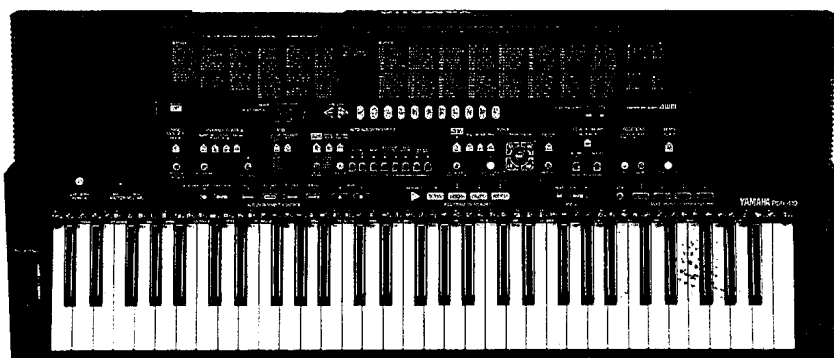
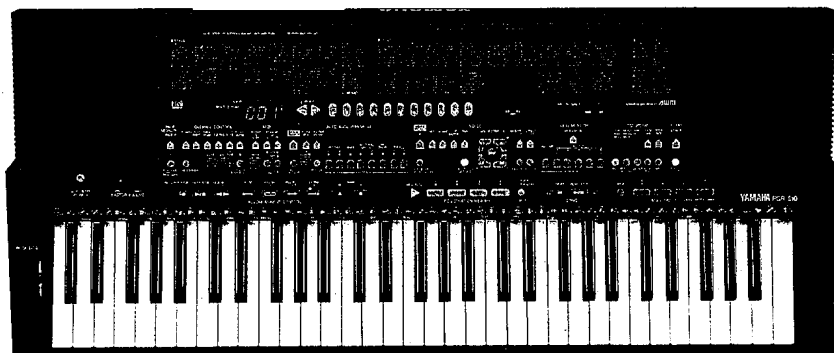


PORTATONE PSR-410 PSR-510

SERVICE MANUAL



PSR-410

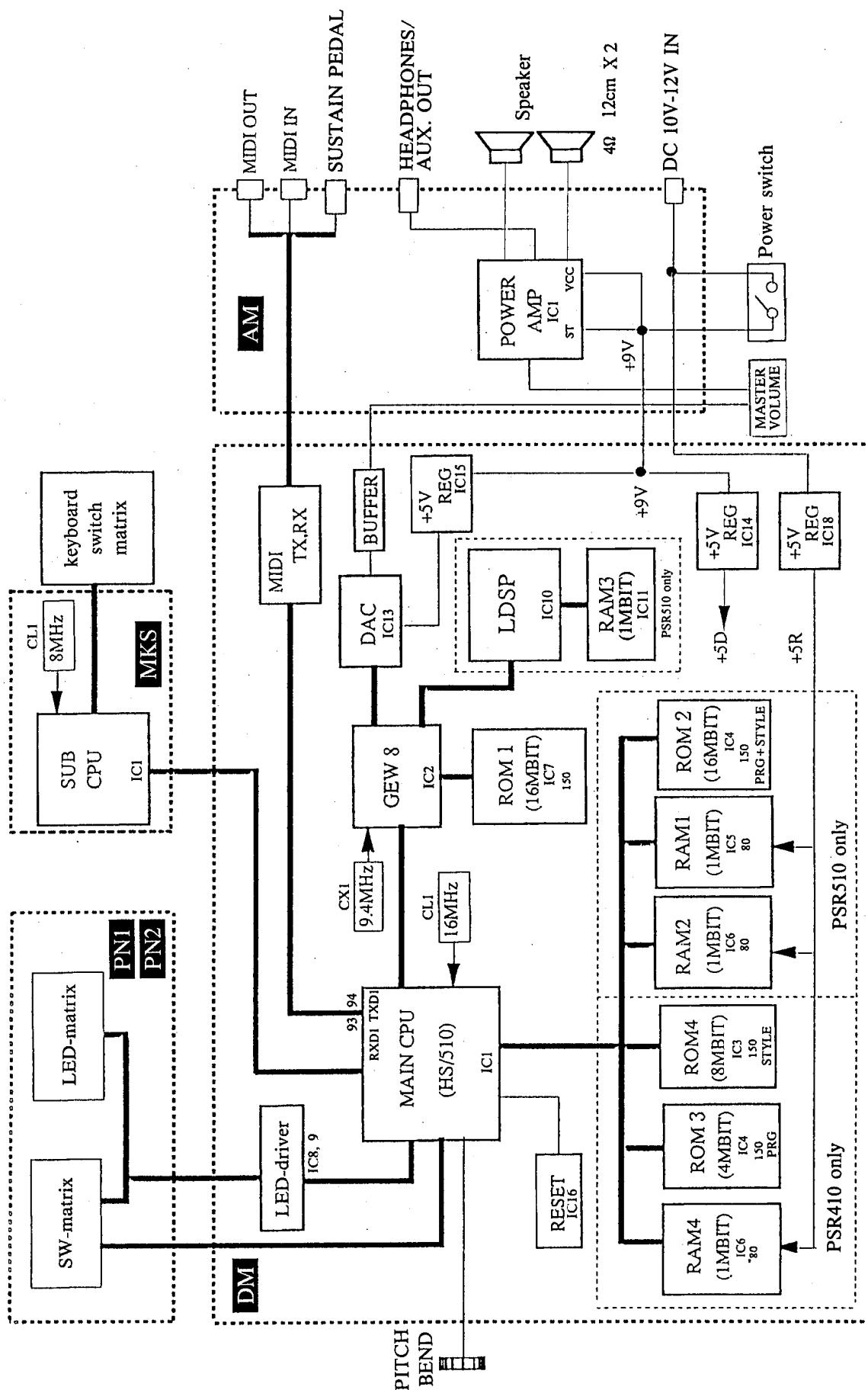


PSR-510

■ CONTENTS (目次)

SPECIFICATIONS.....	2
PANEL LAYOUT.....	4
CIRCUIT BOARD LAYOUT.....	8
BLOCK DIAGRAM.....	10
DISASSEMBLY PROCEDURE.....	11
LSI PIN DESCRIPTION.....	15
IC BLOCK DIAGRAM.....	17
CIRCUIT BOARDS.....	18
TEST PROGRAM.....	30
MIDI DATA FORMAT.....	34
MIDI IMPLEMENTATION CHART.....	36
PARTS LIST.....	

BLOCK DIAGRAM



LSI PIN DESCRIPTION

• HD6415108F10 <H8/510> (XJ797A00) CPU

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	<u>RES</u>	I	Reset	57	P41	I/O	Port 4
2	<u>NMI</u>	I	Non-maskable interrupt	58	P42	I/O	
3	VSS		Ground	59	P43	I/O	
4	D0	I/O	Data bus	60	P44	I/O	
5	D1	I/O		61	P45	I/O	Ground
6	D2	I/O		62	P46	I/O	
7	D3	I/O		63	P47	I/O	
8	D4	I/O		64	VSS		
9	D5	I/O		65	P50	I/O	Power supply
10	D6	I/O		66	P51	I/O	
11	D7	I/O		67	P52	I/O	
12	D8	I/O		68	P53	I/O	
13	D9	I/O	Ground	69	P54	I/O	Port 6
14	D10	I/O		70	P55	I/O	
15	D11	I/O		71	P56	I/O	
16	D12	I/O		72	P57	I/O	
17	D13	I/O	Address bus	73	P60	I/O	Ground
18	D14	I/O		74	P61	I/O	
19	D15	I/O		75	P62	I/O	
20	VSS			76	P63	I/O	Analog ground
21	A0	O	Address bus	77	P64	I/O	
22	A1	O		78	P65	I/O	
23	A2	O		79	P66	I/O	
24	A3	O		80	P67	I/O	Analog signal input
25	A4	O		81	VSS		
26	A5	O		82	AVSS		
27	A6	O		83	AN0	I	
28	A7	O		84	AN1	I	Analog power supply
29	A8	O		85	AN2	I	
30	A9	O		86	AN3	I	
31	A10	O	(Ground)	87	AVCC		
32	A11	O		88	VCC		Port 8
33	A12	O		89	P80/IRQ0	I/O	
34	A13	O		90	P81/IRQ1	I/O	
35	A14	O		91	P82/SCK1	I/O	Ground
36	A15	O		92	P83/SCK2	I/O	
37	VSS			93	P84/RXD1	I/O	
38	A16	O		94	P85/TXD1	I/O	
39	A17	O	Clock	95	P86/RXD2	I/O	Ground
40	A18	O		96	P87/TXD2	I/O	
41	A19	O		97	VSS		
42	A20	O		98	EXTAL		Sync-signal
43	A21	O	Ground	99	XTAL		
44	A22	O		100	VSS		
45	A23	O		101	ø	O	
46	VSS		Port 3	102	E	O	Address strobe
47	P30/WAIT	I/O		103	AS	O	
48	P31	I/O		104	RD	O	
49	P32	I/O		105	HWR	O	Read control
50	P33	I/O	Power supply	106	LWR	O	
51	P34	I/O		107	RFSH	I	
52	P35	I/O		108	VCC		
53	P36	I/O	Port 4	109	MDO	I	Mode select
54	P37	I/O		110	MD1	I	
55	VCC			111	MD2	I	
56	P40	I/O		112	STBY	I	Stand-by mode signal

• HD63B05VOD73P (XJ450A00) CPU (SUB)

Pin No.	Name	I/O	Function	Pin No.	Name	I/O	Function
1	RES	I	Reset	21	C7	I/O	Port C
2	INT	I	Interrupt request	22	C6	I/O	
3	NUM	I	Non-maskable interrupt	23	C5	I/O	
4	A7	I/O	Port A	24	C4	I/O	
5	A6	I/O		25	C3	I/O	
6	A5	I/O		26	C2	I/O	
7	A4	I/O		27	C1	I/O	
8	A3	I/O		28	C0	I/O	
9	A2	I/O	Port B	29	D0	I/O	Port D
10	A1	I/O		30	D1	I/O	
11	A0	I/O		31	D2	I/O	
12	B0	I/O		32	TX	O	Serial data output
13	B1	I/O		33	RX	I/O	Clock for senal operation
14	B2	I/O		34	CK	O	
15	B3	I/O		35	INT2	I/O	Standby mode signal
16	B4	I/O		36	STBY	I	
17	B5	I/O	Ground	37	TIM	I	Timer
18	B6	I/O		38	XT	I	Clock
19	B7	I/O		39	EXT	I	
20	VSS			40	VCC		Power supply

• YMW-258-F (XJ427A00) GEW8 (AWM & FM Tone Generator)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	NC		Ground	41	Vss		Ground
2	Vss			42	NC		
3	D0			43	Vss		
4	D7		CPU data bus	44	AB0		Voice memory address bus
5	A0		CPU address bus	45	DB7		Voice memory data bus
6	A1			46	AB1		Voice memory address bus
7	A2			47	AB2		
8	A3		Chip select	48	AB10		
9	CS			49	AB3		
10	RD		Read control	50	AB4		
11	WR		Write control	51	AB11		
12	XIN		Clock	52	AB5		
13	XOUT		Initial clear	53	AB9		
14	IC			54	AB6		
15	TST0			55	AB8		Ground
16	TST1		Test pin	56	AB7		
17	Vss		Ground	57	AB13		
18	DITHER		Not used	58	AB12		
19	DACLD		Data output, L channel	59	AB14		
20	DACDCLK		Bit clock output to DAC	60	AB15		
21	DACRD		Data output, R channel	61	AB17		
22	DACLE		Word clock output to DAC	62	Vss		
23	NC		System clock output to DAC	63	Vss		
24	DACMC			64	Vss		
25	CH27			65	Vss		Voice memory address bus
26	DSPSYW		Not used	66	AB16		
27	DSPSEND			67	AB18		
28	DSPRET			68	AB19		
29	DSPIC			69	AB20		
30	DSPCDS			70	AB21		
31	DSPCLK		Power supply	71	MRD(MWR)		Memory read control
32	VDD			72	VDD		Power supply
33	DB3			73	MWR(MRD)		Memory write control
34	DB2		Voice memory data bus	74	D3		CPU data bus
35	DB4			75	D4		
36	DB1			76	D2		
37	DB5			77	D5		
38	DB0			78	D1		
39	DB6			79	D6		Ground
40	NC			80	Vss		

• YM3413 (XE449A00) LDSP (Digital Signal Processor)

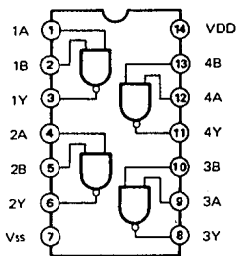
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VDD		DC supply (+5V)	21	A5	O	
2	D7	I/O		22	A6	O	
3	D6	I/O		23	A7	O	
4	D5	I/O		24	A8	O	
5	D4	I/O		25	A9	O	
6	D3	I/O		26	A10	O	
7	D2	I/O		27	A11	O	
8	D1	I/O		28	A12	O	
9	D0	I/O		29	A13	O	
10	SI0	I	Serial data input	30	A14	O	
11	SI1	I		31	A15	O	
12	SYW	I	Sync pulse	32	A16	O	
13	WE	O	Write enable	33	SO0	O	Serial data output
14	OE	O	Output enable	34	XCLK	I	Clock
15	A0	O		35	IC	I	Initial Clear
16	A1	O		36	CRS	I	CD counter reset
17	A2	O	Address bus	37	CDI	I	CD input
18	A3	O		38	CDo	O	CD output
19	A4	O		39	SO1	O	Serial data output
20	Vss		Ground	40	CLK	I	Clock

• μPD63200GS (XM145A00) DAC (Digital to Analog Converter)

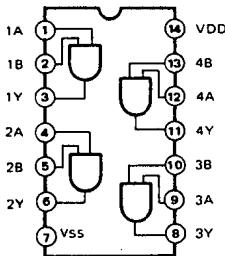
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	4/8F	I	4/8 fs selection	9	R.REF		R-ch voltage reference
2	D.GND		Digital GND	10	L.REF		L-ch voltage reference
3	16 BIT	I	16 bit/18 bit selection	11	L.OUT	O	L-ch output
4	D.VDD		Digital VDD	12	A.GND		Analog GND
5	A.GND		Analog GND	13	WDCK	I	WORD clock
6	R.OUT	O	R-ch output	14	RSI	I	R-ch series input
7	A.VDD		Analog VDD	15	SI/LSI	I	Series input/L-ch series input
8	A.VDD			16	CLK	I	Clock

■ IC BLOCK DIAGRAM

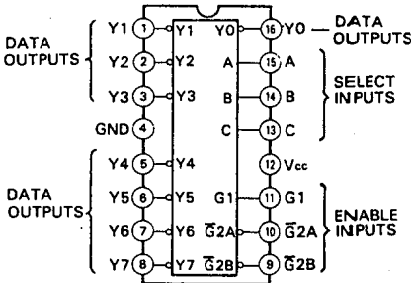
• SN74HC00N (IR000050)
Quad 2 Input NAND



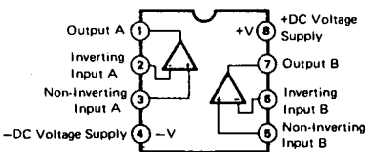
• HD74HC08P2IN (IR000810)
Quad 2 Input AND



• 74AC11138 (XM724A00)
3 to 8 Decoder/Demultiplexer



• μPC4570C (XC520A00)
Dual Operational Amplifier



■ TEST PROGRAM

TYPE OF TEST PROGRAM MODE

There are three test modes as follows:

MODES 1 AND 2

- TEST 0. CPU/IRQ 0 (INTERRUPT REQUEST) OPERATING TEST
- TEST 1. KEYBOARD DETECT CPU TEST
- TEST 2. CPU PERIPHERAL TEST
 - 2-1 RAM TEST
 - 2-2 PROGRAM ROM VERIFY
 - 2-3 STYLE ROM VERIFY
 - 2-4 TONE GENERATOR VOICE ROM VERIFY
- TEST 3. PANEL, MIDI, AND KEYBOARD TEST
 - 3-1 PANEL SWITCH AND LED TEST
 - 3-2 PITCH BEND WHEEL TEST
 - 3-3 FOOT PEDAL TEST
 - 3-4 KEYBOARD CONTACT POINT TEST
 - 3-5 DSP TEST
 - 3-6 MIDI IN/OUT TEST
 - 3-7 ROTARY ENCODER TEST
- TEST 4. ROM VERSION INDICATION

MODE 3

- TEST 1. KEYBOARD DETECT CPU TEST
- TEST 2. RAM BACKUP FUNCTION TEST

* Difference in the CPU peripheral test between mode 1 and mode 2

Mode 1 — Circuit test for each memory address line

Test time: About one second

Mode 2 — Entire memory address test

Test time: About one minute

* When Mode 2 or Mode 3 is entered, the content of the RAM in the backup area will be overwritten.

* The error and execution messages will appear in the MULTI DISPLAY.

MODE 1

HOW TO ENTER THE TEST PROGRAM

While holding down two white keys on the right end of the keyboard (C6 and B5), turn on the power. The test proceeds automatically.

TEST 0. CPU IC1 (H8/510)/IRQ 0 (INTERRUPT REQUEST) OPERATING TEST

When the test program is started, if there is an IRQ 0 detection flag and there is irregular data, an "Er0" error will be displayed.

If this happens, turn the machine's power off.

After turning the power off then on again, execute the data comparison operation test and check the IRQ 0 detection flag, by overwriting the irregular data in the IRQ 0 detection flag and restarting the test program.

Error: Er0

* When the test program is first started, the error will be displayed. However, if when the power is turned off and on again, and the test program restarted, but the error is not displayed again, it is operating normally.

TEST 1. KEYBOARD DETECT CPU TEST

Check to see if data is sent from the CPU for touch detection.

If data is not sent, or if abnormal data is sent, an error occurs.

If keyboard contact detection is abnormal, the system does not enter test mode.

Correct operation indicates that the selected test mode has been entered.

Error: Er1

TEST 2. CPU PERIPHERAL TEST

2-1 RAM (IC5, 6) TEST

This test checks whether or not particular data can be written in and read from each RAM address bus. (Address line connection check)

Error: Er2

* Even when an error is indicated, you can proceed to the next test by pressing the RESET + key. However, RAM will not be operative and the test operation quality is not guaranteed.

2-2 PROGRAM ROM (IC4) VERIFY

Adds the address of each bus and verifies the results. (Connection check)

Error: Er3

* Even when an error is indicated, you can proceed to the next test by pressing the RESET + key. However, ROM will not be operative and the test operation quality is not guaranteed.

2-3 STYLE ROM (IC3 or IC4) VERIFY (IC3 style program has been included in IC4 on the half way of the production, and IC3 will be deleted). Adds the address of each bus and verifies the results. (Connection check)

Error: Er4

* Even when an error is indicated, you can proceed to the next test by pressing the RESET + key.

2-4 TONE GENERATOR VOICE ROM (IC7) VERIFY

Adds the address of each bus and verifies the results. (Connection check)

Error: Er5

* Even when an error is indicated, you can proceed to the next test by pressing the RESET + key.

TEST 3. PANEL, MIDI, AND KEYBOARD TEST

3-1 PANEL SWITCH AND LED TEST

A sine wave is generated when you press the panel switch. At the same time, MIDI note ON/OFF messages for the note number at the same pitch as the sine wave are transmitted via Channel 1.

The sine wave is at a level 9dB lower than the maximum level.

Pressing the switches turn the corresponding LEDs ON.

Pressing a numeric key pad displays the number on the left digit of the MULTI DISPLAY. Each press of the switch moves the number to the right. The number on the right-most digit will return to the left most digit.

If two or more switches are turned on, the MULTI DISPLAY will show "— — —". At the same time, MIDI note ON/OFF messages of note number 127 will be transmitted via Channel 4.

Sound will be produced for as long as the switch is held down.

The YES switch produces sounds only from the L channel, and the NO switch produces sounds only from the R channel.

3-2 PITCH BEND WHEEL TEST

Turning the pitch bend wheel forward generates a sine wave of C4. At the same time, MIDI note ON/OFF messages for the note number at the same pitch as the sine wave are transmitted via Channel 3. The sound of sine wave is generated only when the pitch bend volume value exceeds 117/127.

Turning the pitch bend wheel toward you generates a sine wave of C3. At the same time, MIDI note ON/OFF messages for the note number at the same pitch as the sine wave are transmitted via Channel 3. The sound of sine wave is generated only when the pitch bend volume value is 113/127 or lower.

If the panel switch is detected to be ON when the wheel is not centered, the MULTI DISPLAY will show "Er6". The wheel is regarded as centered when the pitch bend volume value falls between 58/127 and 69/127.

3-3 FOOT PEDAL TEST

Connecting the foot pedal (which is usually ON, but turns OFF when pressed) to the connector generates a sine wave of D4. At the same time, MIDI note ON/OFF messages for the note number at the same pitch as the sine wave are transmitted via Channel 4. The pedal is regarded as connected if the pedal AD value is 31/255 or lower.

Pressing the pedal generates a sine wave of D3. At the same time, MIDI note ON/OFF messages for the note number at the same pitch as the sine wave are transmitted via Channel 4. The pedal is regarded as pressed if the pedal AD value is 127/255 or higher.

Disconnecting the pedal will stop the sound. If the reverse type of foot pedal is used (normally OFF, but turns ON when pressed), a D3 sine wave is generated when the pedal is connected to the terminal and is not pressed, and a D4 sine wave is generated when it is pressed.

3-4 KEYBOARD CONTACT POINT TEST

Play scales. Tonal color will change depending on the velocity.

Velocity	Tonal color
1-10	CLICK
11-128	Sine wave
127	CLICK

As you play the keyboard, the MULTI DISPLAY will show the corresponding velocities (1 ~ 127).

If a sine wave is generated, this item passes the test. If not, this item fails the test.

At the same time, MIDI note ON/OFF messages for the note number at the same pitch as the sine wave are transmitted via Channel 2. (The CLICK sound will appear in Channel 10.)

3-5 DSP (IC10) TEST

The sounds from the keyboard are generated through the DSP IC.

If the DSP is defective, the sound played from the keyboard may be distorted or muted.

3-6 MIDI IN/OUT TEST

Connect the MIDI IN and MIDI OUT connectors using the MIDI cable. A sine wave at a pitch of A3 and A4 should be generated alternately with a cycle of 250msec for voicing and muting.

3-7 ROTARY ENCODER TEST

If the rotary encoder is detected to turn one round, the number of turns will be shown on the MULTI DISPLAY. Turning the encoder clockwise will increase the number, and turning it counter-clockwise will decrease the number.

TEST 4. ROM VERSION INDICATION

Pressing the following switches will show the ROM versions on the MULTI DISPLAY.

ROM	Integer	Decimal
Program (IC4)	PAGE switch	MIDI BULK DUMP
Style (IC3)	STYLE switch	AUTO ACCOMP
Tone generator (IC7)	VOICE switch	KEYBOARD PERCUSSION

* IC3 style program has been included in IC4 on the half way of the production, and IC3 will be deleted. (PSR-510 only)

END OF TEST

The test is ended when you turn off the power.

MODE 2

HOW TO ENTER THE TEST PROGRAM

While holding down three white keys on the right end of the keyboard (C6, B5, and A5), turn on the power. The test proceeds automatically.

TEST 0. CPU IC1 (H8/510)/IRQ 0 (INTERRUPT REQUEST) OPERATING TEST

When the test program is started, if there is an IRQ 0 detection flag and there is irregular data, an "Er0" error will be displayed.

If this happens, turn the machine's power off.

After turning the power off then on again, execute the data comparison operation test and check the IRQ 0 detection flag, by overwriting the irregular data in the IRQ 0 detection flag and restarting the test program.

Error: Er0

* When the test program is first started, the error will be displayed. However, if when the power is turned off and on again, and the test program restarted, but the error is not displayed again, it is operating normally.

TEST 1. KEYBOARD DETECT CPU TEST (The

display will show 1 during the test.)

Check to see if data is sent from the CPU for touch detection.

If data is not sent, or if abnormal data is sent, an error occurs.

If keyboard contact detection is abnormal, the system does not enter test mode.

Correct operation indicates that the selected test mode has been entered.

Error: Er1

TEST 2. CPU PERIPHERAL TEST

2-1 RAM (IC5, 6) TEST (The display will show

2 during the test.)

Particular data is written for all RAM addresses, and the content of the addresses is read to compare with the written data.

Error: Er2

* Even when an error is indicated, you can proceed to the next test by pressing the RESET + key. However, RAM will not be operative and the test operation quality is not guaranteed.

2-2 PROGRAM ROM (IC4) VERIFY (The display

will show: 3 during the test.)

Adds all addresses and verifies the results.

Error: Er3

- * Even when an error is indicated, you can proceed to the next test by pressing the RESET + key. However, RAM will not be operative and the test operation quality is not guaranteed.

2-3 STYLE ROM (IC3 or IC4) VERIFY (IC3 style program has been included in IC4 on the half way of the production, and IC3 will be deleted).

(The display will show 4 during the test.)

Adds all addresses and verifies the results.

Error: Er4

- * Even when an error is indicated, you can proceed to the next test by pressing the RESET + key.

2-4 TONE GENERATOR VOICE ROM (IC7)

VERIFY (The display will show 5 during the test.)

Adds all addresses and verifies the results.

Error: Er5

- * Even when an error is indicated, you can proceed to the next test by pressing the RESET + key.

TEST 3 and TEST 4 are the same as MODE 1.

END OF TEST

The test is ended when you turn off the power.

MODE 3**HOW TO ENTER THE TEST PROGRAM**

While holding down two white keys on the right end of the keyboard (C6 and B5) and the white key (C2), turn on the power. Error Er2 will be shown on the display. Turn off the power, then turn it on again to check the display.

TEST 1. KEYBOARD DETECT CPU TEST (The display will show 1 during the test.)

Check to see if data is sent from the CPU for touch detection.

If data is not sent, or if abnormal data is sent, an error occurs.

If keyboard contact detection is abnormal, the system does not enter test mode.

Correct operation indicates that the selected test mode has been entered.

Error: Er1

TEST 2. RAM (IC5,6) BACKUP FUNCTION TEST

Write particular data in the area where the backup data is stored. Turn off the power, then turn it on again, and check if the backup data remains.

When Mode 3 is entered, "Er2" is shown. Turn the power off, and turn it on again.

In correct operation: PAS

Error: Er1

- * If the unit passes test Mode 3, the test program will end.

END OF TEST

The test is ended when you turn off the power.

OUTPUT LEVEL CHECK

Check the output level. (VOICE: CHURCH ORG, VOICE NO.: 020, TOUCH: OFF) Set the [MASTER VOLUME] at the maximum level.

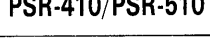
Confirm that a signal of $-12 \pm 3\text{dBm}$ is output from the HEADPHONES/AUX OUT connector (output impedance 75 ohms) when you press the keys C3, D3, E3, F3, G3, A3, and B3 simultaneously (load resistance 30 ohms).

Use the level gauge (JIS C curve filter) for the test.

NOISE LEVEL CHECK

Confirm that S/N ratio at all the output connectors and speaker connectors is 63dB or higher.

Use the same procedure as the output level check. (However, a load value is not specified.) Measure the noise level when no sound is produced.



- ## Notes

Circuit Board : DM (VQ121400) XM325B0 (PSR-510) D, U
DM (VQ148500) XM325B0 (PSR-510) J, B, X

- | | | |
|---------|----------------------|---|
| 1. | CERAMIC CAP. SL | |
| 27P | | 27P 50V J (VD840600) |
| 39P | | 39P 50V J (VD840600) |
| 100P | | 100P 50V K (VD841300) |
| 560P | | 560P 50V K (VD842300) |
| 0.01 | | 0.01000P 16V N (VD436300) |
| 0.047 | | 47000P 16V Z (VK392400) |
| 0. | MOLYBDEIC CERA. CAP. | |
| 0.1 | | 0.10 50V Z T=52 (V1307100) |
| 3. | RESISTOR ARRAY | |
| RA 1-3: | | RGLEX473J (VF238600) |
| 4. | CONNECTOR | |
| CN 1: | | 52147-16P TE to PNI CN 1 |
| CN 2: | | 52147-7P TE to PNI CN 1 |
| CN 3: | | 52147-6P TE (VF728300) to AM-CN 3 |
| CN 4: | | 52147-6P TE (VF728300) to MKS-CN 2 |
| 5. | WIRE TRAP | |
| CN 4: | | 52147-7P TE to AM-CN 2 |
| CN 5: | | 52147-3P TE to Pitch Bend |
| 6. | CERAMIC CAP. ARRAY | |
| CA 1-4: | | 52147-50V MVH285600) EXF-P84712F D. U |
| CA 5: | | 52147-50V MVH285600) EXF-P84712F D. U |
| CA 6: | | 1000P 50V Z (VF661000) EXF-P84712F D. U |

- | | | |
|-----|-------------------------------|---|
| 7. | QUARTZ CRYSTAL UNIT
CX 1: | 9.4M AT-49 (VN271300) |
| 8. | CERAMIC RESONATOR
CL 1: | CS716.00MKW0 (VK966200) 16.0MHz |
| 9. | DIODE
D 1: | 1S5133, 1S5176 (VB941200) |
| 10. | DIGITAL TRANSISTOR
TR 1-6: | DTB123ES TP (VJ337600)
DT114ES (VD687800) |
| 11. | TRANSISTOR | 25C3311A Q, R, S (N6006600) or
25C2603 E, F (C260320) |
| 12. | COIL
L 2-10: | FLR200N20T 20 μ (VB835000) D, U only or
FLR260T 60 μ (VF835000) U only |

- HD6415108F10 (KJ797A00) CPU
 YMM28F (KJ427A00) GEW8
 (KM980A00) ROM 8M (STYLE)
 TC574200D-120 (KM978A00) ROM 4M
 (PROGRAM) or
 (KN043A00) ROM 16M (PROGRAM+STYLE)
 TC518128APL-80 (KJ446A00) PSRAM 1M
 TC518128APL-80 (KJ446A00) PSRAM 1M
 HN624017PZ11 (KM984A00) ROM 16M (VOICE)
 YM3413 (XE449A00) LDSP
 CAT548128L-19S (KM605A00) PSRAM 1M
 UPAC4570C (XC520A00) OPAMP
 UPD63200GS (XM145A00) DAC
 PC24M05HF (XH730A00) REGULATOR + 5V
 AN8005-(TA) (XL559A00) REGULATOR + 5V
 RESV4A5CA-TZ (XM118A00) RESET
 RESV4A5CA-TZ (XM717A00) RESET
 S-81350HG-T (KM938A00) REGULATOR + 5V
 HD74HC08P-2N (R008010) AND
 SN74HC00N (R000050) NAND
 74AC11138 (XM724A00) DEC DEMPL
- AN80B22 (VH480900) LED DRIVER
 PC-900V (VG181900) PHOTO COUPLER
 0.55 (VA078900)

PN-LED

	C0	C1	C2	C3	C4	C5
P	PERCUSSION ON/OFF	VOICE SELECT	ORCHESTRATION L1	RECORDING CLEAR	MULTI PADS 3	MULTI PADS 4
N	AUTO ACC PHRASE 2	ACCOMPANIMENT MAIN B	ORCHESTRATION EDIT L2	RECORDING REWRITE	MULTI PADS 1	RECORDING STEP
O	AUTO ACC PHRASE 1	ACCOMPANIMENT MAIN A	ORCHESTRATION EDIT L1	RECORDING REWRITE	MULTI PADS 2	RECORDING QUANTIZE
M	AUTO ACC RHYTHM 2	ORCHESTRATION R2	ARE YOU SURE?	SONG MEMORY MELODY 4	SONG MEMORY 5-16	SONG MEMORY 5-16
L	AUTO ACC BASS	REGISTRATION MEMO RYN 1	ORCHESTRATION EDIT R1	HARMONY ON/OFF	NC	SONG MEMORY 3
K	AUTO ACC R CHORD 1	REGISTRATION MEMORY 4	ORCHESTRATION L2	EFFECT ON/OFF	NC	SONG MEMORY 2
J	AUTO ACC R CHORD 2	REGISTRATION MEMORY 3	ORCHESTRATION EDIT R2	REGIST MEMORY VOICE	NC	SONG MEMORY 1
I	AUTO ACC PAD CHORD	REGISTRATION MEMORY 2	SUSTAIN ON/OFF	REGIST MEMORY ACCOMP	NC	SONG MEMORY ACCOMP.

marked ✕ : PSR-510 only
[] = PN2 circuit board

	C0	C1	C2	C3	C4	C5
C	NC	MULTI DISPLAY C (下巻)	MULTI DISPLAY C (巻巻)	MULTI DISPLAY C (上巻)	MIDI OUT L-KEY	ACCOMPANIMENT FILL IN 1
F	NC	MULTI DISPLAY F	MULTI DISPLAY F	MULTI DISPLAY F	PAGE MEMORY BULK DUMP	ACCOMPANIMENT FADE IN/OUT
G	NC	MULTI DISPLAY G	MULTI DISPLAY G	MULTI DISPLAY G	LOCAL L-KEY	ACCOMPANIMENT FILL IN 2
A	NC	MULTI DISPLAY A	MULTI DISPLAY A	MULTI DISPLAY A	OVERALL CONT TOUCH	ACCOMPANIMENT ENDING
B	NC	MULTI DISPLAY B	MULTI DISPLAY B	MULTI DISPLAY B	OVERALL CONT METRONOME	ACCOMPANIMENT RHYTHM STOP
D	NC	MULTI DISPLAY D	MULTI DISPLAY D	MULTI DISPLAY D	LOCAL R-KEY	ACCOMPANIMENT INTRO
H	NC	MULTI DISPLAY H	MULTI DISPLAY H	MULTI DISPLAY H	MIDI OUT R-KEY	AUTO ACCOMP. RHYTHM 1
E	NC	MULTI DISPLAY E	MULTI DISPLAY E	MULTI DISPLAY E	AUTO ACCOMP. ON/OFF	AUTO ACCOMP. REVOICE

PN-SW

	B00	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11	B12	B13	B14	B15
N00	RECORDING REWRITE	MULTI PADS 4	RECORDING GATE TIME	NC	NC	SONG PLAY/STOP	NC	VOICE ONE TOUCH STOP	MULTI DISPLAY RESET -	MULTI DISPLAY +/-	VOICE SELECT	NC	MIDI TRANSMIT L	MIDI RECEIVE	ACCOMPANIMENT ENDING	PAGE MEMORY BULK DUMP
N01	RECORDING REC/END	MULTI PADS 3	DEMO SONG#	NC	NC	SONG RESET	NC	ACCOMP. CONTROL MAIN B	MULTI DISPLAY 0	MULTI DISPLAY 8	VOICE VOLUME	NC	MIDI TRANSMIT R	MIDI TOUCH	OVERALL CONT MAIN A	OVERALL CONT METRONOME
N02	NC	MULTI PADS 2	RECORDING STEP SIZE	NC	NC	SONG MEMORY MELODY 2	VOICE ORCH L2	REGIST MEMORY FREEZE	MULTI DISPLAY RESET +	MULTI DISPLAY 9	VOICE KEYBOARD PER ON/OFF	NC	AUTO ACCOMP. STYLE SELECT	OVERALL CONT DSP TYPE	ACCOMPANIMENT FILL IN2	OVERALL CONT TOUCH ON/OFF
N03	RECORDING CLEAR	MULTI PADS 1	DEMO START/STOP	NC	NC	SONG MEMORY MELODY 5	NC	REGIST MEMORY 1	MULTI DISPLAY 7	MULTI DISPLAY 6	AUTO ACCOMP. PHRASE 1	NC	AUTO ACCOMP. FINGERING	OVERALL CONT TUNING	ACCOMPANIMENT FADE IN/O	NC
N04	RECORDING STEP REC STOP	MULTI PADS STOP	RECORDING START/STOP	NC	NC	SONG MEMORY MELODY 1	VOICE ORCH EDIT	REGIST MEMORY 2	MULTI DISPLAY 2	MULTI DISPLAY 6	AUTO ACCOMP. ACCOMP VOL	NC	AUTO ACCOMP. RHYTHM 1	OVERALL CONT SPLIT POINT	ACCOMPANIMENT START/STOP	AUTO ACCOMP. REVOICE
N05	VOICE EFFECT ON/OFF	VOICE HARMONY ON/OFF	ARE YOU SURE? NO	NC	NC	SONG MEMORY ACCOMP	VOICE ORCH L1	REGIST MEMORY 4	MULTI DISPLAY 3	VOICE OCTAVE	AUTO ACCOMP. RHY CHORD1	NC	AUTO ACCOMP. RHYTHM 2	OVERALL CONT RHYTHM STOP	ACCOMPANIMENT INTRO	AUTO ACCOMP. REVOICE
N06	VOICE HARMONY TYPE	NC	ARE YOU SURE? YES	NC	NC	SONG MEMORY MELODY 3	VOICE ORCH R1	REGIST MEMORY MEMORIZE	MULTI DISPLAY 5	VOICE PAN	AUTO ACCOMP. PAD CHORD	NC	AUTO ACCOMP. RHYTHM 2	OVERALL CONT TEMPO	ACCOMPANIMENT INTRO	MIDI OUT L
N07	VOICE EFFECT TYPE	NC	SONG MEMORY MEASURE#	NC	NC	SONG MEMORY MELODY 4	VOICE ORCH R2	REGIST MEMORY 3	MULTI DISPLAY 4	VOICE DSP DEPTH	AUTO ACCOMP. RHY CHORD2	NC	AUTO ACCOMP. RHYTHM 2	PAGE MEMORY	ACCOMPANIMENT INTRO	MIDI OUT R

marked ✕ : PSR-510 only
[] = PN2 circuit board

