

JX-8P/PG-800 SERVICE NOTES

First Edition

SPECIFICATIONS

Keyboard

61 keys

Memory Capacity

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

Output

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

Dimensions

977(W) x 375(D) x 92(H) mm
 38-7/16"(W) x 14-3/4"(D) x 3-9/16"(H)

Weight

11.5kg
 25 lb 60 oz

Consumption

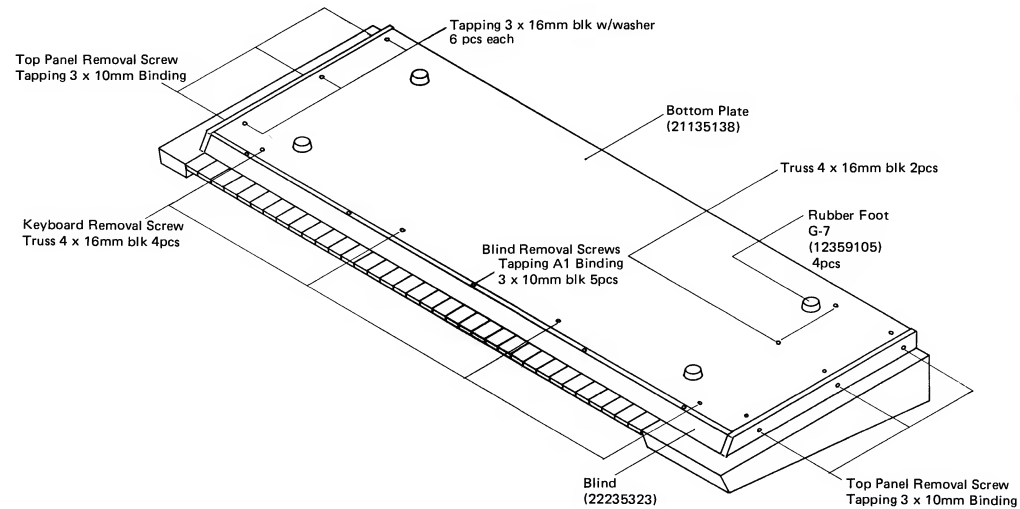
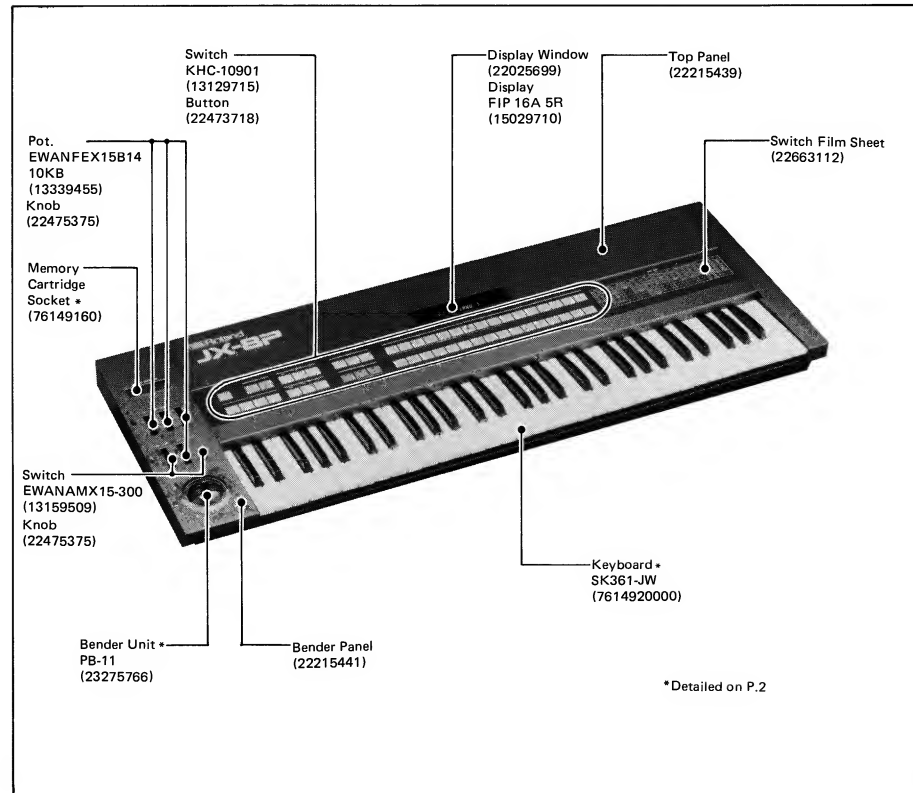
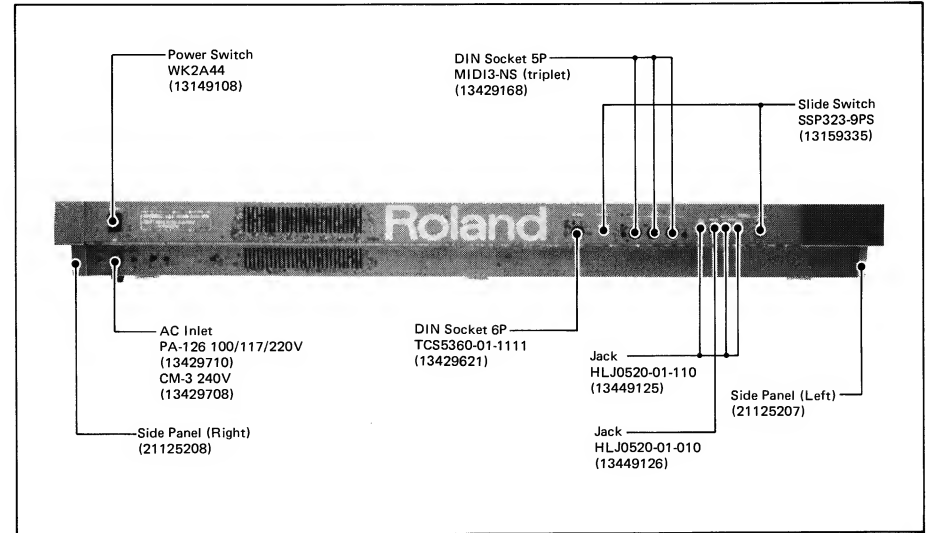
25W

Accessories

Connections Cables x 2

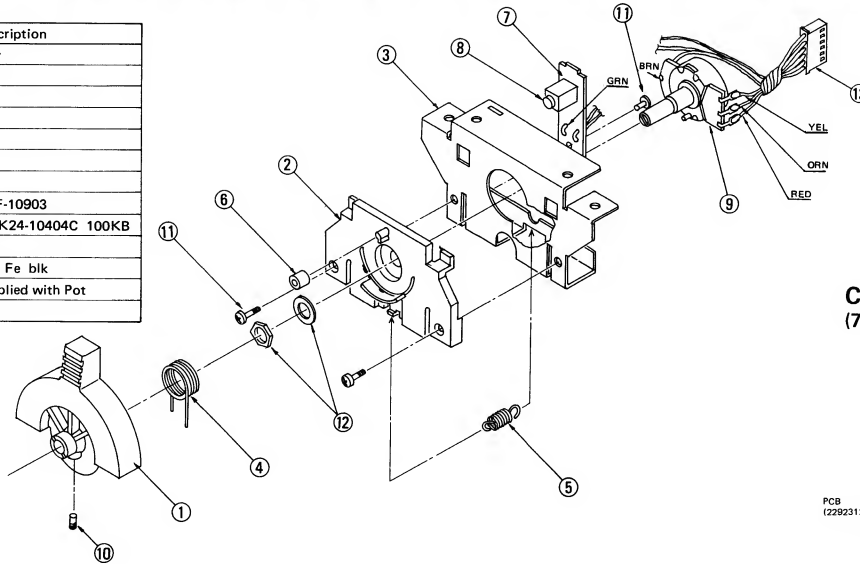
Options

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



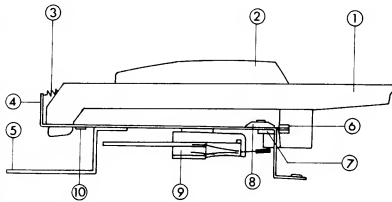
PITCH BENDER PB-11
(23275766)

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	

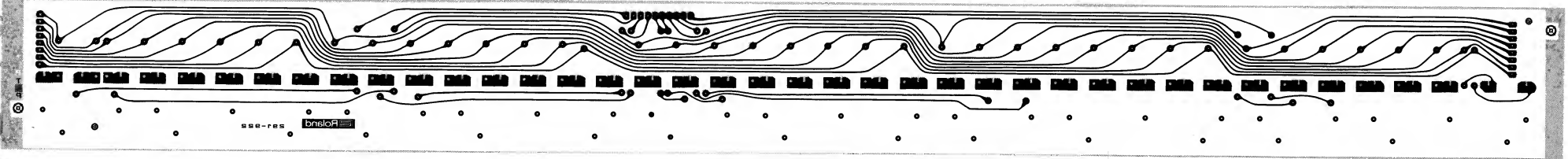
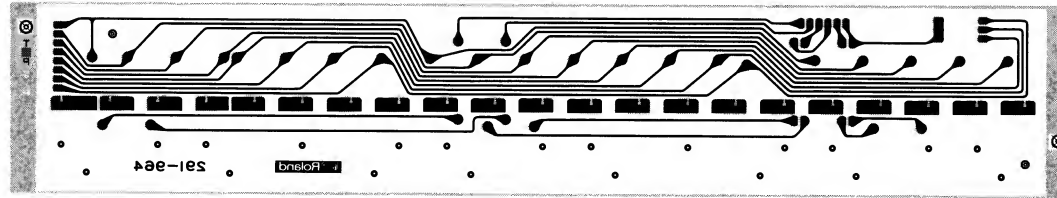
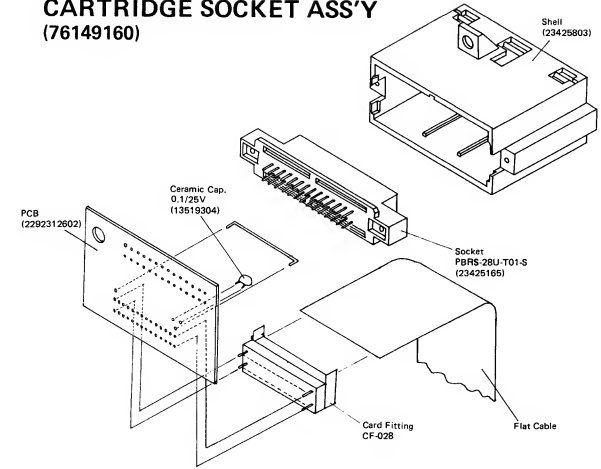


KEYBOARD SK-361-JW Parts List
(7614920000)

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



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	TCS5360-01-1111 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

2245355N0		100V
2245356C0 or 22455417C0		117V
2245357D0 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 2291399100-2291399102
	or	
15229830	MB63H149	Dynamic Gate Array SN530350-up or pcb 2291399103-up. Both ICs are incompatible with each other.
15179203	HD63B03	Assigner 8 bit CMOS MCU
15179319	i-8051-319	Synth 8-bit CPU
15179201	WPD7537-014	Display 4-bit CPU
15179342	HM6116-2	8-bit CMOS RAM
15179317	TC5517APL	2K byte CMOS RAM
15179110N0	WPD8253C-2	Programmable Counter
15179341	WPD8155HC	8-bit Static RAM
15219150	WPD7001C	8-bit A/D Converter
15219149	MM5437	Digital Noise Source
15179675	M5L-27128K-2	ROM A (ASSIGNER)
	16K x 8, 200ns EPROM (ROM A of Ver.2.2 and below and of Ver.3.0 are incompatible with each other. See CHANGE INFORMATION).	
15179674	TMM2764	ROM B (SYNTH) 8K x 8 EPROM
	or	
15179699	M5L-2364-211P	ROM B Mask ROM Upward compatible from EPROM B's of all versions since there is no difference between ROM B versions in program.
15159128H0	HD14050BP	Hex Buffer
15159113H0	HD14051BP	Analog Switch
15159114H0	HD14052BP	Analog Switch
15159115H0	HD14066BP	Quad Analog Switch
15159503	TC40H000P	CMOS Inverter
15159511	TC40H174P	CMOS D-FF
15159524	TC40H245P	CMOS Driver
15159508	TC40H373P	CMOS Latch
15169304H0	HD74LS04P	Hex Inverter
15169308H0	HD74LS30P	8-input NAND
15169339H0	HD74LS32P	Quad OR
15169318H0	HD74LS138P	Decoder
15169321H0	HD74LS161P	Counter
15169322H0	HD74LS174P	Hex D-FF
15169327H0	HD74LS367P	Hex Buffer
15169301H0	HD74LS00P	Quad NAND
15169304H0	HD74LS04P	Hex Inverter
	IC (Analog)	
15229826	IR-3R05	VCF-VCA Pack
15219213	MN-3009	BBD
15169504	MN-3101	BBD Driver
15189105	WPC4558C	OP amp
15189154	TL-064	Quad OP amp
15189136	M5218L	OP amp
15199117	M5230L	V-regulator
15199106	WPC7805	5V Regulator
	TRANSISTOR	
15119106	2SA733Q	
15129107	2SC945Q	dual transistor
15119108	2SA798G	
15129613	2SD1207	
15119815	2SB834Y or 15119814	2SB1015 or 15119819
15129201	2SD880Y or 15129827	2SD1406 or 15129820
15139103	2SK30A-GR	
15129107	2SC945Q	
	Gm selected for Q15, Q16 and Q19 of Main Board VCF/VCA Module; dotted in Red, Orange, Yellow or Green. 18 2SC945Q (3 for each voice) on a given Main Board should be of the same color dot for reproducing uniform timbre.	
15119133	DTA114	digital transistor
15129150	DTC114	digital transistor
	DIODE, LED, PHOTO COUPLER	
15019125	1SS-133	
15019143	1SS-116	

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

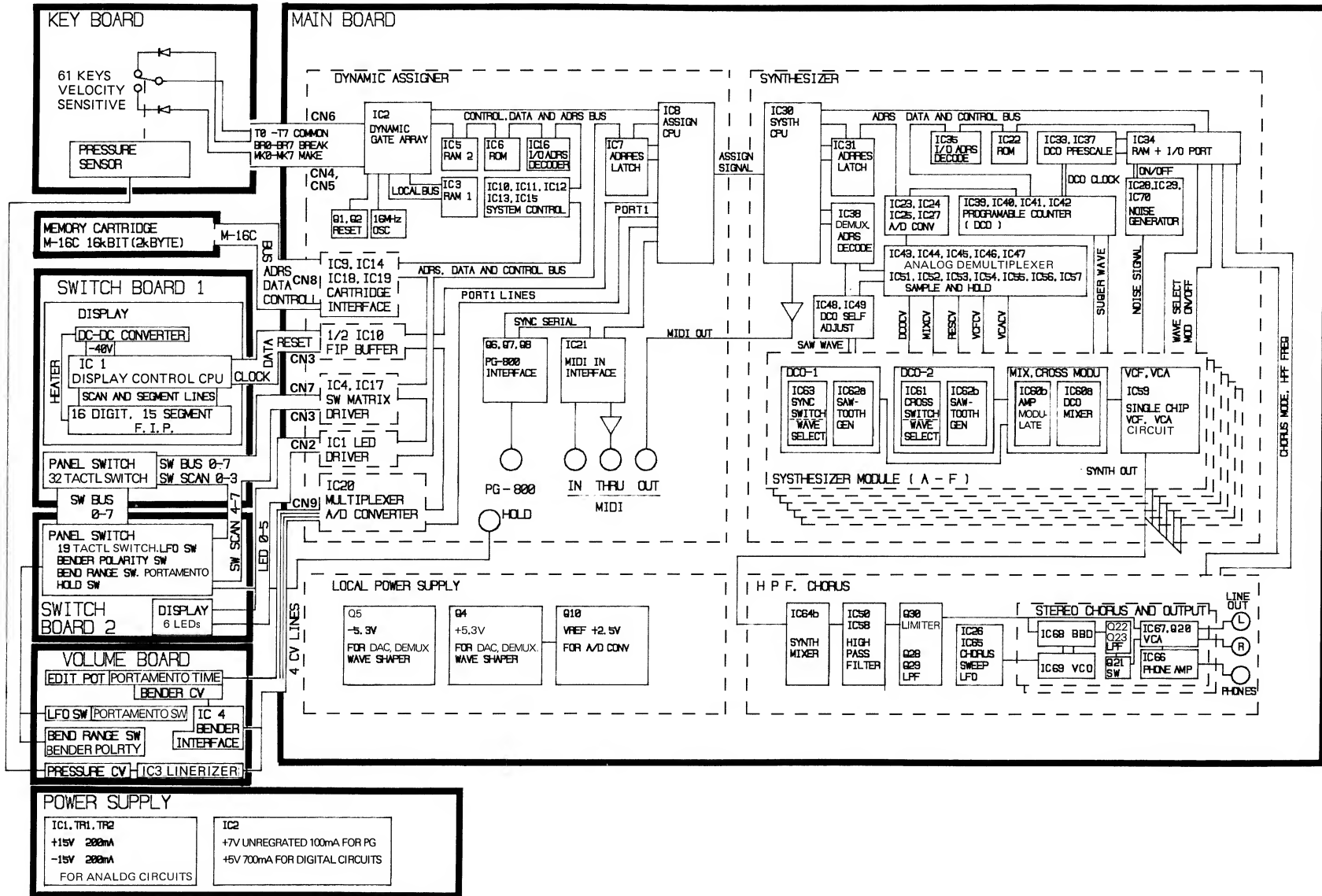
RESISTOR

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
13799710D0	CRB20FX 10kΩ	metal oxide
13799725D0	CRB20FX 330kΩ	metal oxide
13799724D0	CRB20FX 6.8kΩ	metal oxide
13799723D0	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, 50V
	FUSE, FUSE HOLDER	
12559336	GCS 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
13439812F0	VC-704-J01	117V
13439813F0	EC-210-J01	220V
13439814F0	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 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39

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



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.

SYNTHESIZER

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 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 DCO1 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	SQR
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.

調整仕様

JX-8Pには調整用プログラムが内蔵されています。このプログラムはテストモードにしないと走りません。

テストモード

1. PIANO 2,3を同時に押しながら電源を入れます。
JX-8Pはテストモードとなり、「P1 PIANO1」が表示され、KEY MODEのPOLYが点灯します。
2. 鍵盤を弾くごとにKEY MODE, AFTER TOUCHのいずれかのLEDが点灯します。
LEDとモジュールの対応は英文中の表の通りです。POLY (連続半点灯) は対応したモジュールがアサインされた場合、一段と明るくなります。

調整用音色

テスト音を下記の手順で設定します。

注: PG-800は使用しないこと。

電源ON後約5分待つこと。

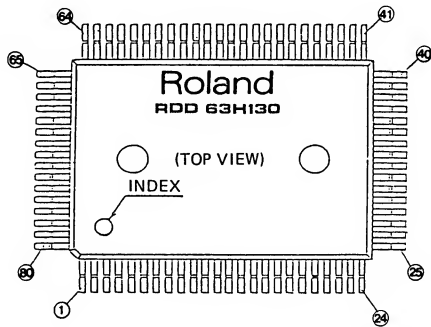
1. EDIT PARAMETERを押す。「11 DCO1 RANG 16」が表示されます。
2. 英文中の指示値にパラメータを設定する。指示の無いパラメータは無関係です。

調整

1. オシロスコープをOUTPUTジャック、またはメイン基板のTP5に接続します。
2. A4 (442Hz) キーを押します。
3. 現在アサインされているモジュールをKEY MODE/AFTER TOUCH LEDで確認、そのモジュールの半固定を調整して出力を最大にします。
4. A4キーを押し直し、別のモジュールを同様に調整して行きます。
5. 調整終了後ノーマルモードに戻るにはMASTER TUNEを押すか、電源を一旦OFFにします。

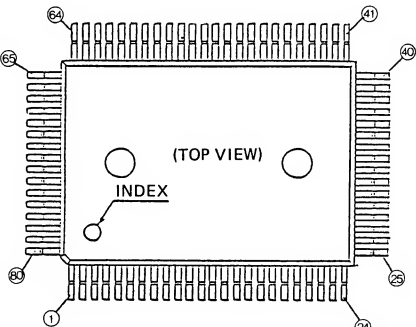
IC DATA

MB63H130 Pin Assignment



Pin no.	I/O	Pin name	Pin no.	I/O	Pin name	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	MK0	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	67	O	RA4
7	I	MK2	27	O	EXCK	47	O	ASEL	68	O	RA9
8	I	BR3	28	I	AS	48	O	MOD1	69	O	RA5
9	I	MK3	29	O	CRES	49	I	MOD2	70	O	RA8
10	I	BR4	30	I	CRNW	50	I	RD3	71	O	RA6
11	I	MK4	31	O	SRCK	51	I/O	RD2	72	O	RA7
12	-	VSS	32	-	NC	52	-	VSS	73	-	VDD
13	I	BR5	33	-	VDD	53	I/O	RD4	74	-	VDD
14	I	MK5	34	I/O	CD0	54	I/O	RD5	75	O	T1
15	I	BR6	35	I/O	CD1	55	I/O	RD6	76	O	T2
16	I	MK6	36	I/O	CD2	56	I/O	RD7	77	O	T3
17	I	BR7	37	I/O	CD3	57	I/O	RD8	78	O	T4
18	I	MK7	38	I/O	CD4	58	I/O	RD9	79	O	T5
19	I	BR8	39	I/O	CD5	59	I/O	RA0	80	O	T6
20	I	MK8	40	I/O	CD6	60	O	RA0	80	O	T6

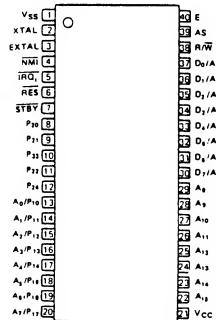
MB63H149 Pin Assignment



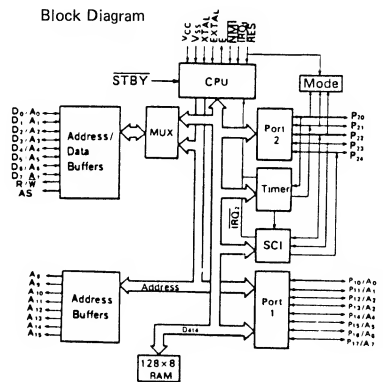
Pin no.	I/O	Pin name	Pin no.	I/O	Pin name	Pin no.	I/O	Pin name			
1	O	T7	21	I	BR9	41	I/O	CD7	61	O	RA1
2	I	BR0	22	I	MK9	42	I	CA8	62	O	RA10
3	I	MK0	23	I	BR10	43	I	CA9	63	O	RA2
4	I	BR1	24	I	MK10	44	I	CA10	64	I/O	ROE
5	I	MK1	25	I	RES	45	I	CS	65	O	RA3
6	I	BR2	26	I/O	EXCK	46	I	XT1	66	O	RWE
7	I	MK2	27	I	E	47	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	CD0	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)

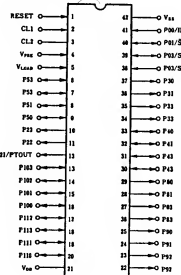


Block Diagram

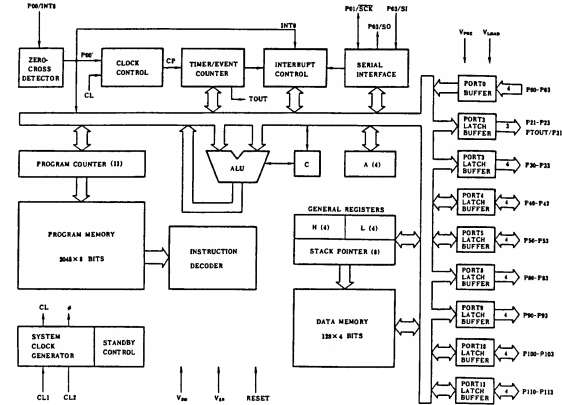


μPD7537C

Pin Configuration (Top View)

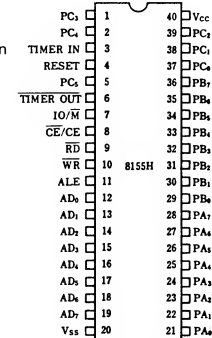


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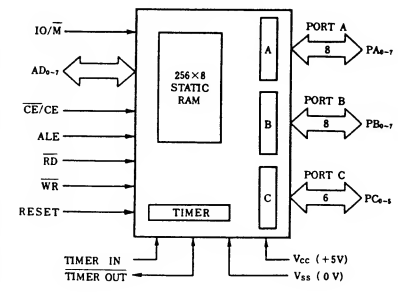


μPD8155HC

Pin Configuration (Top View)

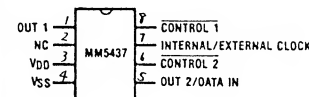


Block Diagram



MMS5437

Pin Configuration (Top View)



Block Diagram

