PORTATONE

PSR-540

SERVICE MANUAL



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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 per form 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 repre sentative.

IMPORTANT: This 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 principal-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, therefor, inevitable and changes in specification sre 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 ⚠ and must be replaced with parts having specification equal to those originally installed.

SPECIFICATIONS

Keyboards
- 61 standard-size keys (C1-C6) with touch response.

Display
- Large multi-function LCD display

Setup
- STANDBY/ON
- Master Volume: MIN-MAX

Demo
- 5 Songs

Realtime Controls
- Pitch Bend wheel

Control & Number Buttons
- FUNCTION
- SONG
- STYLE
- VOICE L
- VOICE R1
- VOICE R2
- VOICE CHANGE
- MIXER
- NEXT/BACK
- DIRECT ACCESS
- EXIT
- Data dial, [1]-[0], [+/YES], [-/NO]

Overall Controls
- Tempo: 32-280
- Transpose

Voice
- 215 Panel Voices +12 Drum Kits + 480 XG Voices
- Polyphony: 64
- Voice Set
- R1/R2/L Voices
- Part on/off (R1/R2/L)
- Voice Change: Voice number
- Mixer : Volume
- Parameter Edit: Octave, Pan, Reverb Depth, Chorus Depth, DSP Depth

Auto Accompaniment
- 106 Styles
- Accompaniment Track: RHYTHM1/2, BASS, CHORD 1/2, PAD, PHRASE1/2
- Accompaniment Track Settings: ON/OFF
- Accompaniment Control: ACMP ON/OFF, SYNC START, SYNC STOP, START/STOP, INTRO, MAIN A/B (AUTO FILL), ENDING/rit
- Beat Indicator
- Accompaniment Volume
- Voice Change: Voice number
- Mixer: Volume
- Parameter Edit: Pan, Reverb depth, Chorus depth, DSP depth
- One Touch Setting
- Fingering Mode: Multi Finger/Single Finger/Fingered 1/Fingered 2/Full Keyboard

Multi Pads
- 36 Multi Pad Banks
- 4 Pads + STOP
- Chord Match
- Naming

Digital Effects
- Reverb: 24 types
- Chorus: 16 types
- DSP (system/insertion): 74 types
- Harmony/Echo: 22 types

Registration Memory
- 32 Registration Banks: 1-4
- Naming
- Accompaniment Freeze

Disk Operations
- Song playback/recording
- Load
- Save
- Utility: Format, Song Copy, Delete File

Song
- Song Volume
- Song Track Settings: ON/OFF
- Repeat Play
- Song Transpose

Song Recording
- Quick Record, Multi Record
- Recording Tracks: 1-16
- Punch In/Punch Out
- Quantize
- Naming
- Clear
- Setup Data: Volume, Octave, Pan, Reverb depth, Chorus depth, DSP depth

Multi Pad Recording
- User Pad Bank: 4 (37-40)
- Naming
- Clear
- Chord Match

Style Recording
- User Styles: 4 (107-109)
- Recording Tracks: 6 Sections x 8 tracks
- Drum Cancel
- Quantize
- Naming
- Clear

MIDI
- Transmit settings
- Receive settings
- Local Control
- Clock
- Initial Data Send
- MIDI template

Other functions
- Metronome
- Part Octave
- Master Tuning
- Scale Tuning
- Split Point
- Touch Sensitivity
- Voice Set
- Footswitch function
- Pitch Bend Range

Auxiliary Jacks
- DC IN 10-12V, PHONES, SUSTAIN, AUX OUT R, L+R/L, MIDI IN/OUT, TO HOST

Amplifiers
6 W + 6 W

Speakers
- 12 cm (4-3/4") x 2

Batteries
- Six SUM-1, “D” size, R-20 or equivalent batteries

Rated Voltage
- DC 10-12 V

Dimensions (W x D x H)
952 x 387 x 170 (mm)
(37-1/2" x 15-1/4" x 6-11/16")

Weight
8.7 Kg (19.2 lbs.)

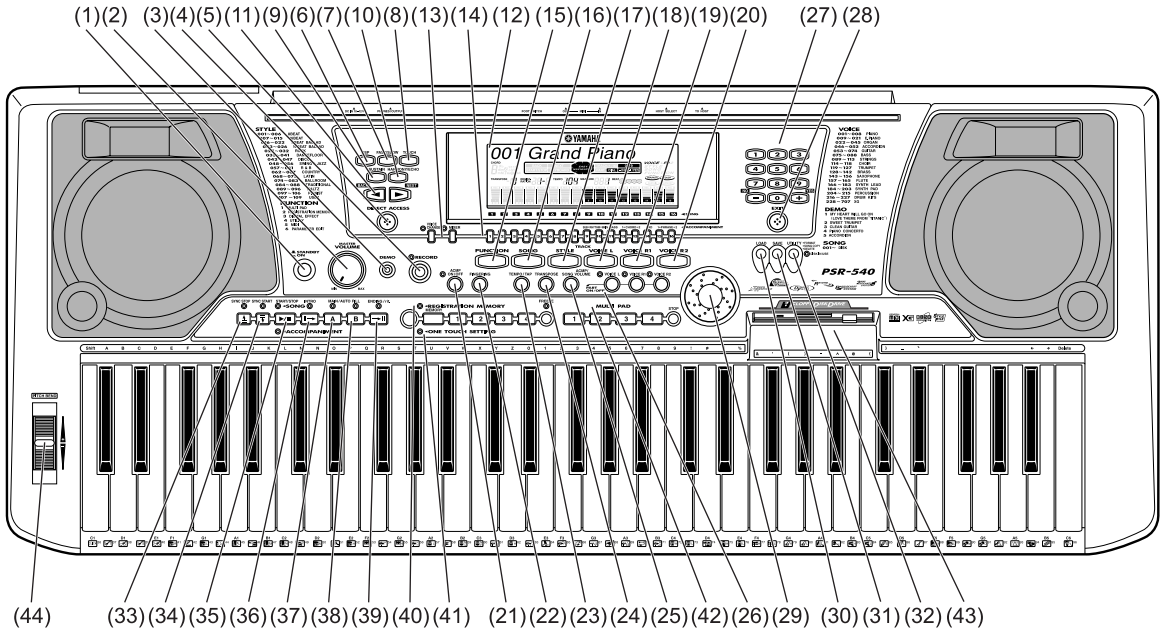
Supplied Accessories
- Sample Disk
- Music Stand
- Owner’s Manual

Optional Accessories
- Headphones: HPE-150
- AC Power Adaptor: PA-6
- Foot Switch: FC4, FC5
- Keyboard Stand : L-6, L-7

** Specifications and descriptions are for information purposes only. Yamaha Corp. reserves the right to change or modify products or specifications at any time without prior notice.*

■ PANEL LAYOUT

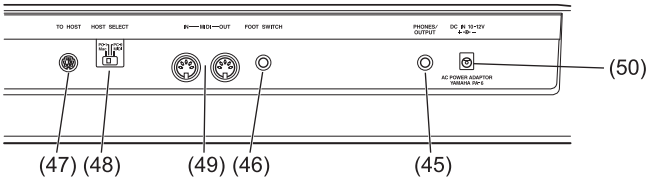
• Control Panel



1) STANDBY/ON switch
2) MASTER VOLUME control
3) DEMO button
4) RECORD button
5) DIRECT ACCESS button
6) DSP button
7) FAST/SLOW button
8) TOUCH button
9) SUSTAIN button
10) HARMONY/ECHO button
11) BACK button, NEXT button
12) LCD display
13) VOICE CHANGE button
MIXER button
14) TRACK 1 - 16 buttons
15) FUNCTION button
16) SONG button
17) STYLE button
18) VOICE L button
19) VOICE R1 button
20) VOICE R2 button
21) ACMP ON/OFF button
22) FINGERING button
23) TEMPO/TAP button
24) TRANSPOSE button
25) ACMP/SONG VOLUME button
26) PART ON/OFF
VOICE L button
VOICE R1 button
VOICE R2 button
27) Number buttons
[1]-[0], [-/NO], [+/YES]
28) EXIT button
29) Data dial
30) DISK LOAD button
31) DISK SAVE button
32) DISK UTILITY button
33) SYNC STOP button
34) SYNC START button
35) START/STOP button
36) INTRO button
37) MAIN/AUTO FILL A button
38) MAIN/AUTO FILL B button
39) ENDING/rit. button
40) REGISTRATION MEMORY buttons
41) ONE TOUCH SETTING buttons
42) MULTI PAD buttons
43) Disk Drive
44) PITCH BEND wheel

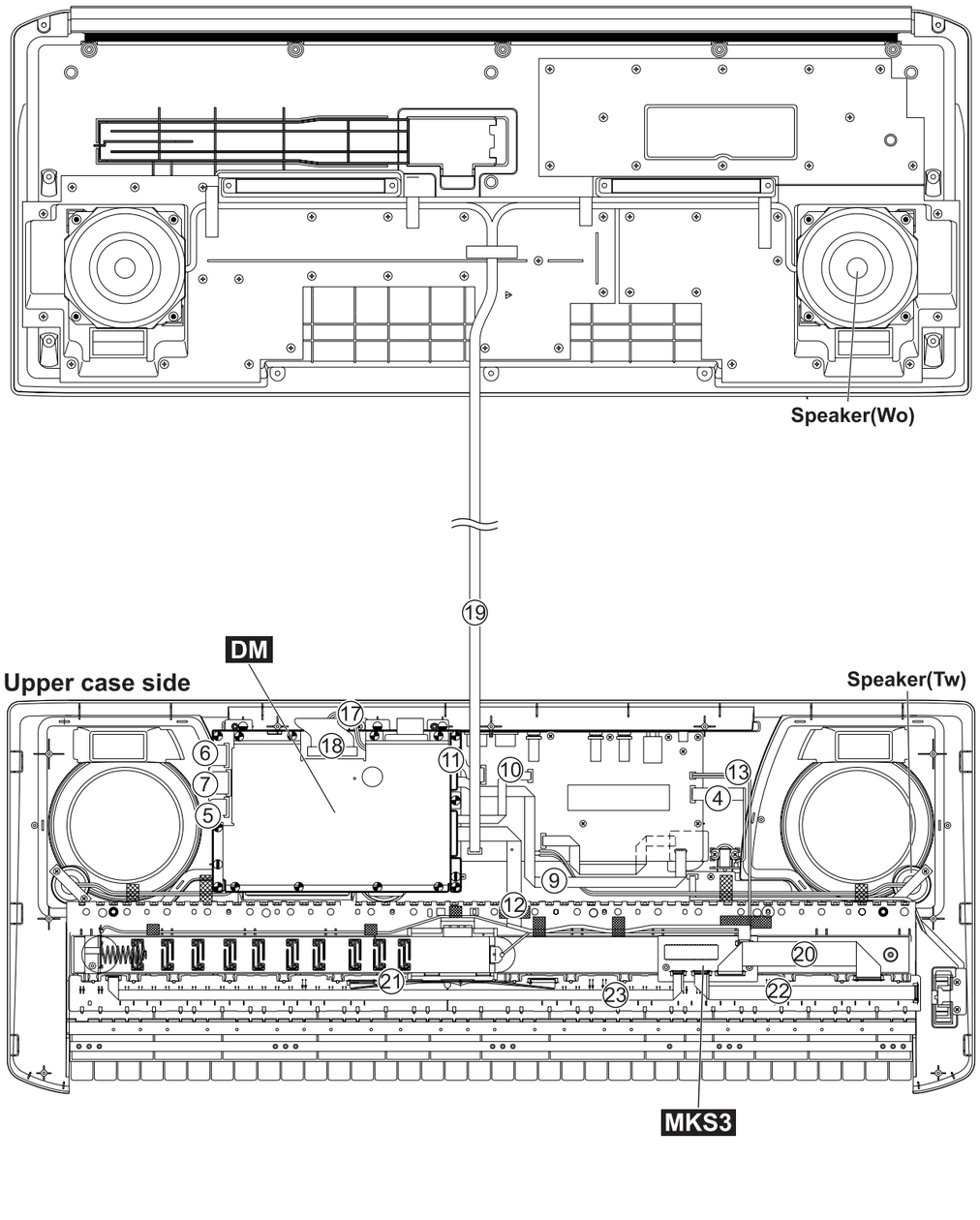
• Rear Panel

45) PHONES/OUTPUT jack
46) FOOT SWITCH jack
47) TO HOST connector
48) HOST SELECT switch
49) MIDI IN/OUT connectors
50) DC IN 10-12V jack

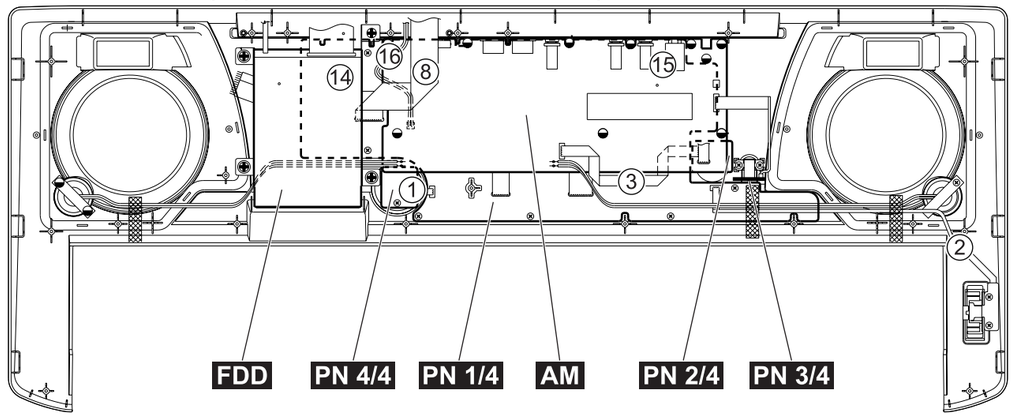


■ CIRCUIT BOARD LAYOUT & WIRING

Lower case side

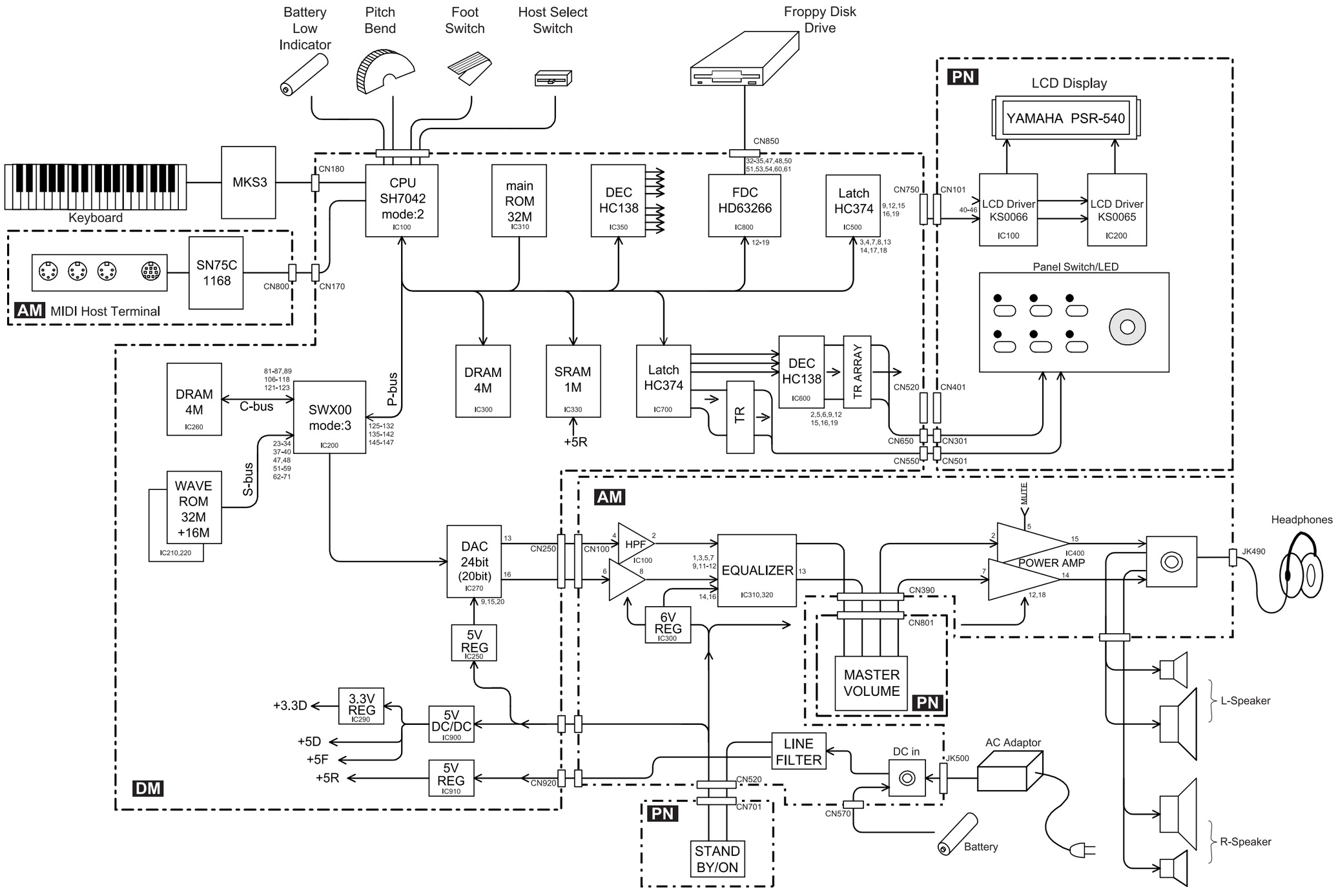


Upper case side (keyboard,DM Circuit Board less)



REF. NO.	DESTINATION		CONNECTOR ASSEMBRY	REMARKS
①	PN-CN602	PN-CN502	ENC-PN	3P/100
②	PN-CN603	PN-CN503	PB-PN	3P/350
③	PN-CN801	AM-CN390	VOL.-AM	5P/150
④	PN-CN701	AM-CN520	STB-AM	6P/120
⑤	PN-CN301	DM-CN650	PN-DM	8P/420
⑥	PN-CN501	DM-CN550	PN-DM	10P/570
⑦	PN-CN401	DM-CN150	PN-DM	11P/520
⑧	PN-CN101	DM-CN750	PN-DM	13P/220
⑨	AM-CN100	DM-CN250	DM-AM	4P/150
⑩	AM-CN530	DM-CN920	DM-AM	5P/330
⑪	AM-CN800	DM-CN170	AM-DM MIDI	7P/130
⑫	MKS3-CN1	DM-CN180	KEYBOARD-DM	6P/460
⑬	AM-CN510	Battery	BATT-AM	2P/ RED-450 BLACK-850
⑭	PN-CN201	Back Light	PN-LCD1	2P/130
⑮	PN-CN202	Back Light	PN-LCD2	2P/130
⑯	DM-CN960	PN-CN102	DM-PN	2P/200
⑰	DM-CN950	FDD-CN2	DM-FDD	3P/110
⑱	DM-CN850	FDD-CN1	DM-FDD	34P/120
⑲	AM-CN480	SPEAKER	AM-SP	4P/750
⑳	MKS3-CN2	MK-L (MK-A)		12P/190
㉑	MK-H	MK-L (MK-B)		12P/215
㉒	MKS3-CN3	MK-L (MK-C)		7P/250
㉓	MKS3-CN4	MK-H(MK-D)		5P/615

■ BLOCK DIAGRAM



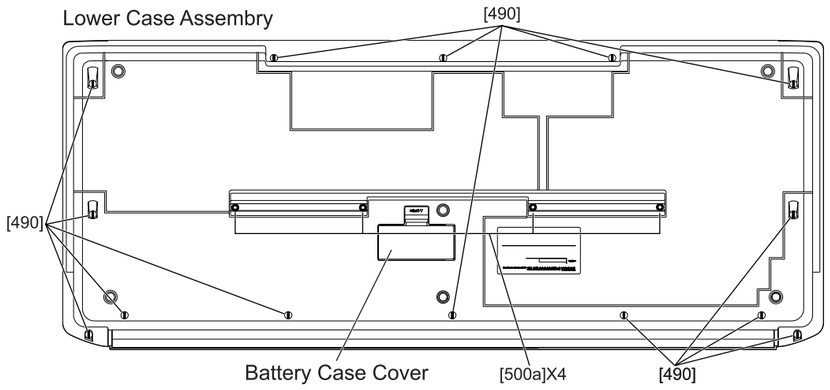
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■ DISASSEMBLY PROCEDURE

1. Lower Case Assembly

1-1 Remove the battery cover assembly. (Fig. 1)

1-2 Remove the fourteen (14) screws marked [490] and the four (4) screws marked [500a]. The lower case assembly can then be removed.



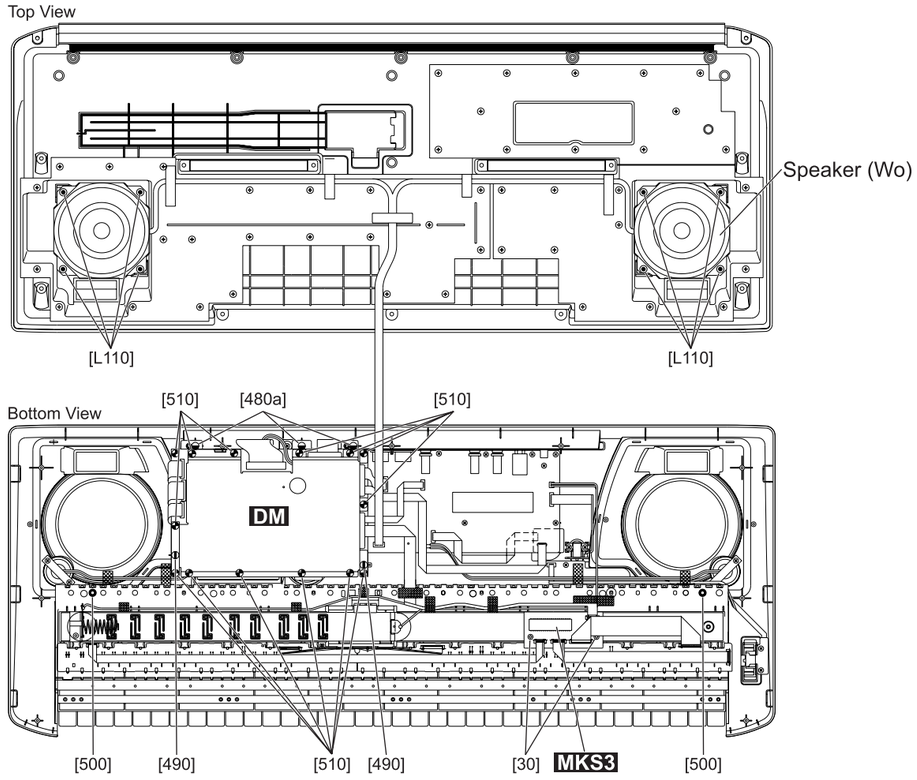
(Fig.1)

2. Circuit Board and Unit (Fig. 2, 3, 4, 5)

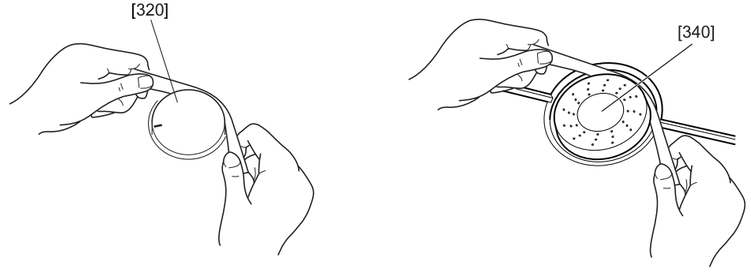
Remove the following screws. Each circuit board can then be removed.

Circuit Board & Unit	Ref.No.	Screw		Qty
DM	480a	Bind Tapping Screw-P 3.0X8 MFZN2Y	(Fig. 2)	3
	490	Bind Tapping Screw-P 3.0X12 MFZN2Y	(Fig. 2)	2
(DM shield box)	510	Bind Tapping Screw-B 3.0X8 MFZN2Y	(Fig. 2)	14
FDD Assembly*1	520	PHWP Tapping Screw 3.0X10 MFZN2Y	(Fig. 4)	4
AM*1	480b	Bind Tapping Screw-P 3.0X8 MFZN2Y	(Fig. 4)	10
Wheel Assembly	480c	Bind Tapping Screw-P 3.0X8 MFZN2Y	(Fig. 5)	2
PN 1/4*2	480d	Bind Tapping Screw-P 3.0X8 MFZN2Y	(Fig. 5)	25
PN 2/4 (VOL)*2*3	480e	Bind Tapping Screw-P 3.0X8 MFZN2Y	(Fig. 5)	3
PN 3/4 (SYB)*2	480f	Bind Tapping Screw-P 3.0X8 MFZN2Y	(Fig. 5)	2
PN 4/4 (ENC)*2*4	480g	Bind Tapping Screw-P 3.0X8 MFZN2Y	(Fig. 5)	3
Keyboard Assembly	500	Bind Tapping Screw-P 3.0X25 MFZN2Y	(Fig. 2)	2
Speakers (Tw)	480h	Bind Tapping Screw-P 3.0X8 MFZN2Y	(Fig. 5)	4
Speakers (Wo)	L110	Bind Tapping Screw-P 4.0X8 MFZN2BL	(Fig. 2)	8

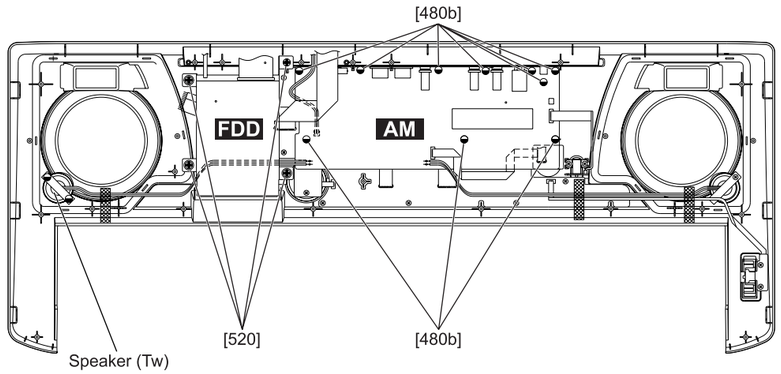
Note: *1 Before removing the FDD Assembry and AM circuit board, remove the DM circuit board.
***2 Before removing any of the PN circuit boards, remove the DM circuit board and the FDD Assembry.**
***3 Before removing the PN 2/4 circuit board, remove the volume knob.**
***4 Before removing the PN 4/4 circuit board, remove the encoder knob.**
When removing the EL light, be careful not to bend it.
Do not touch the electric passage part of the rubber connector while removing it.



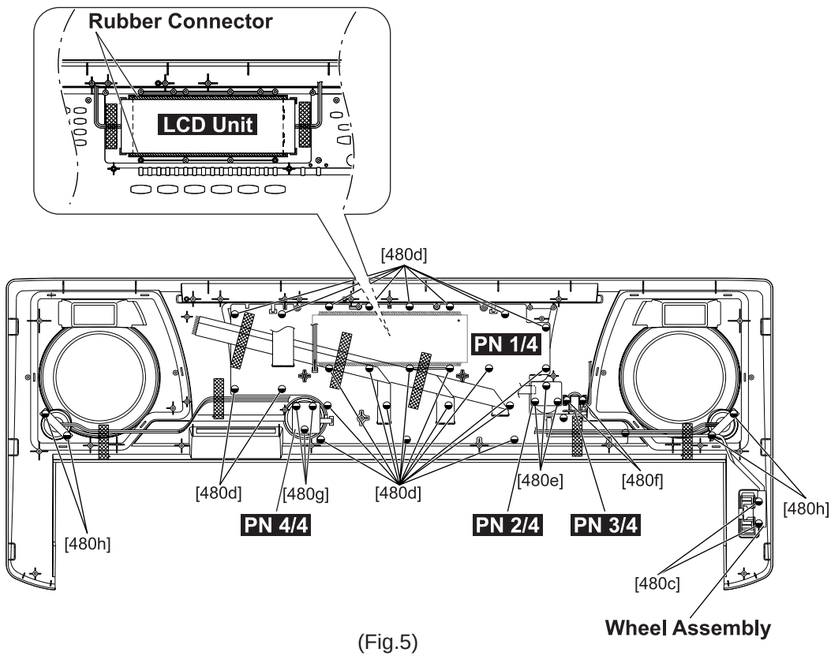
(Fig.2)



(Fig.3)



(Fig.4)



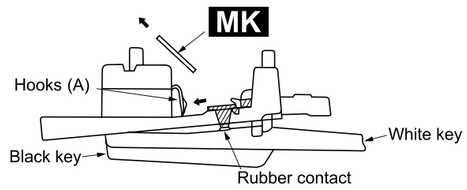
(Fig.5)

3. Disassembling the Keyboard Assembly

3-1 Remove the keyboard assembly. (See Procedure 2.)

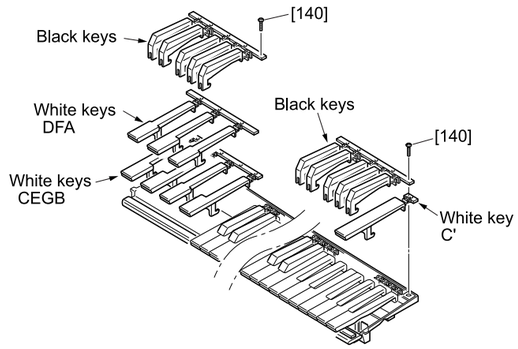
3-2 Remove the two (2) screws marked [30]. The MKS3 circuit board can then be removed. (Fig. 2)

3-3 Remove the MK circuit board while pressing the fifteen (15) hooks (A) inward. The rubber contact can then be removed. (Fig. 6)



(Fig. 6)

3-4 Remove the twenty-one (21) screws marked [140], then remove the black keys from the lower register. Afterwards, remove the white keys DFA and C' and then remove the white keys CEGB from the higher register. At this time, lift the keys from the front and slide them towards you. The keys can now be removed from the assembly. (Fig. 7)



[140]: Bind Head Tapping Screw-P 3.0X16 MFZN2BL (VB205200)
[140]: Bind Head Tapping Screw-P 3.0X16 MFZN2B (VS756700)
[140]: Bind Head Tapping Screw-P 3.0X16 MFZN2B (EP600310)

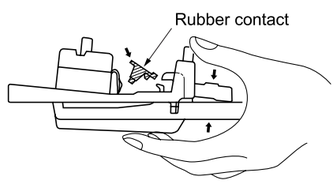
(Fig. 7)

4. Assembling the Keyboard Assembly

4-1 Install the white keys CEGB from the lower register, and then install the DFA keys and C' key. Afterwards install the black keys from the higher register, and tighten the twenty-one (21) screws marked [140]. (Fig. 7)

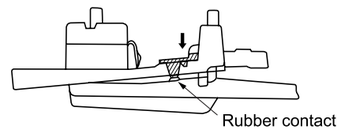
4-2 Install the rubber contacts in the assembly while pressing the keys as shown in Figure 8. Check that the rubber contact has been firmly placed into position in the area indicated by the arrow in Figure 9. (Fig. 8 and 9)

* When fitting the rubber contacts, raise both ends of the frame so that the keys do not push the rubber contact up.

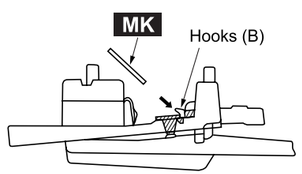


(Fig. 8)

4-3 Install the MK circuit board in the assembly so that the hooks (B) hold it as shown in Figure 10. (Fig. 10)



(Fig. 9)



(Fig. 10)

LSI PIN DESCRIPTION

HG73C205AFD (XU947C00) SWX00B **TONE GENERATOR**

(DM IC200)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	ICN	I	Initial clear	85	CMA3	O	Program address bus
2	RFCLKI	I	PLL Clock	86	CMA8	O	Program address bus
3	TM2	I	PLL Control	87	CMA2	O	Program address bus
4	AVDD_PLL		Power supply	88	CRD	O	read signal
5	AVSS_PLL		Ground	89	CMA1	O	Program address bus
6	MODE0	I	SWX dual mode	90	CUB	O	high byte effective signal
7	VCC7		Power supply	91	VCC91		Power supply
8	GND8		Ground	92	GHND92		Ground
9	XIN	I	crystal oscillator	93	CS1	O	CS signal
10	XOUT	O	crystal oscillator	94	CMA0	O	Program address bus
11	MODE1	I	SWX separate mode	95	CLB	O	low byte effective signal
12	TEST0	I	TEST pin	96	CMA12	O	Program address bus
13	TESTON	I	TEST pin	97	CMA11	O	Program address bus
14	AN0-P40	I	A/D converter	98	CMA10	O	Program address bus
15	AN1-P41	I	A/D converter	99	CMA9	O	Program address bus
16	AN2-P42	I	A/D converter	100	GND100		Ground
17	AN3-P43	I	A/D converter	101	CWE	O	write signal
18	AVDD_AN		Power supply	102	CMA16	O	Program address bus
19	AVSS_AN		Ground	103	CMA15	O	Program address bus
20	TXD0	O	for MIDI or TO-HOST	104	CMA14	O	Program address bus
21	TXD1	O	for MIDI	105	CMA13	O	Program address bus
22	EXCLK	I	Crystal oscillator	106	CMD8	I/O	Program memory Data bus
23	SMD11	I/O	Wave memory data bus	107	CMD7	I/O	Program memory Data bus
24	SMD4	I/O	Wave memory data bus	108	CMD9	I/O	Program memory Data bus
25	SMD3	I/O	Wave memory data bus	109	CMD6	I/O	Program memory Data bus
26	SMD12	I/O	Wave memory data bus	110	CMD10	I/O	Program memory Data bus
27	SMD10	I/O	Wave memory data bus	111	CMD5	I/O	Program memory Data bus
28	SMD5	I/O	Wave memory data bus	112	CMD11	I/O	Program memory Data bus
29	SMD2	I/O	Wave memory data bus	113	CMD4	I/O	Program memory Data bus
30	SMD13	I/O	Wave memory data bus	114	CMD12	I/O	Program memory Data bus
31	SMD9	I/O	Wave memory data bus	115	CMD3	I/O	Program memory Data bus
32	SMD6	I/O	Wave memory data bus	116	CMD13	I/O	Program memory Data bus
33	SMD1	I/O	Wave memory data bus	117	CMD2	I/O	Program memory Data bus
34	SMD14	I/O	Wave memory data bus	118	CMD14	I/O	Program memory Data bus
35	VCC35		Power supply	119	VCC119		Power supply
36	GND36		Ground	120	GND115		Ground
37	SMD8	I/O	Wave memory data bus	121	CMD1	I/O	Program memory Data bus
38	SMD7	I/O	Wave memory data bus	122	CMD15	I/O	Program memory Data bus
39	SMD0	I/O	Wave memory data bus	123	CMD0	I/O	Program memory Data bus
40	SMD15	I/O	Wave memory data bus	124	CMA21	O	Program address bus
41	SOE	O	read signal	125	PDT15	I/O	SWX access data bus
42	SWE	O	write signal	126	PDT14	I/O	SWX access data bus
43	SRAS	O	RAS signal	127	PDT13	I/O	SWX access data bus
44	SCAS	O	CAS signal	128	PDT12	I/O	SWX access data bus
45	REFRESH	O	REFRESH signal	129	PDT11	I/O	SWX access data bus
46	CS0	O	CS signal	130	PDT10	I/O	SWX access data bus
47	SMA0	O	Memory address bus	131	PDT9	I/O	SWX access data bus
48	SMA16	O	Memory address bus	132	PDT8	I/O	SWX access data bus
49	VCC49		Power supply	133	VCC133		Power supply
50	GND50		Ground	134	GND134		Ground
51	SMA1	O	Memory address bus	135	PDT7	I/O	SWX access data bus
52	SMA15	O	Memory address bus	136	PDT6	I/O	SWX access data bus
53	SMA2	O	Memory address bus	137	PDT5	I/O	SWX access data bus
54	SMA14	O	Memory address bus	138	PDT4	I/O	SWX access data bus
55	SMA3	O	Memory address bus	139	PDT3	I/O	SWX access data bus
56	SMA13	O	Memory address bus	140	PDT2	I/O	SWX access data bus
57	SMA4	O	Memory address bus	141	PDT1	I/O	SWX access data bus
58	SMA12	O	Memory address bus	142	PDT0	I/O	SWX access data bus
59	SMA5	O	Memory address bus	143	VCA143		Power supply
60	GND60		Ground	144	GND144		Ground
61	VCC61		Power supply	145	PAD2	I	SWX access address bus
62	SMA11	O	Memory address bus	146	PAD1	I	SWX access address bus
63	SMA6	O	Memory address bus	147	PAD0	I	SWX access address bus
64	SMA10	O	Memory address bus	148	VCC148		Power supply
65	SMA7	O	Memory address bus	149	GND149		Ground
66	SMA9	O	Memory address bus	150	PCS	I	Chip select
67	SMA17	O	Memory address bus	151	PWR	I	write enable
68	SMA8	O	Memory address bus	152	PRD	I	read enable
69	SMA18	O	Memory address bus	153	RXD0	I	for Midi or TO-HOST
70	SMA19	O	Memory address bus	154	RXD1	I	for Midi or Key scan
71	SMA20	O	Memory address bus	155	SCLKI	I	EXT Clock
72	SMA21	O	Memory address bus	156	ADIN	I	A/D converter
73	SMA22	O	Memory address bus	157	ADLR	O	A/D converter LR clock
74	SMA23	O	Memory address bus	158	DO0	O	DAC
75	CMA20	O	Program address bus	159	DO1	O	DAC
76	CMA19	O	Program address bus	160	SYSCLK	O	1/2 clock
77	VCC77		Power supply	161	VCC161		Power supply
78	GND78	O	Ground	162	GND162		Ground
79	CMA18	O	Program address bus	163	WCLK	O	for DAC LR clock
80	CMA17	O	Program address bus	164	QCLK	O	1/12 clock
81	CMA5	O	Program address bus	165	BCLK	O	IIS-DAC clock
82	CMA6	O	Program address bus	166	SYI	I	Synch signal
83	CMA4	O	Program address bus	167	IRQ0	I	Interrupt request
84	CMA7	O	Program address bus	168	NMI	I	Interrupt request

HD63266F (XI939A00) **FDC** (Floppy Disk Controller)

(DM IC800)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	8"//5"	I	Data transmission speed	33	/TRKO	I	Track 00 signal
2	XTALSET	I	Clock select	34	/INDEX	I	Index signal
3	/RESET	I	Rest	35	/RDATA	I	Read data input from FDD
4	E//RD	I	Enable/Read	36	XTAL2		Clock
5	RW//WR	I	Read/write/Write	37	EXTAL2		
6	/CS	I	Chip select	38	NC		
7	/DACK	I	DMA acknowledge	39	XTAL1		Clock
8	RS0	I	Register select	40	EXTAL1		
9	RS1	I		41	VSS4		Ground
10	VSS1		Ground	42	VSS5		
11	VSS2			43	NC		
12	D0	I/O		44	VCC2		
13	D1	I/O		45	VCC3		Power supply
14	D2	I/O		46	VCC4		
15	D3	I/O	Data bus	47	/WGATE	O	Write control
16	D4	I/O		48	/WDATA	O	Writ data to FDD
17	D5	I/O		49	VSS6		Ground
18	D6	I/O		50	/STEP	O	Step signal to control head of FDD
19	D7	I/O		51	/HDIR	O	Direction
20	/DREQ	O	DMA request	52	/HLOAD	O	Head load
21	/IRQ	O	Interrupt request	53	/HSEL	O	Head select
22	/DEND	I	Data end	54	VSS7		Ground
23	VSS3		Ground	55	/DS0	O	
24	1/2 EX1			56	/DS1	O	Drive select
25	VCC1		Power supply	57	/DS2	O	
26	NUM1	I		58	/DS3	O	
27	NUM3	I		59	VSS8		Ground
28	IFS	I	Host interface select	60	/MON0	O	
29	SFORM	I	Format data	61	/MON1	O	Motor on
30	/INP	I	Index pulse	62	/MON2	O	
31	/READY	I	Ready from FDD	63	/MON3	O	
32	/WPRT	I	Write control signal	64	VSS9		Ground

KS0065B(XV933A00) **LCD DRIVER**

(PN IC200)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	SC29	O		31	Vcc		LCD driver circuit (-5V)
2	SC28	O		32	CL1	I	Data shift
3	SC27	O		33	CL2	I	Latch clock
4	SC26	O		34	GND(Vss)		GND (0V)
5	SC25	O		35	DL1	I/O	
6	SC24	O		36	DR1	I/O	
7	SC23	O		37	DL2	I/O	Data input / output
8	SC22	O		38	DR2	I/O	
9	SC21	O		39	NC		
10	SC20	O		40	M	I	Alternated signal for LCD driver output
11	SC19	O		41	SHL1	I	Data interface
12	SC18	O	Segment signal output	42	SHL2	I	Data interface
13	SC17	O	for LCD driving	43	FCS	I	Mods selection
14	SC16	O		44	V1	I	
15	SC15	O		45	V2	I	
16	SC14	O		46	V3	I	Power supply
17	SC13	O		47	V4	I	
18	SC12	O		48	V5	I	
19	SC9	O		49	V6	I	
20	SC10	O		50	SC40	O	
21	SC11	O		51	SC39	O	
22	SC8	O		52	SC38	O	
23	SC7	O		53	SC37	O	
24	VDD		Power supply	54	SC36	O	Segment signal output
25	SC6	O		55	SC35	O	for LCD driving
26	SC5	O		56	SC30	O	
27	SC4	O	Segment signal output	57	SC31	O	
28	SC3	O	for LCD driving	58	SC32	O	
29	SC2	O		59	SC33	O	
30	SC1	O		60	SC34	O	

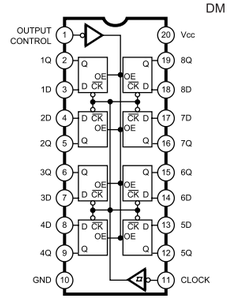
KS0066U-10B(XV226A00) LCD DRIVER

(PN IC100)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	S22	O		41	DB2	I/O	
2	S21	O		42	DB3	I/O	
3	S20	O		43	DB4	I/O	Data interface
4	S19	O		44	DB5	I/O	
5	S18	O		45	DB6	I/O	
6	S17	O		46	DB7	I/O	
7	S16	O		47	C1	O	
8	S15	O		48	C2	O	
9	S14	O		49	C3	O	
10	S13	O		50	C4	O	
11	S12	O	Segment signal output for LCD	51	C5	O	
12	S11	O	driving	52	C6	O	
13	S10	O		53	C7	O	
14	S9	O		54	C8	O	Common signal output for LCD
15	S8	O		55	C9	O	driving
16	S7	O		56	C10	O	
17	S6	O		57	C11	O	
18	S5	O		58	C12	O	
19	S4	O		59	C13	O	
20	S3	O		60	C14	O	
21	S2	O		61	C15	O	
22	S1	O		62	C16	O	
23	Vss		Ground	63	S40	O	
24	OSC1	I	Oscillator	64	S39	O	
25	OSC2	O	Oscillator	65	S38	O	
26	V1			66	S37	O	
27	V2			67	S36	O	
28	V3		Power supply	68	S35	O	
29	V4			69	S34	O	
30	V5			70	S33	O	
31	CLK1	O	Data latch clock	71	S32	O	Segment signal output for LCD
32	CLK2	O	Data shift clock	72	S31	O	driving
33	Vdd		Power supply (+5V)	73	S30	O	
34	M	O	Altemated signal for LCD driver output	74	S29	O	
35	D	O	Display data interface	75	S28	O	
36	RS	I		76	S27	O	
37	R/W	I	Read / write	77	S26	O	
38	E	I	Enable	78	S25	O	
39	DB0	I/O	Data interface	79	S24	O	
40	DB1	I/O	Data interface	80	S23	O	

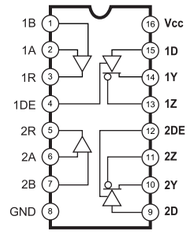
● **74HC374** (IR037400)
Octal 3-State D-Type Flip-Flop

DM IC500, 700



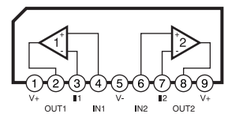
● **SN75C1168N**(XU463A00)
Line Driver/Receiver

AM IC700



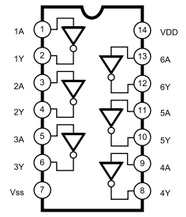
● μ **PC4572HA**(XF633A00)
Dual Operational Amplifier

AM IC100



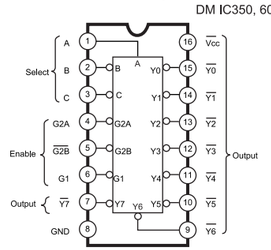
● **SN74HCU04N** (IG142250)
Hex Inverter

AM IC810



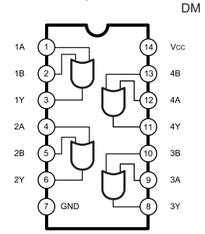
● **TC74HC138AP**(IR013850)
3 to 8 Demultiplexer

DM IC350, 600



● **TC74HC32AP(IR003200)**
Quad 2 Input OR

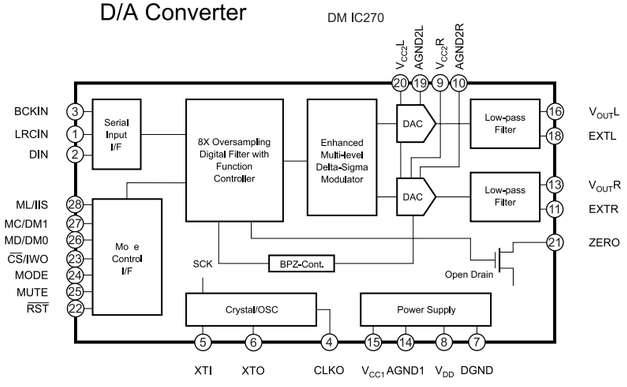
DM IC360



■ IC BLOCK DIAGRAM

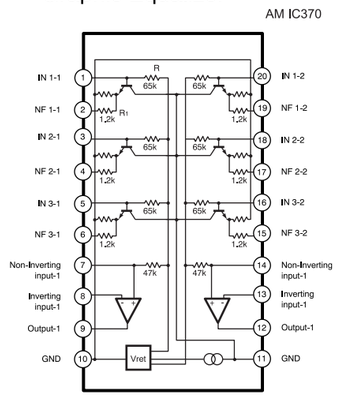
● **PCM1716E/T2** (XU829A00)
D/A Converter

DM IC270



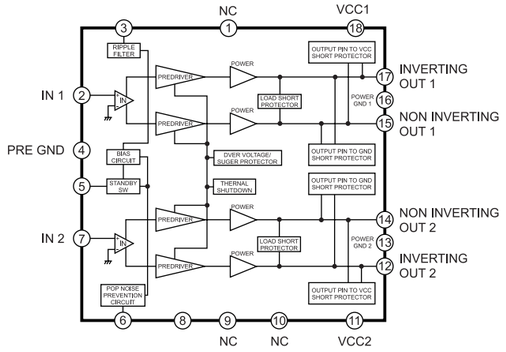
● **M5243AP06** (XU911A00)
Graphic Equalizer

AM IC370



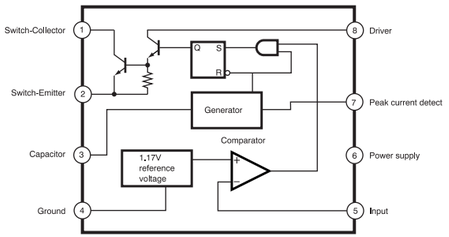
● **LA4705NA** (XQ619A00)
Power Amplifier

AM IC400



● **M5291P** (XV856A00)
DA / DA Converter

DM IC900



■ TEST PROGRAM & INITIALIZE

1. TEST PROGRAM

A. PREPARATION

1) PA-6 (AC adapter) is used.
2) The volume is usually moved to the use position when no volume change is required.
3) Measuring instruments:
   Frequency counter
   Level meter (with JIS-C filter)
   Note: Use a stereo plug to the [PHONES / AUX OUT] jack at 33 ohms.
4) Jigs:
   Foot switch, MIDI cable, Floppy Disk(2HD, 2DD)

B. HOW TO ENTER THE TEST PROGRAM

AUTO MODE

While pressing the C3#, F3 and G3# keys, turn the [STAND BY/ON] switch to the “ON” position.

MANUAL MODE

While pressing the C2#, F2 and G2# keys, turn the [STAND BY/ON] switch to the “ON” position.

C. PROCEEDING THROUGH THE TEST PROGRAM

AUTO MODE

When the test program is started, the test is automatically executed.
When confirmation is necessary, the test program stops operating and waits for instruction. At this time, press the [START/STOP] button; the next test is automatically executed.

MANUAL MODE

The LCD will display “TEST” when entering the test program.
To select the program number, use the [BANK +] and [NEXT -] buttons.
To execute the test, press the [START/STOP] button.
To proceed to the next test, press the [START/STOP] button.

D. TEST PROGRAM LIST

TEST.NO	LCD(initial)	Test functions and Judgement Criteria
1	001: Version	Displays Rom version Rom (Program, Wave) versions are displayed alternately on the LCD.
2	002: Rom Chk1	Checks the ROM The tset results appear on the LCD.
3	003: Ram Chk1	Checks all the RAMs that are connected to the CPU. The test results appear on the LCD.
4	004: WaveRomChk1	Checks the WAVE ROMs that are connected to the CPU. The test results appear on the LCD.
7	007: FDD Chk	Insert the floppy disks one by one (2DD and 2HD). Checks the floppy disk drive unit
9	009: Eff1Ram Chk	Checks the effect RAM1
11	011: TG1 Chk	Outputs the sine wave by changing the channels in sequence from C2 to G4. After auto-scaling is finished, individual keys can be played. (If playing two or more keys simultaneously, the first pressed key has priority to make a sound.)
13	013: Pitch Chk	Connect the frequency counter to the [PHONE/AUX OUT] jack. Set PAN to Center and produce a signal at 440 Hz +/- 0.22. Check that the correct signal is produced.
14	014: Output R	Connect the level meter (with a JIS-C filter) to the [PHONE/AUX OUT] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum. Check the output level (1kHz). Phones L: Less than -60.0 dBm Phones R: -10 dBm +/- 2 dB
15	015: Output L	Connect the level meter (with a JIS-C filter) to the [PHONE/AUX OUT] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum. Check the output level (1kHz). Phones L: -10 dBm +/- 2 dB Phones R: Less than -60.0 dBm
19	019: D/A Noise	Connect the level meter (with a JIS-C filter) to the [PHONE/AUX OUT] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum. Phones L/R: Less than -80 dBm
20	020: SW, LED Chk	Check the switches on the panel. Press the switches that are displayed on the LCD. A pre-assigned note is output when pressing the switch. The test results appear on the LCD.
21	021: ALL LED On	Check that the LED on the panel is on.
22	022: Red LED On	Check that the red LED on the panel is on.
23	023: Green LED On	Check that the green LED on the panel is on.
28	028: All LCD On	Check that all LCD dots are on.
29	029: All LCD Off	Check that all LCD dots are off. The LCD becomes white
31	031: Pedal1 Chk	Connect the foot switch to the [FOOT SWITCH] jack. Check that the C3 note is output when starting the test program. Check that the C4 note is output when pressing the pedal and that the tone is turned off when releasing the pedal. The test results appear on the LCD.
37	037: Midi Chk	After connecting the [MIDI IN] jack and [MIDI OUT] jack with a MIDI cable, execute the test. Check that the C4 note is output and that the test results appear on the LCD.
38	038: To Host Chk	For factory test use only
40	040: Battery Chk	Checks the voltage of the Battery terminal
41	041: Rom Chk2	Checks the ROM The test results appear on the LCD.
42	042: Ram Chk2	Checks the RAMs that are connected to the CPU. The test results appear on the LCD.
43	043: WaveRom Chk2	Checks the WAVE ROMs that are connected to the CPU. The test results appear on the LCD.
44	044: WaveRam Chk1	Checks all the WAVE RAMs that are connected to the CPU. The test results appear on the LCD.
46	046: Backup Chk2	Performa the RAM back-up check. Check that the display reads “NG,” then turn off the power switch. Enter the test program and perform the RAM back-up checks, then check again. Check that the LCD displays “OK.” Note: Do not turn on the power switch by normal mode while standing by, as the RAM data will be lost.
47	047: Factry Set	All the RAMs are initialized and set to the factory preset date when executing this test. The results appear on the LCD.
48	048: Test Exit	Exit from the test program after executing this test.

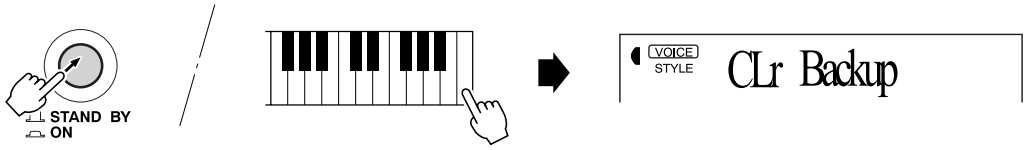
2. INITIALIZE

Except for the data listed below, all PSR-540 panel settings are reset to their initial settings whenever the power is turned on. The data listed below are backed up (i.e. retained in the memory) as long as either an AC adaptor is connected or a set of batteries is installed.

- User Song Data
- User One Touch Setting Data
- One Touch Setting Bank Number
- EZ Chord Data
- EZ Chord Bank Number Data
- Smart Chord Number
- Metronome Volume
- Touch On/Off
- Touch Sensitivity
- Split Point
- Accompaniment Split Point
- Footswitch Assign Function

Data Initialization

All data can be initialized and restored to the factory preset condition by turning on the power while holding the highest (rightmost) white key on the keyboard. “CLr Backup” will appear briefly on the display.



CAUTION

- All one touch setting (user) and song memory data, plus the other settings listed above, will be erased and/or changed when the data initialization procedure is carried out.
- Carrying out the data initialization procedure will usually restore normal operation if the PSR-540 freezes or begins to act erratically for any reason.

MIDI IMPLEMENTATION CHART

[Portable Keyboard]
Model: PSR-540

MIDI Implementation Chart

Date: 3-MAR-1999
Version: 1.0

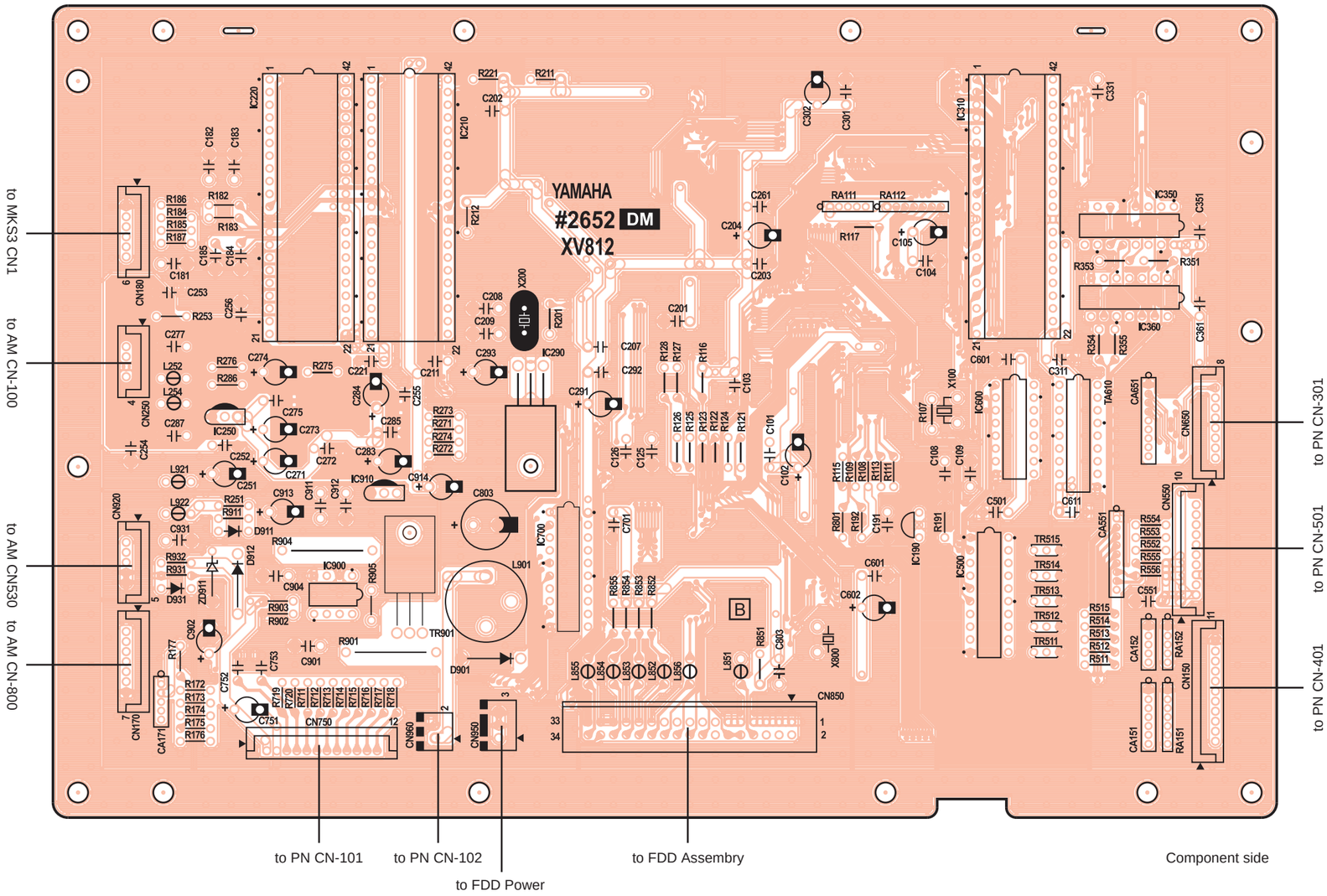
Function...		Transmitted		Recognized		Remarks
Basic	Default	1 - 16	*1	1 - 16	*2	
Channel	Changed	1 - 16	*1	1 - 16	*2	
	Default	3		3		
Mode	Messages	x		x		
	Altered	**********		x		
Note		0 - 127		0 - 127		
Number :	True voice	**********		0 - 127		
Velocity	Note ON	o 9nH, v=1-127		o 9nH, v=1-127		
	Note OFF	x 9nH, v=0		x		
After	Key's	x		x		
Touch	Ch's	x		o		
Pitch Bend		o		o		
	0,32	o		o		Bank Select
	1,5,11	x		o		
	7,10	o		o		
	6,38	o		o		Data Entry
Control	64,66-67	o		o		
	65	x		o		Portamento
Change	72	o		o		Sound Controller
	71,73-74	x		o		Sound Controller
	84	x		o		Portament Cntrl
	91,93-94	o		o		Effect SendLevel
	96-97	x		o		Data Inc, Dec
	98-99	x		o		NRPN LSB, MSB
	100-101	o		o		RPN LSB, MSB
Prog		o 0 - 127		o 0 - 127		
Change :	True #	**********				
System Exclusive		o		o		
:	Song Pos.	x		x		
Common :	Song Sel.	x		x		
:	Tune	x		x		
System:	Clock	o		o		
Real Time:	Commands		o		o	
:	All Sound Offx		o			
Aux :	Reset All Cntrls	x		o		
:	Local ON/OFF	x		x		
Mes- :	All Notes OFF	x		o (123-127)		
sages :	Active Senseo	o				
:	Reset	x		x		

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO
Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO

o: Yes
x: No

■ CIRCUIT BOARDS

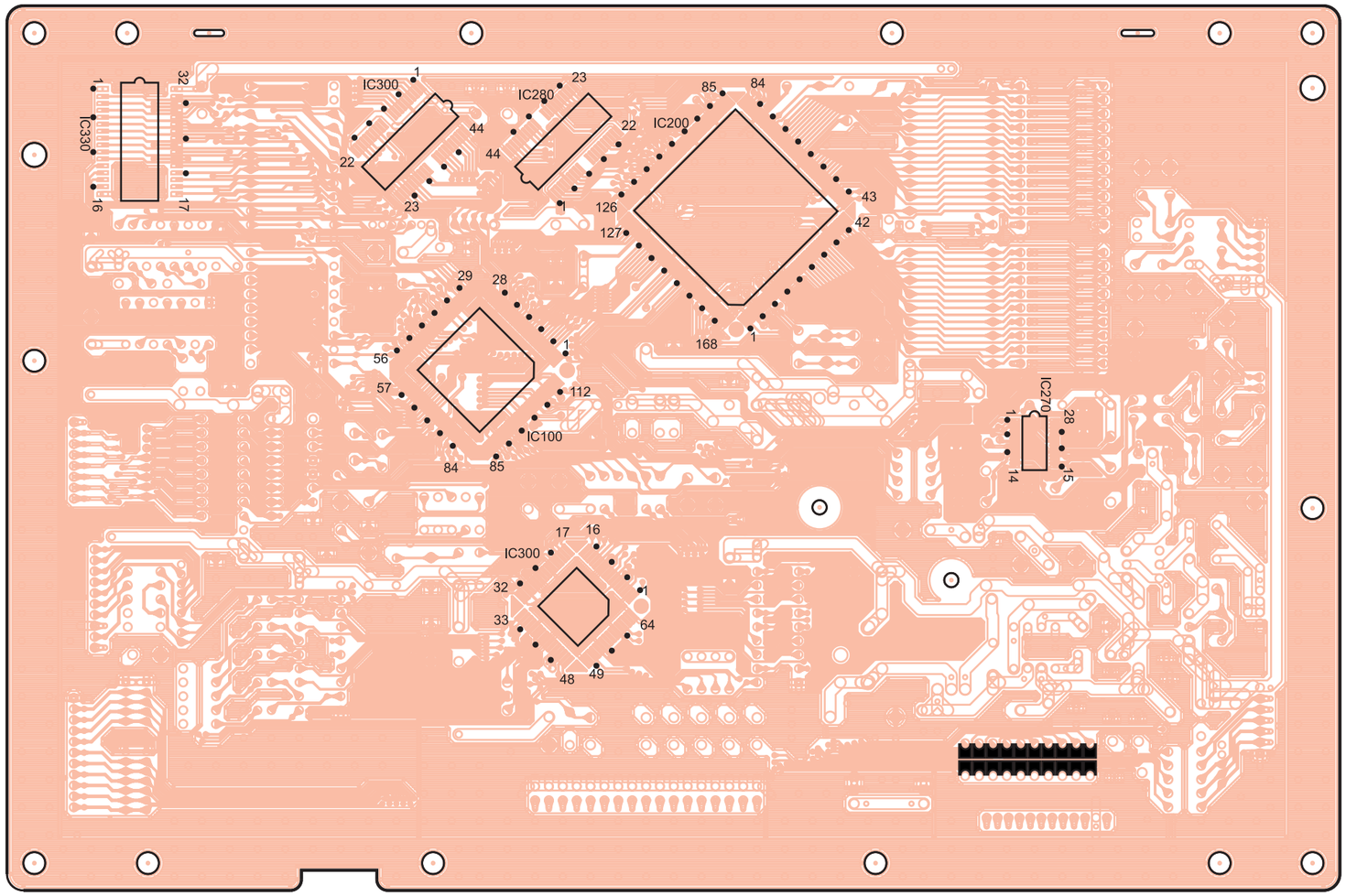
- **DM Circuit Board**



DM:2NA-V354960 ⚠0

Note: See parts list for details of circuit board component parts.

- **DM Circuit Board**

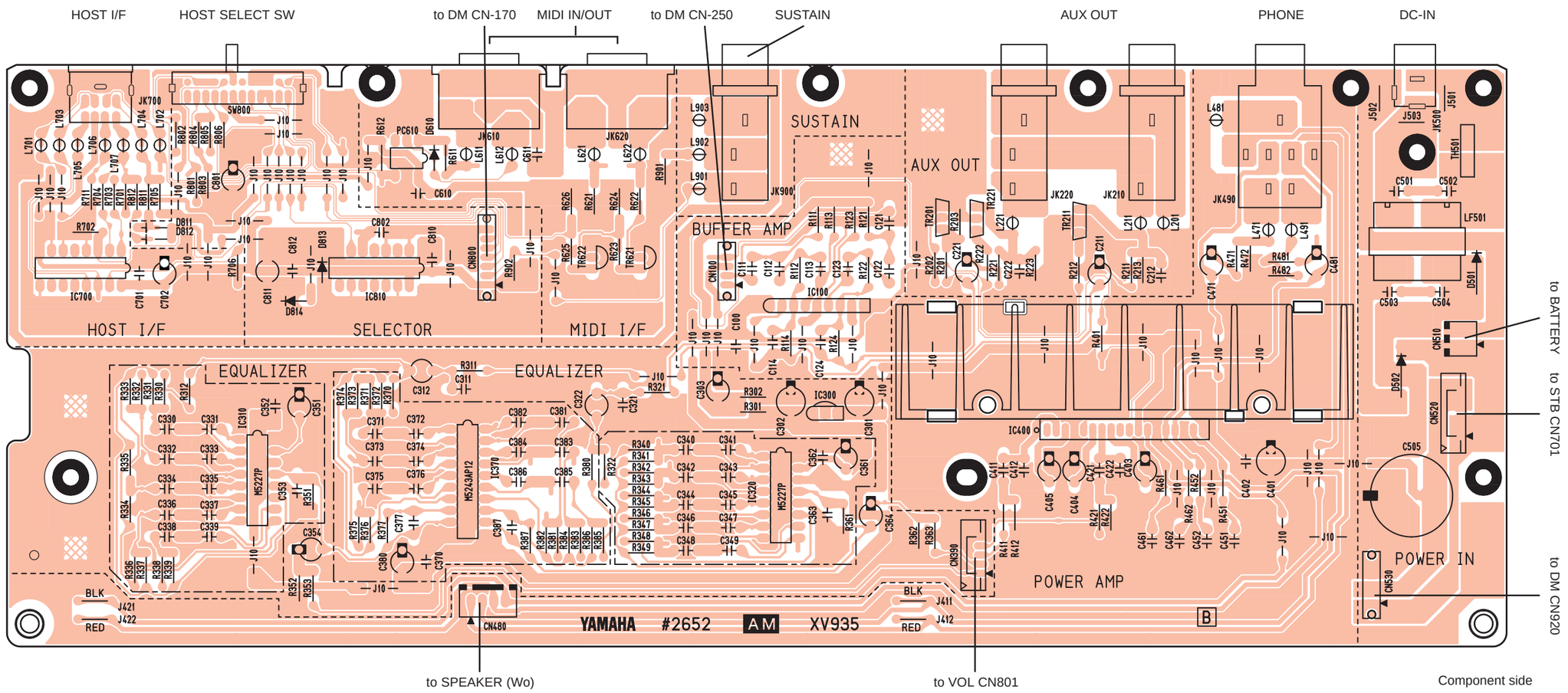


Pattern side

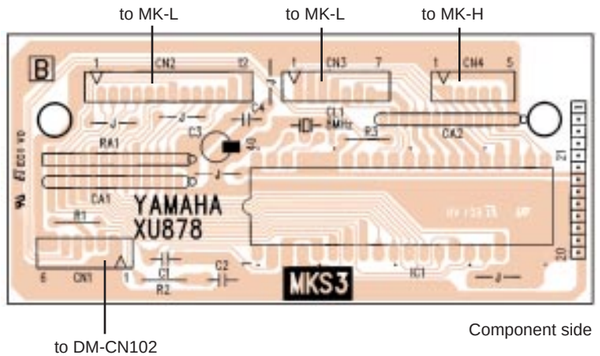
DM:2NA-V354960 (0)

Note: See parts list for details of circuit board component parts.

• AM Circuit Board



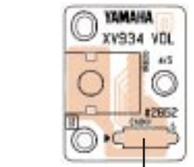
• MKS3 Circuit Board



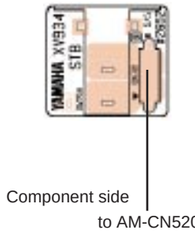
• ENC Circuit Board



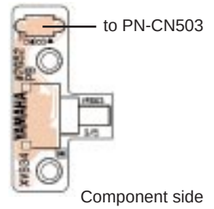
• VOL Circuit Board



• STB Circuit Board



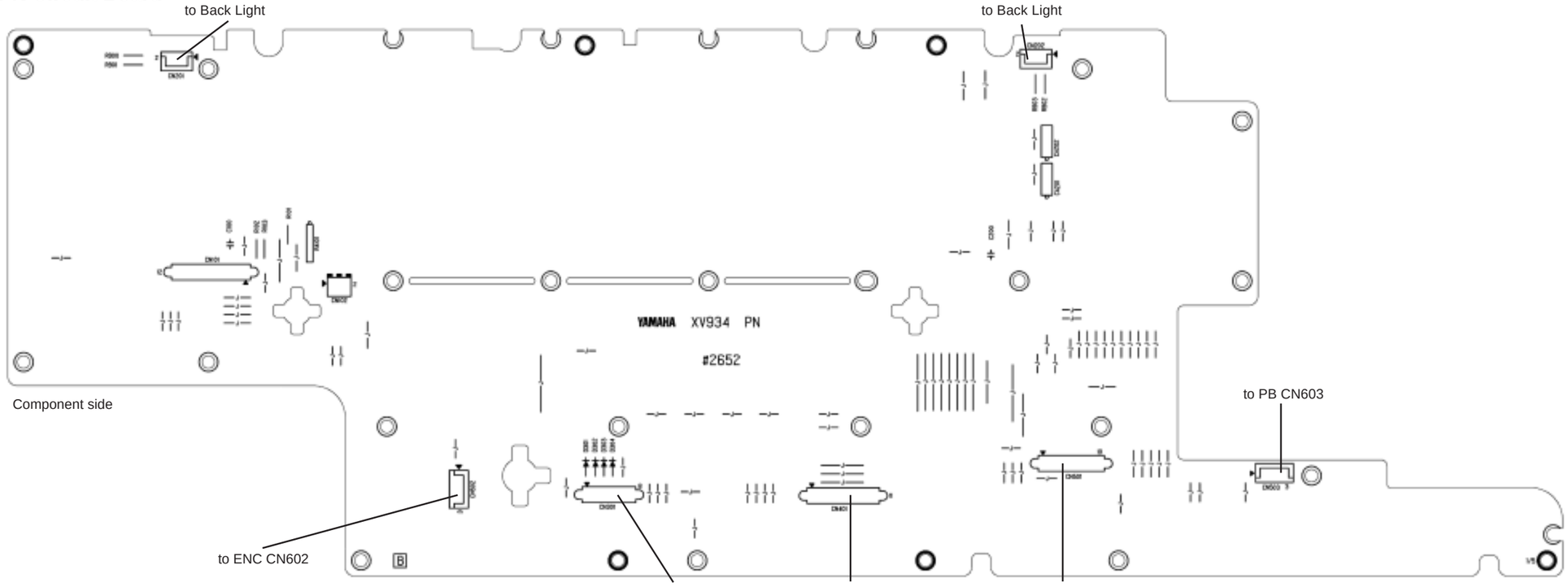
• PB Circuit Board



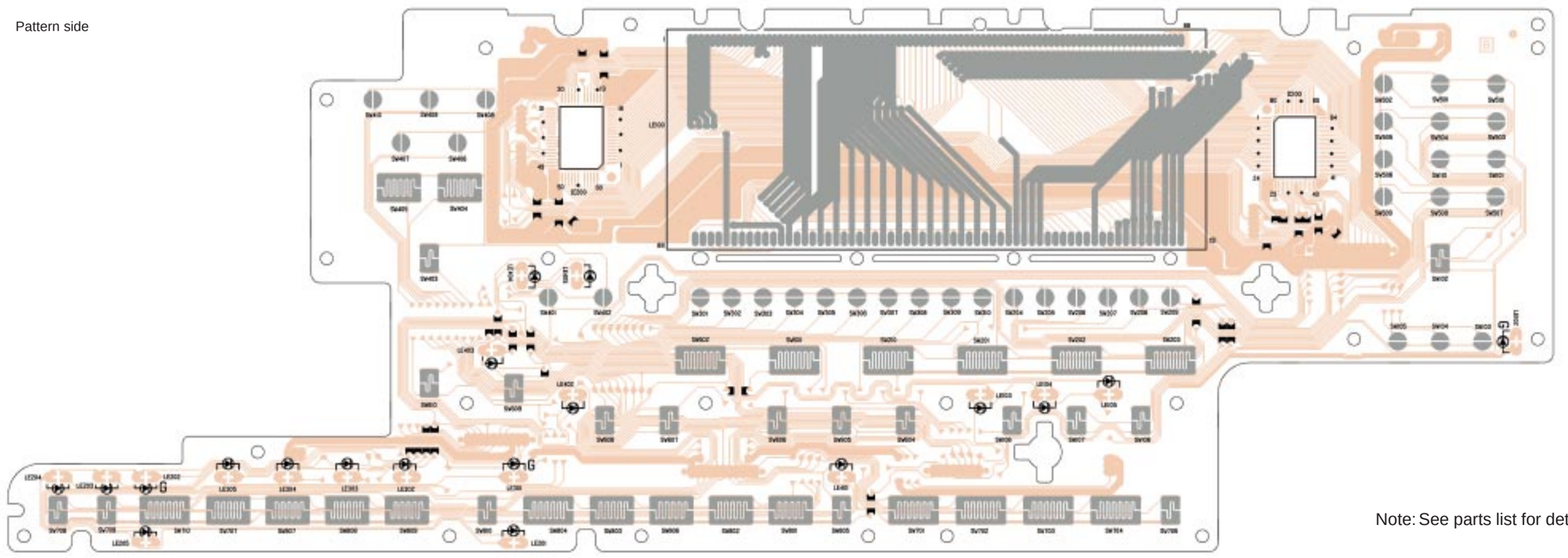
AM : 2NA-V362300 0
ENC : 2NA-V362290 0
STB : 2NA-V362290 0
VOL : 2NA-V362290 0
PB : 2NA-V362290 0
MKS3 : 2NA-V345820

Note: See parts list for details of circuit board component parts.

- **PN Circuit Board**



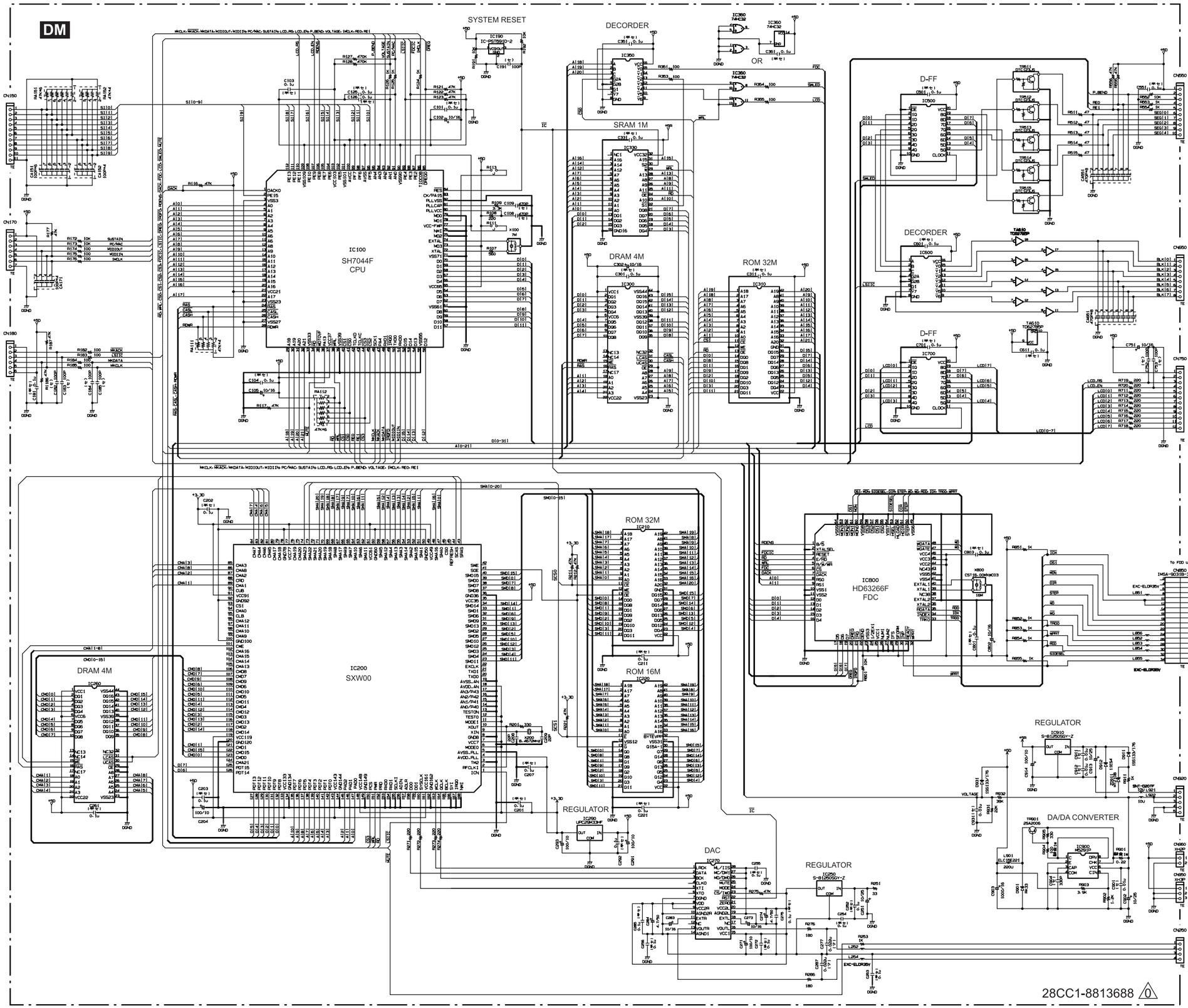
Pattern side



PN:2NA-V362290

Note: See parts list for details of circuit board component parts.

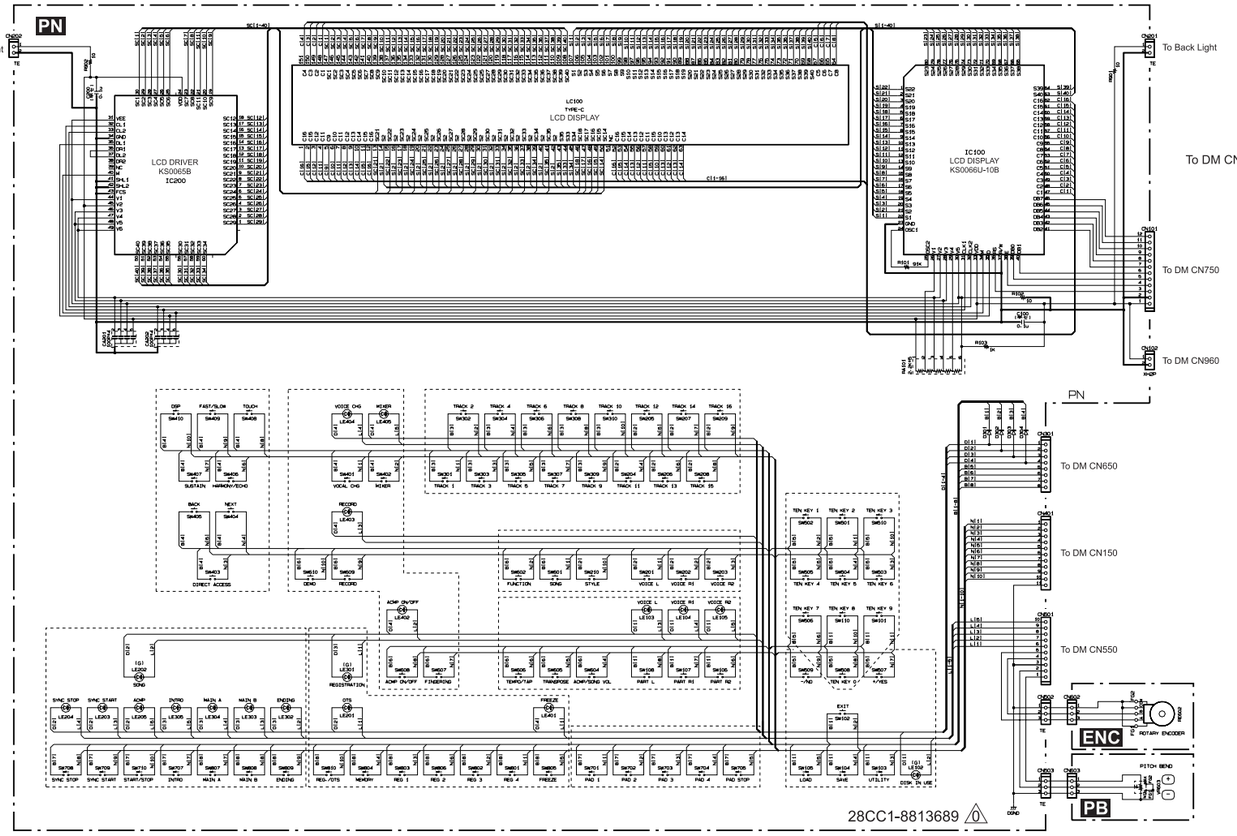
■ OVERALL CIRCUIT DIAGRAM 1/2 (DM)

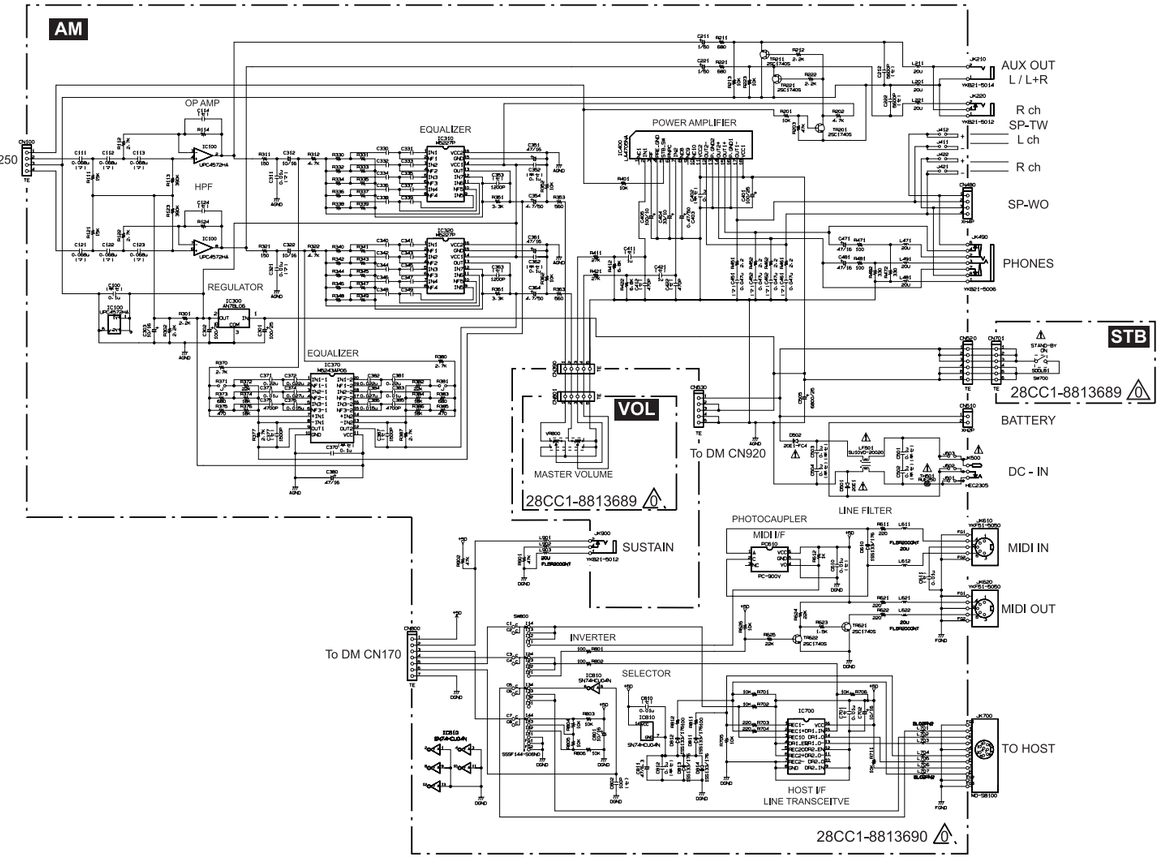


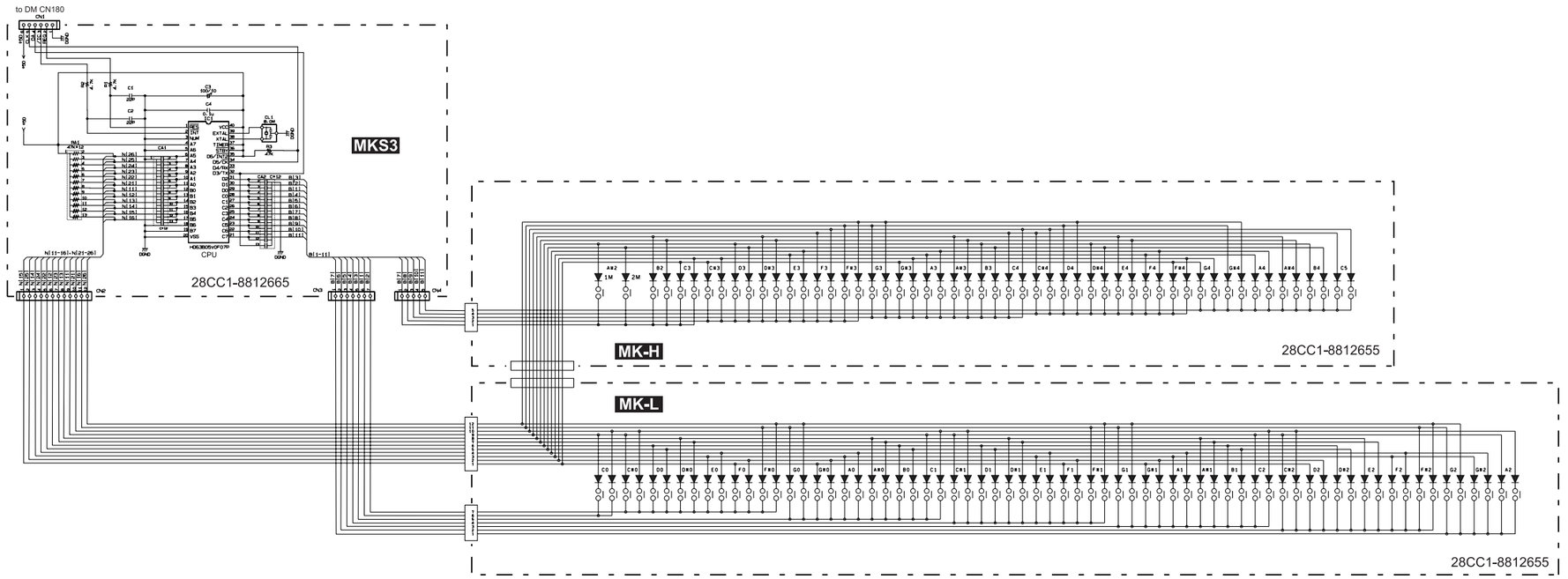
(マ): Mylar Capacitor
(セ): Ceramic Capacitor
(半セ): Semiconductive Ceramic Capacitor

Note: See parts list for details of circuit board component parts.

■ OVERALL CIRCUIT DIAGRAM 2/2 (AM,PN,MKS3,MK-H,MK-L)







(マ): Mylar Capacitor
(セ): Ceramic Capacitor
(半セ): Semiconductive Ceramic Capacitor

■ WARNING
Components having special characteristics are marked ⚠ and must be replaced with parts having specification equal to those originally installed.

Note: See parts list for details of circuit board component parts.

PORTATONE

PSR-540

PARTS LIST

■ **CONTENTS**

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Note) DESTINATION ABBREVIATIONS

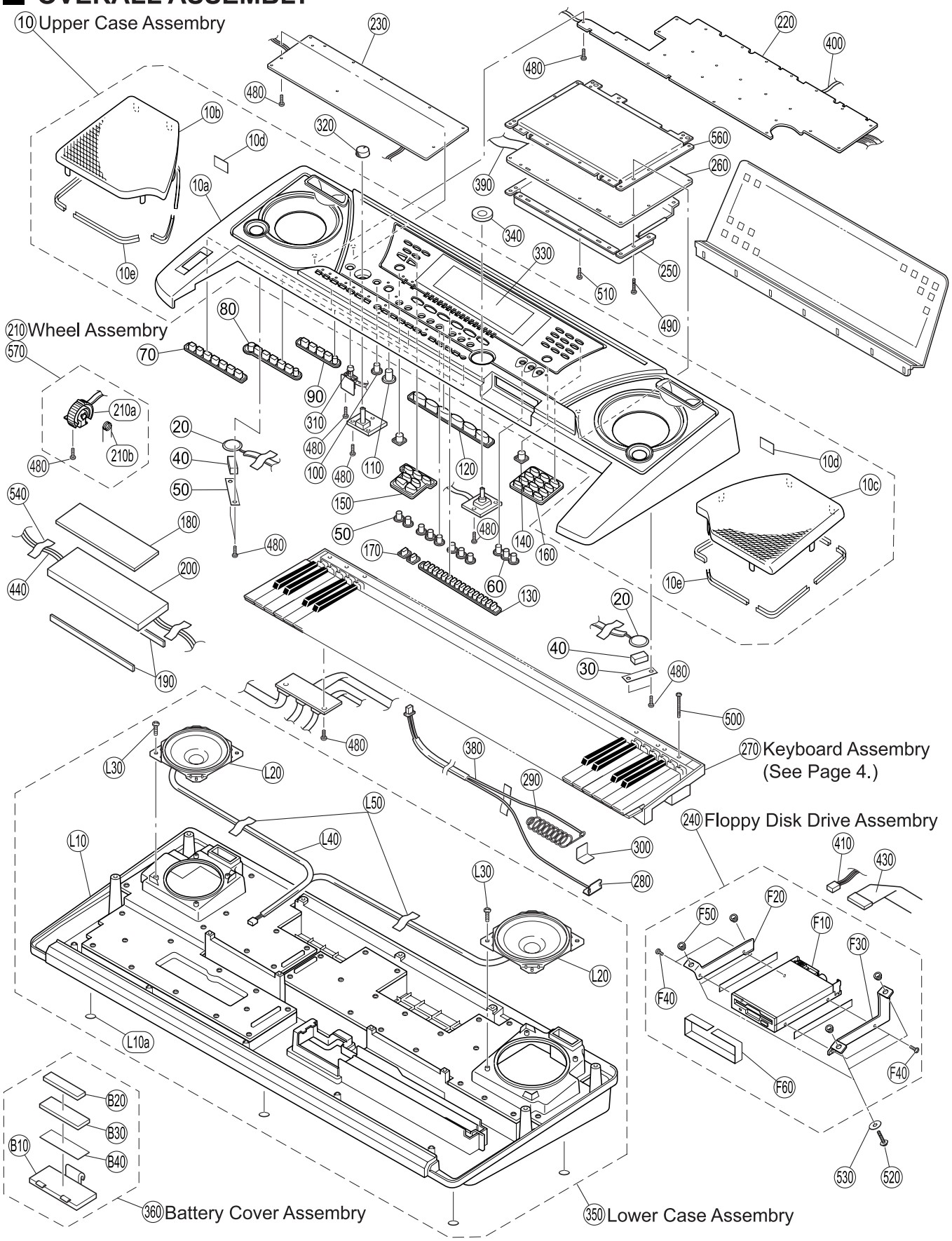
A:	Australian model	M:	South African model
B:	British model	O:	Chinese model
C:	Canadian model	Q:	South-east Asia model
D:	German model	T:	Taiwan model
E:	European model	U:	U.S.A. model
F:	French model	V:	General export model (110V)
H:	North European model	W:	General export model (220V)
I:	Indonesian model	N,X:	General export model
J:	Japanese model	Y:	Export model

■ WARNING

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

- The numbers in “QTY” shows quantities for each unit.
- The parts with “– –” in “Part No.” are not available as spare parts.
- This mark “ } ” in the REMARKS column means these parts are interchangeable.
- The second letter of the shaded ( ) part number is I, not one.

OVERALL ASSEMBLY



	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
		--	Overall Assembly			PSR-540 (V375940)		
*	10	V3759100	Upper Case Assembly					
	10a	--	Upper Case			(V375920)		
*	10b	V3758100	SP Grille					
*	10c	V3758200	SP Grille					
	10d	VJ861500	Vibration-proof Tape	18X25			2	03
	10e	--	Spacer	L100		(V384790)	12	
*	20	XV948A00	Speaker	3.0cm			2	
	30	--	Band			(V364540)	2	
	40	--	Sponge			(V364550)	2	
	50	V3634600	PN Rubber Contact			ACMP ON/OFF,FINGERING, TEMPO/TAP,TRANSPOSE,SONG, ACMP/VOLUME,VOICE L, VOICER1,VOICE R2	8	
	60	V3634700	PN Rubber Contact			LOAD,SAVE,UTILITY		
*	70	V3793300	PN Rubber Contact			SYNC STOP,SYNC START START/STOP,INTRO MAIN/AUTO,FILL,ENDING/rit		
*	80	V3793400	PN Rubber Contact			REGISTRATION MEMORY ONE TOUCH SETTING		
*	90	V3793500	PN Rubber Contact			MALTI PAD 1-4		
*	100	V3793600	PN Rubber Contact			DEMO		
*	110	V3794200	PN Rubber Contact			RECORD		
*	120	V3793700	PN Rubber Contact			FUNCTION,SONGSTYLE,VOICE VOICE R1,VOICE R2		
*	130	V3793800	PN Rubber Contact			TRACK 1-16		
*	140	V3794100	PN Rubber Contact			DIRECT ACCESS,EXIT	2	
*	150	V3793900	PN Rubber Contact			DSP,FAST/SLOW,TOUCH SUSTAIN,HARMONY/ECHO BACK,NEXT		
*	160	V3797300	PN Rubber Contact			1,2,3,4,5,6,7,8,9,0,+,-		
*	170	V3794300	PN Rubber Contact			VOICE CHANGE,MIXER	2	
*	180	V3592500	LCD	TYPE-C				
*	190	V3836800	Rubber Connector				2	
*	200	V3836900	Back-light Assembly	PT				
	210	--	Wheel Assembly			(VT48770)		
	210a	VT366400	Wheel			PITCH BEND		03
	210b	VT440100	Spring					03
*	220	V3622900	Circuit Board	PN		(XV934B0)		
*	230	V3623000	Circuit Board	AM		(XV935B0)		
	240	--	Floppy Disk Drive Assembly			(V447260)		
	250	--	Low Shield Case			(V375850)		
*	260	V3098500	Circuit Board	DM		(XV812B0)		
	270	V2386100	Keyboard Assembly	16M C61 MKS3				
	280	VI663700	Terminal					
	290	VI865800	Spring Terminal					
	300	VJ861500	Vibration-proof Tape	18X25			2	03
	310	VQ218800	Knob			STAND BY/ON		03
	320	VU432400	Knob			MASTER VOLUME		01
*	330	V3833700	LCD Panel					
*	340	V3833900	Encoder Knob			ENCODER		
	350	--	Lower Case Assembly			(V383350)		
	360	VM754600	Battery Cover Assembly	KB200				
	380	--	Connector Assembly	BAT		(V364610)		
	390	--	Connector Assembly	MKB		(V381860)		
	400	--	Connector Assembly	LCV 2P		(V381920)		
*	410	V4468500	Connector Assembly	FDV 3P				
*	430	V3819400	Connector Assembly	FDD 34P				
	440	--	Connector Assembly	BLT 2P		(V381960)	2	
	480	EP600280	Bind Head Tapping Screw-P	3.0X8 MFZN2Y			52	01
	490	EP600300	Bind Head Tapping Screw-P	3.0X12 MFZN2Y			16	01
	500	VK228100	Bind Head Tapping Screw-P	3.0X25 MFZN2Y			6	01
	510	EP600250	Bind Head Tapping Screw-B	3.0X8 MFZN2Y			15	01
	520	VD964600	Tapping Screw	3.0X10 MFZN2Y			4	01
	530	VS730200	Flat Washer	3.5X12 0.8 MFZN2			4	01
	540	VA126100	Adhesive Tape	12X50			14	03
	560	--	Upper Shield Box			(V375860)		
	570	TX920280	Grease	G-31KA				10

*: New parts

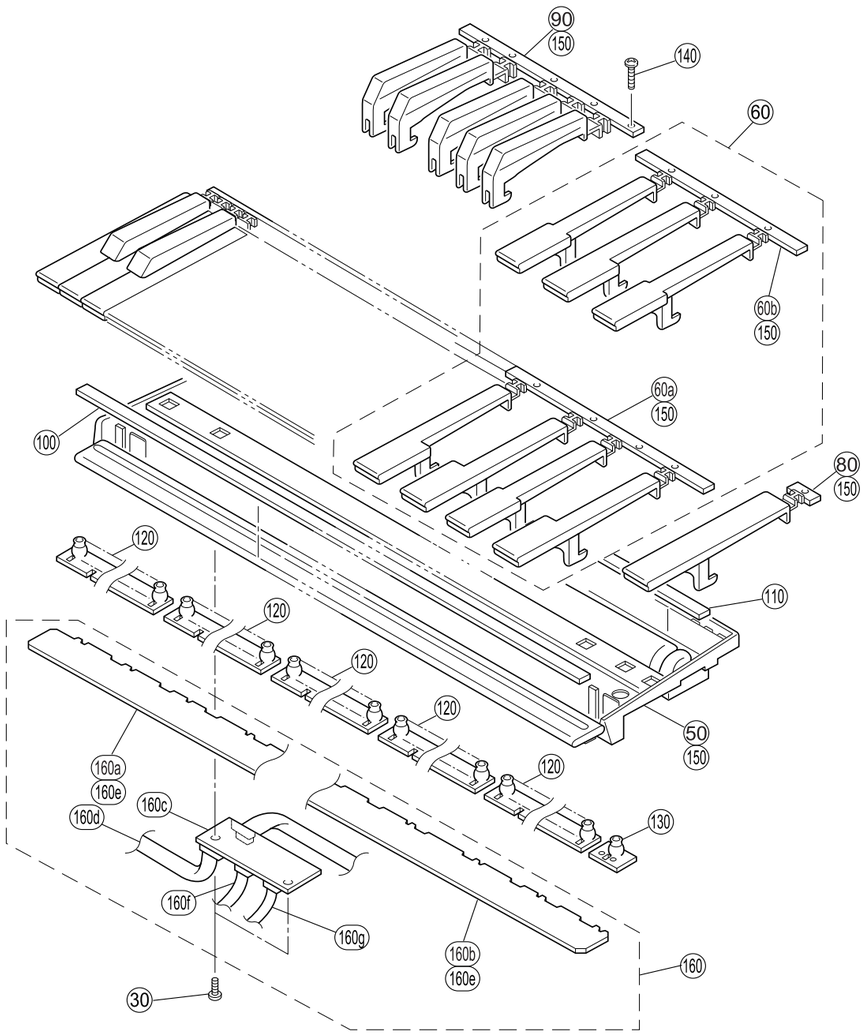
RANK: Japan only

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
*			ACCESSORIES			PSR-540		
		VU469500	Music Rest					07
⚠		VZ089200	AC Adaptor	PA-6 J		J		16
⚠*		VZ428400	AC Adaptor	PA-6 CHN		O		
*		V3760000	Japanese Guide Sheet			J		
*		V3760100	Chinese Guide Sheet			O		
*		V3760500	Floppy Disk	3.5 INCH				
		VM754600	Battery Cover Assembly	KB200		PSR-540		
	B10	VI105000	Battery Cover					04
	B20	VI107900	Battery Cushion					01
	B30	--	Vibration-proof Pad			(VI10510)	2	
	B40	--	Vibration-proof Tape	6X 25X0.3		(VJ56490)	3	
		--	Floppy Disk Drive Assembly			(V447260)		
	F10	V2043400	Floppy Disk Drive	D359M3				16
	F10	V3075300	Floppy Disk Drive	MF355F-3252MG F				16
	F20	--	Holder FDD			(V362620)		
	F30	--	Holder FDD			(V362630)		
	F40	EG330150	Bind Head Screw	3.0X5 MFZN2Y			4	01
	F50	VA121600	Bushing				4	01
	F60	--	Adhesive Tape	ECT #590S W=15		(ZL35000)		
		--	Lower Case with Speaker			(V383350)		
	L10	V3752200	Lower Case Assembly					
	L10a	CB043750	Foot	T1.6			5	01
	L20	XT278A00	Speaker	12.0cm 4 ohm 6W			2	06
	L30	VB931600	Bind Head Tapping Screw-P	4.0X8 MFZN2BL			8	01
	L40	--	Connector Assembly	SPW 2P		(V381950)		
	L50	VA126100	Adhesive Tape	12X50			3	03

*: New parts

RANK: Japan only

■ KEYBOARD ASSEMBLY



* Refer to the CIRCUIT BOARD LAYOUT section of this manual regarding 160d,160e,160f,160g cables.

REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
	V2386100	Keyboard Assembly	16M C61 MKS3		PSR-540		
30	EP600280	Bind Head Tapping Screw-P	3.0X16 MFZN2Y				
30	EP630220	Bind Head Tapping Screw-P	3.0X16 MFZN2BL				
50	VS153800	Frame	C61				
60	VH1809C0	White Keys	16L CEGBDFA			5	05
* 80	VH181100	White Key	16L C'				01
90	VH181200	Black Keys	16L #			5	03
100	VH181300	Felt					03
110	VH181400	Rubber Sheet					01
120	VU328400	Rubber Contact	16M OCT 2M 12KEYS			5	06
130	VU328500	Rubber Contact	16M C' 2M 1KEY				05
140	EP600310	Bind Head Tapping Screw-P	3.0X16 MFZN2Y			21	01
150	TX920280	Grease	G-31KA				10
160	--	Circuit Board	MKS3		(V240470)		
160a	VV583800	Circuit Board	MK-L		(XR564B0)		09
160b	VV583900	Circuit Board	MK-H		(XR565B0)		09
160c	V2404900	Circuit Board	16M KBS				10
160d	VV583100	Cable	MK-A 12P				03
160e	VV583600	Cable	MK-B 12P				03
160f	VV583500	Cable	MK-C 7P				03
160g	VV583700	Cable	MK-D 5P				03
160h	--	Sponge A	16M		(VV61890)	2	
160i	--	Sponge B	16M		(VV61900)	2	
160g	--	Tape	12		(VV61910)		
160k	--	Tape	12		(VV61920)	3	

*: New parts

RANK: Japan only

ELECTRICAL PARTS

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
			ELECTRICAL PARTS			PSR-540		
*		V3623000	Circuit Board	AM		(XV935B0)		
*		V3098500	Circuit Board	DM		(XV812B0)		
*		V3622900	Circuit Board	PN		(XV934B0)		
		VV583900	Circuit Board	MK-H		(XR565B0)		09
		VV583800	Circuit Board	MK-L		(XR564B0)		09
		V2404900	Circuit Board	16M KBS		(XU878A0)		10
*		V3623000	Circuit Board			(XV935B0)		
		VV856400	Heat Sink					05
		--	Jumper Wire			(VA07890)		
	CN100	VI878200	Cable Holder	51048 4P TE				01
	CN390	VK024900	Wire Trap	52147 5P TE				01
	CN480	LB918040	Base Post Connector	XH 4P TE				01
	CN510	LB918020	Base Post Connector	XH 2P TE				01
	CN520	VF728300	Wire Trap	52147 6P TE				01
	CN530	VI878300	Cable Holder	51048 5P TE				01
	CN800	VI878500	Cable Holder	51048 7P TE				01
	C100	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C111	UA654680	Mylar Capacitor	0.0680 50V J				02
	-113	UA654680	Mylar Capacitor	0.0680 50V J				02
	C121	UA654680	Mylar Capacitor	0.0680 50V J				02
	-123	UA654680	Mylar Capacitor	0.0680 50V J				02
	C301	UR848100	Electrolytic Cap.	100.00 25.0V				01
	C302	UR848100	Electrolytic Cap.	100.00 25.0V				01
	C303	UR837100	Electrolytic Cap.	10.00 16.0V				01
	C311	UA654100	Mylar Capacitor	0.0100 50V J				01
	C312	UN837100	Electrolytic Cap.-BP	10.00 16.0V				01
	C321	UA654100	Mylar Capacitor	0.0100 50V J				01
	C322	UN837100	Electrolytic Cap.-BP	10.00 16.0V				01
	C354	UR866470	Electrolytic Cap.	4.70 50.0V				01
	C364	UR866470	Electrolytic Cap.	4.70 50.0V				01
	C370	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C371	VR168700	Monolithic Mylar Capacitor	ECQ-V1H224JL3				01
	C372	UA654220	Mylar Capacitor	0.0220 50V J				01
	C373	UA654100	Mylar Capacitor	0.0100 50V J				01
	C374	UA654270	Mylar Capacitor	0.0270 50V J				01
	C375	UA653470	Mylar Capacitor	4700P 50V J				01
	C376	UA654150	Mylar Capacitor	0.0150 50V J				01
	C377	FG613150	Ceramic Capacitor-B	1500P 50V K				01
	C380	UR837470	Electrolytic Cap.	47.00 16.0V				01
	C381	VR168700	Monolithic Mylar Capacitor	ECQ-V1H224JL3				01
	C382	UA654220	Mylar Capacitor	0.0220 50V J				01
	C383	UA654100	Mylar Capacitor	0.0100 50V J				01
	C384	UA654270	Mylar Capacitor	0.0270 50V J				01
	C385	UA653470	Mylar Capacitor	4700P 50V J				01
	C386	UA654150	Mylar Capacitor	0.0150 50V J				01
	C387	FG613150	Ceramic Capacitor-B	1500P 50V K				01
	C401	UR848100	Electrolytic Cap.	100.00 25.0V				01
	C402	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C403	UR865470	Electrolytic Cap.	0.47 50.0V				01
	C404	UR827330	Electrolytic Cap.	33.00 10.0V				01
	C405	UR828100	Electrolytic Cap.	100.00 10.0V				01
	C411	VT757800	Monolithic Ceramic Cap.	1.000 25V Z				01
	C412	FG612470	Ceramic Capacitor-B	470P 50V K				01
	C421	VT757800	Monolithic Ceramic Cap.	1.000 25V Z				01
	C422	FG612470	Ceramic Capacitor-B	470P 50V K				01
	C451	UA654470	Mylar Capacitor	0.0470 50V J				01
	C452	UA654470	Mylar Capacitor	0.0470 50V J				01
	C461	UA654470	Mylar Capacitor	0.0470 50V J				01
	C462	UA654470	Mylar Capacitor	0.0470 50V J				01
	C471	UR837470	Electrolytic Cap.	47.00 16.0V				01
	C481	UR837470	Electrolytic Cap.	47.00 16.0V				01
	C501	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
	-504	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C505	VT848900	Electrolytic Cap.	6800 25.0V				03
	C610	FG644100	Ceramic Cap.-F	0.0100 50V Z				01
	C611	FG644100	Ceramic Cap.-F	0.0100 50V Z				01
	C701	FG644100	Ceramic Cap.-F	0.0100 50V Z				01
	C702	UR837100	Electrolytic Cap.	10.00 16.0V				01

***: New parts** **RANK: Japan only**

REF NO.	PART NO.	DESCRIPTION		部 品 名	REMARKS	QTY	RANK
C801	UR837100	Electrolytic Cap.	10.00 16.0V				01
C802	FG612100	Ceramic Cap.-B	100P 50V K				01
C810	FG644100	Ceramic Cap.-F	0.0100 50V Z				01
C811	UN817470	Electrolytic Cap.-BP	47.00 6.3V				01
C812	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
⚠ D501	VL723600	Diode	20E1-FC4				01
⚠ D502	VL723600	Diode	20E1-FC4				01
D610	VB941200	Diode	1SS133!1SS176				01
D811	VB941200	Diode	1SS133!1SS176				01
-814	VB941200	Diode	1SS133!1SS176				01
IC100	XF633A00	IC	UPC4572HA		OP AMP		02
IC300	XE924A00	IC	AN78L06		REGULATOR +6V		01
IC370	XU911A00	IC	M5243AP06		EQUALIZER		03
IC400	XQ619A00	IC	LA4705NA		POWER AMPLIFIER		05
IC700	XU463A00	IC	SN75C1168N		LINE TRANCEIVER		05
IC810	IG142250	IC	SN74HCU04N		INVERTER		01
J501	--	Jamper Wire	0.55		(VA07890)		
-503	--	Jamper Wire	0.55		(VA07890)		
JK490	LB101870	Phone Jack	JACK YKB21-5006		PHONES		03
⚠ JK500	VC664500	Connector	HEC2305		DC-IN		01
JK610	VJ107200	DIN Connector	JACK 5P YKF51-5050		MIDI IN		01
JK620	VJ107200	DIN Connector	JACK 5P YKF51-5050		MIDI OUT		01
JK700	VM761000	DIN Connector	DIN JACK8P MD-S810		TO HOST		03
JK900	VB312600	Phone Jack	JACK YKB21-5012		SUSTAIN		02
J411	--	Jumper Wire			(VA07890)		
J412	--	Jumper Wire			(VA07890)		
J421	--	Jumper Wire			(VA07890)		
J422	--	Jumper Wire			(VA07890)		
LF501	VI486800	Line Filter	SU10VD-20020				03
L471	VB971100	Coil	FL5R200QNT				01
L481	VB971100	Coil	FL5R200QNT				01
L491	VB971100	Coil	FL5R200QNT				01
L611	VB971100	Coil	FL5R200QNT				01
L612	VB971100	Coil	FL5R200QNT				01
L621	VB971100	Coil	FL5R200QNT				01
L622	VB971100	Coil	FL5R200QNT				01
L701	VB971100	Coil	FL5R200QNT				01
-707	VB971100	Coil	FL5R200QNT				01
L901	VB971100	Coil	FL5R200QNT				01
-903	VB971100	Coil	FL5R200QNT				01
PC610	VG181900	Photo Coupler	PC-900V				03
R111	HF757150	Carbon Resistor	15.0K 1/4 J				01
R112	HF756270	Carbon Resistor	2.7K 1/4 J				01
R113	HF758390	Carbon Resistor	390.0K 1/4 J				01
R114	--	Jumper Wire	0.55		(VA07890)		
R121	HF757150	Carbon Resistor	15.0K 1/4 J				01
R122	HF756270	Carbon Resistor	2.7K 1/4 J				01
R123	HF758390	Carbon Resistor	390.0K 1/4 J				01
R124	--	Jumper Wire	0.55		(VA07890)		
R301	HF756220	Carbon Resistor	2.2K 1/4 J				01
R302	HF756220	Carbon Resistor	2.2K 1/4 J				01
R311	HF755150	Carbon Resistor	150.0 1/4 J				01
R321	HF755150	Carbon Resistor	150.0 1/4 J				01
R352	HF757100	Carbon Resistor	10.0K 1/4 J				01
R353	HF755560	Carbon Resistor	560.0 1/4 J				01
R362	HF757100	Carbon Resistor	10.0K 1/4 J				01
R363	HF755560	Carbon Resistor	560.0 1/4 J				01
R370	HF756270	Carbon Resistor	2.7K 1/4 J				01
R371	--	Jumper Wire	0.55		(VA07890)		
R372	HF757220	Carbon Resistor	22.0K 1/4 J				01
R373	HF755680	Carbon Resistor	680.0 1/4 J				01
R374	HF757180	Carbon Resistor	18.0K 1/4 J				01
R375	HF755470	Carbon Resistor	470.0 1/4 J				01
R376	HF757180	Carbon Resistor	18.0K 1/4 J				01
R377	HF756270	Carbon Resistor	2.7K 1/4 J				01
R380	HF756270	Carbon Resistor	2.7K 1/4 J				01
R381	--	Jumper Wire	0.55		(VA07890)		
R382	HF757220	Carbon Resistor	22.0K 1/4 J				01
R383	HF755680	Carbon Resistor	680.0 1/4 J				01
R384	HF757180	Carbon Resistor	18.0K 1/4 J				01

***: New parts** **RANK: Japan only**

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
	R385	**HF755470**	Carbon Resistor	470.0 1/4 J				01
	R386	**HF757180**	Carbon Resistor	18.0K 1/4 J				01
	R387	**HF756270**	Carbon Resistor	2.7K 1/4 J				01
	R401	**HF757100**	Carbon Resistor	10.0K 1/4 J				01
	R411	**HF757180**	Carbon Resistor	18.0K 1/4 J				01
	R412	**HF756680**	Carbon Resistor	6.8K 1/4 J				01
	R421	**HF757180**	Carbon Resistor	18.0K 1/4 J				01
	R422	**HF756680**	Carbon Resistor	6.8K 1/4 J				01
	R451	**HF753220**	Carbon Resistor	2.2 1/4 J				01
	R452	**HF753220**	Carbon Resistor	2.2 1/4 J				01
	R461	**HF753220**	Carbon Resistor	2.2 1/4 J				01
	R462	**HF753220**	Carbon Resistor	2.2 1/4 J				01
	R471	**HF755100**	Carbon Resistor	100.0 1/4 J				01
	R472	**HF755330**	Carbon Resistor	330.0 1/4 J				01
	R481	**HF755100**	Carbon Resistor	100.0 1/4 J				01
	R482	**HF755330**	Carbon Resistor	330.0 1/4 J				01
	R611	**HF755220**	Carbon Resistor	220.0 1/4 J				01
	R612	**HF756100**	Carbon Resistor	1.0K 1/4 J				01
	R621	**HF755220**	Carbon Resistor	220.0 1/4 J				01
	R622	**HF755220**	Carbon Resistor	220.0 1/4 J				01
	R623	**HF756150**	Carbon Resistor	1.5K 1/4 J				01
	R624	**HF757220**	Carbon Resistor	22.0K 1/4 J				01
	R625	**HF757220**	Carbon Resistor	22.0K 1/4 J				01
	R626	**HF757100**	Carbon Resistor	10.0K 1/4 J				01
	R701	**HF757100**	Carbon Resistor	10.0K 1/4 J				01
	R702	**HF757100**	Carbon Resistor	10.0K 1/4 J				01
	R703	**HF755220**	Carbon Resistor	220.0 1/4 J				01
	R704	**HF755220**	Carbon Resistor	220.0 1/4 J				01
	R705	**HF757100**	Carbon Resistor	10.0K 1/4 J				01
	R706	**HF757100**	Carbon Resistor	10.0K 1/4 J				01
	R711	**HF757100**	Carbon Resistor	10.0K 1/4 J				01
	R801	**HF755100**	Carbon Resistor	100.0 1/4 J				01
	R802	**HF755100**	Carbon Resistor	100.0 1/4 J				01
	R803	**HF757100**	Carbon Resistor	10.0K 1/4 J				01
	-806	**HF757100**	Carbon Resistor	10.0K 1/4 J				01
	R811	**HF755100**	Carbon Resistor	100.0 1/4 J				01
	R812	**HF755100**	Carbon Resistor	100.0 1/4 J				01
	R901	**HF757470**	Carbon Resistor	47.0K 1/4 J				01
	R902	**HF757470**	Carbon Resistor	47.0K 1/4 J				01
⚠	SW800	**VQ665200**	Slide Switch	SSSF144-S06N-0		HOST SELECT SWITCH		03
⚠	TH501	**VV458000**	Poly Switch	RUE250 2.50A 30V				03
	TR621	**VS885800**	Transistor	2SC				01
	TR622	**VS885800**	Transistor	2SC				01
	W-ANA	**--**	Connector Assembly	ANA 4P		(V381820)		
	W-DMV	**--**	Connector Assembly	DMV 5P		(V381840)		
	W-MID	**--**	Connector Assembly	MID 7P		(V381870)		
*		**V3098500**	Circuit Board	DM		(XV812B0)		
		EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL				01
		VK863100	IC Socket	DICF-42CS-E				03
	CA151	**VH483900**	Ceramic Capacitor Array	100P 50V M				01
	CA152	**VK994900**	Ceramic Capacitor Array	100P 50V M				01
	CA171	**VK994900**	Ceramic Capacitor Array	100P 50V M				01
	CA551	**VH285600**	Ceramic Capacitor Array	470P 50V M				02
	CA651	**VH285600**	Ceramic Capacitor Array	470P 50V M				02
	CN150	**VK025500**	Wire Trap	52147 11P TE				01
	CN170	**VK025100**	Wire Trap	52147 7P TE				01
	CN180	**VF728300**	Wire Trap	52147 6P TE				01
	CN250	**VK024800**	Wire Trap	52147 4P TE				01
	CN550	**VF728200**	Wire Trap	52147 10P TE				01
	CN650	**VK025200**	Wire Trap	52147 8P TE				01
	CN750	**VK025600**	Wire Trap	52147 12P TE				01
	CN850	**VQ391300**	Connector	34P TE				03
	CN850	**V3858700**	Connector Header	302A 34P TE				
	CN920	**VK024900**	Wire Trap	52147 5P TE				01
	CN950	**LB918030**	Base Post Connector	XH 3P TE				01
	CN960	**LB918020**	Base Post Connector	XH 2P TE				01
	C101	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C102	**UR837100**	Electrolytic Cap.	10.00 16.0V				01
	C103	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z				01

***: New parts** **RANK: Japan only**

REF NO.	PART NO.	DESCRIPTION		部 品 名	REMARKS	QTY	RANK
C104	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C105	UR837100	Electrolytic Cap.	10.00 16.0V				01
C108	FG612470	Ceramic Capacitor-B	470P 50V K				01
C109	FG612470	Ceramic Capacitor-B	470P 50V K				01
C124	FG612100	Ceramic Capacitor-B	100P 50V K				01
C125	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C126	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C172	FG612470	Ceramic Capacitor-B	470P 50V K				01
C173	FG612470	Ceramic Capacitor-B	470P 50V K				01
C181	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C182	FG612470	Ceramic Capacitor-B	470P 50V K				01
C183	FG612470	Ceramic Capacitor-B	470P 50V K				01
C184	FG612100	Ceramic Capacitor-B	100P 50V K				01
C185	FG612100	Ceramic Capacitor-B	100P 50V K				01
C191	FG612100	Ceramic Cap.-B	100P 50V K				01
C201	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
-203	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C204	UR828100	Electrolytic Cap.	100.00 10.0V				01
C207	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C208	FG651220	Ceramic Capacitor-SL	22P 50V J				01
C209	FG651220	Ceramic Capacitor-SL	22P 50V J				01
C211	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C221	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C251	UR847100	Electrolytic Cap.	10.00 25.0V				01
C252	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C253	VC694800	Ceramic Capacitor-F	0.1000 25V Z				01
-256	VC694800	Ceramic Capacitor-F	0.1000 25V Z				01
C261	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C271	UR828100	Electrolytic Cap.	100.00 10.0V				01
C272	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C273	UR837100	Electrolytic Cap.	10.00 16.0V				01
C274	UR866470	Electrolytic Cap.	4.70 50.0V				01
C275	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C277	UA654220	Mylar Capacitor	0.0220 50V J				01
C283	UR837100	Electrolytic Cap.	10.00 16.0V				01
C284	UR866470	Electrolytic Cap.	4.70 50.0V				01
C285	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C287	UA654220	Mylar Capacitor	0.0220 50V J				01
C291	UR828100	Electrolytic Cap.	100.00 10.0V				01
C292	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C293	UR828100	Electrolytic Cap.	100.00 10.0V				01
C301	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C302	UR837100	Electrolytic Cap.	10.00 16.0V				01
C311	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C331	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C351	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C361	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C501	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C551	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C601	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C611	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C701	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C751	UR837100	Electrolytic Cap.	10.00 16.0V				01
C752	FG612100	Ceramic Capacitor-B	100P 50V K				01
C753	FG612100	Ceramic Capacitor-B	100P 50V K				01
C801	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C802	UR837100	Electrolytic Cap.	10.00 16.0V				01
C803	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
C901	FG644100	Ceramic Capacitor-F	0.0100 50V Z				01
C902	UR847100	Electrolytic Cap.	10.00 25.0V				01
C903	UR839100	Electrolytic Cap.	1000 16.0V				01
C904	FG612330	Ceramic Capacitor-B	330P 50V K				01
C911	FG644100	Ceramic Capacitor-F	0.0100 50V Z				01
C912	FG644100	Ceramic Capacitor-F	0.0100 50V Z				01
C913	UR847100	Electrolytic Cap.	10.00 25.0V				01
C914	UR828100	Electrolytic Cap.	100.00 10.0V				01
C931	FG644100	Ceramic Capacitor-F	0.0100 50V Z				01
D901	V2320300	Diode	RK33				01
D911	VB941200	Diode	1SS133!1SS176				01
D912	VB481900	Diode	11ES4				01

***: New parts** **RANK: Japan only**

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
	D931	VB941200	Diode	1SS133!1SS176				01
*	IC100	XW256100	IC	HD64F7042AF14F		CPU		
	IC190	XR902A00	IC	IC-PST591D-2		RESET		02
	IC200	XU947C00	IC	HG73C205AFD		SWX00B		09
*	IC210	XW254100	IC	WAVE		MASK ROM		
*	IC220	XW255100	IC	WAVE		MASK ROM		
	IC250	XT625A00	IC	S-81250SGY-Z		REGULATOR +5V		02
	IC260	XT810A00	IC	MSM514260C-60TS-K		DRAM		16
	IC260	XW125A00	IC	SDM4260CLTM-6S		DRAM		08
	IC270	XU829A00	IC	PCM1716E		DAC		06
	IC290	XT333A00	IC	UPC29M33HF		REGULATOR +3.3V		03
	IC300	XT810A00	IC	MSM514260C-60TS-K		DRAM		16
*	IC310	XW253C00	IC	PROGRAM		FLASH ROM		
	IC330	XT138A00	IC	UPD431000AGW-70LL		SRAM		07
	IC350	IR013800	IC	TC74HC138AP		DECODER		02
	IC360	IR003200	IC	TC74HC32AP		OR		03
	IC500	IR037400	IC	TC74HC374AP		D-FF		06
	IC600	IR013800	IC	TC74HC138AP		DECODER		02
	IC700	IR037400	IC	TC74HC374AP		D-FF		06
	IC800	XI939A00	IC	HD63266F		FDC		09
	IC900	XV856A00	IC	M5291P		DC/DC CONVERTER		03
	IC910	XT625A00	IC	S-81250SGY-Z		REGULATOR +5V		02
	L252	VM898600	Ferrite Bead	EXC-ELDR35V				01
	L254	VM898600	Ferrite Bead	EXC-ELDR35V				01
	L851	VM898600	Ferrite Bead	EXC-ELDR35V				01
	-856	VM898600	Ferrite Bead	EXC-ELDR35V				01
	L901	VZ060700	Choke Coil	220U ELC15E221 15E				05
⚠	L921	VN381200	Coil	SNT-D20TF				03
⚠	L922	VN381200	Coil	SNT-D20TF				03
	RA111	VG733400	Resistor Array	EXB-Z05E 47K X 4				01
	RA112	VH307000	Resistor Array	RGLE6X473J				01
	RA151	VH307000	Resistor Array	RGLE6X473J				01
	RA152	VG733400	Resistor Array	EXB-Z05E 47K X 4				01
	R107	HF755560	Carbon Resistor	560.0 1/4 J				01
	R108	HF755220	Carbon Resistor	220.0 1/4 J				01
	R109	HF756330	Carbon Resistor	3.3K 1/4 J				01
	R111	--	Jamper Wire	0.55		(VA07890)		01
	R113	--	Jamper Wire	0.55		(VA07890)		01
	R116	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R117	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R121	HF757470	Carbon Resistor	47.0K 1/4 J				01
	-123	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R124	HF755100	Carbon Resistor	100.0K 1/4 J				01
	R125	HF756100	Carbon Resistor	1.0K 1/4 J				01
	R126	HF756100	Carbon Resistor	1.0K 1/4 J				01
	R127	HF758470	Carbon Resistor	470.0K 1/4 J				01
	R128	HF758470	Carbon Resistor	470.0K 1/4 J				01
	R172	HF757100	Carbon Resistor	10.0K 1/4 J				01
	R173	HF757100	Carbon Resistor	10.0K 1/4 J				01
	R174	HF756100	Carbon Resistor	1.0K 1/4 J				01
	-176	HF756100	Carbon Resistor	1.0K 1/4 J				01
	R177	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R182	HF756100	Carbon Resistor	1.0K 1/4 J				01
	-183	HF756100	Carbon Resistor	1.0K 1/4 J				01
	R184	HF755100	Carbon Resistor	100.0K 1/4 J				01
	R185	HF755100	Carbon Resistor	100.0K 1/4 J				01
	R186	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R187	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R191	HF757100	Carbon Resistor	10.0K 1/4 J				01
	R192	HF757100	Carbon Resistor	10.0K 1/4 J				01
	R201	HF755330	Carbon Resistor	330.0 1/4 J				01
	R211	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R212	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R221	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R251	HF754330	Carbon Resistor	33.0 1/4 J				01
	R253	HF756100	Carbon Resistor	1.0K 1/4 J				01
	R271	HF755220	Carbon Resistor	220.0 1/4 J				01
	-274	HF755220	Carbon Resistor	220.0 1/4 J				01
	R275	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R276	HF755180	Carbon Resistor	180.0 1/4 J				01

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	REF NO.	PART NO.	DESCRIPTION		部 品 名	REMARKS	QTY	RANK
	R286	HF755180	Carbon Resistor	180.0 1/4 J				01
	R351	HF755100	Carbon Resistor	100.0 1/4 J				01
	R353	HF755100	Carbon Resistor	100.0 1/4 J				01
	-355	HF755100	Carbon Resistor	100.0 1/4 J				01
	R511	HF754470	Carbon Resistor	47.0 1/4 J				01
	-515	HF754470	Carbon Resistor	47.0 1/4 J				01
	R552	HF757100	Carbon Resistor	10.0K 1/4 J				01
	R553	HF756100	Carbon Resistor	1.0K 1/4 J				01
	R554	HF756100	Carbon Resistor	1.0K 1/4 J				01
	R555	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R556	HF757470	Carbon Resistor	47.0K 1/4 J				01
	R711	HF755220	Carbon Resistor	220.0 1/4 J				01
	-720	HF755220	Carbon Resistor	220.0 1/4 J				01
	R801	HF757100	Carbon Resistor	10.0K 1/4 J				01
	R851	HF756100	Carbon Resistor	1.0K 1/4 J				01
	-855	HF756100	Carbon Resistor	1.0K 1/4 J				01
*	R901	VC722800	Metal Oxide Film Resistor	0.22 1W J				01
	R902	HF756120	Carbon Resistor	1.2K 1/4 J				01
	R903	HF756390	Carbon Resistor	3.9K 1/4 J				01
	R904	VC731200	Metal Oxide Film Resistor	100.0 1W J				01
	R905	HF755330	Carbon Resistor	330.0 1/4 J				01
	R911	HF756100	Carbon Resistor	1.0K 1/4 J				01
	R931	HF757220	Carbon Resistor	22.0K 1/4 J				01
	R932	HF757390	Carbon Resistor	39.0K 1/4 J				01
	TA610	VH885000	Transistor Array	TD62785P SOURCE				04
	TR511	VK165500	Digital Transistor	DTC123JS TP				01
	-515	VK165500	Digital Transistor	DTC123JS TP				01
	TR901	V3795100	Transistor	2SA2006 E!F				02
*	X100	V3797500	Ceramic Resonator	7M EFOMC7004A4				01
*	X200	V3736100	Quartz Crystal Unit	8.4672M AT-49				03
	X800	V3681400	Ceramic Resonator	16M EFOEX1605X4				
	ZD911	VG439500	Zener Diode	MTZ J 10.0B 10.0V				01
	ZD911	VQ296000	Zener Diode	MTZJ10B 10.0V				01
*		V3622900	Circuit Board	PN		(XV934B0)		
		--	Jumper Wire	0.55		(VA07890)		
	CA201	VK994900	Ceramic Capacitor Array	100P 50V M				01
	CA202	VK994900	Ceramic Capacitor Array	100P 50V M				01
	CN101	VI879000	Cable Holder	51048 13P TE				01
	CN102	LB918020	Base Post Connector	XH 2P TE				01
	CN201	VK024600	Wire Trap	52147 2P TE				01
	CN202	VK024600	Wire Trap	52147 2P TE				01
	CN301	VI878600	Cable Holder	51048 8P TE				01
	CN401	VI878900	Cable Holder	51048 11P TE				01
	CN501	VI878800	Cable Holder	51048 10P TE				01
	CN502	VK024700	Wire Trap	52147 3P TE				01
	CN503	VK024700	Wire Trap	52147 3P TE				01
	CN602	VI878100	Cable Holder	51048 3P TE				01
	CN603	VI878100	Cable Holder	51048 3P TE				01
	CN701	VI878400	Cable Holder	51048 6P TE				01
	CN801	VI878300	Cable Holder	51048 5P TE				01
	C100	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C200	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z				01
	D301	VB941200	Diode	1SS133!1SS176				01
	-304	VB941200	Diode	1SS133!1SS176				01
	IC100	XV226A00	IC	KS0066U-10B				05
*	IC200	XV933A00	IC	KS0065B-		LCD DRIVER		04
	LE102	VG778600	LED	SLZ290B-03-T2 GR				01
	LE103	VI100100	LED	SLZ-190B-11-T1 RE				01
	-105	VI100100	LED	SLZ-190B-11-T1 RE				01
	LE201	VC341300	LED	SLZ-190B-01 RE				01
	LE202	V3621200		SLZ-290B-10-T2 GR				01
	LE203	VT387900	LED	SLZ-190B-10-T2 RE				01
	LE204	VT387900	LED	SLZ-190B-10-T2 RE				01
	LE205	VC341300	LED	SLZ-190B-01 RE				01
	LE301	V3621200		SLZ-290B-10-T2 GR				01
	LE302	VT387900	LED	SLZ-190B-10-T2 RE				01
	-305	VT387900	LED	SLZ-190B-10-T2 RE				01
	LE401	VT387900	LED	SLZ-190B-10-T2 RE				01
	LE402	VI100100	LED	SLZ-190B-11-T1 RE				01

***: New parts** **RANK: Japan only**

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
	LE403	VI100100	LED	SLZ-190B-11-T1 RE				01
	LE404	VR699900	LED	SLZ-190B-06-T2 RE				01
	LE405	VR699900	LED	SLZ-190B-06-T2 RE				01
	RA101	V0072900	Resistor Array	EXB-Z6N222J				01
	RE602	VU481300	Encoder	REB161 PVB 15F		DATA DIAL		03
	R101	HF757910	Carbon Resistor	91.0K 1/4 J				01
	R102	--	Jumper Wire	0.55		(VA07890)		
	R901	HF754100	Carbon Resistor	10.0 1/4 J				01
	R902	HF754100	Carbon Resistor	10.0 1/4 J				01
⚠	SW700	VY980400	Push Switch	SDDLB1 J!UC!CEE		STAND BY/ON		03
	VR603	VT432100	Rotary Variable Resistor	B10K EVJ05DF25B14		REGISTRATION MEMORY		03
	VR800	VZ048400	Rotary Variable Resistor	A10.0K XV0141GPVN2		MASTER VOLUME		02
	W-ENC	--	Connector Assembly	ENC 3P		(V381800)		
	W-LCD	--	Connector Assembly	LCD 13P		(V445890)		
	W-MVR	--	Connector Assembly	MVR 5P		(V381830)		
	W-PIT	--	Connector Assembly	PIT		(V381810)		
	W-PND	--	Connector Assembly	PND		(V381880)		
	W-PNL	--	Connector Assembly	PNL		(V381890)		
	W-PNS	--	Connector Assembly	PNS		(V381900)		
	W-STB	--	Connector Assembly	STB 6P		(V381850)		
		VV583800	Circuit Board	MK-L		(XR564B0)		09
		VV437800	Diode	1N4148(DO-34)				01
		VK025600	Wire Trap	52147 12P TE				01
		VK025100	Wire Trap	52147 7P TE				01
		VV583900	Circuit Board	MK-H		(XR565B0)		09
		VV437800	Diode	1N4148(DO-34)				01
		VK025600	Wire Trap	52147 12P TE				01
		VK024900	Wire Trap	52147 5P TE				01
		V2404900	Circuit Board	16M KBS		(XU878B0)		10
		--	Vibration-proof Tape	10X64X0.5		(VK34680)		
		--	Jumper Wire	0.55		(VA07890)		
	C1	VR027400	Ceramic Capacitor-SL	22P 63V J				01
	C2	VR027400	Ceramic Capacitor-SL	22P 63V J				01
	C3	UR828100	Electrolytic Cap.	100.00 10.0V				01
	C4	VD930900	Semiconductive Cera. Cap.	0.1000 25V M				01
	R1	HF456470	Carbon Resistor	4.7K 1/4 J				01
	R2	HF456470	Carbon Resistor	4.7K 1/4 J				01
	R3	HF457470	Carbon Resistor	47.0K 1/4 J				01
	CA1	VP755200	Ceramic Capacitor Array	100P 50V K				02
	CA2	VT487100	Ceramic Capacitor Array	470P X12				02
	CL1	VQ305500	Ceramic Resonator	8.00M EFOEC8004T3				02
	CN1	VF728300	Wire Trap	52147 6P TE				01
	CN2	VK025600	Wire Trap	52147 12P TE				01
	CN3	VK025100	Wire Trap	52147 7P TE				01
	CN4	VK024900	Wire Trap	52147 5P TE				01
	IC1	XR951A00	IC	HD63B05V0F07P		CPU		06
	RA1	VH373200	Resistor Array	RGLE12X473J				01
*		V3592500	LCD	TYPE-C				
*		XV948A00	Speaker	3.0cm				
		XT278A00	Speaker	12.0cm 4 ohm 6W				06
		V20243400	Floppy Disk Drive	D359M3				16
		V3075300	Floppy Disk Drive	MF355F-3252MGF				16
⚠		VZ089200	AC Adaptor	PA-6 J		J		16
⚠*		VZ428400	AC Adaptor	PA-6 CHN		O		

***: New parts** **RANK: Japan only**