

# JX-8P/PG-800 SERVICE NOTES

## SPECIFICATIONS

First Edition

**Keyboard**

61 keys

**Dimensions**

977(W) x 375(D) x 92(H) mm

38-7/16"(W) x 14-3/4"(D) x 3-9/16"(H)

**Memory Capacity**

Preset	64 Patch Programs
Internal Memory	32 Patch Programs
External Memory (Memory Cartridge)	32 Patch Programs

**Weight**

11.5kg

25 lb 60 oz

**Output**

Stereo/Mono	: 5Ω
Headphones	: 8Ω, Stereo

**Consumption**

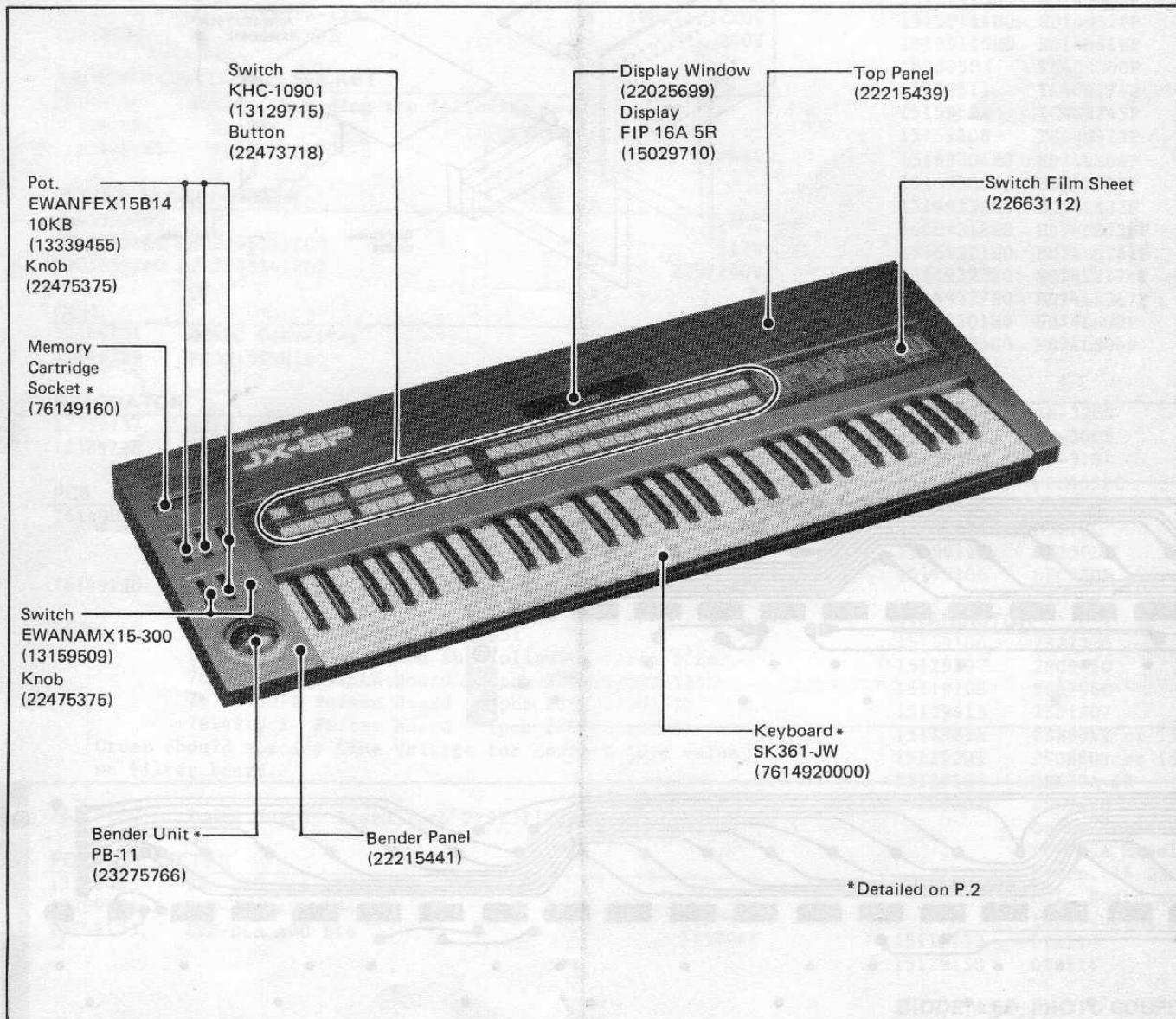
25W

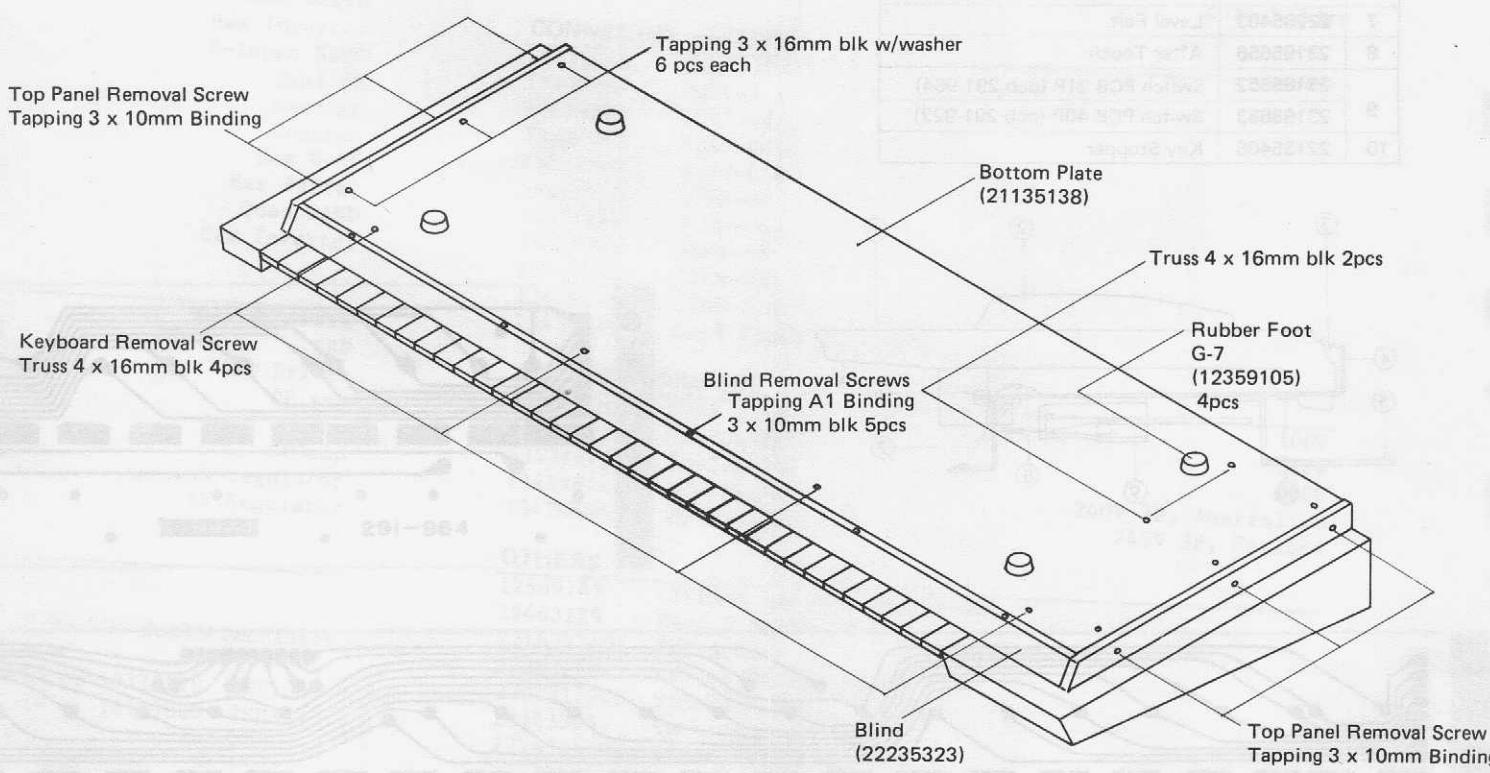
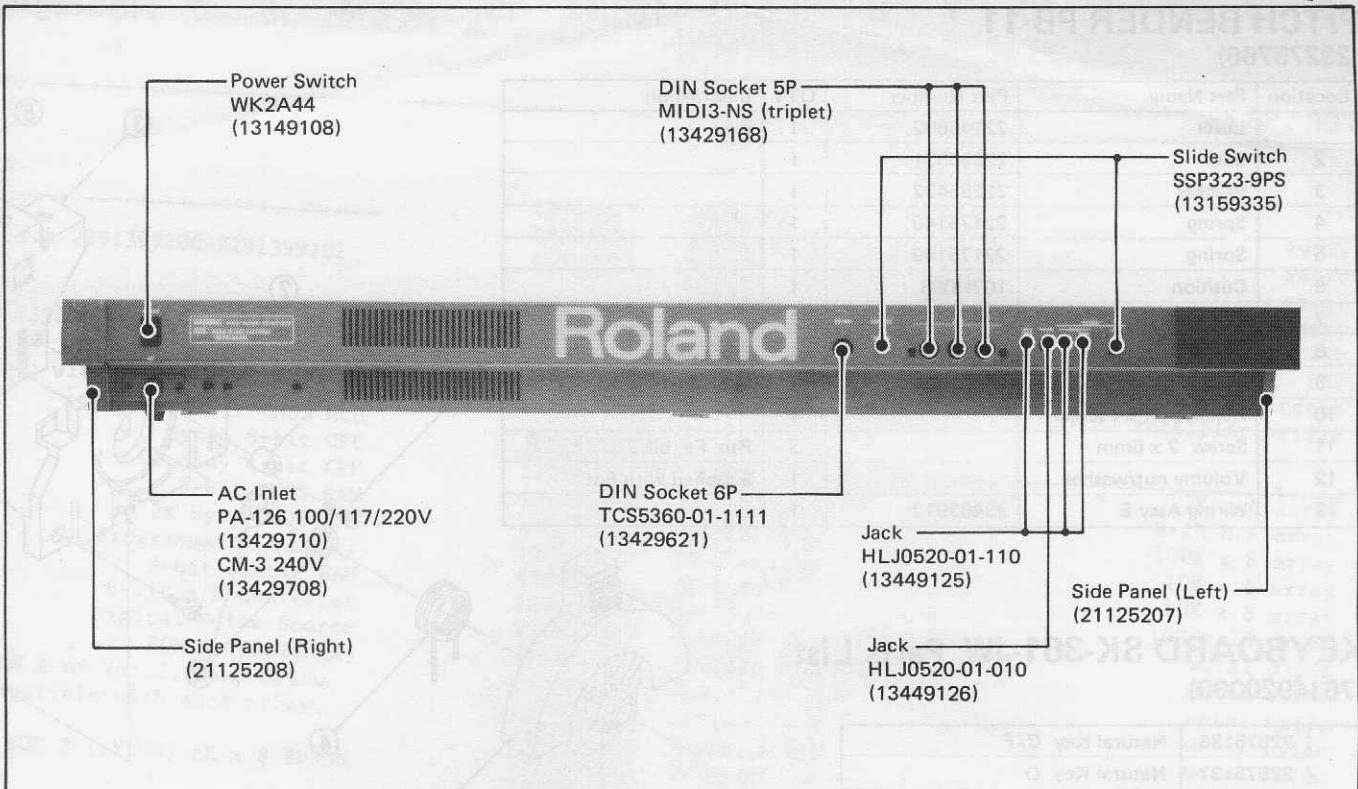
**Accessories**

Connections Cables x 2

**Options**

- Programmer PG-800
- Memory Cartridge M-16C
- Pedal Switch DP-2
- Carrying Case AB-2





1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

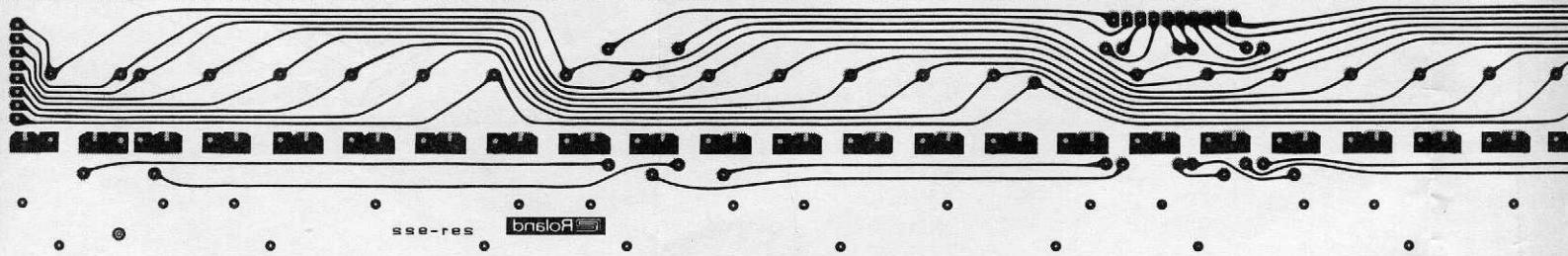
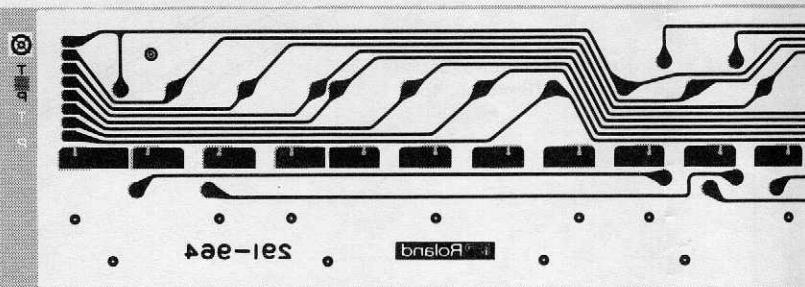
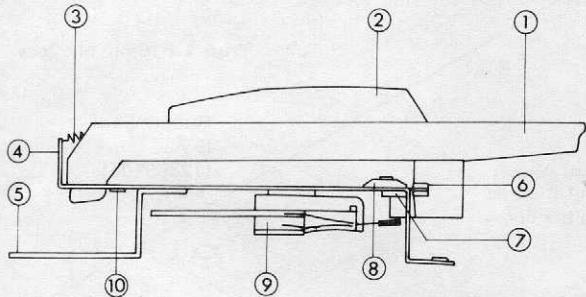
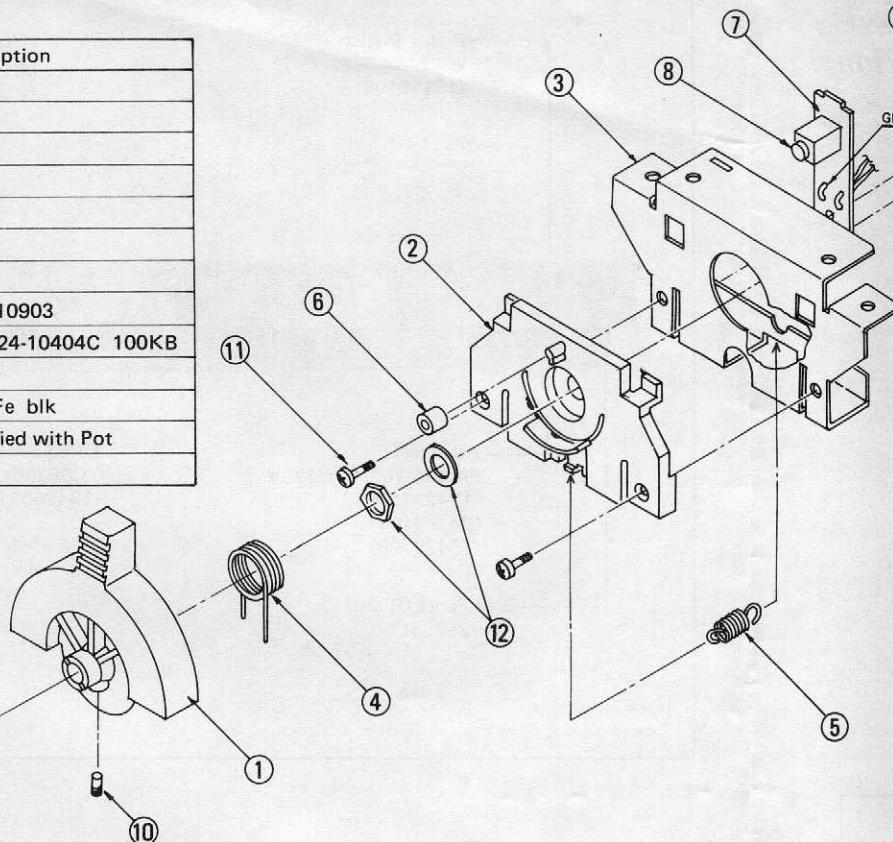
**PITCH BENDER PB-11**

(23275766)

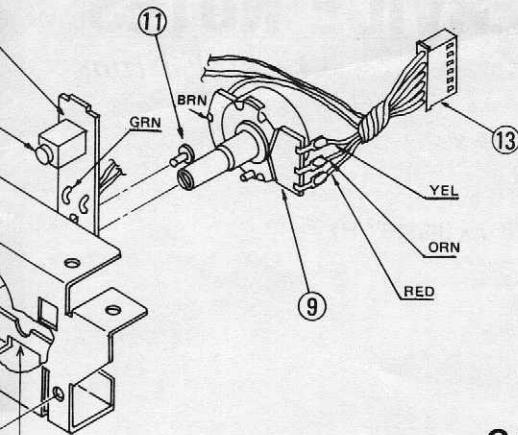
Location	Part Name	Part Number	QTY	Description
1	Lever	22145602	1	grey
2	Base	22355331	1	
3	Bracket	22285432	1	
4	Spring	22175148	1	
5	Spring	22175149	1	
6	Cushion	107H066	1	
7	PCB	22915933	1	
8	Switch	13169609	1	KEF-10903
9	Potentiometer	13259701	1	S20K24-10404C 100KB
10	Hex socket set screw		1	
11	Screw 2 x 6mm		3	Pan Fe blk
12	Volume nut/washer		1	Supplied with Pot
13	Wiring Assy E	23463912	1	

**KEYBOARD SK-361-JW Parts List**  
(7614920000)

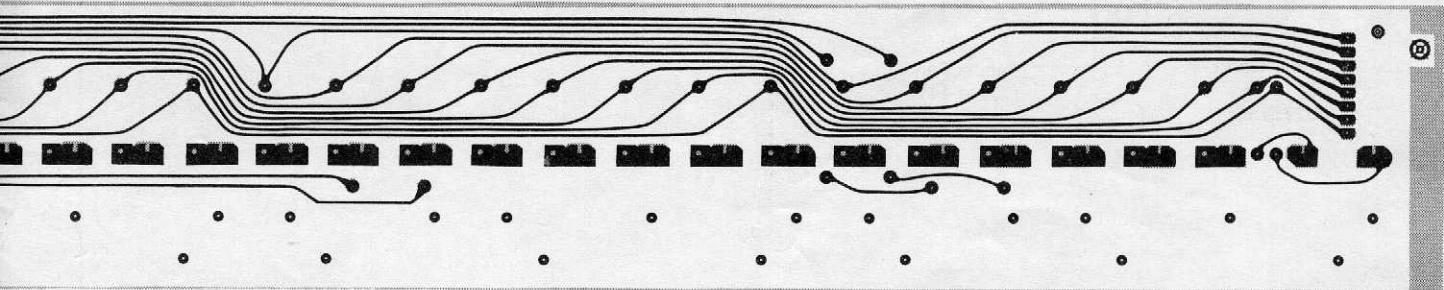
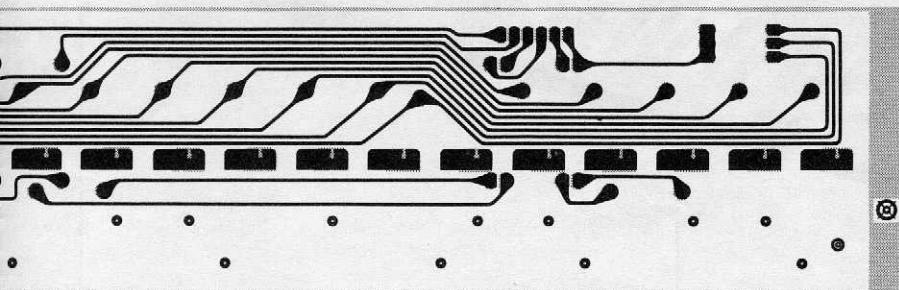
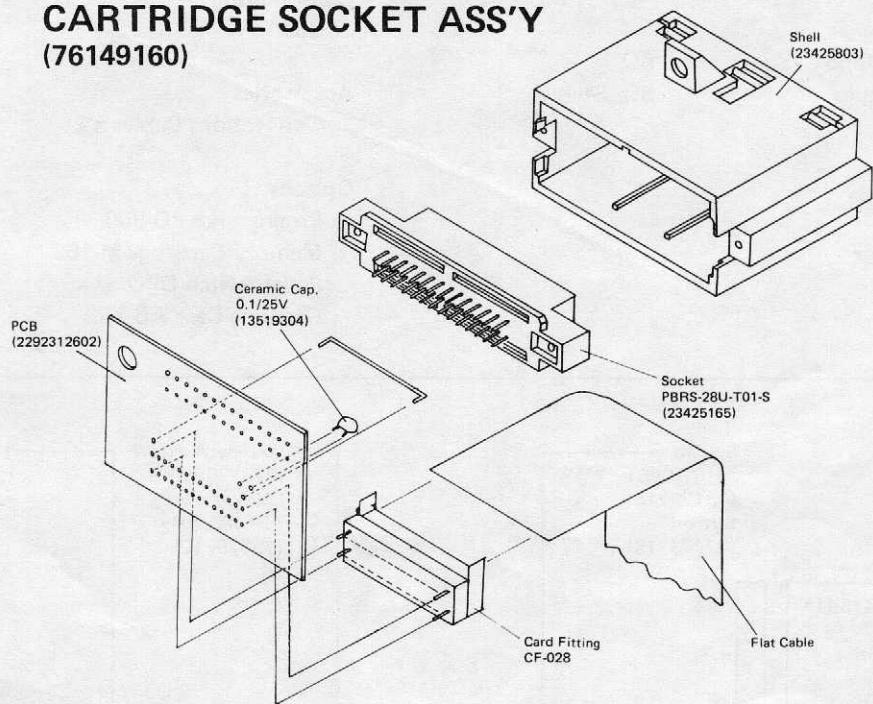
1	22575136	Natural Key C, F
	22575137	Natural Key D
	22575135	Natural Key E, B
1	22575138	Natural Key G
	22575134	Natural Key A
	22575139	Natural Key C, F
2	22575140	Sharp Key
	22175132	Natural Keyspring
3	22175133	Sharp Keyspring
4	22815468	Chassis
5	22035120	Chassis Stand
6	22155716	Guide Bushing
7	22265403	Level Felt
8	23165656	After Touch
	23165652	Switch PCB 21P (pcb 291-964)
9	23165653	Switch PCB 40P (pcb 291-922)
10	22135406	Key Stopper



21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40



**CARTRIDGE SOCKET ASS'Y**  
(76149160)



# PARTS LIST (JX-8P)

## PANEL, CASING

22215439	Top Panel	
22215441	Bender Panel	
22663112	Switch Film Sheet	
22025699	Display Window	
21135138	Bottom Plate	
22235323	Blind	
21125207	Side Panel	Left
21125208	Side Panel	Right
22125166	Plate	Side Panel Holder, Right
22195519	Angle	Same for both R, L

## KNOB, BUTTON

22475375	Knob	Bender Panel
22473718	Button	KHC-10901

## SWITCH

13159509	EWA-NAM X15 300	
		Portamento ON/OFF, Bend Range Select

13159335	SSP323-9PS	Output Level, Memory Protect
13129715	KHC-10901	Panel, Touch
13149108	WK2A44	Power

## JACK, SOCKET

13449125	HLJ-0520-01-110	OUTPUT, HOLD
13449126	HLJ-0520-01-010	PHONES
13429168	MIDI3-NS DIN 5P (triplet)	MIDI
13429621	TGS5360-01-1111 DIN 6P	PROGRAMMER
13429710	AC Inlet PA-126	100/117/220V
13429708	AC Inlet CM-3	240V

## MEMORY CARTRIDGE SOCKET

76149160	Ass,y (including the following two)	
23425803	Shell	
23425165	PBRS-28U-T01-S	Socket

## POWER TRANSFORMER

22455355N0		100V
22455356C0 or 22455417C0		117V
22455357D0 or 22455418D0		220/240V

## COIL

12449251	DC-DC Converter	
12449229	FKOB160MH15	Line Filter

## RESONATOR

12389737	HC/U 16MHz	Crystal
12389738	CSB400P	Ceralock

## PCB

76149060	Main Board (pcb 2291399102)	
	or (pcb 2291399104)	SN530350-up

76149130 Switch Board 1 (pcb 2292311401)

76149100 Switch Board 2 (pcb 22923115)  
 Splittable, including the following three PCBs:  
 76149120-1 Switch Board 2 (pcb 2292311502-1)  
 76149120-2 Volume Board (pcb 2292311502-2)  
 7614910 X Filter Board (pcb 2292311502-3)  
 Order should specify Line Voltage for correct fuse value  
 on Filter Board.

76149180 Power Supply Board (pcb 22923112)

## POTENTIOMETER

13339455	EWA-NFE X15 B14	
13299193	EVN-D4A A00 B54	Trimmer
13299195	EVN-D4A A00 B14	Trimmer

## IC (Digital)

15229824	MB63H130	
	Dynamic Gate Array for pcb 22913991	
or		
15229830	MB63H149	
	Dynamic Gate Array SN530350-up or	
	up.	
	Both ICs are incompatible with ea	
15179203	HD63B03	Assigned
15179319	i-8051-319	
15179201	μPD7537-014	D
15179342	HM6116-2	
15179317	TC5517APL	
15179110N0	μPD8253C-2	Prog
15179341	μPD8155HC	
15219150	μPD7001C	8-b
15219149	MM5437	Digi
15179675	M5L-27128K-2	
	16K x 8, 200ns EPROM (ROM A of Ver	
	and of Ver.3.0 are incompatible wi	
	See CHANGE INFORMATION).	
15179674	TMM2764	ROM B (SYN
or		
15179699	M5L-2364-211P	
	Upward compatible from EPROM B's c	
	since there is no difference between	
	versions in program.	
15159128H0	HD14050BP	
15159113H0	HD14051BP	
15159114H0	HD14052BP	
15159115H0	HD14066BP	
15159503	TC40H000P	
15159511	TC40H174P	
15159524	TC40H245P	
15159508	TC40H373P	
15169304H0	HD74LS04P	
15169308H0	HD74LS30P	
15169339H0	HD74LS32P	
15169318H0	HD74LS138P	
15169321H0	HD74LS161P	
15169322H0	HD74LS174P	
15169327H0	HD74LS367P	
15169301H0	HD74LS00P	
15169304H0	HD74LS04P	

## IC (Analog)

15229826	IR-3R05	
15219213	MN-3009	
15169504	MN-3101	
15189105	μPC4558C	
15189154	TL-064	
15189136	M5218L	
15199117	M5230L	
15199106	μPC7805	

## TRANSISTOR

15119106	2SA733Q	
15129107	2SC945Q	
15119108	2SA798G	
15129613	2SD1207	
15119815	2SB834Y or 15119814	2SB1015 or 15
15129201	2SD880Y or 15129827	2SD1406 or 15
15139103	2SK30A-GR	
15129107	2SC945Q	
	Gm selected for Q15, Q16 and Q19	
	VCF/VCA Module; dotted in Red, Orange	
	Green. 18 2SC945Q (3 for each void)	
	Main Board should be of the same size	
	reproducing uniform timbre.	
15119133	DTA114	di
15129150	DTC114	di

## DIODE, LED, PHOTO COUPLER

15019125	1SS-133	
15019143	1SS-116	

1130  
mic Gate Array for pcb 2291399100-2291399102

1149  
mic Gate Array SN530350-up or pcb 2291399103-

ICs are incompatible with each other.

03 Assigner 8 bit CMOS MCU  
1-319 Synth 8-bit CPU

37-014 Display 4-bit CPU  
6-2 8-bit CMOS RAM

7APL 2K byte CMOS RAM  
53C-2 Programmable Counter

55HC 8-bit Static RAM  
001C 8-bit A/D Converter

7 Digital Noise Source  
7128K-2 ROM A (ASSIGNER)

8, 200ns EPROM (ROM A of Ver.2.2 and below  
of Ver.3.0 are incompatible with each other.

CHANGE INFORMATION).

64 ROM B (SYNTH) 8K x 8 EPROM

3364-211P ROM B Mask ROM  
ard compatible from EPROM B's of all versions  
e there is no difference between ROM B

ons in program.

050BP Hex Buffer

051BP Analog Switch

052BP Analog Switch

066BP Quad Analog Switch

000P CMOS Inverter

174P CMOS D-FF

245P CMOS Driver

373P CMOS Latch

804P Hex Inverter

LS30P 8-input NAND

LS32P Quad OR

LS138P Decoder

LS161P Counter

LS174P Hex D-FF

LS367P Hex Buffer

SOOP Quad NAND

SO4P Hex Inverter

05 VCF-VCA Pack

09 BBD

01 BBD Driver

58C OP amp

64 Quad OP amp

3L OP amp

0L V-regulator

305 5V Regulator

3Q dual transistor

5Q

8G

207

34Y or 15119814 2SB1015 or 15119819 2SB507

30Y or 15129827 2SD1406 or 15129820 2SD313

0A-GR

5Q

Selected for Q15, Q16 and Q19 of Main Board

VCA Module; dotted in Red, Orange, Yellow or

Green. 18 2SC945Q (3 for each voice) on a given

Board should be of the same color dot for

producing uniform timbre.

4 digital transistor

4 digital transistor

COUPLER

33

16

15019607	05Z6.2X	zener
15019603	05Z9.1Z	zener
15019605	05Z43Y	zener
	04AZ3.0	zener
15229706	TLP-552	photo coupler
15029177	GL-5HD5	LED
15029710	FIP 16A 5R	fluorescent indicator
15019236	W02	rectifier bridge

#### RESISTOR

13919335	RGLD 6 x 102J	1K x 6 array
13919146	RKM14L503F	R-2R D/A array
13919313	RMLS 8-104J	100K x 8 array
13919308	RMLS 6-103J	10K x 6 array
13919310	RMLS 8-103J	10K x 8 array
13919321	RML13-103J	10K x 13 array
13799710DO	CRB20FX 10kΩ	metal oxide
13799725DO	CRB20FX 330kΩ	metal oxide
13799724DO	CRB20FX 6.8kΩ	metal oxide
13799723DO	CRB20FX 4.7kΩ	metal oxide
13769173K0	SN14K2EF 10kΩ	metal oxide
13769182K0	SN14K2EF 24kΩ	metal oxide
13769161K0	SN14K2EF 3.3kΩ	metal oxide
15229921	ERSA33G561T 560Ω	posistor

#### CAPACITOR

13529104	DE7150F472MVA1	line bypass
13549216Y0	0.01μF 50V, G (±2%)	film
13529116	DD107SL221G50V	220pF, 50VG

#### FUSE, FUSE HOLDER

12559336	GGS 2A	100/117V
12559508	CEE T250mA	220/240V
12199552	UF0005-02	fuse holder

#### CONNECTOR HOUSING

13439266	5267-10A	
13439267	5267-12A	
13439277	5267-14A	
13439261	5267-04A	
13439285	5268-03A	
13439272	5268-04A	
13439273	5268-06A	
13439270	5268-08A	
13439274	5268-09A	
13439276	5268-12A	
13439280	Card Fitting CF-028	

#### AC CORD, CORD SET

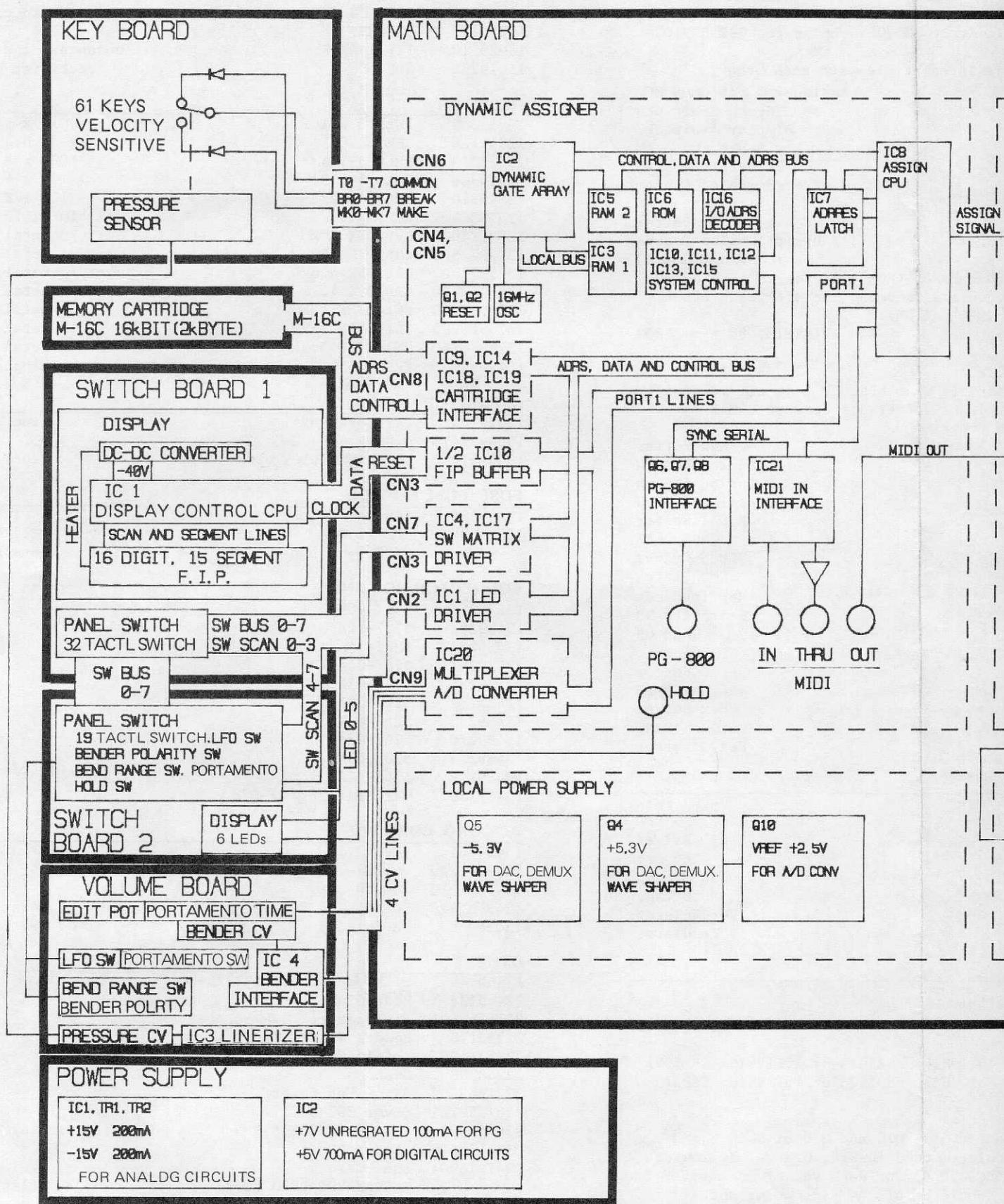
13439801	PVFF 2.5m	100V
13439812FO	VC-704-J01	117V
13439813FO	EC-210-J01	220V
13439814FO	SC-415-J06	240V 3P, Australian
13436846	BH-301-J01	240V 3P, England

#### OTHERS

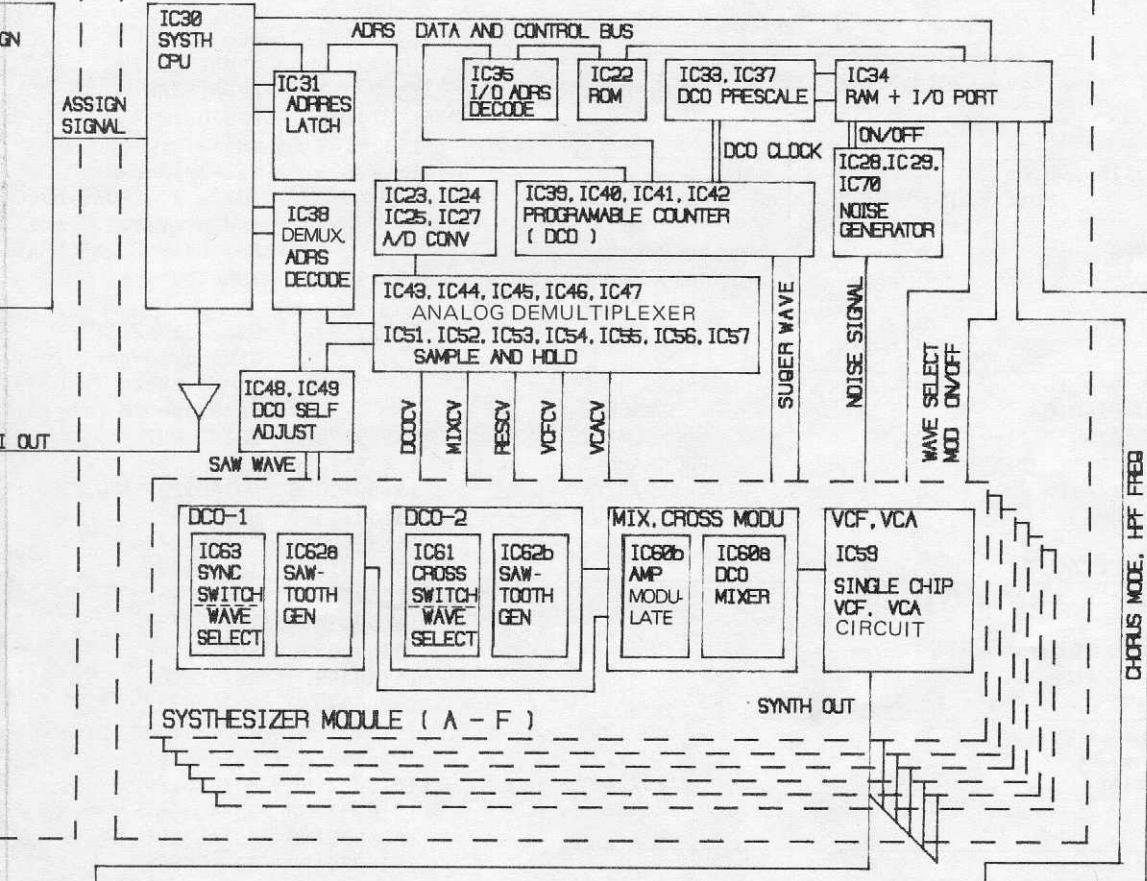
12569149	Lithium Battery BR2325-HC	
22463129	Heat Sink 246-129	
2216353401	FIP Spacer	
22253118	Bender Shield Cover	
2225311901	Shield Cover	
22263309	Cushion	
2224345202	Slide Pot Cover	
2267350201	Cover 267-502	
2202569902	FCD Cover 202-699	display window
23275766	Bender PB-11	
1347915901	Sumi Card	
	SMCD28x800-BD10 P1.25	flat cable
23463908	Wiring Ass'y A	
23463909	Wiring Ass'y B	
12369504	Cord Bushing SR-4N-4	100V
22193728	Cord Holder	100V

# BLOCK DIAGRAM

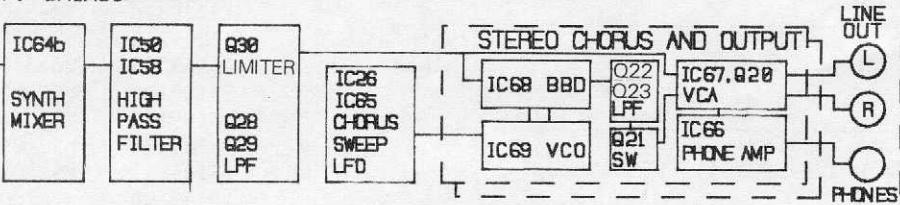
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21



## SYNTHESIZER



## H P F. CHORUS



## CIRCUIT DESCRIPTION

The major circuits of the JX-8P on the Main Board are classified into two by their function: Assigner and Synthesizer, each has the dedicated CPU.

### ASSIGNER

This section is further divided into two; Interface and Assigner.

Interface deals with MIDI communication and reads information from the keyboard, panel controls, memory cartridge, programmer PG-800, etc.

Assigner allocates each module (a pair of voices) to a key being played on the built in or MIDI keyboard.

### SYNTESIZER

This section contains 6 2-voice synthesizer modules and is very similar to those found on Roland JX-3P, MKS-30 and GR-700 in circuit configuration.

As those circuits are repeated on Service Notes of those brother models, not covered in this Notes.

## ADJUSTMENT

JX-8P is provided with built-in test program which can be used in KEY mode.

### ENTERING TEST MODE

1. While pressing TONE PIANO 2 and PIANO 3, switch to KEY mode.
2. When the display has read [P1 PIANO 1], verify that the light KEY MODE and AFTER TOUCH buttons one half-lit and the others half-lighting POLY. A full-lit button indicates assigned to a key as shown below.

SOLO . . . . .	A	VOLUME . . . . .
UNISON . . . . .	B	BRILLIANCE . . . . .
POLY . . . . .	C	VIBRATO . . . . .

### CREATING THE TEST TONE

**CAUTIONS:** Allow at least five minutes for warm-up adjustment.  
Do not use PG-800 in this mode.

1. Press EDIT PARAMETER. The display will read [11]
2. Set the following parameters to the value respectively number and resetting EDIT knob. The parameters affect the procedure.

NUMBER	PARAMETER	VALUE
11	DCO 1 RANG	SC
12	DCO 1 WF	SC
13	DCO 1 TUNE	SC
14	DCO 1 LFO	SC
15	DCO 1 ENV	SC
41	MIX DCO 1	SC
42	MIX DCO 2	SC
43	MIX ENV	SC
52	VCF FREQ	GA
53	VCF RES	GA
54	VCF LFO	GA
55	VCF ENV	GA
56	VCF KEY	GA
61	VCA LEVEL	GA
62	VCA MODE	GA
64	CHORUS	GA

### ADJUSTING

1. Connect the scope to the OUTPUT jack or TP5 of the rear panel.
2. Press A above middle C – 442Hz.
3. Adjust the trimmer of the module being indicated by the waveform shows its full amplitude.
4. In a similar way adjust the remaining modules but press the same key.
5. When the adjustment has finished, return to the normal mode and set the power off.

# **ADJUSTMENT**

JX-8P is provided with built-in test program which runs only in the test mode.

## **ENTERING TEST MODE**

1. While pressing TONE PIANO 2 and PIANO 3, switch the power ON.
2. When the display has read [P1 PIANO 1], verify that repeating a key will light KEY MODE and AFTER TOUCH buttons one by one while continuously half-lighting POLY. A full-lit button indicates the module currently assigned to a key as shown below.

SOLO .....	A	VOLUME .....	D
UNISON .....	B	BRILLIANCE ....	E
POLY.....	C	VIBRATO.....	F

## **CREATING THE TEST TONE**

**CAUTIONS:** Allow at least five minutes for warm-up before proceeding to adjustment.

Do not use PG-800 in this mode.

1. Press EDIT PARAMETER. The display will read [11 DC01 RANG 16'].
2. Set the following parameters to the value respectively by selecting a TONE number and resetting EDIT knob. The parameters not listed will not affect the procedure.

NUMBER	PARAMETER	VALUE
11	DCO 1 RANG	8'
12	DCO 1 WF	SQUR
13	DCO 1 TUNE	00
14	DCO 1 LFO	0
15	DCO 1 ENV	0
41	MIX DCO 1	99
42	MIX DCO 2	0
43	MIX ENV	0
52	VCF FREQ	54
53	VCF RES	99
54	VCF LFO	0
55	VCF ENV	0
56	VCF KEY	0
61	VCA LEVEL	70
62	VCA MODE	GATE
64	CHORUS	OFF

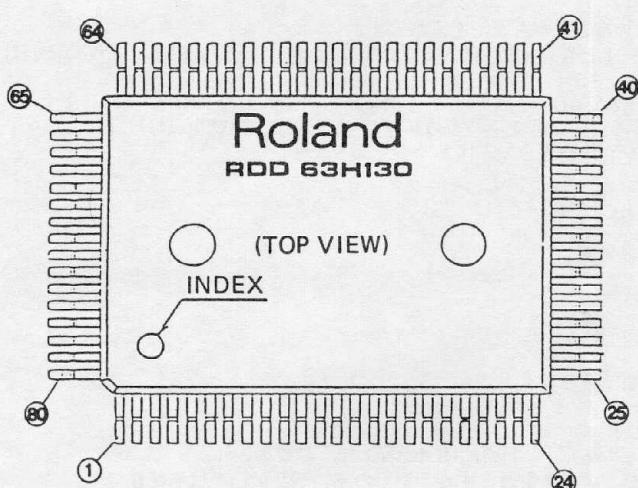
## **ADJUSTING**

1. Connect the scope to the OUTPUT jack or TP5 of the MAIN BOARD.
2. Press A above middle C – 442Hz.
3. Adjust the trimmer of the module being indicated by the lit LED so that the waveform shows its full amplitude.
4. In a similar way adjust the remaining modules but press the A key for each module.
5. When the adjustment has finished, return to the normal mode by pressing MASTER TUNE or switch the power off.

# IC DATA

## MB63H130

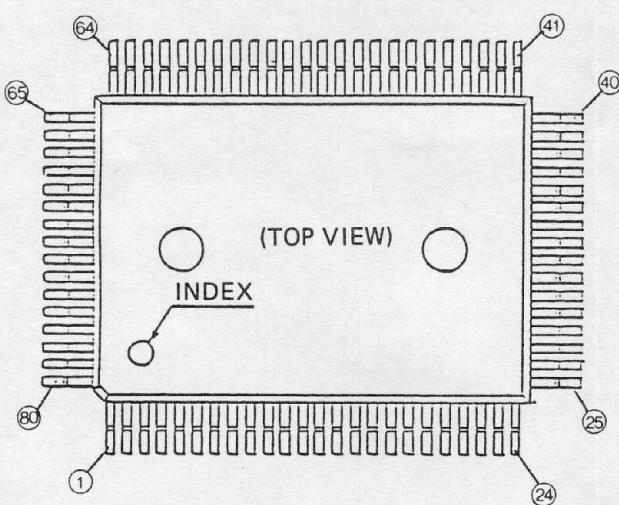
### Pin Assignment



Pin no.	I/O	Pin name									
1	O	T7	21	I	BR9	41	I	CD7	61	O	RA1
2	I	BR0	22	I	MK9	42	I	CA8	62	O	RA10
3	I	MKO	23	I	BR10	43	I	CA9	63	O	RA2
4	I	BR1	24	I	MK10	44	I	CA10	64	I/O	ROE
5	I	MK1	25	I	RES	45	I	CS	65	O	RA3
6	I	BR2	26	I	E	46	I	XT1	66	O	RWE
7	I	MK2	27	O	EXCK	47	O	XT2	67	O	RA4
8	I	BR3	28	I	AS	48	O	ASEL	68	O	RA9
9	I	MK3	29	O	CRES	49	I	MOD1	69	O	RA5
10	I	BR4	30	I	CRNW	50	I	MOD2	70	O	RA8
11	I	MK4	31	O	SRCK	51	I/O	RD3	71	O	RA6
12	-	VSS	32	-	NC	52	-	VSS	72	O	RA7
13	I	BR5	33	-	VDD	53	I/O	RD4	73	-	VDD
14	I	MK5	34	I/O	CDO	54	I/O	RD2	74	O	T0
15	I	BR6	35	I/O	CD1	55	I/O	RD5	75	O	T1
16	I	MK6	36	I/O	CD2	56	I/O	RD1	76	O	T2
17	I	BR7	37	I/O	CD3	57	I/O	RD6	77	O	T3
18	I	MK7	38	I/O	CD4	58	I/O	RD0	78	O	T4
19	I	BR8	39	I/O	CD5	59	I/O	RD7	79	O	T5
20	I	MK8	40	I/O	CD6	60	O	RA0	80	O	T6

## MB63H149

### Pin Assignment



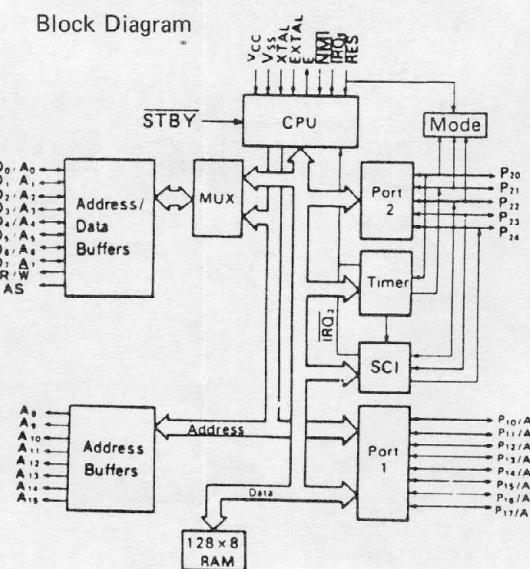
Pin no.	I/O	Pin name									
1	O	T7	21	I	BR9	41	I/O	CD7	61	O	RA1
2	I	BR0	22	I	MK9	42	I	CA8	62	O	RA10
3	I	MKO	23	I	BR10	43	I	CA9	63	O	RA2
4	I	BR1	24	I	MK10	44	I	CA10	64	I/O	ROE
5	I	MK1	25	I	RES	45	I	CS	65	O	RA3
6	I	BR2	26	I/O	EXCK	46	I	XT1	66	O	RWE
7	I	MK2	27	I	E	47	O	XT2	67	O	RA4
8	I	BR3	28	O	INT	48	O	ASEL	68	O	RA9
9	I	MK3	29	I	AS	49	I	MOD1	69	O	RA5
10	I	BR4	30	O	CRES	50	I	MOD2	70	O	RA8
11	I	MK4	31	I	CRNW	51	I/O	RD3	71	O	RA6
12	-	VSS	32	O	SRCK	52	-	VSS	72	O	RA7
13	I	BR5	33	-	VDD	53	I/O	RD4	73	-	VDD
14	I	MK5	34	I/O	CDO	54	I/O	RD2	74	O	T0
15	I	BR6	35	I/O	CD1	55	I/O	RD5	75	O	T1
16	I	MK6	36	I/O	CD2	56	I/O	RD1	76	O	T2
17	I	BR7	37	I/O	CD3	57	I/O	RD6	77	O	T3
18	I	MK7	38	I/O	CD4	58	I/O	RD0	78	O	T4
19	I	BR8	39	I/O	CD5	59	I/O	RD7	79	O	T5
20	I	MK8	40	I/O	CD6	60	O	RA0	80	O	T6

## HD63B03RP

### Pin Configuration (Top View)

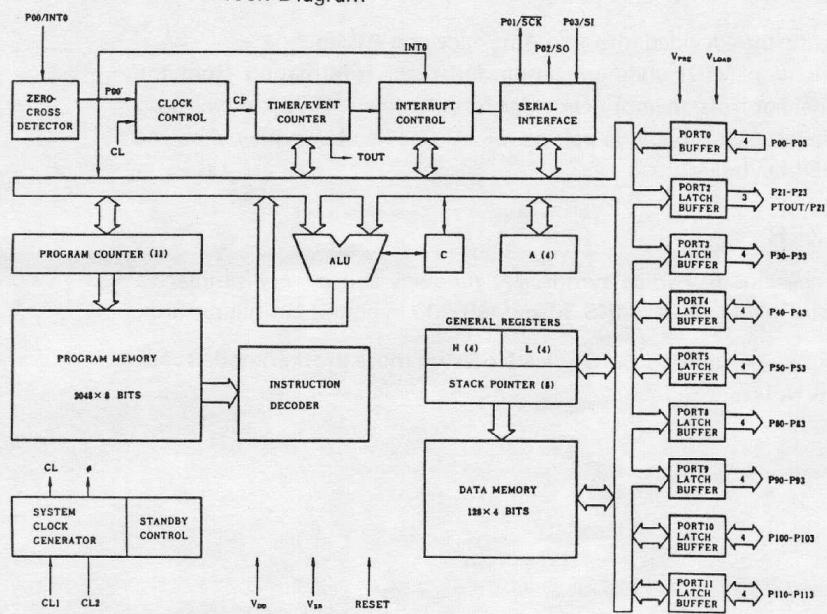
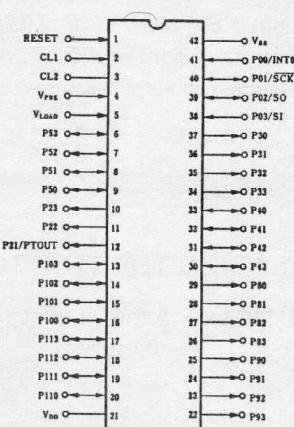
V <sub>SS</sub>	1
XTAL	2
EXTAL	3
NMI	4
IRQ1	5
RES	6
STBY	7
P <sub>20</sub>	8
P <sub>21</sub>	9
P <sub>22</sub>	10
P <sub>23</sub>	11
P <sub>24</sub>	12
A <sub>0</sub> /P <sub>10</sub>	13
A <sub>1</sub> /P <sub>11</sub>	14
A <sub>2</sub> /P <sub>12</sub>	15
A <sub>3</sub> /P <sub>13</sub>	16
A <sub>4</sub> /P <sub>14</sub>	17
A <sub>5</sub> /P <sub>15</sub>	18
A <sub>6</sub> /P <sub>16</sub>	19
A <sub>7</sub> /P <sub>17</sub>	20
E	21
AS	22
R/W	23
D <sub>0</sub> /A <sub>0</sub>	24
D <sub>1</sub> /A <sub>1</sub>	25
D <sub>2</sub> /A <sub>2</sub>	26
D <sub>3</sub> /A <sub>3</sub>	27
D <sub>4</sub> /A <sub>4</sub>	28
D <sub>5</sub> /A <sub>5</sub>	29
D <sub>6</sub> /A <sub>6</sub>	30
R/W	31
AS	32
D <sub>0</sub> /A <sub>0</sub>	33
D <sub>1</sub> /A <sub>1</sub>	34
D <sub>2</sub> /A <sub>2</sub>	35
D <sub>3</sub> /A <sub>3</sub>	36
D <sub>4</sub> /A <sub>4</sub>	37
D <sub>5</sub> /A <sub>5</sub>	38
D <sub>6</sub> /A <sub>6</sub>	39
A <sub>8</sub>	40
A <sub>9</sub>	41
A <sub>10</sub>	42
A <sub>11</sub>	43
A <sub>12</sub>	44
A <sub>13</sub>	45
A <sub>14</sub>	46
A <sub>15</sub>	47
V <sub>CC</sub>	48

### Block Diagram



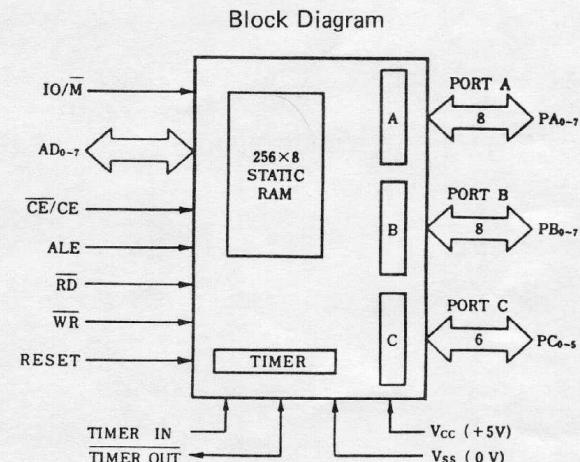
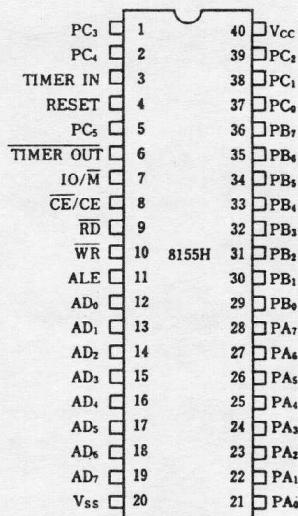
$\mu$ PD7537C

## Pin Configuration (Top View)



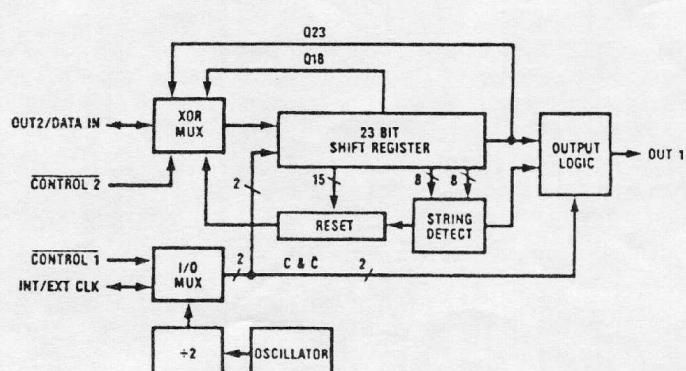
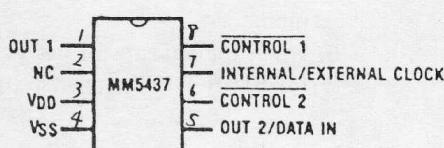
**μPD8155HC**

## Pin Configuration (Top View)



MM5437

## Pin Configuration (Top View)

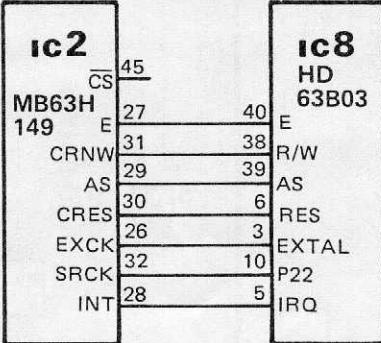
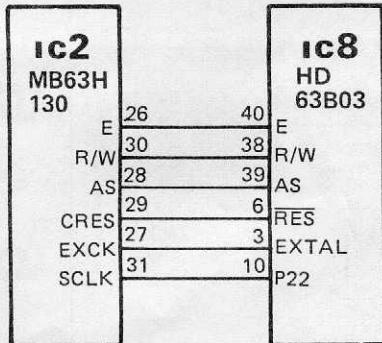


# CHANGE INFORMATION

Since the release of the JX-8P some engineering changes have been made to improve the performance and reliability of the unit.

EFFECTIVE SN 実施製番	DESCRIPTION	変更内容(理由)	
480300		<p>Operational speed of ROM A is somewhat low when compared with that of the CPU IC8 HD63B08 and the ROM sometimes misses access to its memory cells, causing program runaway; the phenomenon will be no display or no sound.</p> <p>As a solution CE is advanced by bypassing IC16 to provide the ROM with more accessing time margin. In field service changing to a high speed ROM M5L2712K-2 is recommended for easier improvement with no CE reconnection.</p> <p>The high speed ROM is implemented at the factory with SN514700 for double safety.</p>	
480420	<p>Pressing HOLD Pedal while After Touch is On also holds A.T. effect via MIDI message on a downstream synthesizer. The effect continues on the subsequent notes even they are played after the release of the pedal. ROM A of Ver. 2.0 cures this problem.</p>	<p>CPUに比べROM A (IC6) の動作速度が遅く、プログラムの暴走が起り易い。現象としてはディスプレイ無表示、あるいは不鳴りがある。工場対策を上図に示すが、高速のROM M5L2712K-2を使用すればハード上での変更の必要は無い。従ってサービス面での対策にはM5L2712KをM5L2712K-2に交換するだけ良い。</p>	
480589	<p>The software in PROM A of Ver. 2.1 allows the modules to increase the total volume of the voice outputs. Also the software recognizes MIDI Program Change message after receipt of MIDI Local OFF message.</p>	<p>アフター・タッチON時にHOLDペダルを踏むと、下流へのMIDIキー信号に対するアフター・タッチ効果は、ペダルを離した後でも解除されない。ROM A Ver.2.0を使用すればこの現象は生じない。</p>	<p>ROM A Ver. 2.1を使用すれば音量が増加する。また、MIDI ローカルOFF メッセージ受信後でもプログラム・チェンジ・メッセージの受信が可能となる。</p>
490600		<p>This change conforms to the requirement placed by some specification.</p> <p>Counterparts in both original and revised circuits are interchangeable if R28-R31 are so arranged to the diagram.</p>	<p>安全規格に適合させるため。 左図のトランジスタを右図のものと置換える場合には、R28-R31の定数変更も同時に行なう必要がある。</p>
528250	<p>Attempt to write into Preset Bank results in error message displayed as "SELECT BANK C !". However, this message would not be displayed if WRITE button is pressed while Preset B [-P . . .] Bank is selected. PROM A ver. 2.2 cures this problem.</p>	<p>プリセット・バンクへ書き込みを行なおうとすると、エラーメッセージ「SELECT BANK C !」が表示されるが、プリセットがBバンクの場合表示されない。ROM A Ver. 2.2を使用すれば、エラーメッセージが正しく表示される。</p>	
530350			<p>Gate Array is changed to the newly designed one. To provide electric connections between the new Gate Array and the existing circuit board.</p>

530350



Gate Array is changed to the newly designed one. To provide electric connections between the new gate and the peripherals (see block diagram), some conductor patterns are re-laid out on the new PCB. Software in ROM A is also revised to meet the new function.

76  
pc  
pc

CAUTION: ROM A of Ver. 3.0 will not work with the old GATE Array, making itself incompatible with ones of Ver. 2.2 and below.

性能向上のためゲート・アレーIC6を新設計のものに変更、これに伴ないROM Aのプログラム変更。図に示すごとくIC2とIC8間の接続が一部異なるため基板のレイアウトも変更。

注：基板完成品としては新旧間に互換性がある。

VREF circuit is modified to have adjustable positive voltage (+5.6V).

基準電圧回路を調整可能型（基準電圧5.6V）に変更。

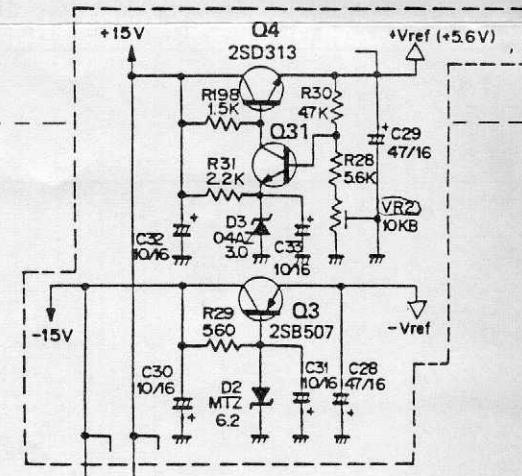
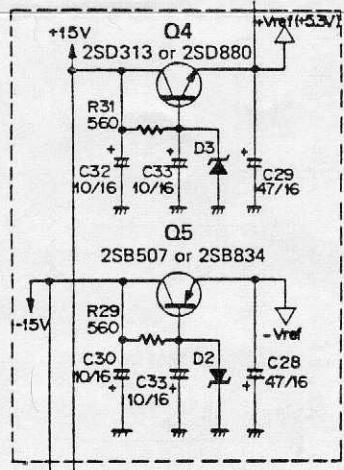
542750

VREF circuit is returned back to the previous configuration with some mounting holes for trimmer, transistor, etc. made idle.

NOTE: VREF differs between fixed and adjustable ones since their temperature coefficients are of opposite direction.

固定式でも十分な電圧精度が保たれることができたので再び前の回路へ変更。

注：固定型と調整型とでは回路の温度係数が異なるため基準電圧も異なる。



543050

ROM B of EPROM is replaced by a cost effective mask ROM.

ROM B を EP ROM から MASK ROM に変更、但し、プログラムの内容は変わらない。

554250

Pressing HOLD Pedal ON and OFF with AFTER TOUCH ON while depressing any key on the JX-8P keyboard sometimes generates FF. Must always be 7F, but varies with AFTER TOUCH knob Key Pressure. FF = System Reset; this will be generated when the amount of AFTER TOUCH and Key pressure are equal.

ROM A of Ver. 3.1 cures this problem.

NOTE: ROM A's of Vers. 2.0 to 2.2, being incompatible with ROM A of Ver. 3.1, are to be replaced with Ver. 2.3.

SWITCH FILM SHEET

Changed to 22663115. Sound Names on TONE SELECTOR buttons are deleted. スイッチ・フィルムシートのトーン・セレクトボタンから音色名を削除す

MUSIC REST And TOP PANEL

Music Rest is furnished on later products. Effective Serial Number is not fixed on the day of the issue.

譜面立てを追加する。実施製番は本サービスノート発行時点では未定。



Interchangeable  
互換性有

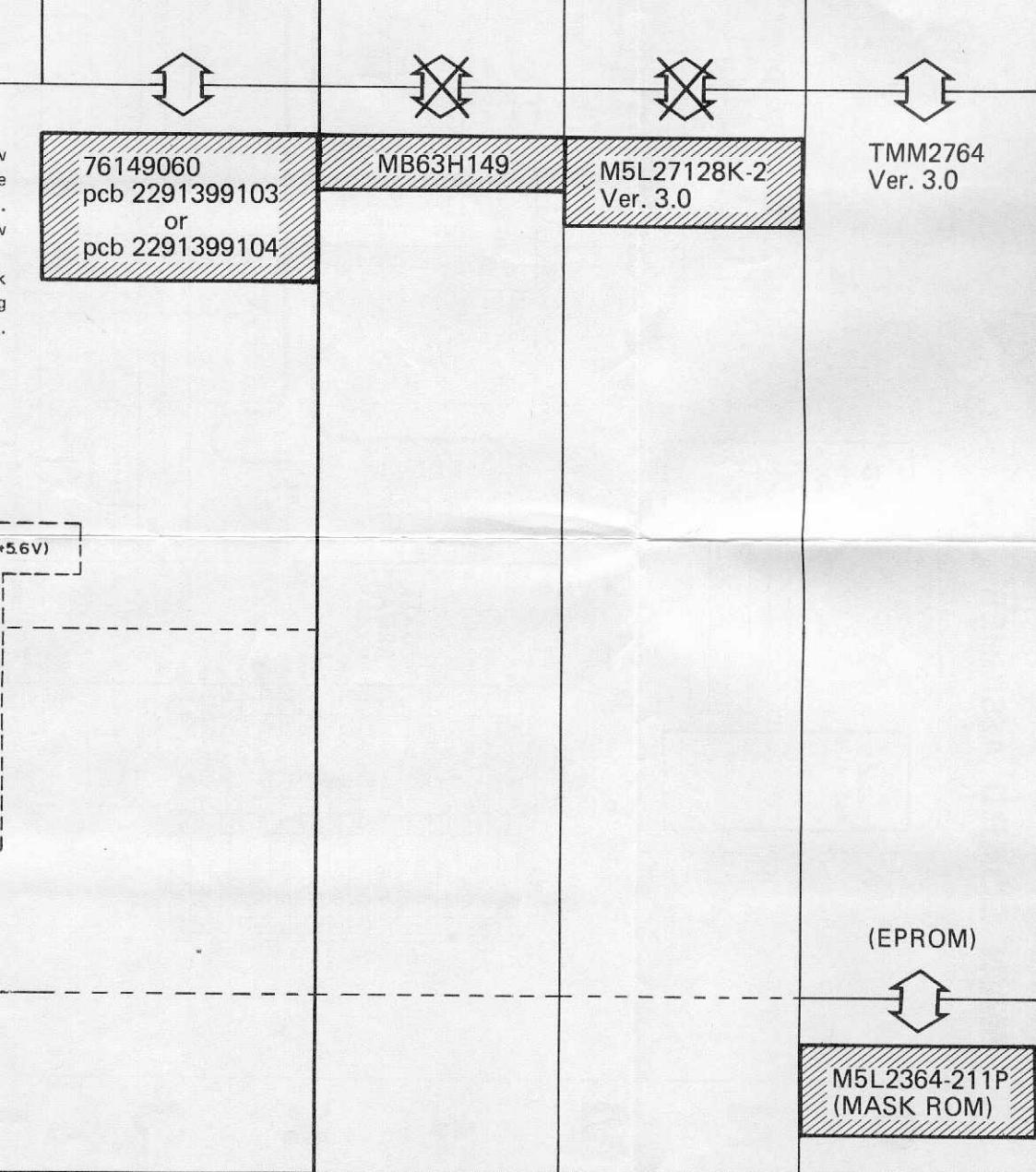


Substitutive  
矢印方向にのみ  
代用可能



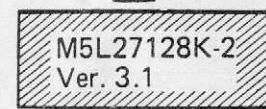
Incompatible  
互換性無

MAIN BOARD ASSEMBLY	GATE ARRAY IC2 MAIN BOARD	ROM A IC6 MAIN BOARD	ROM B IC22 MAIN BOARD
76149060 pcb 2291399102	MB63H130	M5L27128K Ver. 1.1	TMM2764 Ver. 1.1
			Although the software in ROM B remains unchanged, its revision number is updated in pace with that of ROM A to avoid confusion around version number.  本表中のROM BはバージョンNo.にかかわらず、全てプログラムは同じ。しかし混乱を避けるためROM Aの変更に合わせてバージョンNo.は更新されている。
		M5L27128K Ver. 2.0	TMM2764 Ver. 2.0
		M5L27128K Ver. 2.1	TMM2764 Ver. 2.1
		SN514700	
		M5L27128K-2	
		M5L27128K-2 Ver. 2.2	TMM2764 Ver. 2.2
76149060 pcb 2291399102	MB63H149	M5L27128K-2 Ver. 3.0	TMM2764 Ver. 3.0



times generates incorrect MIDI OUT message upon HOLD pedal OFF as exemplified below.

UCH knob setting and  
generated  
sure are at maximum.



アフター・タッチON時に鍵盤を押し続けながら、HOLDペダルをON, OFFさせると、ペダルOFF時に7Fであるべきデータが、上に示す様に異なった値で送り出される場合がある。このデータ値は、アフター・タッチポリウムの位置、および押鍵圧によって異なる。上例は、両方共が最大の場合である。ROM A VER. 3.1に交換すれば解決する。但し、VER. 2.2以前のROM Aは互換性がないので、VER. 2.3を使用すること。

色名を削除する。

未定。



**COMPONENTS LOCATED ON  
SCHEMATIC DIAGRAM  
(ASSIGNER)**

For the Q's and IC's not listed here, see table on P.11.

IC		Q	
CIRCUIT NO.	SCHEM LOCATION	CIRCUIT NO.	SCHEM LOCATION
1	C-5	1	D-2
2	E-3	2	D-3
3	G-5	3	C-11
4	L-13	4	E-8
5	I-10		D-11
6	I-12		E-14
7	J-15	5	L-18
8	H-17	6	K-18
9	L-6	7	K-18
10a	H-12	8	J-18
10b	I-13	10	F-13
10c	H-18	31	D-11
10d	H-18	VR	
10e	I-18	2	C-12
11a	H-9		
11b	H-10	SW	
11c	H-9	1	E-7
11d	F-7		
12	H-13		
13	G-6		
14	L-8		
15a	L-13		
15b	L-7		
15c	L-18		
15d	D-5		
16	J-14		
17	L-15		
18	L-10		
19	L-12		
20	C-16		
21	N-18		

F

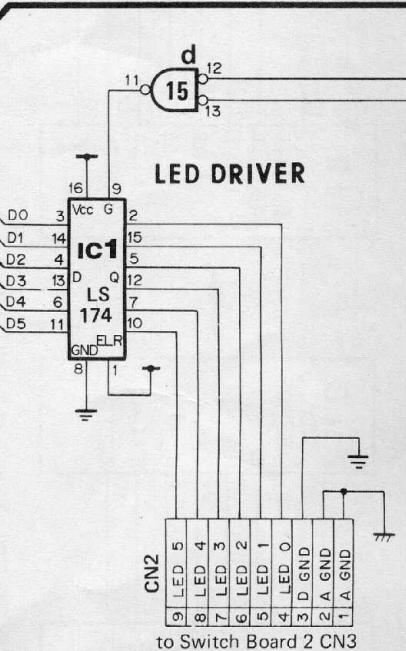
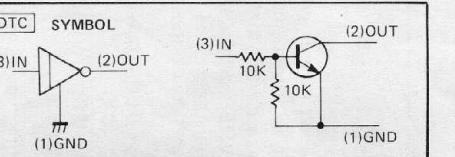
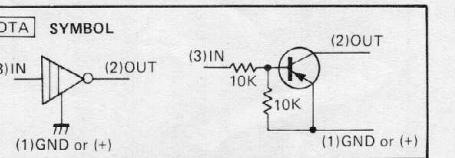
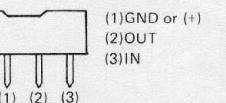
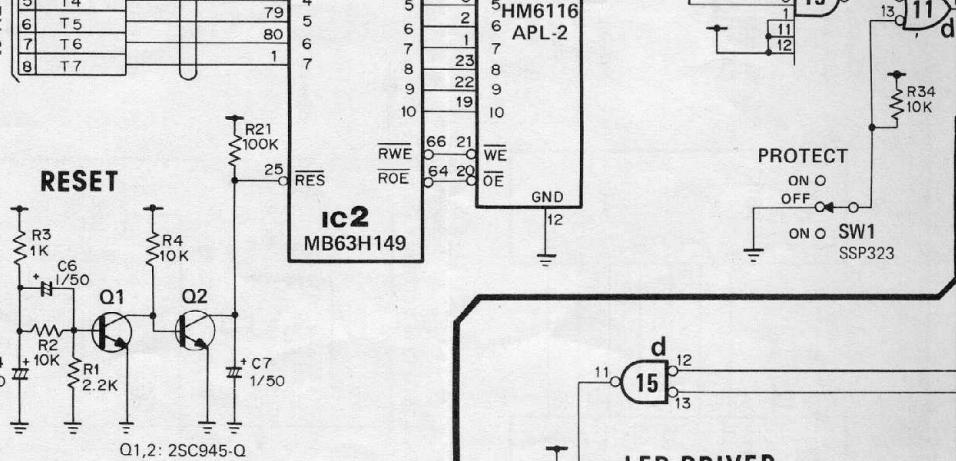
E

D

C

B

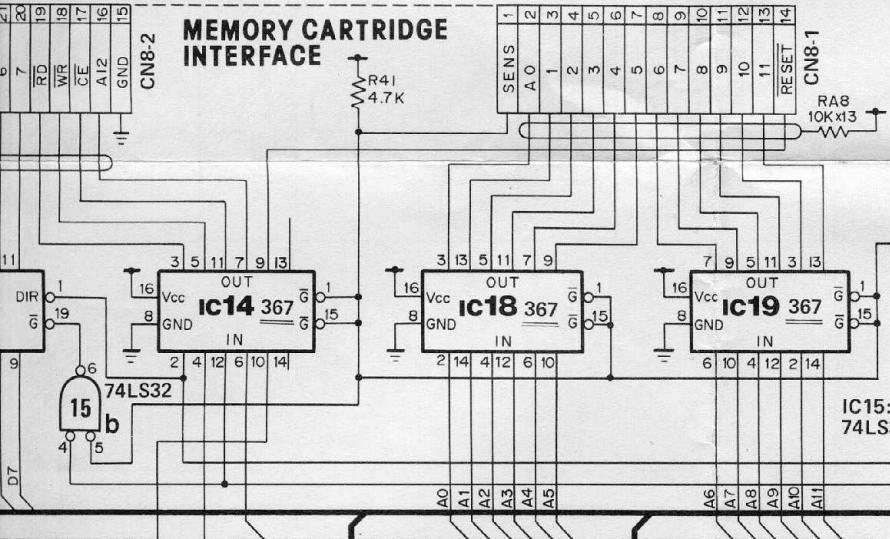
A



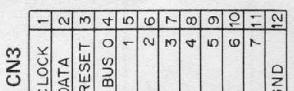
Switch Board 2 CN3

to Memory Cartridge CONNECTOR

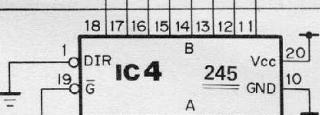
## MEMORY CARTRIDGE INTERFACE



to Switch Board 1 CN2

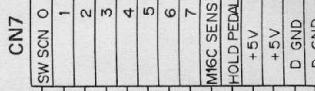


RA4 10Kx8

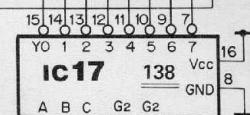


to Switch Board 1 CN3

to Switch Board 2 CN2



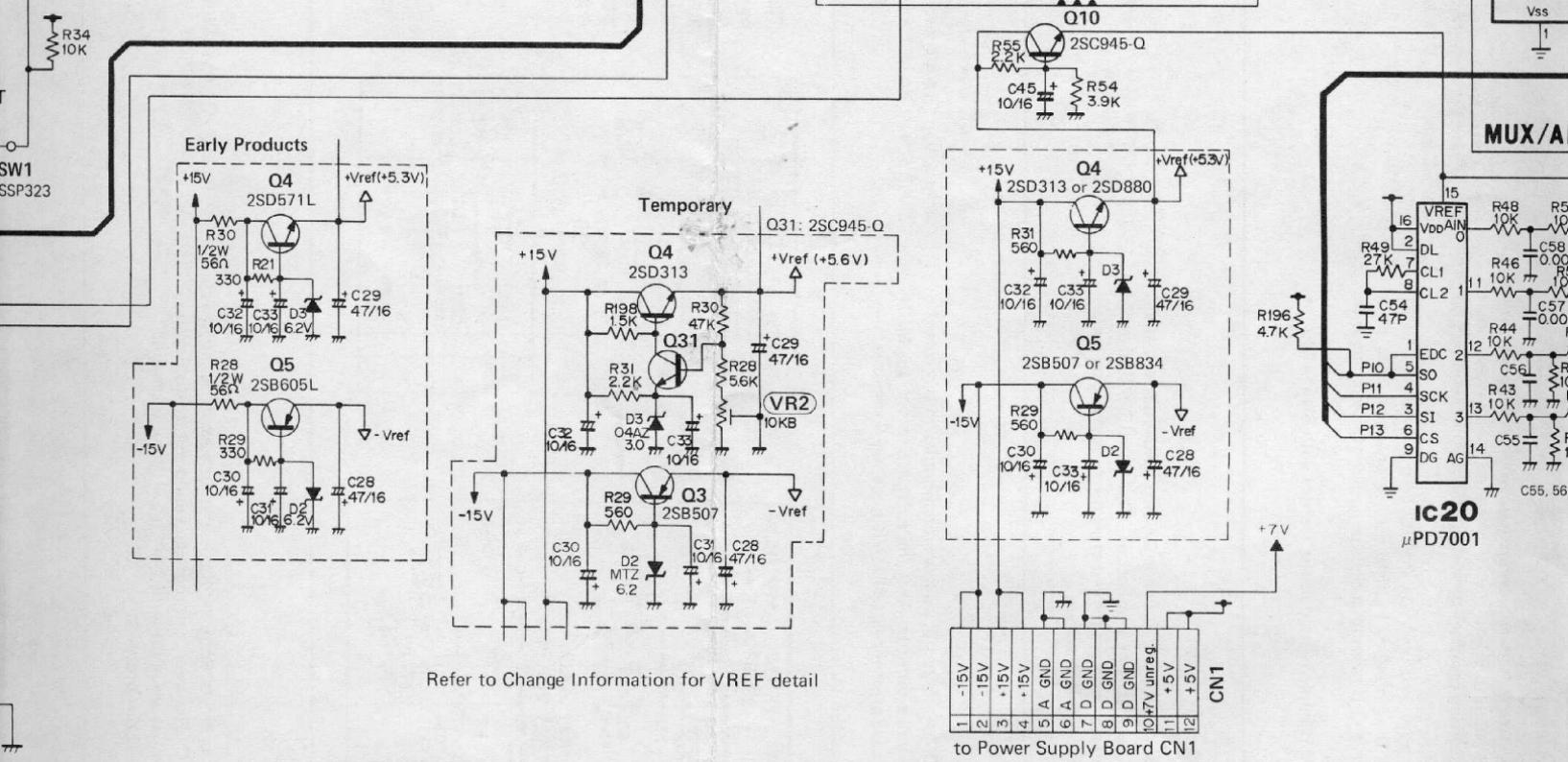
RA4 10Kx8



## SW MATRIX DRIVER

## I/O ADDRESS DEC

IC16: 138



7

8

9

10

11

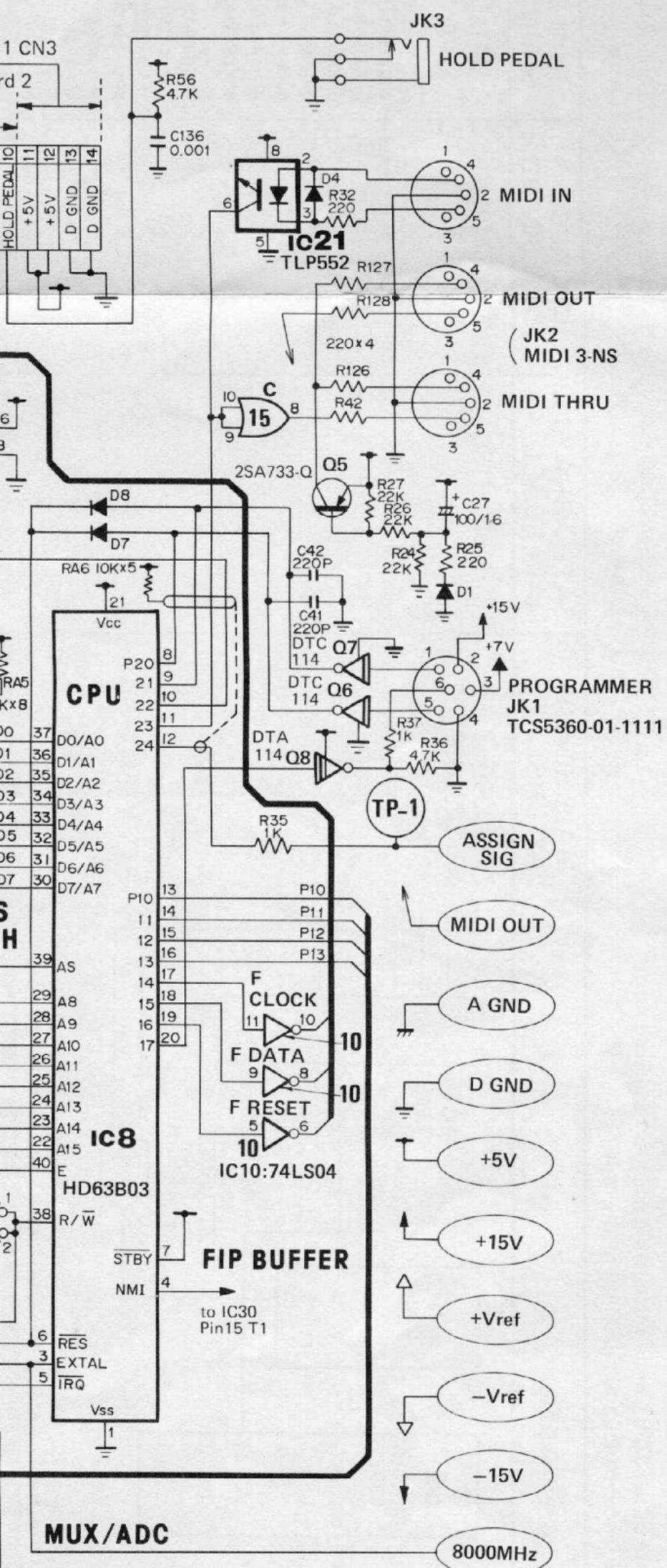
12

13

14

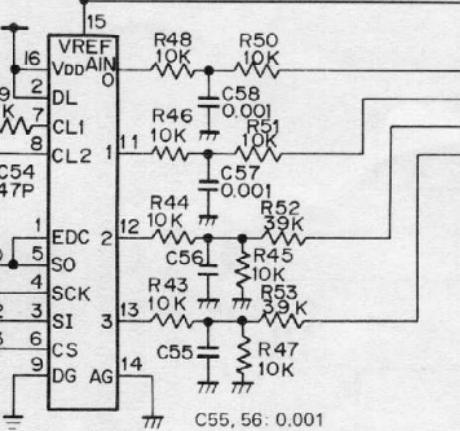
15

16



**MUX/ADC**

8000MHz

**ic20**

μPD7001

**CN9**

PORTA	CV 1
EDIT	CV 2
BEND	CV 3
AFTER	CV 4
VREF	5
MIDI VOL	6
MASTER VOL	7
GND	8

to Volume Board CN7

**MASTER VOL****MIDI VOL****16****17****18****19**

# MAIN BOARD (PARTIAL)

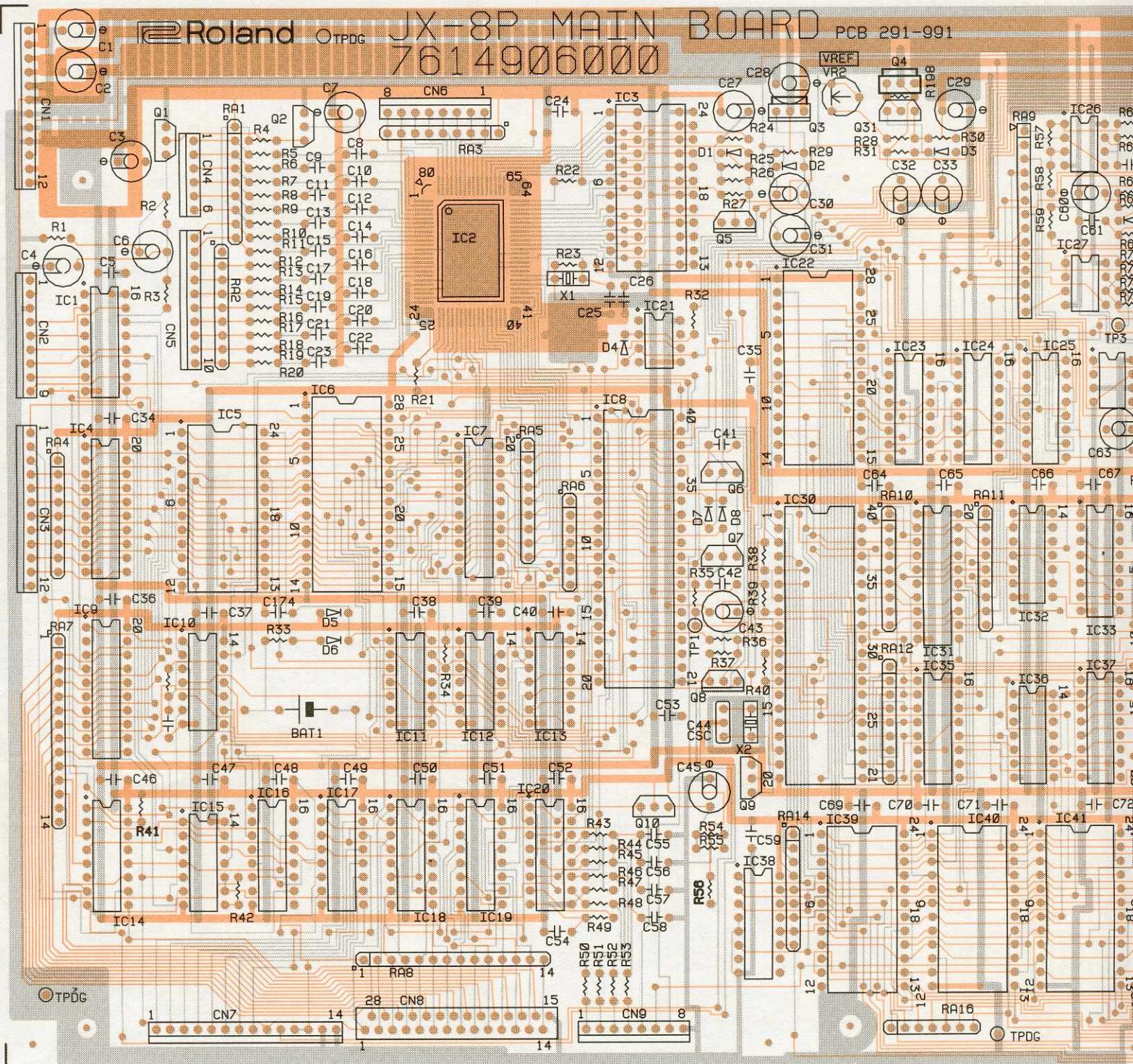
76149060

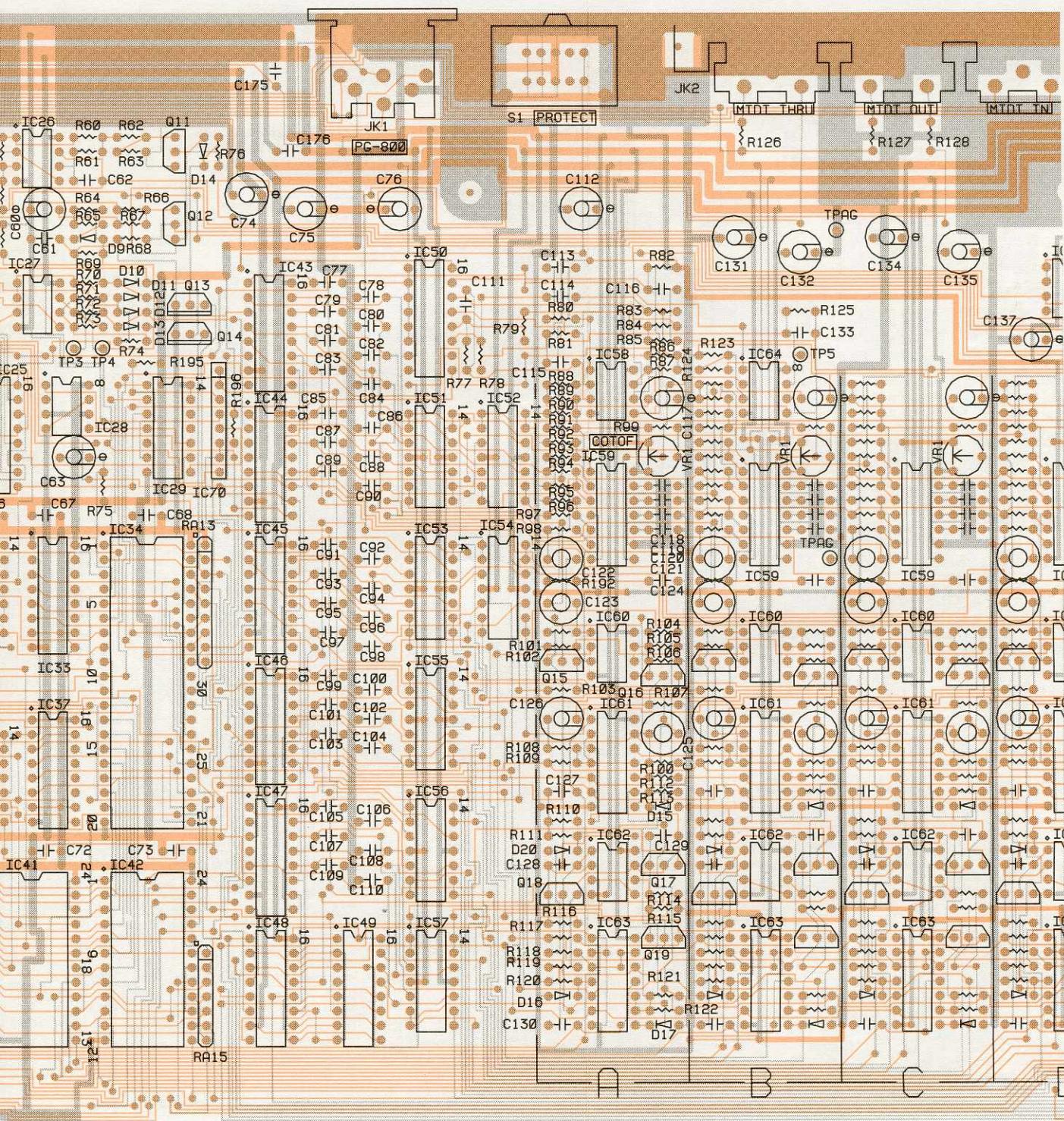
(pcb 2291399102) or

(pcb 2291399104) SN530350-up

## LAYOUT 2291399104

For checking paths to Gate Array of MB63H130 or  
22913102, trace tracks on the actual PCB referring  
boxed diagrams on page 8.



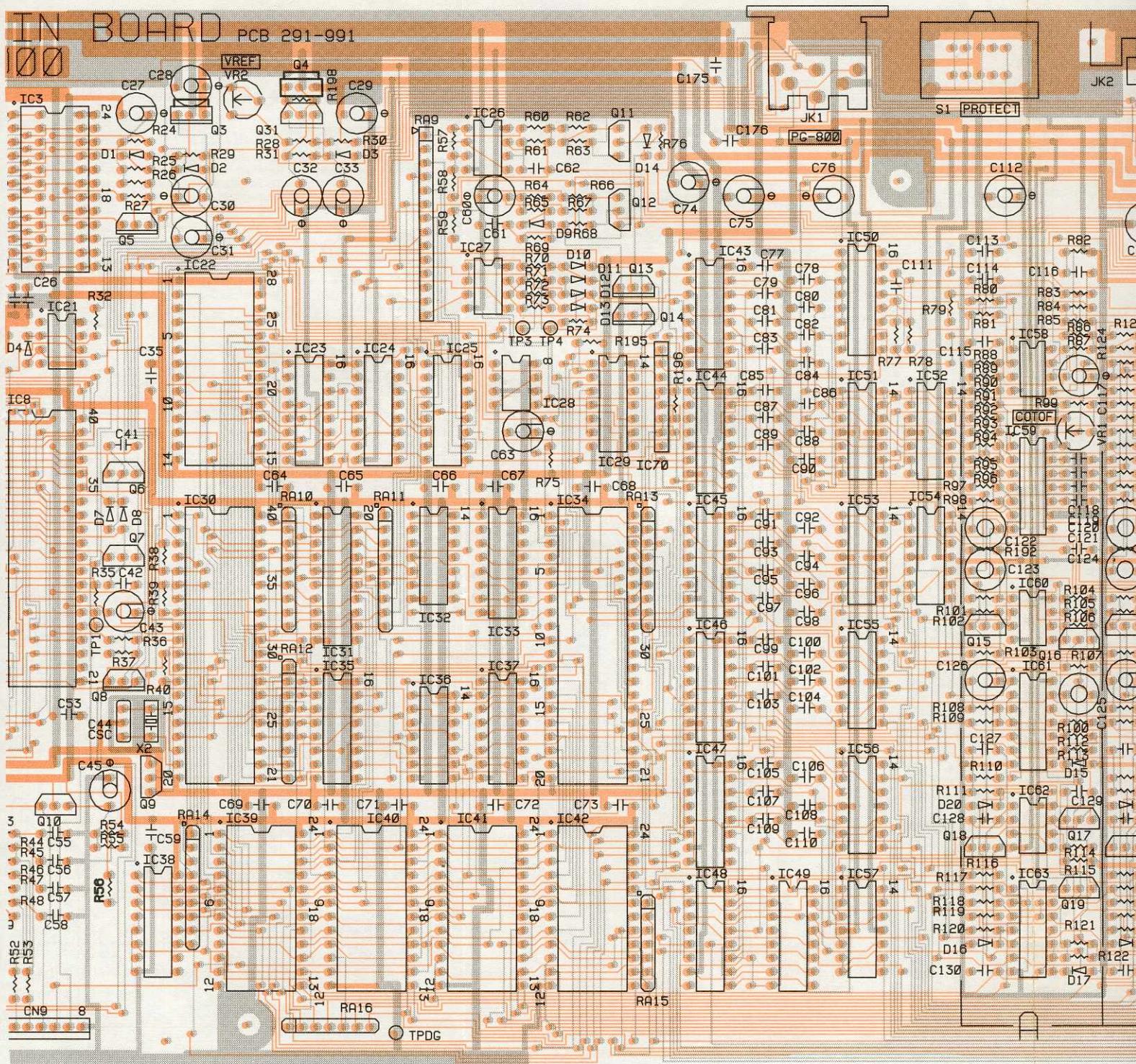


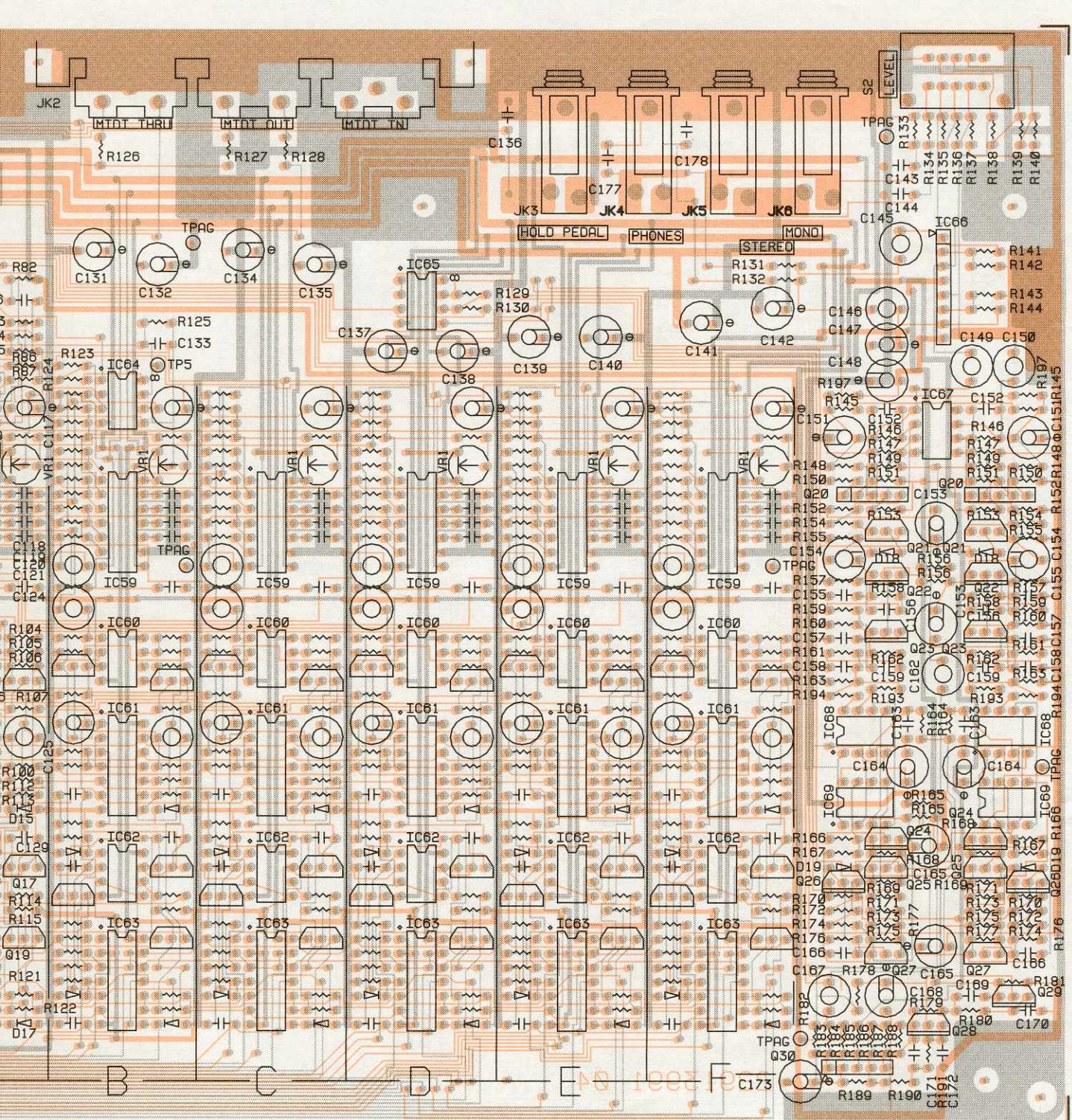
## **MAIN BOARD (PARTIAL)**

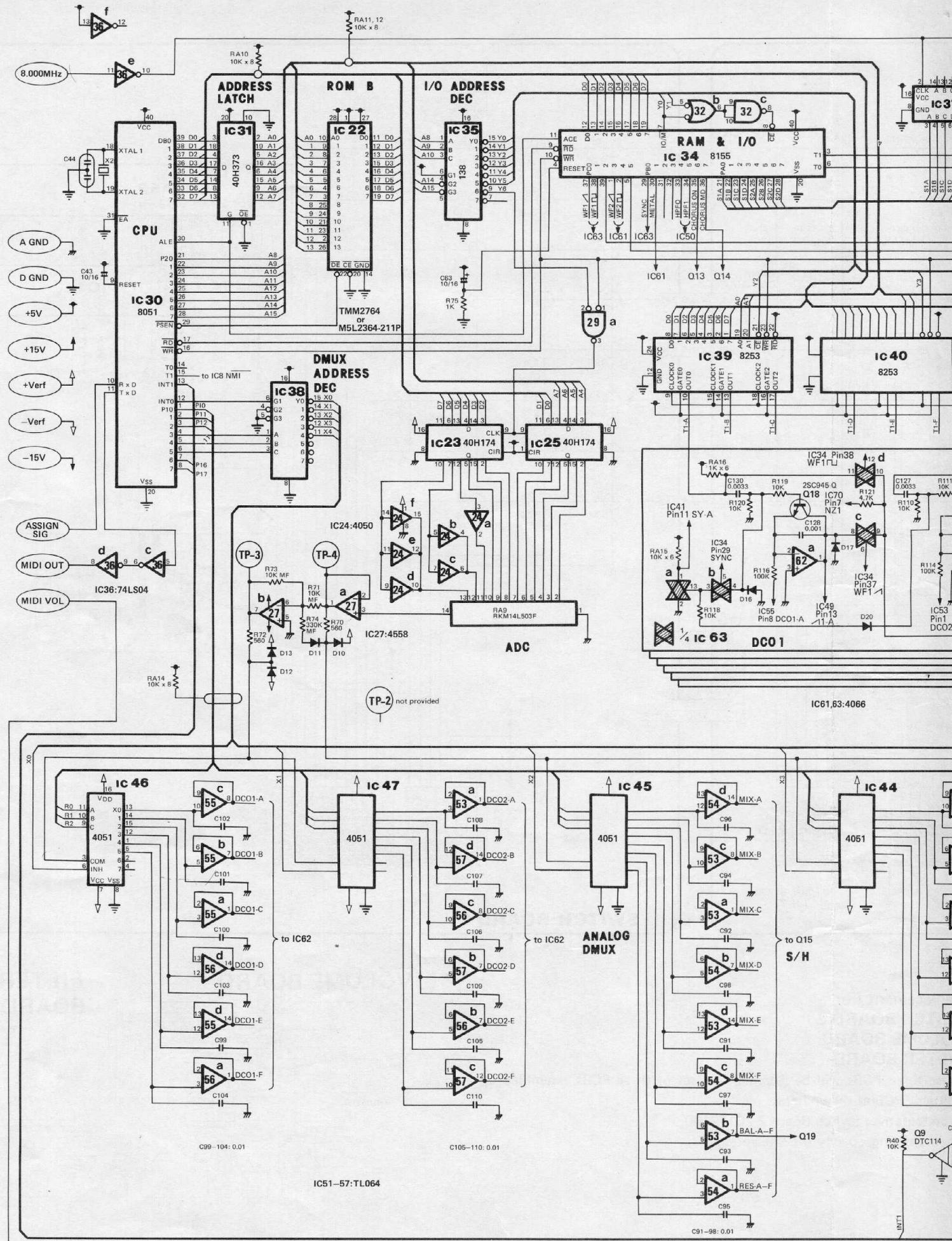
76149060

(pcb 2291399102) or

(pcb 2291399104) SN530350-up

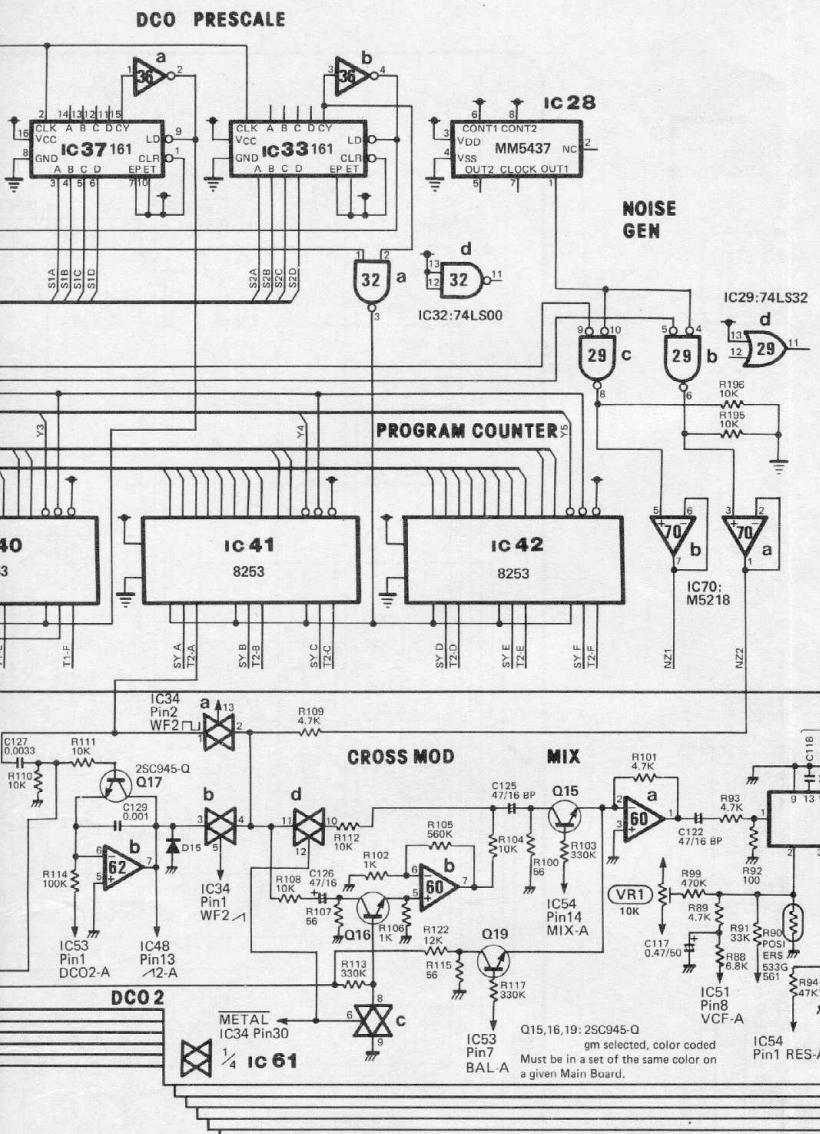




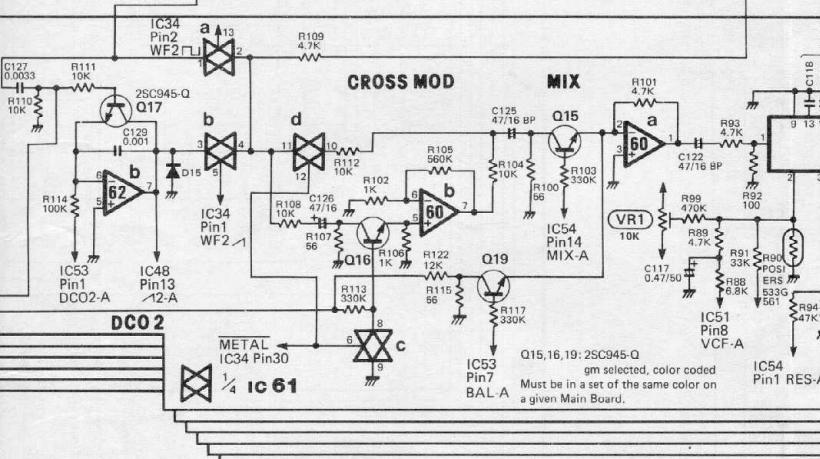


**1    2    3    4    5    6    7    8    9    10    11    12    13    14**

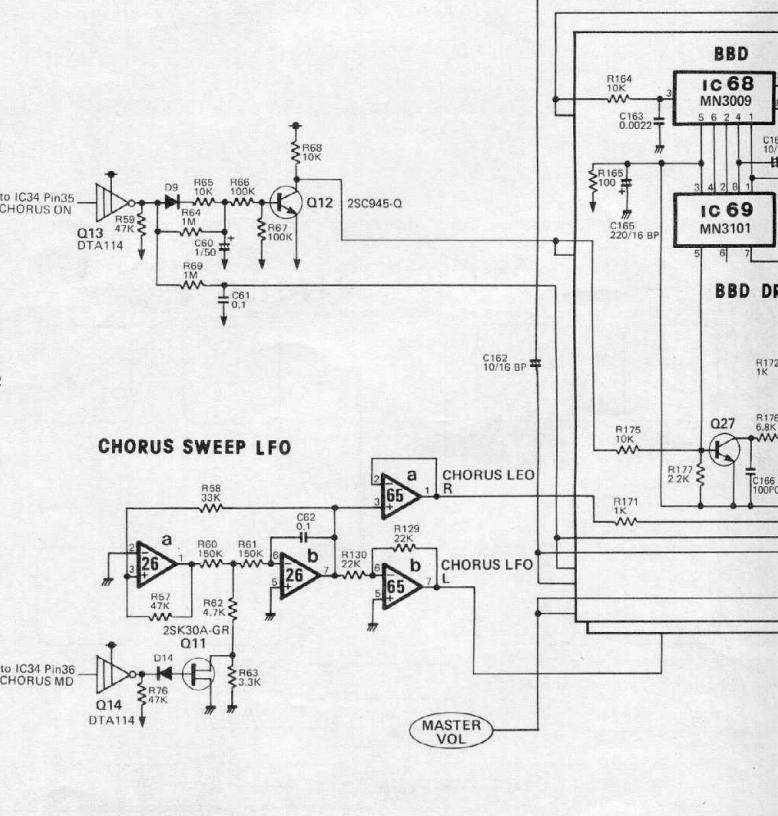
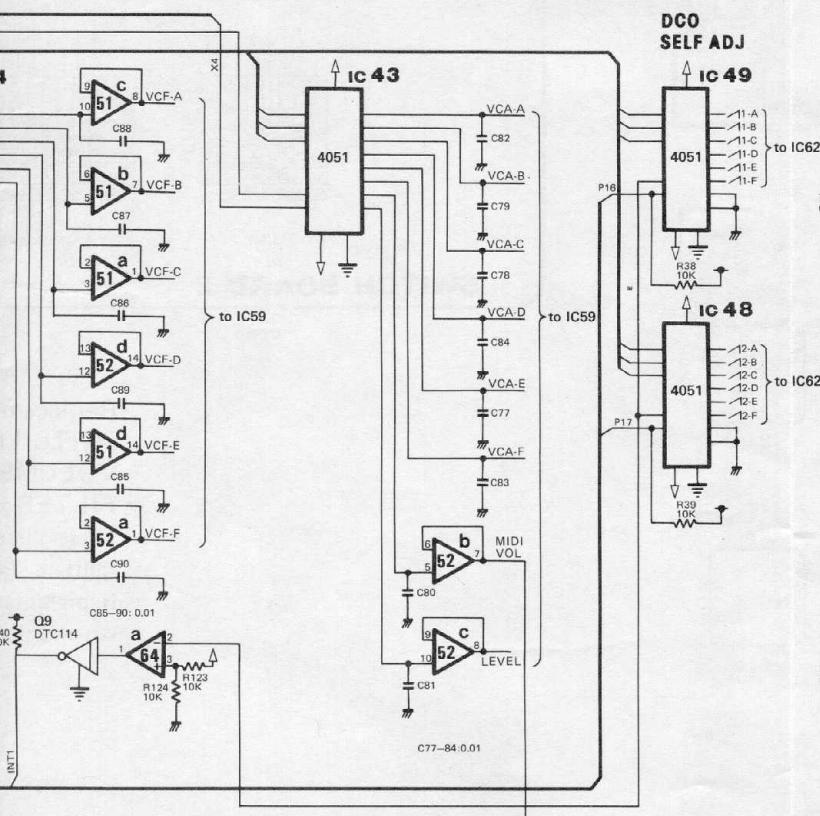
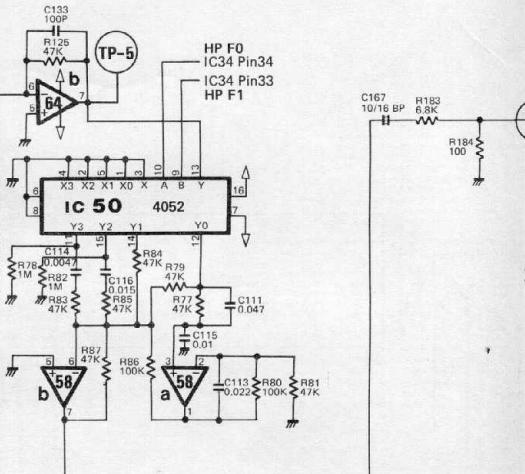
CIRCUIT NO.	SCHEM. LOCATION	CIRCUIT NO.	SCHEM. LOCATION	CIRCUIT NO.	SCHEM. LOCATION
22	P-6	32b	Q-11	46	G-3
23	L-7	32c	Q-11	47	G-6
24a	K-8	32d	not used	48	E-20
24b	K-7	33	Q-16	49	G-20
24c	J-7	34	P-11	50	J-24
24d	J-7	35	P-8	51a	E-14
24e	J-7	36a	Q-15	51b	F-14
24f	K-7	36b	Q-17	51c	G-14
25	L-9	36c	J-3	51d	D-14
26a	C-22	36d	J-3	52a	C-14
26b	C-23	36e	Q-3	52b	C-17
27a	J-6	36f	not used	52c	B-17
27b	J-5	37	Q-14	52d	E-14
28	Q-18	38	M-5	53a	E-11
29a	not used	39	M-11	53b	B-11
29b	O-20	40	M-14	53c	F-11
29c	O-19	41	M-16	53d	D-11
29d	O-20	42	M-18	54a	B-11
30	N-3	43	G-17	54b	E-11
31	P-4	44	G-13	54c	C-11
32a	P-17	45	G-10	54d	G-11



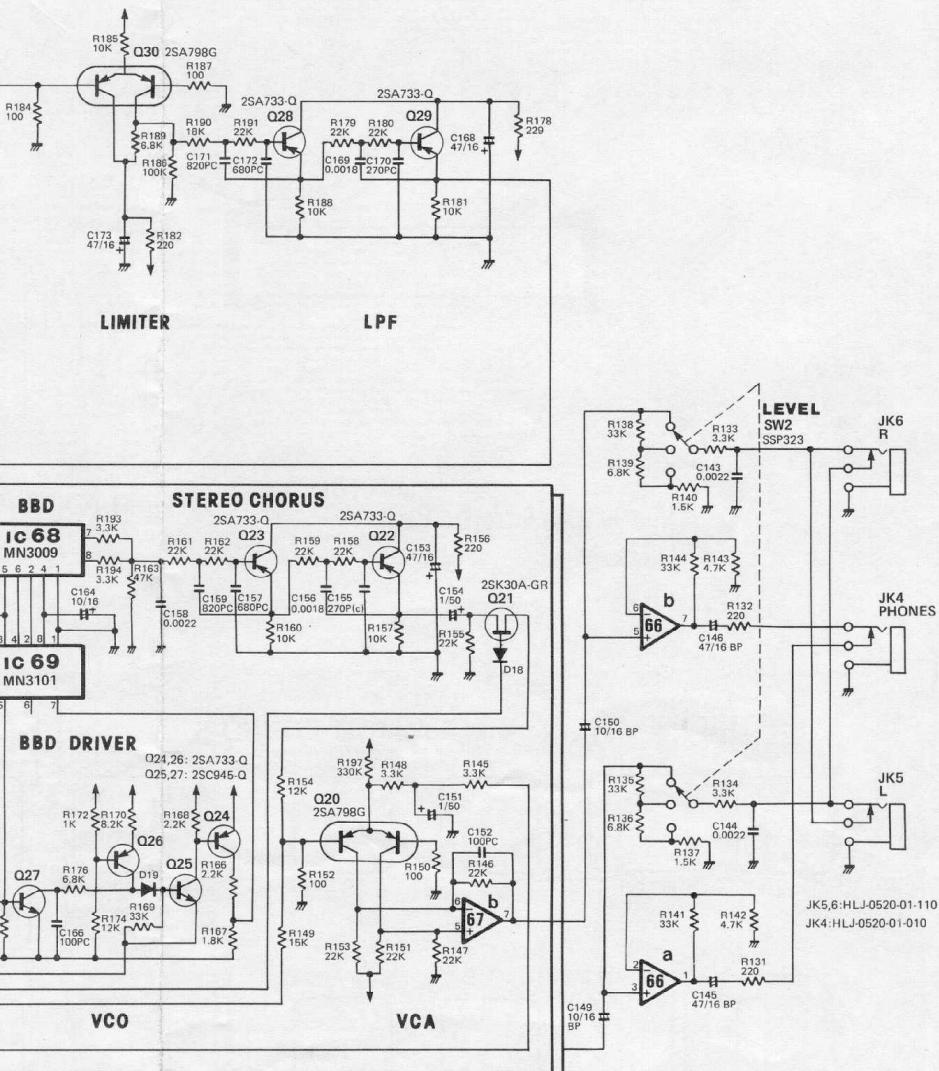
## (MODULE)



## (MODULE)



SCHEM LOCATION	CIRCUIT NO.	SCHEM LOCATION	CIRCUIT NO.	SCHEM LOCATION	CIRCUIT NO.	SCHEM LOCATION	Q		VR	
							CIRCUIT NO.	SCHEM LOCATION	CIRCUIT NO.	SCHEM LOCATION
-3	55a	E-4	62a	J-12	9	B-14	1	J-19		
-6	55b	F-4	62b	J-15	11	B-23				
-20	55c	G-4	63a	J-10	12	F-23				
-20	55d	D-4	63b	J-11	13	F-22				
-24	56a	C-4	63c	K-13	14	B-22	2	H-33		
-14	56b	D-7	63d	L-13	15	K-19				
-14	56c	E-7	64a	B-15	16	J-17				
-14	56d	E-4	64b	K-23	17	K-15				
-14	57a	G-7	65a	D-24	18	K-12				
-14	57b	E-7	65b	C-24	19	J-18				
-17	57c	C-7	66a	D-33	20	E-30				
-17	57d	F-7	66b	G-33	21	F-31				
-14	58a	I-25	67b	D-31	22	G-30				
-11	58b	I-24	68	G-27	23	G-29				
-11	59	K-21	69	F-27	24	E-29				
-11	60a	K-19	70a	M-20	25	D-29				
-11	60b	J-17	70b	M-20	26	D-28				
-11	61a	L-15			27	D-27				
-11	61b	K-15			28	K-29				
-11	61c	I-17			29	K-31				
-11	61d	K-16			30	K-28				



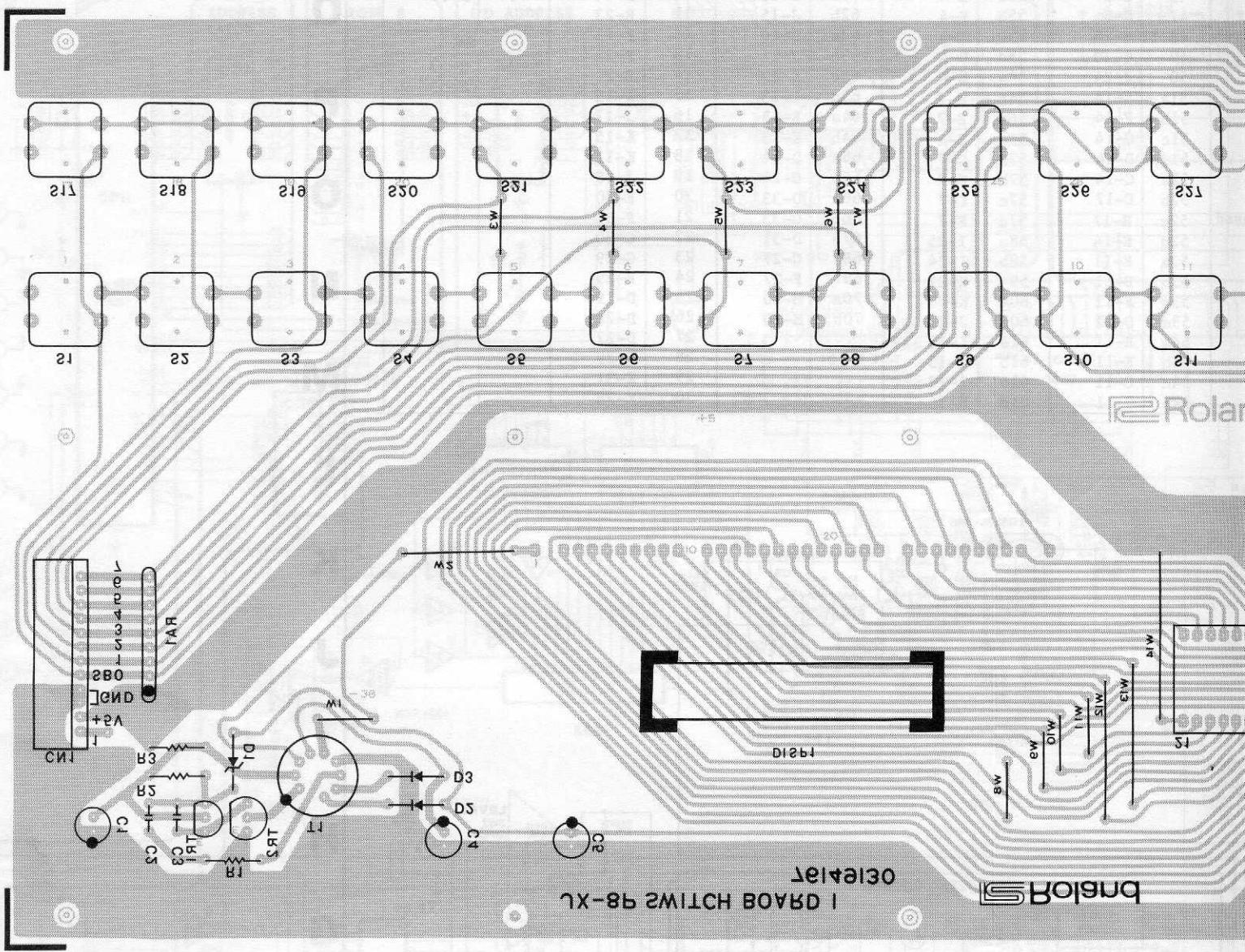
All diodes not specified are 1SS-133.

# MAIN BOARD SYNTHESIZER

R  
Q  
P  
O  
N  
M  
L  
K  
J  
I  
H  
G  
F  
E  
D  
C  
B  
A

## **SWITCH BOARD 1**

76149130 (pcb 2292311401)

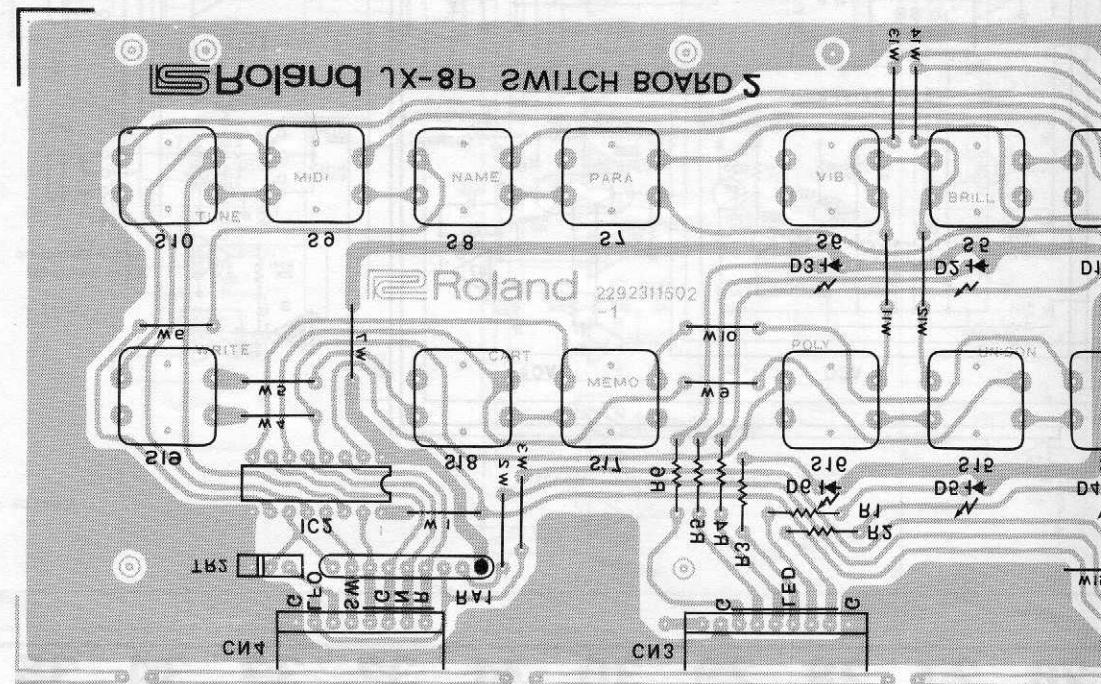


# **SWITCH BOARD**

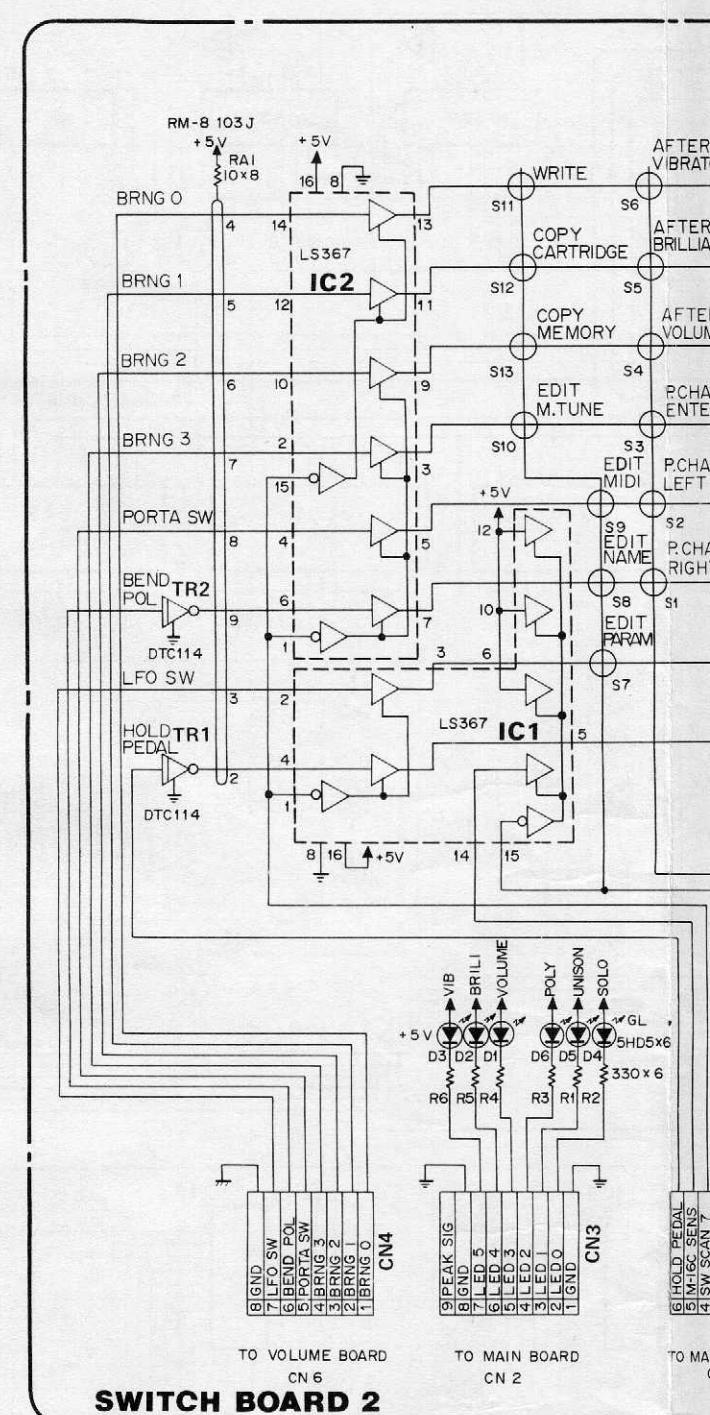
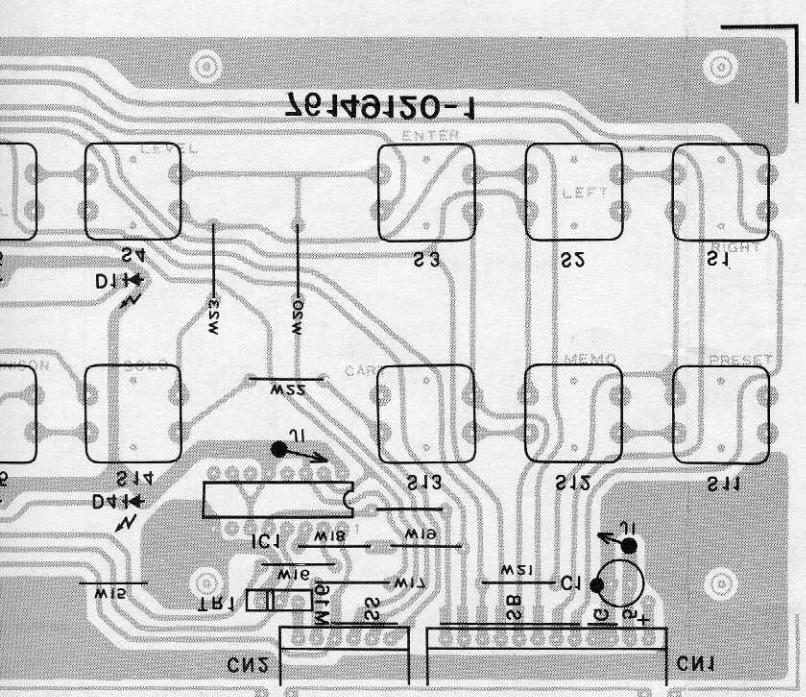
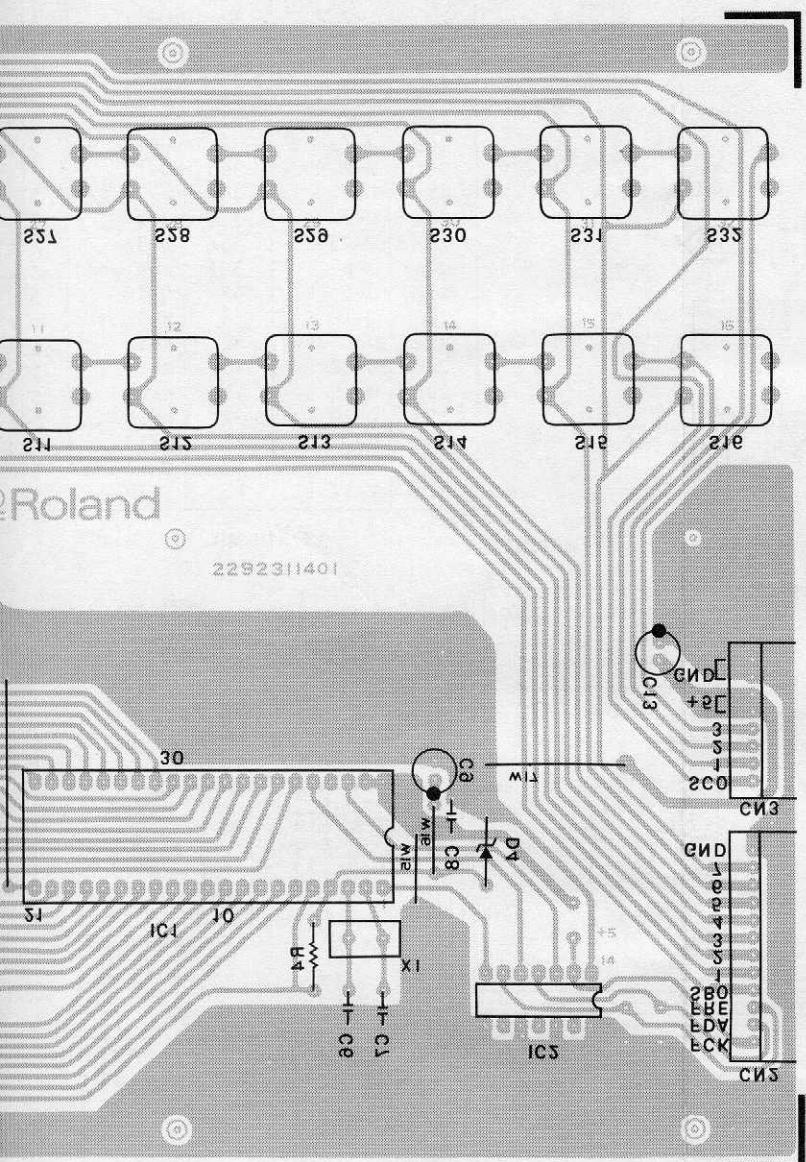
**2**

76149120-1  
(pcb 2292311502-1)

Replacement for Switch Board will  
be in a set of Switch Board 2,  
Volume Board and Filter Board.



20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41

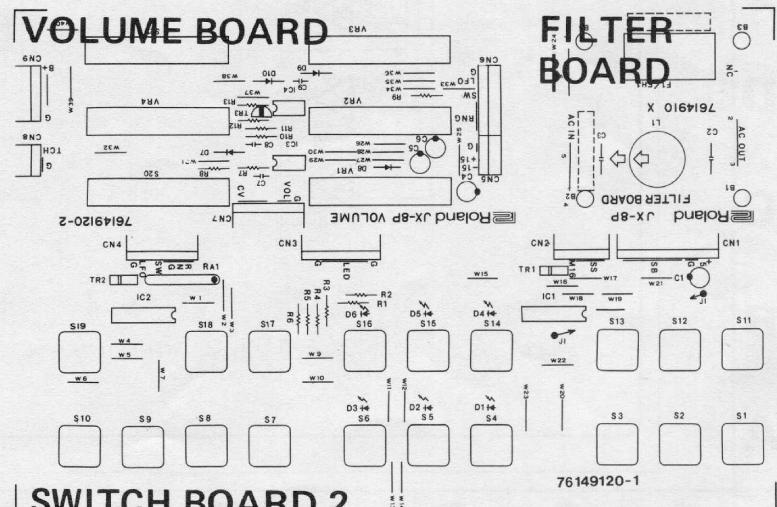
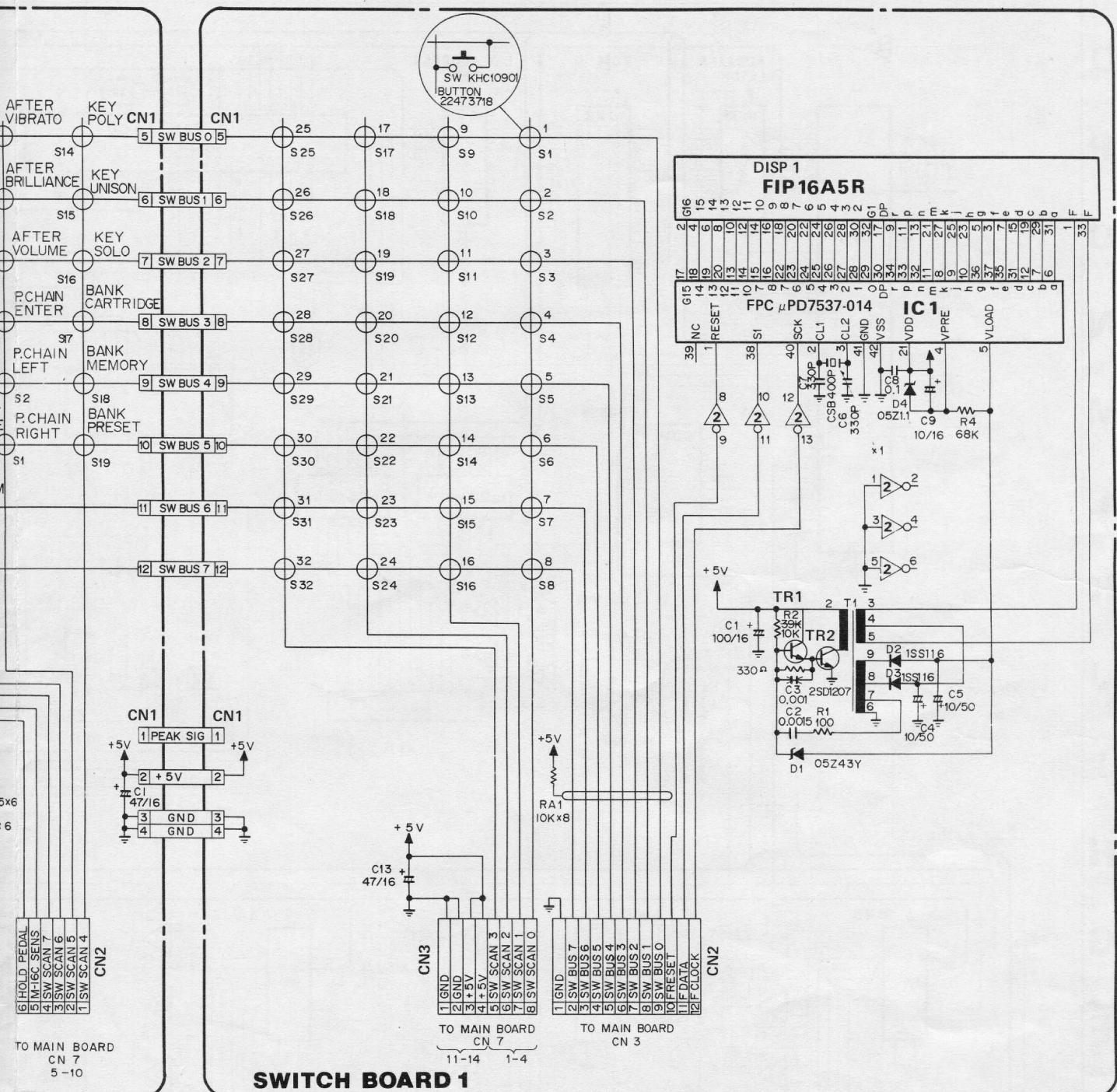


# SWITCH BOARD 2

**Replacement For  
SWITCH BOARD 2  
VOLUME BOARD  
FILTER BOARD**

These three PCBs will be  
splittable PCB as shown.  
Representative: Switch E  
When ordering, specify the

41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60



will be supplied in a set of three PCBs assembled on a  
shown here.

switch Board 2 76149100.

specify the line voltage.

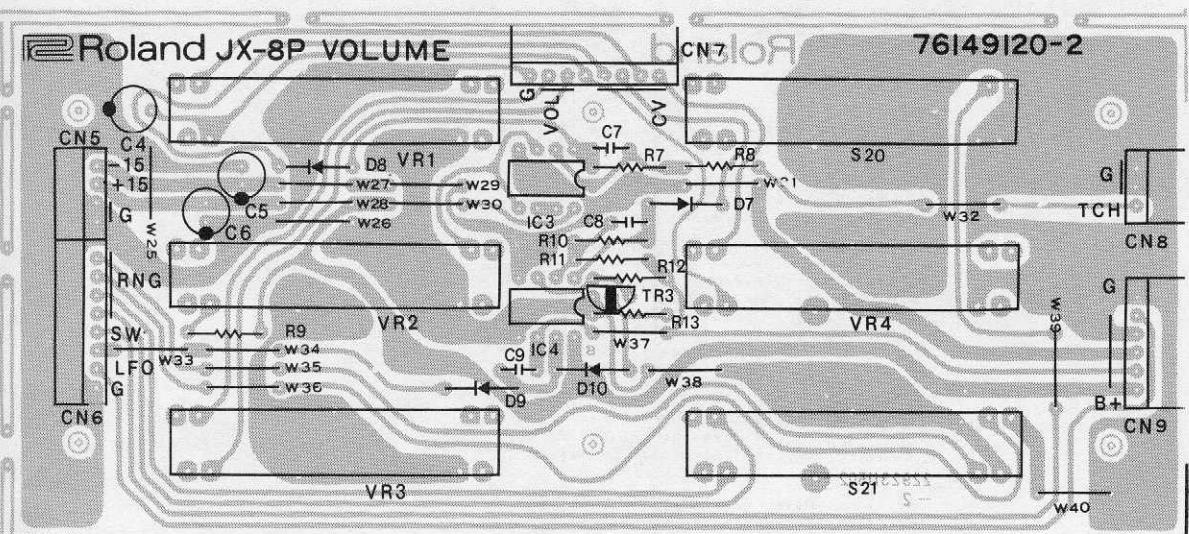
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

# VOLUME BOARD

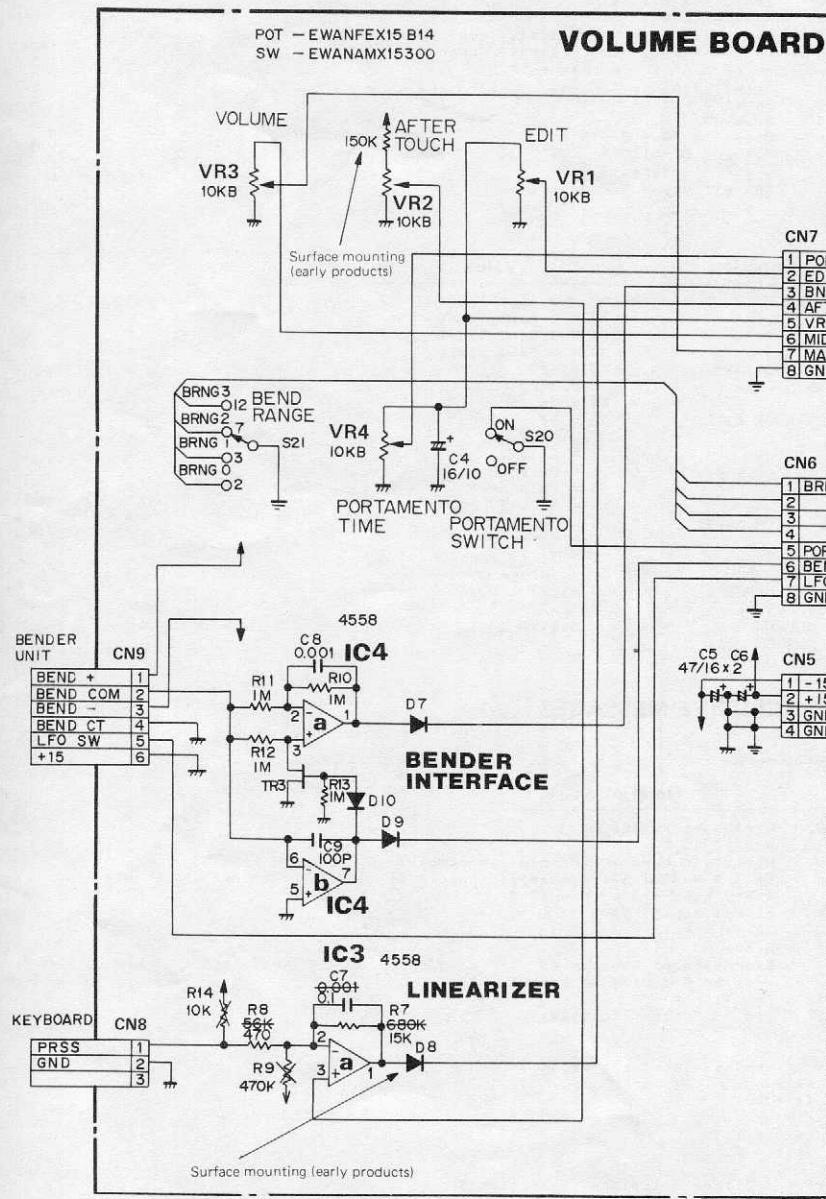
76149120-2

(pcb 2292311502-2)

Replacement for Volume Board will be supplied in the splittable PCB set of Volume Board, Switch Board 2 and Filter Board.



View from foil side

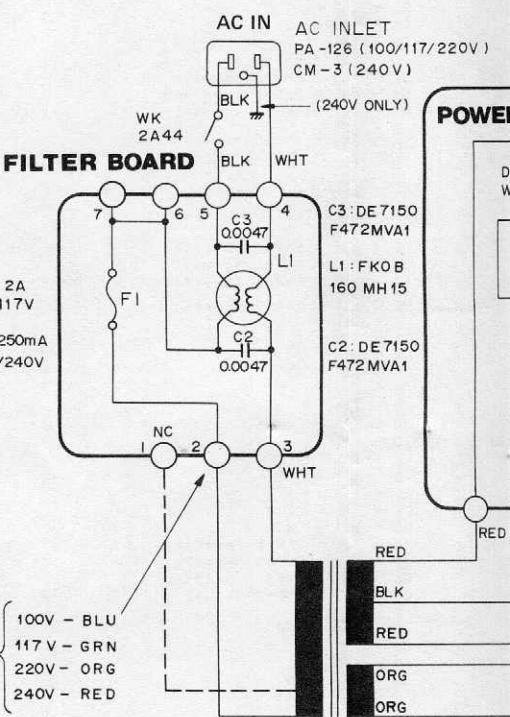


# FILTER

76149102



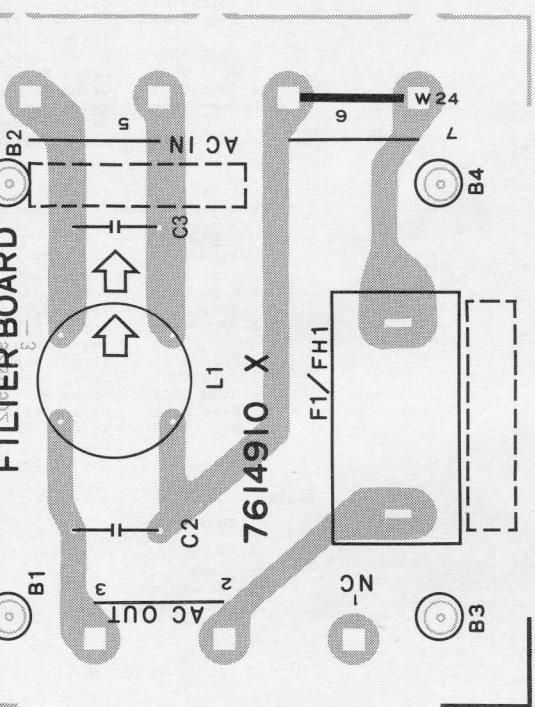
Replacement  
splittable PCB  
Switch Board



1 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39

## TER BOARD

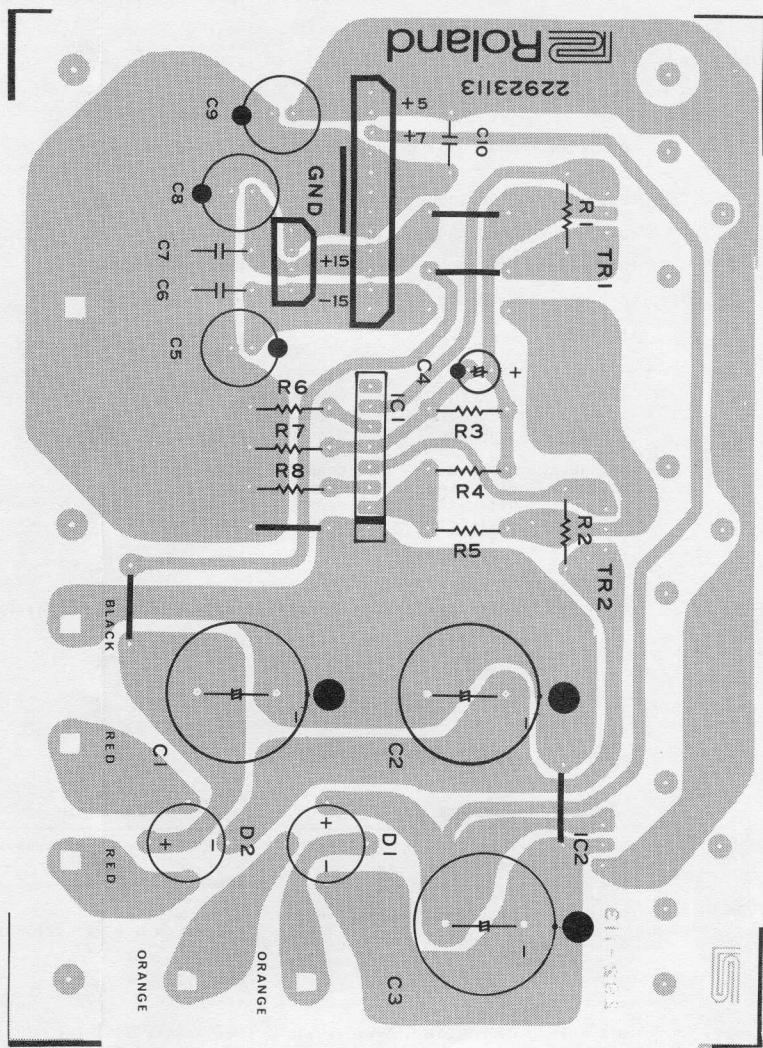
4910X (pcb 2292311502-3)



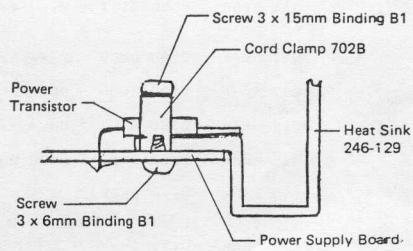
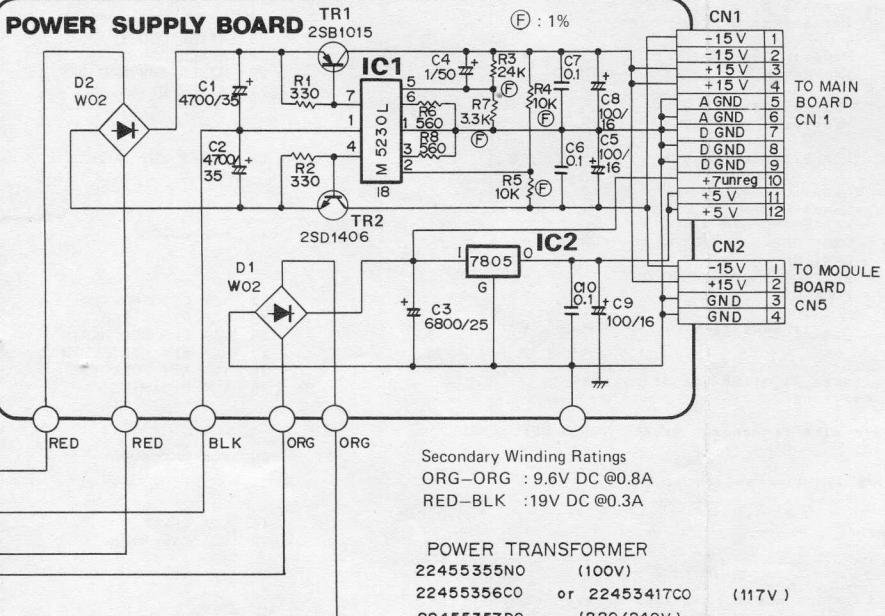
Component for Filter Board will be supplied in the  
able PCB set of Filter Board, Volume Board and  
h Board 2.

## POWER SUPPLY BOARD

76149180 (pcb 22923112)



220V)



# MIDI IMPLEMENTATION

## 1. TRANSMITTED DATA

Status	Second	Third	Description
1001 nnnn	Okkk kkkk	0000 0000	Note OFF kkkkkk = 36 - 96
1001 nnnn	Okkk kkkk	Ovvv vvvv	Note ON kkkkkk = 36 - 96 vvvvvv = 1 - 127
1011 nnnn	0000 0001	Ovvv vvvv	Modulation *1 vvvvvv = 0 - 127
1011 nnnn	0000 0101	Ovvv vvvv	Portamento time *1 vvvvvv = 0 - 127
1011 nnnn	0100 0000	Oxxx xxxx	Hold ON *1 xxxxxx = 1 - 127
1011 nnnn	0100 0000	0000 0000	Hold OFF *1
1011 nnnn	0100 0001	Oxxx xxxx	Portamento ON *1 xxxxxxxx = 1 - 127
1011 nnnn	0100 0001	0000 0000	Portamento OFF *1
1100 nnnn	Oopp pppp		Program Change *1, *2 pppppp = 0 - 127
1101 nnnn	Ovvv vvvv		Channel After Touch *1 vvvvvv = 0 - 127
1110 nnnn	0000 0000	Ovvv vvvv	Pitch Bender Change *1
1011 nnnn	0111 1011	0000 0000	ALL NOTES OFF
1011 nnnn	0111 1100	0000 0000	OMNI OFF
1011 nnnn	0111 1101	0000 0000	OMNI ON
1011 nnnn	0111 1111	0000 0000	POLY ON
1111 1110			Active Sensing *1

### Notes:

- \*1 Transmitted if the corresponding function switch is ON.
- \*2 0 - 31 : Internal Memory  
32 - 63 : Memory Cartridge  
64 - 95 : Preset #1  
95 - 127 : Preset #2

## 2. RECOGNIZED RECEIVE DATA

Status	Second	Third	Description
1000 nnnn	Okkk kkkk	Ovvv vvvv	Note OFF, velocity ignored
1001 nnnn	Okkk kkkk	0000 0000	Note OFF kkkkkk = 0 - 127 (21 - 108) *1
1001 nnnn	Okkk kkkk	Ovvv vvvv	Note ON kkkkkk = 0 - 127 (21 - 108) *1 vvvvvv = 1 - 127
1011 nnnn	0000 0001	Ovvv vvvv	Modulation *3 vvvvvv = 0 - 127
1011 nnnn	0000 0101	Ovvv vvvv	Portamento time *3 vvvvvv = 0 - 127
1011 nnnn	0000 0111	Ovvv vvvv	Volume *3 vvvvvv = 0 - 127
1011 nnnn	0100 0000	Oxxx xxxx	Hold ON *3 xxxxxx = 1 - 127
1011 nnnn	0100 0000	0000 0000	Hold OFF *3
1011 nnnn	0100 0001	Oxxx xxxx	Portamento ON *3 xxxxxxxx = 1 - 127
1011 nnnn	0100 0001	0000 0000	Portamento OFF *3
1100 nnnn	Oopp pppp		Program Change *3, *4 pppppp = 0 - 127
1101 nnnn	Ovvv vvvv		Channel After Touch *3 vvvvvv = 0 - 127
1110 nnnn	0000 0000	Ovvv vvvv	Pitch Bender Change *3
1011 nnnn	0111 1010	0000 0000	Local OFF
1011 nnnn	0111 1010	0111 1111	Local ON
1011 nnnn	0111 1011	0000 0000	ALL NOTES OFF
1011 nnnn	0111 1100	0000 0000	OMNI OFF *2
1011 nnnn	0111 1101	0000 0000	OMNI ON *2
1011 nnnn	0111 1110	0000 mmmm	ALL NOTES OFF (MONO ON) *2
1011 nnnn	0111 1111	0000 0000	POLY ON *2
1111 1110			Active Sensing *3

### Notes:

- \*1 Note numbers outside of the range 21 - 108 are transposed to the nearest octave inside this range.
  - \*2 Mode Messages (123 - 127) are also recognized as ALL NOTES OFF. MONO ON messages are ignored.
  - \*3 Received if the corresponding function switch is ON.
  - \*4 0 - 31 : Internal Memory  
32 - 63 : Memory Cartridge  
64 - 95 : Preset #1  
95 - 127 : Preset #2
- When the memory cartridge is not connected, 32 thru 63 are ignored.

## 3. TRANSMITTED EXCLUSIVE MESSAGES

3.1 All Tone Parameters (APR).  
When the 'Tone Button' is pressed.

Byte	Description
a 1111 0000	Exclusive status
b 0100 0001	Roland ID #
c 0011 0101	Operation code = APR (all parameters)
d 0000 nnnn	Unit # = MIDI basic channel, nnnn = 0 - 15 where nnnn + 1 = channel #
e 0010 0001	Format type (JX-8P)
f 0010 0000	Level # = 1
g 0000 0001	Group #
h Ovvv vvvv	Value (0 - 127)
i :	In sequence (59 byte total)
j 1111 0111	End of System Exclusive

3.2 Individual Tone Parameter (IPR).  
When the Parameter is changed.

Byte	Description
a 1111 0000	Exclusive status
b 0100 0001	Roland ID #
c 0011 0110	Operation code = IPR (individual parameter)
d 0000 nnnn	Unit # = MIDI basic channel, nnnn = 0 - 15 where nnnn + 1 = channel #
e 0010 0001	Format type
f 0010 0000	Level # = 1
g 0000 0001	Group #
h Ovvv vvvv	Parameter # (0 - 58)
i :	Value (0 - 127)
j 1111 0111	h and i (repetitively) End of System Exclusive

### Note:

Parameter #	Function	Value
0-9 NAME-0..9		In ASCII
10 Undefined		
11 DCO-1 RANGE		0 - 31 = 16' 32 - 63 = 8' 64 - 95 = 4' 96 - 127 = 2'
12 DCO-1 WAVEFORM		0 - 31 = Noise 32 - 63 = Sawtooth Wave 64 - 95 = Pulse Wave 96 - 127 = Square Wave 0 - 127 (-1 oct -- +1 oct)
13 DCO-1 TUNE		
14 DCO-1 LFO MOD DEPTH		0 - 127
15 DCO-1 ENV MOD DEPTH		0 - 127
16 DCO-2 RANGE		0 - 31 = 16' 32 - 63 = 8' 64 - 95 = 4' 96 - 127 = 2'
17 DCO-2 WAVEFORM		0 - 31 = Noise 32 - 63 = Sawtooth Wave 64 - 95 = Pulse Wave 96 - 127 = Square Wave 0 - 127 (-1 oct -- +1 oct)
18 DCO-2 CROSSMOD		0 - 31 = OFF 32 - 63 = SYNC 1 64 - 95 = SYNC 2 96 - 127 = XMOD (cross modulation)
19 DCO-2 TUNE		0 - 127 (-1 oct -- +1 oct)
20 DCO-2 FINE TUNE		0 - 127 (-50 cent -- +50 cent)
21 DCO-2 LFO MOD DEPTH		0 - 127
22 DCO-1 ENV MOD DEPTH		0 - 127
23 Undefined		
24 Undefined		
25 Undefined		
26 DCO DYNAMICS		0 - 31 = OFF 32 - 63 = 1 64 - 95 = 2 96 - 127 = 3
27 DCO ENV MODE		0 - 31 = ENV-2 Inverted 32 - 63 = ENV-2 Normal 64 - 95 = ENV-1 Inverted 96 - 127 = ENV-1 Normal
28 MIXER DCO-1		0 - 127
29 MIXER DCO-2		0 - 127
30 MIXER ENV MOD DEPTH		0 - 127
31 MIXER DYNAMICS		0 - 31 = OFF 32 - 63 = 1 64 - 95 = 2 96 - 127 = 3
32 MIXER ENV MODE		0 - 31 = ENV-2 Inverted 32 - 63 = ENV-2 Normal 64 - 95 = ENV-1 Inverted 96 - 127 = ENV-1 Normal
33 HPF CUTOFF FREQ		0 - 31 = 0 32 - 63 = 1 64 - 95 = 2 96 - 127 = 3
34 VCF CUTOFF FREQ		0 - 127
35 VCF RESONANCE		0 - 127
36 VCF LFO MOD DEPTH		0 - 127
37 VCF ENV MOD DEPTH		0 - 127
38 VCF KEY FOLLOW		0 - 127
39 VCF DYNAMICS		0 - 31 = OFF 32 - 63 = 1 64 - 95 = 2 96 - 127 = 3
40 VCF ENV MODE		0 - 31 = ENV-2 Inverted 32 - 63 = ENV-2 Normal 64 - 95 = ENV-1 Inverted 96 - 127 = ENV-1 Normal
41 VCA LEVEL		0 - 127
42 VCA DYNAMICS		0 - 31 = OFF 32 - 63 = 1 64 - 95 = 2 96 - 127 = 3
43 CHORUS		0 - 31 = OFF 32 - 63 = 1 64 - 127 = 2

44	LFO WAVEFORM	0 - 31 = Random 32 - 63 = Square Wave 64 - 127 = Triangle Wave
45	LFO DELAY TIME	0 - 127
46	LFO RATE	0 - 127
47	ENV-1 ATTACK TIME	0 - 127
48	ENV-1 DECAY TIME	0 - 127
49	ENV-1 SUSTAIN LEVEL	0 - 127
50	ENV-1 RELEASE TIME	0 - 127
51	ENV-1 KEY FOLLOW	0 - 31 = OFF 32 - 63 = 1 64 - 95 = 2 96 - 127 = 3
52	ENV-2 ATTACK TIME	0 - 127
53	ENV-2 DECAY TIME	0 - 127
54	ENV-2 SUSTAIN LEVEL	0 - 127
55	ENV-2 RELEASE TIME	0 - 127
56	ENV-2 KEY FOLLOW	0 - 31 = OFF 32 - 63 = 1 64 - 95 = 2 96 - 127 = 3
57	Undefined	0 - 63 = Gate
58	VCA ENV MODE	0 - 127 = ENV-2 Normal

3.3 All Patch Parameters ( APR )  
When the 'Patch Chain' button is pressed.

Byte	Description
a 1111 0000	Exclusive status
b 0100 0001	Roland ID #
c 0011 0101	Operation code = APR (all parameters)
d 0000 nnnn	Unit # = MIDI basic channel, nnnn = 0 - 15 where nnnn + 1 = channel #
e 0010 0001	Format type ( JX-8P )
f 0011 0000	Level # = 2
g 0000 0001	Group #
h 0vvv vvvv	Value ( 0 - 127 )
:	In sequence ( 9 byte total )
i 1111 0111	End of System Exclusive

3.4 Individual Patch Parameter ( IPR )  
When the Patch Parameter is changed.

Byte	Description
a 1111 0000	Exclusive status
b 0100 0001	Roland ID #
c 0011 0110	Operation code = IPR (individual parameter)
d 0000 nnnn	Unit # = MIDI basic channel, nnnn = 0 - 15 where nnnn + 1 = channel #
e 0010 0001	Format type
f 0011 0000	Level # = 2
g 0000 0001	Group #
h 0ppp pppp	Parameter # ( 0 - 8 )
i 0vvv vvvv	Value ( 0 - 127 )
:	h and i ( repetitively )
j 1111 0111	End of System Exclusive

Note:

Parameter #	Function	Value
0	BEND RANGE	0 = 2 Semi Tones 32 = 3 Semi Tones 64 = 4 Semi Tones 96 = 7 Semi Tones
1	POR TAMENTO TIME	0 - 127
2	POR TAMENTO SW	0 = OFF 64 = ON
3	ASSIGN MODE SELECT	0 = Poly-1 1 = Unison-1 2 = Solo-1 4 = Poly-2 5 = Unison-2 6 = Solo-2
4	AFTER TOUCH SELECT	0 = OFF 1 = Vibrato ON 2 = Brilliance ON 4 = Volume ON
5	BEND LFO DEPTH	0 - 127
6	UNISON DETUNE	0 - 127
7	TONE NUMBER	0 - 31
8	BANK NUMBER	0 - 3

## 4. RECOGNIZED EXCLUSIVE MESSAGES

4.1 Program number ( PGR )

Byte	Description
a 1111 0000	Exclusive status
b 0100 0001	Roland ID #
c 0011 0100	Operation code = PGR (program number)
d 0000 nnnn	Unit # = MIDI basic channel, nnnn = 0 - 15 where nnnn + 1 = channel #
e 0010 0001	Format type ( JX-8P )
f 0011 0000	Level # = 1
g 0000 0001	Group #
h 0xxx xxxx	Extension of program #
i 0ppp pppp	Program # ('Program Number')
j 0fff ffff	Function #
k 1111 0111	End of System Exclusive

Note:

Write data to memory with the program #  
 xxx xxxx = 0  
 fff ffff = 2  
 Manual mode Flag  
 xxx xxxx = 127  
 fff ffff = 0

4.2 Other Exclusive messages described in section 3.

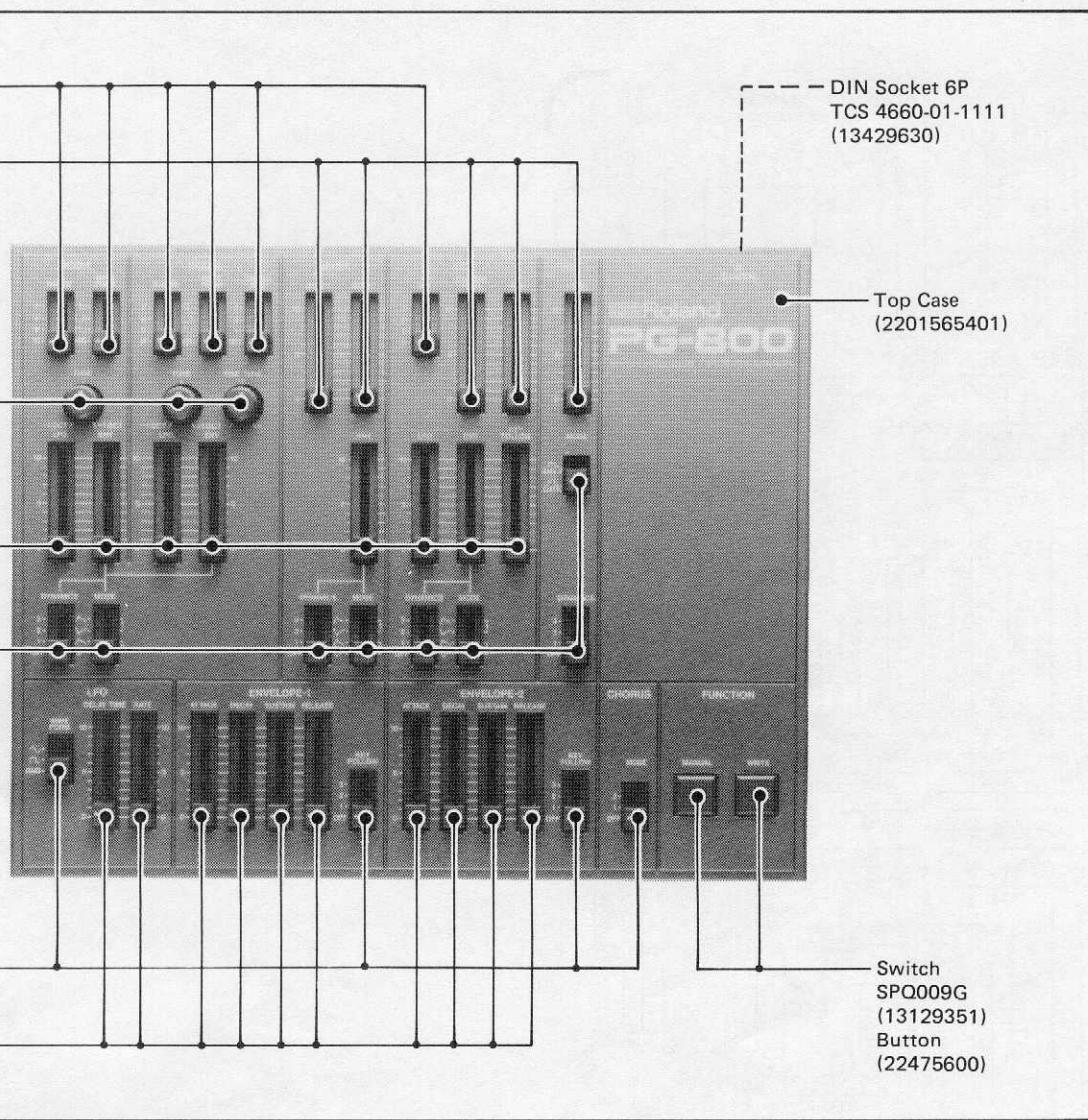
# PG-800

## SPECIFICATIONS

Dimensions 265(W) x 215(D) x 27(H) mm

10-7/16 x 8-7/16 x 1-1/16 in

Weight 680g / 1 lb 8 oz



- ① Pot. EWAKF8X15B15 100KB (13379868)  
② Pot. EWANFEX15B15 100KB (13339453) } Knob (22475375)

## PARTS LIST (PG-800)

### CASE

2201565401 Top Case  
22015653 Bottom Case

### KNOB, BUTTON

22475375	Knob	slide pot
22475376	Knob	rotary pot
22475600	Button	push switch

### SOCKET

13429630 TCS4660-01-1111 6P DIN

### PCB

7934603000 Control Board (pcb 2292312301)

### IC

15179202	μPD8048HC-191	GPU
15129150	μPD7001C	A/D converter
15159113H0	HD14051BP	Single 8-CH MUX/DMUX

### TRANSISTOR

15129150	2SD880-Y
15129107	2SC945-Q
15119133	DTA114C
15129150	DTC114C

### RESONATOR

12389800 KMFC1005T1

### POTENTIOMETER

13219377	K161B002W-100KB
13339453	EWANFEX15-B15
13339868	EWAKF8X15-B15

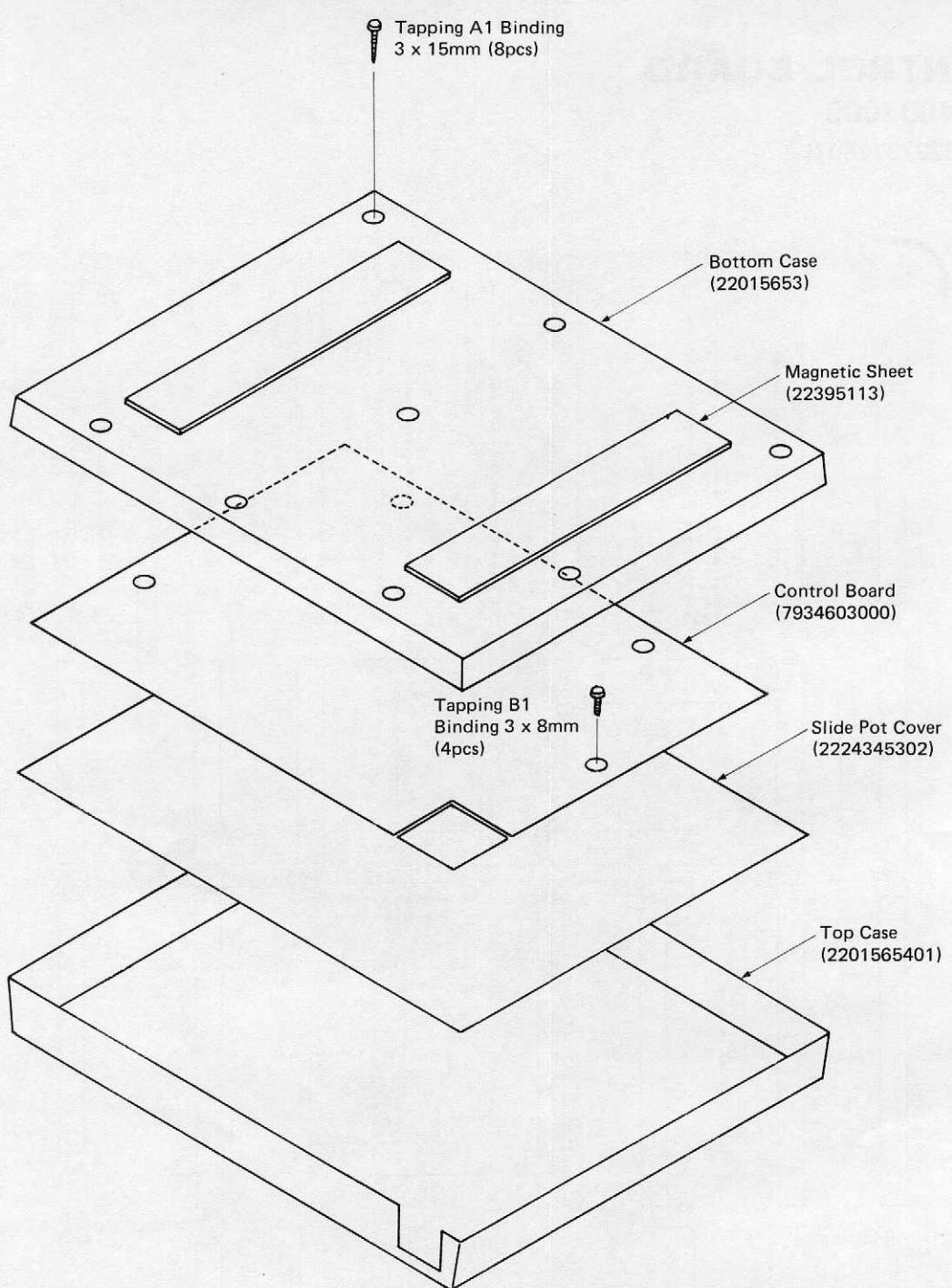
slide with c

### SWITCH

13129351 SPQ009G

### RESISTOR ARRAY

13919310 EM-8 103J 10K x 8



#### **EMI FILTER**

13529105 DSS31055D223S

digital  
digital

6MHz, ceramic

#### **DIODE**

15019103 1S2473  
150196130Z 05Z-5.6

zener

rotary  
slide 30mm travel  
slide with click 15mm travel

#### **OTHERS**

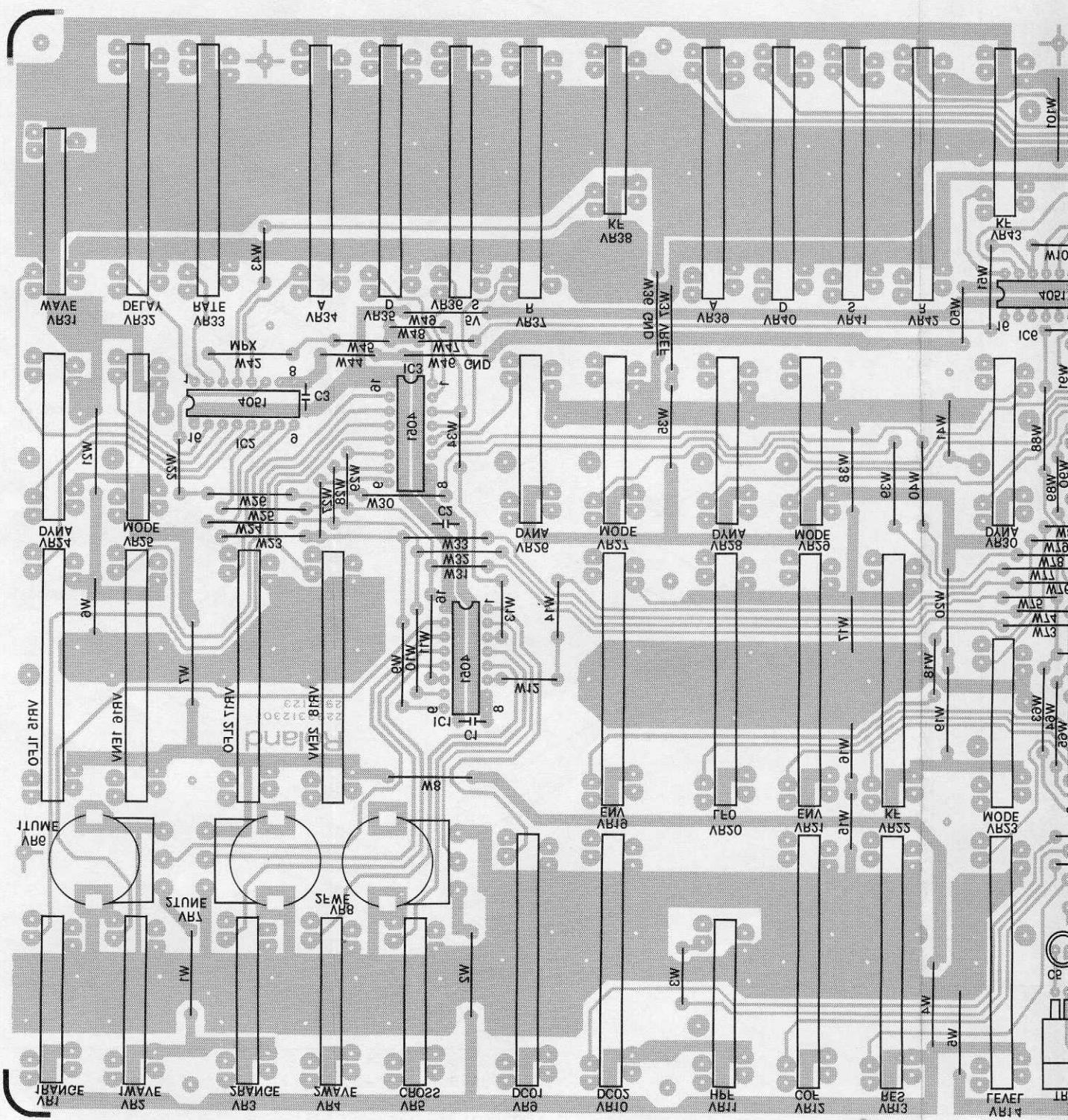
2224345301 Slider Cover  
22395113 Magnetic Sheet  
22013703 Carrying Case

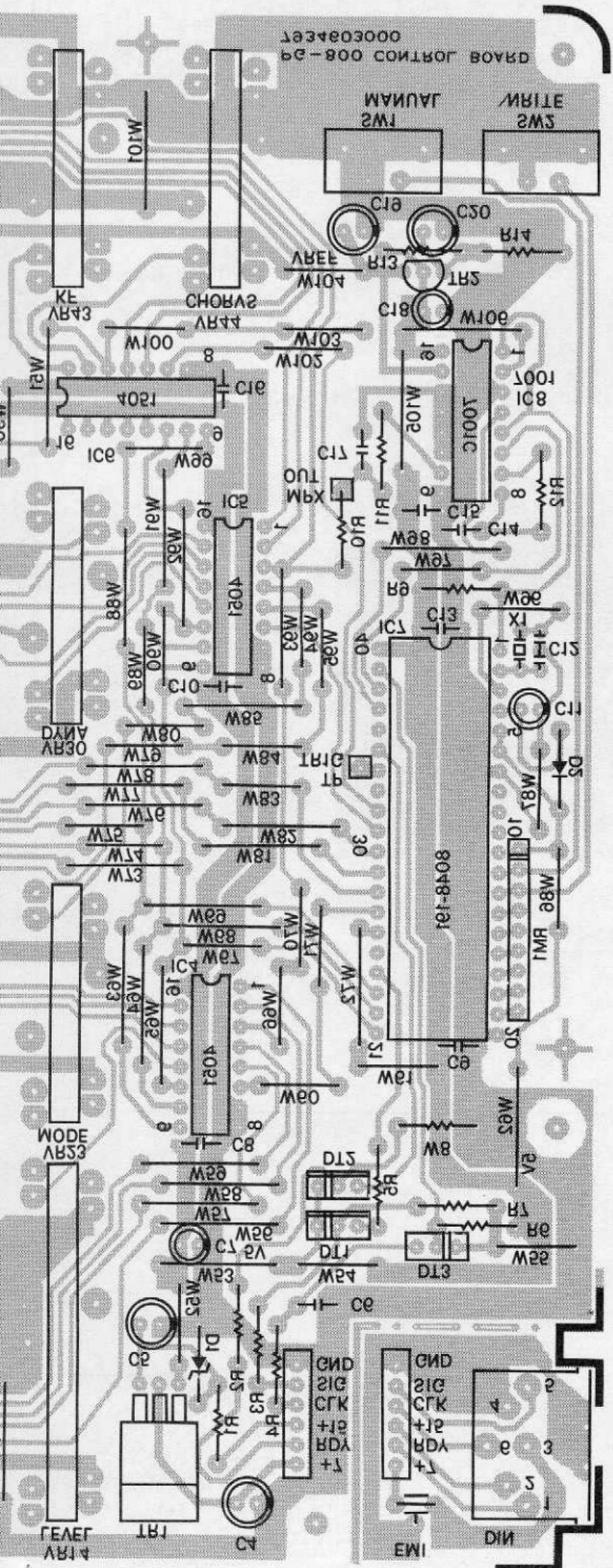
commercially available

# **CONTROL BOARD**

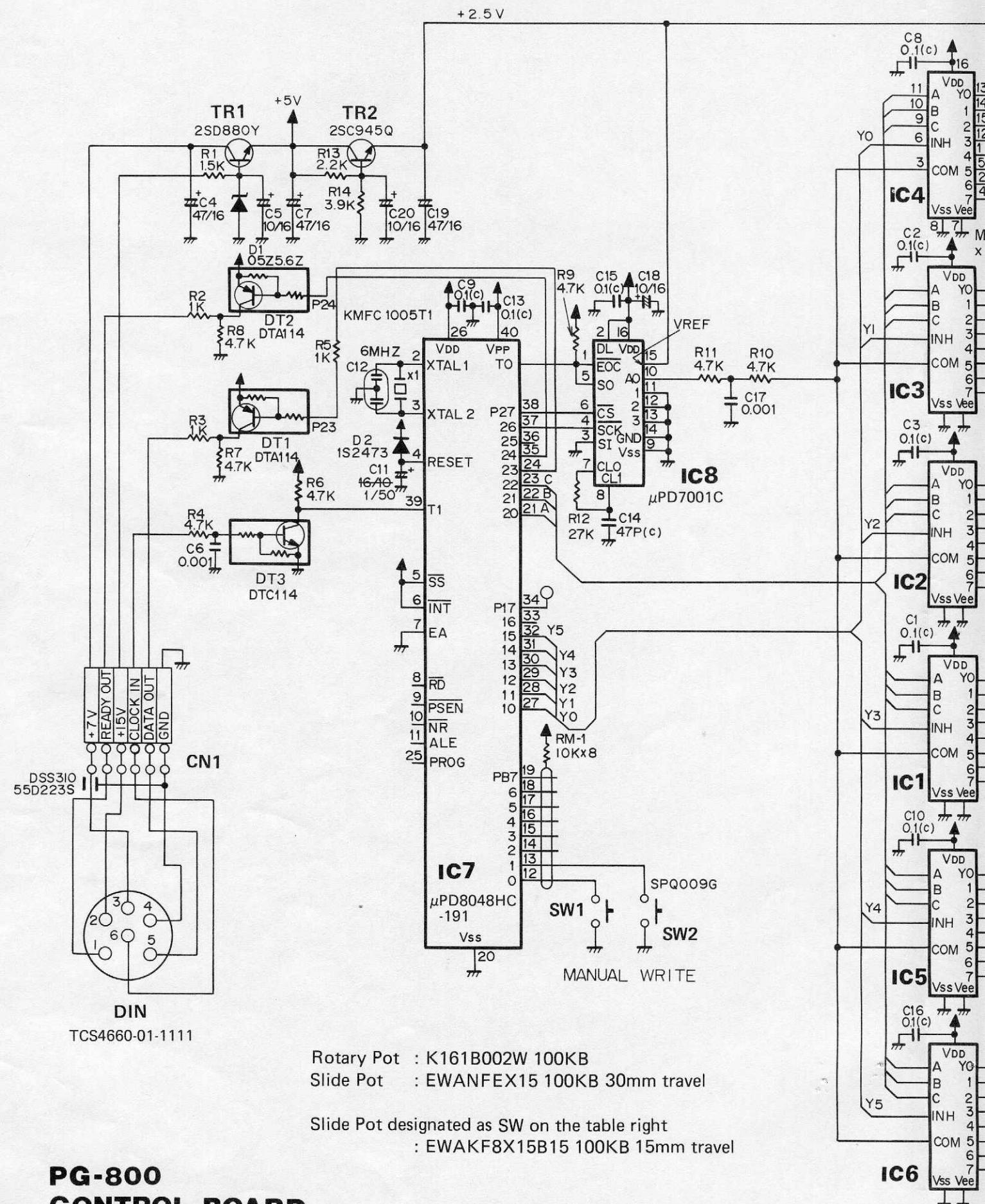
7934603000

(pcb 2292312301)

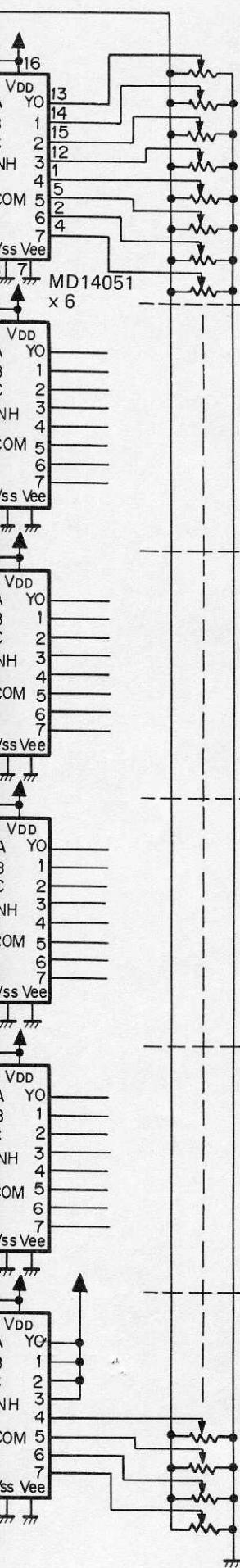




1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21



21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36



LEGEND	VR	FUNCTION				
		POT SLIDER	POT ROTARY	SW 4P	SW 3P	SW 2P
VCF KEYF	VR22	<input type="circle"/>				
VCF ENV	VR21	<input type="circle"/>				
VCF LFO	VR20	<input type="circle"/>				
VCA LEVEL	VR14	<input type="circle"/>				
VCF RES	VR13	<input type="circle"/>				
VCF FREQ	VR12	<input type="circle"/>				
HPF	VR11				<input type="circle"/>	
MIX DCO2	VR10	<input type="circle"/>				
DCO1 RANGE	VR1				<input type="circle"/>	
DCO1 ENV	VR16	<input type="circle"/>				
DCO2 LFO	VR17	<input type="circle"/>				
DCO2 ENV	VR18	<input type="circle"/>				
ENV1 D	VR35	<input type="circle"/>				
MIX DYNA	VR26				<input type="circle"/>	
ENV1 S	VR36	<input type="circle"/>				
ENV1 R	VR37	<input type="circle"/>				
DCO DYNA	VR24				<input type="circle"/>	
LFO WAVE	VR31				<input type="circle"/>	
DCO ENV MODE	VR25				<input type="circle"/>	
DCO1 LFO	VR15	<input type="circle"/>				
LFO DELAY	VR32	<input type="circle"/>				
ENV1 A	VR34	<input type="circle"/>				
LFO RATE	VR33	<input type="circle"/>				
ENV1 KEYF	VR38				<input type="circle"/>	
DCO2 TUNE	VR7			<input type="circle"/>		
DCO1 TUNE	VR6			<input type="circle"/>		
DCO1 WAVE	VR2			<input type="circle"/>		
DCO2 RANGE	VR3			<input type="circle"/>		
MIX DC01	VR9	<input type="circle"/>				
DC2 WAVE	VR4			<input type="circle"/>		
DCO2 FINE	VR8			<input type="circle"/>		
DCO2 CROSS	VR5			<input type="circle"/>		
VCF ENV MODE	VR29			<input type="circle"/>		
VCF DYNA	VR28			<input type="circle"/>		
MIX ENV MODE	VR27			<input type="circle"/>		
VCA DYNA	VR30			<input type="circle"/>		
ENV2 S	VR41	<input type="circle"/>				
MIX ENV	VR19	<input type="circle"/>				
ENV2 R	VR42	<input type="circle"/>				
VCA MODE	VR23					<input type="circle"/>
undefined						
undefined						
undefined						
undefined						
ENV2 KEYF	VR43				<input type="circle"/>	
ENV2 D	VR40	<input type="circle"/>				
CHORUS	VR44					<input type="circle"/>
ENV2 A	VR39	<input type="circle"/>				