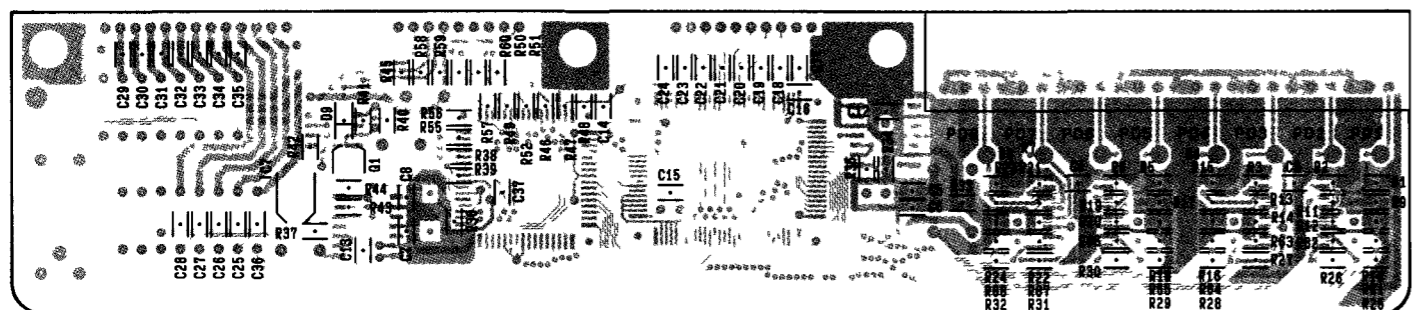


Pattern side

• SENSOR Circuit Board



Components side



Pattern side

Notes)

Circuit Board	SENSOR (VT186900) XL683A0	8 Carbon Resistor (chip)	10 0 0 1 J (RD254100)
1 IC			47 0 0 1 J (RD254470)
IC 1,2	NJM2901M-T1 (XK910A00) COMPARATOR		220 0 0 1 J (RD255220)
IC 3	SENSOR-CTL (XK652A00) GATE ARRAY		1 0K 0 1 J (RD256100)
IC 4	HD6473258F10 (XQ462A00) CPU		4 7K 0 1 J (RD256470)
IC 7	PST572CMT-R (XL122A00) RESET		5 6K 0 1 J (RD256560)
IC 9	SN74HCU04NSR INV (XC723A00) INVERTER		10 0K 0 1 J (RD257100)
IC 10	SN74HC14NSR INV (XC725A00) INVERTER		12 0K 0 1 J (RD257120)
2 Photo Coupler			33 0K 0 1 J (RD257330)
IC 8	HCPL-0600-500 (VN406200)		1 0M 0 1 J (RD259100)
3 Transistor Array		9 Carbon Resistor	10 0K 1/4 J (HF757100)
IC 5,6	MC1413P (VH441500)	10 Metal Oxide Film Resistor	51 0 2W J (VC758000)
4 Transistor		11 Electrolytic Cap	10 00 16 0V (UI537100)
Q 1	2SC2412K Q R S (IC241200) or 2SC4639-6/7-TA (VR935100)		47 00 25 0V (UI547470)
5 Diode			100 00 16 0V (UI538100)
D 9	RLS-73 (VB797600) or MA221 (VB493900)	12 Monolithic Ceramic Cap	SL 3P 50V C (UB050300)
6 Photo Diode			SL 100P 50V J (UB052100)
PD 1-8	(VB434400)		B 220P 50V K (UB012220)
7 Ceramic Resonator			B 1000P 50V K (UB013100)
CR 1	20 0M CSA20 00M (VI951800)		F 0 100 25V Z (UB245100)
CR 2	1M CSB1000J (VD997000)		

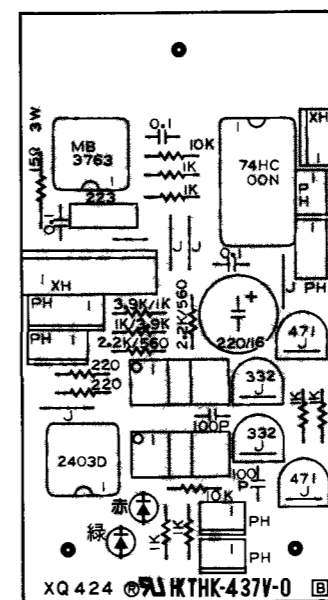
13 Connector Base Post

CN 1	PH- 9P TE (VB390500)
CN 2	PH-13P TE (VF283100)
CN 3	PH-10P TE (VB390600)

14 Socket

B BL	(VP263000)
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• MOTOR Circuit Board



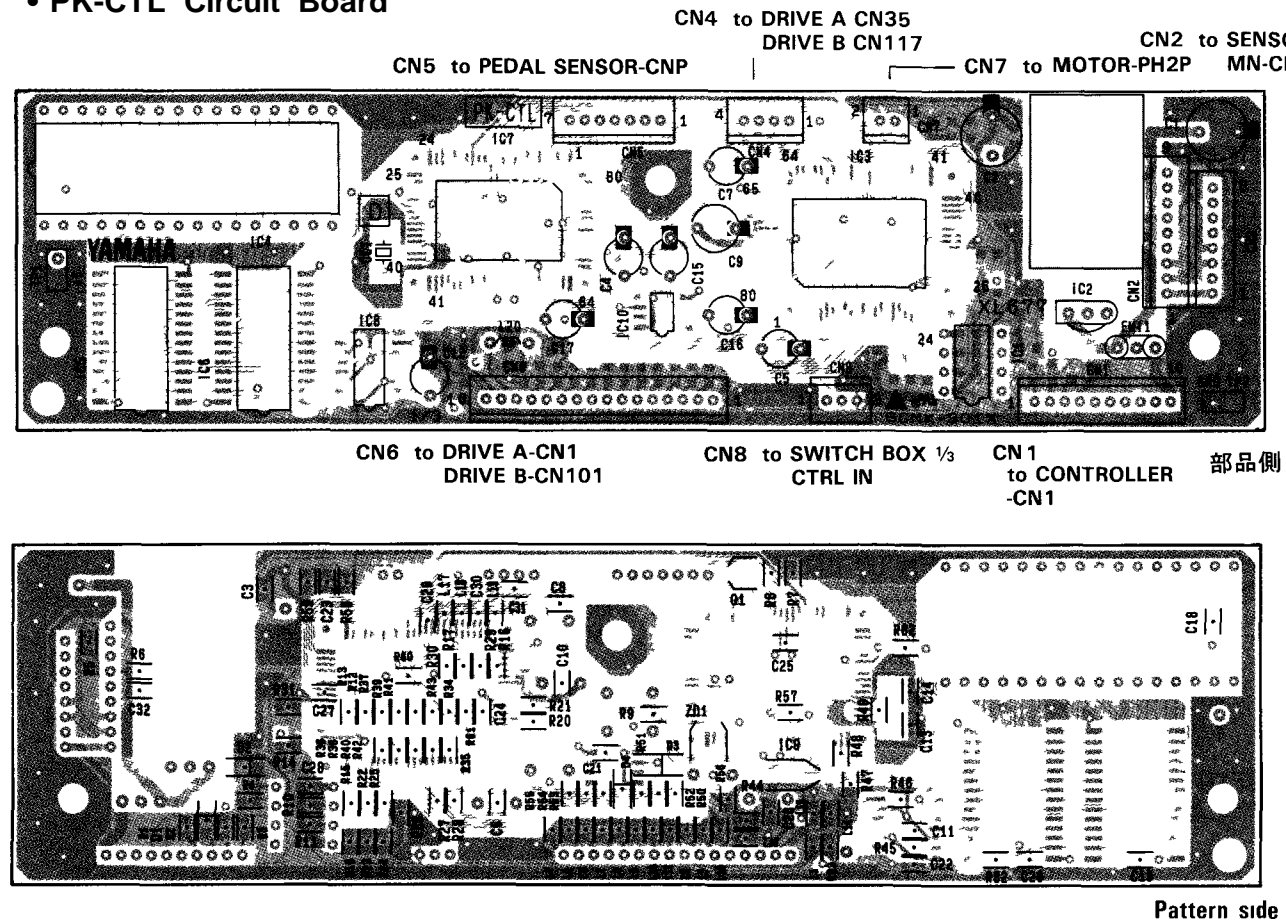
Components side

Notes)

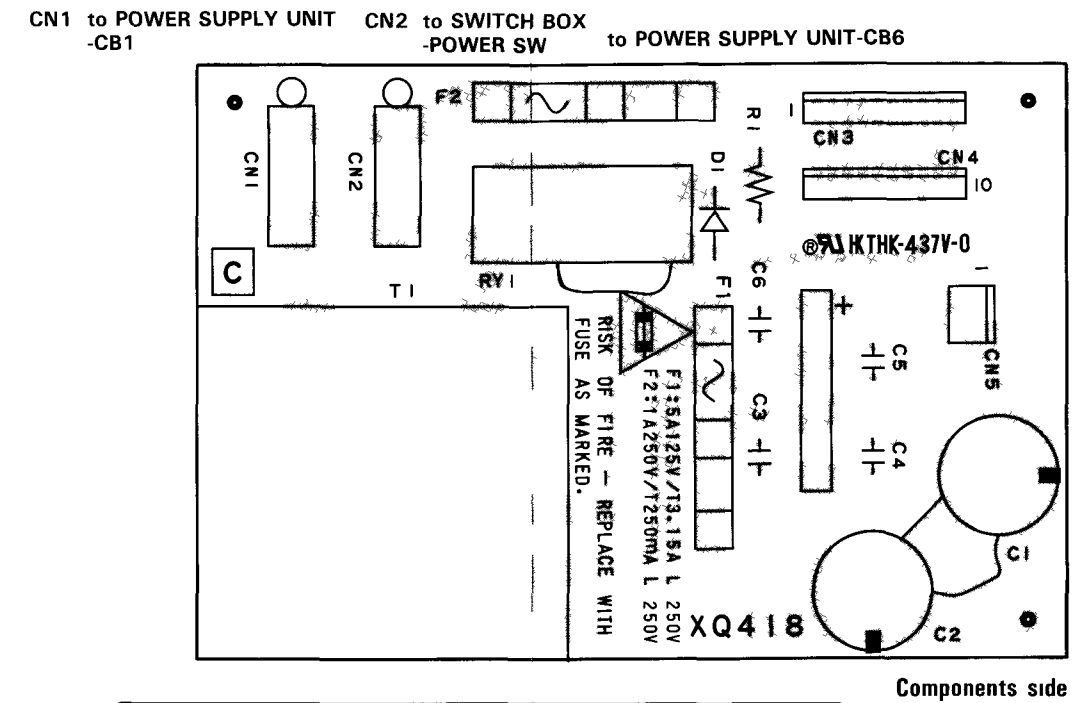
Circuit board	MOTOR (VT107500) XQ424B0
1 IC	NJM2403D (XG061A00) COMPARATOR
	MB3763P (XF880A00) MOTOR DRIVER
	SN74HC00N (IR000050) NAND
2 PI Sensor	ON1108 (VP216000)
3 LED	SLZ-981C-12 RE (VD180200) SILENT ON
	SLZ-389C-02-T1 GR (VN518200) SILENT OFF
4 Ceramic Capacitor	100P 50V K (VD841300)
5 Monolithic Ceramic Cap	0 100 50V Z (VI307100)
6 Electrolytic Cap	220 00 16 0V (VG852700)
7 Carbon Resistor	1 0K 1/4 J (HF756100)
	1 8K 1/4 J (HF756180)
	2 2K 1/4 J (HF756220)
	3 9K 1/4 J (HF756390)
	10 0K 1/4 J (HF757100)
8 Metal Oxide Film Resistor	15 0 3W J (VT574000)
9 LC Filter	LS MT Y223NB (FZ006970)
10 Base Post Connector	XH- 2P TE (LB918020)
	XH- 6P TE (LB918060)
	PH- 2P TE (VB389800)
	PH- 3P TE (VB389900)

SENSOR: VT18690
MOTOR: BNA01-VT10750

• PK-CTL Circuit Board



• SUB-POWER SUPPLY Circuit Board



CAUTION REPLACE WITH SAME TYPE FUSE

ATTENTION UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE

This symbol shows slow operating fuse

Notes)

Circuit board PK-CTL (VT186700) XL677D0

1 IC	NJM7805FA (XJ607A00) REGULATOR +5V
IC2	M37700SAFP (XI286A00) CPU
IC3	TMS27C040 10JL(XQ461F00)MASK ROM
IC4	HM65256BLFP-10T (XI020A00) PSRAM 256K
IC5	HN58C66FP-25 (XL026A00) EEPROM 64K
IC6	LC92011B-656 (XK441A00) GATE ARRAY
IC7	HD74HC123AFPTR (XL106A00) SINGLE SHOT
IC8	PST572CMT-R (XL122A00) RESET
IC9	NJM2903MT1 (XD672A00)
IC10	
2 Photo Coupler	PC9D10 (VN516100) or HCPL-2630 (VN593900)
IC1	
3 Transistor	2SC2412K Q R S (IC241200) or 2SC4639-6/7-TA (VR935100)
Q 1	
4 Diode	RLS-73 (VB797600) or MA221 (VB493900)
D 1,2,4	
D 3	EC10DS4-TE12L (VN681100) or D1F60 (VS201100)
5 Zener Diode	RD62P-T2 (VP615600)
ZD1	
6 Monolithic Ceramic Cap	SL 33P 50V J (UB051330)
	SL 82P 50V J (UB051820)
	SL 100P 50V J (UB052100)
	B 1000P 50V K (UB013100)

7 Electrolytic Cap	1 00 50 0V (UI566100)
	10 00 16 0V (UI537100)
	100 00 16 0V (UI538100)
	220 00 16 0V (VG852700)
	2 20 50 0V (UI566220)
8 Carbon Resistor (chip)	1 0K 0 1 J (RD254100)
	100 0 0 1 J (RD255100)
	220 0 0 1 J (RD255220)
	1 0K 0 1 J (RD256100)
	2 2K 0 1 J (RD256220)
	4 7K 0 1 J (RD256470)
	10 0K 0 1 J (RD257100)
	12 0K 0 1 J (RD257120)
	56 0K 0 1 J (RD257560)
	100 0K 0 1 J (RD258100)
	220 0K 0 1 J (RD258220)
	1 0M 0 1 J (RD259100)
9 Ceramic Resonator	16M CSA16 00MXZ040 (VH307600)
CL 1	
10 LC Filter	LS MT Y223NB (FZ006970)
	BLM21A05PT (VQ193600)
11 Coil	SBT-0260TF 60uH (VF968800)
12 IC Socket	DICF-32CS-E (VJ532800)

13 Connector Base Post

CN 1	PH-10P TE (VB390600)
CN 2	PH- 9P TE (VB390500)
CN 3	PH- 8P TE (VB390400)
CN 4	PH- 4P TE (VB390000)
CN 5	PH- 7P TE (VB390300)
CN 6	PH-16P TE (VF283400)
CN 7	PH- 2P TE (VB389800)
CN 8	PH- 3P TE (VB389900)

Notes)

Circuit board SUB-POWER SUPPLY (VT177900) XQ418C0 (U C)

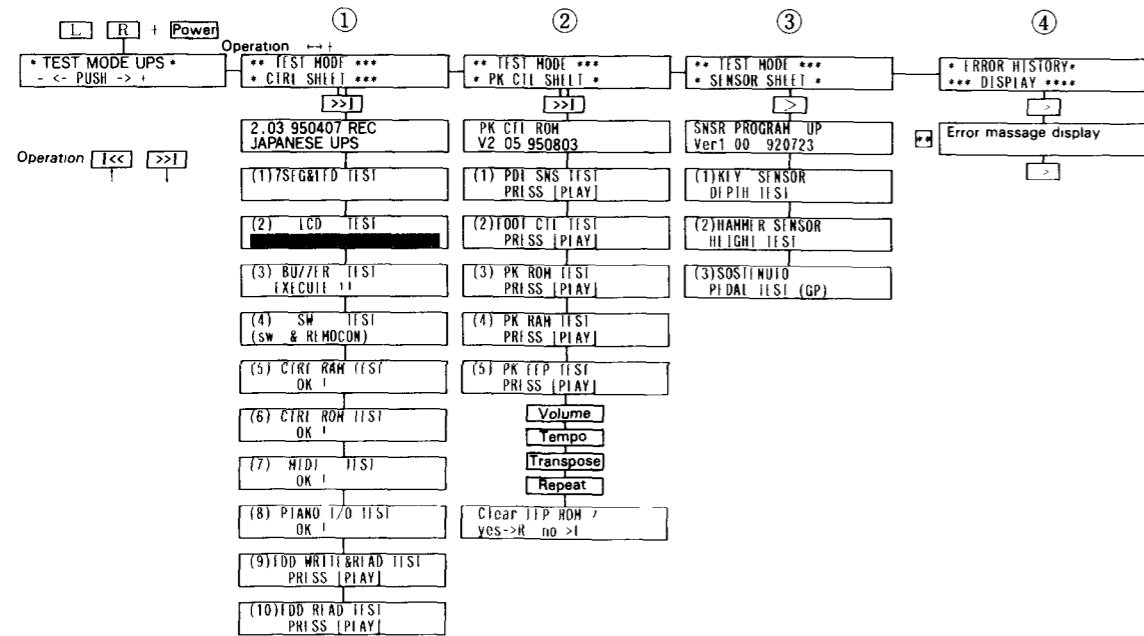
SUB-POWER SUPPLY (VT178000) XQ418C0 (E A B)

1 Power Transformer	(XQ448A00)U,C
T 1	(XQ449A00)E A,B
2 Fuse	T 5 00A(VT335000) U,C
F 1	T 3 15A(VT335100) E,A,B
F 2	T 1 00A(VT454900) U C
	T 250MA(VT455000) E,A B
3 Carbon Resistor (chip)	R 1 47 0 1/4 J (HF754750)
4 Semiconductive Cera Cap	C 3 4,5 6 0 1000 50VZ(VD287800)
5 Electrolytic Cap	C 1,2 2200 25 0V(UJ649220)
6 Diode Stack	DB1 D3SBA20 4 0A 200V(VN011300)
7 Diode	D 1 1SS133,1SS176(VB941200)
8 Relay	RY1 AC JS-5M-K(VT307600)
9 Fuse Holder	EYF-52BC(VP206500)
10 Connector Base Post	CN1 2 LB-3P TE(LB301470)
	CN3 4 PH-10P TE(VB390600)
	CN5 XH-2P TE(LB918020)

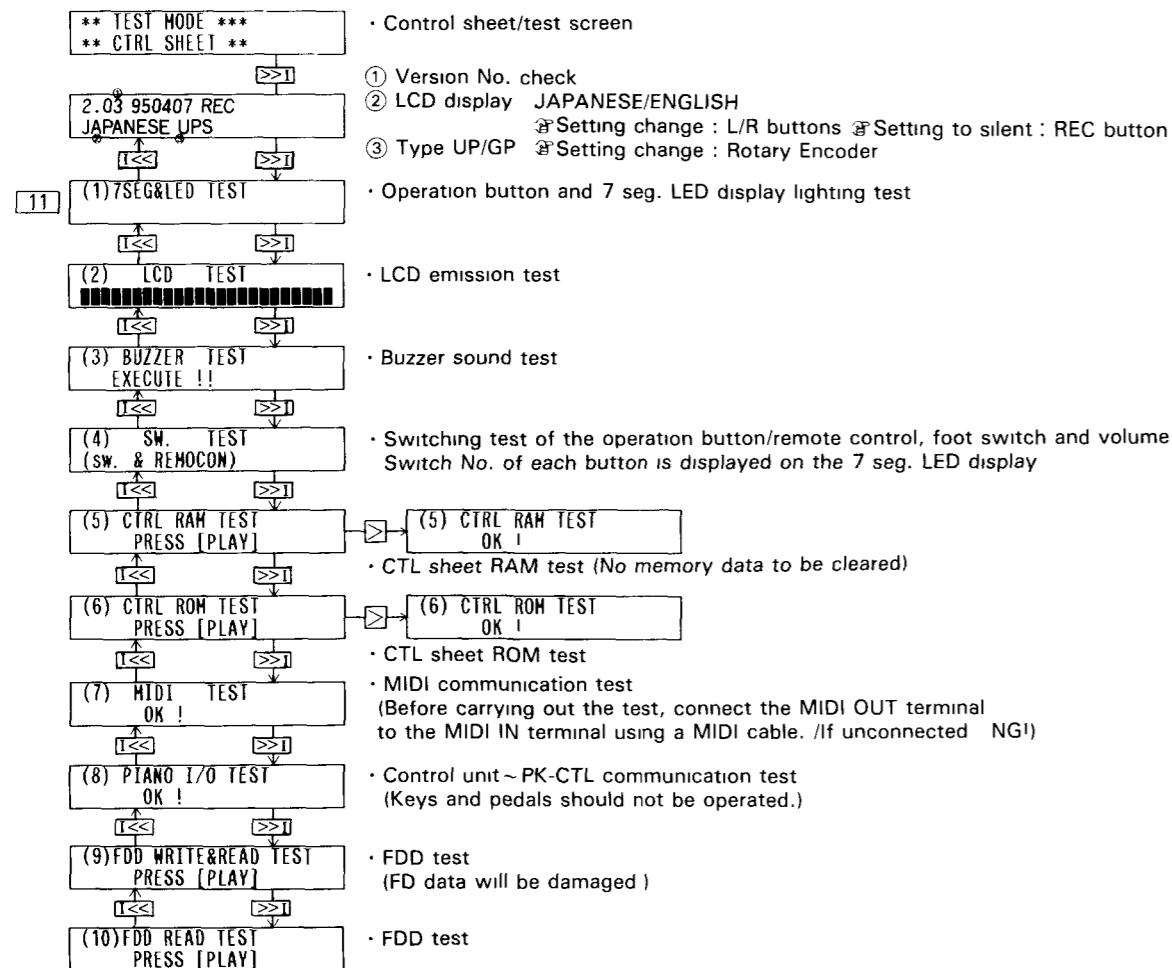
PK-CTL: VT18680
SUB-POWER SUPPLY: BNB01-VT10940

TEST MODE

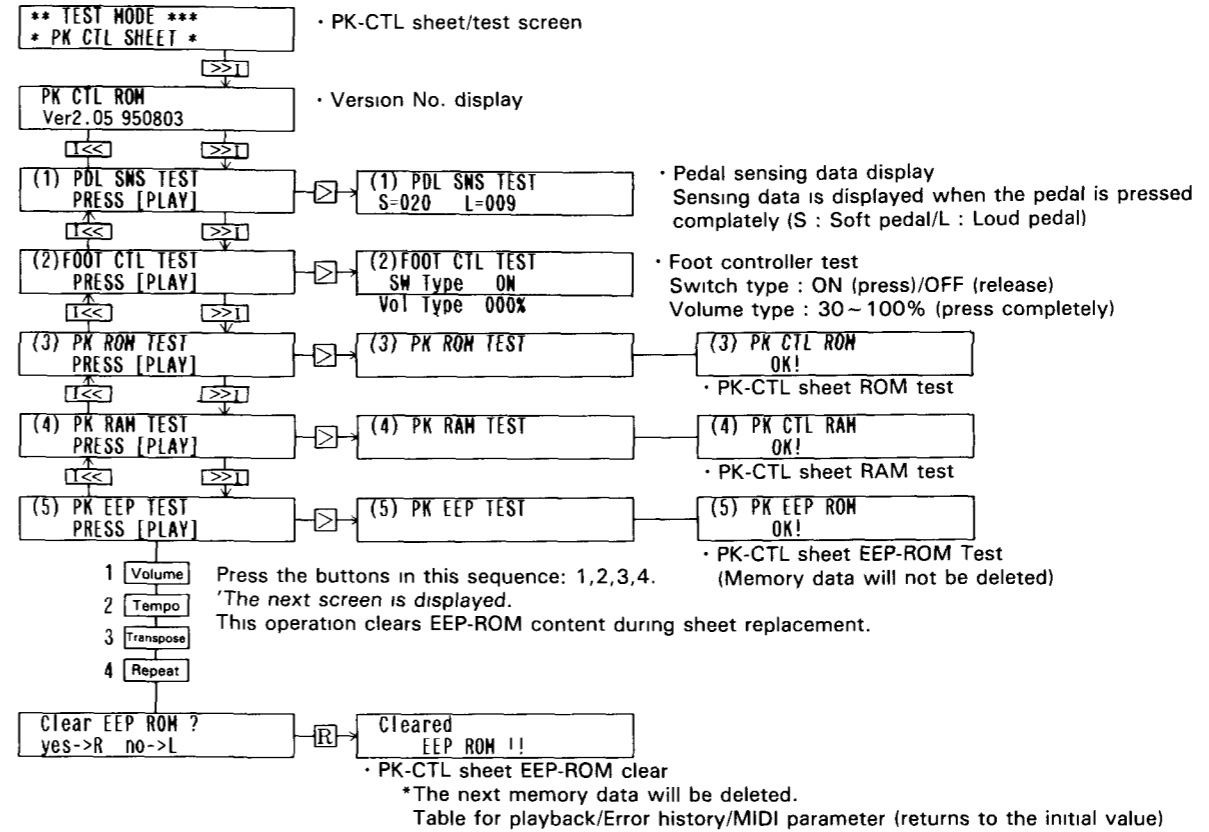
TEST MODE <MENU>



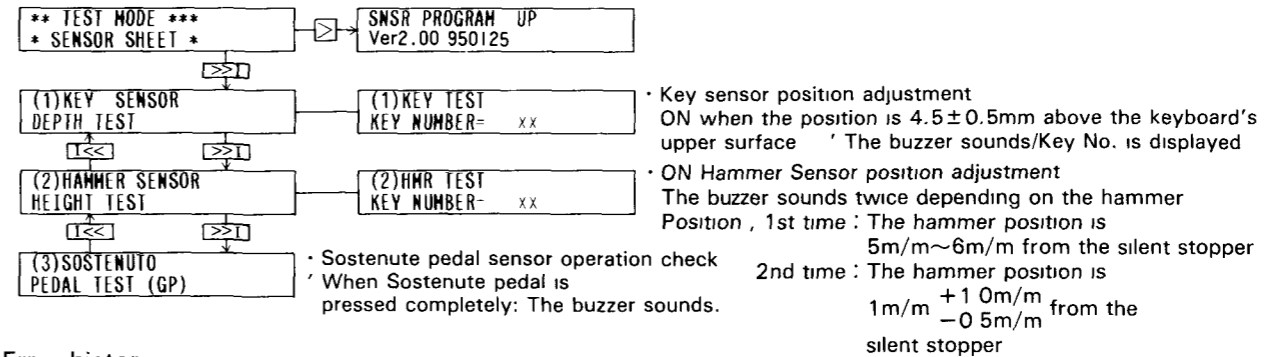
① Control (CTRL) sheet Test



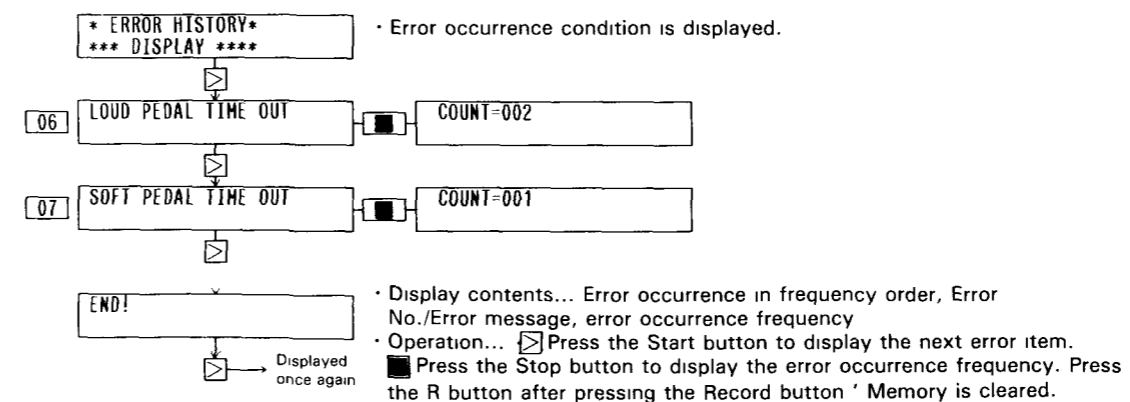
② PK-CTL Test



③ Sensor sheet Test

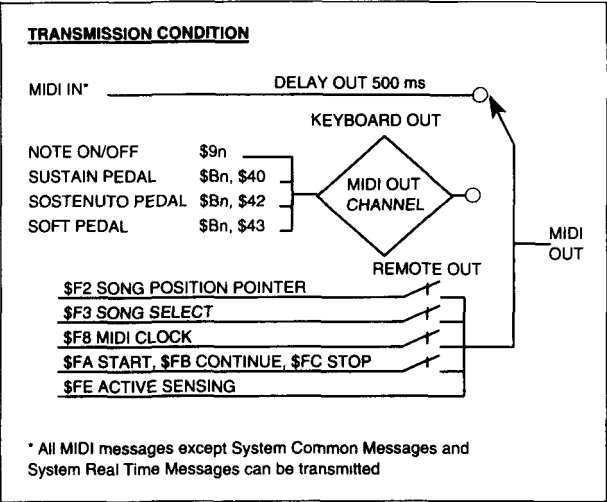


④ Error history



MIDI DATA FORMAT

<Transmitted Data>



1. Channel Messages

1.1 Note On/Off (\$9n, \$kk, \$vv)

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16
kk(notenumber) = \$00 to \$7F (0 to 127) : C-2~G8
vv(velocity) = \$00 to \$7F (0 to 127) : 0=note off

1.2 Control Change

Volume (\$Bn, \$07, \$vv)

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16
vv (data) = \$00 to \$7F (0 to 127)

Sustain pedal (\$Bn, \$40, \$vv)

Switch mode

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16
vv (data) = \$00, \$7F (0, 127) : channel 1~16

Half pedal mode (add the following messages)

n (MIDI channel) = \$2 (2) : channel 3
vv (data) = \$00 to \$7F (0 to 127)

Soft pedal (\$Bn, \$43, \$vv)

Switch mode

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16
vv(data) = \$00, \$7F (0, 127) : 0=off, 127=on

Half pedal mode (add the following messages)

n (MIDI channel) = \$2 (2) : channel 3
vv (data) = \$00 to \$7F (0 to 127)

Sostenuto pedal (\$Bn, \$42, \$vv)

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16
vv (data) = \$00, \$7F (0, 127) : 0=off, 127=on

1.3 Program Change (\$Cn, \$pp) - Sent only in MIDI setup mode

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16
pp (program number) = \$00 to \$7F (0 to 127)

2. Channel Mode Messages

2.1 All Note Off (\$Bn, \$7B, \$00)

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16

2.2 All Sound Off (\$Bn, \$78, \$00)

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16

3. System Information

3.1 System Common Messages

Song Position Pointer (\$F2, \$ll, \$hh) - When remote Out is on

ll (value) = \$00 to \$7F (0 to 127)
hh (value) = \$00 to \$7F (0 to 127)

Song Select (\$F3, \$ss) - When remote Out is on

ss (song number) = \$00 to \$7F (0 to 127)

3.2 System Real Time Messages

Timing clock (\$F8) - When remote Out is on

Start (\$FA) - When remote Out is on

Continue start (\$FB) - When remote Out is on

Stop (\$FC) - When remote Out is on

Active sensing (\$FE) - Always transmitted.

Note: When pause, stop, or eject is selected during playback, the following messages are transmitted.

Note Off (\$9n, \$kk, \$00) - Only for notes that are on

All Sound Off (\$Bn, \$78, \$00) - Channel 1~16

All Notes Off (\$Bn, \$7B, \$00) - Channel 1~16

Pedal Off (\$Bn, \$40, \$00, \$Bn, \$43, \$00)

3.3 System Exclusive Messages

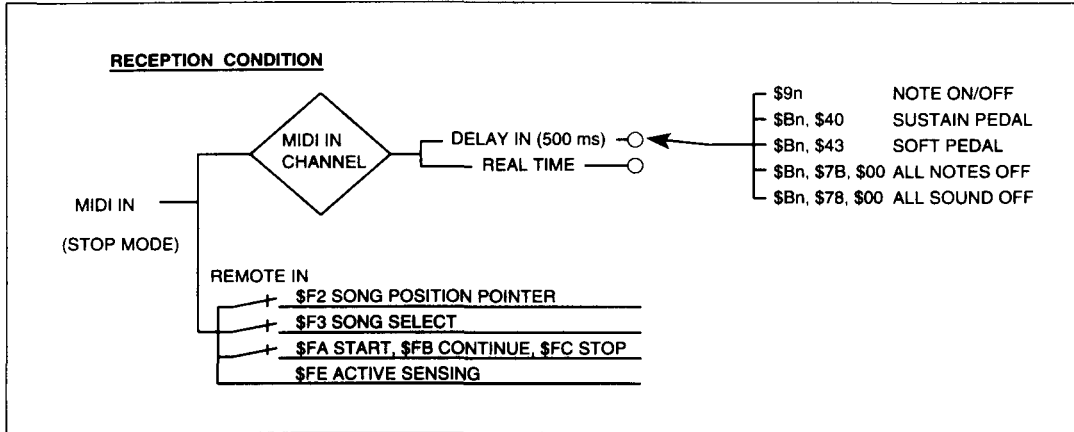
Master tune (\$F0 \$43 \$10 \$27 \$30 \$00 \$00 \$dd \$ee \$cc \$F7)

dd (data) = \$00 to \$0E (0 to 14)
ee (data) = \$00 to \$0F (0 to 15)
cc = check sum

MIDI master volume (\$F0 \$7F \$7F \$04 \$01 \$ll \$mm \$F7)

mm (data) = \$00 to \$7F (0 to 127) : MSB
ll (data) : LSB

<Receive Data>



1. Channel Voice Message

1.1 Note Off (\$8n, \$kk, \$vv)

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16
 kk (note number) = \$15 to \$6C (21 to 108) : A-1~C7
 vv (velocity) = \$00 to \$7F (0 to 127)

1.2 Note On/Off (\$9n, \$kk, \$vv)

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16
 kk (note number) = \$15 to \$6C (21 to 108) : A-1~C7
 vv (velocity) = \$00 to \$7F (0 to 127) : 0=note off

1.3 Control Change

Sustain pedal (\$Bn, \$40, \$vv)

Switch mode

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16
 vv (data) = \$00 to \$3F, \$40 to \$7F (0 to 63, 64 to 127)
 : 0~63=off 64~127=on

Half pedal mode (add the following messages)

n (MIDI channel) = \$2 (2) : channel 3
 vv (data) = \$00 to \$7F (0 to 127)

Soft pedal (\$Bn, \$43, \$vv)

Switch mode

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16
 vv (data) = \$00 to \$3F, \$40 to \$7F (0 to 63, 64 to 127)
 : 0~63=off 64~127=on

Half pedal mode (add the following messages)

n (MIDI channel) = \$2 (2) : channel 3
 vv (data) = \$00 to \$7F (0 to 127)

2. Channel Mode Messages

2.1 AM Notes Off (\$Bn, \$7B, \$00)

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16

2.2 All Sound Off (\$Bn, \$78, \$00)

n (MIDI channel) = \$0 to \$F (0 to 15) : channel 1~16

3. System Information

3.1 System Common Messages

Song Position Pointer (\$F2, \$ll, \$hh) - When remote In is on

ll (value) = \$00 to \$7F (0 to 127)
 hh (value) = \$00 to \$7F (0 to 127)

Song Select (\$F3, \$ss) - When remote In is on

ss (song number) = \$00 to \$7F (0 to 127)

3.2 System Real Time Messages

Start (\$FA) - When remote In is on
 Continue start (\$FB) - When remote In is on
 Stop (\$FC) - When remote In is on
 Active sensing (\$FE) - Always received

YAMAHA [DISKLAVIER SILENT PIANO]

Model MPX100II

MIDI IMPLEMENTATION CHART

Date: 7-APR-1995

Version: 2.03

Function...	Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1-16 1-16	Memorized HP→ch1, 3
Mode	Default Messages Altered	3 x *****	
Note Number	: True voice	0-127 *****	21-108 21-108
Velocity	Note ON Note OFF	O 9nH, v=1-127 x 9nH, v=0 *1	O v=1-127 O
After Touch	Key's Ch's	x x *1	x x
Pitch Bend		x *1	x
Control Change	64 67 7 120	O O O O *1	O O x O Sustain Pedal Soft Pedal Volume All Sound Off
Prog Change	: True #	O(0-127) *****	x
System Exclusive		O *1	x
Common	: Song Pos : Song Sel : Tune	O O x *2	O O x *2
System Real Time	: Clock : Commands	O O *2	x O *2
Aux Messages	:Local ON/OFF :All Notes OFF :Active Sense :Reset	x (123) O x	x O(123) O x
<p>Notes All recognized data are transmitted 500msec later if control panel mode is STOP and DELAY OUT mode is on. *1=Possible to transmit all data if E-SEQ disk is used. *2=Enabled or disabled using REMOTE functions.</p>			

Mode 1: OMNI ON, POLY
Mode 3: OMNI OFF, POLY

Mode 2: OMNI ON, MONO
Mode 4: OMNI OFF, MONO

O:Yes
x:No

YAMAHA **disklavier**TM

*Silent*TM

S E R I E S

MPX100II

PARTS LIST

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For the following sections of the parts list in the service manual, please refer to the MX100II service manual(008659).

Mechanical parts

KEY SENSOR UNIT, KEY DRIVE UNIT

Electrical parts

Circuit boards(CONTROL OUT, CONNECTION, PANEL SWITCH, HAMMER EMISSION, KEY RECEIVE, KEY EMISSION, DRIVE A, DRIVE B, DRIVE C), POWER SUPPLY UNIT



Notes: Destination Abbreviations

U: US model
 C: Canadian model
 E: European model
 A: Australian model
 B: British model

•The numbers with "pc." or "pcs" in "Remarks" show quantities for each unit.
 •The parts with "-" in "Parts No." are not available as spare parts.

ELECTRICAL PARTS

Ref.	Part No.	Description		部品名	Remarks	ランク
	VT188300 VT836500 VT123600 VT107500	<ELECTRICAL PARTS> Circuit board Circuit Board Circuit board Circuit board		CONTROLLER CTRL IN HP MOTOR	<電気部品> コントローラシート C T R L I N H P シート モーターシート	(XI027G0) 27 (XR146A0) (XP822B0) (XQ424B0)
	VT836000 VT109000 VT186700 VT316700 VT186900	Circuit Board Circuit Board Circuit board Circuit board Circuit Board		7 SEG. LED MN PK-CTL POWER SW SENSOR	7 セグLEDシート M N シート P K - C T L シート 電源スイッチシート センサーシート	(XL265E0) 52 (XQ464A0) (XL677D0) 28 (XP822B0) (XL683A0) 25
	VT178800 VT178900 VT188300 XI040A00	Circuit Board Circuit Board Circuit board IC		SUB-POWER SUPPLY SUB-POWER SUPPLY CONTROLLER Z8018008PSC	サブ電源シート サブ電源シート コントローラシート I C	U, C (XQ418C0) E, A, B (XQ418C0) (XI027G0) 27 CPU 09
	XL029A00 XQ465E00 XM175A00 XI939A00 XL122A00	IC IC IC IC IC		LC92011B-726 KM23C1010-KF42ERB HM658128ALFP-10 HD63266F PST572CMT-R	I C I C I C I C I C	GATE ARRAY 06 MASKED ROM 1M 07 PSRAM 16 FDC 09 SYSTEM RESET 02
	XC723A00 XC725A00 XF937A00 XK310A00 XL106A00	IC IC IC IC IC		SN74HCU04NSR SN74HC14NSR LU59530 UPC2405HF 5V HD74HC123AFPTR	I C I C I C I C I C	INVERTER 01 INVERTER 03 DECODER 05 REGULATOR +5V 04 SINGLE SHOT 02
	IC241200 VR935100 VN516800 VN516900 VB493900	Transistor Transistor Transistor Array Transistor Array Diode		2SC2412K Q, R, S 2SC4639-6/7-TA LB1215 LB1211 MA221	トランジスタ トランジスタ トランジスタアレイ トランジスタアレイ ダイオード	01 01 03 03 01
	VB797600 VN406200 RD253470 RD254220 RD254470	Diode Photo Coupler Carbon Resistor (chip) Carbon Resistor (chip) Carbon Resistor (chip)		RLS-73 HCPL-0600-500 4.7 0.1 J 22.0 0.1 J 47.0 0.1 J	ダイオード フォトカプラ チップ抵抗 チップ抵抗 チップ抵抗	01 05 01 01 01
	RD254820 RD255100 RD255220 RD256100 RD256180	Carbon Resistor (chip) Carbon Resistor (chip) Carbon Resistor (chip) Carbon Resistor (chip) Carbon Resistor (chip)		82.0 0.1 J 100.0 0.1 J 220.0 0.1 J 1.0K 0.1 J 1.8K 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
	RD256330 RD256470 RD257100 RD257560 RD257680	Carbon Resistor (chip) Carbon Resistor (chip) Carbon Resistor (chip) Carbon Resistor (chip) Carbon Resistor (chip)		3.3K 0.1 J 4.7K 0.1 J 10.0K 0.1 J 56.0K 0.1 J 68.0K 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
	RD258100 RD258120 RD258150 RD258270 RD259100	Carbon Resistor (chip) Carbon Resistor (chip) Carbon Resistor (chip) Carbon Resistor (chip) Carbon Resistor (chip)		100.0K 0.1 J 120.0K 0.1 J 150.0K 0.1 J 270.0K 0.1 J 1.0M 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
	UB051330 UB052100 UB012470 UB013100 UB245100	Monolithic Ceramic Cap. Monolithic Ceramic Cap. Monolithic Ceramic Cap. Monolithic Ceramic Cap. Monolithic Ceramic Cap.		SL 33P 50V J SL 100P 50V J B 470P 50V K B 1000P 50V K F 0.100 25V 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
	UI566100 UJ838470 VH307600 VG931300 XE143A00	Electrolytic Cap. Electrolytic Cap. Ceramic Resonator Ceramic Resonator Speaker		1.00 50.0V 470.00 16.0V 16M CSA16.00MXZ040 10MHZ PKM22EPP-4001	ケミコン ケミコン セラミック振動子 セラミック振動子 スピーカ	01 01 02 02 02
	FZ006970 VJ532800 VD004500 VD004600 VD004800	LC Filter IC Socket Base Pin Base Pin Base Pin		LS MT Y223NB DICF-32CS-E PH- 2P TE PH- 3P TE PH- 5P TE	L C フィルター E M I I C ソケット ベースピン ステック入り ベースピン ステック入り ベースピン ステック入り	02 02 01 01 01
	VD005000 VD005200 VE352600 LB918090 VN517800	Base Pin Base Pin Connector Base Post Base Post Connector Connector		PH- 7P TE PH- 9P TE PH-14P TE XH- 9P TE FM- 6P TE	ベースピン ステック入り ベースピン ステック入り コネクタベースポスト ベースポスト コネクタ F F C ヲウ	01 01 01 01 01

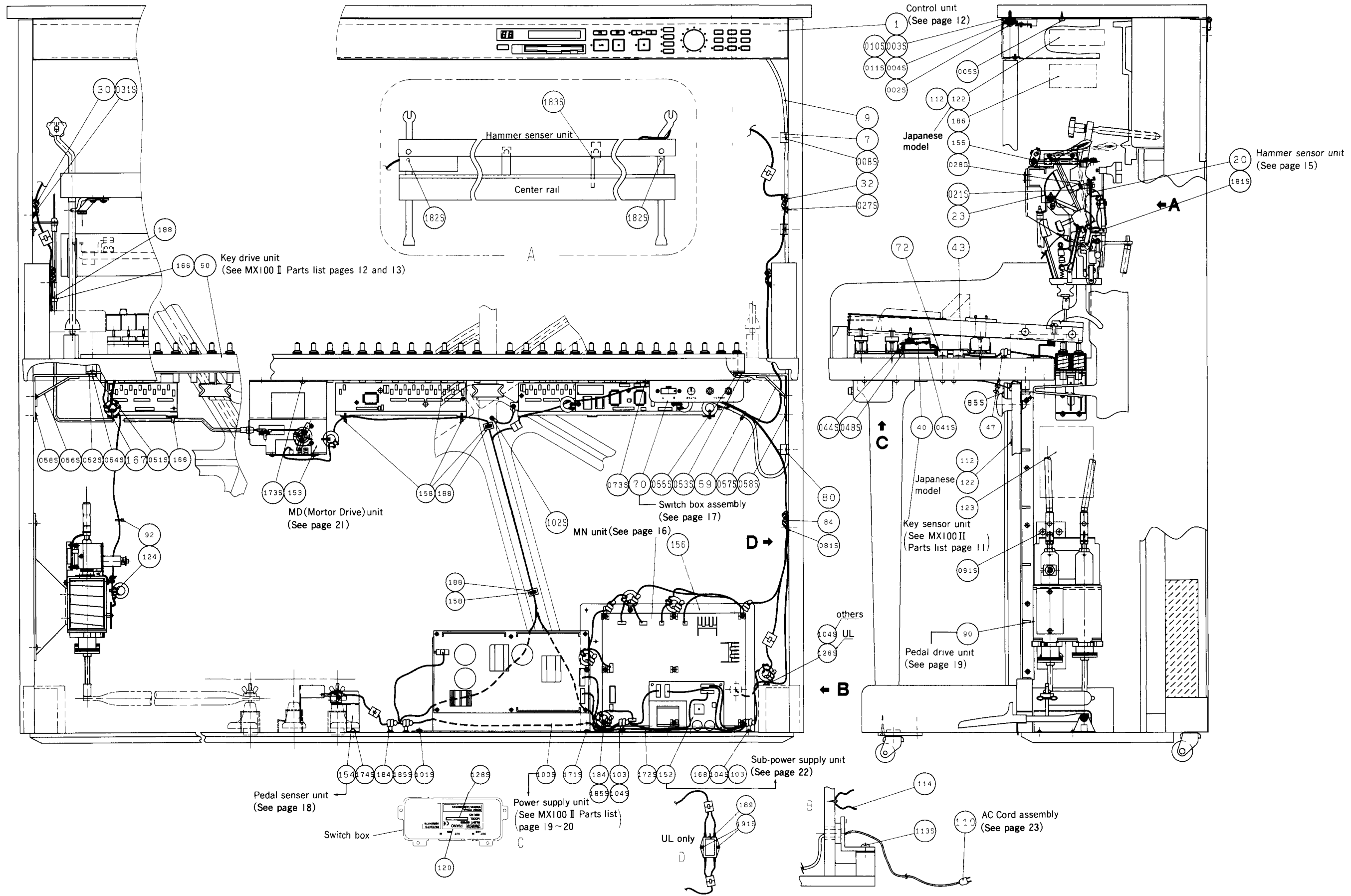
Ref.	Part No.	Description	部品名	Remarks	ランク
	VN517900	Connector	FM- 7P TE	コネクタ FFC ヨウ	01
	VN518000	Connector	FM- 8P TE	コネクタ FFC ヨウ	01
	VN518100	Connector	FM-10P TE	コネクタ FFC ヨウ	01
	VN520900	Connector	52045-26P TE	FFC コネクター	02
	VN638800	Heat Sink	OSH-3030-SPL	放熱板	02
	VB659000	Bind Head Screw	3.0X8 MFZN2BL	+ バインド小ネジ	01
	VT836500	Circuit Board	CTRL IN	C T R L I N	(XR146A0)
	LB918030	Base Post Connector	XH- 3P TE	ベースツキポスト	01
	VN638300	Phone Connetor	HLJ2306 STEREO	ホーンジャック	02
	F2006970	LC Filter	LS MT Y223NB	L C フィルター E M I	
*	VT123600	Circuit board	HP	H P シート	(XP822B0)
	VH696500	Carbon Resistor	68.0 1/2 J	カーボン抵抗	
	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z	半導体セラコン	01
	VF968800	Coil	SET-0260TF 60uH	コイル S B	01
	VB835000	Coil	FL5R200QNT 20uH	コイル	01
	VQ862900	Rotary Variable Resistor	A10.0KX2 RK0971210)	二連ロータリー V R	04
	VQ866600	Phone Connector	HLJ0521 STEREO	ホーンコネクタ	02
	VQ098700	DIN Connector	YKF51-5057 3P	D I N コネクタ	03
	LB918040	Base Post Connector	XH- 4P TE	ベースツキポスト	01
	LB918050	Base Post Connector	XH- 5P TE	ベースツキポスト	01
	VB390100	Connector Base Post	PH- 5P TE	コネクタベースポスト	01
	VB390400	Connector Base Post	PH- 8P TE	コネクタベースポスト	01
	VB390500	Connector Base Post	PH- 9P TE	コネクタベースポスト	03
	LB301870	Phone Connetor	HSJ0857 ST-MINI	ホーンコネクタ	AUX IN, AUX OUT
	FG652100	Ceramic Capacitor	100P 50V J	セラコン (S L)	01
	--	Jumper Wire	L=5.0mm	ジャンパー線	(VS19560)
*	VT107500	Circuit board	MOTOR	モーターシート	(XQ424B0)
	HF755220	Carbon Resistor	220.0 1/4 J	カーボン抵抗	01
	HF756100	Carbon Resistor	1.0K 1/4 J	カーボン抵抗	01
	HF756180	Carbon Resistor	1.8K 1/4 J	カーボン抵抗	01
	HF756220	Carbon Resistor	2.2K 1/4 J	カーボン抵抗	01
	HF756390	Carbon Resistor	3.9K 1/4 J	カーボン抵抗	01
*	HF757100	Carbon Resistor	10.0K 1/4 J	カーボン抵抗	01
	VT574000	Metal Oxide Film Resistor	15.0 3W J	酸化金属被膜抵抗	01
	VI307100	Monolithic Ceramic Cap.	0.100 50V Z	積層セラコン	01
	VD841300	Ceramic Capacitor	100P 50V K	円筒セラコン (B)	01
	VG852700	Electrolytic Cap.	220.00 16.0V	ケミコン S S	01
	F2006970	LC Filter	LS MT Y223NB	L C フィルター E M I	02
	XG061A00	IC	NJM2403D	I C	03
	XF880A00	IC	MB3763P	I C	04
	IR000050	IC	SN74HC00N	I C	03
	VD180200	LED	SLZ-981C-12 RE	L E D	01
	VN518200	LED	SLZ-389C-02-T1 GR	L E D	SILENT OFF
	LB918020	Base Post Connector	XH- 2P TE	ベースツキポスト	01
	LB918060	Base Post Connector	XH- 6P TE	ベースツキポスト	01
	VB389800	Connector Base Post	PH- 2P TE	コネクタベースポスト	01
	VB389900	Connector Base Post	PH- 3P TE	コネクタベースポスト	01
	VP216000	PI Sensor	ON1108	P I センサー	04
	--	Jumper Wire	L=7.5mm	ジャンパー線	(VR05200)
	--	Jumper Wire	L=5.0mm	ジャンパー線	(VS19560)
	VT836000	Circuit Board	7 SEG LED	7 セグ LED シート	(XL265E0)
	VJ791000	Sensor, Remote Controller	SPS-420-1	リモコン受光ユニット	05
	VN388300	Push Switch	SPPH23	プッシュスイッチ	03
	FG613100	Ceramic Capacitor	1000P 50V K	セラコン B	01
	VG922200	LED Display	7	L E D ディスプレイ	05
	--	Connector Assembly	P.SW	束線 P. SW	(VN52100)
	--	Connector Assembly	7 SEG LED	束線 7 セグ LED	(VN52110)
*	VT109000	Circuit Board	MN	M N シート	(XQ464A0)
	XF291A00	IC	UPC4570G2	I C	03
	XB738A00	IC	TC4053BF	I C	02
	XD835A00	IC	SN74HC138NSR	I C	02
	XL112A00	IC	SN74HC132NS-R	I C	03
*	XQ458B00	IC	HD6473308F10	I C	09
*	XQ459B00	IC	TMS27C040-10JL	I C	08
*	XK973100	IC	HN624116PZ20	I C	16

Ref.	Part No.	Description	部品名	Remarks	ランク	
	XK281B00	IC	YMW265B-F	IC	CVG	22
	XP551A00	IC	PCM1702U	IC	DAC	08
	XK929A00	IC	HY6264ALJ-10	IC	SRAM 64K	08
	XM039A00	IC	LH5168N-10TL	IC	SRAM 64K	07
	XI020A00	IC	HM65256BLFP-10T	IC	PSRAM 256K	08
	XM049A00	IC	TC51832AFL-10	IC	PSRAM 256K	08
	XM804A00	IC	LA6517	IC	OP AMP	04
	XM838A00	IC	HLND12R35M	IC	DC-DC CONVERTER	08
	XJ607A00	IC	NJM7805FA	IC	REGULATOR +5V	02
	XN129A00	IC	UPC2412HF	IC	REGULATOR +12V	04
	XJ598A00	IC	NJM78L05UA	IC	REGULATOR +5V	02
	XN086A00	IC	NJM79L05UA TEL	IC	REGULATOR -5V	02
	VJ927200	Transistor	2SA1162 O,Y	トランジスタ		01
	VQ395600	Transistor	2SA1052 B,C	トランジスタ		01
	VJ927100	Transistor	2SC2712 Y	トランジスタ		01
	VN416200	Transistor	2SC2412K T147 S	トランジスタ		01
	VB493900	Diode	MA221	ダイオード		01
	VB797600	Diode	RLS-73	ダイオード		01
	VN681100	Diode	EC10DS4-TE12L	ダイオード		01
	VN406200	Photo Coupler	HCPL-0600-500	フォトカプラ		05
	UB012470	Monolithic Ceramic Cap.	B 470P 50V K	チップ積層セラコン		01
	UB013270	Monolithic Ceramic Cap.	B 2700P 50V K	チップ積層セラコン		01
	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D	チップ積層セラコン		01
	UB051150	Monolithic Ceramic Cap.	SL 15P 50V J	チップ積層セラコン		01
	UB051220	Monolithic Ceramic Cap.	SL 22P 50V J	チップ積層セラコン		01
	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J	チップ積層セラコン		01
	UB051820	Monolithic Ceramic Cap.	SL 82P 50V J	チップ積層セラコン		01
	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J	チップ積層セラコン		01
	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z	チップ積層セラコン		01
	UF037100	Electrolytic Cap. (chip)	10 16V	チップケミコン		01
	UF037220	Electrolytic Cap. (chip)	22 16V	チップケミコン		01
	UF037470	Electrolytic Cap. (chip)	47 16V	チップケミコン		01
	UF138100	Electrolytic Cap. (chip)	100 16V UUR1C1	チップケミコン		01
	UF138220	Electrolytic Cap. (chip)	220 16V UUR1C2	チップケミコン		01
	UF138470	Electrolytic Cap. (chip)	470 16V UUR1C4	チップケミコン		02
	UF148220	Electrolytic Cap. (chip)	220 25V UUR1E2	チップケミコン		02
	UF046470	Electrolytic Cap. (chip)	4.7 25V	チップケミコン		01
	UF066100	Electrolytic Cap. (chip)	1 50V	チップケミコン		01
	UF246470	Electrolytic Cap. (chip)	4.7 25V	チップBPコン		01
	UF247100	Electrolytic Cap. (chip)	10 25V	チップBPコン		01
	UF266100	Electrolytic Cap. (chip)	1.0 50V	チップBPコン		01
	UF266220	Electrolytic Cap. (chip)	2.2 50V	チップBPコン		01
	UF266330	Electrolytic Cap. (chip)	3.3 50V	チップBPコン		01
	UF266470	Electrolytic Cap. (chip)	4.7 50V	チップBPコン		02
	RD250000	Carbon Resistor (chip)	0.0 0.0 J	チップ抵抗		01
	RD255100	Carbon Resistor (chip)	100.0 0.1 J	チップ抵抗		01
	RD255220	Carbon Resistor (chip)	220.0 0.1 J	チップ抵抗		01
	RD255330	Carbon Resistor (chip)	330.0 0.1 J	チップ抵抗		01
	RD256100	Carbon Resistor (chip)	1.0K 0.1 J	チップ抵抗		01
	RD256150	Carbon Resistor (chip)	1.5K 0.1 J	チップ抵抗		01
	RD256220	Carbon Resistor (chip)	2.2K 0.1 J	チップ抵抗		01
	RD256270	Carbon Resistor (chip)	2.7K 0.1 J	チップ抵抗		01
	RD257100	Carbon Resistor (chip)	10.0K 0.1 J	チップ抵抗		01
	RD257180	Carbon Resistor (chip)	18.0K 0.1 J	チップ抵抗		01
	RD257220	Carbon Resistor (chip)	22.0K 0.1 J	チップ抵抗		01
	RD257330	Carbon Resistor (chip)	33.0K 0.1 J	チップ抵抗		01
	RD257470	Carbon Resistor (chip)	47.0K 0.1 J	チップ抵抗		01
	RD258470	Carbon Resistor (chip)	470.0K 0.1 J	チップ抵抗		01
	RD259100	Carbon Resistor (chip)	1.0M 0.1 J	チップ抵抗		01
	VP864800	Quartz Crystal Unit	11.2896M SMD-49	水晶振動子		04
	VQ274800	Quartz Crystal Unit	24.0M SMD-49	水晶振動子		04
	VQ332000	Chip Inductance	5.0U SF-M0520(T)	チップインダクタ		03
	VQ332100	Chip Inductance	10U SN-S3M-1010T	チップインダクタ		04
	VJ928500	Chip Inductance	BLM32A06PT 3216	チップインダクタ		01
	VR243700	Chip Inductance	56U LEM2520 T 560J	巻線チップインダクタ		01
	VA787800	Trimmer Potentiometer	B 3.3K 3P RHO	半固定VR	DAMPER PEDAL	01
	VD017000	Slide Switch	51D-0401	スライドSW	DIP SW	03
	KC001900	Relay	DC RY12W DC12V	リレー 12V		07
	VL406800	Relay	DC G5V-2 DC12V	リレー 12V		05
	FZ005920	LC Filter	LS MT Y223NB	LCフィルターEMI		02

Ref.	Part No.	Description		部品名	Remarks	ランク
	VN638800	Heat Sink	OSH-3030-SPL	放熱板		02
	VJ532800	IC Socket	DICF-32CS-E	ICソケット		02
	LB918020	Base Post Connector	XH- 2P TE	ベースツキポスト		01
	LB918040	Base Post Connector	XH- 4P TE	ベースツキポスト		01
	LB918080	Base Post Connector	XH- 8P TE	ベースツキポスト		01
	LB918050	Base Post Connector	XH- 5P TE	ベースツキポスト		01
	LB918090	Base Post Connector	XH- 9P TE	ベースツキポスト		01
	VB390100	Connector Base Post	PH- 5P TE	コネクタベースポスト		01
	VB390200	Connector Base Post	PH- 6P TE	コネクタベースポスト		01
	VB390400	Connector Base Post	PH- 8P TE	コネクタベースポスト		01
	VP214600	Header	HIF3FC-16P TE	ヘッダー		03
	VB659000	Bind Head Screw	3.0X8 MFZN2BL	+バインド小ネジ		01
	VT186700	Circuit board	PK-CTL	P K - C T L シート	(XL677D0)	28
	XI286A00	IC	M37700SAFP	IC	CPU (MAIN)	10
	XK441A00	IC	LC92011B-656	IC	GATE ARRAY	06
	XQ461F00	IC	TMS27C040-10JL	IC	MASKED ROM 4M	08
	XI020A00	IC	HM65256BLFP-10T	IC	PSRAM 256K	08
	XL026A00	IC	HN58C66FP-25	IC	EEP-ROM	10
	XL106A00	IC	HD74HC123AFPTR	IC	SINGLE SHOT	02
	XD672A00	IC	NJM2903MT1	IC	COMPARATOR	02
	XL122A00	IC	PST572CMT-R	IC	SYSTEM RESET	02
	XJ607A00	IC	NJM7805FA	IC	REGULATOR +5V	02
	IC241200	Transistor	2SC2412K Q, R, S	トランジスタ		01
	VR935100	Transistor	2SC4639-6/7-TA	トランジスタ		01
	VN681100	Diode	EC10DS4-TE12L	ダイオード		01
	VS201100	Diode	D1F60	ダイオード		01
	VB493900	Diode	MA221	ダイオード		01
	VB797600	Diode	RLS-73	ダイオード		01
	VP615600	Zener Diode	RD62P-T2	ツェナーダイオード		02
	VN516100	Photo Coupler	PC9D10	フォトカプラー		06
	VN593900	Photo Coupler	HCPL-2630	フォトカプラー		06
	RD254100	Carbon Resistor (chip)	10.0 0.1 J	チップ抵抗		01
	RD255100	Carbon Resistor (chip)	100.0 0.1 J	チップ抵抗		01
	RD255220	Carbon Resistor (chip)	220.0 0.1 J	チップ抵抗		01
	RD256100	Carbon Resistor (chip)	1.0K 0.1 J	チップ抵抗		01
	RD256220	Carbon Resistor (chip)	2.2K 0.1 J	チップ抵抗		01
	RD256470	Carbon Resistor (chip)	4.7K 0.1 J	チップ抵抗		01
	RD257100	Carbon Resistor (chip)	10.0K 0.1 J	チップ抵抗		01
	RD257120	Carbon Resistor (chip)	12.0K 0.1 J	チップ抵抗		01
	RD257560	Carbon Resistor (chip)	56.0K 0.1 J	チップ抵抗		01
	RD258100	Carbon Resistor (chip)	100.0K 0.1 J	チップ抵抗		01
	RD258220	Carbon Resistor (chip)	220.0K 0.1 J	チップ抵抗		01
	RD259100	Carbon Resistor (chip)	1.0M 0.1 J	チップ抵抗		01
	UB051330	Monolithic Ceramic Cap.	SL 33P 50V J	チップ積層セラコン		01
	UB051820	Monolithic Ceramic Cap.	SL 82P 50V J	チップ積層セラコン		01
	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J	チップ積層セラコン		01
	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z	チップ積層セラコン		01
	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K	チップ積層セラコン		01
	UI566100	Electrolytic Cap.	1.00 50.0V	ケミコン		01
	UI537100	Electrolytic Cap.	10.00 16.0V	ケミコン		01
	UI538100	Electrolytic Cap.	100.00 16.0V	ケミコン		01
	VG852700	Electrolytic Cap.	220.00 16.0V	ケミコン S S		01
	UI566220	Electrolytic Cap.	2.20 50.0V	ケミコン		01
	VB389800	Connector Base Post	PH- 2P TE	コネクタベースポスト		01
	VB389900	Connector Base Post	PH- 3P TE	コネクタベースポスト		01
	VB390000	Connector Base Post	PH- 4P TE	コネクタベースポスト		01
	VB390300	Connector Base Post	PH- 7P TE	コネクタベースポスト		01
	VB390400	Connector Base Post	PH- 8P TE	コネクタベースポスト		01
	VB390500	Connector Base Post	PH- 9P TE	コネクタベースポスト		03
	VB390600	Connector Base Post	PH-10P TE	コネクタベースポスト		01
	VF283400	Connector Base Post	PH-16P TE	コネクタベースポスト		01
	VH307600	Ceramic Resonator	16M CSA16.00MXZ040	セラミック振動子		02
	FZ006970	LC Filter	LS MT Y223NB	LCフィルター E M I		02
	VQ193600		BLM21A05PT	チップソリッドインダクタ		01
	VF968800	Coil	SBT-0260TF 60uH	コイル S B		01
	VJ532800	IC Socket	DICF-32CS-E	ICソケット		02
	HF755220	Carbon Resistor	220.0 1/4 J	カーボン抵抗		01
	HF756100	Carbon Resistor	1.0K 1/4 J	カーボン抵抗		01
	HF756180	Carbon Resistor	1.8K 1/4 J	カーボン抵抗		01

Ref.	Part No.	Description	部品名	Remarks	ランク
	HF756180	Carbon Resistor	1.8K 1/4 J	カーボン抵抗	01
	HF756220	Carbon Resistor	2.2K 1/4 J	カーボン抵抗	01
	HF756390	Carbon Resistor	3.9K 1/4 J	カーボン抵抗	01
	HF757100	Carbon Resistor	10.0K 1/4 J	カーボン抵抗	01
	VT574000	Metal Oxide Film Resistor	15.0 3W J	酸化金属被膜抵抗	01
	VI307100	Monolithic Ceramic Cap.	0.100 50V Z T=52	積層セラコン	01
	VD841300	Ceramic Capacitor	100P 50V K	積層セラ(B)	01
	VG852700	Electrolytic Cap.	220.00 16.0V	ケミコン S S	01
	FZ006970	LC Filter	LS MT Y223NB	LCフィルター E M I	02
	XG061A00	IC	NJM2403D	IC	03
	XF880A00	IC	MB3763P	モーター駆動 IC	04
	IR000050	IC	SN74HC00N	IC	03
	VD180200	LED	SLZ-981C-12	LEDテ- フォ	01
	VN518200	LED	SLZ-389C-02-T1	LEDテ- フォ	01
	LB918020	Base Post Connector	XH 2P TE	ベースツキポスト	01
	LB918060	Base Post Connector	XH 6P TE	ベースツキポスト	01
	VP216000	IC	ON1108	PIセンサー	04
	--	Jumper Wire	L=7.5MM	ジャンパー線	(VR05200)
	--	Jumper Wire	L=5.0MM	ジャンパー線	(VS19560)
*	VT316700	Circuit board	POWER SW	電源スイッチシート	(XL265E0)
	VJ791000	IR Receive Unit	SPS-420-1	リモコン受光ユニット	05
	FG613100	Ceramic Capacitor	1000P 50V K	セラコン B	01
	VN388300	Push Switch	SPPH23	プッシュスイッチ	03
	--	Connector Assembly	P.SW	束線 P. SW	(VN52100)
*	VT186900	Circuit Board	SENSOR	センサーシート	(XL683A0)
	XQ462A00	IC	HD6473258F10	IC	25
	XK652A00	IC	RF5GF26-028	IC	07
	XC725A00	IC	SN74HC14NSR	IC	03
	XC723A00	IC	SN74HC04NSR	IC	01
	XK910A00	IC	NJM2901M-T1	IC	02
	XL122A00	IC	PST572CMT-R	IC	02
	IC241200	Transistor	2SC2412K Q,R,S	トランジスタ	01
	VR935100	Transistor	2SC4639-6/7-TA	トランジスタ	01
	VH441500	Transistor Array	MC1413P	トランジスタアレイ	03
	VB493900	Diode	MA221	ダイオード	01
	VB797600	Diode	RLS-73	ダイオード	01
	VN406200	Photo Coupler	HCPL-0600-500	フォトカプラ	05
	VB434400	Photo Diode		フォトダイオード	03
	VI951800	Ceramic Resonator	20.0M CSA20.00M	セラミック振動子	02
	VD997000	Ceramic Resonator	1M CSB1000J	セラミック振動子	02
	RD254100	Carbon Resistor (chip)	10.0 0.1 J	チップ抵抗	01
	RD254470	Carbon Resistor (chip)	47.0 0.1 J	チップ抵抗	01
	RD255220	Carbon Resistor (chip)	220.0 0.1 J	チップ抵抗	01
	RD256100	Carbon Resistor (chip)	1.0K 0.1 J	チップ抵抗	01
	RD256470	Carbon Resistor (chip)	4.7K 0.1 J	チップ抵抗	01
	RD256560	Carbon Resistor (chip)	5.6K 0.1 J	チップ抵抗	01
	RD257100	Carbon Resistor (chip)	10.0K 0.1 J	チップ抵抗	01
	RD257120	Carbon Resistor (chip)	12.0K 0.1 J	チップ抵抗	01
	RD257330	Carbon Resistor (chip)	33.0K 0.1 J	チップ抵抗	01
	RD259100	Carbon Resistor (chip)	1.0M 0.1 J	チップ抵抗	01
	HF757100	Carbon Resistor	10.0K 1/4 J	カーボン抵抗	01
	VC758000	Metal Oxide Film Resistor	51.0 2W J	酸化金属被膜抵抗	01
	UI537100	Electrolytic Cap.	10.00 16.0V	ケミコン	01
	UI547470	Electrolytic Cap.	47.00 25.0V	ケミコン	01
	UI538100	Electrolytic Cap.	100.00 16.0V	ケミコン	01
	UB050300	Monolithic Ceramic Cap.	SL 3P 50V C	チップ積層セラコン	01
	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J	チップ積層セラコン	01
	UB012220	Monolithic Ceramic Cap.	B 220P 50V K	チップ積層セラコン	01
	UB013100	Monolithic Ceramic Cap.	B 1000P 50V K	チップ積層セラコン	01
	UB245100	Monolithic Ceramic Cap.	F 0.100 25V Z	チップ積層セラコン	01
	VB390500	Connector Base Post	PH- 9P TE	コネクタベースポスト	03
	VB390600	Connector Base Post	PH-10P TE	コネクタベースポスト	01
	VF283100	Connector Base Post	PH-13P TE	コネクタベースポスト	01
	VP263000	Socket	B BL	受光ソケット B	04
	EP630180	Pan Head Tapping Screw-P	3.0X6 MFZN2BL	+ナベPタイト	01
*	VT178800	Circuit Board	SUB-POWER SUPPLY	サブ電源シート	U,C (XQ418C0)
*	VT178900	Circuit Board	SUB-POWER SUPPLY	サブ電源シート	E,A,B (XQ418C0)

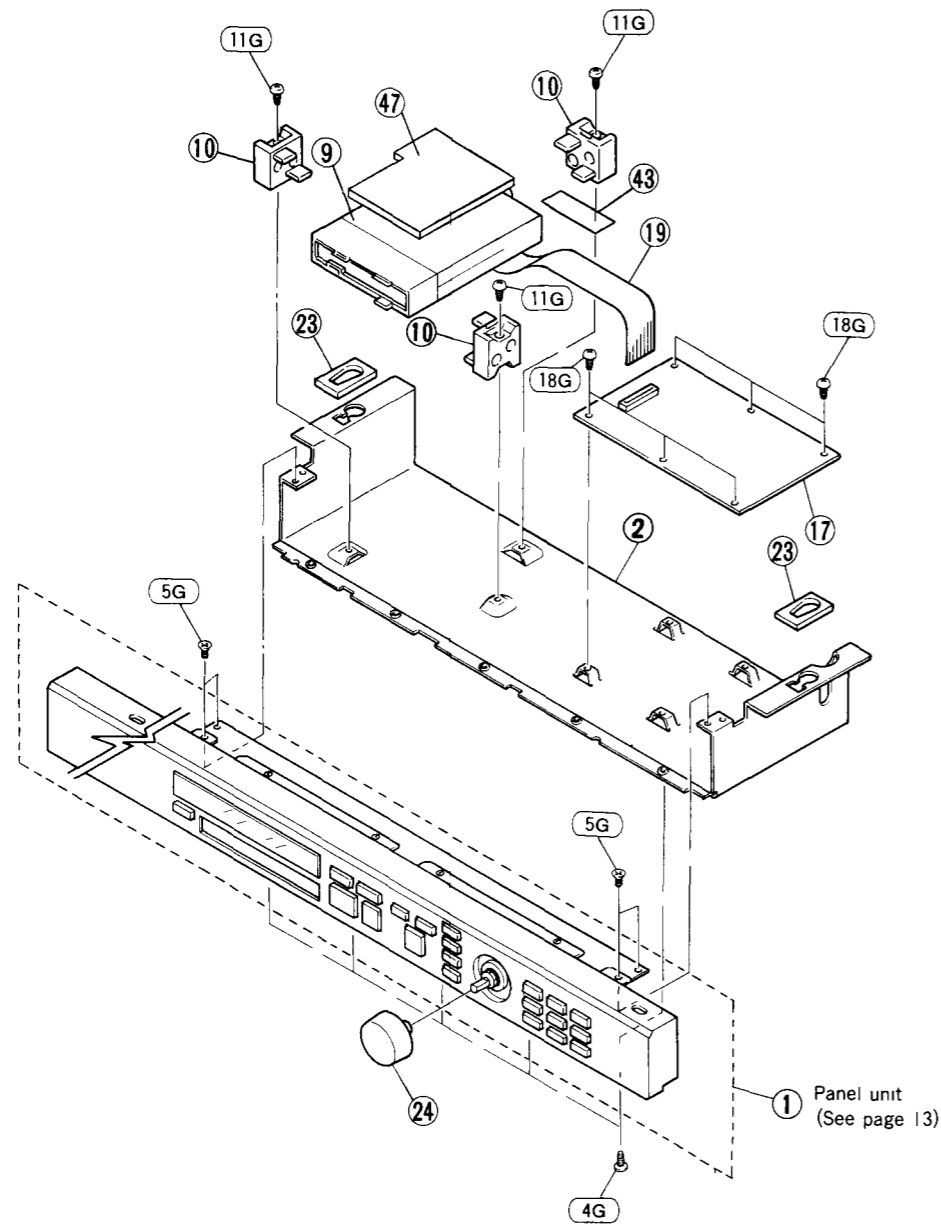
OVERALL ASSEMBLY



Ref.	Part No.	Description	部品名	Remarks	ランク
1	--	<OVERALL ASSEMBLY>	<総組立>		
7	--	Control Unit	コントロールユニット	(VT18820)	
9	VT108400	Cord Holder	ナイロンクランプ	(CB05059)	13
20	VT108600	Connector Assembly	東線コントロール		50
		Hammer Sensor Unit	ハンマーセンサーユニット		
23	--	Caution Label	注意書きラベル	(VN65510)	
29	CB069250	Cord Holder	インシュロックタイ		01
30	VB582500	Cord Holder	東線止め		01
32	VB582500	Cord Holder	東線止め		01
40	VN012000	Key Sensor Unit	キーセンサーユニット		43
43	--	Cord Holder	ナイロンクランプ	(VI45590)	
47	VB582500	Cord Holder	東線止め		01
50	VT108700	Key Drive Unit	キードライブユニット		82
59	CB069250	Cord Holder	インシュロックタイ		01
70	--	Switch Box Assembly	S B A S S Y	(VT17770)	
72	--	Cord Holder	ナイロンクランプ	(VI45590)	
80	--	Cord Holder	ナイロンクランプ	(CB05059)	
84	VB582500	Cord Holder	東線止め		01
90	VN593700	Pedal Drive Unit	ペダルドライブユニット		49
92	CB069250	Cord Holder	インシュロックタイ		01
103	VB582500	Cord Holder	東線止め		01
110	VT334700	AC Cord Assembly	電源コードアッシー	U,C	
110	VT715000	AC Cord Assembly	電源コードアッシー	A	
110	VT714900	AC Cord Assembly	電源コードアッシー	B	
110	VT334800	AC Cord Assembly	電源コードアッシー	E	
112	--	Caution Mark	コクションマーク	(VB95110)	
114	--	Cord Holder	ビニタイ (茶)	(CB50179)	
116	VB582500	Cord Holder	東線止め		01
120	--	Serial Number Label	銘板シール 78	(VT71470)	
123	--	Label, Pedal Adjustment	ペダル調整ラベル英語	(VP84550)	
124	CB069250	Cord Holder	インシュロックタイ		01
130	VT129100	Connector Assembly	東線		
151	--	MN Unit	MNユニット	(VT10890)	
152	VT177900	Sub-Power Supply Unit	サブ電源ユニット UC	U,C	
152	VT178000	Sub-Power Supply Unit	サブ電源ユニット CE	E,A,B	
153	--	MD Unit	MDユニット	(VT10250)	
154	--	Peda Sensor Unit	ペダルセンサユニット	(VT10260)	
155	--	Shank Stop Unit	シャンクストップユニット	(VT10240)	
156	--	Connector Assembly	東線 MN	(VT10920)	
158	CB069250	Cord Holder	インシュロックタイ		01
159	VT120400	Holder, Base Angle	ベースアングル受け U1 R		06
160	VT120500	Holder, Base Angle	ベースアングル受け U1 L		05
161	VT120600	Spacer	スペーサ 1mm		03
162	VT120700	Spacer	スペーサ 2mm		03
163	VT122800	Clip, Arm	アームクリップ		05
166	CB069250	Cord Holder	インシュロックタイ		01
167	CB069250	Cord Holder	インシュロックタイ		01
168	CB069250	Cord Holder	インシュロックタイ		01
184	VB582500	Cord Holder	東線止め		01
186	--	Label	サイレントメカ説明シール	(VT43220)	
187	CB834350	Foot	すべり座		01
188	CB835590	Holder	バンド固定具		01
189	VT899300	Noise Filter	ノイズフィルター		01
002S	VN514500	Screw	段付ネジ		01
003S	VN558200	Spacer	スペーサ		03
004S	VN558300	Spacer	スペーサ		03
005S	EX000950	Truss Head Tapping Screw-1	+トラスTP 1種	(0374727)	
008S	EX000950	Truss Head Tapping Screw-1	+トラスTP 1種	(0374727)	
010S	VP470400	Spacer	スペーサ		03
011S	VP470600	Spacer	スペーサ		03
021S	VN523900	Hammer Shutter	ハンマーシャッター		01
027S	EX000950	Truss Head Tapping Screw-1	+トラスTP 1種	(0374727)	
028G	VP354100	Adjusting Plate, Hammer S	調整板		
031S	EX000950	Truss Head Tapping Screw-1	+トラスTP 1種	(0374727)	
041S	VP354200	Key Sensor Spacer	キーセンサースペーサ		
044S	BB500690	Key Shutter	キーシャッター		02
048S	EX000950	Truss Head Tapping Screw-1	+トラスTP 1種	(0374727)	
051S	EX550140	BW Head Screw	+BWH小ネジ	(2034960)	
052S	VN524200	Spacer	スペーサ		04
053S	VN524300	Spacer	スペーサ		04

Ref.	Part No.	Description	部品名	Remarks	ランク
054S	VN524400	Spacer	L0.5	スペーサ	04
055S	VN524500	Spacer	R0.5	スペーサ	04
056S	--	Angle Bracket, Key Drive	NL	キードライブ取付アングル	(VR91580)
057S	--	Angle Bracket, Key Drive	NR	キードライブ取付アングル	(VR91590)
058S	EX550130	Truss Head Tapping Screw-1	4.0X16 MFZN2Y	+トラスTP 1種	(0374734)
073S	EX000950	Truss Head Tapping Screw-1	4.0X12 MFZN2BL	+トラスTP 1種	(0374727)
081S	EX000950	Truss Head Tapping Screw-1	4.0X12 MFZN2BL	+トラスTP 1種	(0374727)
091S	EX550130	Truss Head Tapping Screw-1	4.0X16 MFZN2Y	+トラスTP 1種	(0374734)
100S	VN812300	Power Supply Assembly		P S 総組立 (UP)	U,C
100S	VN812500	Power Supply Assembly		P S 総組立 (UP)	E,A,B
101S	EX550130	Truss Head Tapping Screw-1	4.0X16 MFZN2Y	+トラスTP 1種	(0374734)
102S	EX550150	PW Tapping Screw	4X8 MFZN2Y	P W セムスナベTP	(2066210)
104S	EX000950	Truss Head Tapping Screw-1	4.0X12 MFZN2BL	+トラスTP 1種	(0374727)
113S	EX000950	Truss Head Tapping Screw-1	4.0X12 MFZN2BL	+トラスTP 1種	(0374727)
126S	EX000950	Truss Head Tapping Screw-1	4.0X12 MFZN2BL	+トラスTP 1種	(0374727)
128S	--	Label	5X30	製番シール	(VR14340)
164S	VT122900	Cable Bracket		ケーブルブラケット	
171S	EX550130	Truss Head Tapping Screw-1	4.0X16 MFZN2Y	+トラスTP 1種	(0374734)
172S	EX550130	Truss Head Tapping Screw-1	4.0X16 MFZN2Y	+トラスTP 1種	(0374734)
173S	EX550130	Truss Head Tapping Screw-1	4.0X16 MFZN2Y	+トラスTP 1種	(0374734)
174S	EX000950	Truss Head Tapping Screw-1	4.0X12 MFZN2BL	+トラスTP 1種	(0374727)
175S	VT490300	Bind Head Screw	4.0X16 MFCR33	+バインド小ネジ	
176S	VT810100	Hexagonal Bolt	SP M4X12 MFZN2-Y	+六角ボルトSP	
177S	VT490700	Bind Head Screw	SP 5.0X10 MFZN2Y	+バインド小ネジ	
179S	EX550130	Truss Head Tapping Screw-1	4.0X16 MFZN2Y	+トラスTP 1種	(0374734)
181S	EX500026	Truss Head Tapping Screw-1	4X12.2 WAXMFZN2Y	+トラスTP 1種 SP	
182S	VQ866300	Bind Head Screw	4.0X30 MFZN2Y	+バインド小ネジ	
183S	EX001120	Bind Head Tapping Screw-S	4.0X10 MFZN2Y	+バインドSタイ	(0376963)
185S	EX000950	Truss Head Tapping Screw-1	4.0X12 MFZN2BL	+トラスTP 1種	(0374727)
191S	EX000950	Truss Head Tapping Screw-1	4.0X12 MFZN2BL	+トラスTP 1種	(0374727)
		<ACCESSO	RIES>	<付属品>	
		VT668900	Floppy Disk	ドウコン フロッピー	
		VN668800	Remote Controller	リモートコントローラ	
		VH214900	Battery	マンガン電池 2PC	11
			SUM-3N(4S)NE.AB		
	--	Headphones	HPE-170	ヘッドホン	(VQ78520)

CONTROL UNIT

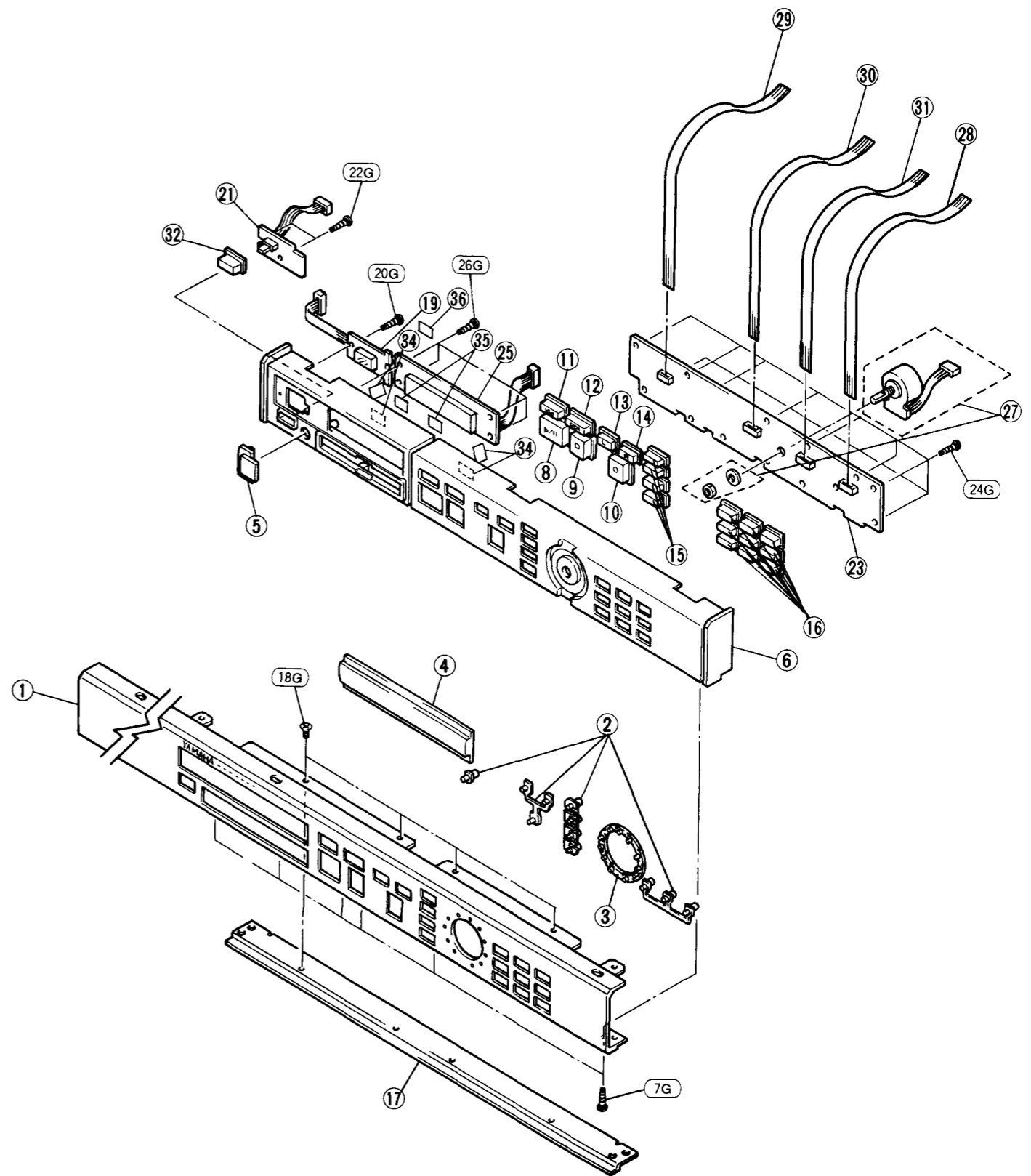


Ref.	Part No.	Description	部品名	Remarks	ランク
	--	<CONTROL PANEL UNIT> Control Panel Unit	<コントロールユニット> コントロール ユニット	(VT18820)	
* 1	VT322800	Panel Unit	パネル ユニット		
* 2	VM772600	Bottom Chassis	ボトムシャーシ		10
* 9	VT914000	Floppy Disk	3.5 FDD		
			BI MF355HD		
17	VT188300	Circuit Board	コントローラシート		27
19	VR356300	Cable	F F C ケーブル		05
23	VN635300	Spacer	スペーサ		03
24	VM775900	Knob	ノブ		04
43	VQ343200	Cable Holder	束線止めシート B		03
44	VC362700	Ferrite Core	フェライトコア		04
52	CB502030	Cord Holder	束線止め		01
04G	EP630210	Bind Head Tapping Screw-S	+ バインド S タイト		01
05G	VF378100	Flat Head Tapping Screw-S	+ 皿 S タイト		01
18G	VQ895400	Bind Head Tapping Screw-S	+ バインド S タイト ウチ		
* 46G	VK528000	BWH Tapping Screw-S	+ B W H S タイト		
* 62G	VI707600	Screw	ショルデッキねじ		
* 63G	VT706900	Anti-Vibration Bush	グロメット		
* 64G	VQ717600	Bind Head Screw	+ バインド小ネジ		

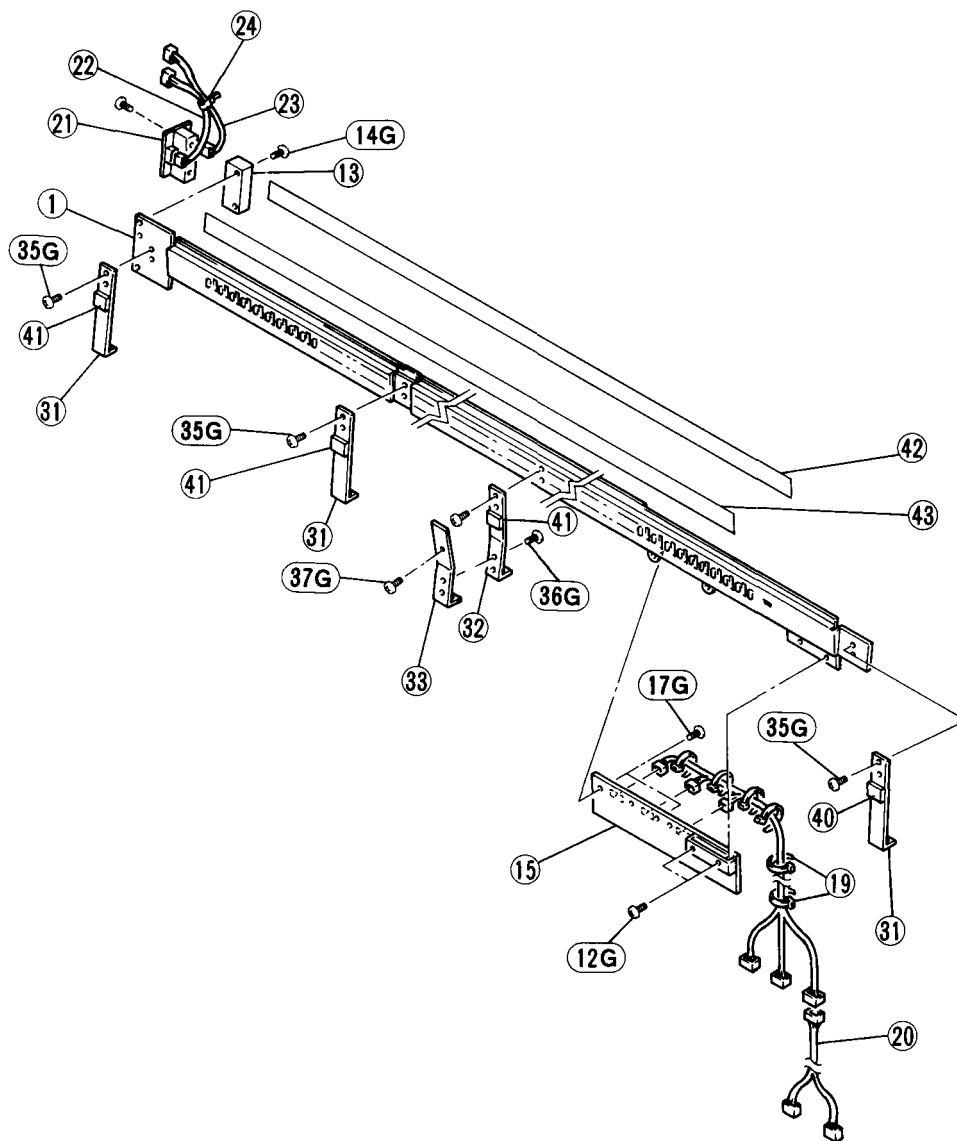
*New Parts (新規部品)

ランク:Japan only

PANEL UNIT



HAMMER SENSOR UNIT

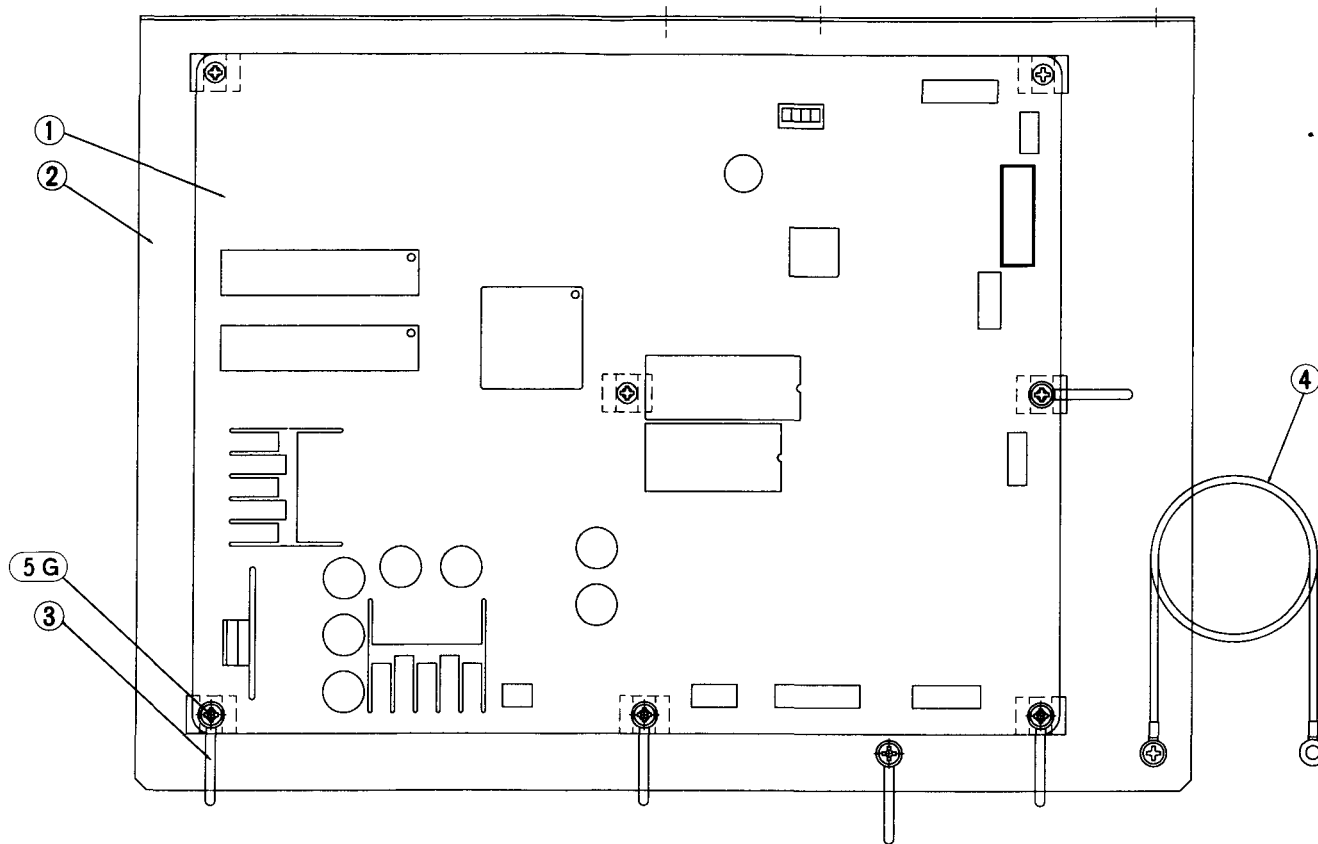


Ref.	Part No.	Description	部品名	Remarks	ランク
* *	VT108600	<HAMMER SENSOR UNIT> Hammer Sensor Unit	<ハンマーセンサ> ハンマーセンサーユニット		50
15	VT186900	Circuit Board	センサーシート		25
18	--	Connector Assembly	束線	(VN01280)	
19	CB069250	Cord Holder	インシュロックタイ	6pcs	01
21	VN571700	Circuit Board	HAMMER EMISSION		18
22	--	Connector Assembly	LED DRIVE 1	ハンマー発光シート	
23	--	Connector Assembly	LED DRIVE 2	束線	(VN01320)
24	CB069250	Cord Holder	BK-1	束線	(VN01330)
31	VT133000	Stay	1	インシュロックタイ	2pcs
32	VT133100	Stay	2	Hセンサーステー2	01
33	VT133200	Stay	3	Hセンサーステー3	04
40	VT407400	Cover	1	ステーカバー 1	03
41	VT407500	Cover	2	ステーカバー 2	03
42	VT407600	Cushion, Damper		ダンパークッション7 8	04
43	VT749500	Cushion, Wire	HQSX 4X1065	ワイヤークッション	04
12G	EP630180	Pan Head Tapping Screw-P	3.0X6 MFZN2BL	+ナベPタイト	2pcs
14G	EP630180	Pan Head Tapping Screw-P	3.0X6 MFZN2BL	+ナベPタイト	2pcs
16G	VL280200	Flat Head Tapping Screw-P	3.0X10 MFZN2BL	+サラPタイト	2pcs
17G	EP630210	Bind Head Tapping Screw-S	3.0X6 MFZN2BL	+バインドSタイト	2pcs
35G	VP178900	BW Head Screw	3.0X3 MFZN2Y	+BWH小ネジ	8pcs
36G	VA078100	Bind Head Tapping Screw-S	3.0X5 MFZN2Y	+バインドSタイト	2pcs
37G	VJ000800	Bind Head Tapping Screw-S	4.0X14 MFZN2BL	+バインドSタイト	1pc.

*New Parts (新規部品)

ランク:Japan only

■ MN UNIT



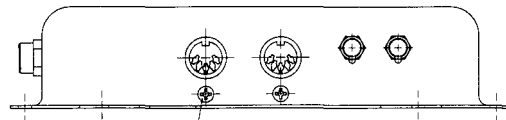
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	--	<MN UNIT> MN Unit	<MNユニット> MNユニット	(VT10890)	
1	VT109000	Circuit Board	MN		52
2	VQ493500	Plate			07
3	CB502030	Cord Holder	S-75B		01
4	--	Ground Wire			
5G	EP600410	Bind Head Tapping Screw-S 0 0	3.0X6 MFZN2Y	アース線 + バインド S タイト	(VT60950) 01

*New Parts (新規部品)

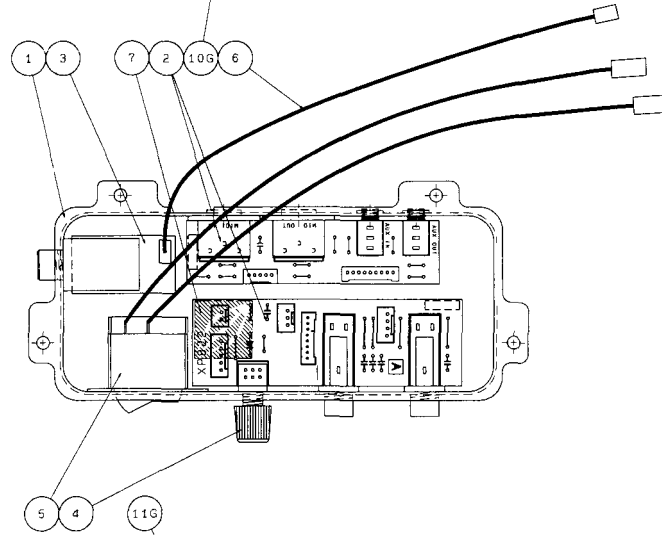
ランク: Japan only

SWITCH BOX ASSEMBLY

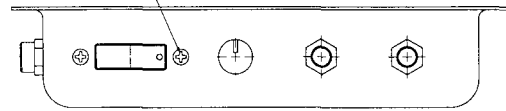
• Rear View



• Top View

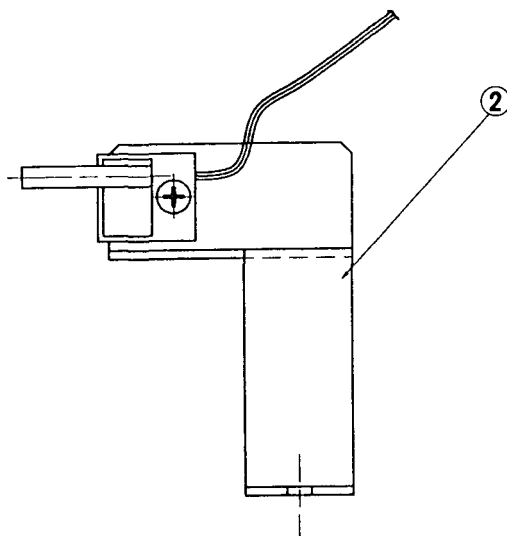
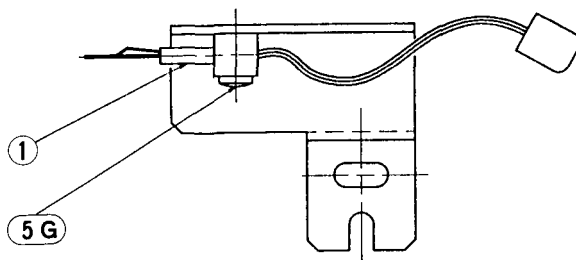


• Front View



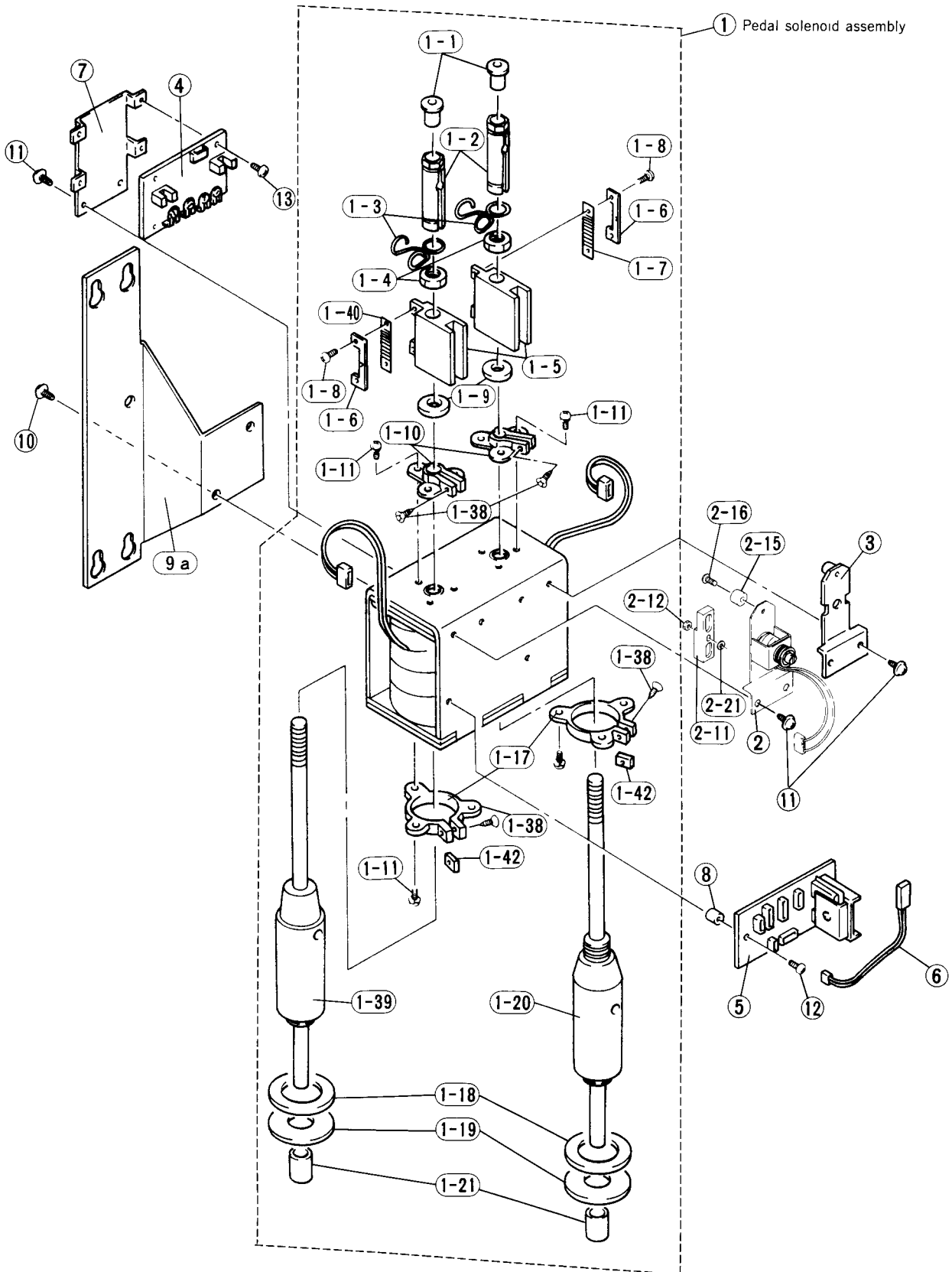
Ref.	Part No.	Description	部品名	Remarks	ランク
*	--	<SWITCH BOX ASSEMBLY> Switch Box Assembly	<SBアッセンブリー> SBアッセンブリー	(VT17770)	
1	VT178600	Switch Box	スイッチボックス		
2	VT123600	Circuit Board	HPシートSQ		
3	VT836500	Circuit Board	CONTROL IN Uシート		
4	CB028970	Knob	BL ツマミ		03
5	VN518500	Connector Assembly	AC 束線 AC	(VN52120)	
6	--	Connector Assembly	F. INPUT 束線 F. 入力		02
7	CB826590	Foot	SJ-5023 ゴム足		01
10G	VC161100	Bind Head Tapping Screw-P	3.0X12 MFZN2BL + バインドPタイト		
11G	EG330360	Bind Head Screw	3.0X6 MFZN2BL + バインド小ネジ		01

■ PEDAL SENSOR UNIT

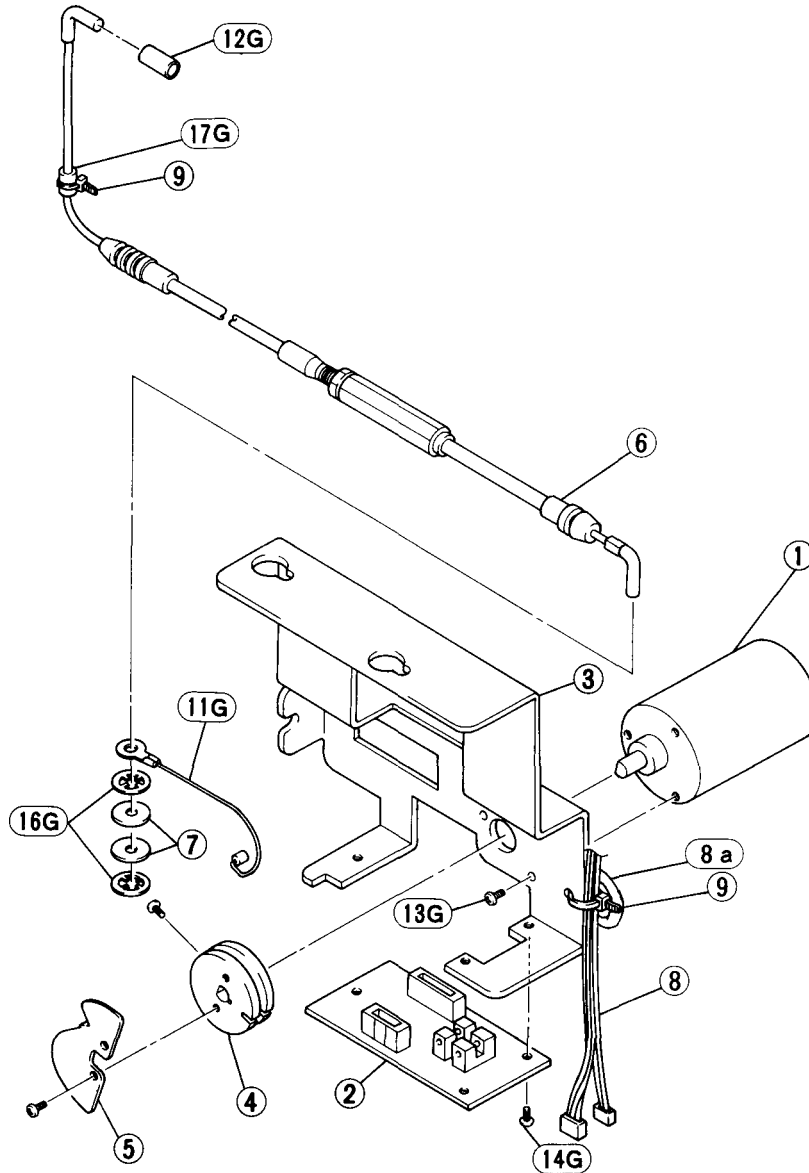


Ref.	Part No.	Description	部品名	Remarks	ランク
*	--	<PEDAL SENSOR UNIT> Pedal Sensor Unit	<ペダルセンサユニット> ペダルセンサユニット	(VT10260)	
*	1 VT107300	Connector Assembly	PEDAL-SENSOR	東線ペダルセンサ	
	2 VT106200	Stay, Sensor	S	S センサステー	
	5G VH553800	Bind Head Tapping Screw-S	3.0X12 MFZN2Y	+ バインド S タイト	1pc. 01

■ PEDAL DRIVE UNIT

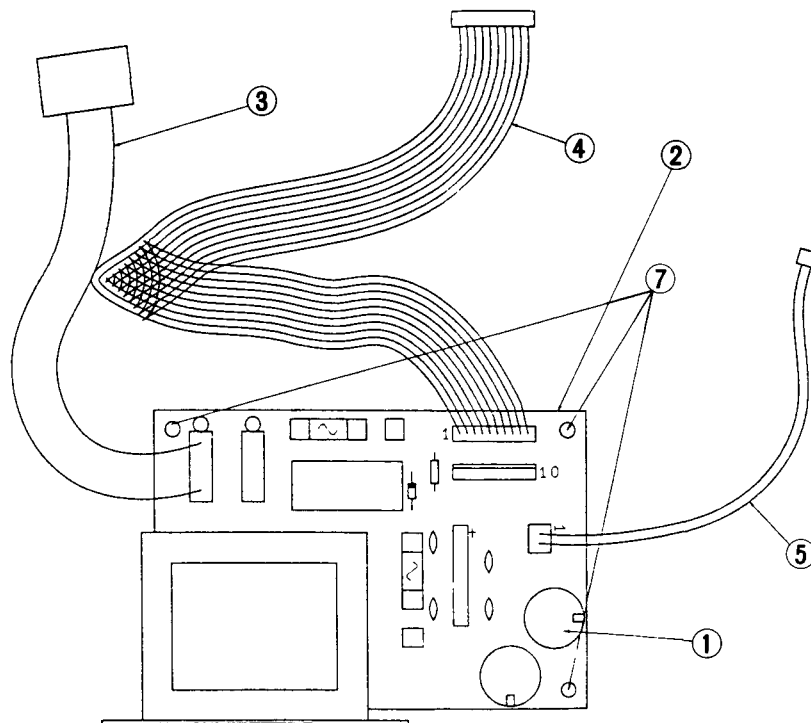


■ MOTOR DRIVE UNIT



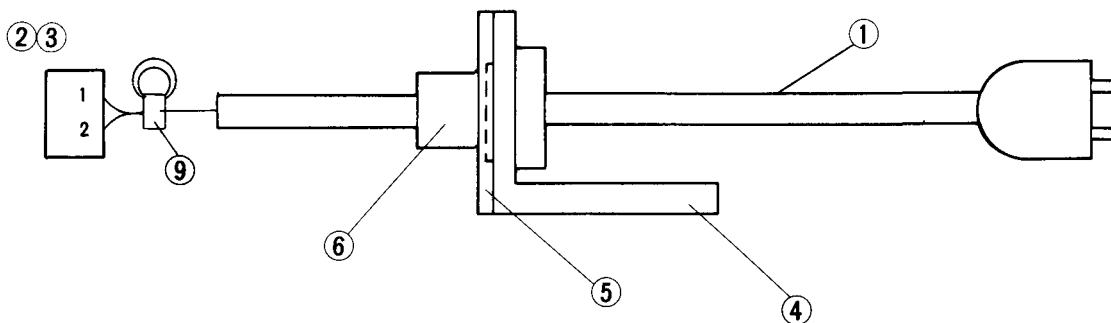
Ref.	Part No.	Description		部品名	Remarks	ランク
	--	<MD UNIT> MD Unit		< MD ユニット >	(VT10250)	
* 1	VT129700	Motor Unit		MD ユニット		
* 2	VT107500	Circuit Board	MOTOR	モーターユニット		07
* 3	VT105800	Stay, Motor		モーターシート		
				モーターステー		
* 4	VT106700	Collar, Motor		モーターカラー		05
* 5	VT623700	Shutter, Motor	B	モーターシャッター	B	03
* 6	VT107100	Cable Assembly		操作ケーブル	Ass'y	10
* 7	VT106600	Panching		スライドパンチング		03
* 8	--	Connector Assembly	MD	束線 MD	2pcs (VT10740)	
8a	VC362700	Ferrite Core	FR25/15/12-1400L	フェライトコア	2pcs	04
9	CB069250	Cord Holder	BK-1	インシュロックタイ	2pcs	01
* 11G	VT107200	String		連結ひも		
* 12G	VT107000	Cushion		ケーブルクッション		
* 13G	EG330040	Bind Head Screw	3.0X6 MFZN2Y	+ バインド小ネジ	3pcs	01
14G	VA078100	Bind Head Tapping Screw-S	3.0X5 MFZN2Y	+ バインド S タイ	5pcs	01
15G	EP630210	Bind Head Tapping Screw-S	3.0X6 MFZN2BL	+ バインド S タイ		01
16G	--	Nut	4M SUS304	スピードナット	2pcs (0376042)	
* 17G	VT633200	Cable Stopper		ケーブルストップゴム		

■ SUB-POWER SUPPLY UNIT



Ref.	Part No.	Description	部品名	Remarks	ランク
*	VT177900	<SUB-POWER SUPPLY UNIT> Sub-Power Supply Unit	<サブ電源ユニット> サブ電源ユニット	UC	
*	VT178000	Sub-Power Supply Unit	サブ電源ユニット	CE	
*	1 VT178800	Circuit Board	サブ電源シート	U,C	
*	1 VT178900	Circuit Board	サブ電源シート	E,A,B	
*	2 VT948100	Cover	サブ電源シートカバー	N	
	--	Connector Assembly	束線	SBA	(VT10950)
	4 --	Connector Assembly	束線	SBB	(VT10960)
	5 --	Connector Assembly	束線	SBC	(VT10970)
	7 CB815740	Plastic Rivet	プラスチックリベット		01

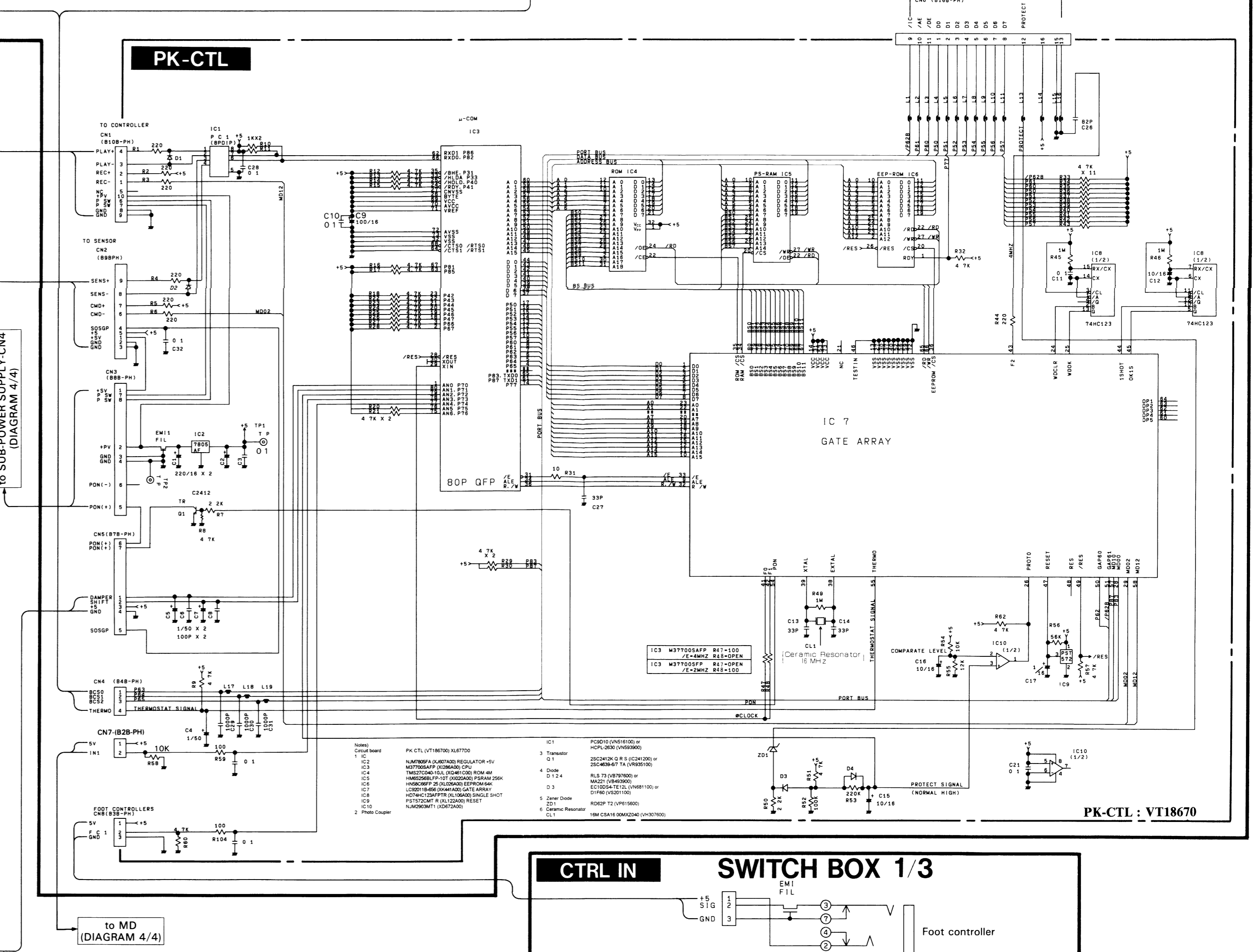
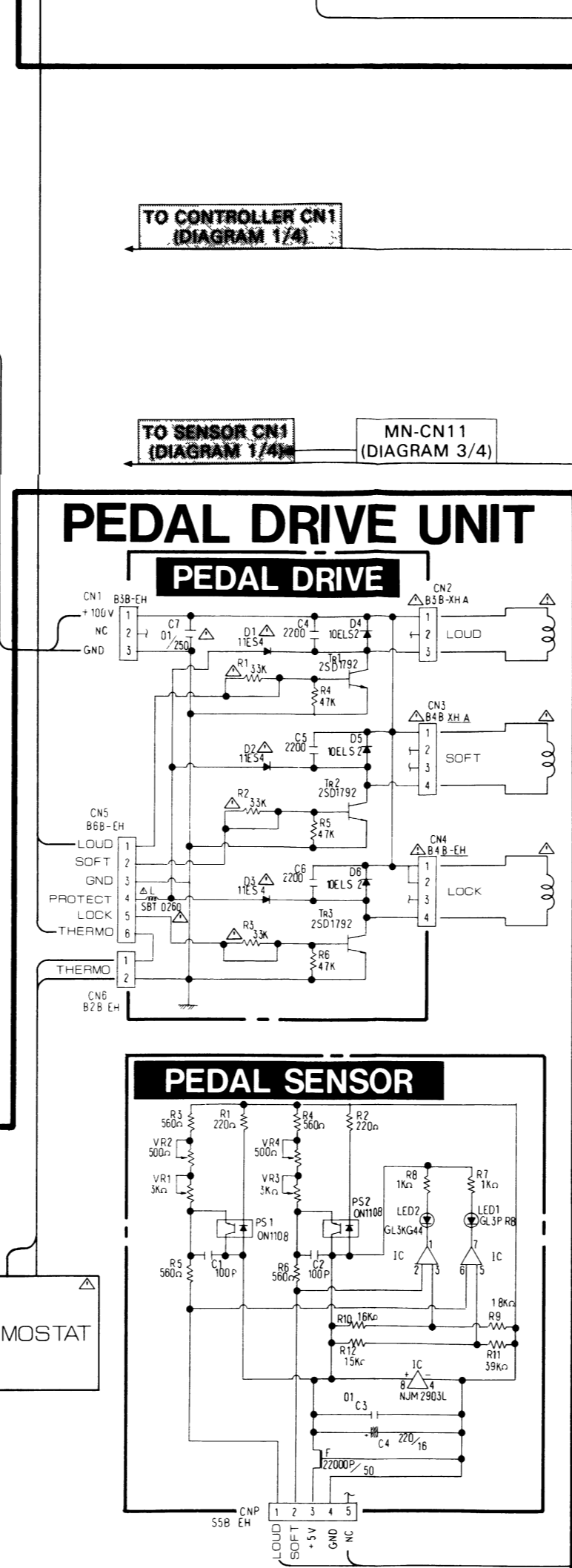
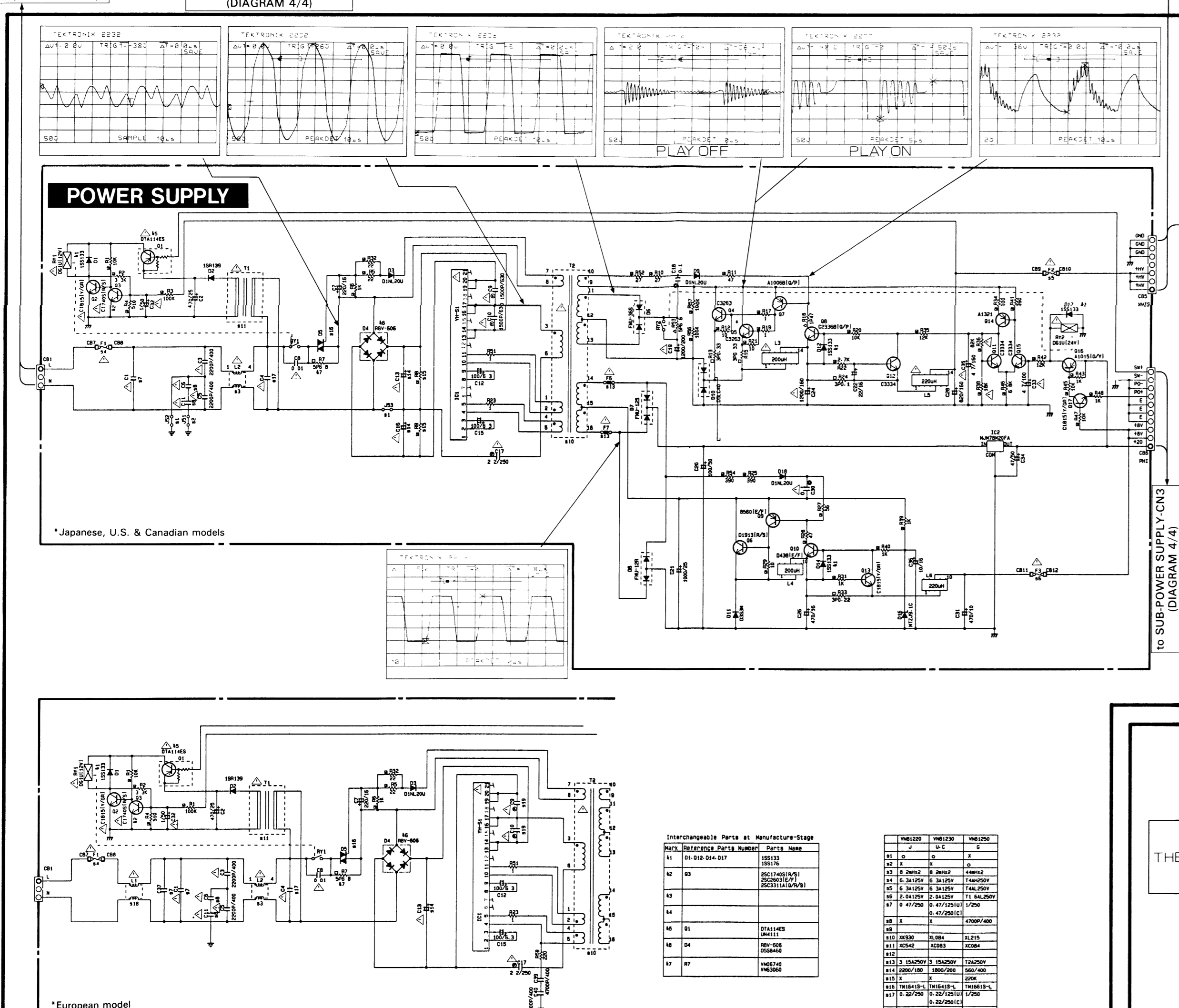
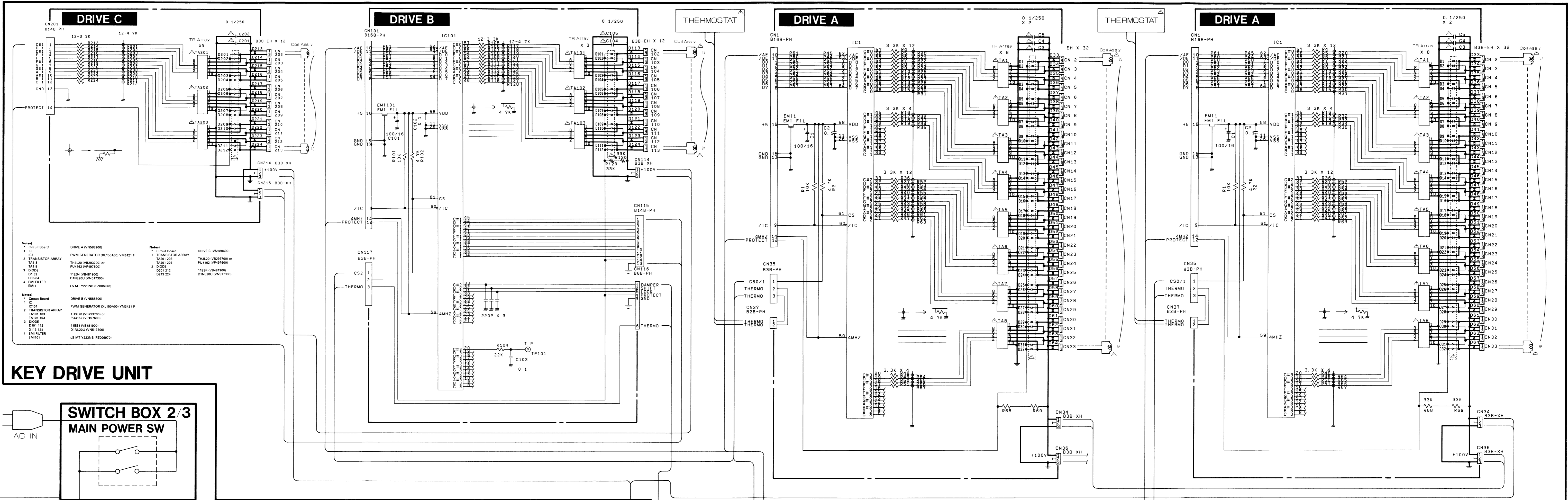
■ AC CORD ASSEMBLY



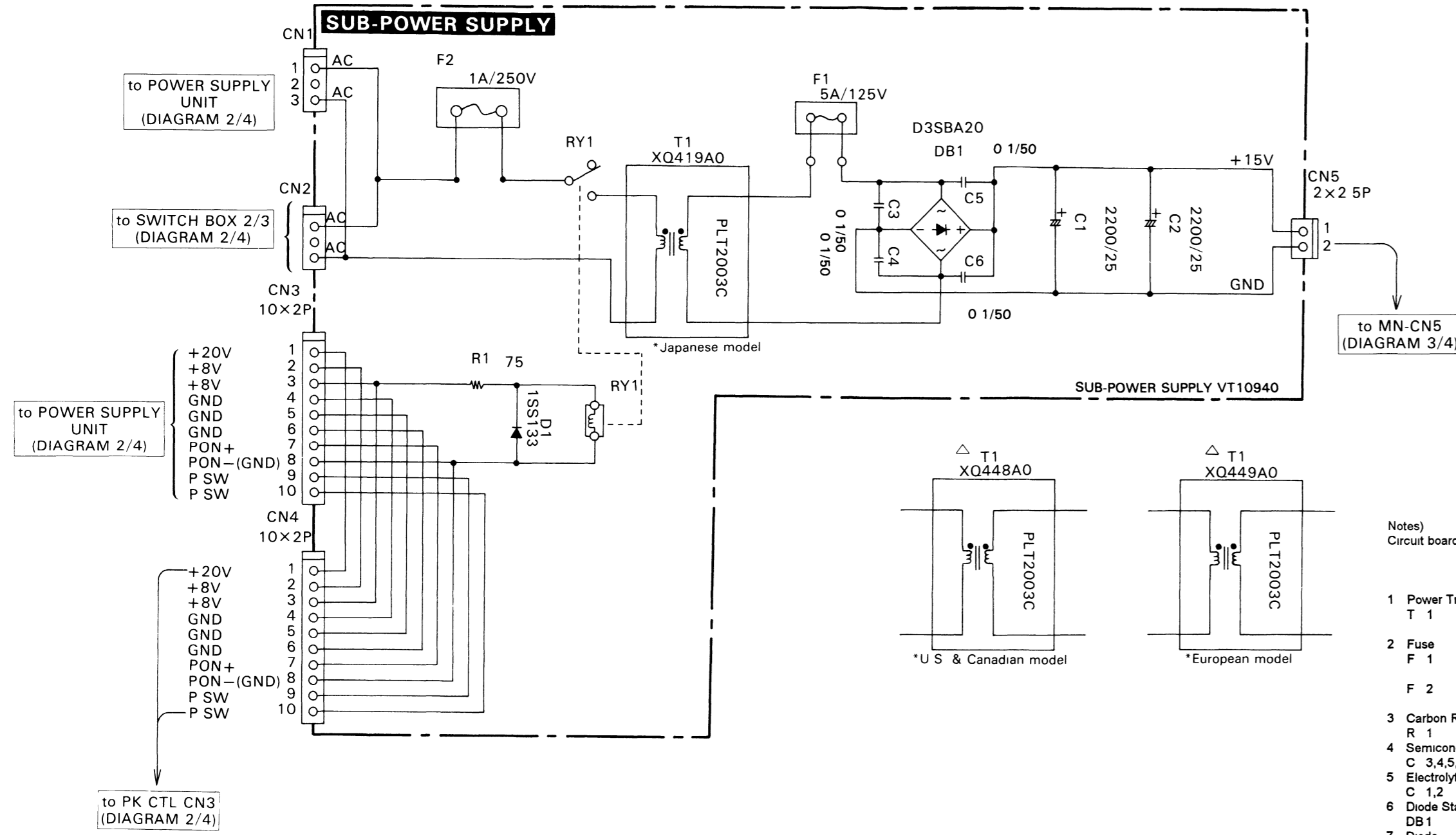
Ref.	Part No.	Description	部品名	Remarks	ランク	
* * * *	VT334700 VT715000 VT714900 VT334800	<AC CORD ASSEMBLY> AC Cord Assembly AC Cord Assembly AC Cord Assembly AC Cord Assembly	<電源コードアッセンブリ> 電源コードアッセンブリ 電源コードアッセンブリ 電源コードアッセンブリ 電源コードアッセンブリ	U A B E		
1 1 1 1 1 2	VP016100 VF758000 VH895700 VF757900 LB201430	AC Cord AC Cord AC Cord AC Cord Connector Housing	UC 2P 10A 3.05m A BS 2P 6A 3.05m CE LB plug 2P	電源コード(有極タイプ) 電源コード(A S) 電源コードB S 電源コード(C E) コネクタハウジング	U,C A B E	06 06 09 05 01
3 4 5 6 6	LB100670 VP347400 VE545100 VE545300 VH903000	Connector Pin Bracket, AC Cord Bracket, AC Cord Cord Holder Cord Holder	SLF-21T-2.0S MX-2(U30) KR-51 UC KF-41	圧着端子 電源コード止金具 電源コード止金具防振板 コードストッパーKR51 コードストッパー		01 06 02 01 01
9 9	VD947700 VC362700	Line Filter Ferrite Core	ESD-R-25B UC FR25/15/12-1400L	データラインフィルター フェライトコア		05 04

*New Parts (新規部品)

ランク:Japan only

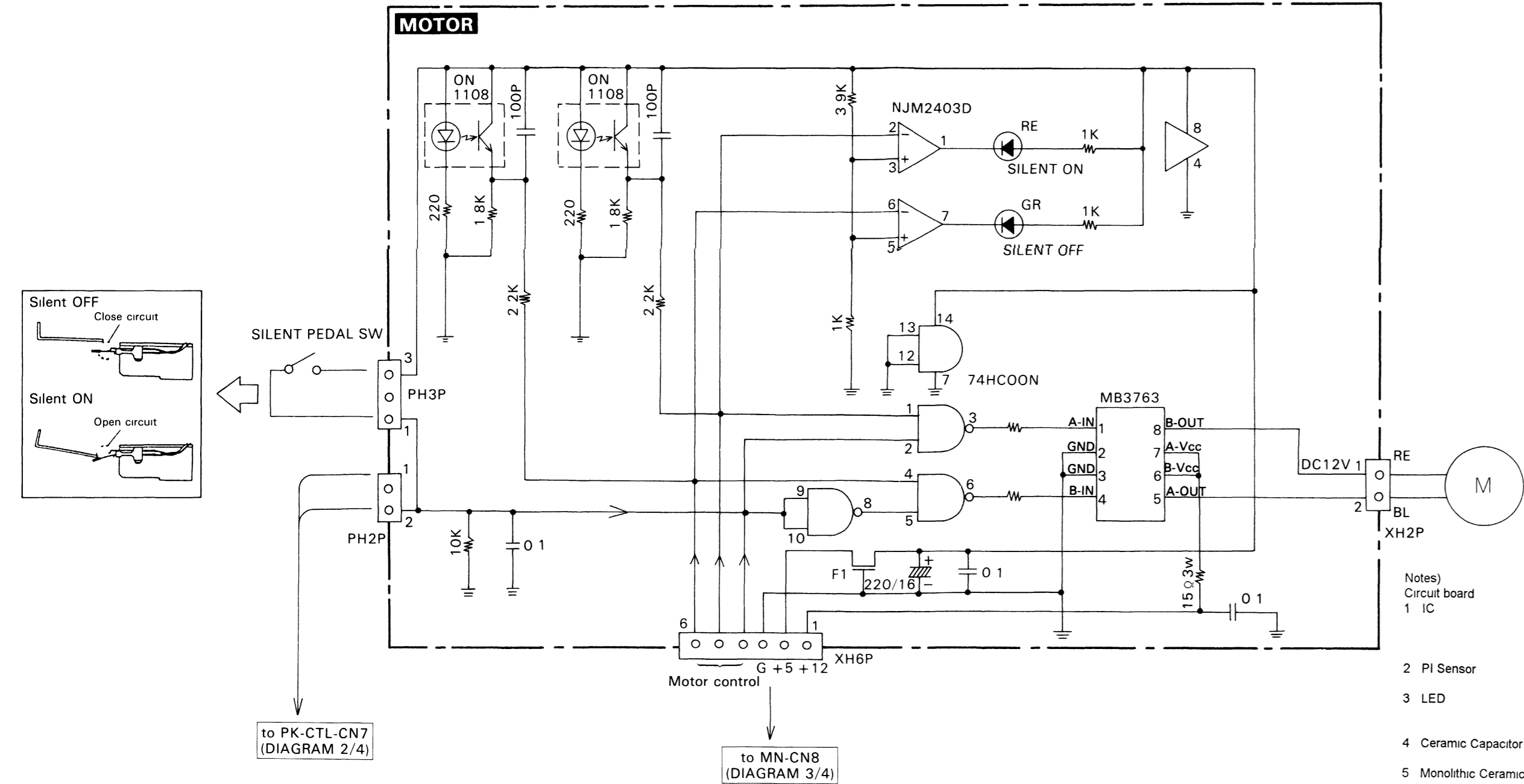


SUB-POWER SUPPLY



- Notes
- Circuit board SUB-POWER SUPPLY (VT17900) XQ418CD (U,C)
SUB-POWER SUPPLY (VT17800) XQ418CD (E,A,B)
- Power Transformer (XQ448A0)U,C (XQ448A0)E,A,B
 - Fuse F 1 T 5 00A(VT35000) U,C T 3 15A(VT35100) E,A,B F 2 T 1 00A(VT45490) U,C T 250MA(VT45500) E,A,B
 - Carbon Resistor (chp) R 1 47 0 1/4 J (HF754750)
 - Semiconductive Cera. Cap C 3 4.5 6 0 1000 50VZ(VD287800)
 - Electrolytic Cap C 1 2 2200 25 0V(UJ649220)
 - Diode Stack DB 1 D3SBA20 4 0A 200V(VN011300)
 - Diode D 1 1S1133,1S1176(VB941200)
 - Relay RY 1 AC JS-SM-K(VT307600)
 - Fuse Holder EYF-52BC(VP206500)
 - Connector Base Post CN1 2 LS-3P TE(LB301470) CN3 4 PH-10P TE(VB390600) CN5 XH-2P TE(LB918020)

MOTOR



- Notes
- Circuit board MOTOR (VT107500) XQ424B0
- IC MB3763P (XF880A00) MOTOR DRIVER SN74HC00N (IR000050) NAND ON1108 (VP216000)
 - PI Sensor SILZ-981C-12 RE (VD180200) SILENT ON SILZ-389C-Q2-T1 GR (VNS16200) SILENT OFF
 - LED ON1108 (VP216000)
 - Ceramic Capacitor 100P 50V K (VD841300)
 - Monolithic Ceramic Cap 0 100 50V Z (VJ307100)
 - Electrolytic Cap 220 00 16 0V (VG652700)
 - Carbon Resistor 1 0K 1/4 J (HF756100) 1 8K 1/4 J (HF756180) 2 2K 1/4 J (HF756200) 3 9K 1/4 J (HF756390) 10 0K 1/4 J (HF757100)
 - Metal Oxide Film Resistor 15 0 3W J (VT574000)
 - LC Filter LS MT Y223NB (FZ006970)
 - Base Post Connector XH- 2P TE (LB918020) XH- 6P TE (LB918060) PH- 2P TE (VB389900) PH- 3P TE (VB389900)

BLOCK DIAGRAM

