

GS-6

DIGITAL GUITAR SOUND SYSTEM

SPECIFICATIONS

Patch Memories	64
A/D/A Converting System	16 bit Linear
Sampling Frequency	32kHz
Input	
Input Impedance	1MΩ
Output	
Unbalance Output Impedance	3.3kΩ
Balance Output Impedance	660Ω
Noise Suppressor	
Threshold Level	5 steps
Hum Cancel	
Frequency	35.0Hz to 80.0Hz
Reverb	
Reverb Types	Room x 2 types Hole x 2 types Plate x 2 types Spring x 2 types

Delay	
Delay Time	1ms to 999ms
Chorus	
Chorus types	4 types
Power Consumption	23W(100V), 28W(117/220/240V)
Dimensions	482(W) x 340(D) x 44(H)mm 19(W) x 13-3/8(D) x 1-3/4(H)in.
Weight	4.2kg / 9 lb. 4 oz.
Accessories	Owner's Manual English : (Part No.26025682) Japanese : (Part No.26025681)
Options	Foot Controller FC-100/FC-100MKII Expression Pedal EV-5 Pedal Switch DP-2 Foot Switch FS-5U(BOSS)

SERVICE NOTES

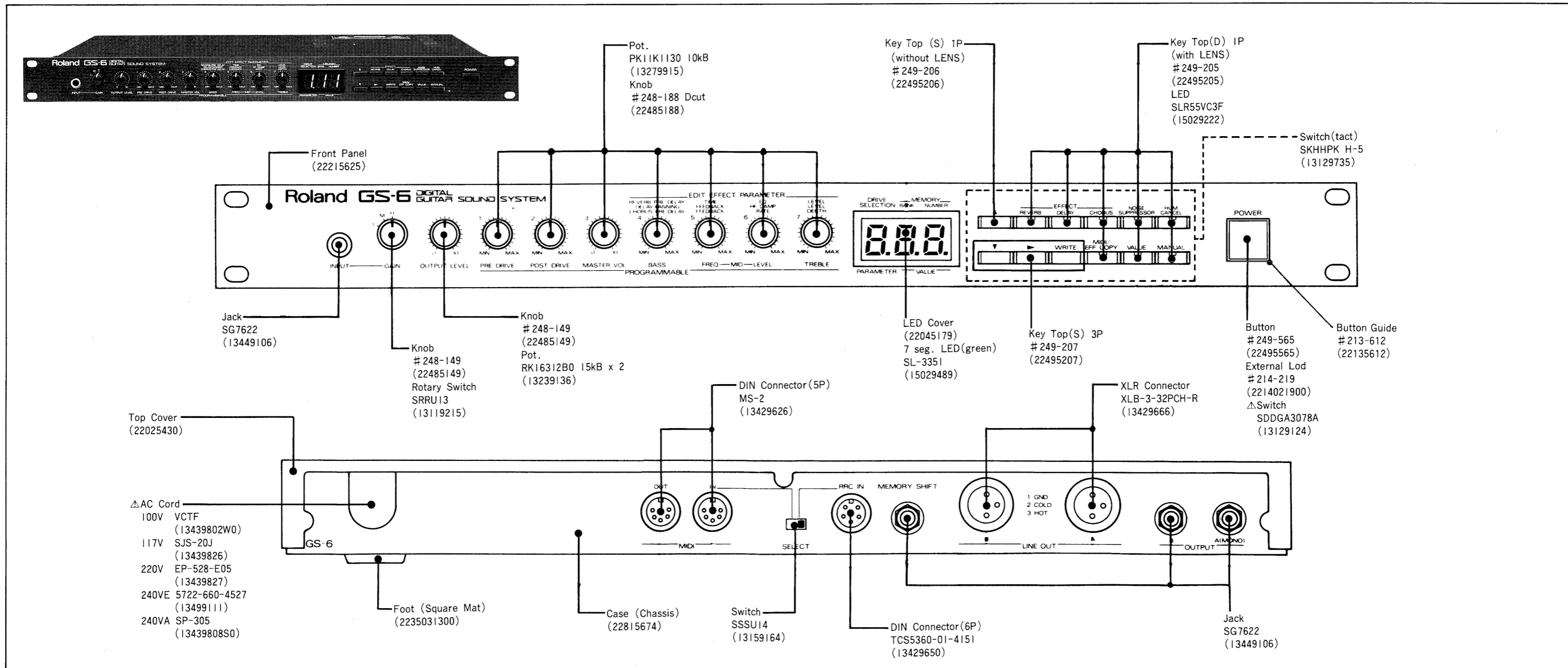
First Edition

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

EXPLODED VIEW

- | | |
|----------------|--|
| 1: 22485149 | Knob #248-149 |
| 2: 22485188 | Knob #248-188 Dcut |
| 3: 22045179 | LED Cover |
| 4: 22495565 | Button #249-565 |
| 5: 22495205 | Key Top(D) IP (with LENS) #249-205 |
| 6: 22495206 | Key Top(S) IP #249-206 |
| 7: 22495207 | Key Top(S) 3P #249-207 |
| 8: 22135612 | Button Guide |
| 9: 22215625 | Front Panel |
| 10: 7024954000 | SW Board(pcb 2292570400 2/3) |
| 11: 7024954000 | VR Board(pcb 2292570400 1/3) |
| 12: 22205299 | Front Holder |
| 13: 7024941000 | Analog Board |
| 14: 22205297 | Jack Holder |
| 15: 12149128 | Shaft Block |
| 16: 22150409 | VR Sleeve |
| 17: 7024940000 | MT Board (pcb 2292570700) |
| 18: 7024952000 | Balance Board(pcb 2292570300 1/2) |
| 19: 7024952000 | MIDI Board(pcb 2292570300 2/2) |
| 20: 7024984400 | PS-2 Board(pcb 2292570600 2/3) |
| 21: 22455561U0 | △ Power Transformer |
| 22: 22815674 | Case (Chassis) |
| 23: 2214021900 | External Lod |
| 24: 2215040400 | Sleeve |
| 25: 7024984400 | PS-1 Board(220/240V)(pcb 2292570600 1/3) |
| 26: 22205298 | Center Holder |
| 27: 13439802W0 | △ AC Cord 100V VCTF |
| 13439826 | △ AC Cord 117V SJS-20J |
| 13439827 | △ AC Cord 220V EP-528-E05 |
| 13499111 | △ AC Cord 240VE 5722-660-4527 |
| 13439808S0 | △ AC Cord 240VA SP-305 |
| 22205332 | Cord Bracket 100V |
| 22205331 | Cord Bracket 117V/240VE |
| 22205332 | Cord Bracket 220V/240VA |
| 28: 22123568 | Rack Mount Angle |
| 29: 22025430 | Top Cover |
| 30: ----- | Insulation Sheet |
| 31: 2235031300 | Foot (Square Mat) |

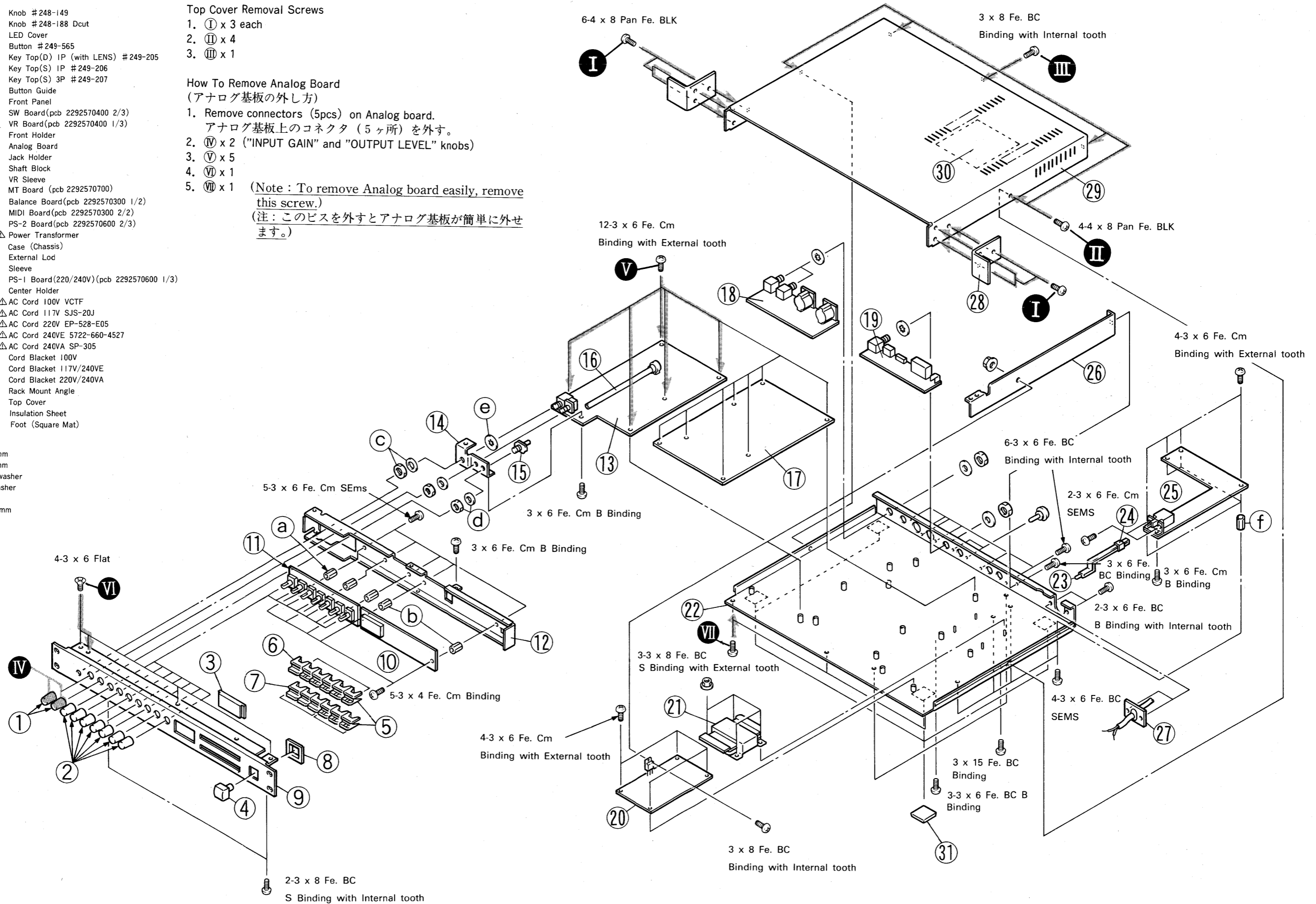
- Ⓐ: M3 Standoff 9mm
 Ⓑ: M3 Standoff 8mm
 Ⓒ: Juck Nut with washer
 Ⓓ: VR Nut with washer
 Ⓔ: Internal Tooth
 Ⓕ: M3 Standoff 13mm

Top Cover Removal Screws

- ① x 3 each
- ② x 4
- ③ x 1

**How To Remove Analog Board
(アナログ基板の外し方)**

- Remove connectors (5pcs) on Analog board.
アナログ基板上的コネクタ (5ヶ所) を外す。
- ④ x 2 ("INPUT GAIN" and "OUTPUT LEVEL" knobs)
- ⑤ x 5
- ⑥ x 1
- ⑦ x 1 (Note: To remove Analog board easily, remove this screw.)
(注: このビスを外すとアナログ基板が簡単に外せます。)



PARTS LIST

SAFETY PRECAUTIONS:
 The parts marked Δ have safety-related characteristics. Use only listed parts for replacement.
 安全上の注意：
 Δ が付いている部品は、安全上特別な規格でつくられたものです。交換の際は、指定された部品番号以外の部品は使わないようにして下さい。

CONSIDERATIONS ON PARTS ORDERING
 When ordering any parts listed in the parts list, please specify the following items in the order sheet.
 Ex. QTY PART NUMBER DESCRIPTION MODEL NUMBER
 10 22575241 Sharp Key C-20/50
 15 2247017300 Knob (orange) DAC-15D
 Failure to completely fill the above items with correct number and description will result in delayed or even undelivered replacement.

パーツ発注に関するお願い
 オーダーシートには、必ず下記の4項目は正確に記入して下さい。(例外は除く)
 必要数 パーツナンバー 品名 使用機種
 例) 10 22575241 Sharp Key C-20/50
 15 2247017300 Knob (orange) DAC-15D
 もし記入漏れ、誤記等がある場合、必要部品が発送出来なかったり、大幅な遅れの原因になります。御協力をお願いします。

CASING

22025430	Top Cover
22215625	Front Panel
22205299	Front Holder
2235031300	Foot (Square Mat)
22205298	Center Holder
22815674	Case (Chassis)
22045179	LED Cover
22123568	Rack Mount Aagle

KNOB, BUTTON

22495205	Key Top(D)1P	# 249-205 (with LENS)	REVERB, DELAY, CHORUS, MANUAL, NOISE SUPPRESSOR, HUM CANCEL, MIDI/EFF COPY, VALUE
22495206	Key Top(S)1P	# 249-206 (without LENS)	"▲"
22495207	Key Top(S)3P	# 249-207 (without LENS)	"▼", "▶", WRITE
22485149	Knob (round)	# 248-149	GAIN, OUTPUT LEVEL
22485188	Knob	# 248-188 Dcut	PROGRAMMABLE, EDIT EFFECT PARAMETER
22495565	Button	# 249-565	POWER

AC CORD

Δ 13439802W0	VCTF	100V
Δ 13439826	SJS-20J	117V 2P/CSA
Δ 13439827	EP-528-E05	220V
Δ 13499111	5722-660-4527	240VE
Δ 13439808S0	SP-305	240VA

JACK

13449106	Jack	SG7622	INPUT, OUTPUT A, B(MONO), MEMORY SHIFT
13429666	XLR Connector	XLB-3-32PCH-R	LINE OUT A, B
13429626	DIN Connector (5P)	MS-2	MIDI IN, OUT
13429650	DIN Connector (6P)	TCS5360-01-4151	RRC IN

SWITCH

13159164	SSSU14	Slide	SELECT
Δ 13129124	SDDGA3078A	Power	POWER
13129735	SKHHPK H-5	Tact	"▲", "▼", "▶", REVERB, DELAY, CHORUS, MANUAL, NOISE SUPPRESSOR, HUM CANCEL, WRITE, MIDI/EFF COPY, VALUE, INPUT GAIN
13119215	SRRU13	Rotary Switch	

FUSE

Δ 12559342	GGG 0.3A	100V/117V	F1 on PS-1 Board
Δ 12559539	CEE 125mAT	220V/240V	F1 on PS-1 Board

POWER TRANSFORMER

Δ 22455561UO	245-561UO	Universal
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PCB ASSY

E 7024940000	MT Board	(pcb 2292570700)
7024941000	Analog Board	(pcb 2292570501)
7024952000	Balance Board	(pcb 2292570300 1/2)
Replacement Balance Board includes MIDI Board. 補修用バランス基板はMIDI基板を含みます。		
	MIDI Board	(pcb 2292570300 2/2)
7024954000	VR Board	(pcb 2292570400 1/3)
Relacement VR Board includes SW Board and 7seg.LED Spacer PCB. 補修用VR基板はSW基板と7セグメントLED用スペーサ基板を含みます。		
	SW Board	(pcb 2292570400 2/3)
	7 seg. LED Spacer PCB	(pcb 2292570400 3/3)
7024984400	PS-1 Board (220/240V)	(pcb 2292570600 1/3) for 220/240V
Replacement PS-1 Board includes PS-2 Board and Small Board. 補修用PS-1基板はPS-2基板と小基板を含みます。		
	PS-2 Board	(pcb 2292570600 2/3) for 100/117/220/240V
	Small Board	(pcb 2292570600 3/3) for 100/117/220/240V

NOTE: Replacement PS-1 Board is 220/240V versions only.
 220/240V version differs form 100/117V version only in fuse system.
 Order proper fuses and fuse labels separately if necessary.
 (Refer to the table below.)

注: 補修用PS-1基板として220/240V用が共通使用されます。
 電圧区分による違いはヒューズ値、ヒューズ貼マークのみです。
 100/117用のヒューズ、ヒューズ貼マークが必要な場合は別途発注して下さい。
 (下表参照)

	Fuse (F1) on PS-1 Board	Fuse Label
100/117V	GGG 0.3A (Part No.12559342)	300mA/250V (Part No.41015176)
220/240V	CEE 125mAT (Part No.12559539)	T250mA/250V (Part No.41015207)

IC

15229892	MB87427 (Flat)	Reverb Chip (DSP-1)	IC27 on MT Board
15229844	MB654119 (Flat)	Chorus Chip (DSP-2)	IC8 on MT Board
15259701T0	TC74HC00F (Flat)	Quad 2-Input NAND Gate	
15259702T0	TC74HC02F (Flat)	Quad 2-Input NOR Gate	
15259711T0	TC74HC14F (Flat)	Hex Inverting Schmitt Trigger	
15259720T0	TC74HC74F (Flat)	Dual D Flip-Flop with Preset and Clear	
15259738T0	TC74HC138F (Flat)	3-to-8 Line Decoder	
15259740T0	TC74HC139F (Flat)	Dual 2-to-4 Line Decoder	
15259776T0	TC74HC244F (Flat)	Octal 3 STATE Buffer	
15259801T0	TC74HC373F (Flat)	3 STATE Octal D-type Latch	
15259832T0	TC74HC640F (Flat)	Inverting Octal 3 STATE Transceiver	
15259110	TC4066BF (Flat)	Quad Analog Switch	
15219162	PCM54	D/A Converter	
15189111J1	NJM311D	Comparator	
15209119	μ PD5201C	Analog Switch	
15189135	NJM4558S	Op Amp	
15179286	8098	CPU	IC14 on MT Board
15449186	M5M27C256K-15	EP-ROM (for GS-6)	IC5 on MT Board

NOTE: Released from Ver.1.01.
 注: 初回生産分はVer.1.01から始まります。

15179427	LC3664NL-12	S RAM	IC4 on MT Board
15179376	MB81416-10	D RAM	IC3 on MT Board
	(Substitute: 15179380 : 15179381)	μ PD41416C M5M4416P-15)	
15179428	MB81464-10 PSZ-G	D RAM	IC15-IC17, IC20, IC21, IC25 on MT Board
15169517	74F04	TTL Hex Inverters	
15229712	PC900	Optoisolator	
Δ 15199167	BA17805	+5V Voltage Regulator	

TRANSISTOR

△ 15119701	2SA968Y	Power Transistor
△ 15129704	2SC2238Y	Power Transistor
15119113	2SA1015GR	
15129114	2SC1815GR	
15139101	2SK30AY	FET
15139103	2SK30AGR	FET
15139137	2SK381E	FET
15139113	2SK363GR	FET
15139140	2SJ40E	FET
15129130	2SC1583F	Dual Tr
15319101	2SC2412KR(Chip)	
or 15129114	2SC1815GR	
15319602	2SD1758F5(Chip)	
or 15129602	2SD667C	
15329511	DTC114TK (Chip)	w/Built-in Bias Resistors
15329512	DTB123TK (Chip)	w/Built-in Bias Resistors
15139119	2SK389GR	Dual FET

DIODE, LED

△ 15039113	EH1Z G3 forming	Rectifier
△ 15039105	1B4B1 LC2 forming	Bridge Rectifier
△ 15019560	RD16EB2	Zener (+16V)
15019103	1S2473	
15019125	1SS133	
15339107	RLS73(Chip)	
or 15019125	1SS133	
15339105	DAN202K(Chip)	Dual-in (cathode common)
15339109	DAP202K(Chip)	Dual-in (anode common)
15339304	RLZ5.6B(Chip)	Zener(+5.6V)
or 15019525	RD5.6EB2	
15029489	SL-3351	7 seg. LED (green)
15029222	SLR55VC3F	LED φ5 REVERB, DELAY, CHORUS, NOISE SUPPRESSOR, HUM CANCEL, MIDI/EFF COPY, VALUE, MANUAL

WIRING

23495930	Wiring Assy(A to G)	including 2mm pitch connectors
23495929	Wiring Assy(A to C)	including 2.5mm pitch connectors

CONNECTOR

13369578	B5B-EH (5P)	2.5mm pitch	ベース付ポスト	MT Board
13369576	B7B-EH (7P)	2.5mm pitch	ベース付ポスト	Analog Board
13369574	B9B-EH (9P)	2.5mm pitch	ベース付ポスト	Analog Board
13369503	B7B-PH-K-S (7P)	2mm pitch	ベース付ポスト	MT Board
13369504	B8B-PH-K-S (8P)	2mm pitch	ベース付ポスト	MT Board
13369583	B9B-PH-K-S (9P)	2mm pitch	ベース付ポスト	MT Board
13369564	B12B-PH-K-S (12P)	2mm pitch	ベース付ポスト	MT Board

POTENTIOMETER

13279915	RK11K1130	10kB	φ11mm	PROGRAMMABLE, EDIT EFFECT PARAMETER
13239136	RK16312BO	15kB x 2	φ16mm	OUTPUT LEVEL
13299117	RHAOC150RA	100kB	Trimmer	VR2 on Analog Board

INDUCTOR

12449273	BL03-RN2-R62	Analog Board
22445240	BL02-RN2-R62	MT Board

FILTER

13529180	EXC-EMT103DC	EMI Filter	PS-2 Board
13529105	DSS310-55D223S	EMI Filter	MT Board

CRYSTAL

12389764	HC49/U 40.96MHz	X2 on MT Board
12389746	HC49/U 12MHz	X1 on MT Board

RESISTOR

△ 13849106	MNS05N101KI	5W 100Ω	
△ 12559705	FRNB	1/4W 10Ω	Fuse Resistor
△ 12559810	ERQ-16NK1R5E	1/6W 1.5Ω	Fuse Resistor
△ 12559807	FRN	1/4W 4.7Ω	Fuse Resistor
13749133T0	SR50NJ	1/2W 330Ω	
15399907	MNR34J5A153E	15KΩx4	Resistor Array (Chip)

CAPACITOR

NOTE: Use only listed capacitors for replacement, or the tone color might be changed delicately.

注: 下記以外のコンデンサが補修用として使用された場合、微妙に音色が変わる場合があります。下記のコンデンサを使用することをお勧めします。

13669222	35VN3300BRN	3300μF/35V	Electro	PS-2 Board
13639156S0	16MV3300HA	3300μF/16V	Electro	PS-2 Board
13639151J0	SME16VB220	220μF/16V	Electro	PS-2 Board
13649664J0	SME25VB4.7	4.7μF/25V	Electro	PS-2 Board
13639169J0	SME25VB47	47μF/25V	Electro	PS-2 Board
13649683J0	SME35VB10	10μF/35V	Electro	PS-2 Board
13649684J0	SME35VB470	470μF/35V	Electro	PS-2 Board
13639110S0	6MV100HA	100μF/6V	Electro	MT Board
13639146S0	16MV10HA	10μF/16V	Electro	MT Board
13639150S0	16MV100HA	100μF/16V	Electro	MT Board
13639153S0	16MV470HA	470μF/16V	Electro	MT Board
13639146J0	SME16VB10	10μF/16V	Electro	Analog Board, Balance Board
13639149J0	SME16VB47	47μF/16V	Electro	Analog Board, Balance Board
13639150J0	SME16VB100	100μF/16V	Electro	Analog Board, Balance Board
13639202J0	SME50VB1	1μF/50V	Electro	Analog Board, Balance Board
13649664J0	SME25VB4R7	4.7μF/25V	Electro	Analog Board, Balance Board
13639158J0	AS-1 16VB10	10μF/16V	Electro	Analog Board, Balance Board
13639219J0	AS-1 50VB1	1μF/50V	Electro	Analog Board, Balance Board
13639218J0	AS-1 50VB47	47μF/50V	Electro	Analog Board, Balance Board
△ 13529104	MIDE7150F472MVA	0.0047μF		C1 on PS-1 Board

MISCELLANEOUS その他

2214021900	External Lod (Arm)	#214-219	POWER
2215040400	Sleeve	#215-404	POWER
22135612	Button Guide	#213-612	POWER
△ 12569442	Lithium Battery	CR2354-1GVF	BT1 on MT Board
13429536	IC Socket(28PIN)		MT Board
22205297	Jack Holder	#220-297	
12149128	Shaft Block	RKZ000	
22150409	VR Sleeve	#215-409	
12199550	Fuse Holder	H0446	
2219075800	MIDI Jack Holder		
12199584	Terminal	M1698	MIDI Board - Case
12369531	Cord Bushing	KR-51	100/240VA
12369532	Cord Bushing	KR-61	117/240VE
12369533	Cord Bushing	KF-41	220V
22205332	Cord Bushing Bracket		100/220/240VA
22205331	Cord Bushing Bracket		117/240VE

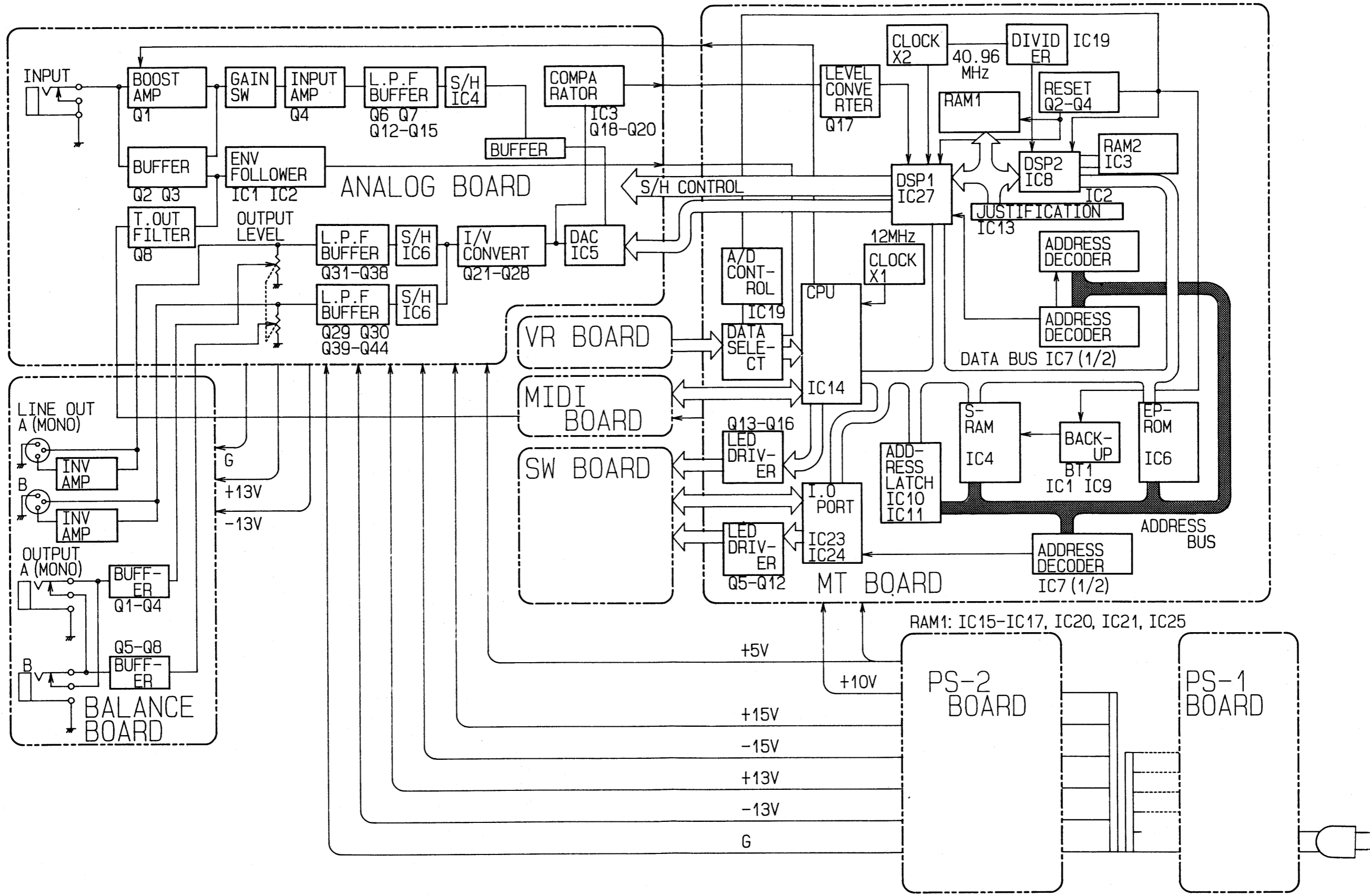
ACCESSORIES 付属品

26025682	Owner's Manual	English
26025681	Ownre's Manual	Japanese

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

A
B
C
D
E
F
G
H
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L
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Q
R
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U
V

BLOCK DIAGRAM



TEST MODE

テストモード

1. How to enter test mode

1-1. Turn ON the power supply while pressing the "▲" (UP), "▼" (DOWN) and MANUAL keys to enter test mode. The LED will display "tes" (test). (Refer to Fig. A.)

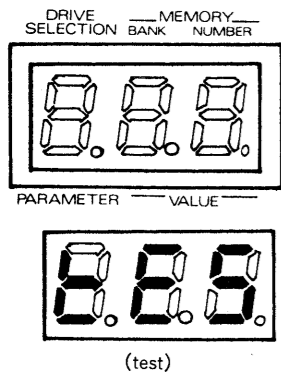


Fig.A

1. テストモードへの入り方

1-1. "▲" (UP)、"▼" (DOWN)、"MANUAL" キーを押しながら電源を入れ、テストモードに入ります。LEDディスプレイには "tes" (test) と表示されます。(Fig.A参照)

1-2. Connect the damper pedal to the MEMORY SHIFT jack on the rear panel.

NOTE: While in test mode, every press of the MEMORY SHIFT damper pedal will advance the test one step. Every press of the MANUAL key will return back one step.

1-3. Press the MEMORY SHIFT damper pedal once to activate LED test 1.

1-2. リアパネルの "MEMORY SHIFT" ジャックにダンパーペダルを接続します。

注: テストモード内では、"MEMORY SHIFT" のダンパーペダルを踏む度にテストを前進させることができ、"MANUAL" キーを押すことにより後退させることができます。

1-3. "MEMORY SHIFT" のダンパーペダルを1回踏むと "LEDテスト1" に入ります。

2. LED test 1

The LEDs light in sequence. The ROM version will be displayed during this test. (Refer to Fig. B.)

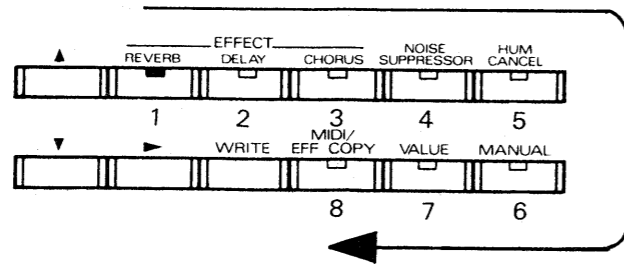
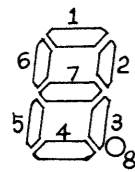


Fig.B

2. LEDテスト1

LEDが順に点灯します。このテスト中にROMバージョンが表示されます。(Fig.B参照)

3. LED test 2

Press the MEMORY SHIFT damper pedal once. All LEDs will light. Check the LED installation condition (inclination) and brightness. (Refer to Fig. C.)

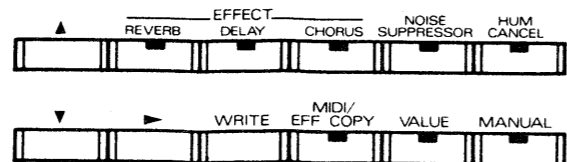
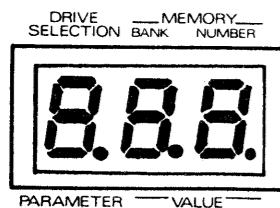


Fig.C

3. LEDテスト2

"MEMORY SHIFT" のダンパーペダルを1回踏みます。LEDが一斉に点灯します。LEDの取付状態(傾き)と明るさを検査します。(Fig.C参照)

4. Key test

Press the MEMORY SHIFT damper pedal once. Pressing the keys in the following sequence will display the corresponding sequence from 1 to C. (Refer to Fig. D.)

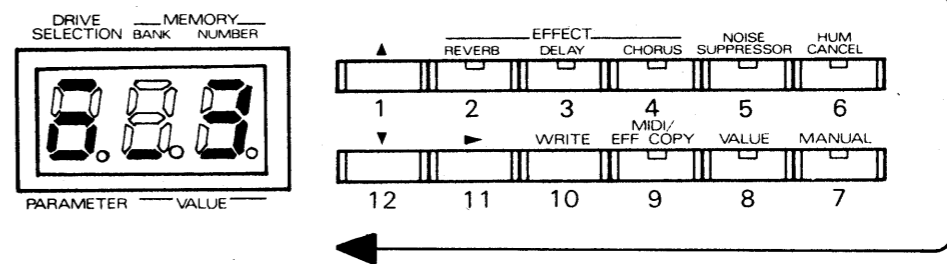
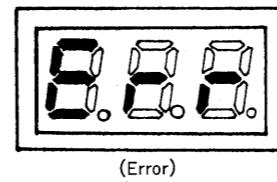


Fig.D

4. キーテスト

"MEMORY SHIFT" のダンパーペダルを1回踏みます。KEYを次の順に押すとそれにつれて1からCまでが表示されます。(Fig.D参照)



(Error)

"Error" message will be displayed:

- when the keys are not pressed in the sequence shown in Fig.D.
 - when the controls are not checked in the sequence shown in Fig.E.
- 下記の場合に "Error" (エラーメッセージ) が出ます。
- キーテストにおいて、キーを押す順番をまちがえた場合 (Fig.D参照)
 - ボリュームテストにおいて、ボリュームを回す順番をまちがえた場合 (Fig.E参照)

5. CONTROL test

Press the MEMORY SHIFT damper pedal once. Turning the control from 1 to 7 will display each control number and value in sequence. (Refer to Fig. E.)

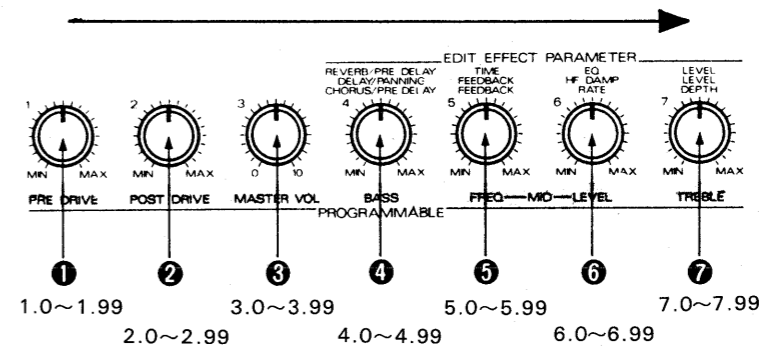


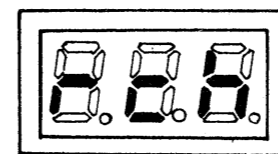
Fig.E

5. ボリュームテスト

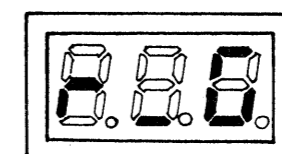
"MEMORY SHIFT" のダンパーペダルを1回踏みます。ボリューム1~7を1から順に回すと各々のボリューム番号とバリューが表示されます。(Fig.E参照)

6. RAM test

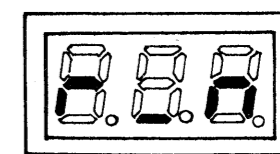
After turning the control 7 in the control test, press the MEMORY SHIFT damper pedal once and press the WRITE key. The RAM test will be executed, and if OK then "r g" (RAM GOOD) will be displayed, and if NG then "r n" (RAM NO GOOD) will be displayed. (Refer to Fig. F.) In case of RAM NO GOOD...check IC4 (S-RAM) on the MT board or its related circuits.



(RAM CHECK)



(RAM GOOD)



(RAM NO GOOD)

Fig.F

6. RAMテスト

"ボリュームテスト" でボリューム7を動かした後、"MEMORY SHIFT" のダンパーペダルを1回踏み、"WRITE" キーを押します。RAMの検査がされOKなら "r g" (RAM GOOD)、NGなら "r n" (RAM NO GOOD)が表示されます。(Fig.F参照) RAM NO GOODの場合...MT基板上のIC4(S-RAM)またはその関連回路をチェックしてください。

7. MIDI test

- 7-1. Connect MIDI OUT to MIDI IN with an MIDI cable.
- 7-2. Short out pins 1 and 5 of the RRC socket and connect pins 3 and 6 with a resistor of 2.2k Ohm. (Refer to Fig. G.)
- 7-3. Press the MEMORY SHIFT damper pedal once. Switch over the rear panel SELECT switch and carry out inspections for MIDI and RRC. If the parts are good, then "rcG" (RRC GOOD) and "diG" (MIDI GOOD) will be displayed. If they are no good, then "rcn" (RRC NO GOOD) and "din" (MIDI NO GOOD) will be displayed. (Refer to Fig. H.)

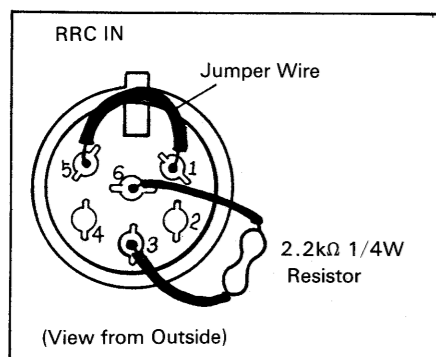


Fig.G

7. MIDIテスト

- 7-1. "MIDI OUT" と "MIDI IN" をMIDIケーブルで接続します。
- 7-2. RRCソケットの1ピンと5ピンをショートし、3ピンと6ピンを2.2kΩの抵抗でつなぎます。(Fig.G参照)
- 7-3. "MEMORY SHIFT" のダンパーペダルを1回踏みます。リアパネルの"SELECT"スイッチを切り替え、MIDIとRRCについて検査します。良品ならrcG(RRC GOOD)とdiG(MIDI GOOD)が、不良品ならrcn (RRC NO GOOD)とdin (MIDI NO GOOD)が表示されます。(Fig.H参照)

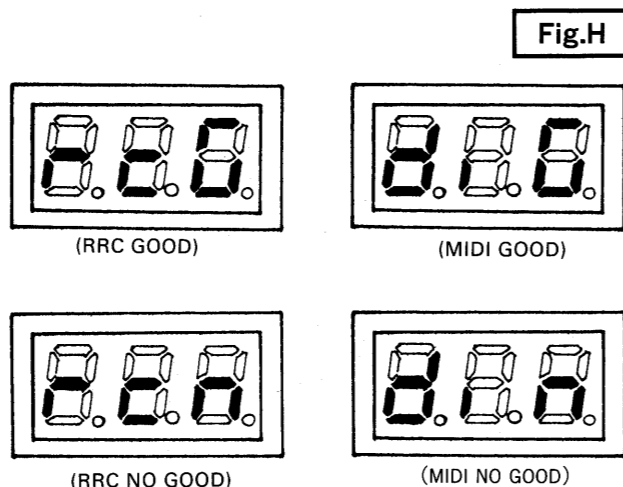
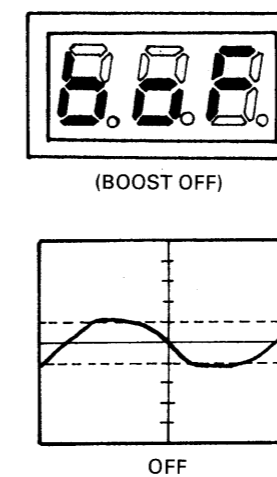


Fig.H

9. Boost test

- 9-1. Press the MEMORY SHIFT damper pedal once.
- 9-2. Connect the oscilloscope to the OUTPUT B jack.
- 9-3. Connect the oscillator to the INPUT jack.
- 9-4. Apply a sine wave of the appropriate level and frequency from the oscillator.
- 9-5. Press the "▲" (UP) key to check if the output level fluctuates as shown in Fig. J.



9. ブーストテスト

- 9-1. "MEMORY SHIFT" のダンパーペダルを1回踏みます。
- 9-2. "OUTPUT B" ジャックにオシロスコープを接続します。
- 9-3. 発振器を "INPUT" ジャックに接続します。
- 9-4. 発振器から適当なレベル、周波数のサイン波を加えます。
- 9-5. "▲" (UP)キーを押し、出力レベルが下図の様に変動することを確認します。(Fig.J参照)

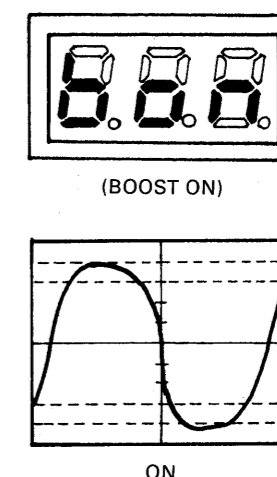


Fig.J

*An oscillator, oscilloscope, amplifier and speaker will be required for the following inspections.

*以下の検査では発振器、オシロスコープ、アンプ、スピーカを接続します。

8. Envelope test

- 8-1. Press the MEMORY SHIFT damper pedal once.
- 8-2. Connect the oscillator to the INPUT jack.
- 8-3. Apply a sine wave of the appropriate level and frequency from the oscillator.
- 8-4. When the sine wave level on the oscillator is changed, the 7seg. LEDs displays E** (** are numbers). Check that the ** numbers change in accordance with the oscillator setting. (Refer to Fig. I.)

8. エンベロープテスト

- 8-1. "MEMORY SHIFT" のダンパーペダルを1回踏みます。
- 8-2. 発振器を "INPUT" ジャックに接続します。
- 8-3. 発振器から適当なレベル、周波数のサイン波を加えます。
- 8-4. サイン波のレベルを発振器上で変化させると、E** (**は数字)と表示され、**の数字も伴って変化することを確認します。(Fig.I参照)

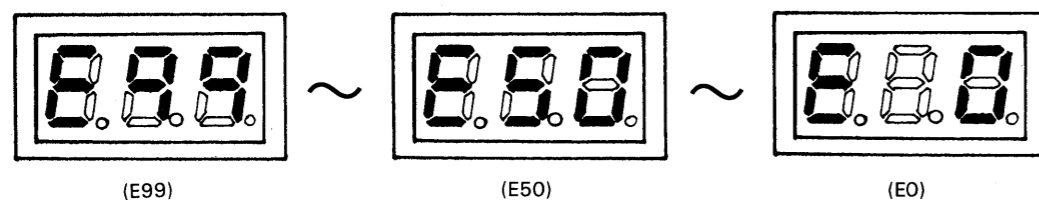


Fig.I

10. How to return to normal mode

Turn the power supply OFF and then back ON.

10. 通常モードへの戻り方

一旦電源を切り、再度電源を入れ直します。

IDENTIFYING ROM VERSION NUMBER

(PROM (IC6), MT board)

Turn ON the power supply while pressing the NOISE SUPPRESSOR and HUM CANCEL keys.

The unit will display the ROM (IC6, MT board) version for a few seconds and then return to normal play mode. (Refer to Fig. K.)

ROMバージョン確認

(PROM(IC6)、MT基板)

“NOISE SUPPRESSOR”と“HUM CANCEL”キーを押しながら電源をいれます。

ROM(IC6、MT基板)のバージョンが数秒間表示され、通常のプレイモードに戻ります。(Fig.K参照)

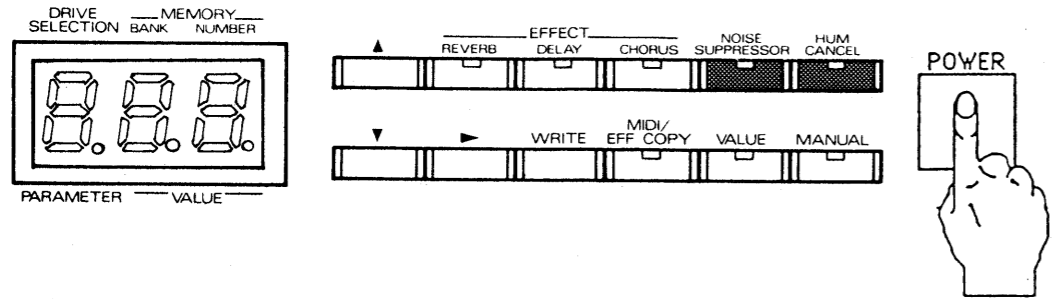


Fig.K

RECOVERING FACTORY DATA

(S-RAM (IC4), MT circuit board)

Turn ON the power supply while pressing the REVERB and HUM CANCEL keys.

“CLR”(CLEAR) will be displayed and the RAM (IC4, MT board) will be initialized. After this, the unit will display “Int” and the factory presets will be restored.

The unit will return to normal play mode. (Refer to Fig.L.)

工場出荷時データの設定

(S-RAM (IC4)、MT基板)

“REVERB”と“HUM CANCEL”キーを押しながら電源を入れます。

“CLR”(CLEAR)と表示されRAM (IC4、MT基板)が初期化されます。その後、“Int”と表示され、工場出荷時データが設定されます。その後、通常のプレイモードに戻ります。(Fig.L参照)

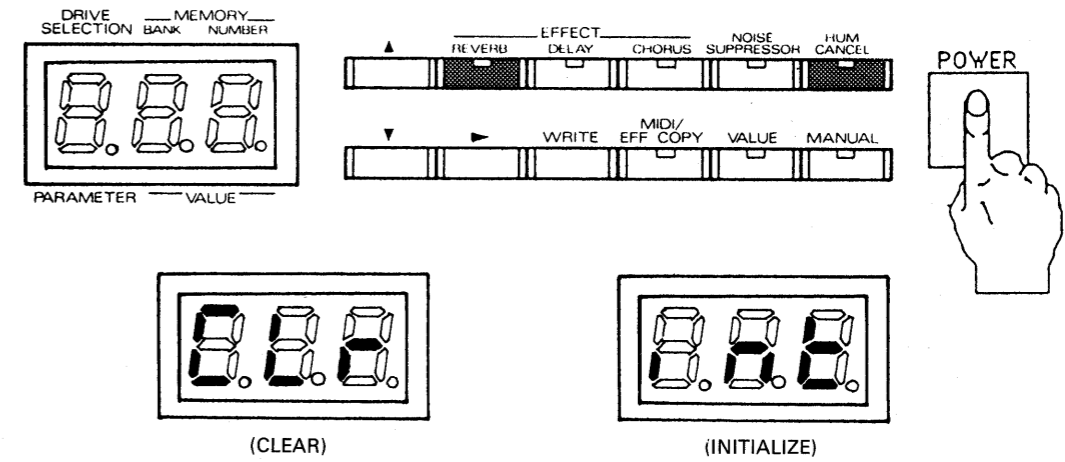


Fig.L

DATA SAVE/LOAD

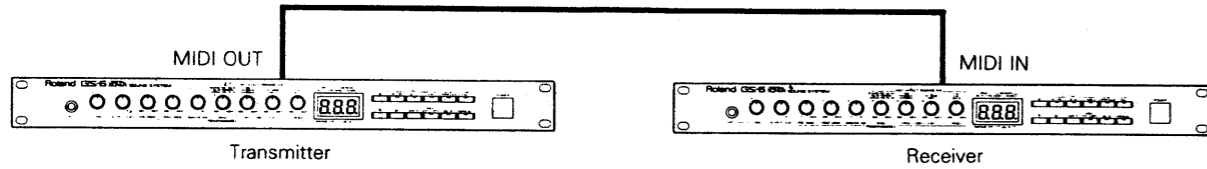
データ セーブ/ロード

●Data Transfer via MIDI (Bulk Dump, Bulk Load)

Using MIDI exclusive messages, it is possible to transfer the 64 Patch Memories stored in the internal memory of the GS-6 to another GS-6 or to a sequencer (one capable of recording exclusive messages). Such transmission is called bulk dump, whereas reception is called bulk load. The following explains how to transfer data from one GS-6 to another. To transfer data from the GS-6 to another MIDI device, read the relevant owner's manual.

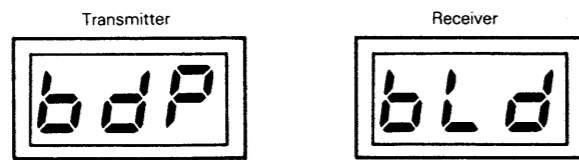
●MIDIによるデータ転送 (バルク・ダンプ、バルク・ロード)

MIDIのエクスクルーシブ・メッセージを使えば、本機に記憶されている64種類のパッチ・メモリー・データの、他のGS-6やシーケンサー(エクスクルーシブ・メッセージを記憶できる機器)などとの間でやりとりすることができます。データを転送することをバルク・ダンプ、データを受信することをバルク・ロードといいます。ここでは、GS-6からGS-6へのデータ転送についての操作を説明します。他のMIDI機器との間でデータをやりとりする場合は、その機器のオーナーズ・マニュアルをご覧のうえ、操作を行なってください。

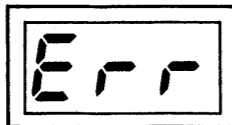


- ① Set the MIDI channels of the transmitter and receiver to the same number.
- ② Set both the transmitter and receiver to the MIDI setting mode (the indicator of the **MIDI/EFF COPY** button is lit).
- * Now, the receiver can receive data from the transmitter at any time.
- ③ Press the **WRITE** button on the transmitter for more than a second. The display responds as shown below, and the data is transmitted from the transmitter to the receiver.

- ①送信側と受信側のMIDIチャンネルを合せます。
- ②送受信側とも、MIDI機能の設定状態(**MIDI/EFF COPY** ボタンのインジケータ点灯)にしておきます。
- *MIDI機能の設定状態であれば、送信側からのデータをいつでも受信できます。
- ③送信側の**WRITE** ボタンを1秒以上押し続けると次のような表示になり、送信側のデータが転送されます。



* If data is not correctly received, the display on the receiver will respond as shown below. If this happens, press the **MIDI/EFF COPY** button, then repeat the procedure.



*データが正しく受信できなかった場合は、受信側の表示が次のようになります。**MIDI/EFF COPY** ボタンを押し、再度操作をやり直してください。

ADJUSTMENT

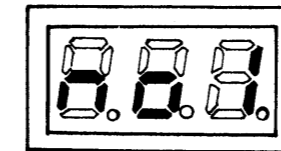
調整仕様

MSB Adjustment

1. Turn ON the power supply while pressing the "▲" (UP), "▼" (DOWN) and MANUAL keys to enter test mode. The 7seg. LEDs will display "tes" (test).
2. Press the DELAY key. The 7seg. LEDs will display "n-1" (No. 1) and MSB adjustment mode will then be active.
3. Set the INPUT GAIN control to the M position.
4. Set the OUTPUT LEVEL control to 10 (maximum).
5. Apply a -45dBm, 100Hz sine wave from the oscillator to the INPUT jack.
6. Connect the oscilloscope to OUTPUT A jack.
7. Adjust VR2 (analog board) for the minimum distortion of the wave form on the oscilloscope. (Refer to Fig. 1.)

MSB調整

1. "▲" (UP)、"▼" (DOWN)、"MANUAL" キーを押しながら電源を入れ、テストモードに入ります。LEDディスプレイには"tes" (test)と表示されます。
2. "DELAY" キーを押します。すると"n-1" (No.1)と表示され、MSB調整用モードになります。
3. "INPUT GAIN" つまみを"M"の位置に設定します。
4. "OUTPUT LEVEL" つまみを"10" (最大)に設定します。
5. 発振器から-45dBm、100Hzのサイン波を"INPUT" ジャックに加えます。
6. "OUTPUT A" ジャックにオシロスコープを接続します。
7. オシロスコープ上の波形の歪が最も小さくなる様にVR2(アナログ基板)を調整します。(Fig.1参照)



(TEST No. 1)

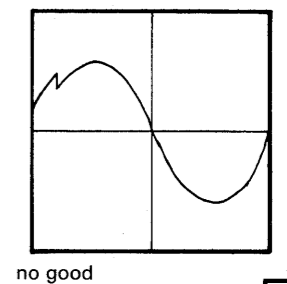
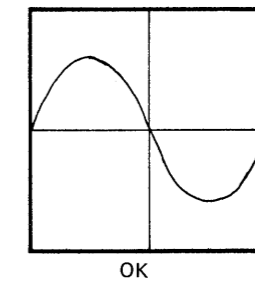
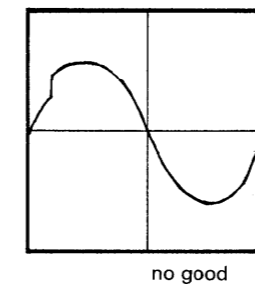


Fig.1

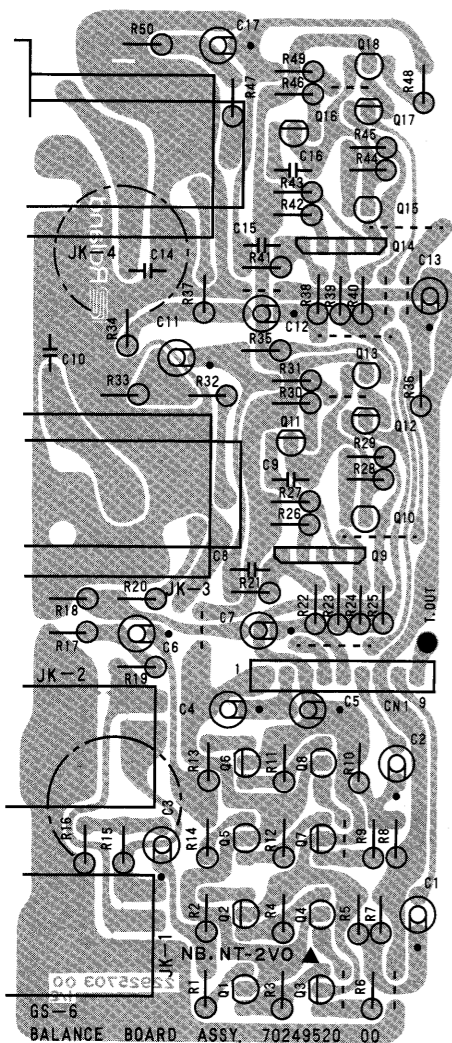
8. Pressing the MANUAL key once returns the unit to the beginning of test mode, and pressing it twice returns the unit to normal play mode. It is also possible to return to normal mode by turning the power supply OFF and then back ON.

8. "MANUAL" キーを1回押しすと、テストモードの最初に戻ることができ、2回押しすと通常モードに戻ります。または、一旦電源を切り、再度電源を入れ直すと通常モードに戻ります。

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

BALANCE BOARD

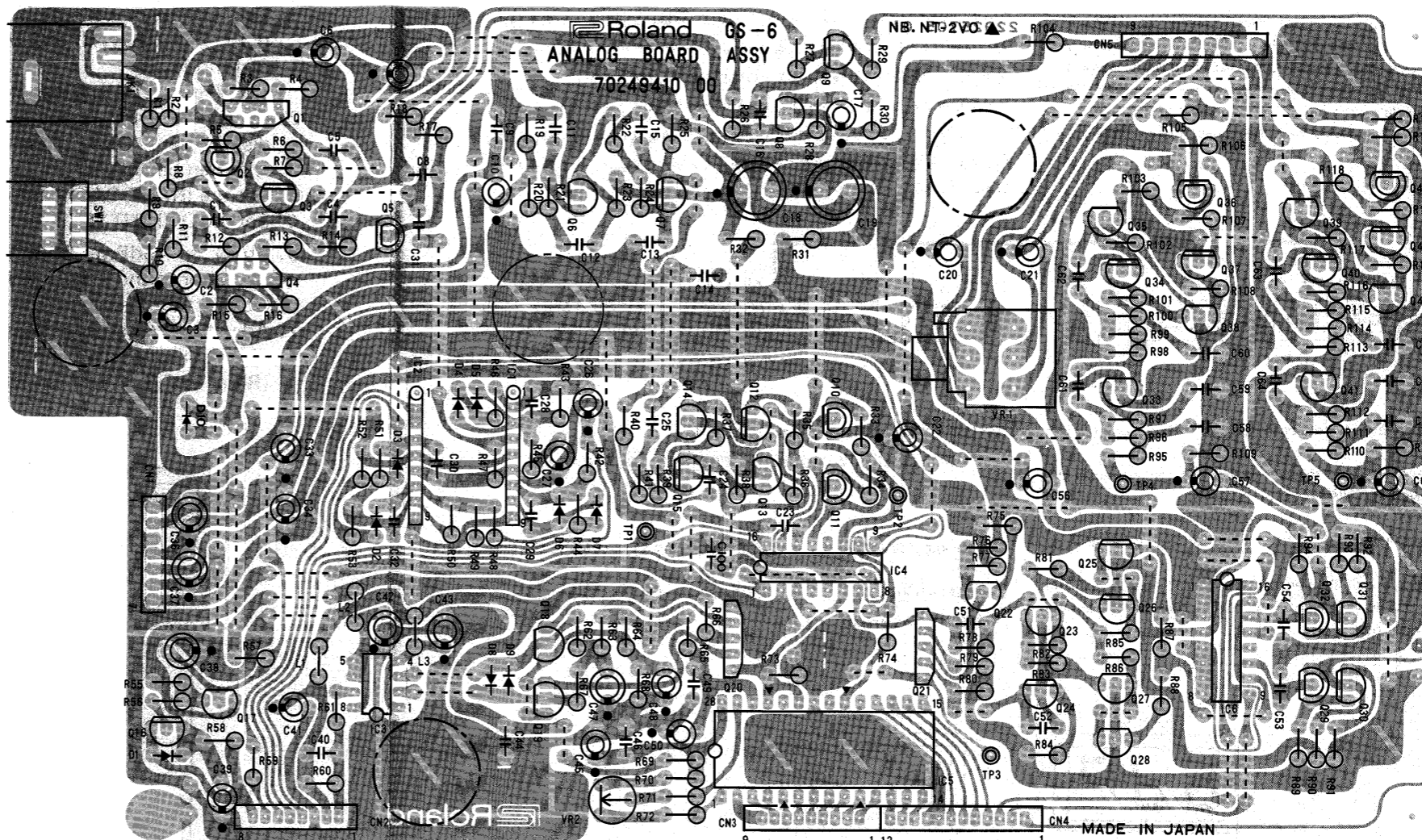
ASSY7024952000
(pcb2292570300 1/2)



View from component side

ANALOG BOARD

ASSY7024941000 (pcb2292570501)



View from component side

REPLACEMENT 補修用

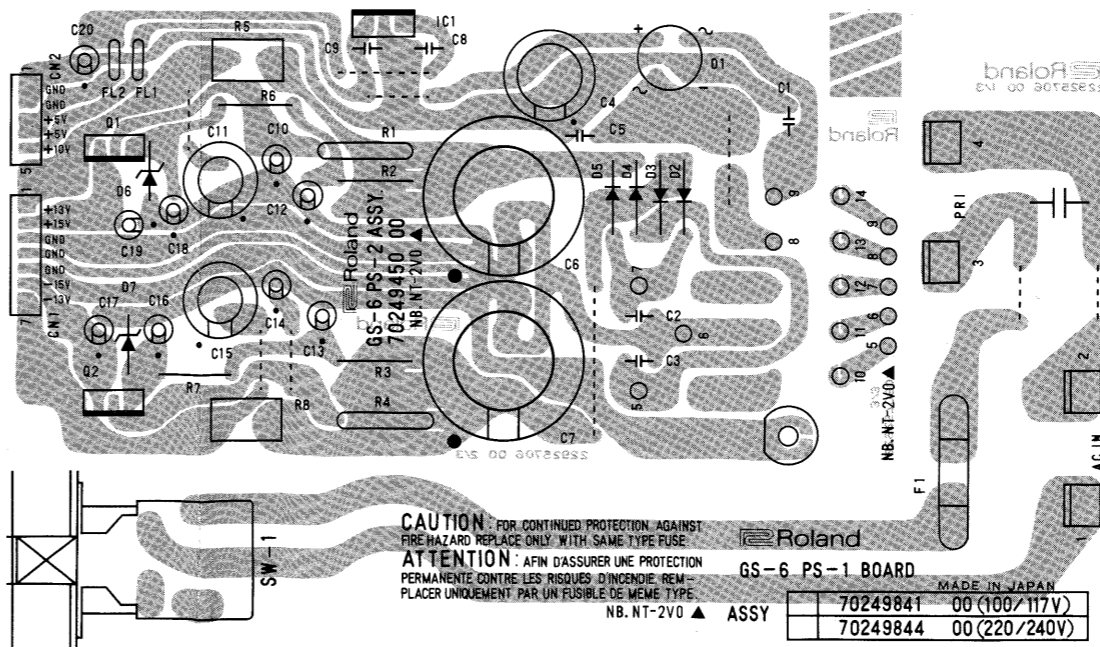
BALANCE BOARD
ASSY7024952000
(pcb2292570300)

Replacement BALANCE BOARD includes MIDI BOARD.

補修用バランス基板はMIDI基板を含みます。

PS-2 BOARD

(pcb2292570600 2/3)



View from component side

PS-1 BOARD(220/240V)

ASSY7024984400
(pcb2292570600 1/3)

SMALL BOARD

(pcb2292570600 3/3)

REPLACEMENT 補修用

PS-1 BOARD(220/240V)
ASSY7024984400
(pcb2292570600)

Replacement PS-1 BOARD includes PS-2 BOARD and SMALL BOARD.

Refer to "PARTS LIST" for details.

補修用PS-1基板はPS-2基板とスモール(小)基板を含みます。詳細はパーツリストを参照のこと。

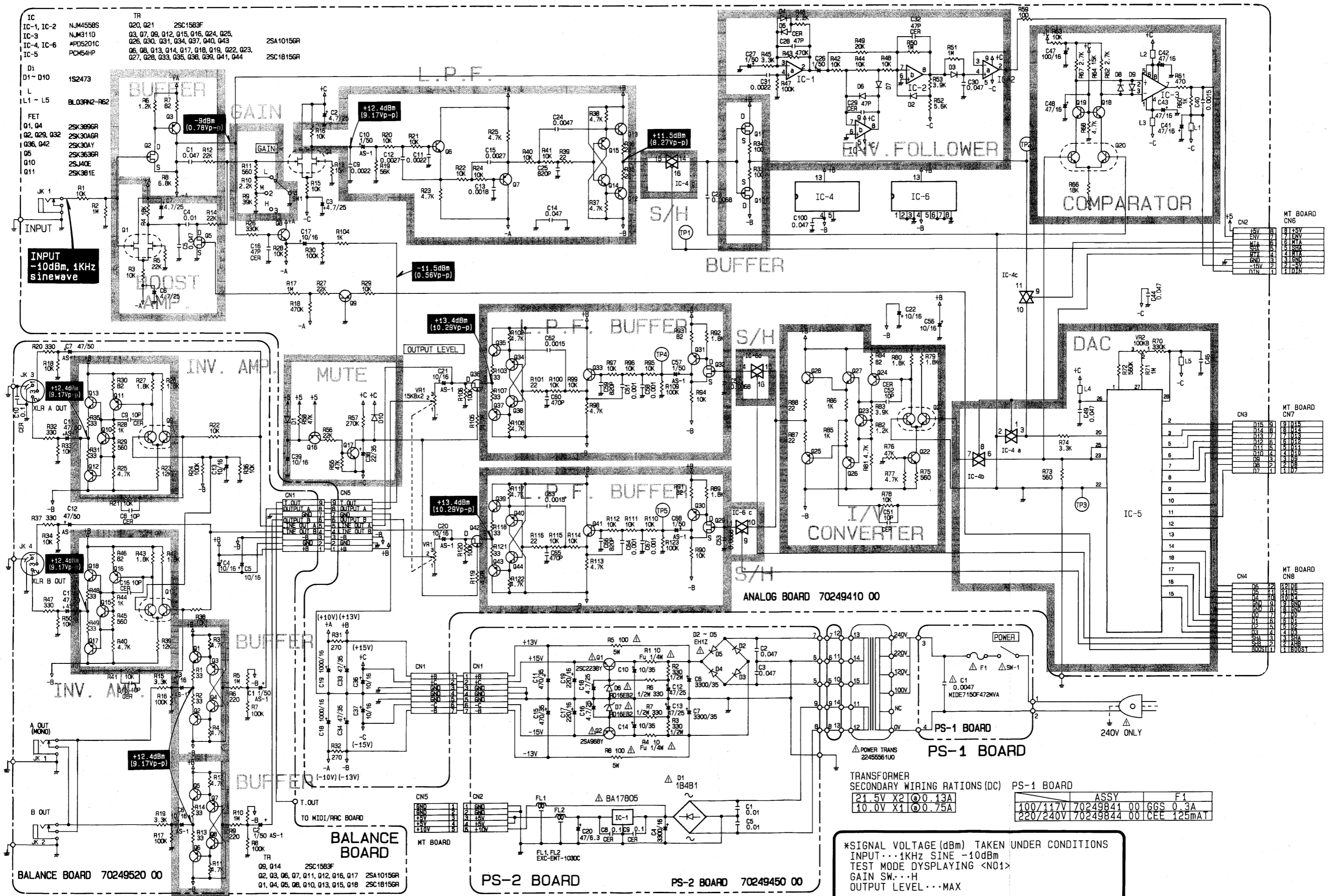
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD REPLACE ONLY WITH SAME TYPE FUSE.
ATTENTION: AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE.

Roland GS-6 PS-1 BOARD
MADE IN JAPAN
ASSY 70249841 00 (100/117V)
70249844 00 (220/240V)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

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S
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ANALOG BOARD



MT BOARD CN6

1	15V
2	ENV
3	MTA
4	MTA
5	MTA
6	MTA
7	MTA
8	MTA
9	MTA
10	MTA
11	MTA
12	MTA
13	MTA
14	MTA
15	MTA
16	MTA
17	MTA
18	MTA
19	MTA
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34	MTA
35	MTA
36	MTA
37	MTA
38	MTA
39	MTA
40	MTA

MT BOARD CN7

1	15V
2	ENV
3	MTA
4	MTA
5	MTA
6	MTA
7	MTA
8	MTA
9	MTA
10	MTA
11	MTA
12	MTA
13	MTA
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15	MTA
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36	MTA
37	MTA
38	MTA
39	MTA
40	MTA

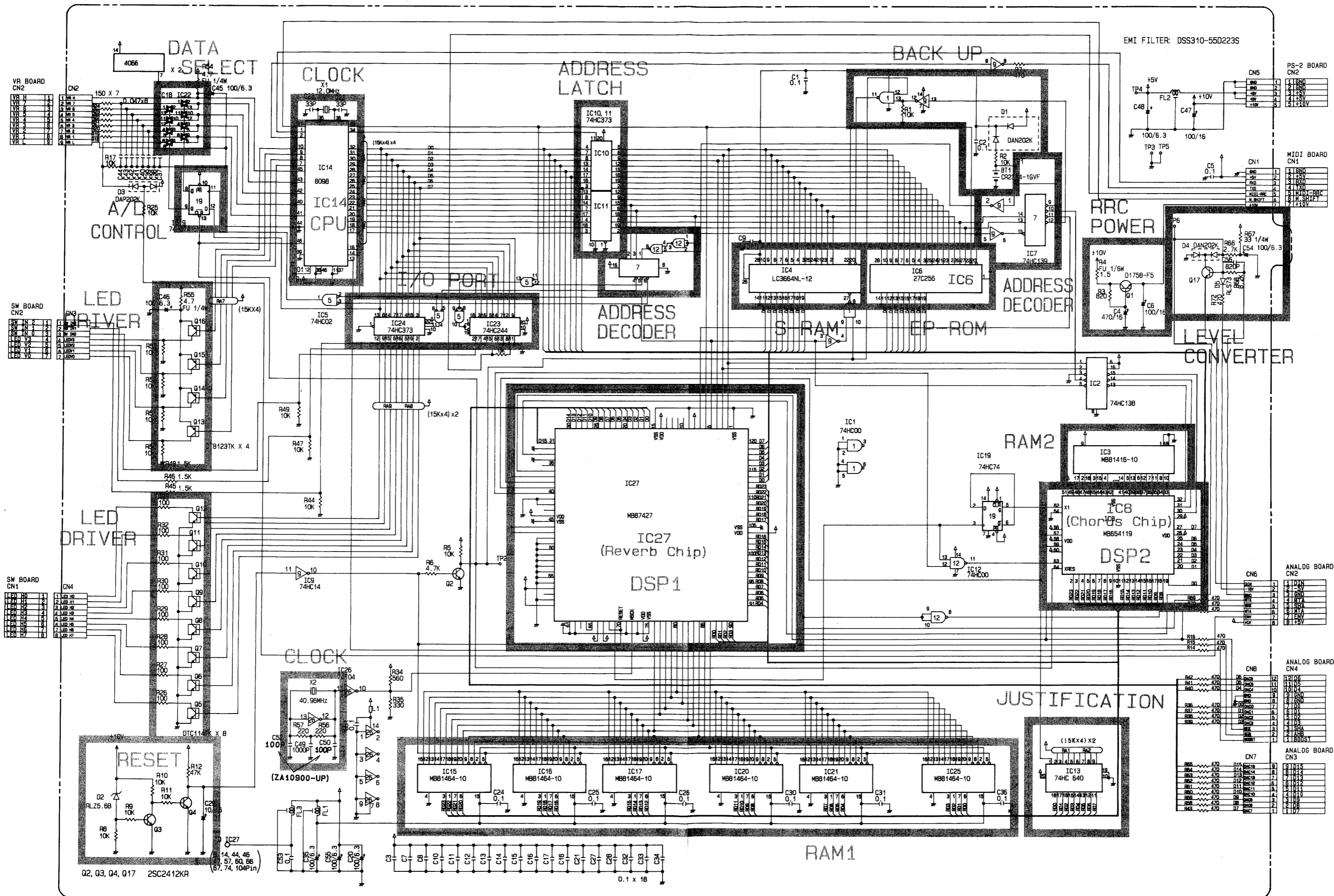
MT BOARD CN8

1	15V
2	ENV
3	MTA
4	MTA
5	MTA
6	MTA
7	MTA
8	MTA
9	MTA
10	MTA
11	MTA
12	MTA
13	MTA
14	MTA
15	MTA
16	MTA
17	MTA
18	MTA
19	MTA
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31	MTA
32	MTA
33	MTA
34	MTA
35	MTA
36	MTA
37	MTA
38	MTA
39	MTA
40	MTA

*SIGNAL VOLTAGE (dBm) TAKEN UNDER CONDITIONS
 INPUT...1KHz SINE -10dBm
 TEST MODE DISPLAYING <N01>
 GAIN SW...H
 OUTPUT LEVEL...MAX

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

MT BOARD



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

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MT BOARD

ASSY7024940000

(pcb2292570700)

ADVARSEL!

Lithiumbatteri. Eksplosionsfare.
Udskiftning må kun foretages af en sagkyndig,
og som beskrevet i servicemanual.

Lithium batteri må kun udskiftes med samme type og
fabrikat.

VAROITUS!

Lithiumparisto. Räjähdyysvaara.
Pariston saa vaihtaa ainoastaan
alan ammottimies.

Kun vaihat lithium pariston KÄYTÄ saman valmistajan
samaa tyyppiä.

ADVARSEL!

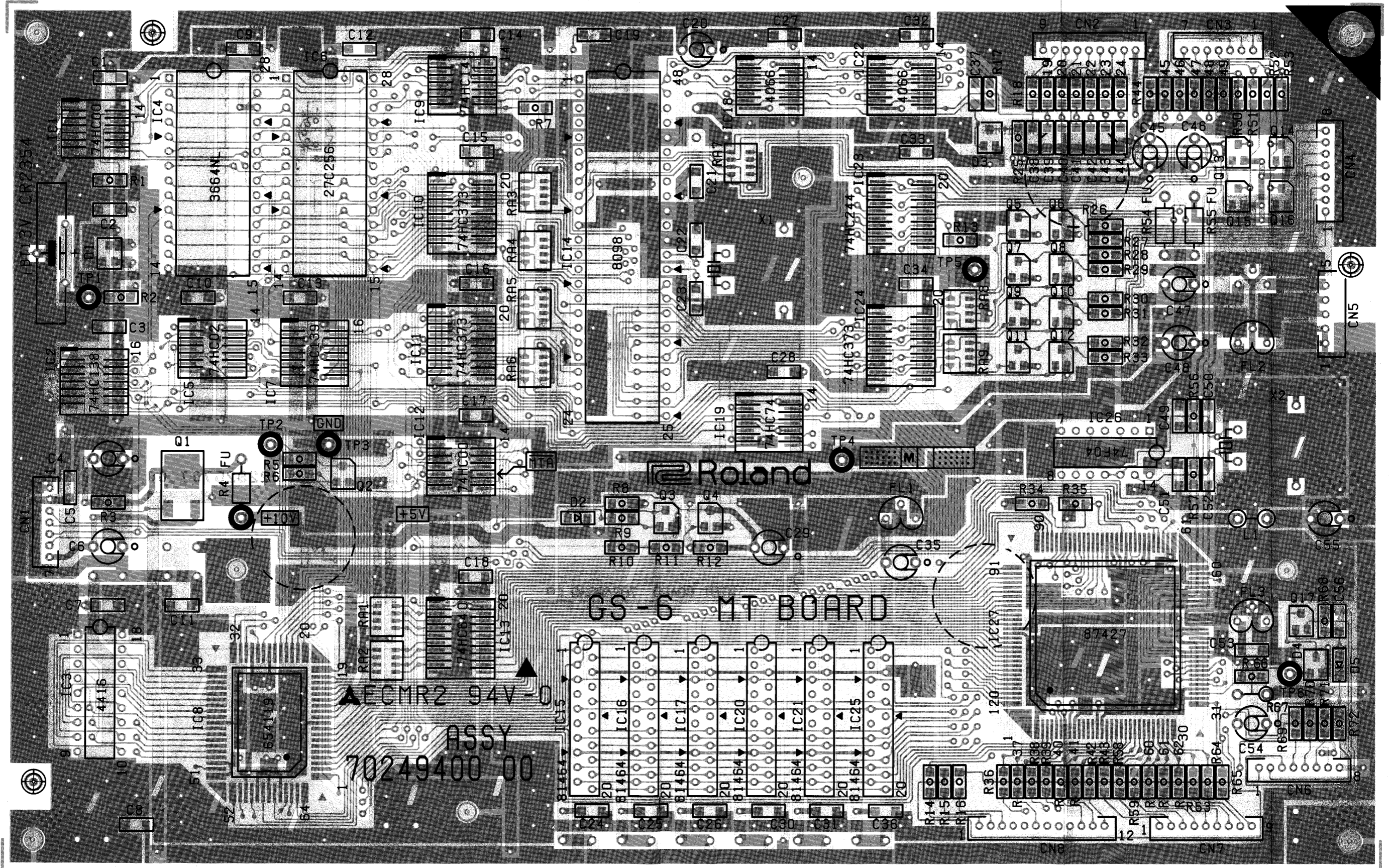
Lithiumbatteri. Fare for eksplotion.
Måbare skiftes av kvalifisert tekniker som
beskrevet i servicemanualen.

Lithium batteri må kun utskiftes med samme type og
fabrikat.

WARNING!

Lithiumbatteri. Explosionsrisk.
Får endast bytas av behörig servicetekniker.
Se instruktioner i servicemanualen.

Lithium batteri för endast ersättes med samme typ og
fabrikat.

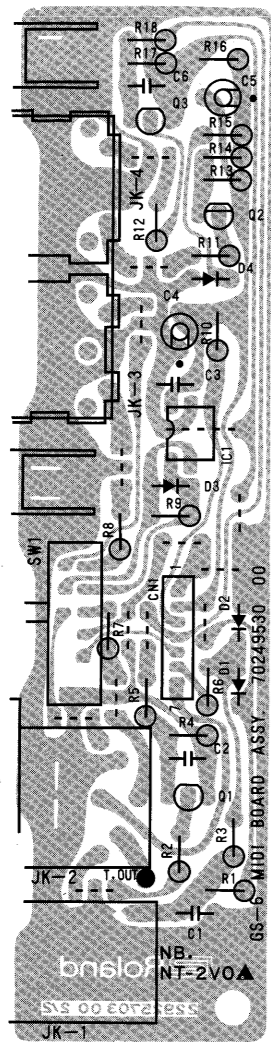


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

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MIDI BOARD

(pcb2292570300 2/2)



View from component side.

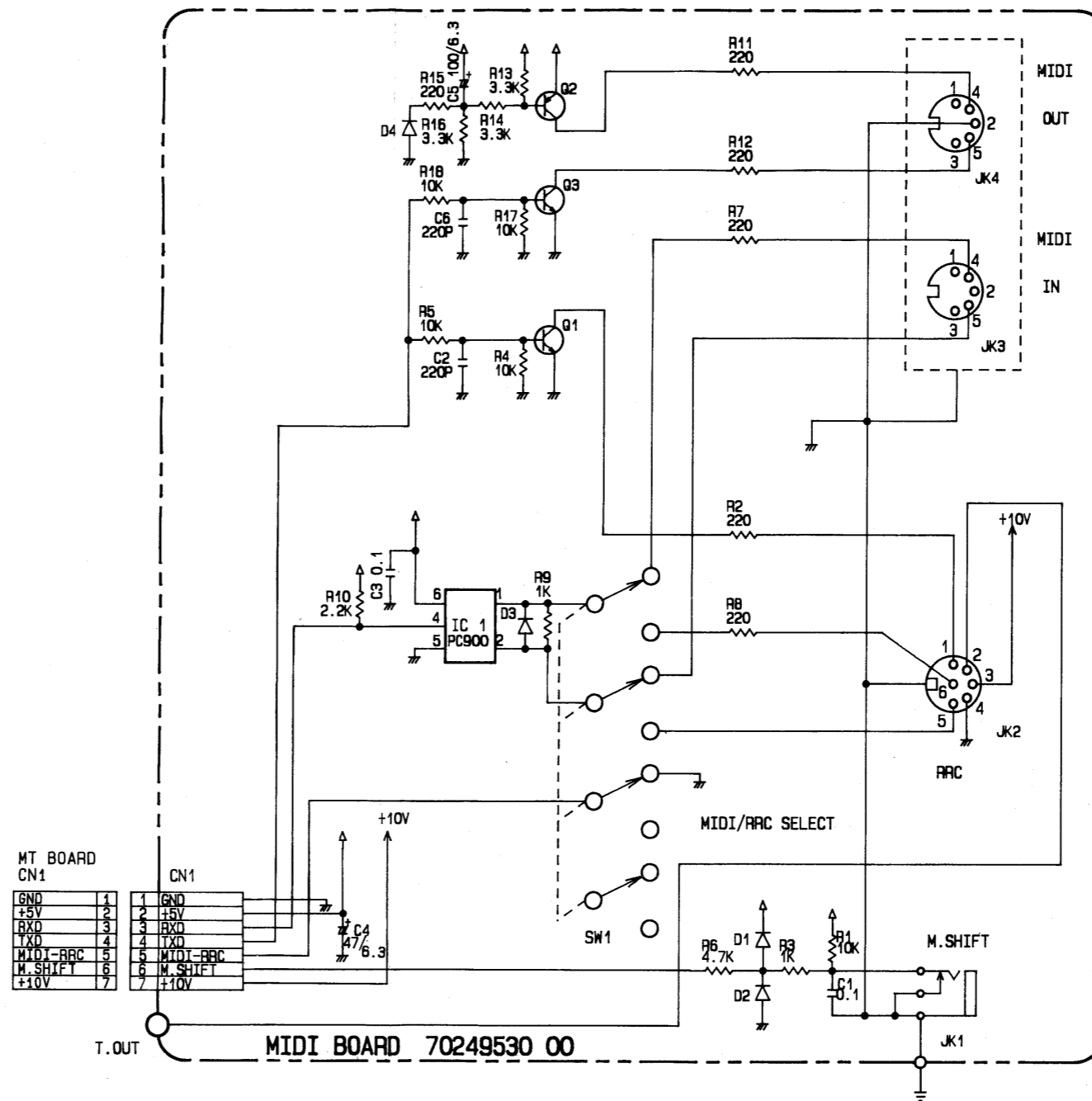
REPLACEMENT 補修用

BALANCE BOARD
ASSY7024952000
(pcb2292570300)

Replacement BALANCE BOARD includes MIDI BOARD.

補修用バランス基板はMIDI基板を含みます。

MIDI BOARD

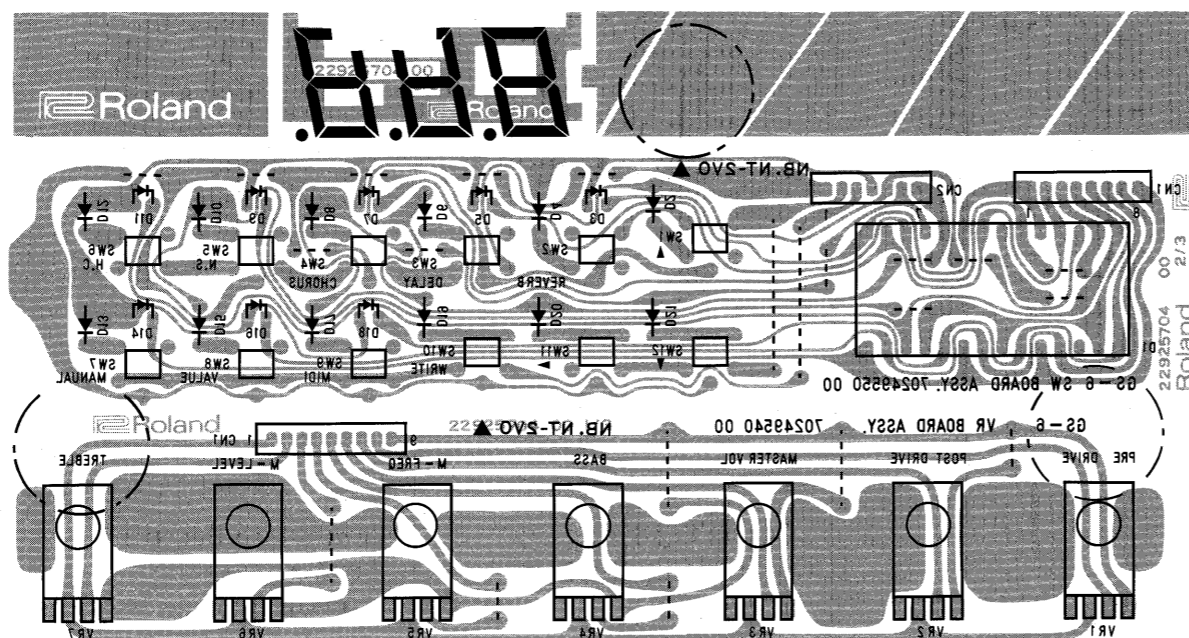


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

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V

7seg. LED Spacer PCB

(pcb2292570400 3/3)



SW BOARD

(pcb2292570400 2/3)

VR BOARD

ASSY7024954000

(pcb2292570400 1/3)

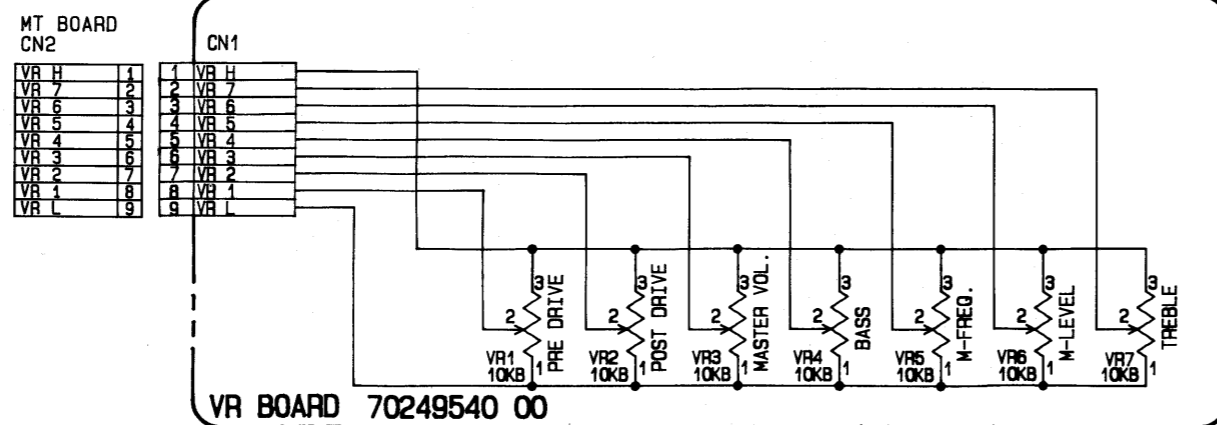
REPLACEMENT 補修用

VR BOARD
ASSY7024954000
(pcb2292570400)

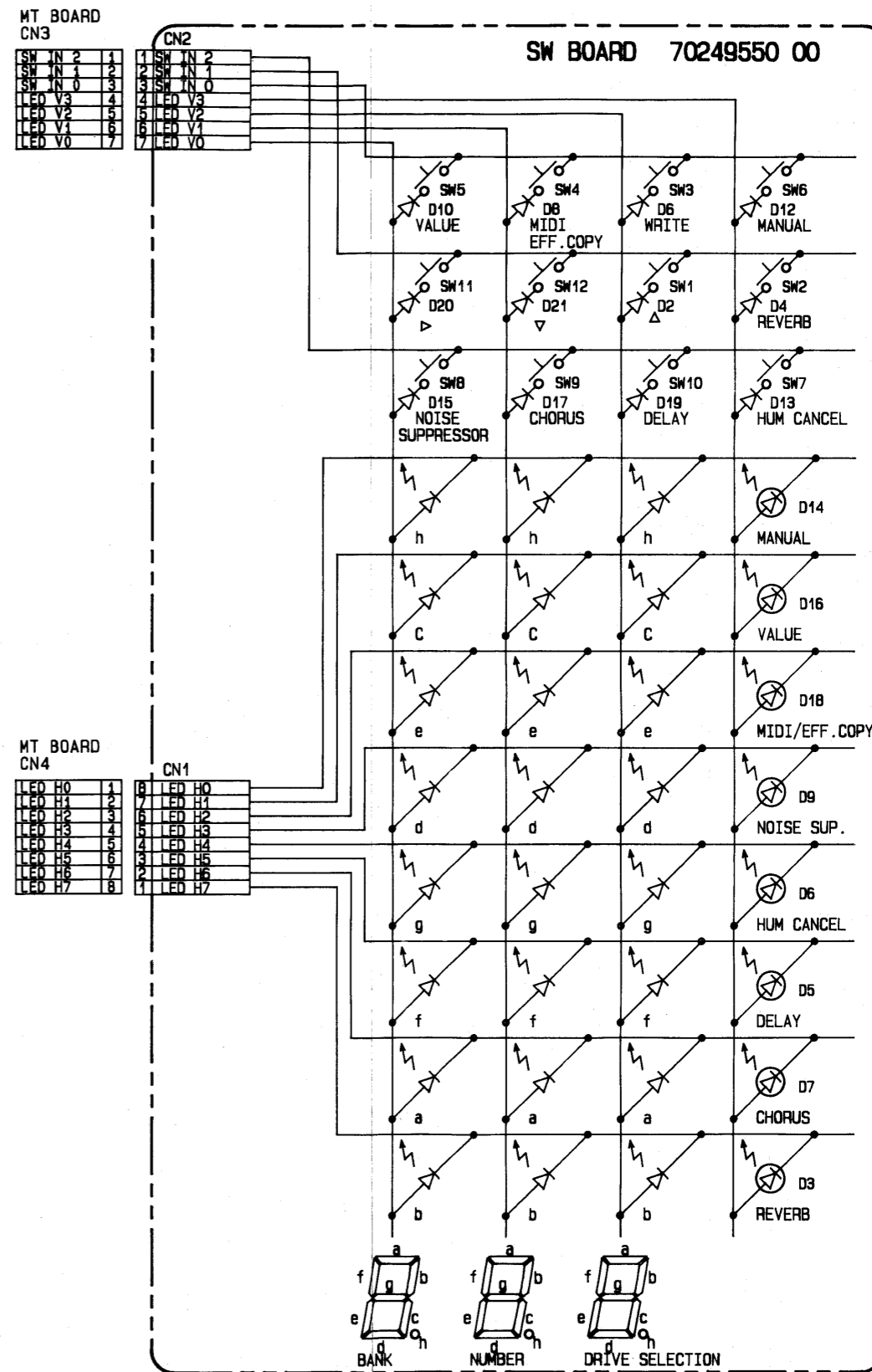
Replacement VR BOARD includes SW BOARD and 7seg. LED Spacer PCB.
補修用VR基板はSW基板と7セグメントLED用スペーサ基板を含みます。

View from component side.

VR BOARD

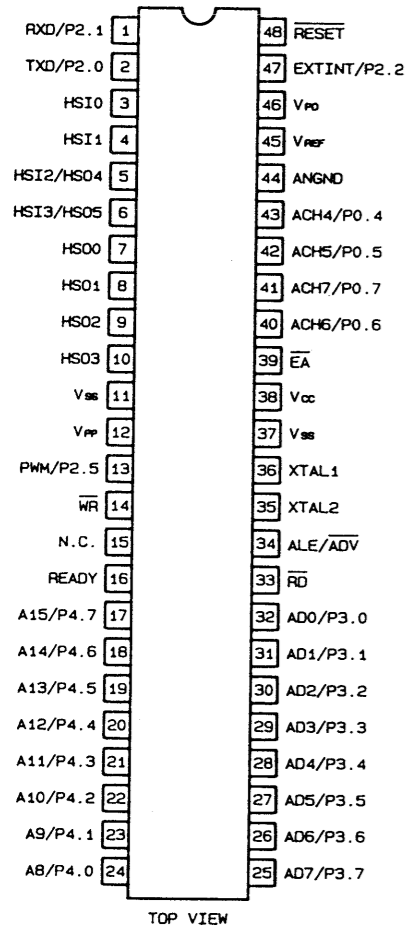


SW BOARD

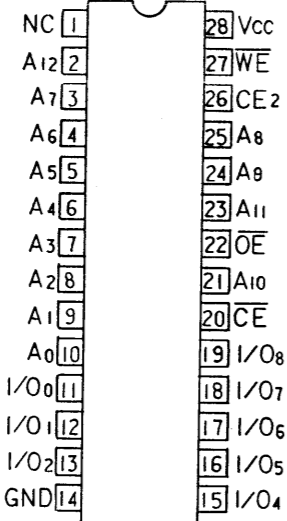


IC DATA

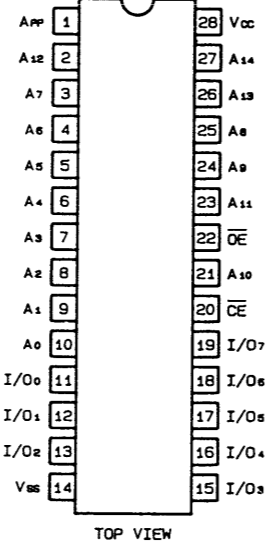
CPU 8098 (15179286)



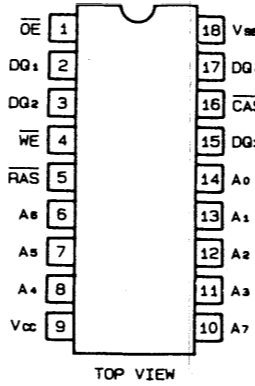
S RAM LC3664NL-12 (15179427)



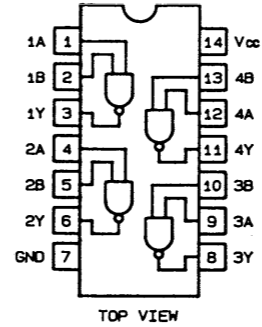
EP ROM M5M27C256K-15 (15449186)



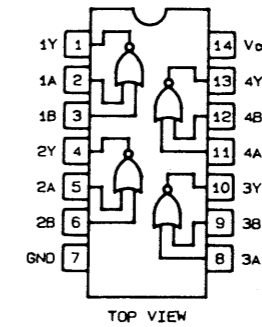
D RAM MB81416-10 (15179376)



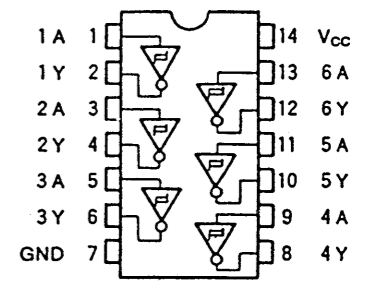
Quad 2-Input NAND Gate TC74HC00F (15259701T0)



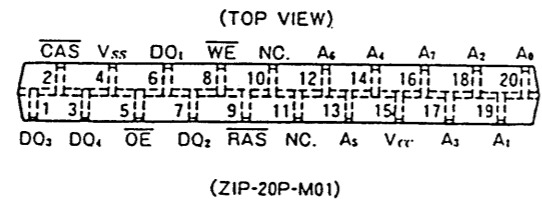
Quad 2-Input NOR Gate TC74HC02F (15259702T0)



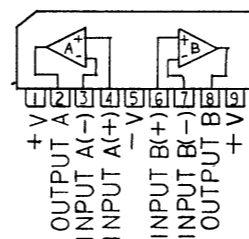
Hex Inverting Schmitt Trigger TC74HC14F (15259711T0)



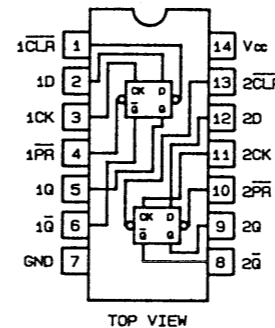
D RAM MB81464-10 (15179428)



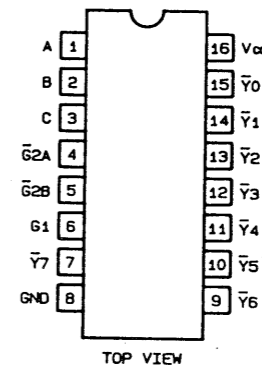
OP Amp NJM4558S (15189135)



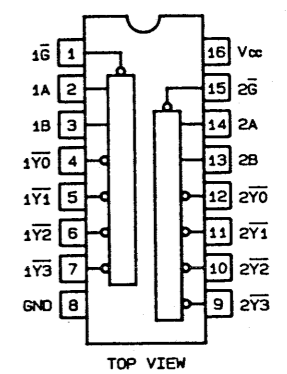
Dual D Flip-Flop with Preset and Clear TC74HC74F (15259720T0)



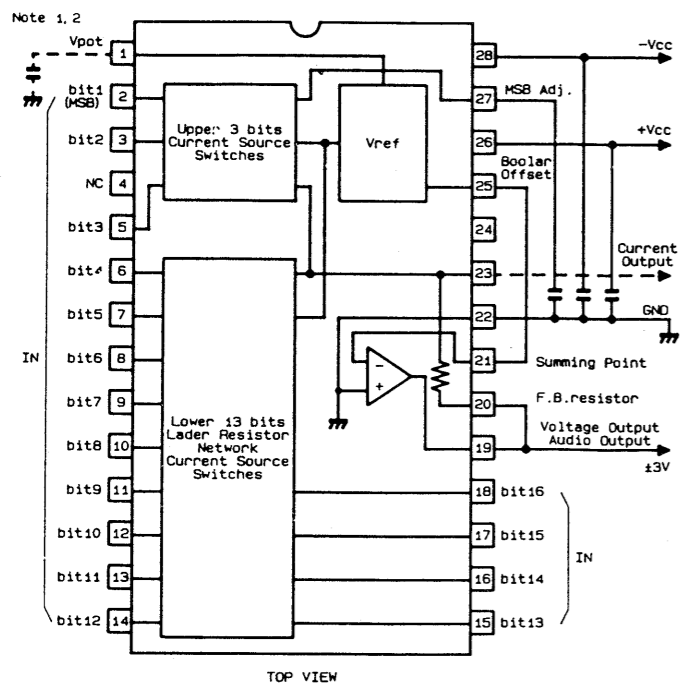
3-to-8 Line Decoder TC74HC138F (15259738T0)



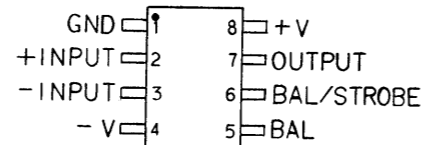
Dual 2-to-4 Line Decoder TC74HC139F (15259740T0)



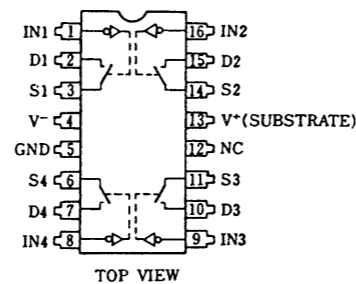
D/A Converter PCM54 (15219162)



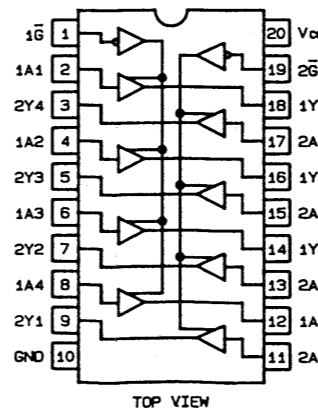
Comparator NJM311D (15189111J1)



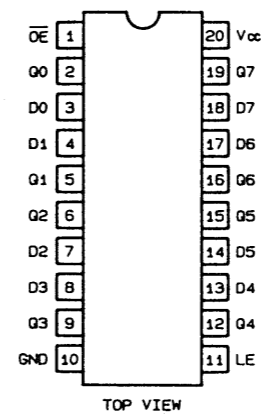
Analog Switch μPD5201C (15209119)



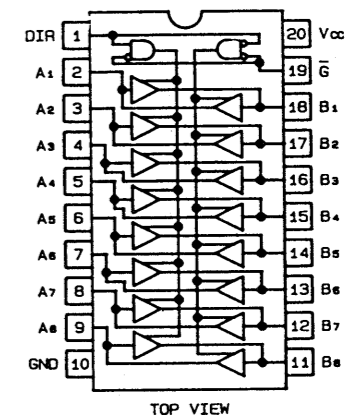
Octal 3 State Buffer TC74HC244F (15259776T0)



3 State Octal D-type Latch TC74HC373F (15259801T0)



Inverting Octal 3 State Transceiver TC74HC640F (15259832T0)



CHANGE INFORMATION**変更案内**

□ MT BOARD

- Changing the value of chip capacitors
(C50,C52: ceramic capacitors)
C50,C52 : 150pF to 100pF

EFF.SN : ZA10900 - up

Reason : To stabilize master clock frequency
(40.96MHz).

Concrete symptoms before change :

The sound will be distorted or will seem affected by flanger if the master clock frequency is unstable.

Countermeasure as a service :

- * Make these changes only when there is a claim.
- * Remove the C50 and C52 chip capacitors and mount usual ceramic capacitors (100pF) in their places. (Usual ceramic capacitors can be substituted for chip capacitors.) Mount them so that the capacitor leads are as short as possible.

□ MTボード

- チップコンデンサー(C50,C52)定数変更
(C50,C52: セラミックコンデンサー)
C50,C52 : 150pF から 100pF へ

実施製番 : ZA10900 以降

理由 : 40.96MHz マスタークロック発振安定性の向上の為

変更前の具体的症状 :

ノイズっぽい音またはフランジャーの掛かった様な音になってしまう。

(マスタークロックの発振が不安定な場合)

サービスとしての対応 :

- * クレームのあった場合のみ、この変更を行なって下さい。
- * C50,C52 のチップコンデンサーを外した後、通常のセラミックコンデンサー (100pF) を取り付けて下さい。(チップコンデンサーの代わりに通常のセラミックコンデンサーが代用出来ます。) コンデンサーの足はできるだけ短くなる様に取り付けて下さい。