

PORTATONE *PSR-350* SERVICE MANUAL



■ CONTENTS

SPECIFICATIONS	3
PANEL LAYOUT	4
CIRCUIT BOARD LAYOUT & WIRING	6
BLOCK DIAGRAM	8
DISASSEMBLY PROCEDURE	9
LSI PIN DESCRIPTION	13
IC BLOCK DIAGRAM	16
CIRCUIT BOARDS	16
TEST PROGRAM	25
DATA BACKUP & INITIALIZATION	28
MIDI IMPLEMENTATION CHART	29
OVERALL CIRCUIT DIAGRAM	
PARTS LIST	

This document is printed on chlorine free (ECF) paper with soy ink.

■ SPECIFICATIONS

Keyboards

- 61 standard-size keys (C1 - C6), with Touch Response and Dynamic Filter.

Display

- Large multi-function LCD display (backlit)

Setup

- STANDBY/ON
- MASTER VOLUME : MIN - MAX

Panel Controls

- OVERALL (L, R), SONG, VOICE, STYLE, PORTABLE GRAND, DJ, METRONOME, [0]-[9], [+] (YES), [-] (NO), DEMO, TOUCH, HARMONY, Dict., L, R, TEMPO/TAP

Voice

- 116 panel voices + 12 drum kits + XG expanded voices +10 DJ voices
- Polyphony : 32

Auto Accompaniment

- 106 styles + Disk
- Accompaniment Control : ACMP ON/OFF, SYNC STOP, SYNC START, START/STOP, INTRO/ENDING, MAINA/B(AUTO FILL)
- Fingering : Multi fingering
- Accompaniment Volume

Music Database

- 208

Yamaha Educational Suite

- Dictionary
- Lesson 1-4

One Touch Setting

- Voice (for each style or song)

Overall controls

- Lesson R, L
- Octave
- Transpose
- Tuning
- Accompaniment/Song Volume
- Metronome Volume
- Reverb
- DSP
- Harmony
- Grade/Talking
- MIDI

Effects

- Reverb : 8 types
- DSP : 38 types
- Harmony : 26 types

Song

- 100 Songs + 5 User Songs
- Song Clear, Track Clear

Recording

- Song
 - User Song : 5 Songs
 - Recording Tracks : 1, 2, 3, 4, 5, CHORD

Disk

- Song Playback
- Save
- Load
- Delete
- Format

MIDI

- Initial Send
- Local on/off

Auxiliary jacks

- PHONES/OUTPUT, DC IN 12V, MIDI IN/OUT, SUSTAIN

Amplifier

- 3.0W + 3.0W

Speakers

- 12cm x 2 + 3cm x 2

Power Consumption

- 22 W (when using PA-5C power adaptor)

Power Supply

- Adaptor : Yamaha PA-5C AC power adaptor
- Batteries : Six "D" size, R20P (LR20) or equivalent batteries

Dimensions (W x D x H)

- 952 x 387 x 169 mm (37-1/2" x 15-1/4" x 6-2/3")

Weight

- 8.5 kg (18 lbs., 12 oz.)

Supplied Accessories

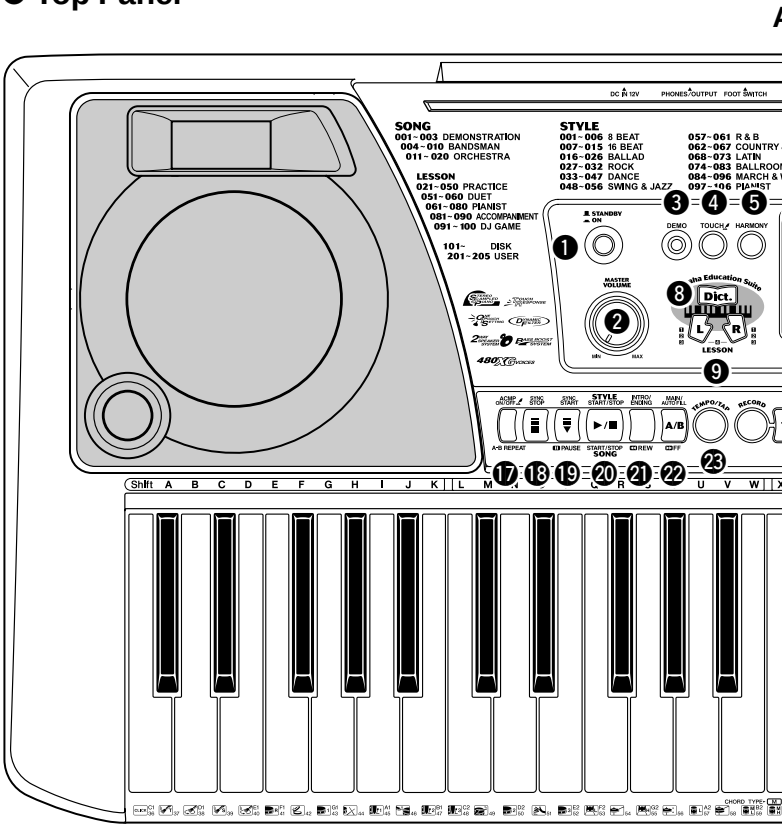
- Music Stand
- Data Disk
- Owner's Manual
- Song Book

Optional Accessories

- Headphones : HPE-150
- AC power adaptor : PA-5C
- Footswitch : FC4, FC5
- Keyboard stand : L-6

PANEL LAYOUT

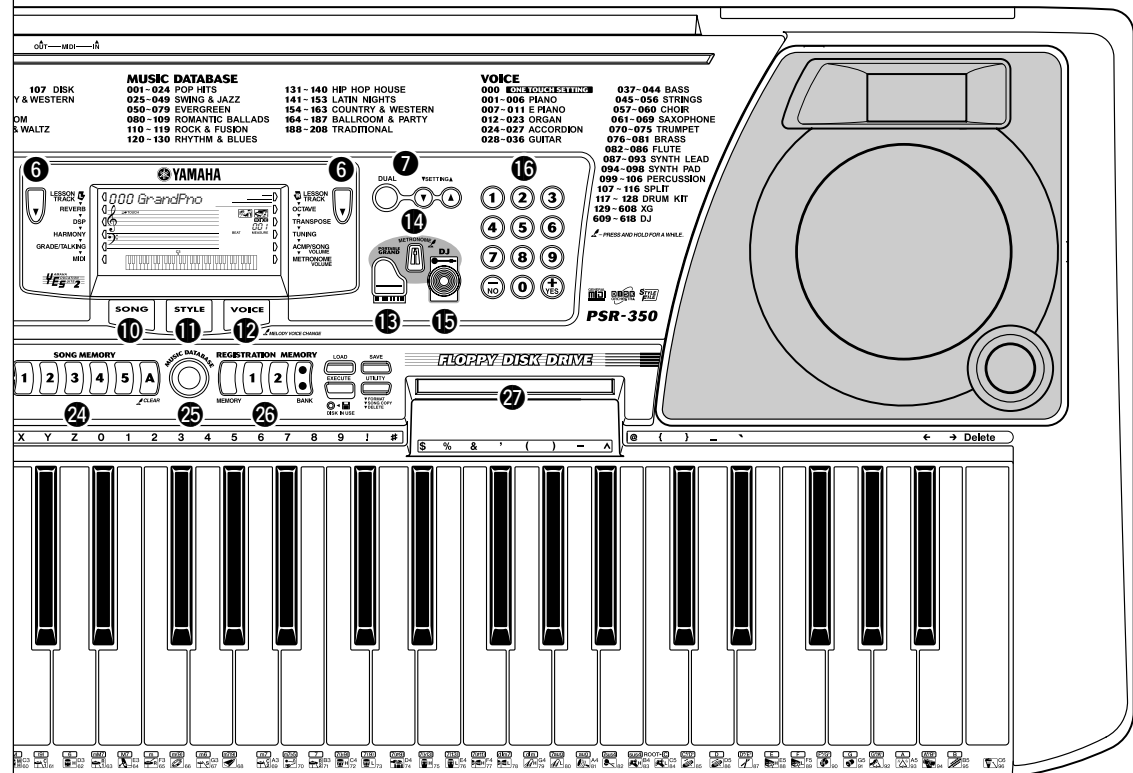
Top Panel



A

A'

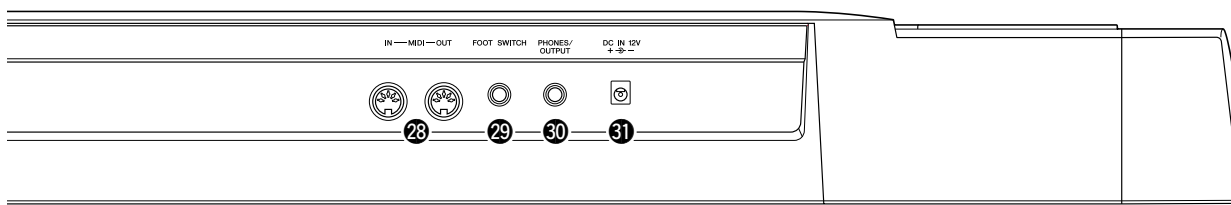
A



A'

- ❶ Power switch ([STANDBY/ON])
- ❷ [MASTER VOLUME] dial
- ❸ [DEMO] button
- ❹ [TOUCH] button
- ❺ [HARMONY] button
- ❻ Overall (left, right) buttons
- ❼ [DUAL] and [SETTING ▲/▼] buttons
- ❽ [Dict.] (DICTIONARY) button
- ❾ LESSON [L] (Left) and [R] (Right) buttons
- ❿ [SONG] button
- ⓫ [STYLE] button
- ⓬ [VOICE] button
- ⓭ [PORTABLE GRAND] button
- ⓮ [METRONOME] button
- ⓯ [DJ] button
- ⓰ Numeric keypad, [+ / YES] and [- / NO] buttons
- ⓱ [ACMP ON/OFF] / [A-B REPEAT] button
- ⓲ [SYNC STOP] button
- ⓳ [SYNC START] / [⏸ PAUSE] button
- ⓴ [START/STOP] button
- ⓵ [INTRO/ENDING] / [⏮ REW] button
- ⓶ [MAIN/AUTO FILL] / [⏭ FF] button
- ⓷ [TEMPO/TAP] button
- ⓸ [SONG MEMORY] buttons
- ⓹ [MUSIC DATABASE] button
- ⓺ [REGISTRATION MEMORY] buttons
- ⓻ Disk Drive

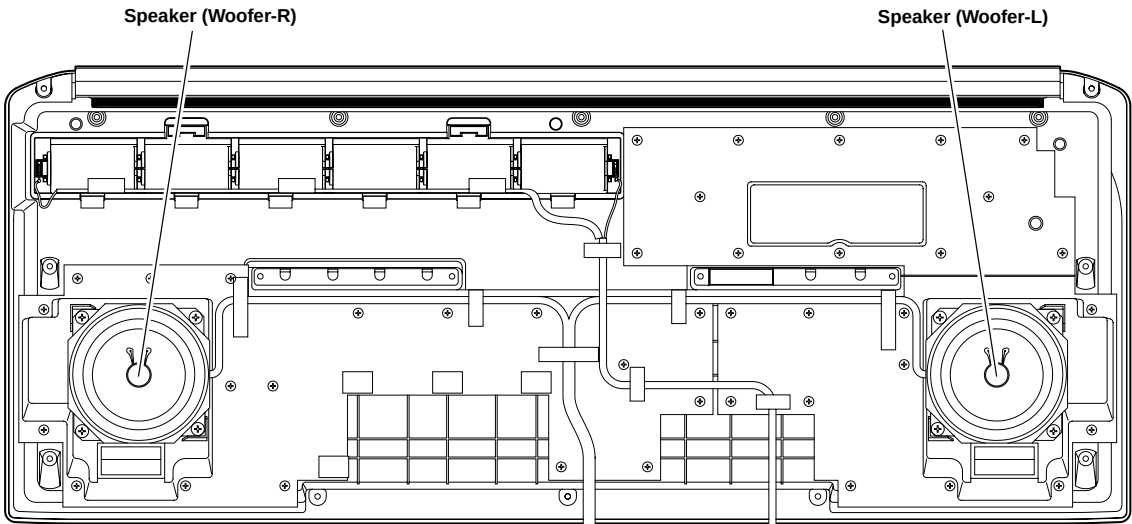
● Rear Panel



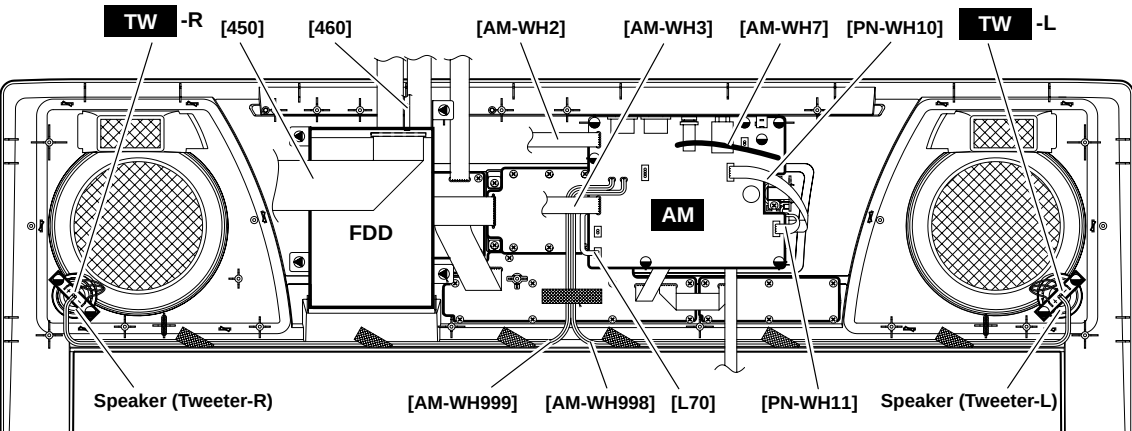
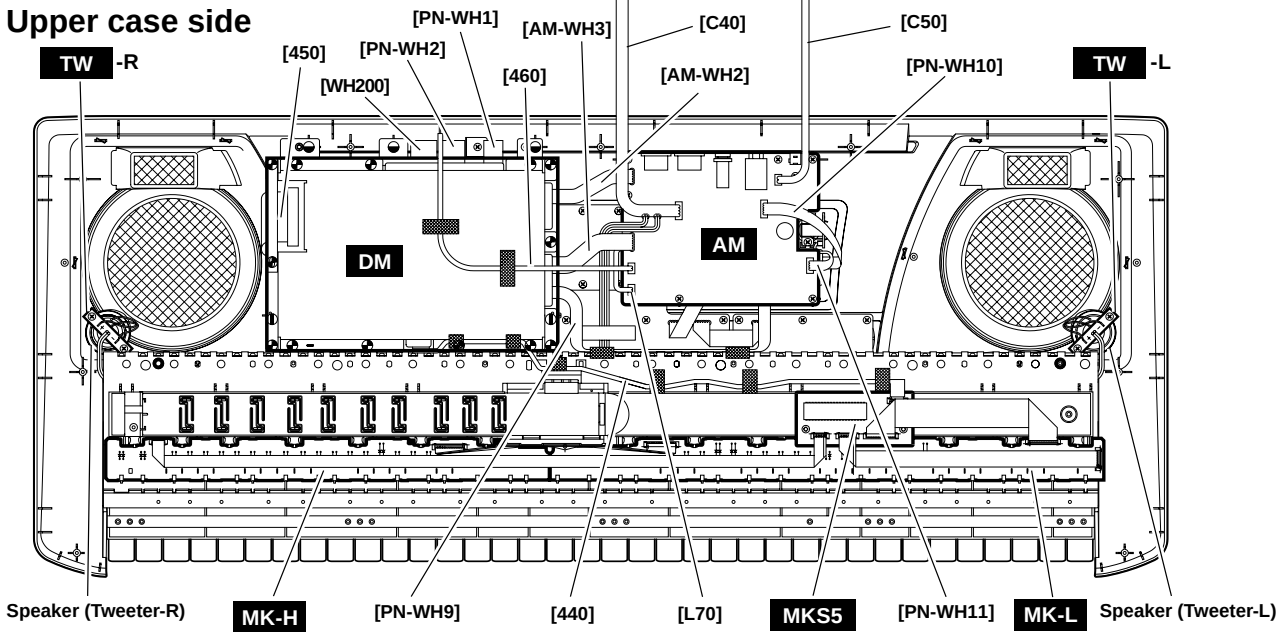
- ❷❸ [MIDI IN], [MIDI OUT] connectors
- ❷❹ [FOOT SWITCH] jack
- ❷❺ [PHONES/OUTPUT] jack
- ❷❻ [DC IN 12V] jack

CIRCUIT BOARD LAYOUT & WIRING

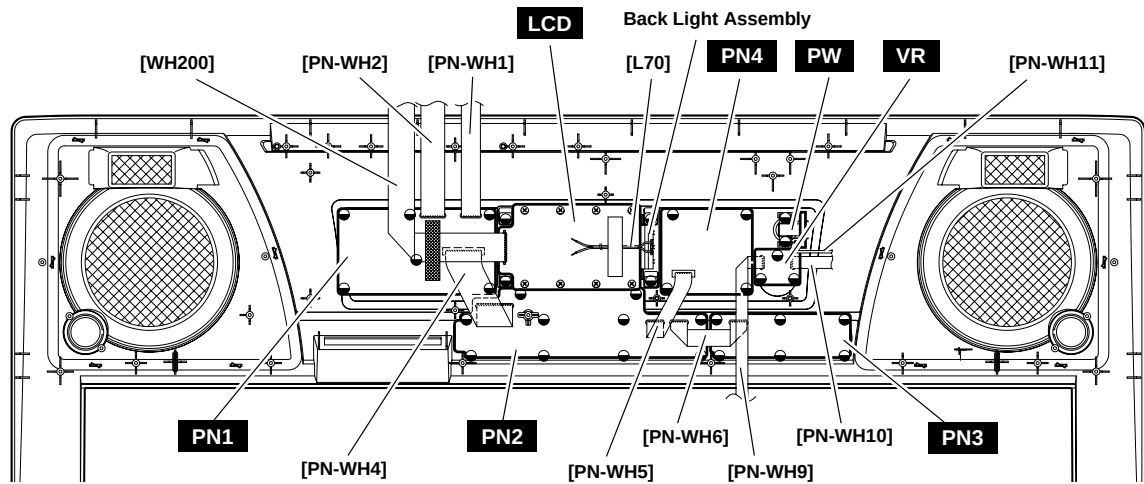
● Lower case side



● Upper case side



● Upper case side



Location	Part No.	Connector Assembly	Destination				Remarks
440	--	KB	DM-CN102 *6	*1	MKS5-CN1 *6	*1	6P (V718860)
450	V3819800	FDD	DM-CN301	*1	FDD-CN1	*3	34P
460	--	FDPS	AM-CN908	*1	FDD-CN2	*2	2/4P (V718900)
C40	--	SP	Speaker (Wo)		AM-CN802	*4	4P (V718870)
C50	--	BAT	Battery		AM-CN903	*5	2P (V705790)
AM-WH2	--	PS	AM-CN901		DM-CN101	*1	7P (V718820)
AM-WH3	--	DJ	AM-CN602		DM-CN601	*1	6P (V718830)
AM-WH7	--	EP1	AM-EP1		AM-EP2		L=120 (V719460)
AM-WH998	--	TW	AM-CN909		TW-L		(V718880)
AM-WH999	--	TW	AM-CN910		TW-R		(V718880)
WH200	--	LCD	LCD-CN1		DM-CN175	*1	12P (V718800)
PN-WH1	--	PN1	PN 1-CN1		DM-CN701	*1	8P (V718750)
PN-WH2	--	PN2	PN 1-CN2		DM-CN702	*1	10P (V718760)
PN-WH4	--	PN3	PN 2-CN4		PN 1-CN3	*1	15P (V718770)
PN-WH5	--	PN4	PN 2-CN5		PN 4-CN8	*1	7P (V718780)
PN-WH6	--	PN5	PN 2-CN6		PN 3-CN7		6P (V718790)
PN-WH9	--	VR1	VR-CN9		DM-CN501	*1	5P (V718840)
PN-WH10	--	VR2	VR-CN10		AM-CN801	*1	5P (V718850)
PN-WH11	--	SW	PW-CN11		AM-CN902	*1	4P (V719860)
L70	--	BLT	Back Light		AM-CN907	*1	2P (V718810)

* The parts with "--" in "Part No." are not available as spare parts.

* 1 : Edge mark is adjusted to Pin 1 mark (△mark).

* 2 : Red wire is adjusted to Pin 1 mark (△mark).

* 3 : Connector hook is located at the upper side of FDD.

* 4 : White wire is adjusted to Pin 1 mark (△mark).

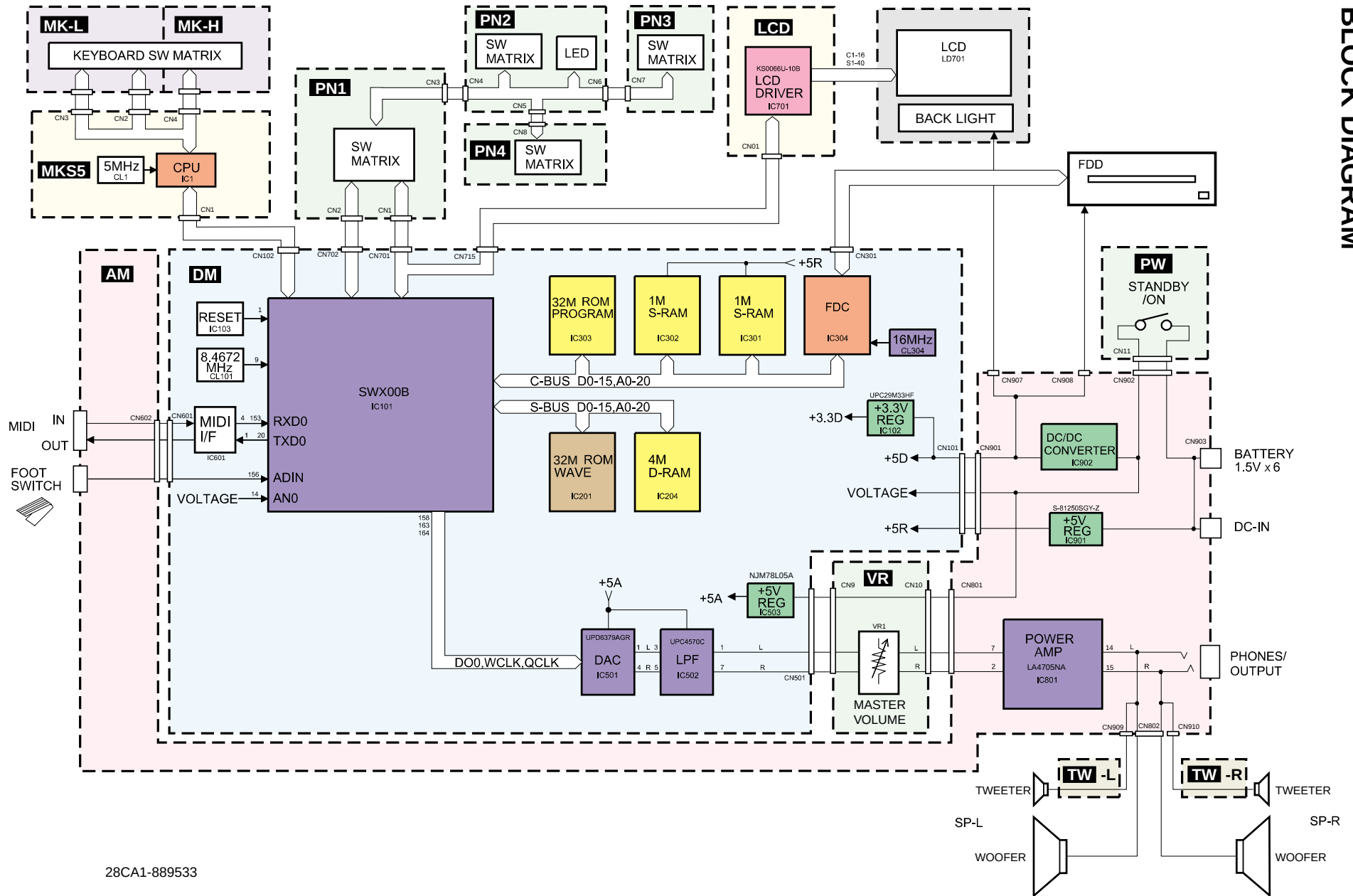
* 5 : Red wire is adjusted to Pin 1 mark (△mark).

* 6 : Be sure to make a correct match when connecting MKS5(CN1) and DM(CN102).

Connecting the connectors in the wrong way around may cause damage to the MKS5 circuit board.

Caution: Be sure to attach the removed filament tape just as it was before removal.

BLOCK DIAGRAM



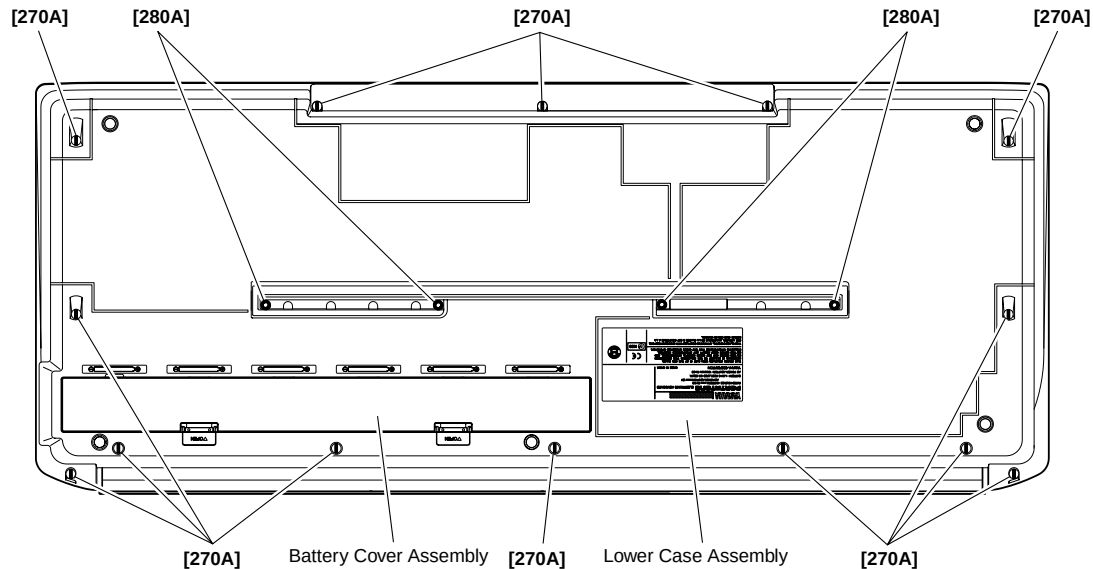
28CA1-889533

■ DISASSEMBLY PROCEDURE

1. Lower Case Assembly

(Time required : About 5 min.)

- 1-1. Remove the fourteen (14) screws marked [270A] and the four (4) screws marked [280A]. The lower case assembly can then be removed. (Fig. 1)



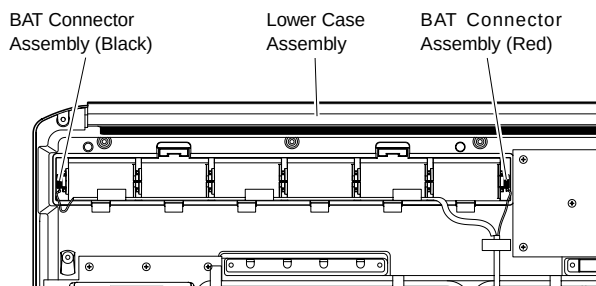
[270A] : Bind Head Tapping Screw-P 3.0X12 MFZN2Y (EP600300)
 [280A] : Bind Head Tapping Screw-P 3.0X25 MFZN2Y (VK228100)

(Fig. 1)

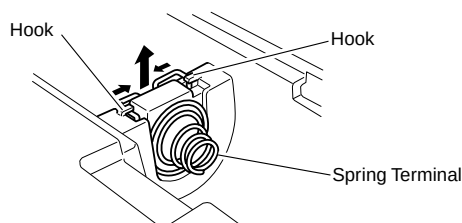
2. Spring Terminal

(Time required : About 10 min.)

- 2-1. Remove the lower case assembly. (See procedure 1)
 2-2. Remove the BAT connector assembly (red/black) soldered to the spring terminal (+)/(-). (Fig. 2)
 2-3. Remove the battery cover assembly. (Fig. 1)
 2-4. Remove the spring terminal by releasing hooks (2 locations for each). (Fig. 3)



(Fig. 2)



(Fig. 3)

3. DM Circuit Board, Shield Box U and L

(Time required : About 10 min.)

- 3-1. Remove the lower case assembly. (See procedure 1)
 3-2. Remove the two (2) screws marked [270B] and the thirteen (13) screws marked [290]. The shield box U and the DM circuit board can then be removed. (Fig. 4)
 3-3. Remove the three (3) screws marked [260A]. The shield box L can then be removed. (Fig. 4)

4. Floppy Disk Drive Assembly

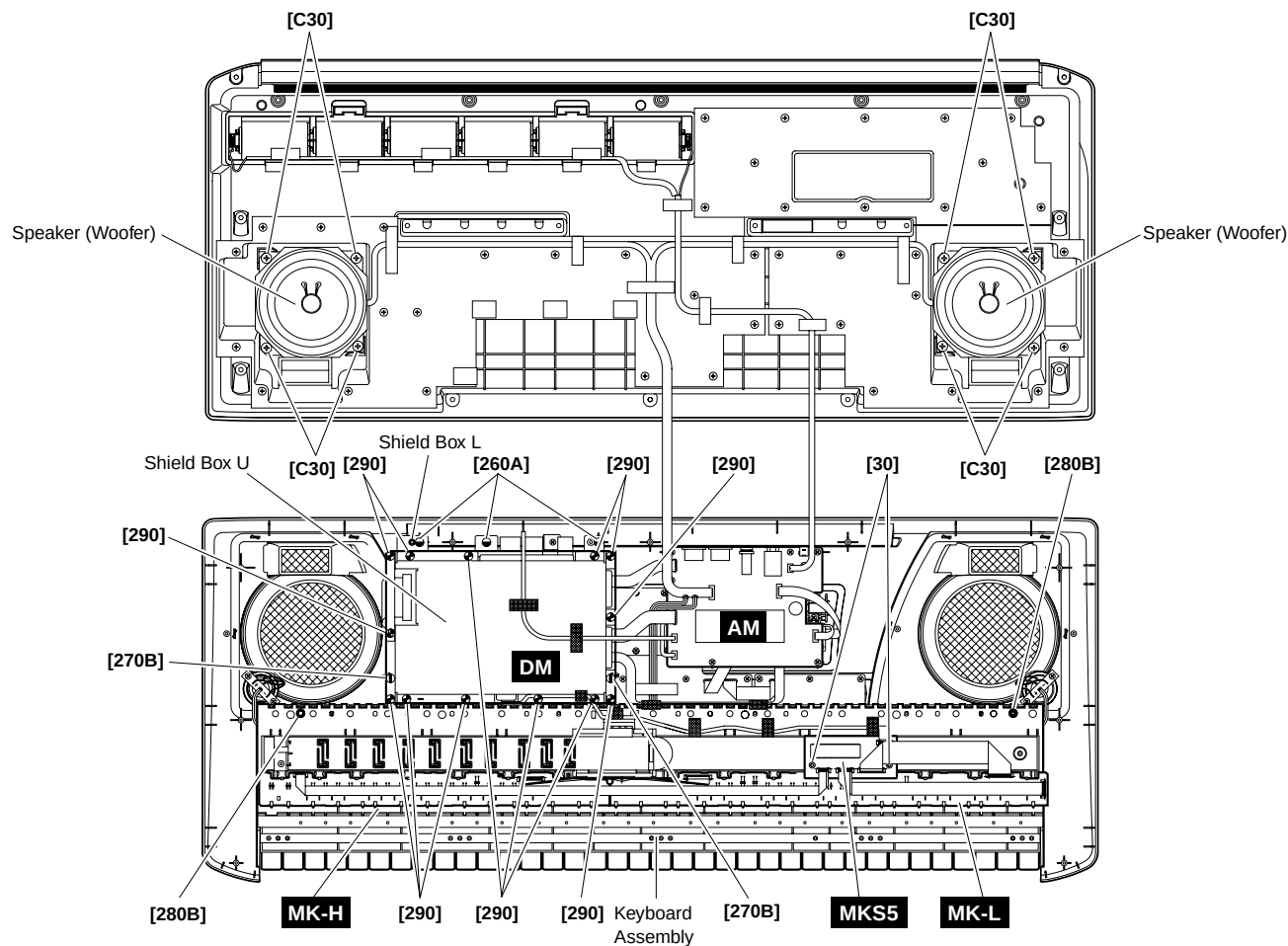
(Time required : About 10 min.)

- 4-1. Remove the lower case assembly. (See procedure 1)
 4-2. Remove the DM circuit board and the shield box U and L. (See procedure 3)
 4-3. Remove the four (4) screws marked [300]. The floppy disk assembly can then be removed. (Fig. 5)

5. AM Circuit Board

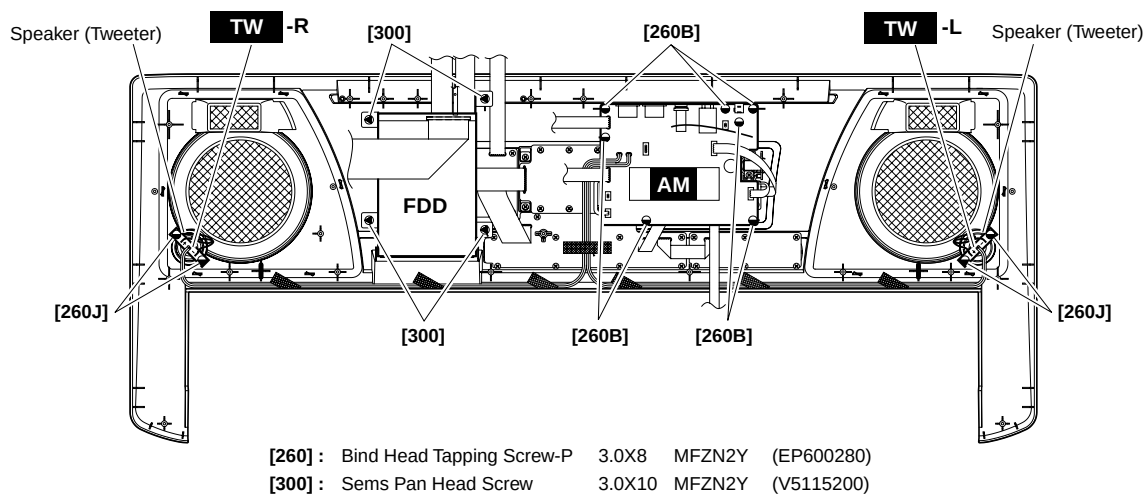
(Time required : About 10 min.)

- 5-1. Remove the lower case assembly. (See procedure 1)
 5-2. Remove the seven (7) screws marked [260B]. The AM circuit board can then be removed. (Fig. 5)



- | | | | | |
|----------|---------------------------|--------|---------|------------|
| [30] : | Bind Head Tapping Screw-P | 3.0X8 | MFZN2Y | (EP600280) |
| [260A] : | Bind Head Tapping Screw-P | 3.0X8 | MFZN2Y | (EP600280) |
| [270B] : | Bind Head Tapping Screw-P | 3.0X12 | MFZN2Y | (EP600300) |
| [280B] : | Bind Head Tapping Screw-P | 3.0X25 | MFZN2Y | (VK228100) |
| [290] : | Bind Head Tapping Screw-B | 3.0X8 | MFZN2Y | (EP600250) |
| [C30] : | Bind Head Tapping Screw-P | 4.0X8 | MFZN2BL | (VB931600) |

(Fig. 4)



- | | | | | |
|---------|---------------------------|--------|--------|------------|
| [260] : | Bind Head Tapping Screw-P | 3.0X8 | MFZN2Y | (EP600280) |
| [300] : | Sems Pan Head Screw | 3.0X10 | MFZN2Y | (V5115200) |

(Fig. 5)

6. PN 1 Circuit Board**(Time required : About 15 min.)**

- 6-1. Remove the lower case assembly. (See procedure 1)
- 6-2. Remove the DM circuit board and the shield box U and L. (See procedure 3)
- 6-3. Remove the floppy disk drive assembly. (See procedure 4)
- 6-4. Remove the six (6) screws marked [260C]. The PN 1 circuit board can then be removed. (Fig. 6)

7. PN 2 Circuit Board**(Time required : About 20 min.)**

- 7-1. Remove the lower case assembly. (See procedure 1)
- 7-2. Remove the DM circuit board and the shield box U and L. (See procedure 3)
- 7-3. Remove the floppy disk drive assembly. (See procedure 4)
- 7-4. Remove the AM circuit board. (See procedure 5)
- 7-5. Remove the ten (10) screws marked [260D]. The PN 2 circuit board can then be removed. (Fig. 6)

8. PN 3 Circuit Board**(Time required : About 8 min.)**

- 8-1. Remove the lower case assembly. (See procedure 1)
- 8-2. Remove the six (6) screws marked [260E]. The PN 3 circuit board can then be removed. (Fig. 6)

9. PN 4 Circuit Board**(Time required : About 10 min.)**

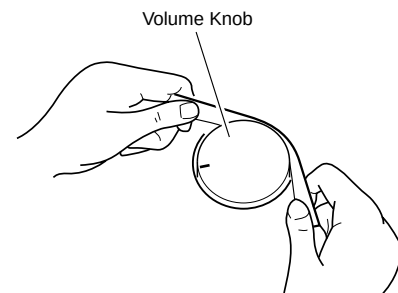
- 9-1. Remove the lower case assembly. (See procedure 1)
- 9-2. Remove the AM circuit board. (See procedure 5)
- 9-3. Remove the four (4) screws marked [260F]. The PN 4 circuit board can then be removed. (Fig. 6)

10. PW Circuit Board**(Time required : About 5 min.)**

- 10-1. Remove the lower case assembly. (See procedure 1)
- 10-2. Remove the two (2) screws marked [260G]. The PW circuit board can then be removed. (Fig. 6)

11. VR Circuit Board**(Time required : About 10 min.)**

- 11-1. Remove the lower case assembly. (See procedure 1)
- 11-2. Remove the AM circuit board. (See procedure 5)
- 11-3. Remove the volume knob from the control panel side. (Fig. 7)
- 11-4. Remove the three (3) screws marked [260H]. The VR circuit board can then be removed. (Fig. 6)

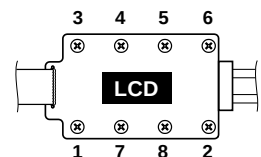
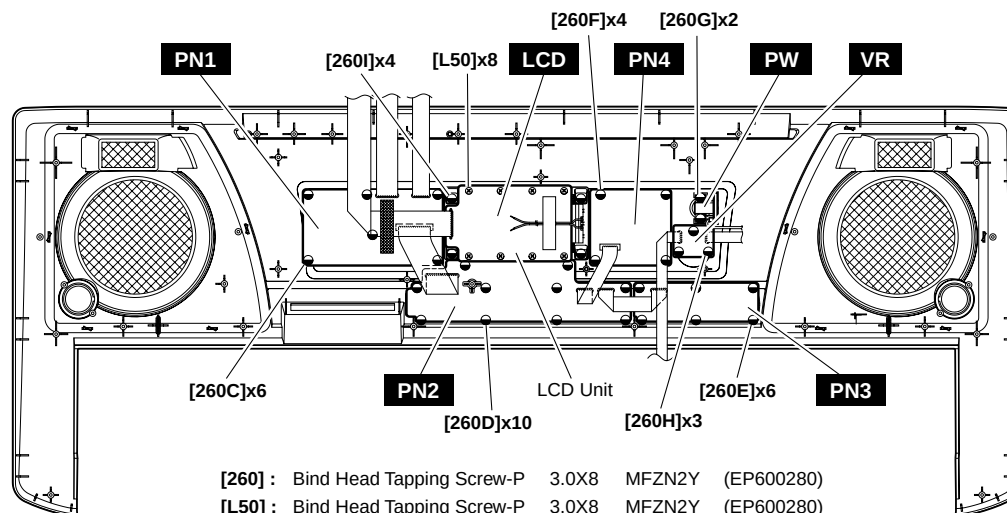


(Fig. 7)

12. LCD Unit (LCD Circuit Board, Back Light Assembly and LCD)**(Time required : About 20 min.)**

- 12-1. Remove the lower case assembly. (See procedure 1)
- 12-2. Remove the DM circuit board and the shield box U and L. (See procedure 3)
- 12-3. Remove the AM circuit board. (See procedure 5)
- 12-4. Remove the four (4) screws marked [260I]. The LCD unit can then be removed. (Fig. 6)
- 12-5. Remove the eight (8) screws marked [L50]. The LCD circuit board can then be removed. (Fig. 6)

* When you install the LCD circuit board, tighten the screws from No.1 to No. 8 in order as shown in Figure 6-1.



(Fig. 6-1)

(Fig. 6)

13. Keyboard Assembly

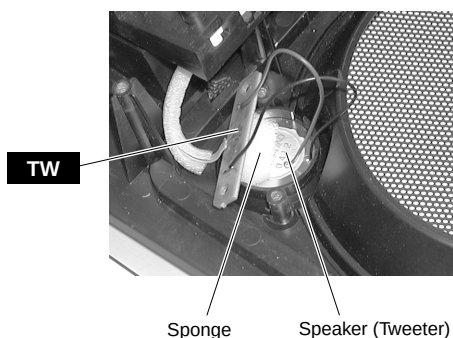
(Time required : About 10 min.)

- 13-1. Remove the lower case assembly. (See procedure 1)
- 13-2. Remove the two (2) screws marked [280B]. The keyboard assembly can then be removed. (Fig. 4)

14. Speakers and TW Circuit Board

(Time required : About 10 min.)

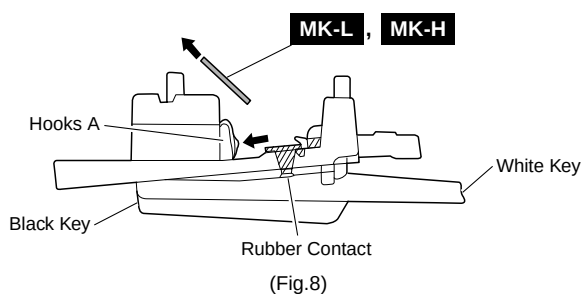
- 14-1. Remove the lower case assembly. (See procedure 1)
- 14-2. Remove the right and left (woofer) speakers by removing four (4) screws marked [C30] from each speaker. (Fig. 4)
- 14-3. Remove the right and left TW circuit boards by removing two (2) screws each marked [260J]. (Fig. 5)
- 14-4. Remove the right and left (tweeter) speakers. (Fig. 5, Photo 1)



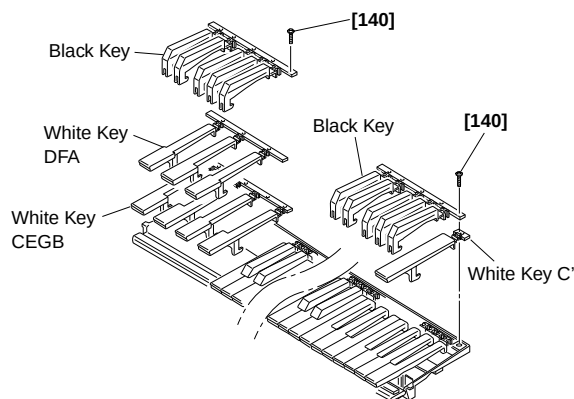
(Photo 1)

15. Disassembling the Keyboard Assembly

- 15-1. Remove the keyboard assembly. (See procedure 13.)
- 15-2. Remove the two (2) screws marked [30]. The MKS5 circuit board can then be removed. (Fig. 4)
- 15-3. Remove the MK-L and MK-H circuit boards while pressing the fifteen (15) hooks A inward, and then remove the rubber contact. (Fig. 8)
- 15-4. Remove the twenty-one (21) screws marked [140], then remove the black keys from the lower notes. Afterwards, remove the white keys DFA and C' and then remove the white keys CEGB from the higher notes. At this time, lift the keys from the front and slide them towards you. the keys can then be removed from the assembly. (Fig. 9)



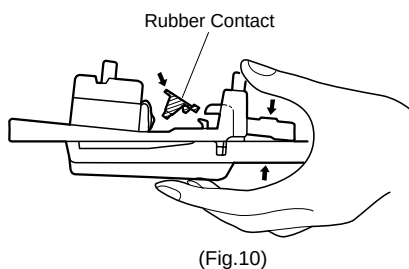
(Fig.8)



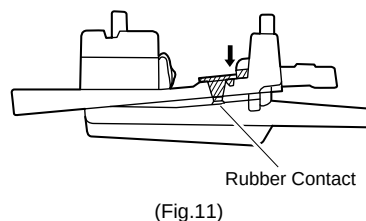
[140] : Bind Head Tapping Screw-P 3.0X16 MFZN2Y (EP600310)
(Fig.9)

16. Assembling the Keyboard Assembly

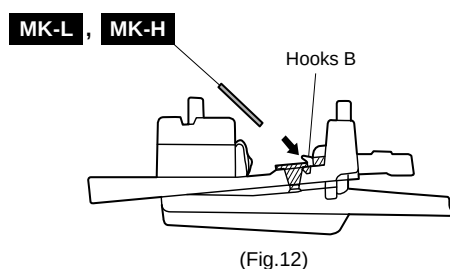
- 16-1. Install the white keys CEGB from the lower notes, and then install the DFA keys and C' key. Afterwards install the black keys from the higher notes, and tighten the twenty-one (21) screws marked [140]. (Fig. 9)
- 16-2. Install the rubber contacts in the assembly while pressing the keys as shown in Figure 10. Check that the rubber contact has been firmly placed into position in the area indicated by the arrow in Figure 11. When fitting the rubber contacts, raise both ends of the frame so that keys do not push the rubber contact up.
- 16-3. Install the MK-L, MK-H circuit boards in the assembly so that the hooks B hold it as shown in Figure 12.



(Fig.10)



(Fig.11)



(Fig.12)

■ LSI PIN DESCRIPTION

μPD789022GB-A15-8E (XZ560100) CPU	13
HG73C205AFD (XU947C00) SWX00B (Tone Generator)	14
HD63266F (XI939A00) FDC (Floppy Disk Controller)	13
S6A0069X10-Q0RJ (XV226A00) LCD DRIVER	15

● μPD789022GB-A15-8E (XZ560100) CPU

MKS5 : IC1

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	P12	I/O	Port 1	23	P32/INTP2/CPT2	I/O	Port 3/External interrupt input/Capture edge input
2	P11	I/O		24	P31/INTP1	I/O	Port 3/External interrupt input
3	P10	I/O		25	P30/INTP0	I/O	
4	P47/KR7	I/O		26	P22/RXD/SIO	I/O	Port 2/Asynchronous serial interface serial data input/Serial interface serial data input
5	P46/KR6	I/O	Port 4/Key return signal detection input	27	P21/TXD/SO0	I/O	Port 2/Asynchronous serial interface serial data output/Serial interface serial data output
6	P45/KR5	I/O		28	P20/ASCK/SCK0	I/O	Port 2/Asynchronous serial interface serial clock input/Serial interface serial clock
7	P44/KR4	I/O		29	P07	I/O	Port 0
8	P43/KR3	I/O		30	P06	I/O	
9	P42/KR2	I/O		31	P05	I/O	
10	P41/KR1	I/O		32	P04	I/O	
11	P40/KR0	I/O		33	P03	I/O	
12	NC		Internally connected (N.C.)	34	P02	I/O	
13	IC			35	P01	I/O	Power supply Ground
14	X2		Clock	36	P00	I/O	
15	X1	I		37	NC		Port 1
16	VSS0		Ground	38	VDD1		
17	VDD0		Power supply	39	VSS1		Port 1
18	/RESET	I	System reset	40	P17	I/O	
19	P53	I/O	Port 5	41	P16	I/O	
20	P52	I/O		42	P15	I/O	
21	P51/TO2	I/O	Port 5/16-bit timer output	43	P14	I/O	
22	P50/TIO/TO0	I/O	Port 5/External count clock input to 8-bit timer/8-bit timer output	44	P13	I/O	

● HD63266F (XI939A00) FDC (Floppy Disk Controller)

DM : IC304

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		Clock
7	/DACK	I	DMA acknowledge	39	XTAL1		
8	RS0	I	Register select	40	EXTAL1		Ground
9	RS1	I		41	VSS4		
10	VSS1		Ground	42	VSS5		Power supply
11	VSS2			43	NC		
12	D0	I/O	Data bus	44	VCC2		
13	D1	I/O		45	VCC3		
14	D2	I/O		46	VCC4		Write control
15	D3	I/O		47	/WGATE	O	
16	D4	I/O		48	/WDATA	O	
17	D5	I/O		49	VSS6		Writ data to FDD
18	D6	I/O		50	/STEP	O	Step signal to control head of FDD
19	D7	I/O	DMA request	51	/HDIR	O	Direction
20	/DREQ	O		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	Drive select
24	1/2 EX1		Power supply	56	/DS1	O	
25	VCC1			57	/DS2	O	
26	NUM1	I	Host interface select	58	/DS3	O	Ground
27	NUM3	I		59	VSS8		
28	IFS	I	Format data	60	/MON0	O	Motor on
29	SFORM	I	Index pulse	61	/MON1	O	
30	/INP	I	Ready from FDD	62	/MON2	O	
31	/READY	I	Write control signal	63	/MON3	O	Ground
32	/WPRT	I		64	VSS9		

● HG73C205AFD (XU947C00) SWX00B (Tone Generator)

DM : IC101

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

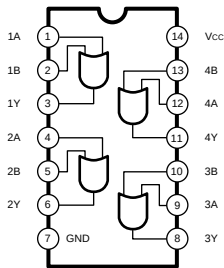
● S6A0069X10-Q0RJ (XV226A00) LCD DRIVER

LCD : IC701

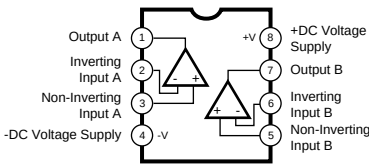
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	S22	O	Segment signal output for LCD driving	41	DB2	I/O	Data interface
2	S21	O		42	DB3	I/O	
3	S20	O		43	DB4	I/O	
4	S19	O		44	DB5	I/O	
5	S18	O		45	DB6	I/O	
6	S17	O		46	DB7	I/O	
7	S16	O		47	C1	O	Common signal output for LCD driving
8	S15	O		48	C2	O	
9	S14	O		49	C3	O	
10	S13	O		50	C4	O	
11	S12	O		51	C5	O	
12	S11	O		52	C6	O	
13	S10	O		53	C7	O	
14	S9	O		54	C8	O	
15	S8	O		55	C9	O	
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	Segment signal output for LCD driving
24	OSC1	I	Oscillator	64	S39	O	
25	OSC2	O	Oscillator	65	S38	O	
26	V1		Power supply	66	S37	O	
27	V2			67	S36	O	
28	V3			68	S35	O	
29	V4			69	S34	O	
30	V5			70	S33	O	
31	CLK1	O	Data latch clock	71	S32	O	
32	CLK2	O	Data shift clock	72	S31	O	
33	Vdd		Power supply (+5 V)	73	S30	O	
34	M	O	Altamated signal for LCD driver outout	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	

IC BLOCK DIAGRAM

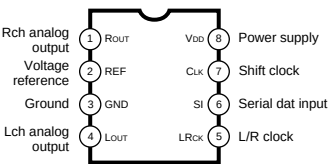
- **TC74HCT08AF(EL)** (XZ012A00)
MM74HCT08SJX (XZ013A00)
Quad 2 Input AND
DM : IC602



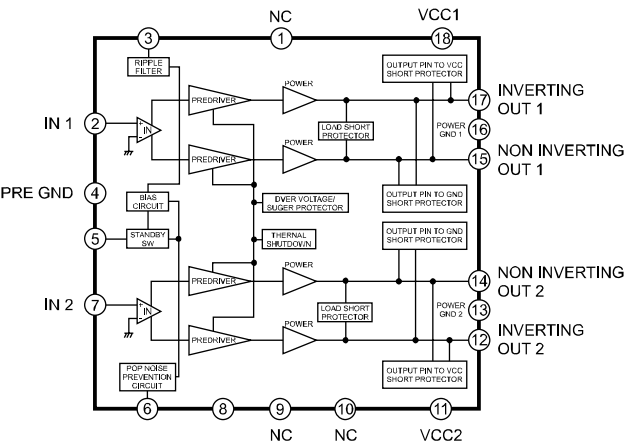
- **μPC4570C** (XC520A00)
Dual Operational Amplifier
DM : IC502



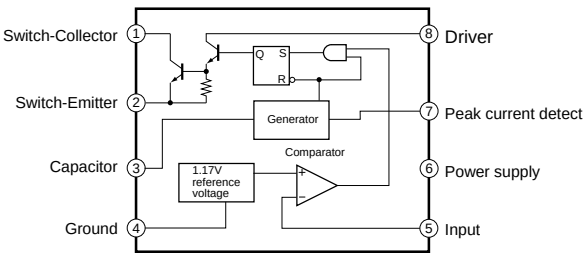
- **μPD6379AGR** (XR998A00)
D/A Converter
DM : IC501



- **LA4705NA** (XQ619A00)
Power Amplifier
AM : IC801



- **M5291P** (XV856A00)
DC-DC Converter
AM : IC902



CIRCUIT BOARDS INDEX

AM (XZ754C0)	19
DM (XZ669C0)	17/18
LCD (XY486B0)	22
MK-H (XR565C0)	24
MK-L (XR564C0)	23
MKS5 (XZ594A0)	23
PN 1 (XZ777B0)	20

PN 2 (XZ776B0)	21
PN 3 (XZ776B0)	21
PN 4 (XZ777B0)	20
PW (XZ776B0)	22
TW (XZ754C0)	19
VR (XZ776B0)	22

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

■ TEST PROGRAM

1. PREPARATION

- 1) PA-5C (AC adaptor) 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 : Connect a stereo plug to the [PHONES/OUTPUT] jack at 33 ohms.
- 4) Jigs : foot switch, MIDI cable, floppy disk (2HD & 2DD)

2. HOW TO ENTER THE TEST PROGRAM

MANUAL MODE :

While pressing the C2#, F2 and G2# keys, turn the [STANDBY/ON] switch on.

3. PROCEEDING THROUGH THE TEST PROGRAM

MANUAL MODE :

- 1) When the test program is started, "TEST" appears on the LCD.
 - 2) Select the test program item to be executed by pressing the [-/NO] or [+ /YES] button.
 - 3) Press the [START/STOP] button to execute testing.
- When the test result is OK, press the [START/STOP] button to return to the test item name on display. Proceed to the next test by pressing the [-/NO] or [+ /YES] button.
 - When the test result is OK, a cursor () is added under the first character of the test item name on display.
 - When the test result is NG, press the [DEMO] button or the lowest (leftmost) white key on the keyboard to return to the test item name on display and then turn off the [STANDBY/ON] switch to end the test program.

4. TEST PROGRAM LIST

TEST No.	LCD (initial)	Test Functions and Judgment Criteria
1	001Version	Displays ROM version. ROM (Program, Wave) versions are displayed alternately on the LCD.
2	002Rom Chk 1	Checks the ROM. The test results appear on the LCD.
3	003Ram Chk 1	Checks all the RAMs that are connected to the CPU. The test results appear on the LCD.
4	004WRomChk 1	Checks the WAVE ROMs that are connected to the CPU. The test results appear on the LCD.
5	005WRamChk 1	Checks the WAVE RAMs that are connected to the CPU. The test results appear on the LCD.
7	007FDD Chk	Insert the floppy disks one by one (2DD and 2HD). Checks the floppy disk drive unit
11	011TG1 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	013Pit Chk	Connect the frequency counter to the [PHONES] jack. Sets PAN to Center and produces a signal at 440.0 Hz +/- 1.76 Hz Check that the correct signal is produced.
14	014OutPut R	Connect the level meter (with a JIS-C filter) to the [PHONES] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum and check the output level (1 kHz). PHONES L : less than -45.0 dBm PHONES R : -6.0 dBm +/- 2 dB
15	015OutPut L	Connect the level meter (with a JIS-C filter) to the [PHONES] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum and check the output level (1 kHz). PHONES L : -6.0 dBm +/- 2 dB PHONES R : less than -45.0 dBm
19	019Noise	Connect the level meter (with a JIS-C filter) to the [PHONES] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum. Check D/A converter noise. PHONES L/R : Less than -75.0 dBm

TEST No.	LCD (initial)	Test Functions and Judgment Criteria
20	020SW Chk	Check the switches on the panel. Press the switches on the LCD as instructed. A pre-assigned note is output when the switch is pressed. (See table 1.) As the check result appears on the LCD when all the switches are pressed as instructed,. Check that OK is displayed. (To stop this check before reaching its end, press the lowest (leftmost) white key on the keyboard to return to the test item name on display.
21	021LED On	Check that the all LEDs on the panel are on.
28	028LCD On	Check that all LCD dots are on.
29	029LCD Off	Check that all LCD dots are off.
31	031PD1 Chk	Connect the foot switch (FC-4 or FC-5) to the [FOOT SWITCH] jack. Check that the C3 note is output when the [START/STOP] button is pressed while stepping the pedal and the C4 note is output when releasing the pedal. The sound stops when stepping the pedal again.
37	037MIDI 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.
40	040Battery	Removing the AC adapter sets to the Battery Check mode. (In advance, install the batteries.) The A/D value of the battery is detected and displayed with hexadecimal number on the LCD.
41	041Rom Chk2	Checks the ROMs that are connected to the CPU. The test results appear on the LCD.
42	042Ram Chk2	Checks the RAMs that are connected to the CPU. The test results appear on the LCD.
43	043WRomChk2	Checks the WAVE ROM. The test results appear on the LCD.
44	044WRamChk2	Checks the WAVE RAM. The test results appear on the LCD.
46	046BackUp 2	Performs the RAM back-up check. Check that the display reads “NG,” then turn off the power switch. (A time of the beginnings surely becoms NG.) Enter the test program and perform the RAM back-up checks, then check again. Check that the LCD displays “OK.”
47	047Factory	All the RAMs are initialized and set to the factory preset data when executing this test.
48	048TestExit	Exit from the test program after executing this test.

* NOTE : The above tests Nos. 41-46, require approximately 25 minutes to conduct.

If the time is not available to perform the tests, proceed the test No.47 by pressing several the [+ / YES] button.

● TABLE 1

ORDER	SWITCH	LCD	NOTE
1	DEMO	Demo	C2
2	TOUCH	Touch	C#2
3	HARMONY	Harmony	D2
4	Dict.	Dict	D#2
5	LESSON L	Lesson L	E2
6	LESSON R	Lesson R	F2
7	MENU-L	Menu-L	F#2
8	MENU-R	Menu-R	G2
9	DUAL	Dual	G#2
10	SETTING ▼	Setti DW	A2
11	SETTING ▲	Setti UP	A#2
12	PORTABLE GRAND	Portable	B2
13	METORONOME	Metro	C3
14	DJ	DJ	C#3
15	(Tenkey) 1	Tenkey 1	D3
16	(Tenkey) 2	Tenkey 2	D#3
17	(Tenkey) 3	Tenkey 3	E3
18	(Tenkey) 4	Tenkey 4	F3
19	(Tenkey) 5	Tenkey 5	F#3
20	(Tenkey) 6	Tenkey 6	G3
21	(Tenkey) 7	Tenkey 7	G#3
22	(Tenkey) 8	Tenkey 8	A3
23	(Tenkey) 9	Tenkey 9	A#3
24	(Tenkey) -	Tenkey -	B3
25	(Tenkey) 0	Tenkey 0	C4
26	(Tenkey) +	Tenkey +	C#4
27	SONG	Song	D4
28	STYLE	Style	D#4
29	VOICE	Voice	E4
30	ACMP ON/OFF	Accomp	F4
31	SYNC STOP	S.Stop	F#4
32	SYNC START	S.Start	G4
33	START/STOP	Str/Stp	G#4
34	INTRO/ENDING	Intro	A4
35	MAIN/AUTOFILL	Main/Fil	A#4
36	TEMPO/TAP	Temp/TAP	B4
37	RECORD	Record	C5
38	Track 1	Tr1	C#5
39	Track 2	Tr2	D5
40	Track 3	Tr3	D#5
41	Track 4	Tr4	E6
42	Track 5	Tr5	F6
43	Track A	ACMP	F#6
44	MUSIC DATABASE	MDB	G6
45	REGIST MEMORY	REG-Memo	G#6
46	REGIST 1	REG-1	A6
47	REGIST 2	REG-2	A#6
48	REGIST BANK	REG-BANK	B6
49	LOAD	Load	C7
50	SAVE	Save	C#7
51	EXECUTE	Execute	D7
52	UTILITY	Utility	D#7

■ DATA BACKUP & INITIALIZATION

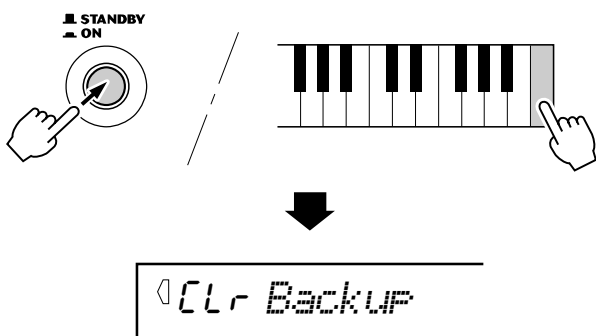
● Data Backup

Except for the data listed below, all PSR-350 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 memory — as long as an AC adaptor is connected or a set of batteries is installed.

- User Song Data
- Song Volume
- Registration Memory Data
- Registration Memory Bank Number
- Metronome Volume
- Touch On/Off
- Tuning
- Grade/Talking On/Off

● 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 Registration Memory and User song 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-350 freezes or begins to act erratically for any reason.

MIDI IMPLEMENTATION CHART

YAMAHA [Portable Keyboard]
Model PSR-350 MIDI Implementation Chart

Date:26-JAN-2001
Version : 1.0

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default	1 - 16	1 - 16 *1	
	Changed	1 - 16	1 - 16 *1	
Mode	Default	3	3	
	Messages Altered	X *****	X X	
Note Number	: True voice	0 - 127 *****	0 - 127 0 - 127	
Velocity	Note ON	0 9nH, v=1-127	0 9nH, v=1-127	
	Note OFF	0 9nH, v=0	0 9nH, v=0 or 8nH	
After Touch	Key's	X	X	
	Ch's	X	X	
Pitch Bend		X	0	
Control Change	0, 32	0	0	Bank Select Modulation wheel Data Entry Part Volume Pan Expression Sustain Harmonic Content Release Time Attack Time Brightness Portamento Cntrl Effect Depth RPN Inc, Dec RPN LSB, MSB
	1	X *2	0	
	6, 38	X *2	0	
	7	0	0	
	10	X	0	
	11	X *2	0	
	64	0	0	
	71	X *2	0	
	72	X *2	0	
	73	X *2	0	
	74	X *2	0	
	84	X *2	0	
	91, 93, 94	X	0	
	96, 97	X	0	
	100, 101	X *2	0	
Prog Change	: True #	0 0 - 127 *****	0 0 - 127	
System Exclusive		0 *3	0 *3	
Common	: Song Pos.	X	X	
	: Song Sel.	X	X	
	: Tune	X	X	
System	: Clock	0	0	
	Real Time: Commands	0 *4	0 *4	
Aux Mes- sages:	: All Sound OFF	X	0 (120, 126, 127)	*5
	: Reset All Cntrls	X	0 (121)	
	: Local ON/OFF	X	0 (122)	
	: All Notes OFF	X	0 (123-125)	
	: Active Sense	0	0	
	: Reset	X	X	

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

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

0 : Yes
X : No

PORTATONE

PSR-350

PARTS LIST

■ CONTENTS

OVERALL ASSEMBLY	2
KEYBOARD ASSEMBLY	5
ELECTRICAL PARTS	6 – 10

Notes : DESTINATION ABBREVIATIONS

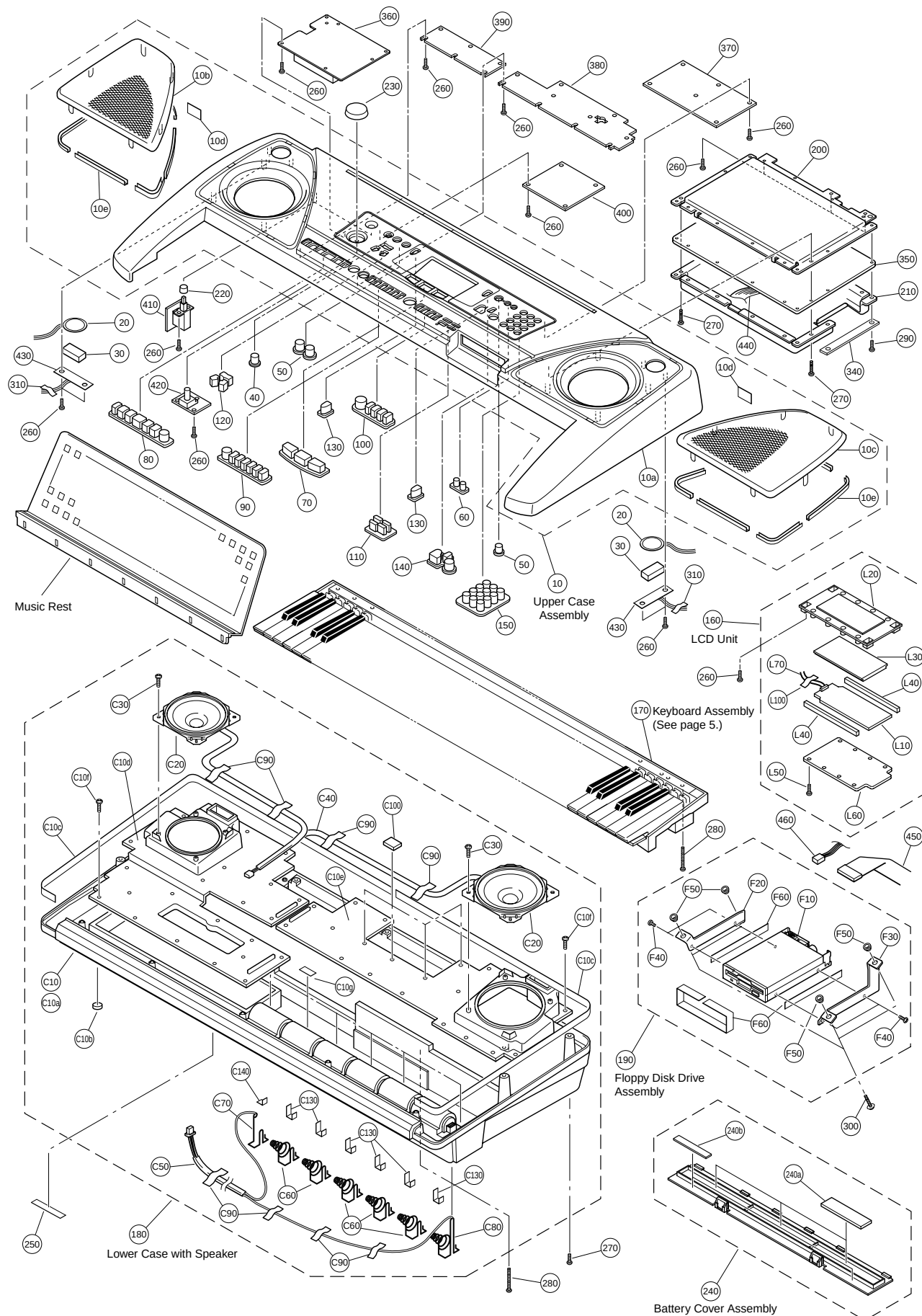
A : Australian model	M : South African model
B : British model	O : Chinese model
C : Canadian model	Q : South-east Asia model
D : German model	T : Taiwan model
E : European model	U : U.S.A. model
F : French model	V : General export model (110V)
H : North European model	W : General export model (220)
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 specification equal to those originally installed.

- The numbers "QTY" show 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 O, not zero.
- The second letter of the shaded () part number is I, not one.

OVERALL ASSEMBLY



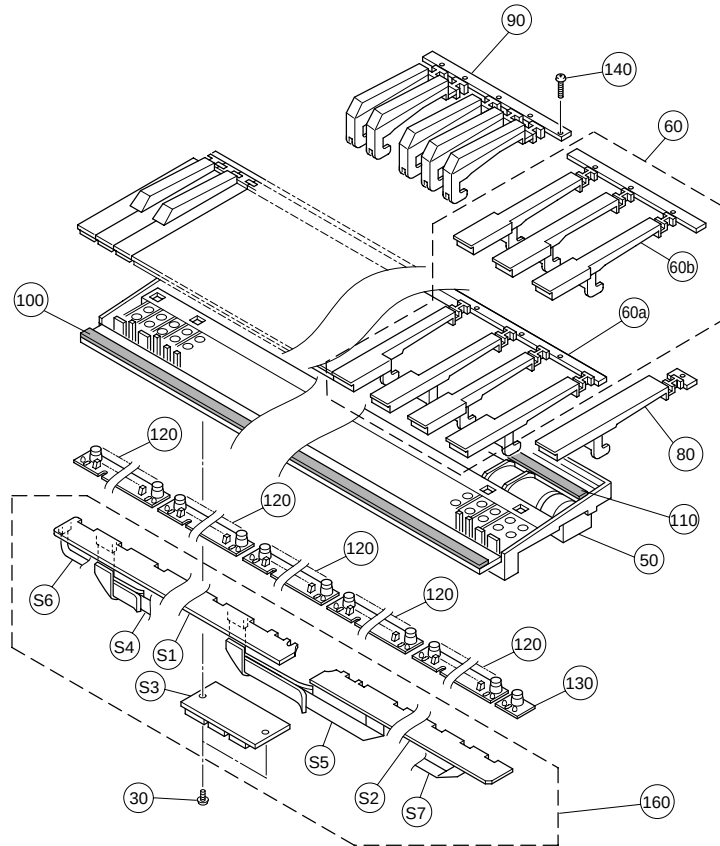
REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
	--	OVERALL ASSEMBLY		PSR-350 (V704580)		
* 10	V7049900	Upper Case Assembly				
10a	--	Upper Case		(V705030)		
* 10b	V7005100	Speaker Grille	LEFT			
* 10c	V7005000	Speaker Grille	RIGHT			
10d	VJ861500	Vibration-proof Tape	18X25		2	03
10e	--	Dust Proof Cloth	0.5X95X8	(V706870)	12	
20	X0159A00	Speaker	3.0cm	TWEETER	2	03
30	--	Sponge		(V364550)	2	
* 40	V7028000	Panel Switch	x1 YELLOW	DEMO		
* 50	V7028100	Panel Switch	x1 BLACK	TOUCH,HARMONY,DIAL	3	
* 60	V7028200	Panel Switch	x2 BLACK	SETTING DOWN/UP		
* 70	V7028300	Panel Switch	x3 IVORY	SONG,STYLE,VOICE		
* 80	V7028400	Panel Switch	x7 D. GRAY/RED	ACCOMPANIMENT ON/OFF, SYNC. STOP, SYNC. START, STYLE START,INTRO/ENDING, MAIN AUTO FILL,TEMPO/TAP RECORD,SONG 1-5,A/CLEAR MUSIC DATA BASE,BANK REGISTRATION MEMORY M/1,2 LOAD,SAVE,UTILITY,EXECUTE DICT.,LESSON-L/R REVERB,TRANSPOSE METRONOME,P. GRAND,DJ 0-9,NO/-,YES/+		
* 90	V7028500	Panel Switch	x7 D. GRAY			
* 100	V7028600	Panel Switch	x5 BLACK/BLUE			
* 110	V7028700	Panel Switch	x4 GRAY/BLUE			
* 120	V7028800	Panel Switch	x3 GRAY			
* 130	V7028900	Panel Switch	x1 IVORY		2	
* 140	V7029000	Panel Switch	x3 GRAY			
* 150	V7029200	Panel Switch	x12 BLACK			
160	--	LCD Unit	W	(V708040)		
* 170	V7127100	Keyboard Assembly	16M C61 P2M			
180	--	Lower Case with Speaker		(V705000)		
190	--	Floppy Disk Drive Assembly	A	(V704320)		
200	--	Shield Box	LOWER	(V702290)		
210	--	Shield Box	UPPER	(V702300)		
220	VQ218800	Knob	RED	STANDBY/ON		03
230	VU432400	Knob	BLACK	MASTER VOLUME		01
* 240	V7042300	Battery Cover Assembly	PT			
240a	--	Battery Cushion	WHITE	(V710060)	3	
240b	--	Nonwoven Fabric Cloth	10X70X0.5	(V781030)	2	
250	--	Label	FE	(V704940)		
260	EP600280	Bind Head Tapping Screw-P	3.0X8 MFZN2Y		49	01
270	EP600300	Bind Head Tapping Screw-P	3.0X12 MFZN2Y		16	01
280	VK228100	Bind Head Tapping Screw-P	3.0X25 MFZN2Y		6	01
290	EP600250	Bind Head Tapping Screw-B	3.0X8 MFZN2Y		13	01
300	V5115200	Sems Pan Head Screw	SW3.0X10		4	01
310	VA126100	Adhesive Tape	12X50		19	03
340	V5593500	Holder	97X9			01
* 350	V7016600	Circuit Board	DM			
* 360	V7224600	Circuit Board	AM			
* 370	V7022100	Circuit Board	PN1			
* 380	V7022200	Circuit Board	PN2			
* 390	V7022300	Circuit Board	PN3			
* 400	V7022400	Circuit Board	PN4			
* 410	V7022500	Circuit Board	PW			
* 420	V7022600	Circuit Board	VR			
* 430	V7224700	Circuit Board	TW		2	
440	--	Connector Assembly	KB	(V718860)		
450	V3819800	Connector Assembly	FDD FLAT CABLE			12
460	--	Connector Assembly	FDPS XH-2P	(V718900)		
	--	LCD Unit	W	(V708040)		
L10	V5265000	Back Light Assembly	B			07
L20	V5339100	LCD Panel	TYPE-B			01
* L30	V6968200	LCD	TYPE-W			
L40	V3755900	Rubber Connector	SS-105L		2	01
L40	V5415400	Rubber Connector	SS-105L		2	
L50	EP600280	Bind Head Tapping Screw-P	3.0X8 MFZN2Y		8	01
* L60	V7195300	Circuit Board	LCD			
L70	--	Connector Assembly	BLT	(V718810)		
L100	VA126100	Adhesive Tape	12X50			03
	--	Lower Case with Speaker		(V705000)		
* C10	V7039200	Lower Case Assembly				

*: New Parts

RANK: Japan only

RANK: Japan only

■ KEYBOARD ASSEMBLY



REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
*	V7127100	KEYBOARD ASSEMBLY	16M C61 P2M MKS5	PSR-350		
30	EP600280	Bind Head Tapping Screw-P	3.0X8 MFZN2Y		2	01
30	EP630220	Bind Head Tapping Screw-P	3.0X8 MFZN2BL		2	01
50	--	Frame	C61	(VS15380)		
50	VU328600	Frame	C61 16M			10
50	--	Frame	C61 16M,L	(V676090)		
60	VH1809C0	White Key	16L CEGDBFA		5	03
60a	--	White Key	16L CEGB	(VH18090)	5	03
60b	--	White Key	16L DFA	(VH18100)	5	03
80	VH181100	White Key	16L C'			01
90	VH181200	Black Key	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
140	VB205200	Bind Head Tapping Screw-P	3.0X16 MFZN2BL		21	01
140	VS756700	Bind Head Tapping Screw-P	3.0X16 MFZN2B		21	01
150	TX920280	Grease	G-31KA 50g			10
160	--	Circuit Board Assembly	MKS5 TY KBD SW	(V712720)		
170	--	Nonwoven Fabric Cloth	40X13X0.5	(V771130)		
	--	Circuit Board Assembly	MKS5 TY KBD SW	(V712720)		
S1	VV583800	Circuit Board	MK-L			09
S2	VV583900	Circuit Board	MK-H			09
* S3	V7112200	Circuit Board	MKS5			
S4	VV583100	Cable	MK-A 12P			03
S5	VV583600	Cable	MK-B 12P			03
S6	VV583500	Cable	MK-C 7P			03
S7	VV583700	Cable	MK-D 5P			03
S8	--	Sponge	A 16M	(VV61890)	2	
S9	--	Sponge	B 16M	(VV61900)	2	
S10	--	Adhesive Tape	C 12	(VV61910)		
S11	--	Adhesive Tape	D 12	(VV61920)	3	

*: New Parts

RANK: Japan only

ELECTRICAL PARTS

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
		ELECTRICAL PARTS		PSR-350		
*	V7224600	Circuit Board	AM	(XZ754C0)		
*	V7224700	Circuit Board	TW	(XZ754C0)		
*	V7016600	Circuit Board	DM	(XZ669C0)		
*	V7195300	Circuit Board	LCD	(XY486B0)		
	VV583900	Circuit Board	MK-H	(XR565C0)		09
	VV583800	Circuit Board	MK-L	(XR564C0)		09
*	V7112200	Circuit Board	MKS5	(XZ594A0)		
*	V7022100	Circuit Board	PN1	(XZ777B0)		
*	V7022400	Circuit Board	PN4	(XZ777B0)		
*	V7022200	Circuit Board	PN2	(XZ776B0)		
*	V7022300	Circuit Board	PN3	(XZ776B0)		
*	V7022500	Circuit Board	PW	(XZ776B0)		
*	V7022600	Circuit Board	VR	(XZ776B0)		
*	V7224600	Circuit Board	AM	(XZ754C0)		
*	V7224700	Circuit Board	TW	(XZ754C0)		
	EP600190	Bind Head Tapping Screw-B	3.0X8 M FZN2BL		3	01
	--	Jumper Wire	0.55	(VA07890)		
C0603	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
C0801	V6490000	Monolithic Ceramic Cap.	1.000 25V Z			01
C0802	V6490000	Monolithic Ceramic Cap.	1.000 25V Z			01
C0805	FG612470	Ceramic Capacitor-B	470P 50V K			01
C0806	FG612470	Ceramic Capacitor-B	470P 50V K			01
C0807	UR828100	Electrolytic Cap.	100.00 10.0V			01
C0808	UR827330	Electrolytic Cap.	33.00 10.0V			01
C0809	UR837220	Electrolytic Cap.	22.00 16.0V			01
C0810	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
C0811	UR848100	Electrolytic Cap.	100.00 25.0V			01
C0812	UA654470	Mylar Capacitor	0.0470 50V J			01
-0815	UA654470	Mylar Capacitor	0.0470 50V J			01
C0816	UR837470	Electrolytic Cap.	47.00 16.0V			01
C0817	UR837470	Electrolytic Cap.	47.00 16.0V			01
C0901	UR828100	Electrolytic Cap.	100.00 10.0V			01
C0902	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
C0903	UR867100	Electrolytic Cap.	10.00 50.0V			01
C0905	UR819100	Electrolytic Cap.	1000 6.3V			01
C0906	FG612330	Ceramic Capacitor-B	330P 50V K			01
C0907	UR848100	Electrolytic Cap.	100.00 25.0V			01
C0908	UR749470	Electrolytic Cap.	4700 25.0V			05
CN602	VI878400	Cable Holder	51048 6P TE			01
CN801	VK024900	Wire Trap	52147 5P TE			01
CN802	LB918040	Base Post Connector	XH 4P TE			01
CN901	VI878500	Cable Holder	51048 7P TE			01
CN902	VK024800	Wire Trap	52147 4P TE			01
CN903	LB918020	Base Post Connector	XH 2P TE			01
CN907	VK024600	Wire Trap	52147 2P TE			01
CN908	LB918020	Base Post Connector	XH 2P TE			01
CN909	VI878000	Cable Holder	51048 2P TE			01
CN910	VI878000	Cable Holder	51048 2P TE			01
D0901	VL723600	Diode	20E1-FC4			01
D0902	VL723600	Diode	20E1-FC4			01
D0903	VD631600	Diode	1SS133,176,HSS104			01
D0904	VB481900	Diode	11ES4			01
D0905	V2320300	Diode	RK33			01
EM001	VD542700	LC Filter	DSS306-93F223Z1			01
HS001	VV856400	Heat Sink				05
IC801	XQ619A00	IC	LA4705NA 17W BTL	POWER AMP 17W		05
IC901	XT625A00		S-81250SGY-Z	REGULATOR +5V		02
IC902	XV856A00	IC	M5291P	DC-DC CONVERTER		03
J0901	--	Jumper Wire	0.55	(VA07890)		
JK601	VB312600	Phone Jack	YKB21-5012 BLACK	FOOT SWITCH		02
JK602	VJ107200	DIN Connector	5P YKF51-5050	MIDI IN		01
JK603	VJ107200	DIN Connector	5P YKF51-5050	MIDI OUT		01
JK801	LB101870	Phone Jack	YKB21-5006	PHONES/OUTPUT		03
JK901	LB302260	Connector	HEC0470-01-630	DC IN 12V		02
L0601	VB835000	Coil	FL5R200QNT 20uH			01
L0603	VB835000	Coil	FL5R200QNT 20uH			01
L0604	VB835000	Coil	FL5R200QNT 20uH			01
L0606	VB835000	Coil	FL5R200QNT 20uH			01

*: New Parts

RANK: Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
L0608	VB835000	Coil	FL5R200QNT 20uH			01
L0610	VB835000	Coil	FL5R200QNT 20uH			01
L0801	VB835000	Coil	FL5R200QNT 20uH			01
-0803	VB835000	Coil	FL5R200QNT 20uH			01
L0901	VI486800	Line Filter	SU10VD-20020			03
L0902	VZ017900	Coil	HP-022J 180uH			05
L0903	VN381200	Coil	SNT-D20TF 10uH			03
R0603	HF455220	Carbon Resistor	220.0 1/4 J			01
R0801	HF456220	Carbon Resistor	2.2K 1/4 J			01
R0802	HF456220	Carbon Resistor	2.2K 1/4 J			01
R0803	HF455470	Carbon Resistor	470.0 1/4 J			01
R0804	HF455470	Carbon Resistor	470.0 1/4 J			01
R0805	HF457100	Carbon Resistor	10.0K 1/4 J			01
R0806	HF453220	Carbon Resistor	2.2 1/4 J			01
-0809	HF453220	Carbon Resistor	2.2 1/4 J			01
R0810	HF455100	Carbon Resistor	100.0 1/4 J			01
R0811	HF455100	Carbon Resistor	100.0 1/4 J			01
R0813	HF455330	Carbon Resistor	330.0 1/4 J			01
R0814	HF455330	Carbon Resistor	330.0 1/4 J			01
R0901	HF456100	Carbon Resistor	1.0K 1/4 J			01
R0902	HF455330	Carbon Resistor	330.0 1/4 J			01
R0903	VC731200	Metal Oxide Film Resistor	100.0 1W J			01
R0904	HF456390	Carbon Resistor	3.9K 1/4 J			01
R0905	HF456120	Carbon Resistor	1.2K 1/4 J			01
R0906	V3648000	Metal Film Resistor	0.15 1W J			01
R0907	HF454560	Carbon Resistor	56.0 1/4 J			01
R0908	HF454680	Carbon Resistor	68.0 1/4 J			01
TH901	VV458000	Protector Switch	RUE250 2.50A 30V	Overcurrent protection		03
TR901	V3795100	Transistor	2SA2006 E,F			02
WH002	--	Connector Assembly	PS	(V718820)		
WH003	--	Connector Assembly	DJ	(V718830)		
WH007	--	Connector Assembly	EP1	(V719460)		
WH998	--	Connector Assembly	TW	(V718880)		
WH999	--	Connector Assembly	TW	(V718880)		
ZD901	VG439500	Zener Diode	MTZ J 10.0B 10.0V			01
*	V7016600	Circuit Board	DM	(XZ669C0)		
	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL			01
	C0101	UR828100	Electrolytic Cap.	100.00 10.0V		01
	C0102	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0104	FG652100	Ceramic Capacitor-SL	100P 50V J		01
	C0105	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0106	UR828100	Electrolytic Cap.	100.00 10.0V		01
	C0107	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	-0109	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0110	UR828100	Electrolytic Cap.	100.00 10.0V		01
	C0111	UR828100	Electrolytic Cap.	100.00 10.0V		01
	C0112	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0113	UR828100	Electrolytic Cap.	100.00 10.0V		01
	C0114	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0115	UR828100	Electrolytic Cap.	100.00 10.0V		01
	C0116	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0117	UR828100	Electrolytic Cap.	100.00 10.0V		01
	C0118	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0119	UR828100	Electrolytic Cap.	100.00 10.0V		01
	C0120	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0121	FG613100	Ceramic Capacitor-B	1000P 50V K		01
	C0201	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0204	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0301	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0302	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0303	UR828100	Electrolytic Cap.	100.00 10.0V		01
	C0304	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	-0306	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0307	UR828100	Electrolytic Cap.	100.00 10.0V		01
	C0501	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z		01
	C0502	UR818220	Electrolytic Cap.	220.00 6.3V		01
	C0503	UR837470	Electrolytic Cap.	47.00 16.0V		01
	C0504	FG613220	Ceramic Capacitor-B	2200P 50V K		01
	C0505	FG613220	Ceramic Capacitor-B	2200P 50V K		01

*: New Parts

RANK: Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C0506	FG612220	Ceramic Capacitor-B	220P 50V K			01
-0509	FG612330	Ceramic Capacitor-B	330P 50V K			01
C0510	UR866470	Electrolytic Cap.	4.70 50.0V			01
C0511	UR866470	Electrolytic Cap.	4.70 50.0V			01
C0512	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
C0514	UR837470	Electrolytic Cap.	47.00 16.0V			01
C0515	FG652100	Ceramic Capacitor-SL	100P 50V J			01
C0516	FG652100	Ceramic Capacitor-SL	100P 50V J			01
C0517	UR867100	Electrolytic Cap.	10.00 50.0V			01
C0518	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
C0519	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
C0601	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
C0602	FG613100	Ceramic Capacitor-B	1000P 50V K			01
C0702	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
C0815	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
CA101	VH483900	Ceramic Capacitor Array	100P 50V M			01
CA601	VH483900	Ceramic Capacitor Array	100P 50V M			01
CA701	VH484100	Ceramic Capacitor Array	100P 50V M			02
CA702	VP755200	Ceramic Capacitor Array	100P 50V K			02
CL101	V2192500	Ceramic Resonator	8.4672M CST8.46MT			01
CL304	VK966200	Ceramic Resonator	16.0M CST16.00MXW0			02
CN101	VK025100	Wire Trap	52147 7P TE			01
CN102	VF728300	Wire Trap	52147 6P TE			01
CN301	VQ391300	Connector	34P TE			03
CN301	V3858700	Connector Header	302A 34P TE			05
CN501	VK024900	Wire Trap	52147 5P TE			01
CN601	VF728300	Wire Trap	52147 6P TE			01
CN701	VK025200	Wire Trap	52147 8P TE			01
CN702	VF728200	Wire Trap	52147 10P TE			01
CN715	VK025600	Wire Trap	52147 12P TE			01
D0601	VB941200	Diode	1SS133,1SS176			01
EM101	VD542700	LC Filter	DSS306-93F223Z1			01
-103	VD542700	LC Filter	DSS306-93F223Z1			01
IC101	XU947C00	IC	HG73C205AFD	TONE GENERATOR (SWX00B)		09
IC102	XT333A00	IC	UPC29M33HF	REGULATOR +3.3V		03
IC103	XR902A00	IC	IC-PST591D-2	SYSTEM RESET		02
IC201	XZ079100	IC	MX23C3210PC-10	MASK ROM 32M WAVE		
IC204	XT810A00	IC	MSM514260C-60TS-K	DRAM 4M		16
IC204	XW125A00	IC	SDM4260CLTM-6S			08
IC301	XT138A00	IC	UPD431000AGW-70LL	SRAM 1M		07
IC301	XV976A00	IC	M5M51008CFP-70H			07
IC301	XY909A00	IC	UPD431000AGW			07
IC302	XT138A00	IC	UPD431000AGW-70LL	SRAM 1M		07
IC302	XV976A00	IC	M5M51008CFP-70H			07
IC302	XY909A00	IC	UPD431000AGW			07
* IC303	XZ917100	IC	K3N6C429LE-DC10	MASK ROM 32M PROGRAM		
IC304	XI939A00	IC	HD63266F	FDC		09
IC501	XR998A00	IC	UPD6379AGR	DAC		04
IC502	XC520A00	IC	UPC4570C	OP AMP		01
IC503	XJ596A00	IC	NJM78L05A	REGULATOR +5V		01
IC601	VG181900	Photo Coupler	PC-900V			03
IC602	XZ012A00	IC	TC74HCT08AF(EL)	AND		01
IC602	XZ013A00	IC	MM74HCT08SJX			01
IS201	VK863100	IC Socket	DICF-42CS-E			03
IS303	VK863100	IC Socket	DICF-42CS-E			03
J0501	HF754100	Carbon Resistor	10.0 1/4 J			01
L0105	VB835000	Coil	FL5R200QNT 20uH			01
-0108	VB835000	Coil	FL5R200QNT 20uH			01
L0602	VB835000	Coil	FL5R200QNT 20uH			01
L0701	VD542700	LC Filter	DSS306-93F223Z1			01
L0702	VB835000	Coil	FL5R200QNT 20uH			01
R0101	HF757470	Carbon Resistor	47.0K 1/4 J			01
R0102	HF755220	Carbon Resistor	220.0 1/4 J			01
R0103	HF757100	Carbon Resistor	10.0K 1/4 J			01
R0104	HF754470	Carbon Resistor	47.0 1/4 J			01
-0108	HF754470	Carbon Resistor	47.0 1/4 J			01
R0111	HF754470	Carbon Resistor	47.0 1/4 J			01
R0112	HF754470	Carbon Resistor	47.0 1/4 J			01
R0114	HF754470	Carbon Resistor	47.0 1/4 J			01
R0116	HF757470	Carbon Resistor	47.0K 1/4 J			01

*: New Parts

RANK: Japan only

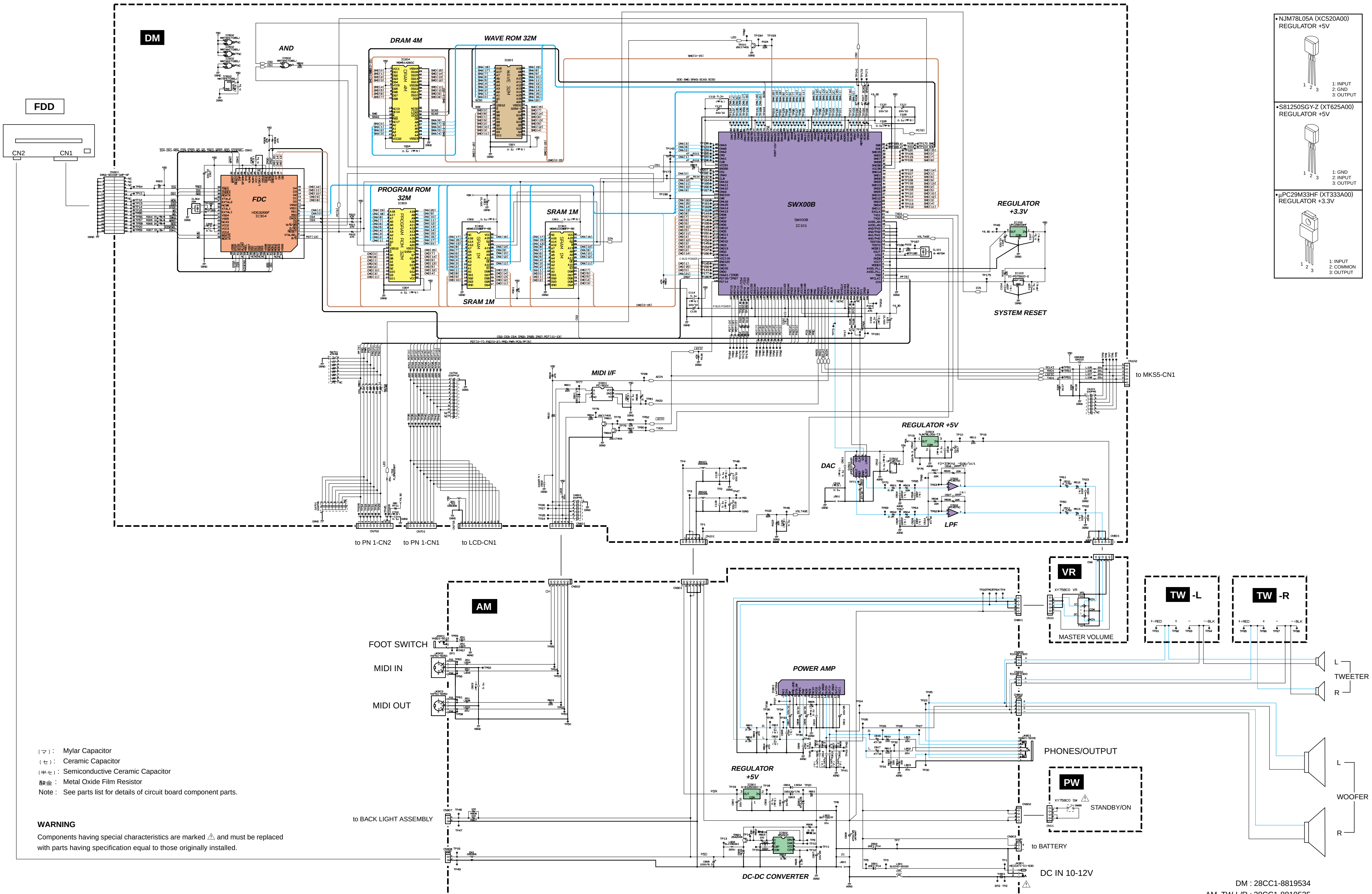
REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R0117	HF758100	Carbon Resistor	100.0K 1/4 J			01
R0118	HF758100	Carbon Resistor	100.0K 1/4 J			01
R0119	HF754470	Carbon Resistor	47.0 1/4 J			01
-0121	HF754470	Carbon Resistor	47.0 1/4 J			01
R0122	HF757820	Carbon Resistor	82.0K 1/4 J			01
R0123	HF757220	Carbon Resistor	22.0K 1/4 J			01
R0124	HF757220	Carbon Resistor	22.0K 1/4 J			01
R0125	HF754470	Carbon Resistor	47.0 1/4 J			01
R0126	HF754470	Carbon Resistor	47.0 1/4 J			01
R0301	HF757470	Carbon Resistor	47.0K 1/4 J			01
R0303	HF756100	Carbon Resistor	1.0K 1/4 J			01
-0307	HF756100	Carbon Resistor	1.0K 1/4 J			01
R0308	HF757470	Carbon Resistor	47.0K 1/4 J			01
-0312	HF757470	Carbon Resistor	47.0K 1/4 J			01
R0501	HF756220	Carbon Resistor	2.2K 1/4 J			01
R0502	HF756220	Carbon Resistor	2.2K 1/4 J			01
R0503	HF757220	Carbon Resistor	22.0K 1/4 J			01
-0508	HF757220	Carbon Resistor	22.0K 1/4 J			01
R0511	HF755100	Carbon Resistor	100.0 1/4 J			01
R0512	HF754470	Carbon Resistor	47.0 1/4 J			01
R0513	HF754470	Carbon Resistor	47.0 1/4 J			01
R0601	HF755220	Carbon Resistor	220.0 1/4 J			01
R0604	HF755220	Carbon Resistor	220.0 1/4 J			01
R0605	HF757100	Carbon Resistor	10.0K 1/4 J			01
R0607	HF757220	Carbon Resistor	22.0K 1/4 J			01
R0608	HF756270	Carbon Resistor	2.7K 1/4 J			01
R0609	HF757470	Carbon Resistor	47.0K 1/4 J			01
R0610	HF756100	Carbon Resistor	1.0K 1/4 J			01
R0701	HF755220	Carbon Resistor	220.0 1/4 J			01
-0710	HF755220	Carbon Resistor	220.0 1/4 J			01
R0711	HF755180	Carbon Resistor	180.0 1/4 J			01
R0800	HF757470	Carbon Resistor	47.0K 1/4 J			01
R0801	HF755100	Carbon Resistor	100.0 1/4 J			01
R0802	HF755220	Carbon Resistor	220.0 1/4 J			01
R0803	HF754470	Carbon Resistor	47.0 1/4 J			01
RA701	VF238600	Resistor Array	RGLE8X473J			01
RA702	V3988800	Resistor Array	RGLE6Y101J			01
TR101	IC174070	Transistor	2SC1740S R,S			01
TR601	IC174070	Transistor	2SC1740S R,S			01
TR602	IC174070	Transistor	2SC1740S R,S			01
*	V7195300	Circuit Board	LCD	(XY486B0)		
C0707	UR828100	Electrolytic Cap.	100.00 10.0V			01
C0708	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
C0709	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z			01
CN001	VI879000	Cable Holder	51048 12P TE			01
IC701	XV226A00	IC	S6A0069X10-Q0RJ	LCD DRIVER		05
IC701	--	IC	ML9040A-B01GA	(XZ987A0)		
IC701	--	IC	NJU6468FC2-00	(X0121A0)		
R0723	HF755220	Carbon Resistor	220.0 1/4 J			01
R0724	HF757910	Carbon Resistor	91.0K 1/4 J			01
R0725	HF754680	Carbon Resistor	68.0 1/4 J			01
RA702	V5302400	Resistor Array	RGLE5V222J			01
TH701	VR346900	Thermistor	ERTD2FGJ801S 800			03
WH200	--	Connector Assembly	LCD	(V718800)		
	VV583900	Circuit Board	MK-H	(XR565C0)		09
	VK025600	Wire Trap	52147 12P TE			01
	VK024900	Wire Trap	52147 5P TE			01
	VV437800	Diode	1N4148(DO-34)			01
	VV583800	Circuit Board	MK-L	(XR564C0)		09
	VK025600	Wire Trap	52147 12P TE			01
	VK025100	Wire Trap	52147 7P TE			01
	VV437800	Diode	1N4148(DO-34)			01
*	V7112200	Circuit Board	MKS5	(XZ594A0)		
	--	Vibration-proof Tape	10X64X0.5	(VK34680)		
	--	Jumper Wire	0.55	(VA07890)		
C1	FG651220	Ceramic Capacitor-SL	22P 50V J			01

*: New Parts

RANK: Japan only

*: New Parts RANK: Japan only

■ PSR-350 OVERALL CIRCUIT DIAGRAM 1/2 (DM, AM, VR, PW, TW-L/R)



(マ) : Mylar Capacitor
 (セ) : Ceramic Capacitor
 (半セ) : Semiconductive Ceramic Capacitor
 酸金 : Metal Oxide Film Resistor
 Note : See parts list for details of circuit board component parts.

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

DM : 28CC1-8819534
 AM, TW-L/R : 28CC1-8819535
 VR, PW : 28CC1-8819536

PSR-350

1

2

3

4

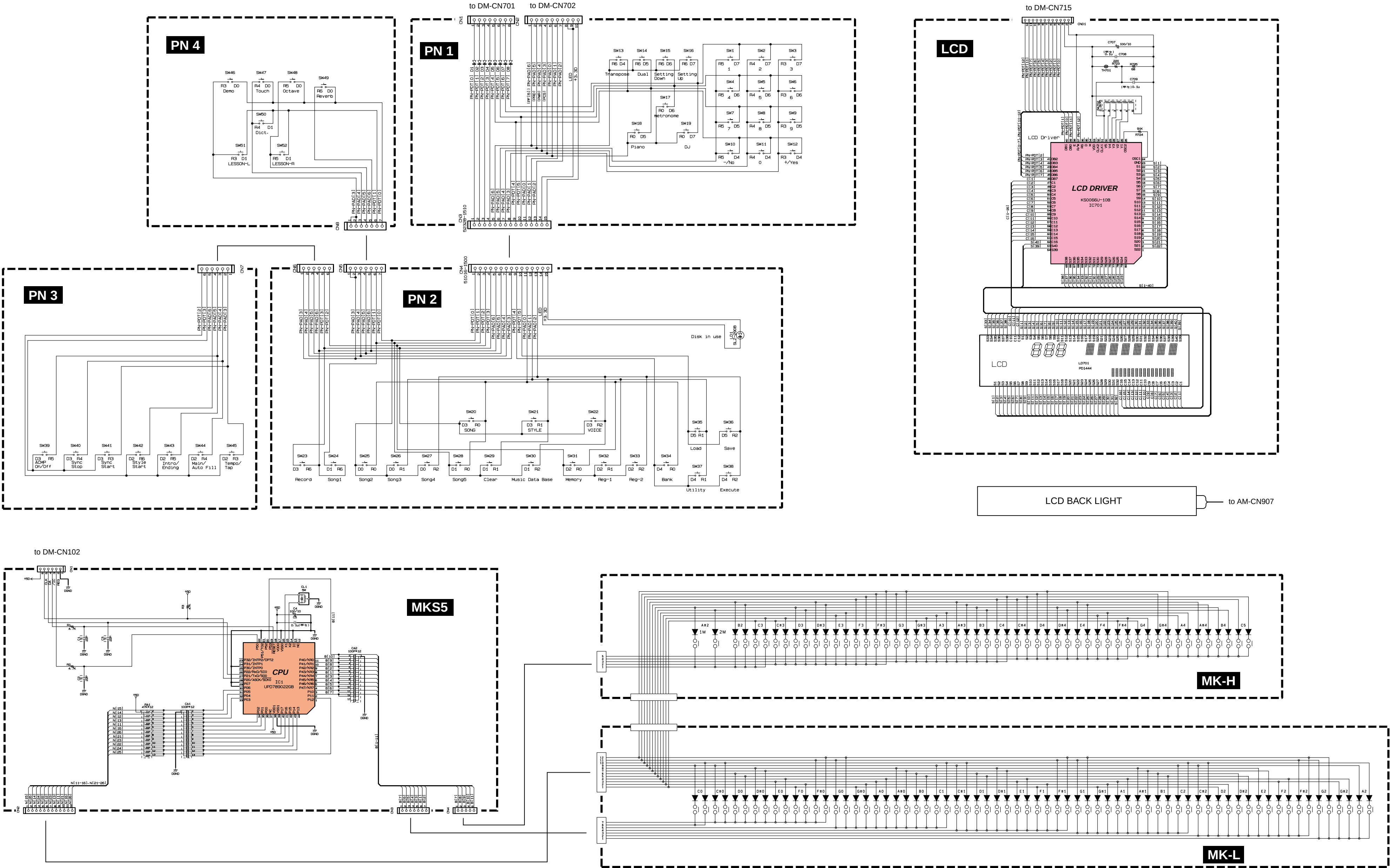
5

6

7

8

■ PSR-350 OVERALL CIRCUIT DIAGRAM 2/2 (PN 1, PN 2, PN 3, PN 4, LCD, MKS5, MK-L, MK-H)



(セラ) : Ceramic Capacitor
(半セラ) : Semiconductive Ceramic Capacitor
Note : See parts list for details of circuit board component parts.

PN 1, PN 2, PN3, PN4 : 28CC1-8819536
LCD : 28CC1-8819537
MK-H : 28CC1-8812655
MK-L : 28CC1-8812655