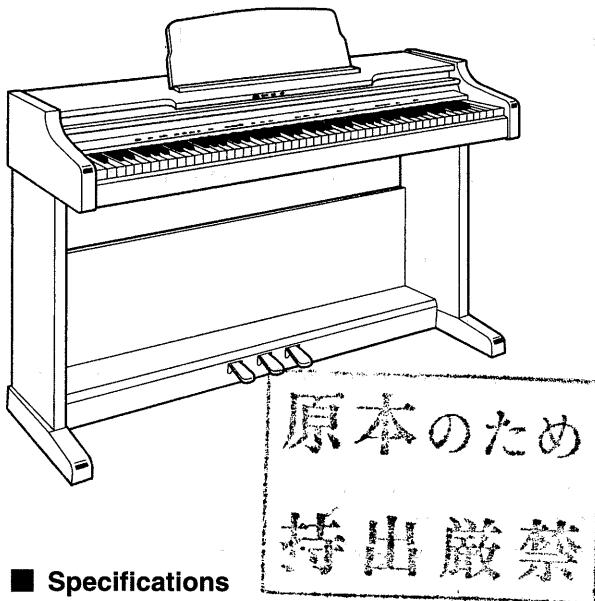


# Service Manual

Digital Piano

**SX-PX332/PX332M****AREAS**

(M): U.S.A.	(EK): the United Kingdom
(MC): Canada	(XL): New Zealand
(XM): Mexico	(XR): Australia
(EN): Norway, Sweden, Denmark, Finland	(XS): Malaysia
(EH): Holland, Belgium	(XD): Saudi Arabia, Hong Kong, Kuwait
(EF): France, Italy	(XT): Taiwan
(EZ): Germany	(X): Thailand, Indonesia, Iran, U.A.E., Panama, Argentina, Peru, Brasil
(EW): Switzerland	(XP): Philippines
(EA): Austria	(XW): Singapore
(EP): Spain, Portugal, Greece, South Africa	

**■ Specifications**

<b>KEYBOARD</b>	88 KEYS	<b>MODE SET</b>	PIANO TUNING, MINIMUM RANGE
<b>MAX. POLYPHONY</b>	32 NOTES	<b>OTHERS</b>	POWER SWITCH, MAIN VOLUME, MIDI TERMINALS (IN, OUT), PEDAL IN, AUX IN (R/R+L, L), LINE OUT (R/R+L, L), COMPUTER, HEADPHONES×2, AC IN, INITIAL KEY
<b>SOUND</b>	GRAND, UPRIGHT, E PIANO 1, E PIANO 2, HARPSI, VIBES, STRINGS, PIPE ORGAN		80 W (40 W × 2)
<b>PEDAL</b>	SOFT, SOSTENUTO, SUSTAIN	<b>OUTPUT</b>	14 cm × 2
<b>BRILLIANCE</b>	MELLOW, BRIGHT (5 STEPS)	<b>SPEAKERS</b>	100 W
<b>DIGITAL EFFECT</b>	○	<b>POWER REQUIREMENT</b>	110 W (NORTH AMERICA AND MEXICO)
<b>DIGITAL REVERB</b>	○ (ROOM, STAGE, HALL, CONCERT)		AC 120/220/240 V 50/60 Hz
<b>TOUCH SENSITIVITY</b>	LIGHT, NORMAL, HEAVY		AC 120 V 60 Hz (NORTH AMERICA AND MEXICO)
<b>TRANSPOSE</b>	G-C-F#		AC 230-240 V 50/60 Hz
<b>TUNING</b>	427.3 Hz–440.0 Hz–453.0 Hz		(EUROPE, AUSTRALIA, NEW ZEALAND, SINGAPORE AND PHILIPPINES)
<b>METRONOME</b>	○ (TIME SIGNATURE: OFF, 2/4, 3/4, 4/4, 5/4, 6/8)	<b>DIMENSIONS (W×H×D)</b>	138.7 cm × 103.2 cm × 48.5 cm (54-19/32" × 40-5/8" × 19-3/32")
<b>SEQUENCER</b>	TRACK (1, 2) STORAGE CAPACITY: APPROX. 4500 NOTES, RECORDING MODE REAL TIME	<b>NET WEIGHT</b>	47 kg (103.6 lbs.)
<b>DISPLAY</b>	○	<b>ACCESSORIES</b>	AC CORD, MUSIC STAND
<b>DEMO</b>	○		
<b>MIDI</b>	MULTI TIMBRE, LOCAL CONTROL, OMNI ON, PROGRAM CHANGE, PEDAL, EFFECT, TRANSPOSE		

• Specifications are subject to change without notice for further improvement.

**⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

# Technics

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is a violation of law.

# **WARNING**

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To prevent the risk of fire, smoke, or electrical shock and to ensure safe operation, please be sure to follow the safety guidelines below.

1. At places where special caution is required, the necessary safety precautions are clearly labeled or printed, for example, on the cabinet, or on the part concerned. Please follow these safety precautions, and also those listed in the Owner's Manual.
2. Parts which have a  mark in the circuit diagram or in the parts list are essential for safety. When replacing these parts, be sure to use only the specified parts.
3. Use the specified types for internal wiring (double-insulated wiring, etc.).
4. When replacing parts on the AC primary side (power transformer, electric switch, electrical cord, noise-prevention condenser, etc.), wind the lead wire and secure it by soldering.
5. Do not let the wiring come into contact with heat-emitting devices (fuse resistor, radiator plate, etc.).
6. When replacing the wiring, make sure that it is not in contact with the unfinished or rough edge of a part.
7. When replacing the power cord (except for the plug-in type), tug it from various directions to confirm that it does not slip out of place.
8. Spacing  
If soldering was done on the AC primary circuit, confirm that the interval between the soldered terminals or between the terminal and surrounding metallic parts is at least the minimum required (between the primary circuit and the chassis: at least 6.5 mm; between primary circuit terminals: at least 4.0 mm; between primary circuit terminals and secondary circuit terminals: at least 6.5 mm).

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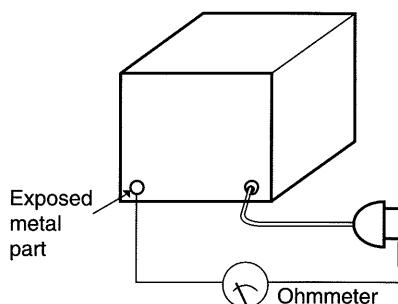
# SAFETY PRECAUTION

## ● Safety Precaution

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only the manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

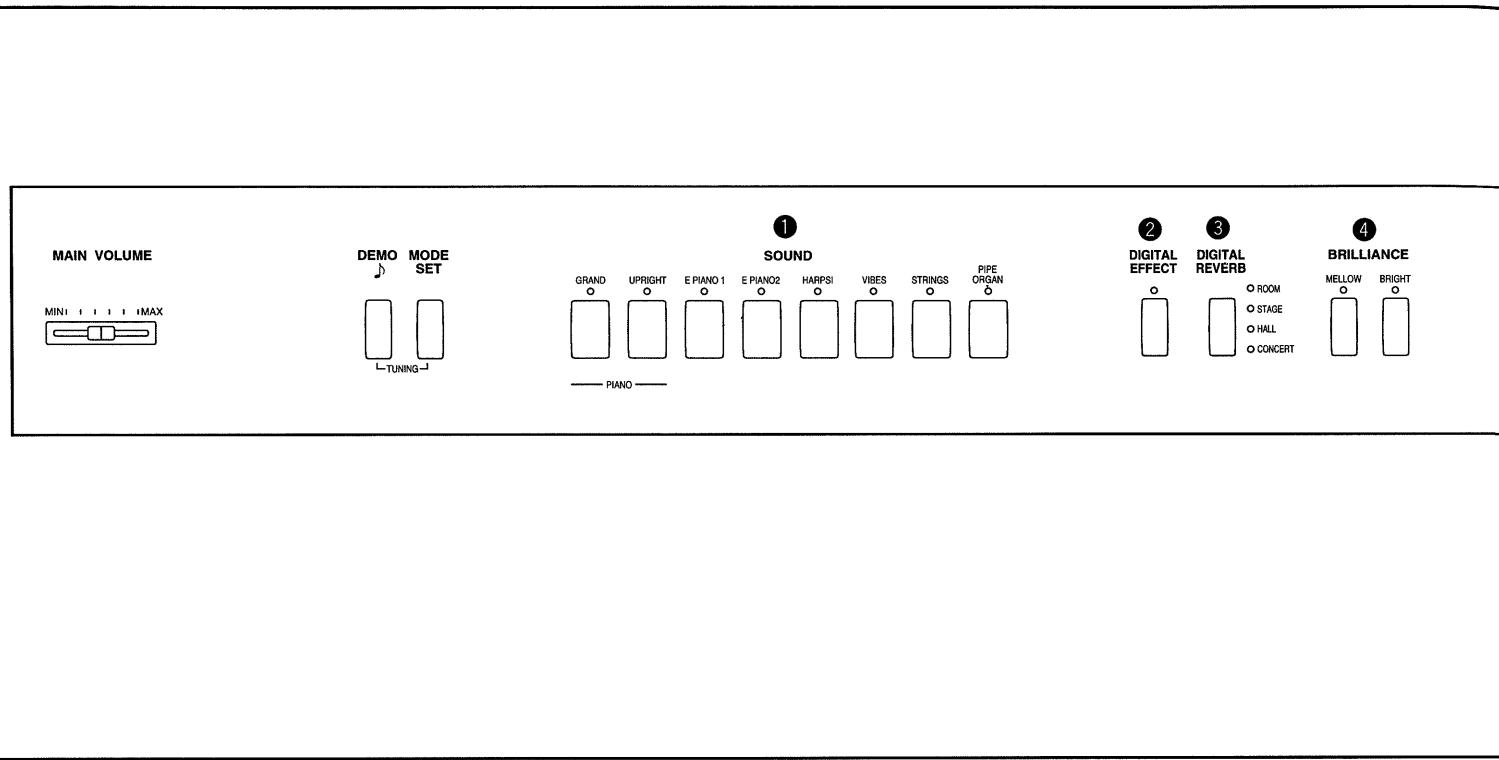
## ● Insulation Resistance Test

1. Unplug the power cord and short the prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with an ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screw heads, connectors, control shafts, handle brackets, etc. Measurements should range from  $4 M\Omega$  to infinity for all exposed parts.



Resistance =  $4 M\Omega$  to  $\infty$

# ARRANGEMENT OF CONTROL PANEL



## ① SOUND

Press one of the **SOUND** buttons to select the desired sound. Each sound features Touch Response, which increases the volume when the keyboard is played harder.

## ② DIGITAL EFFECT

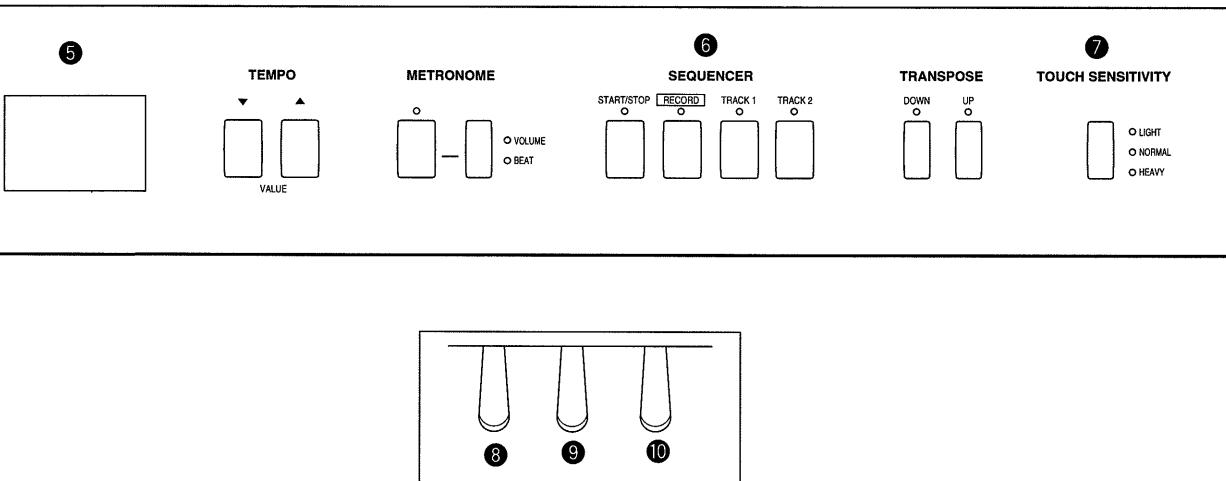
Apply a celeste effect to give the sound greater depth.

## ③ DIGITAL REVERB

Add a reverb effect to the sound. Select from four echo types: **ROOM**, **STAGE**, **HALL** and **CONCERT**.

## ④ BRILLIANCE

The **BRILLIANCE** allows you to select the brightness of the sound form 5 settings. If either of the buttons is pressed once, the current setting value will appear on the display, and it can then be changed. Pressing the **BRIGHT** button increases the brightness; when the **MELLOW** button is pressed, the sound becomes mellower. During setting the brightness is shown on the display (-2 to 2).



## ⑤ Display

The display shows a variety of different setting values, and also the **SEQUENCER** and **METRONOME** tempos.

## ⑥ SEQUENCER

Record your performance and have it automatically played back.

## ⑦ TOUCH SENSITIVITY

Choose **LIGHT**, **NORMAL** or **HEAVY** keyboard touch (Touch Response) to match your type of playing.

## ⑧ Soft pedal

When the pedal is depressed, the sound is softer.

## ⑨ Sostenuto Pedal

If the pedal is pressed while the keys are pressed, a sustain effect is applied to those notes only.

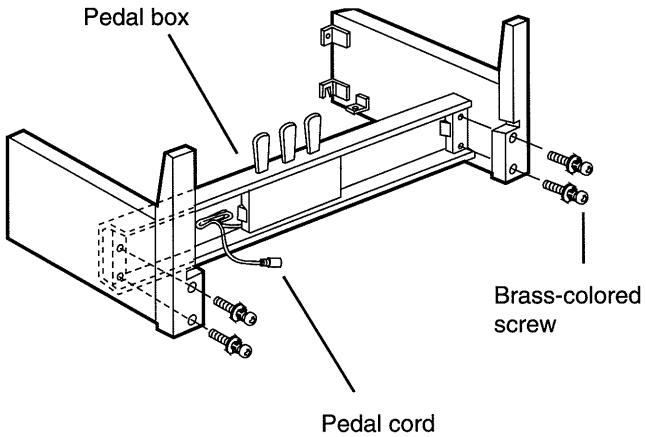
## ⑩ Sustain Pedal

The sound is sustained when a key is released while this pedal is depressed.

# HOW TO ASSEMBLE THE PIANO

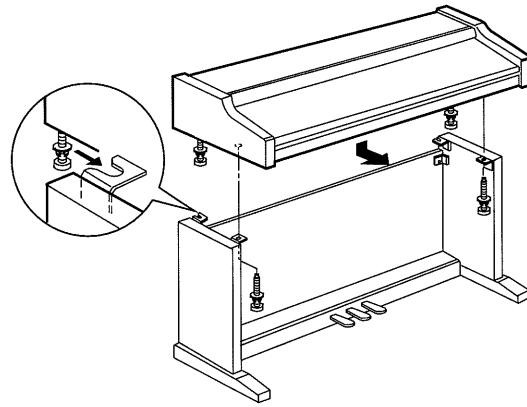
To prevent the piano unit from falling off the stand, secure it firmly with the screws.

- [1] Assemble the right and left planks to the pedal box with the 4 brass-colored screws.  
• Loosen the pedal cord, stowed on the inner side of the pedal box, and extend it.



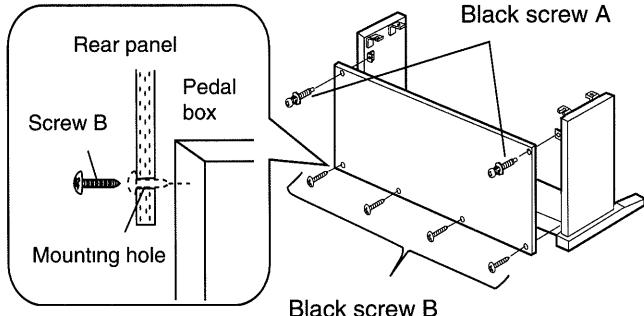
[Fig. 1]

- [3] Place the piano body on the stand and secure it with 4 black screws A.



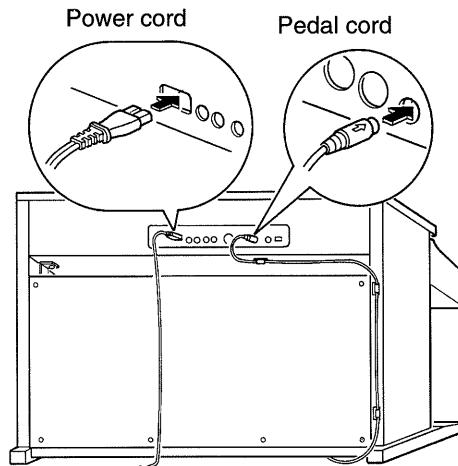
[Fig. 3]

- [2] Place the stand upright and mount the rear panel with 2 black screws A and 4 black screws B.  
• Run the screws directly into the pedal box as there are no rough holes in the pedal box.



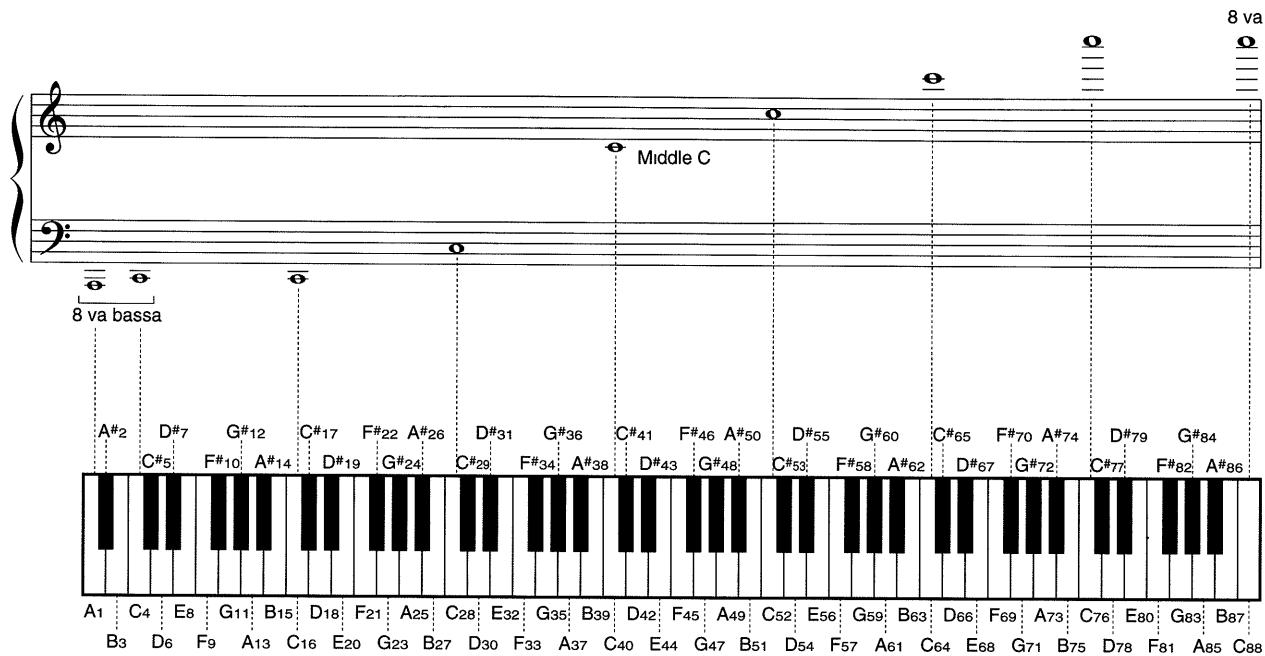
[Fig. 2]

- [4] Connect the pedal cord and power cord to the terminals located on the rear of the piano unit as shown below.  
• Secure the pedal cord to the clamps as shown in the figure.



[Fig. 4]

# KEYBOARD RANGES



## INITIAL SETTING

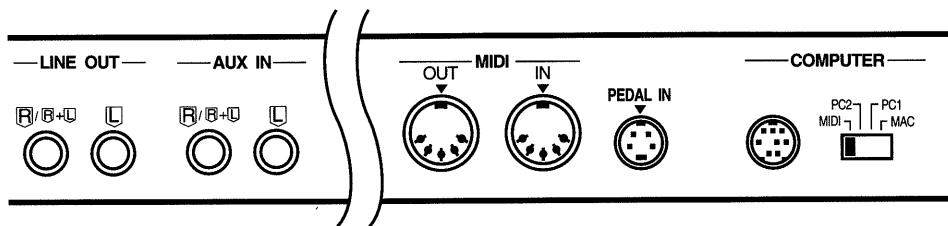
The following procedure resets all programmable settings, functions and memories to their initialized (factory-preset) status. Use this procedure if the buttons, keys, etc. malfunction, or when you wish to reset the memories and functions.

1. Turn off the **POWER** button.
2. While pressing the **INITIAL** key at the same time, turn the **POWER** button on again.

Or, you can press the **INITIAL** key while the **MODE SET** button is pressed.

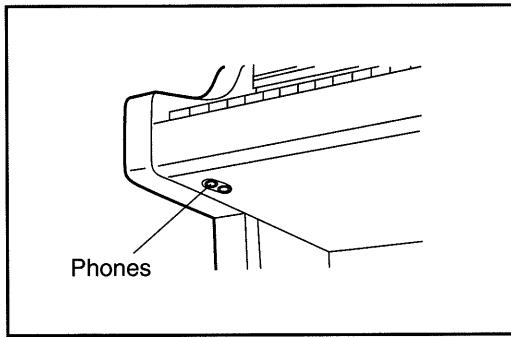
# TERMINALS

(on the rear panel)



## HEADPHONES (phones) X2

For silent practice, headphones may be used. When plugged in, the speaker system is automatically switched off, and sound is heard only through the headphones.



## LINE OUT (output level 1.5 Vrms, 600 Ω)

By plugging into an external high-power amplifier, the sound can be reproduced at a high volume. (Use the R/R+L terminal when outputting monaural sound. However, there are some cases where the sound quality may deteriorate depending on the sound.)

## AUX IN (input level 0.5 Vrms, 6 kΩ)

Other instruments such as a rhythm machine or sound module can be connected to the piano so that the sound is output from the piano. To receive monaural sound, connect the other instruments to the R/R+L terminal.

## MIDI (Musical Instrument Digital Interface)

MIDI is the standard specification that enables connection to equipments such as synthesizers and personal computers.

- IN :** The terminal that receives data from external equipment.  
**OUT :** The terminal that transmits data from this instrument to external equipment.  
• Use a 5-pin DIN cord (less than 15 m long) for these connections.

## PEDAL IN

Connect the included pedal.

## COMPUTER

By connecting this terminal to the serial port of a computer, performance data can be exchanged. Use the switch to select the type of computer.

- Be sure that the power to this instrument is turned off when connecting to a computer or when changing the switch setting.
- The new switch setting will be effective when the power is turned on again.

**Caution:** Failure to turn off the power before changing the switch setting may result in malfunction.

- When no computer is connected, or when a MIDI interface is used, the switch should be set to **MIDI**.

### <Connection to a Macintosh series computer>

Use an ACCESSORY CABLE (SZ-JJAP1) to connect the **COMPUTER** terminal of this instrument to the modem port or printer port of a Macintosh Series computer. Set the switch to **MAC**.

- Set the MIDI interface clock of the Macintosh software to 1 MHz.

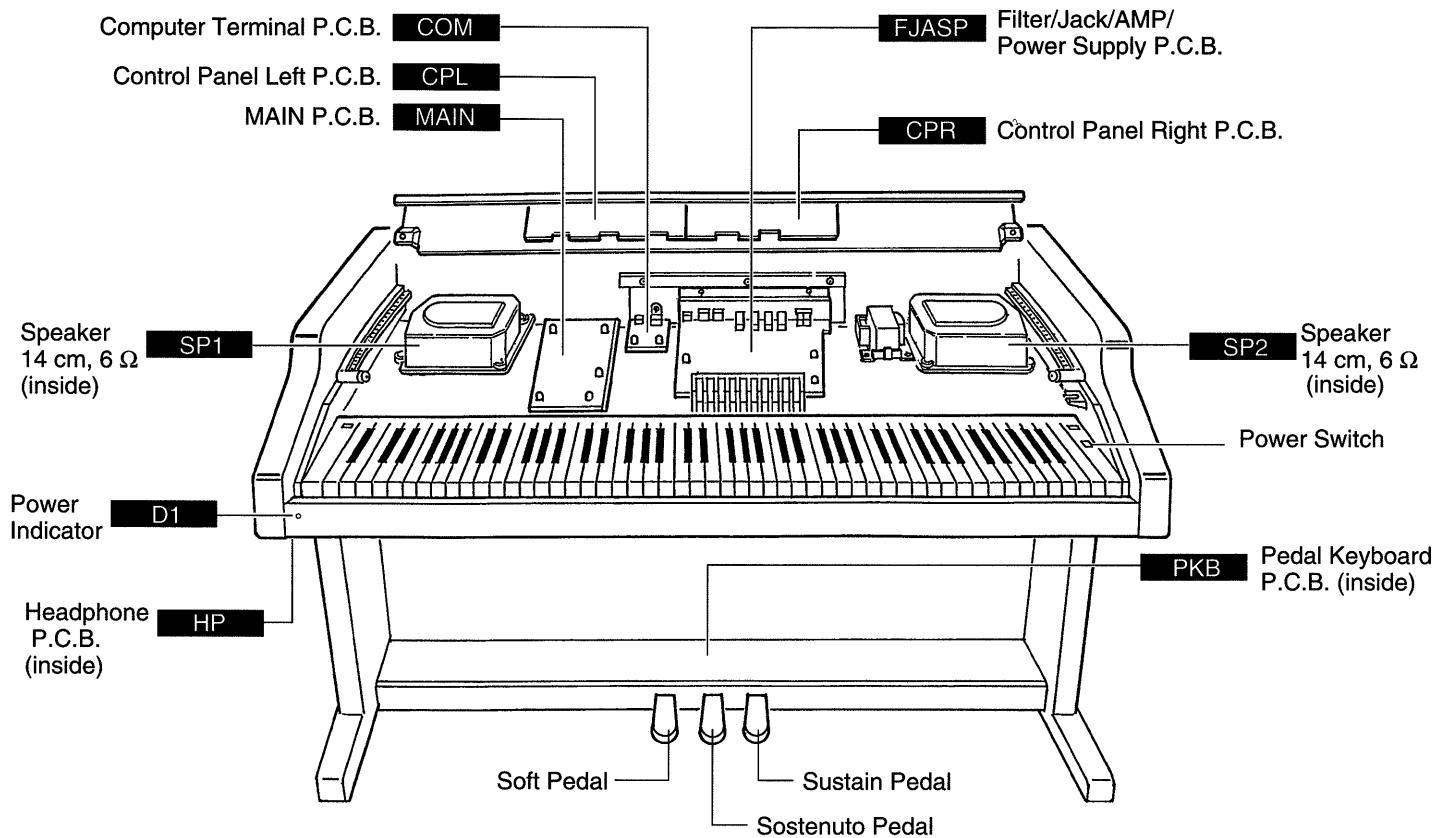
### <Connection to a PC>

Use an ACCESSORY CABLE (SZ-JJAT1) to connect the **COMPUTER** terminal of this instrument to the RS232C terminal of a PC. Set the switch to **PC2**.

- The MIDI driver included with the cable should be installed in the computer. (Refer to the manual accompanying the cable.)

\*Macintosh is a registered mark of Apple Computer, Inc.

# PARTS LOCATION

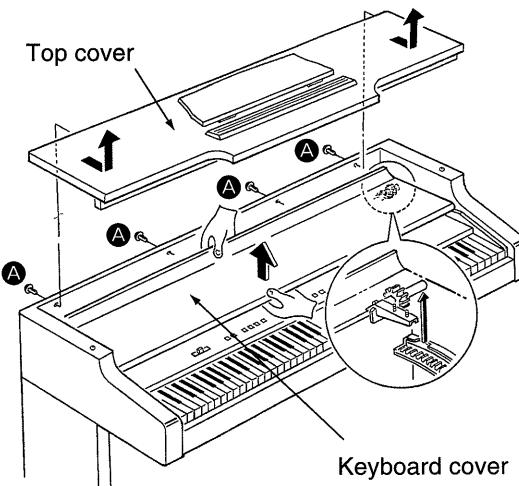


[Fig.5]

# DISASSEMBLY INSTRUCTIONS

## 1 Removing the top cover

1. Remove the top cover mounting screws (**A** 4 pcs.).
2. Slide the top cover forward and lift up (as shown by the arrows).



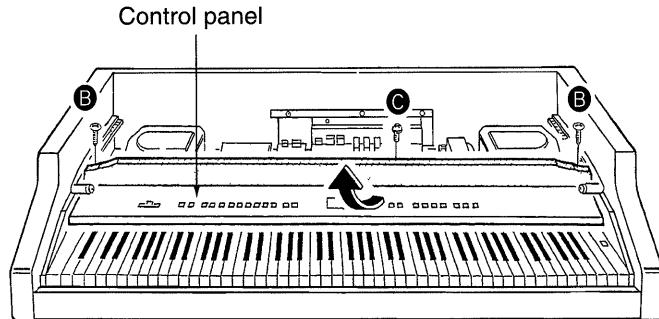
## 2 Removing the keyboard cover

1. Remove the top cover (see step 1).
2. Match the gears of the keyboard cover with the notches in the guide rail, and lift up the keyboard cover.

[Fig.6]

## 3 Removing the control panel

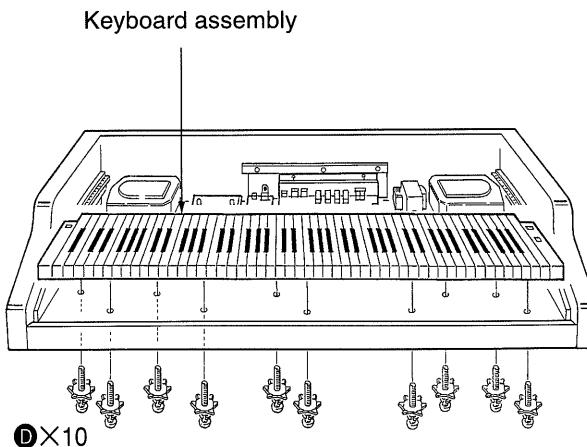
- Pull out the connectors on the control panel.
1. Remove the keyboard cover (see step 2).
  2. Remove the control panel mounting screws (**B** 2 pcs and **C** 1 pc.).
  3. Slide the control panel forward and pull out (as shown by the arrows).



[Fig.7]

## 4 Removing the keyboard assembly

1. Remove the control panel (see step 3).
2. Remove the keyboard assembly mounting screws located on the bottom of the cabinet (**D** 10 pcs.).



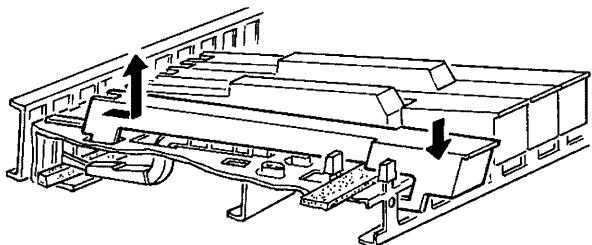
[Fig.8]

## 5 Key(s) Disassembly

1. Remove the keyboard assembly (see step 4).
2. While pressing slightly the front of the key, push the rear of the key forward to disengage the key claw from the chassis.
3. Lift the key up to remove it.

### NOTE:

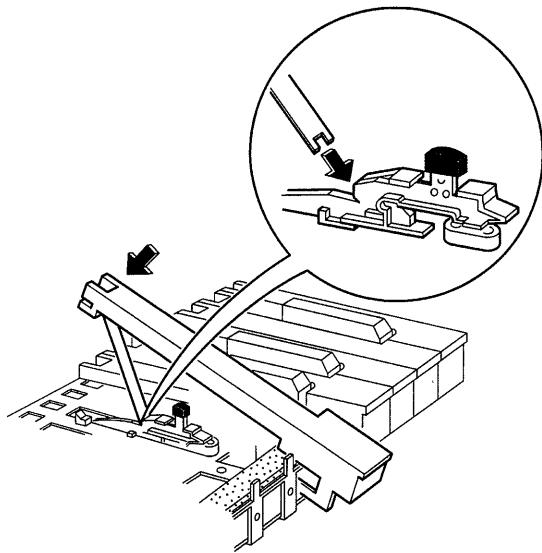
- The key claw is easily broken. Do not apply undue force. Should a key claw break, it can still be used.
- If a black key is to be replaced, it is necessary to remove both adjacent white keys.



[Fig.9]

## Assembly

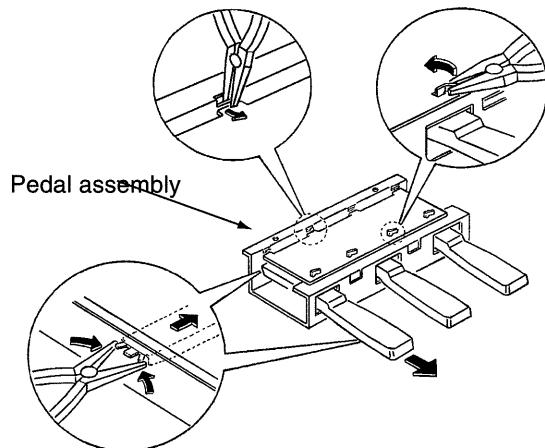
1. Insert the front part of the key into the chassis.
2. Insert the plate spring into the hammer notch as shown in the figure.
3. While slowly lowering the key into the chassis, insert the plate spring into the notch at the rear of the key.
4. Carefully insert the key into the opening in the chassis and slide the key towards the rear to lock it in place.



[Fig.10]

## 6 Disassembly of the pedal assembly

1. Remove the pedal assembly from the pedal box.
2. Disassemble the pedal assembly as shown in the figure.



[Fig.11]

## 7 Removing the speakers.

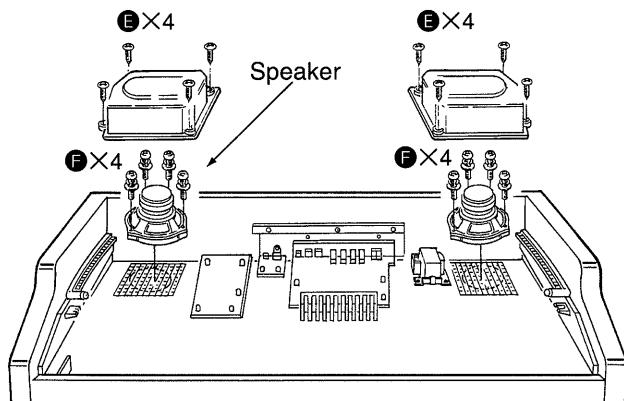
Remove the top cover (see step 1).

### Removing the speaker box

Remove the speaker box mounting screws (E 4 pcs. each).

### Removing the speakers

Remove the speakers mounting screws (F 4 pcs. each).



[Fig.12]

## 8 Removing the printed circuit boards

- Remove the top cover (see step [1]).
- Pull out the connectors on the printed circuit boards.

### MAIN P.C.B.

1. Remove the ground wire holding screw (G 1 pc.).
2. Release the claws of the 5 P.C.B. holders.

### FJASP P.C.B.

1. Remove the FJASP P.C.B. mounting screws (H 2 pcs. and I 2 pcs.).
2. Release the claws of the 3 P.C.B. holders.

### COM P.C.B.

1. Remove the COM P.C.B. mounting screws (J 1 pc.).
2. Release the claws of the 2 P.C.B. holders.

### HP P.C.B.

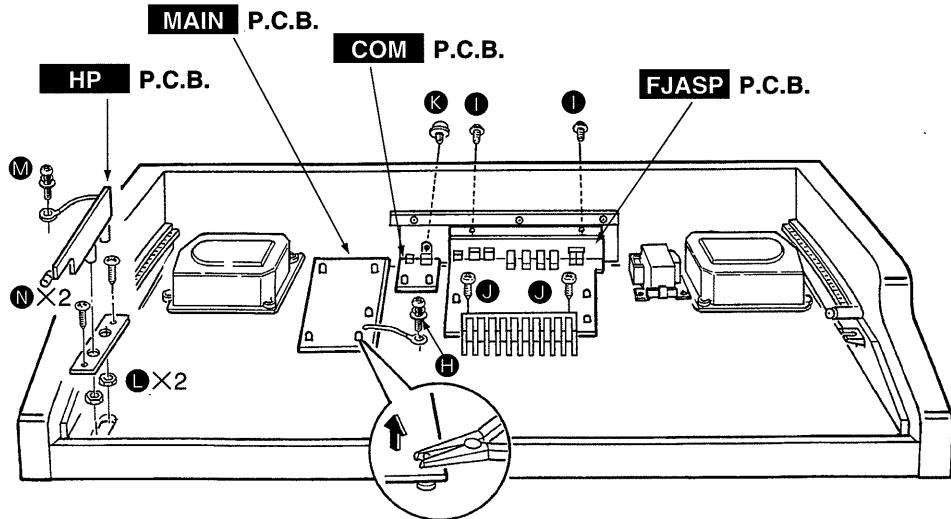
1. Remove the keyboard assembly (see step [4]).
2. Remove the headphone jack mounting nuts (K 2 pcs.).
3. Remove the ground wire holding screw (L 1 pc.).
4. Remove the HP P.C.B. mounting screws (M 2 pcs.).

### CPL P.C.B.

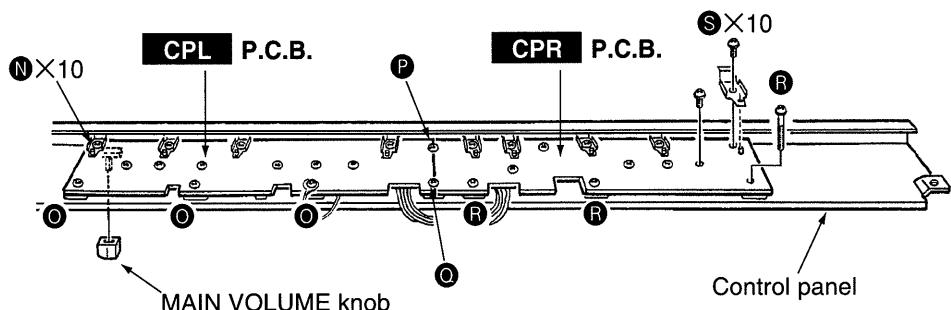
1. Remove the control panel (see step [3]).
2. Pull off the MAIN VOLUME knob.
3. Remove the CPL P.C.B. mounting screws (N 10 pcs., O 3 pcs., P 1 pc. and Q 1 pc.).

### CPR P.C.B.

1. Remove the control panel (see step [3]).
3. Remove the CPR P.C.B. mounting screws (R 3 pcs., S 10 pcs., T 1 pc. and U 1 pc.).



[Fig.13]



[Fig.14]

# SYMPTOMS WHICH APPEAR TO BE SIGNS OF TROUBLE

The following changes in performance may occur in the Technics Digital Ensemble but do not indicate trouble.

Phenomenon	Remedy
No sound is produced when the keyboard is played.	<ul style="list-style-type: none"><li>• No sound is produced if the <b>MAIN VOLUME</b> is set to <b>MIN</b>. Use the sliding control to set the volume to an appropriate level.</li><li>• If the <b>MIDI LOCAL CONTROL</b> is set to off, set it to on.</li></ul>
Nothing is shown on the display.	<ul style="list-style-type: none"><li>• The metronome, <b>SEQUENCER</b> tempo, etc. are indicated on the display. During normal performance, however, the display is off.</li></ul>
Data cannot be exchanged through MIDI terminals.	<ul style="list-style-type: none"><li>• The switch for the <b>COMPUTER</b> terminal is not set to <b>MIDI</b>. Turn off the power to this instrument and set the switch to <b>MIDI</b>.</li><li>• Match the channels on the transmitting side and the receiving side.</li></ul>
The sound quavers or is distorted.	<ul style="list-style-type: none"><li>• When the <b>COMPUTER</b> terminal or both the <b>MIDI IN</b> and <b>OUT</b> terminals are connected to a computer, depending on the computer software the received data may be sent back to the instrument just as it is. Because of this the sound generated from the keys and the sound generated from the returned data are both produced, causing undesirable effects, such as the sounds canceling each other out, for example. In this case, either change the software settings to prevent received data from being returned, or set the <b>MIDI LOCAL CONTROL</b> to off.</li></ul>

## ■ About the backup memory

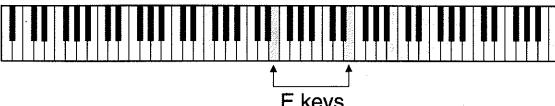
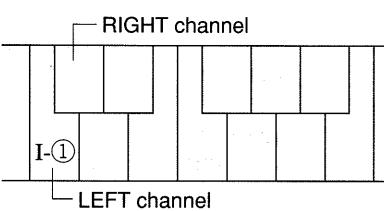
The selected sound and various functions, MIDI settings and **SEQUENCER** contents remain in the memory for about one week after the **POWER** is turned off.

- The backup memory will not function until the **POWER** has been on for about 10 minutes.
- If you wish to return all memories and settings to their initialized status, while pressing the **MODE SET** button, press the **INITIAL** key on the keyboard. Or you can turn on the **POWER** while pressing the **INITIAL** key.
- When the **POWER** is turned on, the **MIDI LOCAL CONTROL** is set to on.
- If you wish to retain the memory for longer than one week, before one week has elapsed, turn on the power and leave it on for about 10 minutes before turning it off again. The settings will remain in the memory for about one week from this time.

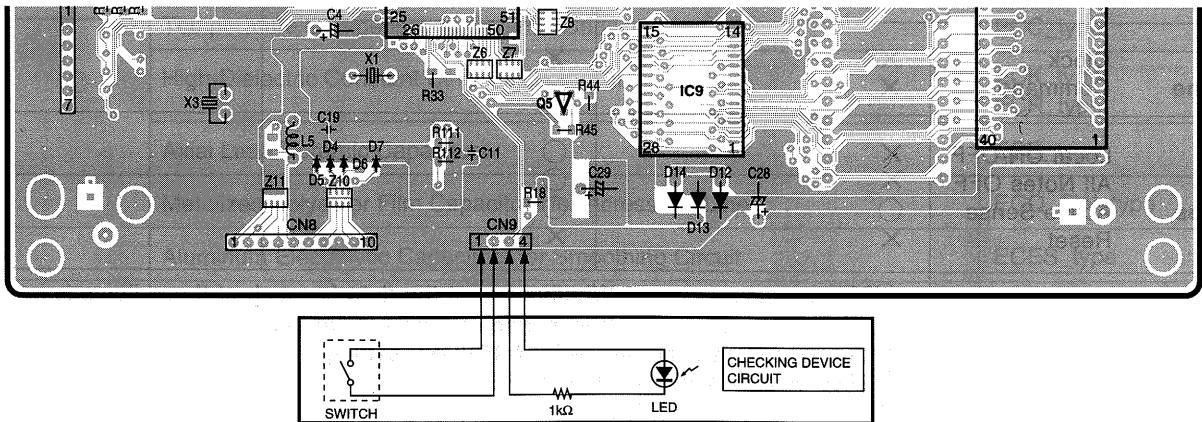
# ABOUT THE SELF-DIAGNOSTIC FUNCTION

This model has some self-diagnostic capabilities. When set to the self-diagnostic mode, operation of various components can be verified by following the procedures in the chart below.

No.	PCB	TEST MODE	Procedure
1	MAIN	RAM (IC8, 9), ROM (IC6) check	<p>1. Connect the CHECKING DEVICE (refer to page I-14) to CN9 on the MAIN P.C.B., and turn on the CHECKING DEVICE switch.      2. Turn on the power switch.</p> <p>When the power switch is turned on, the LED of the CHECKING DEVICE flashes 8 times. The first 4 flashes are for the RAM check, and the latter 4 flashes are for the ROM check. The order of the LED flashes correspond to the respective IC numbers as shown below. If an IC is defective, the corresponding flash time is longer.</p> <p>Examples</p> <p>1. RAM OK, ROM OK</p> <p>2. RAM OK, ROM (IC6) defective</p> <p>3. RAM (IC8, 9) defective, ROM OK</p> <p>NOTE : ● indicates short flash time      — indicates long flash time</p>
2	CPL	CPU (IC1) check	<p>1. Connect the CHECKING DEVICE to CN9 on the MAIN P.C.B. (the Checking Device switch should be off).      2. Press and hold the two D keys shown below, and then turn on the power switch.</p> <p>When the power switch is turned on, the LED of the CHECKING DEVICE flashes 4 times. The order of the LED flashes corresponds to the CPU (IC) on the respective P.C.B.s as shown below. If an IC is defective, the corresponding flash time is longer.</p> <p>1. IC1 OK</p> <p>2. IC1 defective</p> <p>NOTE : ● indicates short flash time      — indicates long flash time</p>

No.	PCB	TEST MODE	Procedure
3	MAIN	Wave ROM check MAIN: IC12	<p>1. Press and hold the two E keys shown below, and then turn on the power switch.      2. Select the POP GRAND sound.      3. Reduce the MAIN VOLUME level low enough.</p>  <p>E keys</p> <p>When set to the self-diagnostic mode, the Wave ROM outputs a sine wave. The Wave ROMs correspond to the keyboard keys as shown in the diagram to the right. When a key is pressed, the corresponding sine wave sound is produced. If no sound is produced, or if the sound is distorted, the Wave ROM corresponding to that key is defective. This method allows to diagnose also the output routes (L/R) from the Wave ROM.</p> <p>• The key number indicates the Wave ROM number. (I-①: IC12)</p>  <p>RIGHT channel</p> <p>I-①</p> <p>LEFT channel</p>
4	CPL CPR	Control Panel buttons LED lighting check	<p>Press and hold the two F keys shown below, and then turn on the power switch.</p>  <p>F keys</p> <p>Press the buttons on the control panel and confirm that the corresponding LEDs light.</p>
5		Control Panel LED display check	<p>Press and hold the two G keys shown below, and then turn on the power switch.</p>  <p>G keys</p> <p>The numbers are displayed automatically and repeatedly on the display.</p>
6	MKB	Keyboard ROM (IC1) check	<p>Press and hold the two A keys shown below, and then turn on the power switch.</p>  <p>A keys</p> <p>If the keyboard ROM (IC1) is OK, the TOUCH SENSITIVITY LIGHT LED only flashes on the control panel. If it is defective, the LEDs (LIGHT and NORMAL, or LIGHT, NORMAL and HEAVY) flash.</p>

### ■ Connection between serving CHECKING DEVICE and MAIN P.C.B.



# MIDI IMPLEMENTATION CHART

## Digital Piano [SX-PX322] [SX-PX322M]

Function		Transmitted	Recognized	Remarks
<b>Basic Channel</b>	Default Changed	1–16 1–16	1–16 1–16	memorized
<b>Mode</b>	Default Messages Altered	3 X —	1, 3 X —	memorized
<b>Note Number</b>	True voice	*21–108 —	0–127 *0–127	
<b>Velocity</b>	Note ON Note OFF	○ X (9nH: V=0)	○ X	
<b>After Touch</b>	Key's Ch's	X X	X X	
<b>Pitch Bend</b>		X	○	
<b>Control Change</b>	01	X	**○	modulation data entry volume (part) pan part expression sustain pedal sostenuto pedal soft pedal reverb depth digital effect NRPN LSB, MSB RPN LSB, MSB
	06, 38	X	**○	
	07	X	**○	
	10	X	**○	
	11	X	**○	
	64	○X	○X	
	66	○X	○X	
	67	○X	○X	
	91	X	**○	
	93	○X	○X	
	98, 99	X	**○	
	100, 101	X	**○	
<b>Prog Change</b>	True #	○X 0–127	○X 0–7	
<b>System Exclusive</b>		X	X	
<b>System Common</b>	Song Pos Song Sel Tune	X X X	X X X	
<b>System Real Time</b>	Clock Commands	X X	X X	
<b>Aux Messages</b>	Local ON/OFF All Notes OFF Active Sense Reset	X X ○ X	○ ○ ○ X	
<b>Notes</b>		○X .....	Whether or not the data for each of these items is transmitted or received can be set. * Changes depending on the <b>TRANSPOSE</b> setting. ** Effective only in the <b>MULTI TIMBRE</b> mode.	

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

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

○ : Yes  
X : No

# PRECAUTIONS BEFORE SERVICING

## ■ Precautions for measuring of the output waveforms.

1. The waveform was measured with a "National Digital Storage Oscilloscope VP-5730A". Therefore the waveforms of musical tone signals shown may differ somewhat due to the difference in the timing of triggering.
2. Since the 1/10 test probe is used, the indicated voltage value on the bottom part of each waveform photo is 1/10 of the actual value (e.g. 0.2 V/cm should be 2.0 V/cm).
3. To measure the waveforms, first set this unit to the self-diagnostic mode (refer to page I-14, No. 3). The Wave ROM output will then be output as a sine wave to facilitate the servicing check.

## ■ Important safety notice:

Components identified by a  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

## ■ Symbolic Marks

The symbolic marks for resistors and capacitors which used in this circuits are classified as following TABLE-1 and TABLE-2.

### 1. RESISTORS

- Resistors without symbolic mark are FIXED CARBON FILM RESISTORS (ERD-type).
- All resistors are 1/4 WATT,  $\pm 5\%$  TOLERANCE unless otherwise designated in schematic diagrams.

(TABLE-1)

SYMBOL	SPECIFICATION	SYMBOL	SPECIFICATION
(F)	Fixed Carbon Film Resistors "FLAME-PROOF" (ERD—F—type)	(F)	Fixed Metal Film Resistors "FLAME-PROOF" (ERX—type)
(F)	Fixed Wire Wound Resistors "FLAME-PROOF" (ERF—type)	[F]	Fuse Type Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERQ—type)
(F)	Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERG—type)	[F]	Fuse Type Fixed Carbon File Resistors "FLAME-PROOF" (ERD2FC—type)
(G)	Fixed Metal Film Resistors (Precision and High Stability) (ERO—type)		

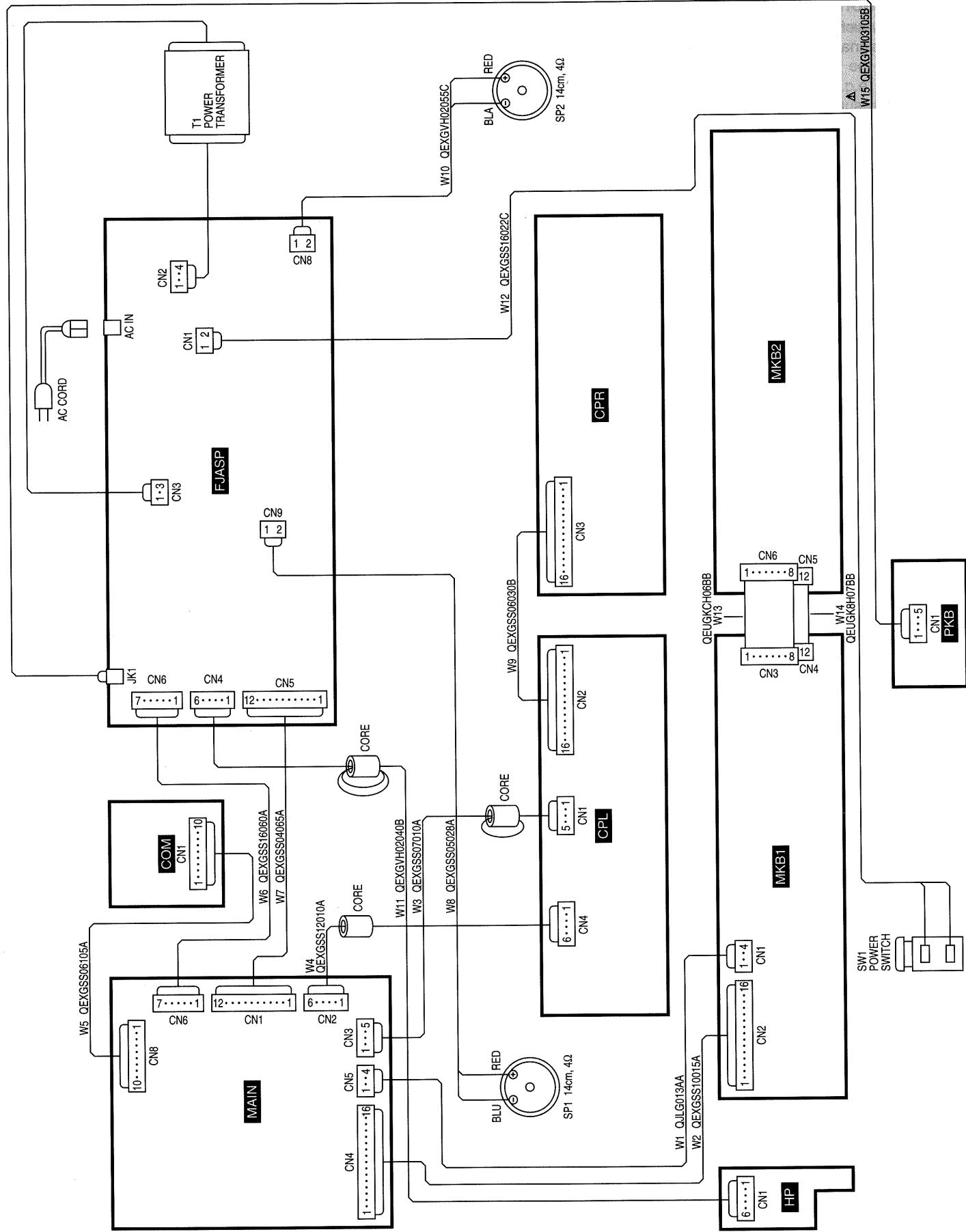
### 2. CAPACITORS

- Capacitors without symbolic mark are POLYESTER CAPACITORS. (ECQM-type, ECQG-type,  $\pm 10\%$  Tolerance)
- Polarized capacitors without symbolic mark are Aluminum Electrolytic Capacitors. (ECEA-type,  $\pm 20\%$  Tolerance)

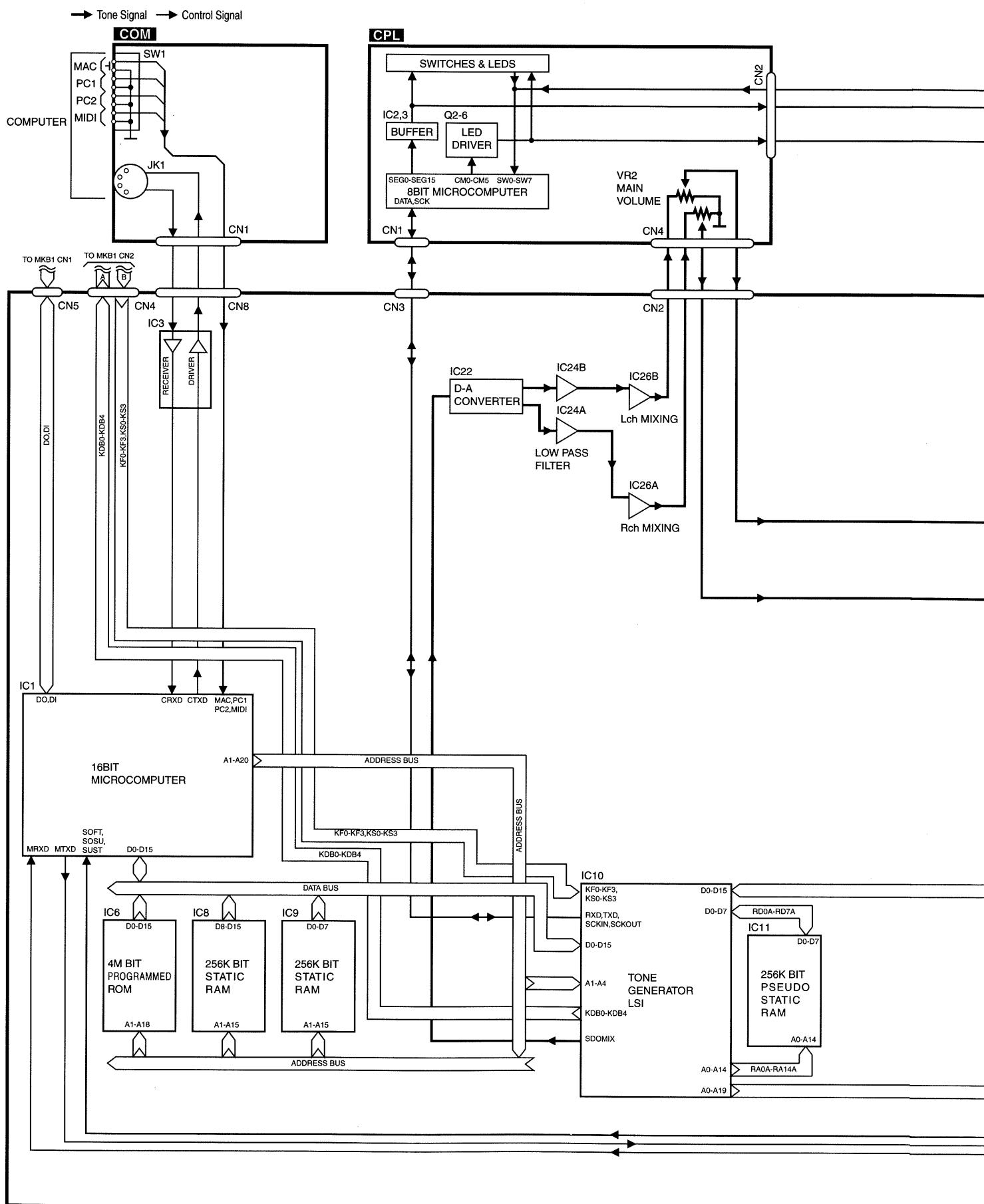
(TABLE-2)

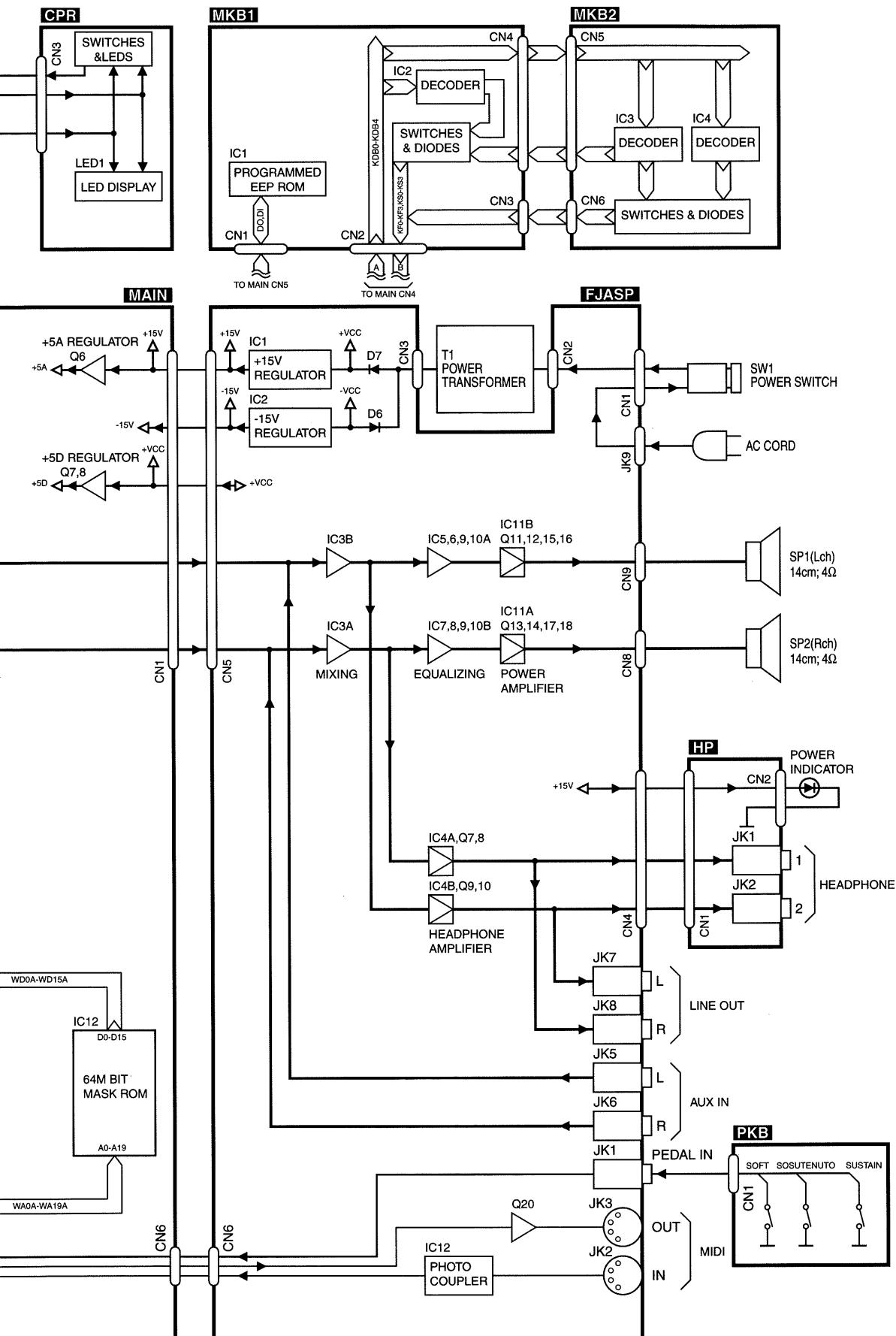
SYMBOL	SPECIFICATION	TYPE
(N)	Non-Polarized Electrolytic Capacitors	ECEA_KN_type
(Y)	Non-Polarized Electrolytic (for Network system)	ECEA_Y_type
(T)	Tantalum Solid Electrolytic Capacitors	ECS_type
(TF)	Metalized Plastic Film Capacitors (TF Series)	ECQV_type
	Temperature Compensating Ceramic Capacitors	ECC_type
(C)	High-Dielectric Constant Ceramic Capacitors	ECK_type ECR_type
	Axial Lead Ceramic Capacitors	ECB_type
	Metalized Polyester Film Capacitors for Across the Line	ECQ_EW_type
	Aluminum Electrolytic Capacitors for Smoothing Circuit	ECES_type
	Multilayer Ceramic Chip Capacitors	ECUV_type

## ■WIRING CONNECTION Diagram



# BLOCK Diagram





## ■Printed Circuit Board and Schematic Diagram

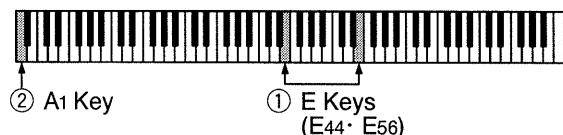
### ■Printed Circuit Board and Schematic Diagram

#### ■Measuring Condition of MAIN P.C.B.

Check Point ④, ⑥, ⑧

Set to the self-diagnostic mode followings.

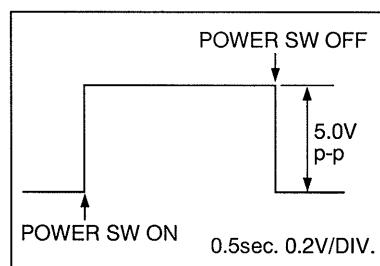
- While pressing two E keys (①) simultaneously, turn on the power switch.
- SOUND ..... CONCERT GRAND
- Main Volume ..... MAX
- Keyboard ..... A1 (②)



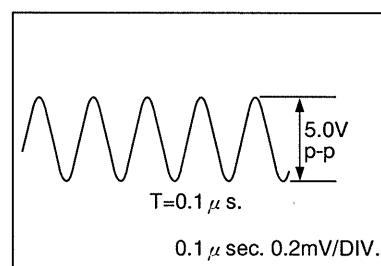
Check Point ①

Set the initial setting mode (Refer to page I-6)

#### ① RESET

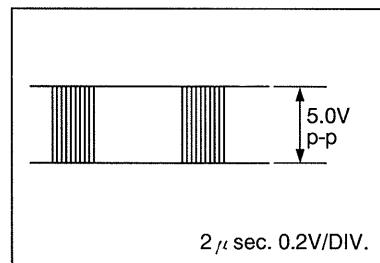


#### ② TG CLOCK

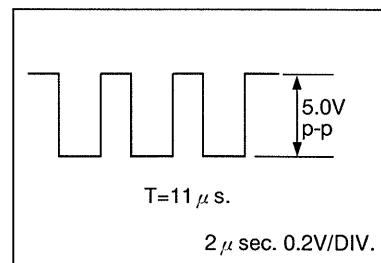


- Power SW ..... ON → OFF

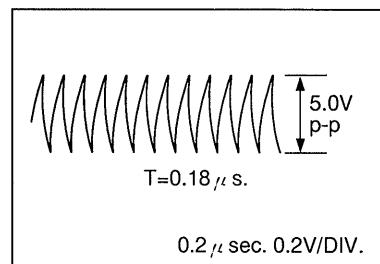
④



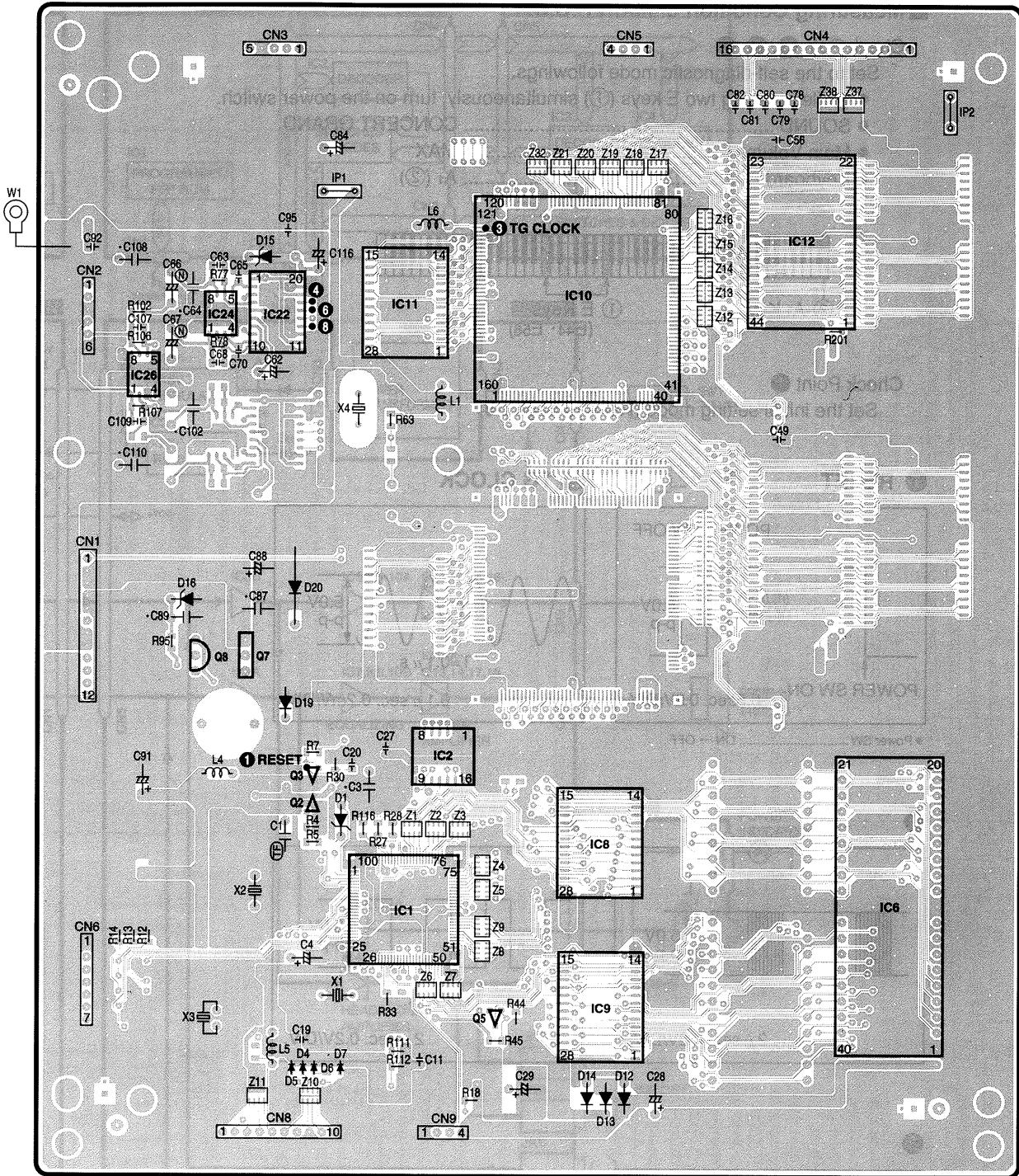
⑥



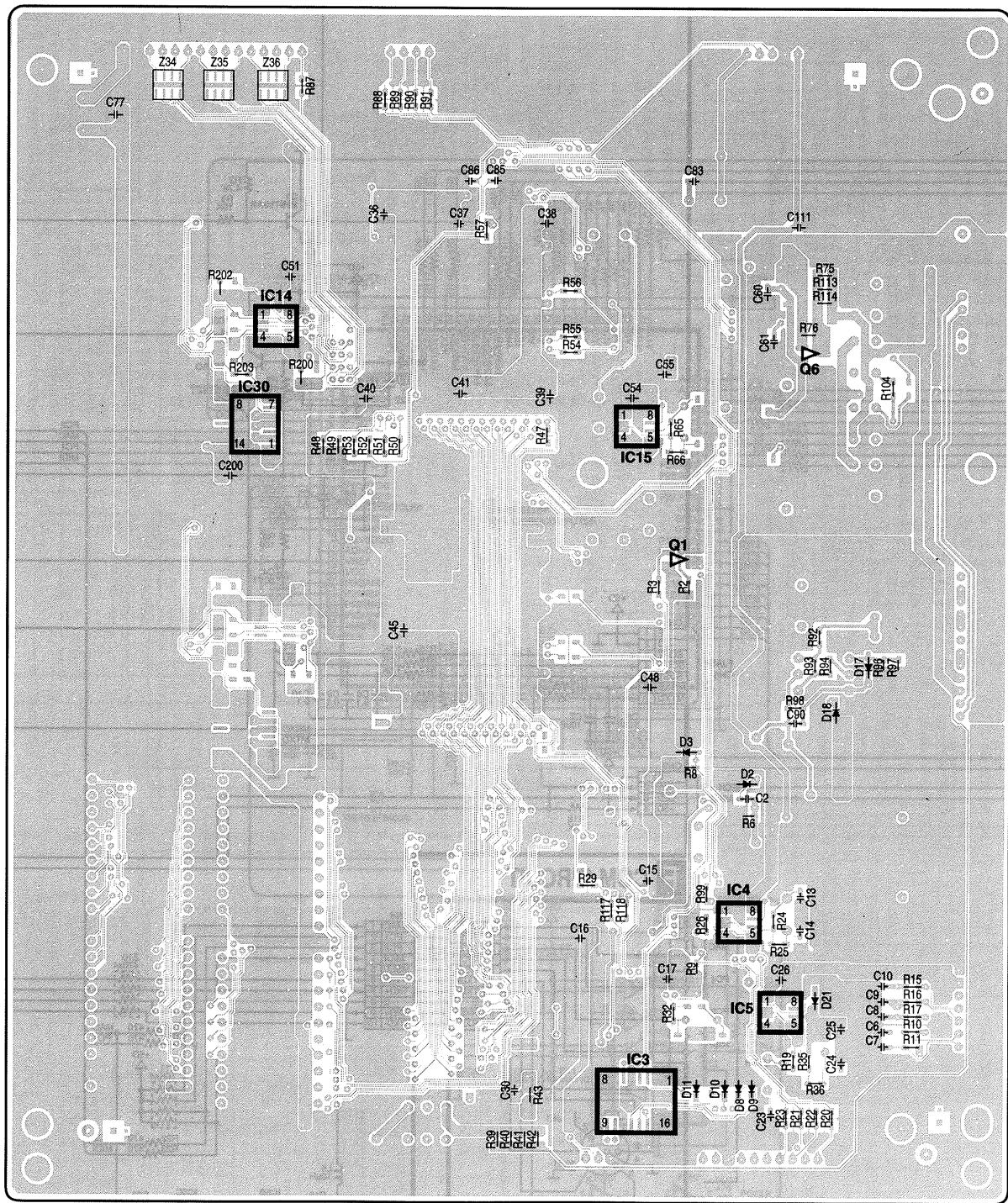
⑧



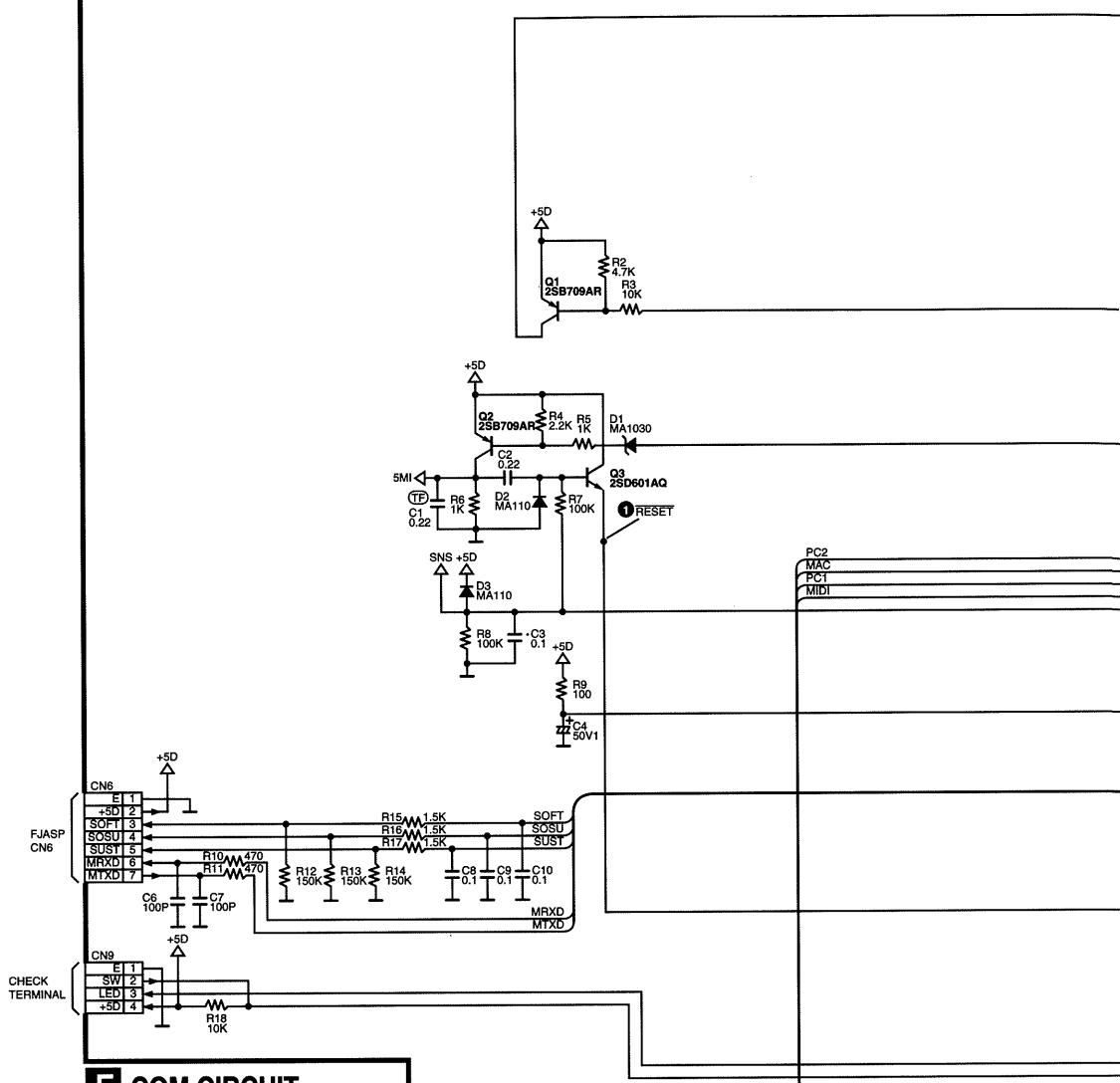
## **A MAIN P.C.B.(COMPONENT SIDE)**



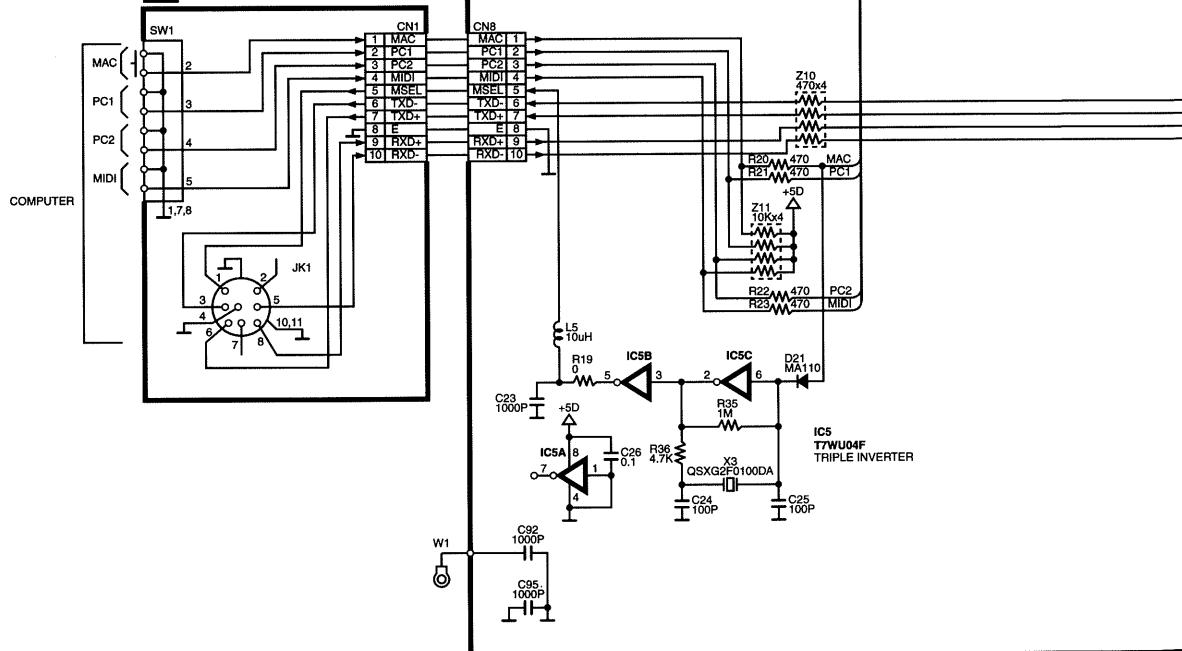
## A MAIN P.C.B.(FOIL SIDE)

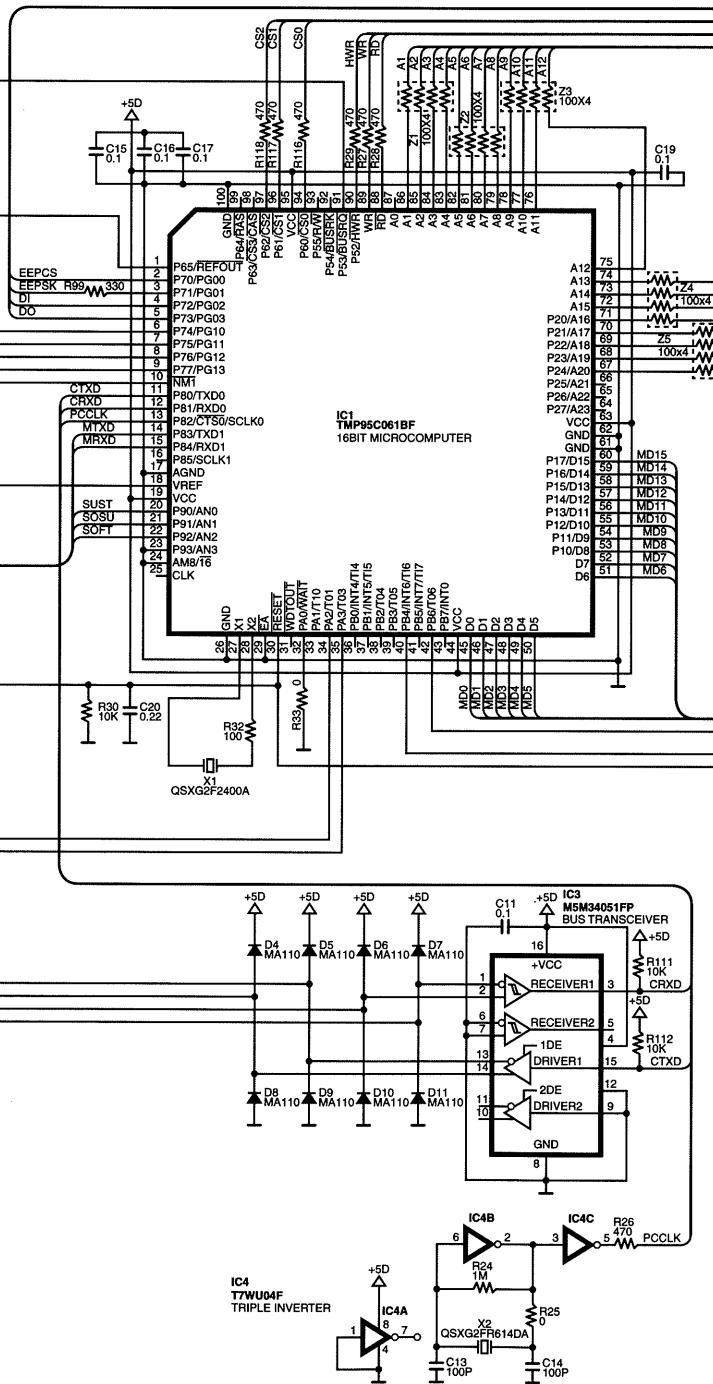


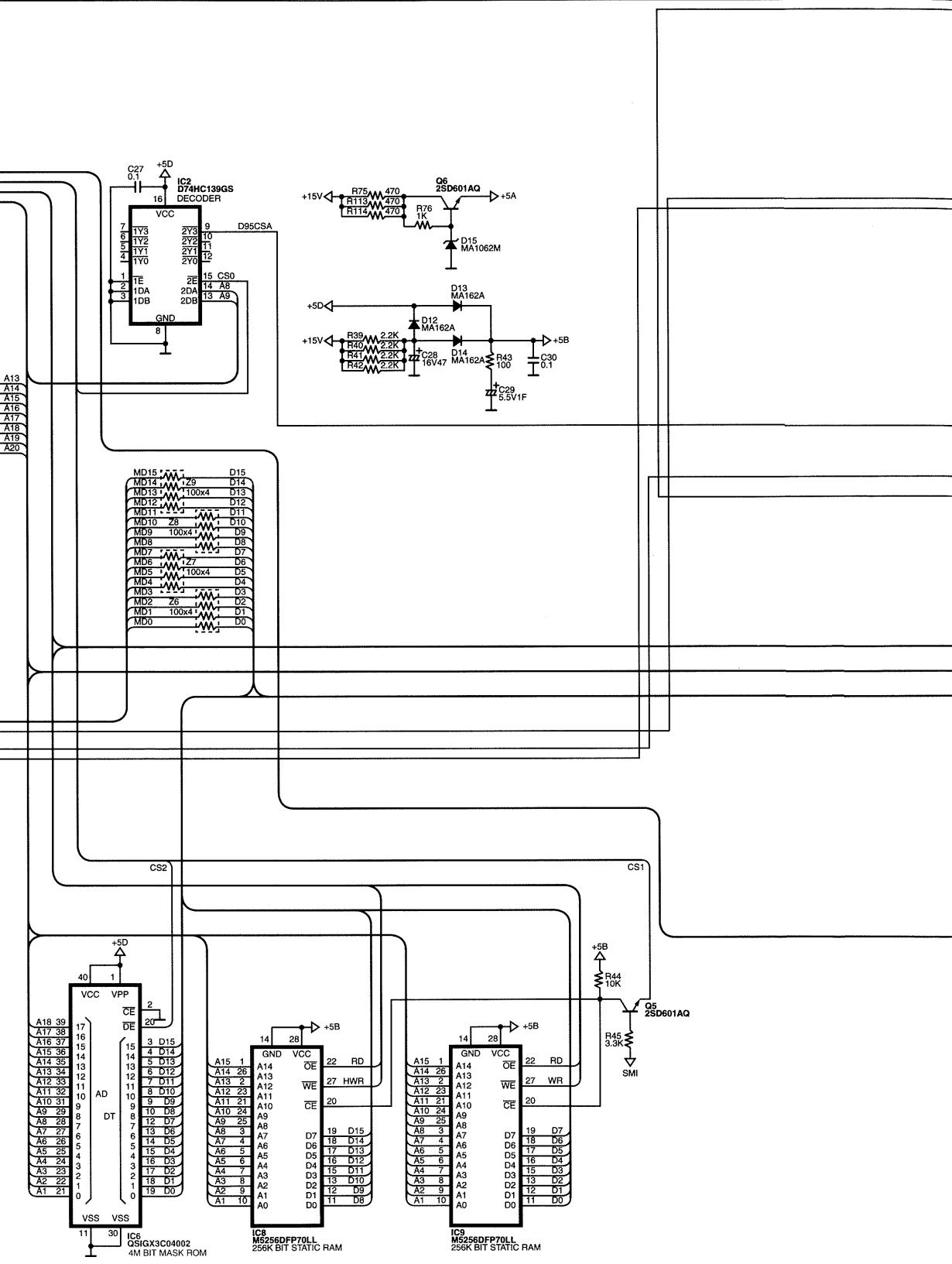
## A MAIN CIRCUIT

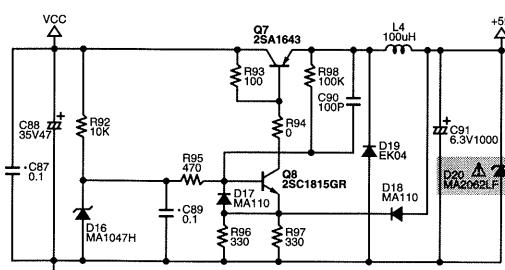
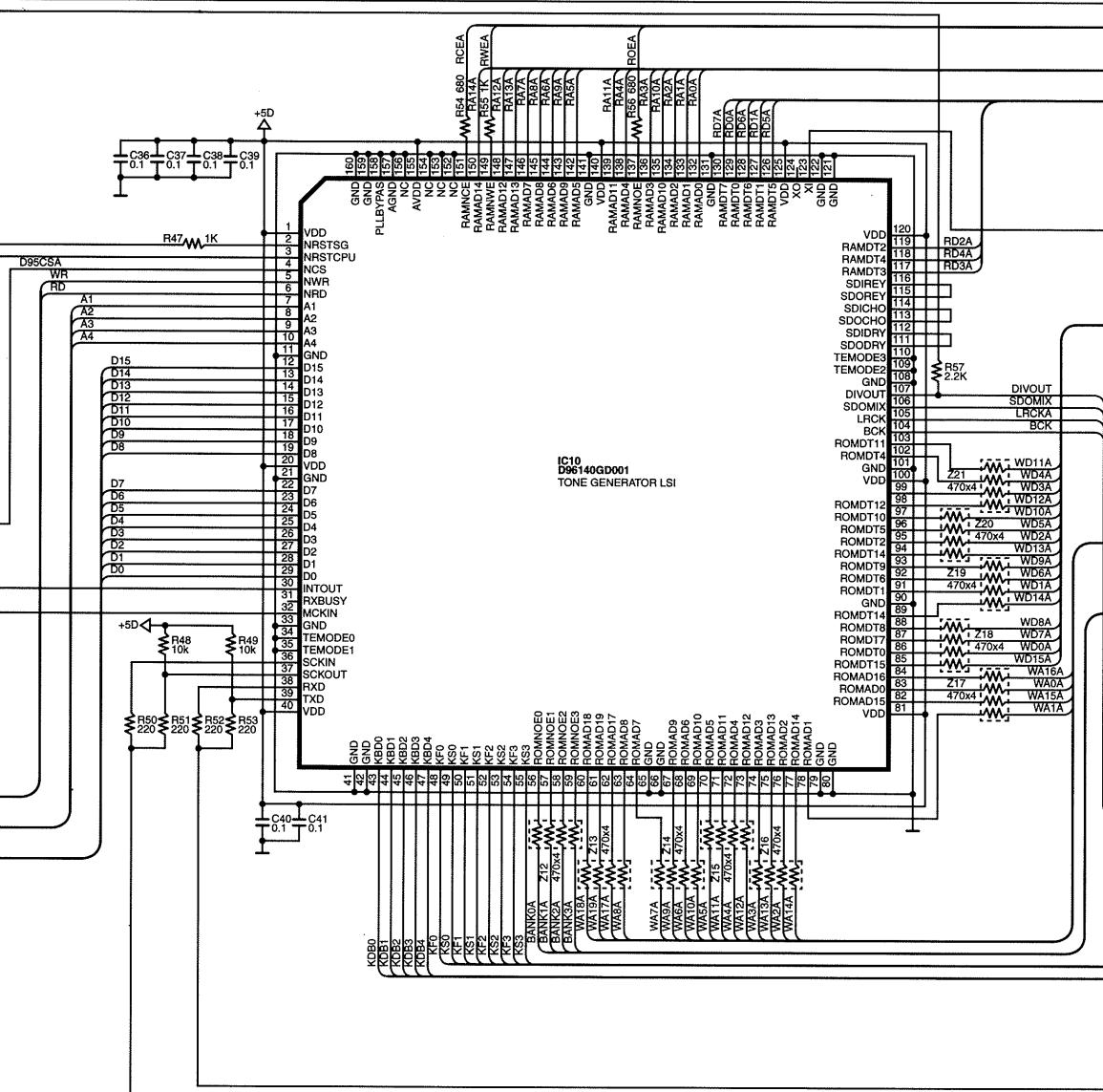


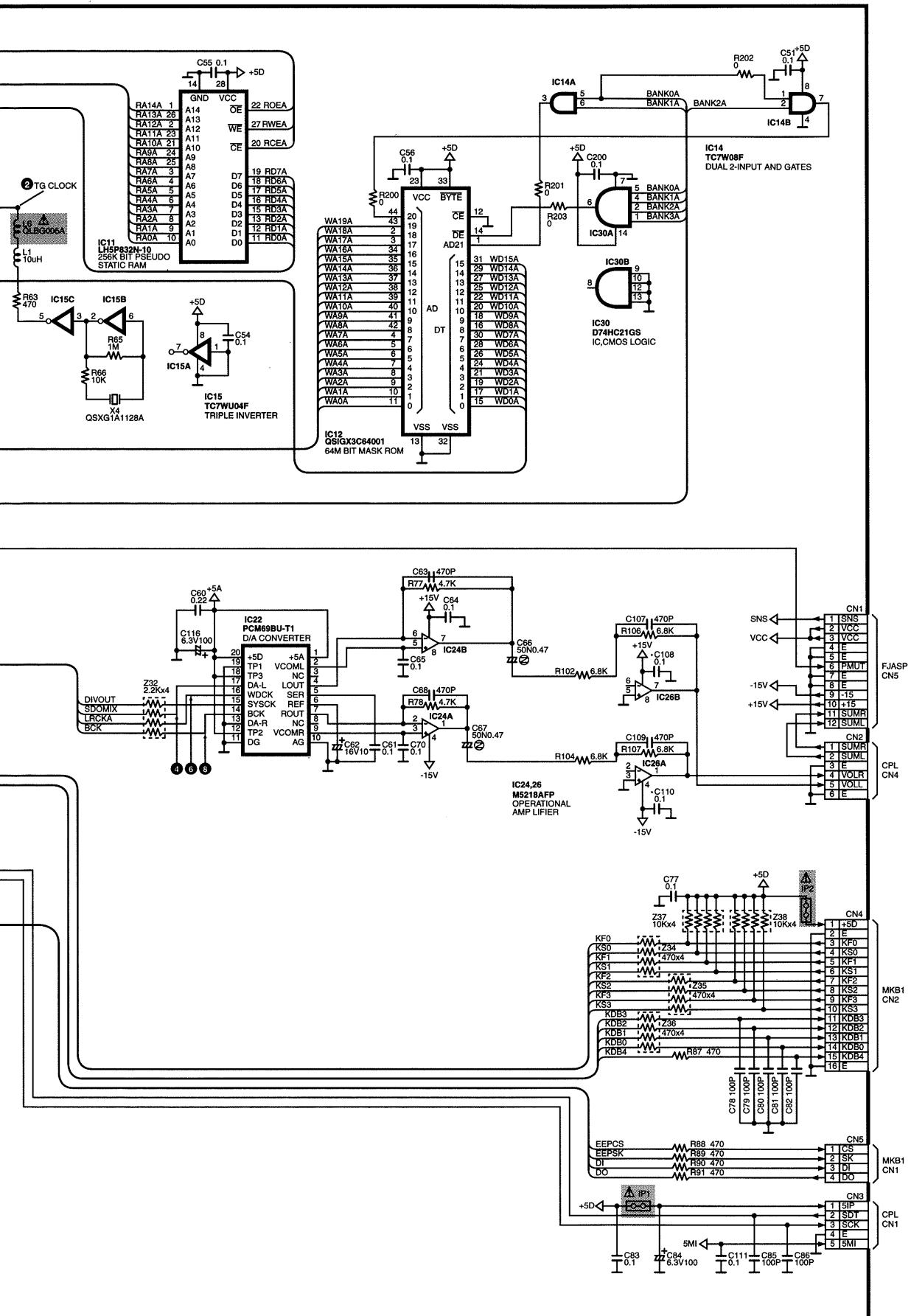
## F COM CIRCUIT



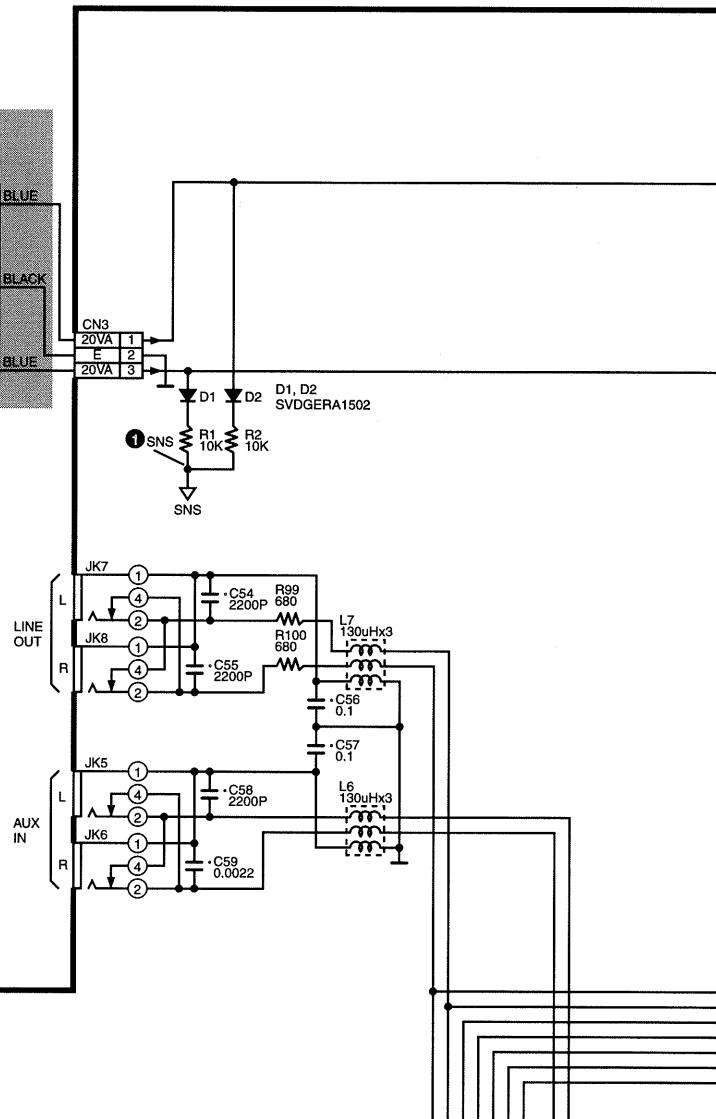
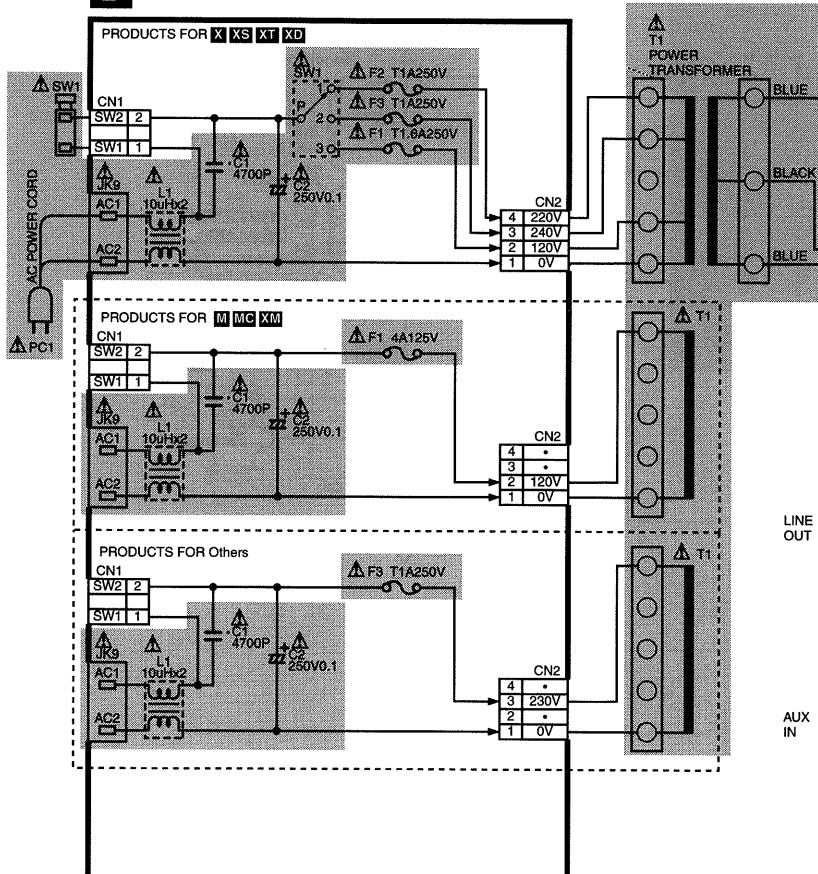




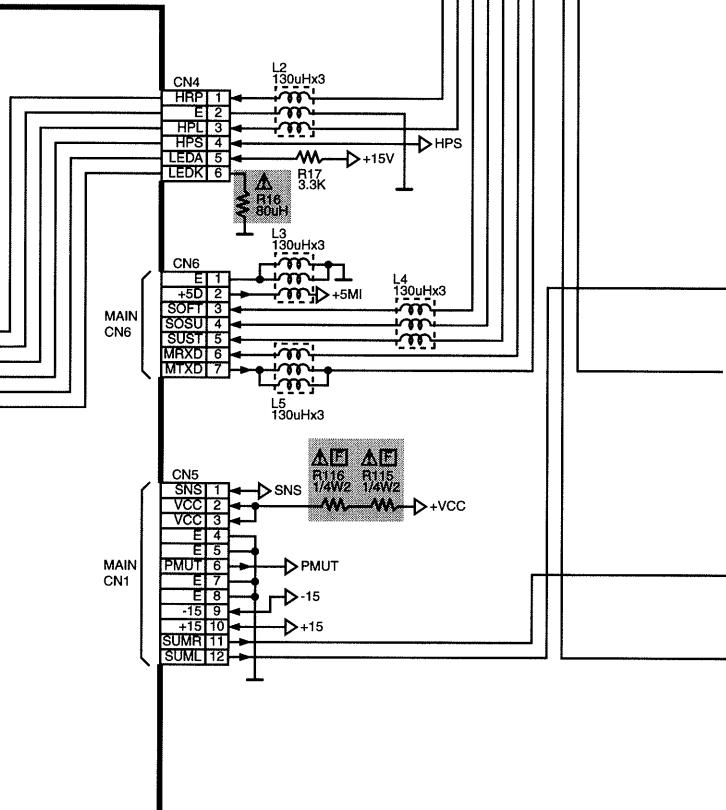
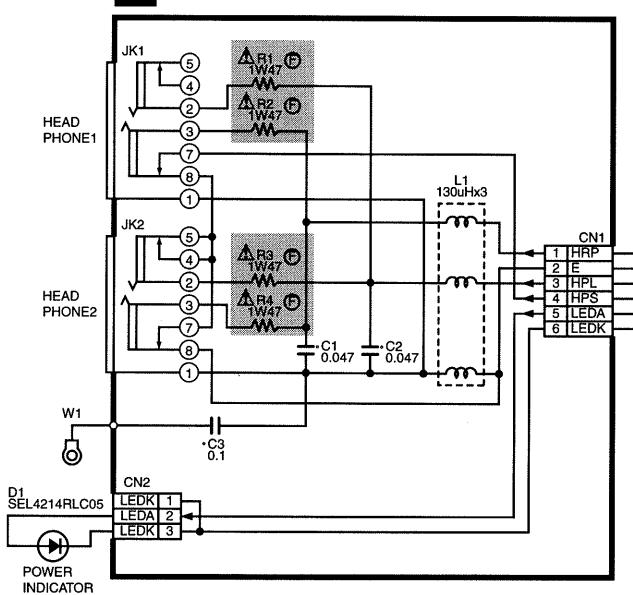


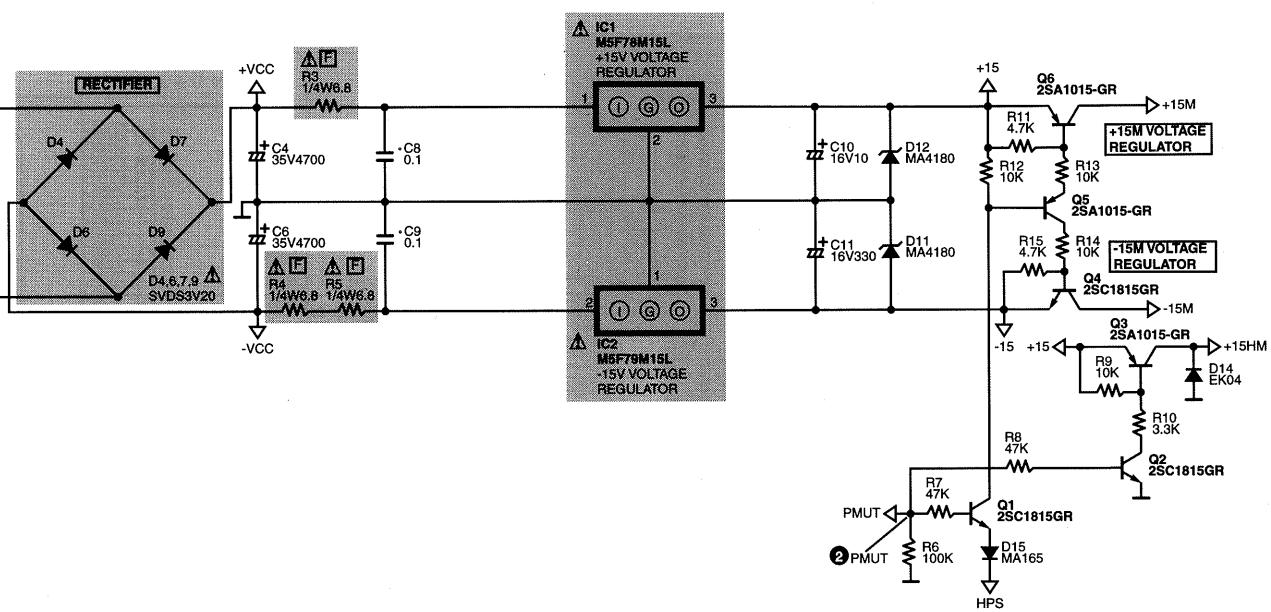


## B FJASP CIRCUIT

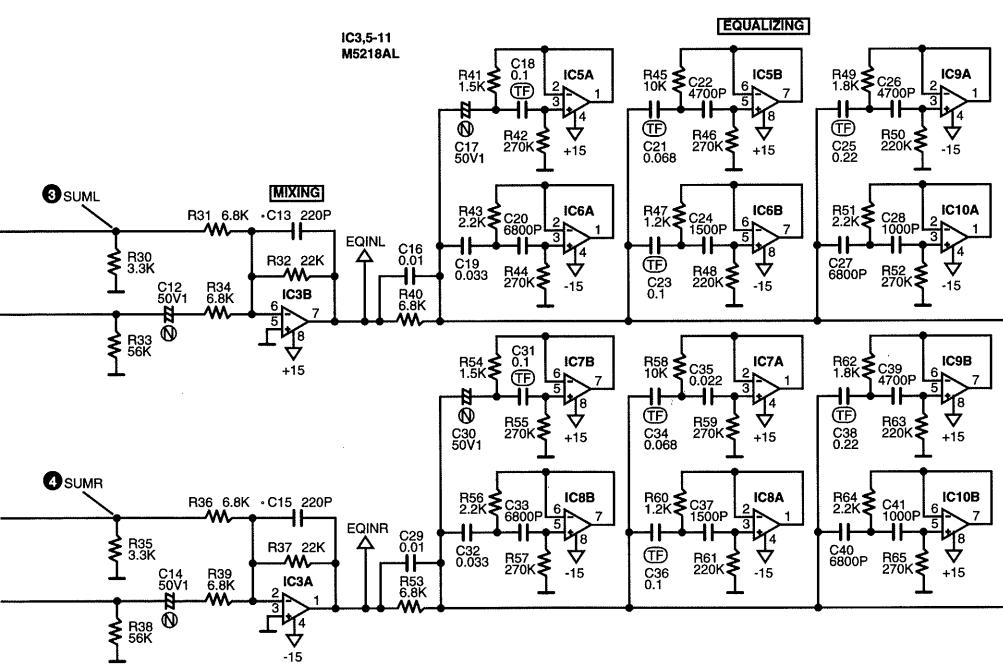


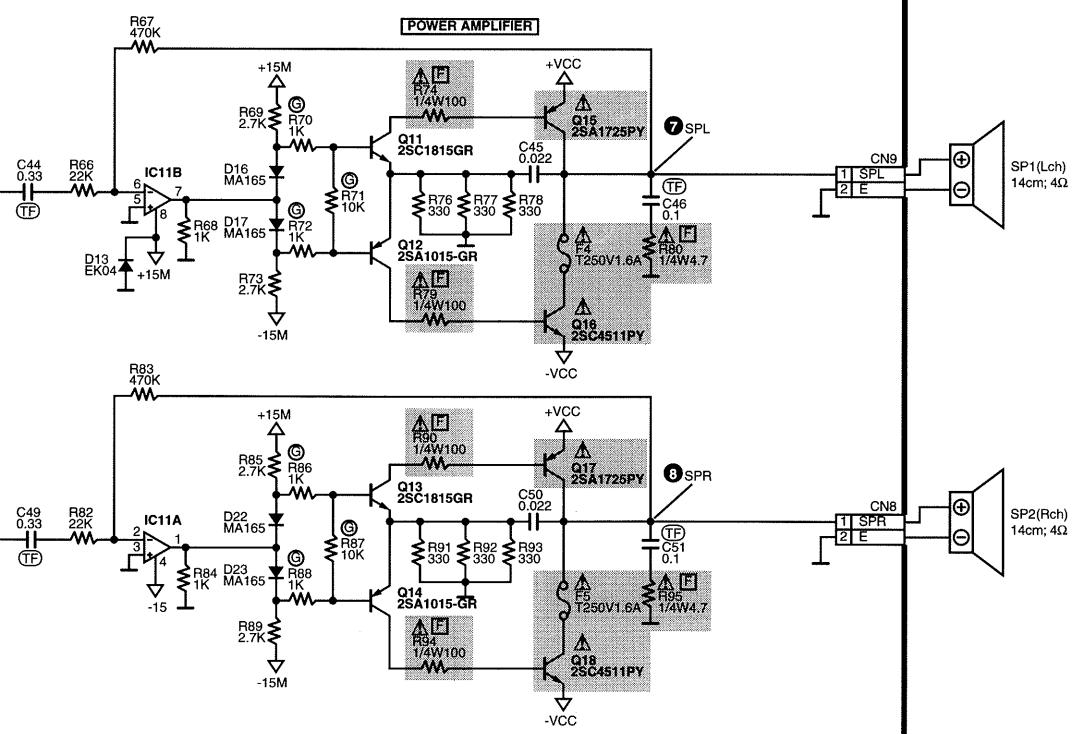
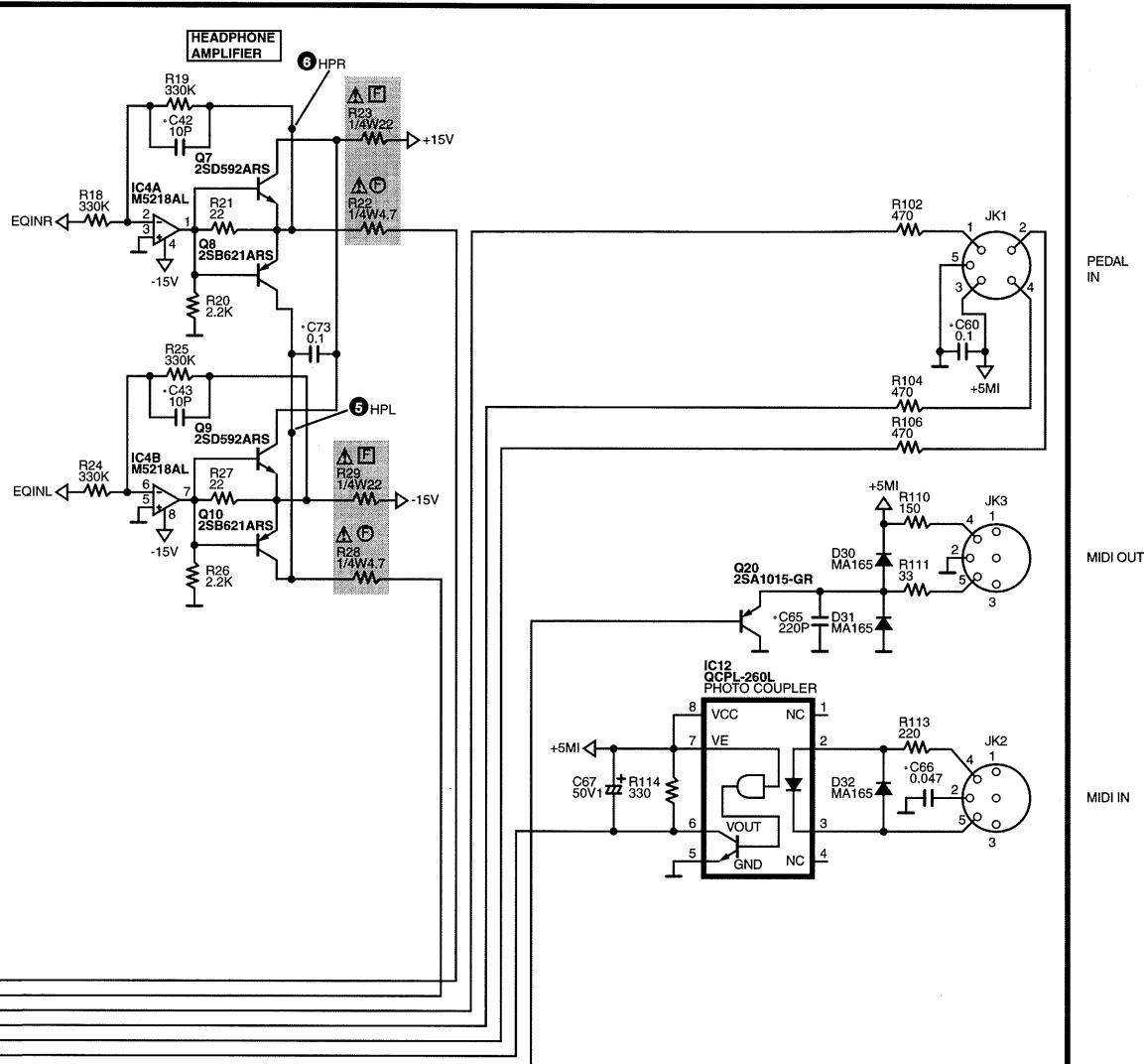
## E HP CIRCUIT



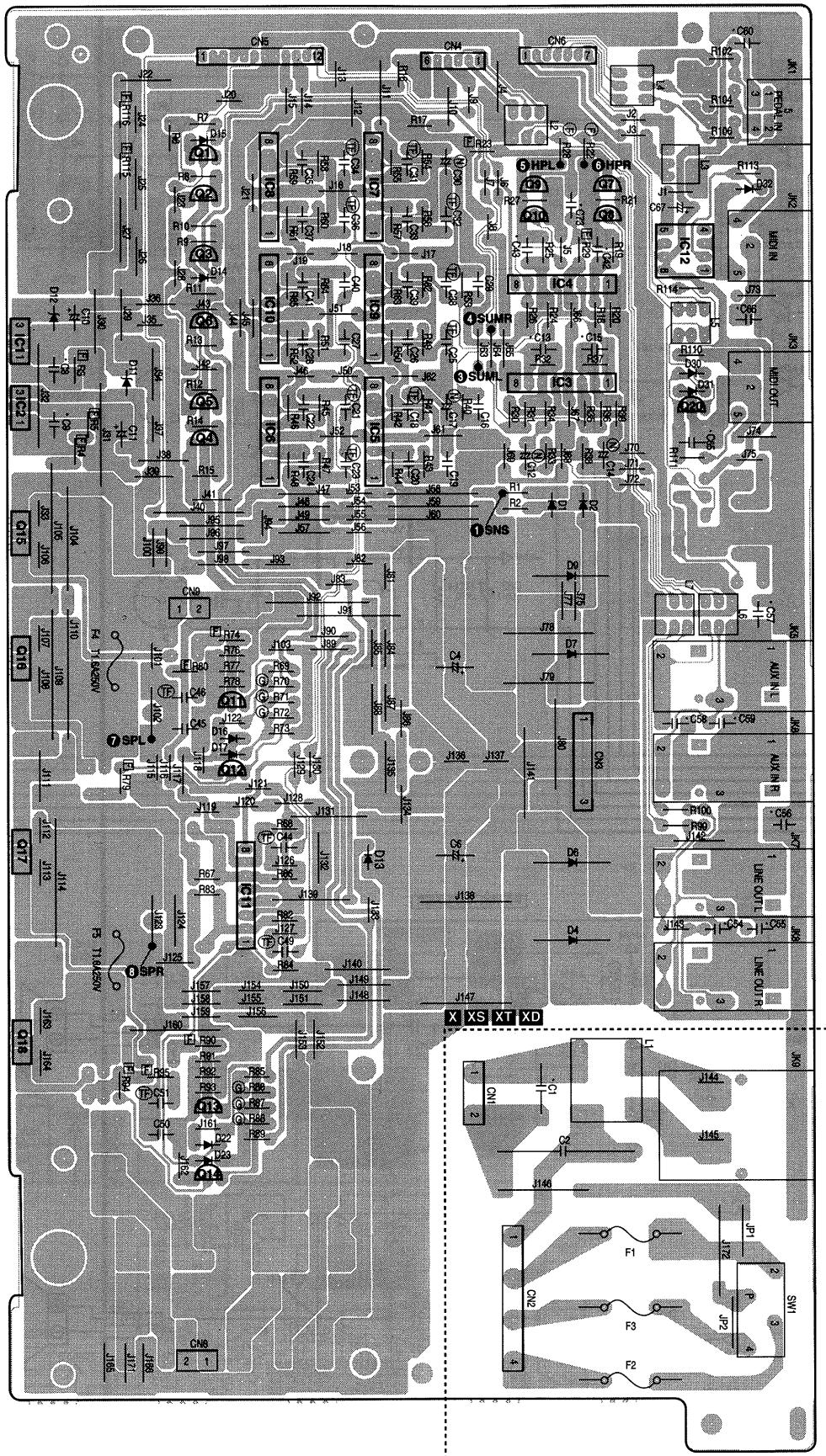


#### EQUALIZING





**B FJASP P.C.B.**

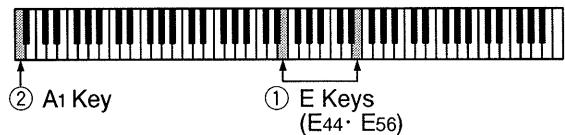


## ■ Measuring Condition of FJASP P.C.B.

### Check Point ③～⑧

Set to the self-diagnostic mode followings.

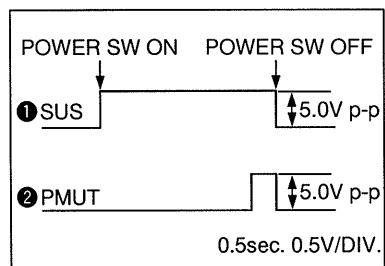
- While pressing two E keys (①) simultaneously, turn on the power switch.
- SOUND ..... CONCERT GRAND
- Main Volume ..... MAX
- Keyboard ..... A1 (②)



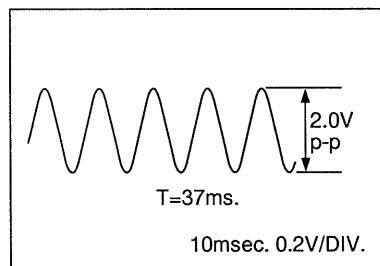
### Check Point ①, ②

Set the initial setting mode (Refer to page I-6)

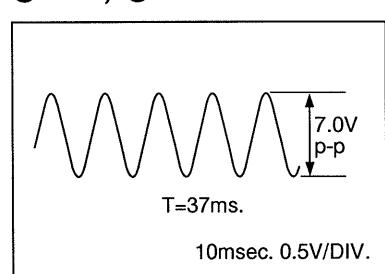
### ① SNS, ② PMUT



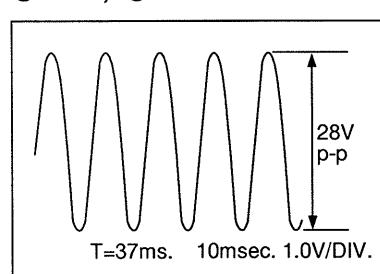
### ③ SUML, ④ SUMR



### ⑤ HPL, ⑥ HPR

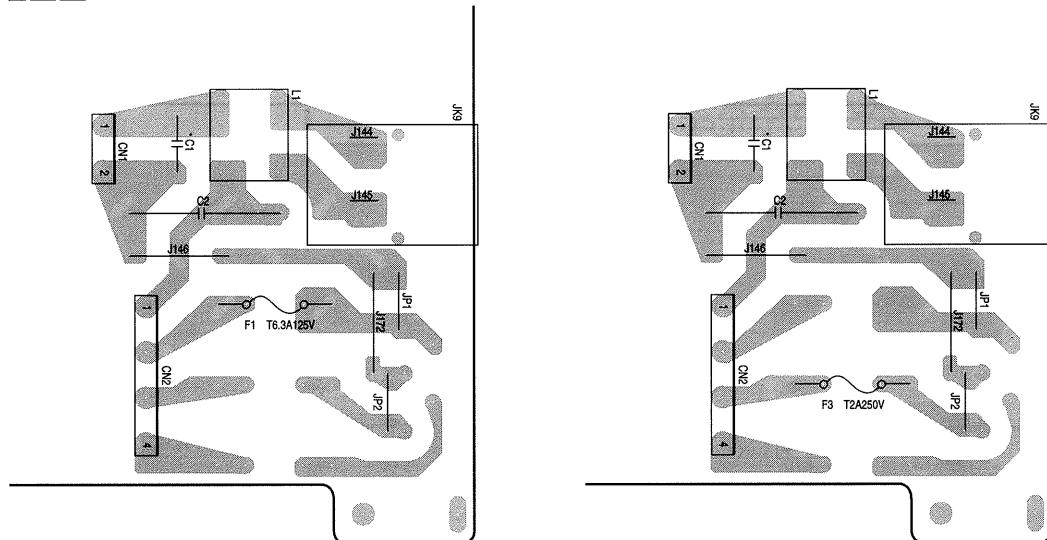


### ⑦ SPL, ⑧ SPR

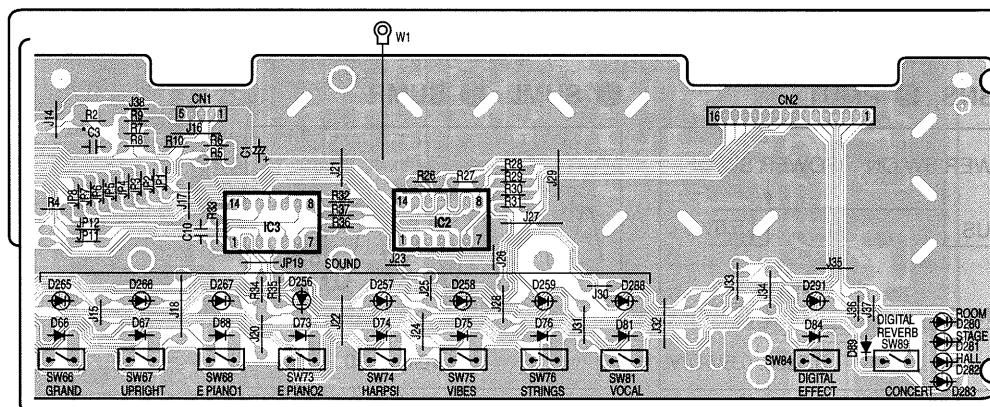
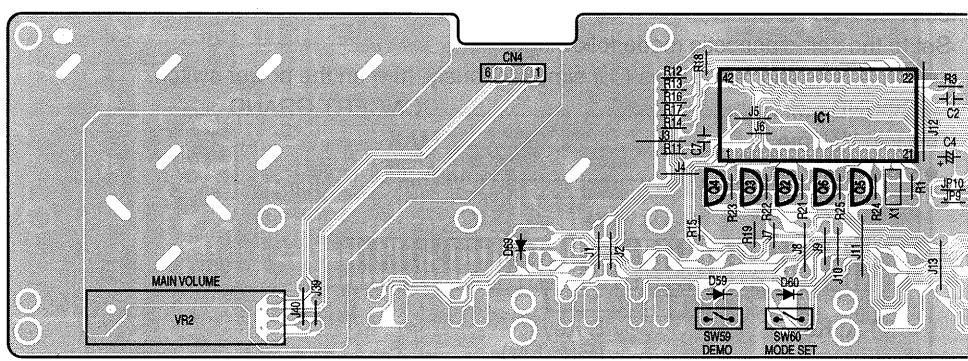


M MC XM

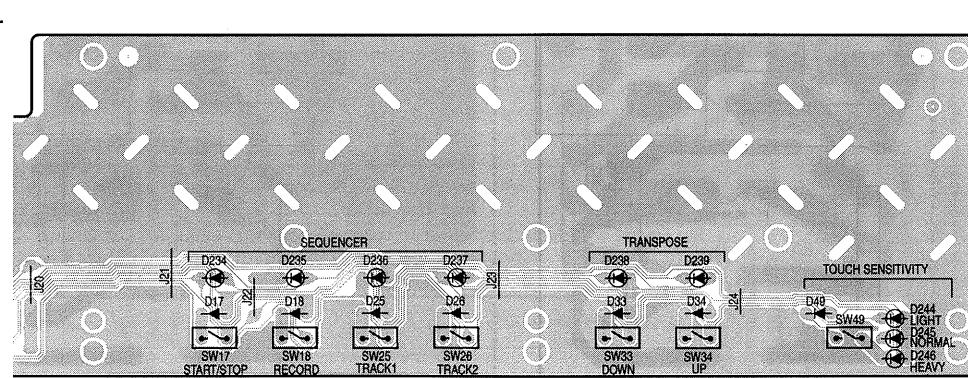
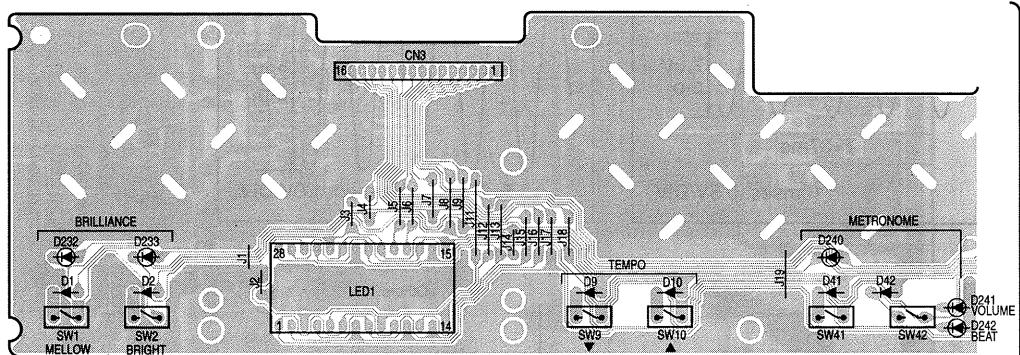
Others



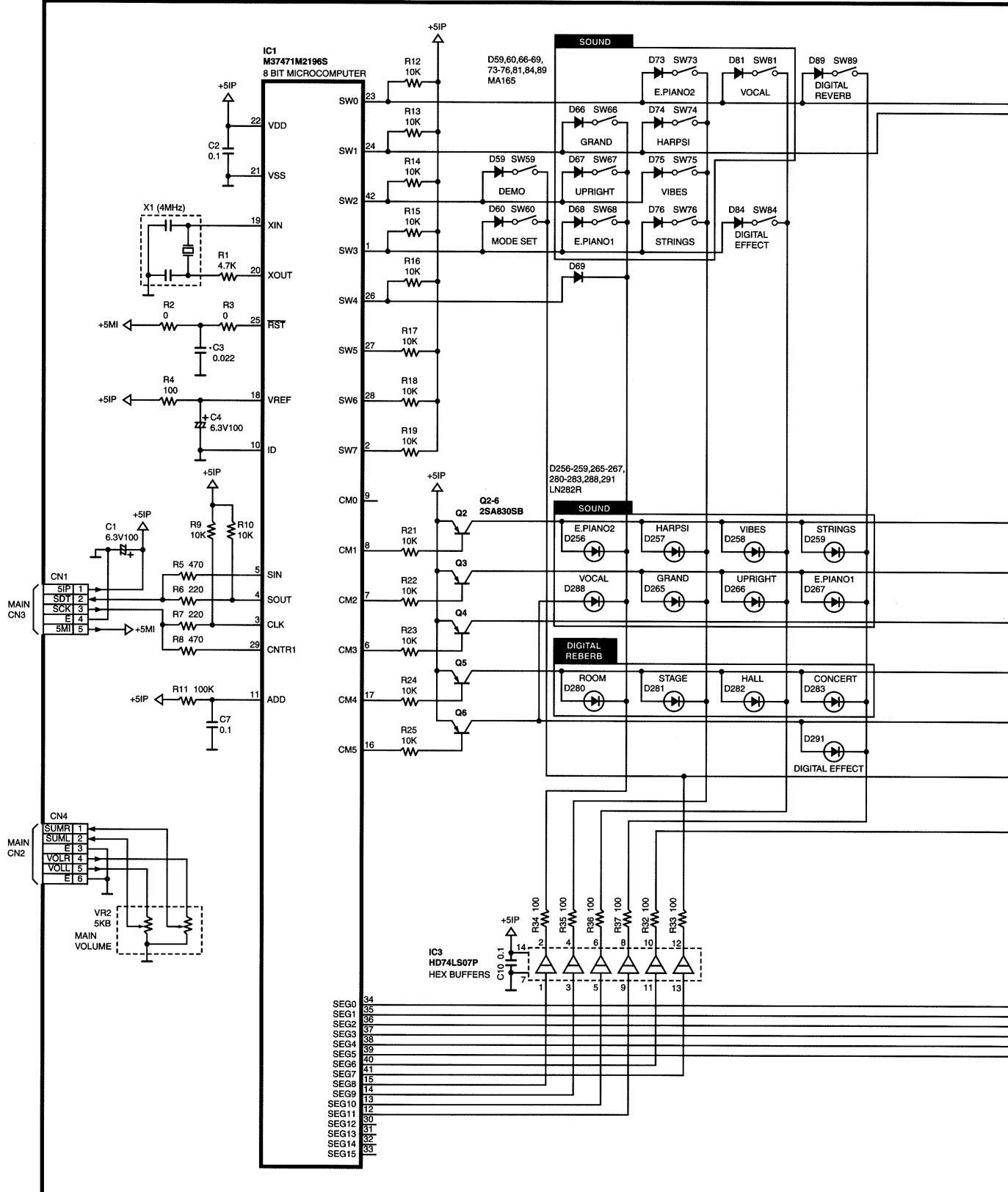
### C CPL P.C.B.



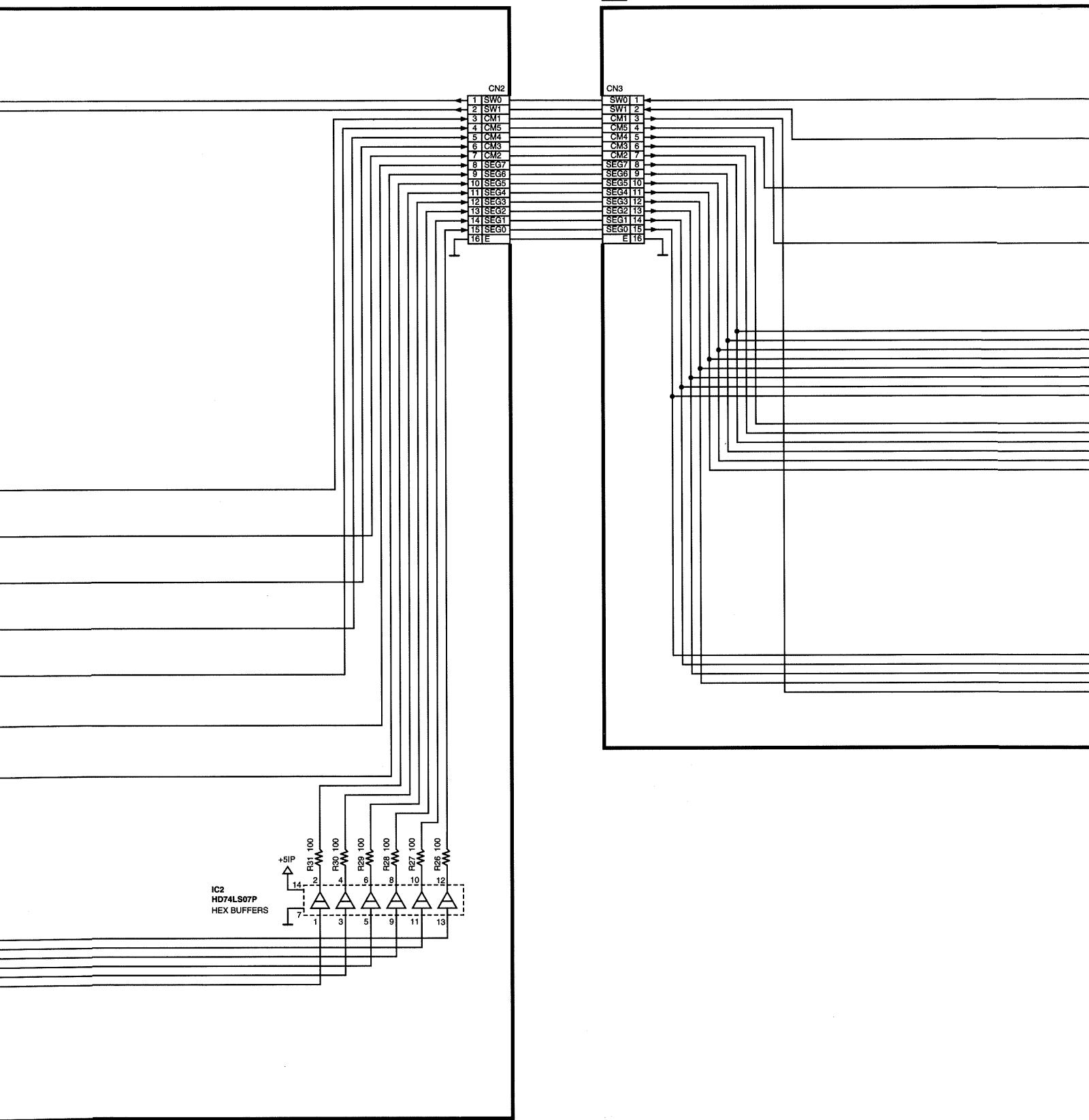
### D CPR P.C.B.

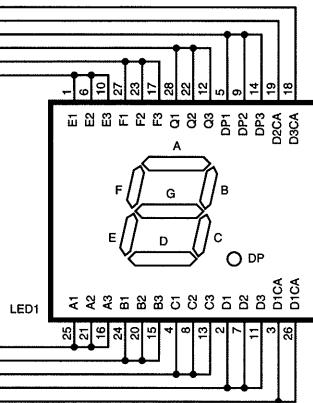
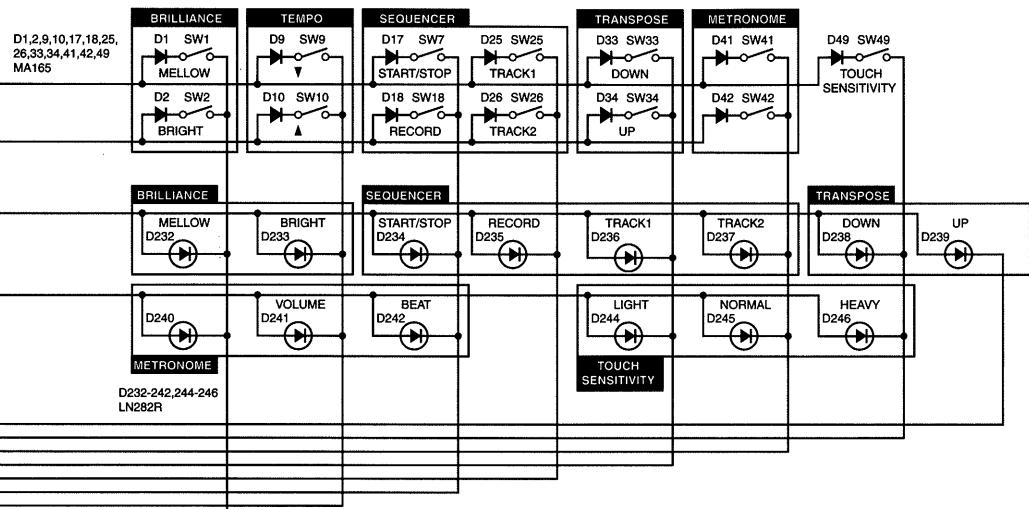


## C CPL CIRCUIT

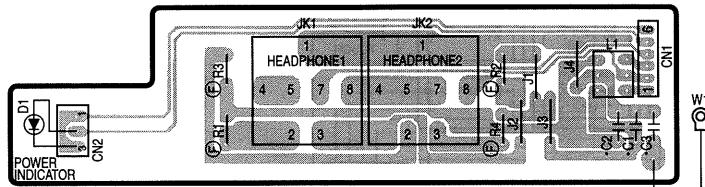


## D CPR CIRCUIT

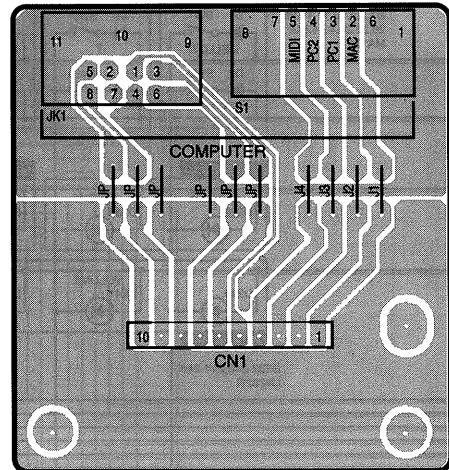




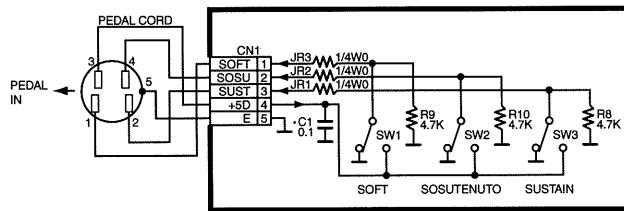
**E** HP P.C.B.



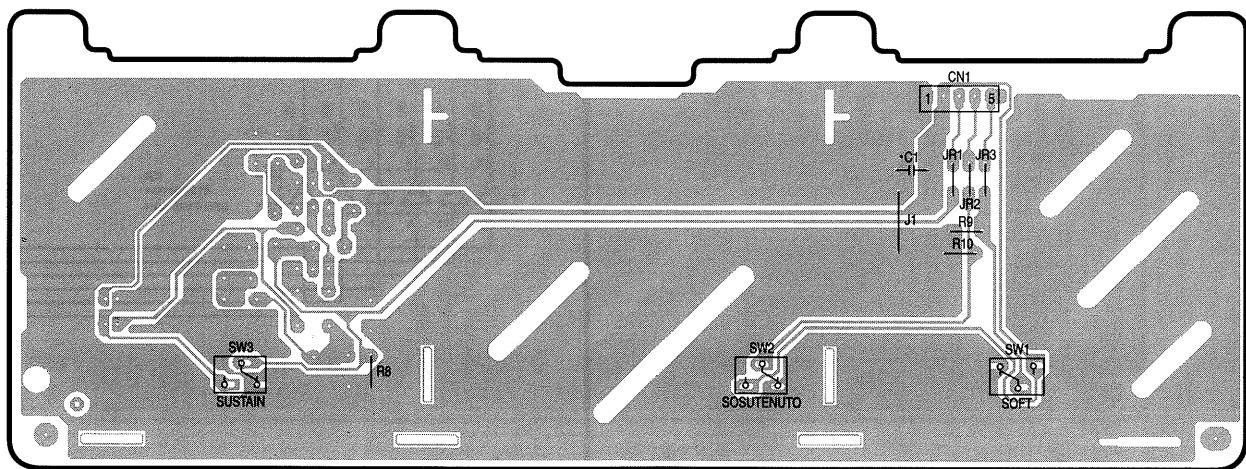
**F** COM P.C.B.



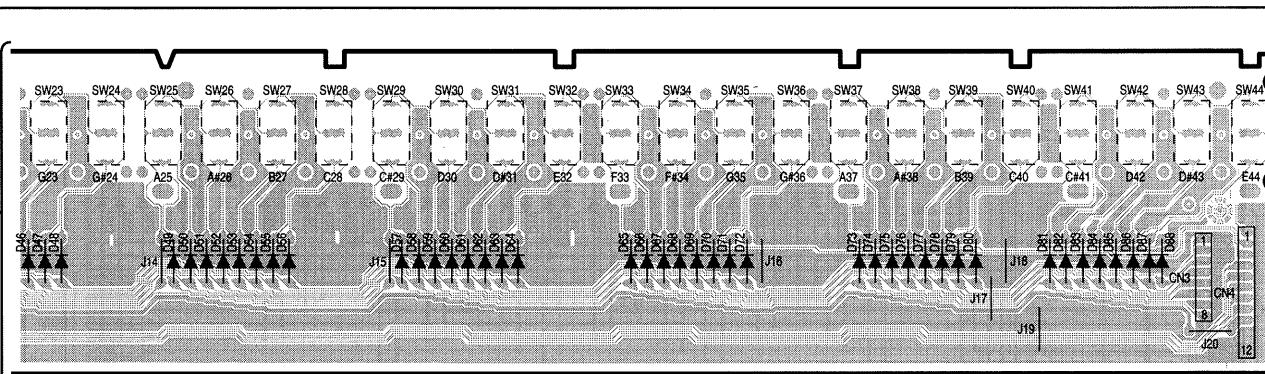
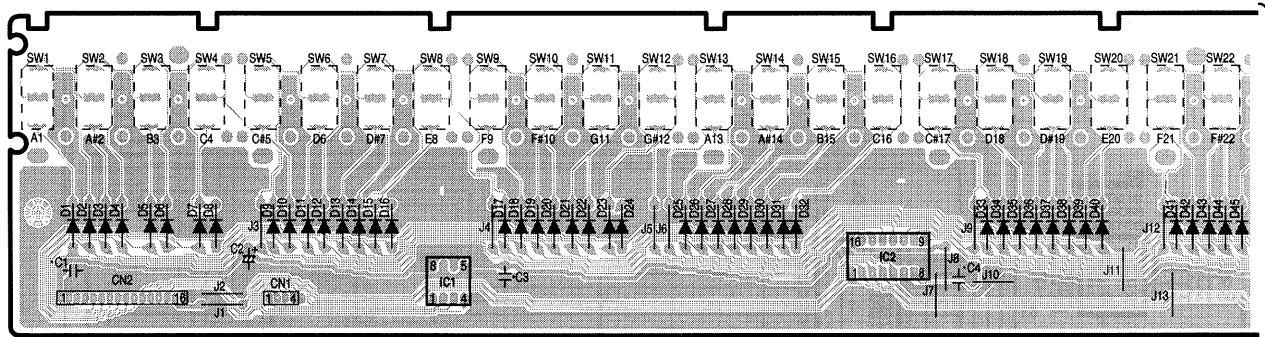
**G** PKB CIRCUIT



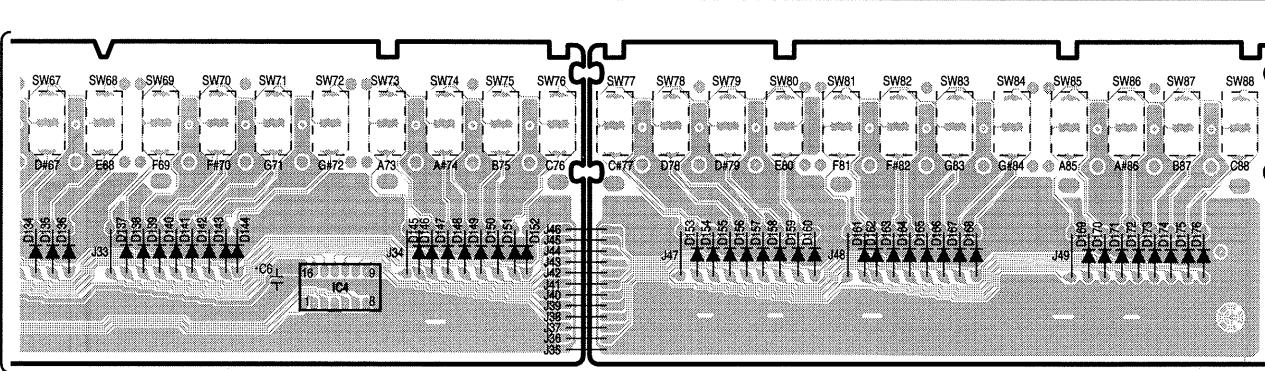
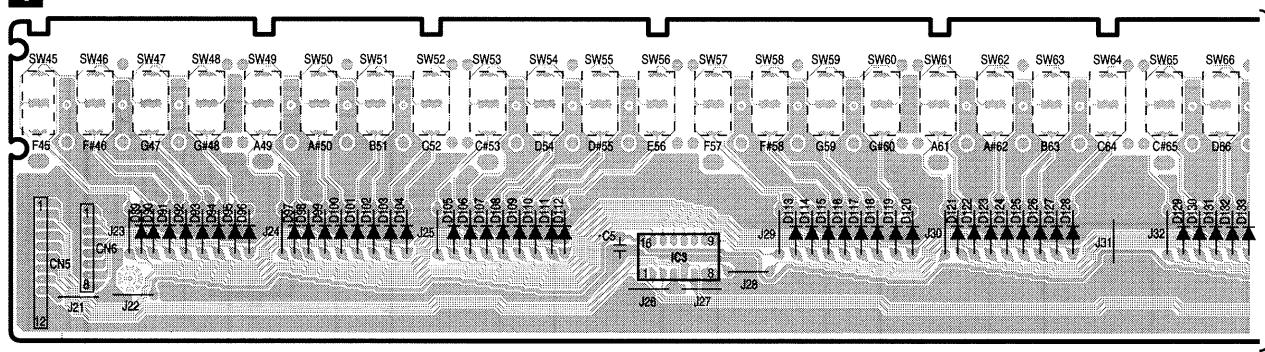
**G** PKB P.C.B.



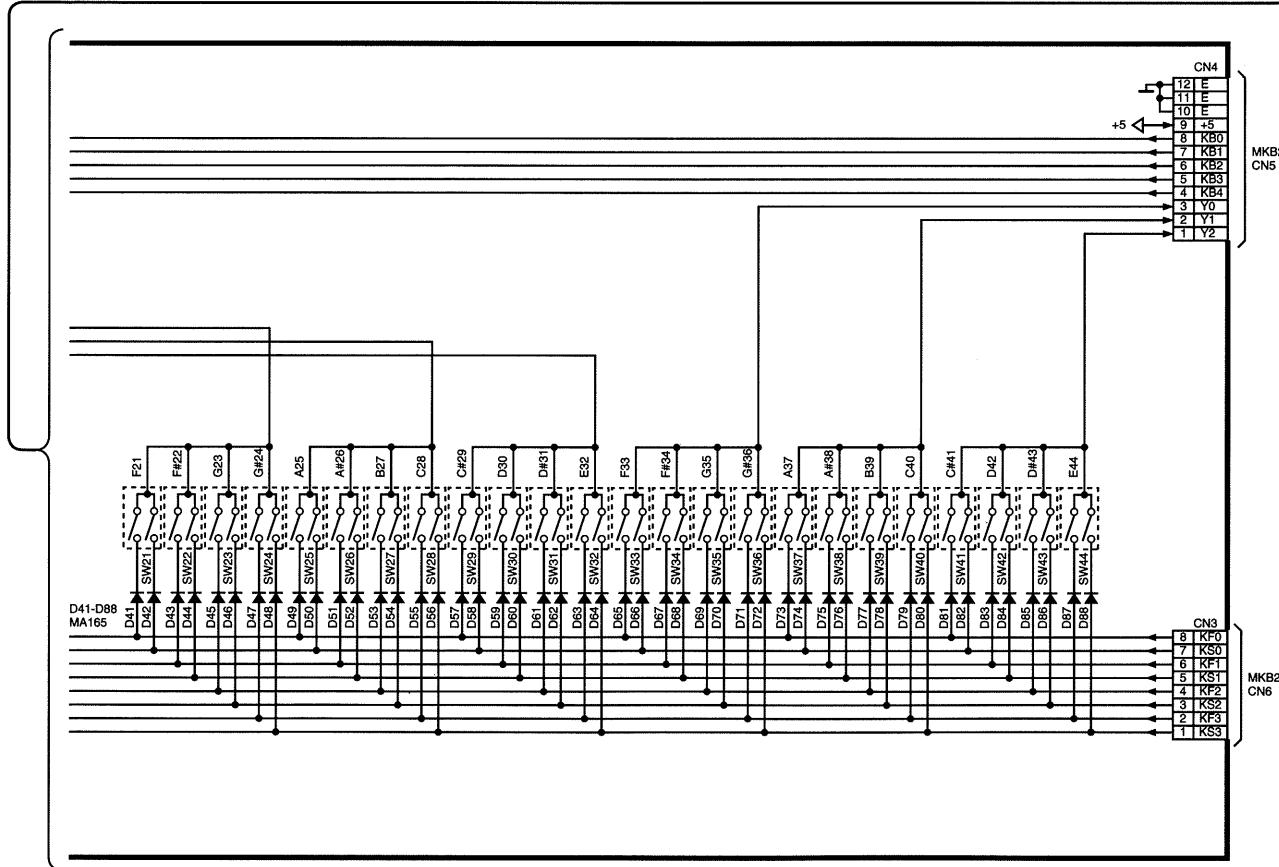
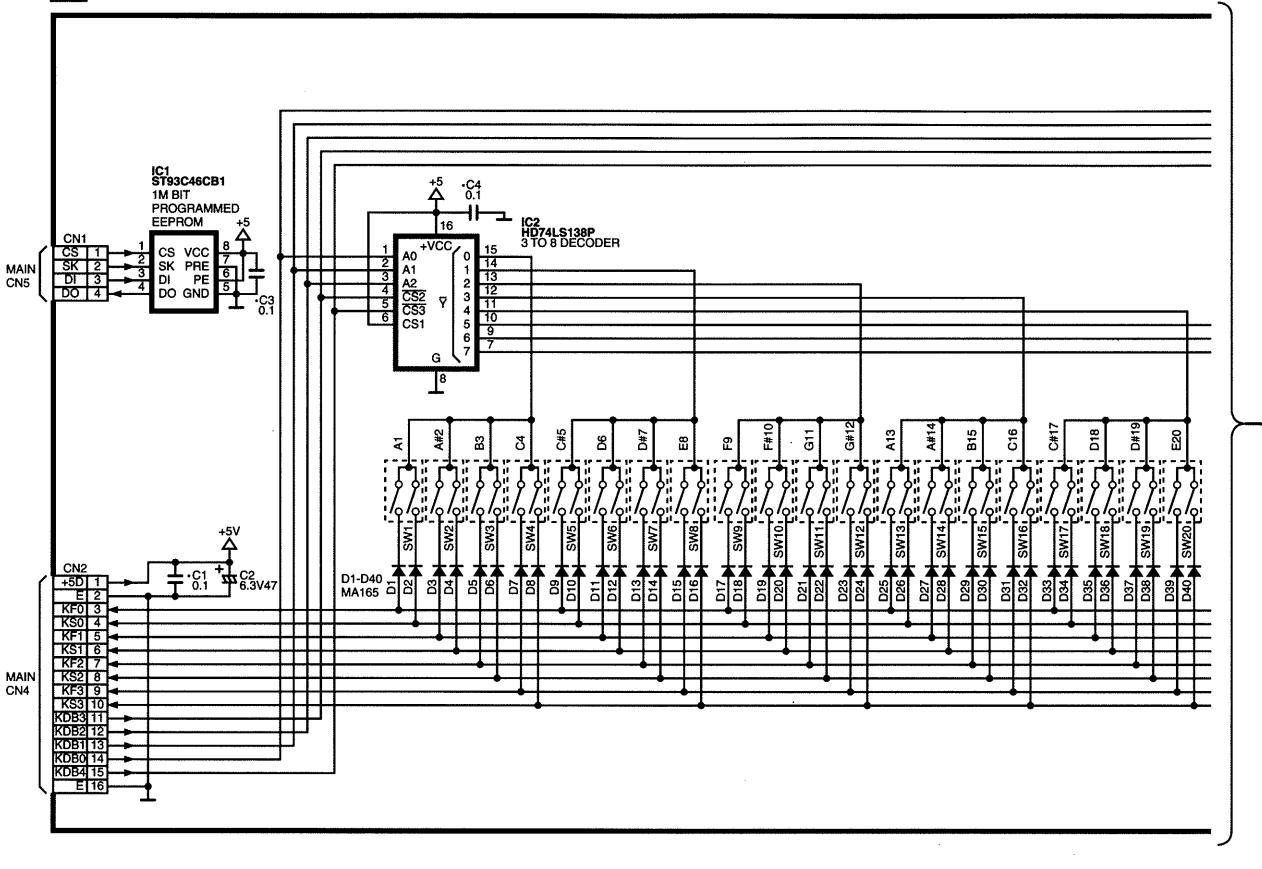
## H MKB1 P.C.B.



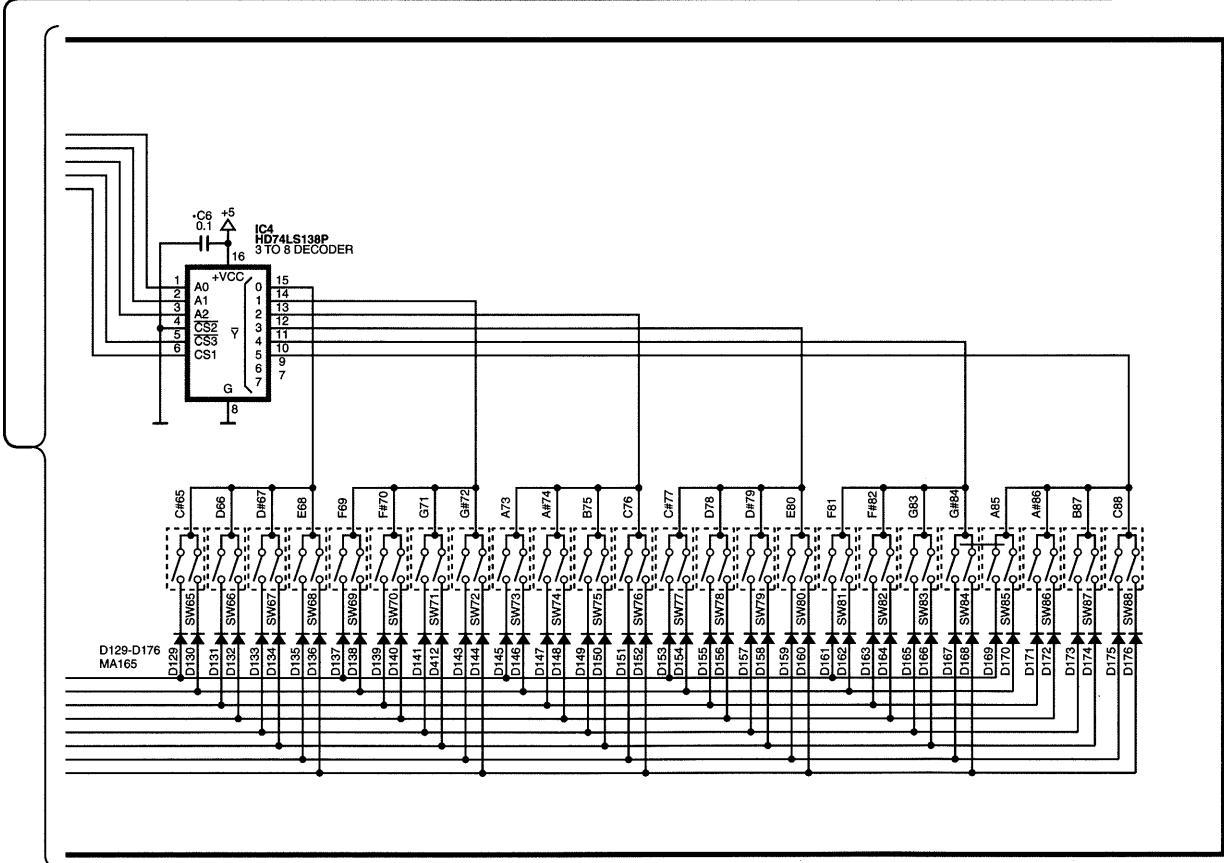
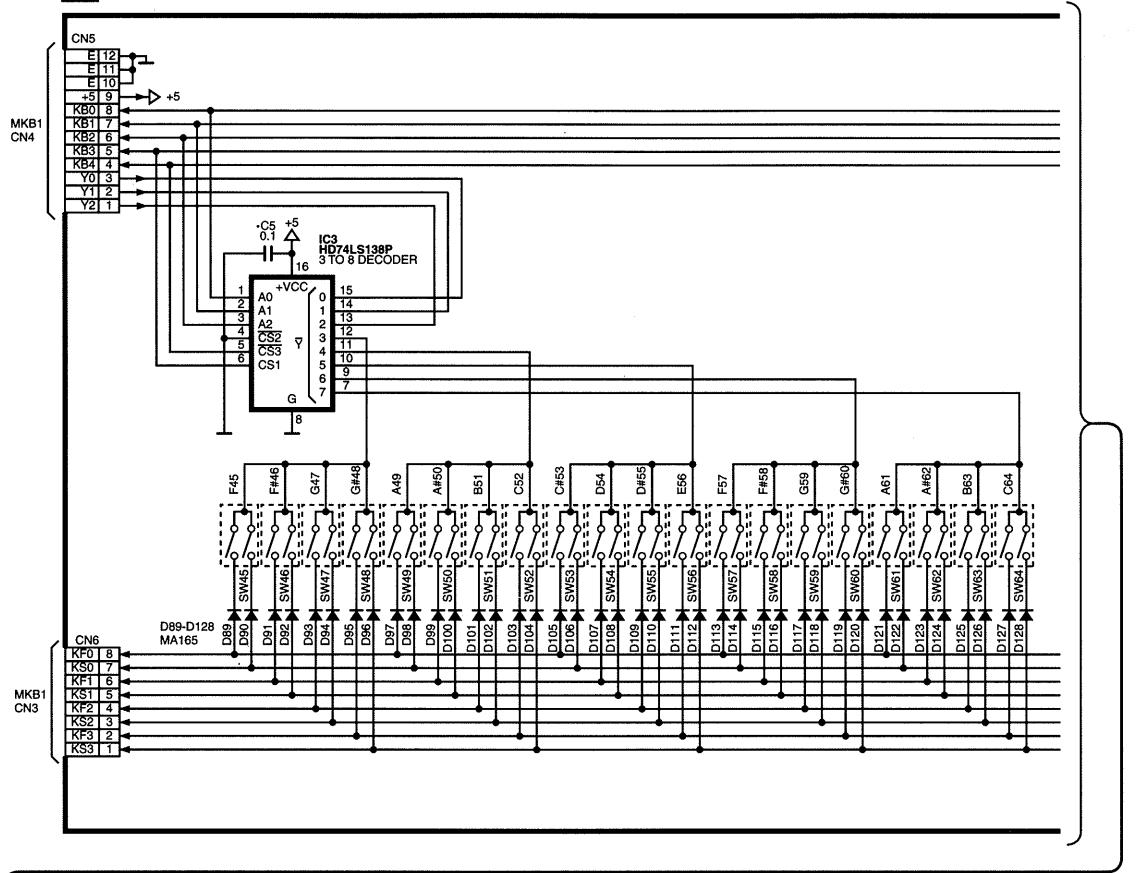
## I MKB2 P.C.B.



## H MKB1 CIRCUIT



## I MKB2 CIRCUIT



# REPLACEMENT PARTS LIST.....P.C.B. and Wiring Parts List

## Notes:

1. The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention.

After the end of this period, the assembly will no longer be available.

## 2. Important safety notice

Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

## 3. The "S" mark is service standard parts and may differ from production parts.

## 4. $\circ$ mark are new parts.

## 5. For part No. with area mark, check the area when placing an order.

## ■ PRINTED CIRCUIT BOARD

	RTL	Area	Part No.	Description	P/S
○	RTL		SXPG227741	MAIN	1
○	RTL		SXPG227911	COM	1
○	RTL	[EN, EK, EZ, EW, EF, EA, EP, EH, XL, XR, XP, XW]	SXPG2244201A	FJASP	1
○	RTL	[M, MC, XM]	SXPG2244211A	FJASP	1
○	RTL	[X, XS, XT, XD]	SXPG2244221A	FJASP	1
○	RTL		SXPG224322	HP	1
○	RTL		SXPG227841A	CPL	1
○	RTL		SXPG227821B	CPR	1
○	RTL		SXPG218221	PKB	1
○	RTL		SXPG226611A	MKB1	1
○	RTL		SXPG226611B	MKB2	1

	Ref. No.	Part No.	Description	P/S
○	D16	MA1047H	ZENER, 4.7V	1
○	D17, 18	MA110	DIODE	2
○	D19	EKO4	DIODE	1
○	D20	△ MA2062LF	ZENER, 6.2V	1
○	D21	MA110	DIODE	1
<b>OSCILLATORS</b>				
	X1	QSXG2F2400A	24MHz, CERAMIC OSCILLATOR	1
	X2	QSXG2FR614DA	614KHz, CERAMIC OSCILLATOR	1
	X3	QSXG2F0100DA	1MHz, CERAMIC OSCILLATOR	1
	X4	QSXG1A1128A	11.28MHz, CRYSTAL OSCILLATOR	1
<b>COMPONENT COMBINATIONS</b>				
	Z1~9	EXBV8V101J	100Ω X4	9
	Z10	EXBV8V471J	470Ω X4	1
	Z11	EXBV8V103J	10KΩ X4	1
	Z12~21	EXBV8V471J	470Ω X4	10
	Z32	EXBV8V222J	2.2KΩ X4	1
	Z34~36	EXBS8V471J	470Ω X4	3
	Z37, 38	EXBV8V103J	10KΩ X4	2
<b>COILS</b>				
	L1	QLQGT1B100MA	10 μH	1
	L4	QLQGT1B101KA	100 μH	1
	L5	QLQGT1B100MA	10 μH	1
	L6	△ QLBG005A	COIL	1
<b>IC PROTECTORS</b>				
	IP1, 2	△ ICP-N10T104	IC PROTECTOR	2
<b>WIRE</b>				
	W1	QEXGRA01005A	WIRE	1
<b>RESISTORS</b>				
	R2	ERJ6GEYJ472V	4.7kΩ	1
	R3	ERJ6GEYJ103V	10kΩ	1
	R4	ERJ6GEYJ222V	2.2kΩ	1
	R5, 6	ERJ6GEYJ102V	1kΩ	2
	R7, 8	ERJ6GEYJ104V	100kΩ	2
	R9	ERJ6GEYJ101V	100Ω	1
	R10, 11	ERJ6GEYJ471V	470Ω	2
	R12~14	ERJ6GEYJ154V	150kΩ	3
	R15~17	ERJ6GEYJ152V	1.5kΩ	3
	R18	ERJ6GEYJ103V	10kΩ	1
	R19	ERJ6GEYJ0R00V	0Ω	1
	R20~23	ERJ6GEYJ471V	470Ω	4
	R24	ERJ6GEYJ105V	1MΩ	1
	R25	ERJ6GEYJ0R00V	0Ω	1

## MAIN: MAIN CIRCUIT

	Ref. No.	Part No.	Description	P/S
<b>INTEGRATED CIRCUITS</b>				
○	IC1	TMP95C061BF	16 BIT MICROCOMPUTER	1
○	IC2	D74HC139GS	DECODER	1
○	IC3	M5M34051FP	BUS TRANSCEIVER	1
○	IC4, 5	T7WU04F	TRIPLE INVERTER	2
○	IC6-1	X27C4096DC10	BLANK ROM	1
○	IC6	QSIGX3C04002	4M BIT MASK ROM	1
○	IC8, 9	M5256DFP70LL	256K BIT STATIC RAM	2
○	IC10	D96140GD001	TONE GENERATOR LSI	1
○	IC11	LH5P832N-10	256K BIT PSEUDO STATIC RAM	1
○	IC12	QSIGX3C64001	64M BIT MASK ROM	1
○	IC14	TC7W08F	DUAL 2-INPUT AND GATES	1
○	IC15	TC7W04F	TRIPLE INVERTER	1
○	IC22	PCM69BU-T1	D/A CONVERTER	1
○	IC24, 26	M5218APP	OPERATIONAL AMPLIFIER	2
○	IC30	D74HC21GS	IC, CMOS LOGIC	1
<b>TRANSISTORS</b>				
S	Q1, 2	2SB709AR	TRANSISTOR	2
S	Q3	2SD601AQ	TRANSISTOR	1
S	Q5, 6	2SD601AQ	TRANSISTOR	2
S	Q7	2SA1643	TRANSISTOR	1
S	Q8	2SC1815GR	TRANSISTOR	1
<b>DIODES</b>				
S	D1	MA1030	ZENER, 3.0V	1
S	D2~11	MA110	DIODE	10
S	D12~14	MA162A	MA150IR (SUB. PART)	3
S	D15	MA1062M	ZENER, 6.2V	1

Ref. No.	Part No.	Description	P/S	Ref. No.	Part No.	Description	P/S
R26~29	ERJ6GEYJ471V	470Ω	4	C85, 86	ECUV1H101JG	100pF	2
R30	ERJ6GEYJ103V	10kΩ	1	C87	ECRF1H104ZF	0.1μF	1
R32	ERJ6GEYJ101V	100Ω	1	C88	ECA1VM470	47μF, 35V	1
R33	ERJ6GEY0R00V	0Ω	1	C89	ECRF1H104ZF	0.1μF	1
R35	ERJ6GEYJ105V	1MΩ	1	C90	ECUV1H101JG	100pF	1
R36	ERJ6GEYJ472V	4.7kΩ	1	C91	ECA0JM102	1000μF, 6.3V	1
R39~42	ERJ6GEYJ222V	2.2kΩ	4	C92	ECUV1H102JX	0.001μF	1
R43	ERJ6GEYJ101V	100Ω	1	C95	ECUV1H102JX	0.001μF	1
R44	ERJ6GEYJ103V	10kΩ	1	C102	ECRF1H104ZF	0.1μF	1
R45	ERJ6GEYJ332V	3.3kΩ	1	C107	ECUV1H471JG	470pF	1
R47	ERJ6GEYJ102V	1kΩ	1	C108	ECRF1H104ZF	0.1μF	1
R48, 49	ERJ6GEYJ103V	10kΩ	2	C109	ECUV1H471JG	470pF	1
R50~53	ERJ6GEYJ221V	220Ω	4	C110	ECRF1H104ZF	0.1μF	1
R54	ERJ6GEYJ681V	680Ω	1	C111	ECUV1H104ZFX	0.1μF	1
R55	ERJ6GEYJ102V	1kΩ	1	C116	ECEA0JKA101	100μF, 6.3V	1
R56	ERJ6GEYJ681V	680Ω	1	C200	ECUV1H104ZFX	0.1μF	1
R57	ERJ6GEYJ222V	2.2kΩ	1				
R63	ERJ6GEYJ471V	470Ω	1				
R65	ERJ6GEYJ105V	1MΩ	1				
R66	ERJ6GEYJ103V	10kΩ	1				
R75	ERJ6GEYJ471V	470Ω	1				
R76	ERJ6GEYJ102V	1kΩ	1				
R77, 78	ERJ6GEYJ472V	4.7kΩ	2				
R87~91	ERJ6GEYJ471V	470Ω	5				
R92	ERJ6GEYJ103V	10kΩ	1				
R93	ERJ6GEYJ101V	100Ω	1				
R94	ERJ6GEY0R00V	0Ω	1				
R95	ERJ6GEYJ471V	470Ω	1				
R96, 97	ERJ6GEYJ331V	330Ω	2				
R98	ERJ6GEYJ104V	100kΩ	1				
R99	ERJ6GEYJ331V	330Ω	1				
R102, 104, 106, 107	ERJ6GEYJ682V	6.8kΩ	4				
R111, 112	ERJ6GEYJ103V	10kΩ	2				
R113, 114, 116~118	ERJ6GEYJ471V	470Ω	5				
R200~203	ERJ6GEY0R00V	0Ω	4				

#### CAPACITORS

C1	ECQV1H224JM	0.22μF	1
C2	ECUV1C224KBX	0.22μF	1
C3	ECRF1H104ZF	0.1μF	1
C4	ECEA1HKA010	1μF, 50V	1
C6, 7	ECUV1H101JG	100pF	2
C8~11	ECUV1H104ZFX	0.1μF	4
C13, 14	ECUV1H101JG	100pF	2
C15~17, 19	ECUV1H104ZFX	0.1μF	4
C20	ECUV1C224KBX	0.22μF	1
C23	ECUV1H102JX	0.001μF	1
C24, 25	ECUV1H101JG	100pF	2
C26, 27	ECUV1H104ZFX	0.1μF	2
C28	ECEA1CKA470	47μF, 16V	1
C29	EECS5R5V105	1F, 5.5V, MEMORY BACK-UP	1
C30, 36~41, 45, 48, 49, 51, 54~56	ECUV1H104ZFX	0.1μF	14
C60	ECUV1C224KBX	0.22μF	1
C61	ECUV1H104ZFX	0.1μF	1
C62	ECEA1CKA100	10μF, 16V	1
C63	ECUV1H471JG	470pF	1
C64	ECRF1H104ZF	0.1μF	1
C65	ECUV1H104ZFX	0.1μF	1
C66, 67	ECEA1HKNR47	0.47μF, 50V	2
C68	ECUV1H471JG	470pF	1
C70, 77	ECUV1H104ZFX	0.1μF	2
C78~82	ECUV1H101JG	100pF	5
C83	ECUV1H104ZFX	0.1μF	1
C84	ECEA0JKA101	100μF, 6.3V	1

#### COM: COMPUTER CIRCUIT

Ref. No.	Part No.	Description	P/S
<b>JACK</b>			
JK1	QJSG017AA	COMPUTER	1
<b>SWITCH</b>			
S1	QSSGT011AA	SLIDE SWITCH	1

#### FJASP: FILTER, JACK & SPEAKER CIRCUIT

Ref. No.	Part No.	Description	P/S
<b>INTEGRATED CIRCUITS</b>			
IC1	△ M5F78M15L	+15V VOLTAGE REGULATOR	1
IC2	△ M5F79M15L	-15V VOLTAGE REGULATOR	1
IC3~11	M5218AL	OPERATIONAL AMPLIFIER	9
IC12	QCPL-260L	PHOTO COUPLER	1
<b>TRANSISTORS</b>			
S Q1, 2	2SC1815GR	TRANSISTOR	2
S Q3	2SA1015-GR	2SA933STRS (SUB. PART)	1
S Q4	2SC1815GR	TRANSISTOR	1
S Q5, 6	2SA1015-GR	2SA933STRS (SUB. PART)	2
Q7	2SD592ARS	TRANSISTOR	1
Q8	2SB621ARS	TRANSISTOR	1
Q9	2SD592ARS	TRANSISTOR	1
Q10	2SB621ARS	TRANSISTOR	1
S Q11	2SC1815GR	TRANSISTOR	1
S Q12	2SA1015-GR	2SA933STRS (SUB. PART)	1
S Q13	2SC1815GR	TRANSISTOR	1
S Q14	2SA1015-GR	2SA933STRS (SUB. PART)	1
Q15	△ 2SA1725PY	TRANSISTOR	1
Q16	△ 2SC4511PY	TRANSISTOR	1
Q17	△ 2SA1725PY	TRANSISTOR	1
Q18	△ 2SC4511PY	TRANSISTOR	1
S Q20	2SA1015-GR	2SA933STRS (SUB. PART)	1

Ref. No.	Part No.	Description	P/S
<b>DIODES</b>			
D1, 2	SVDGERA1502	RECTIFIER	2
D4, 6, 7, 9	SVDS3V20	RECTIFIER	4
D11, 12	MA4180	ZENER, 18V	2
D13, 14	EK04	DIODE	2
D15~17, 22, 23, 30~32	MA165	DIODE	8
<b>COILS</b>			
L1	△ QLQGT2T100LA	10 $\mu$ H×2	1
L2~7	△ QLQGT3T131LA	130 $\mu$ H×3	6
R16	△ QLQGT1B800MB	80 $\mu$ H	1
<b>JACKS</b>			
JK1	QJSG007AA	PEDAL IN	1
JK2	QJSG016AA	MIDI IN	1
JK3	QJSG016AA	MIDI OUT	1
JK5	QJJG003AA	AUX IN L	1
JK6	QJJG003AA	AUX IN R/R+L	1
JK7	QJJG003AA	LINE OUT L	1
JK8	QJJG003AA	LINE OUT R/R+L	1
JK9	△ SJVD0203B	AC INLET	1
<b>SWITCH</b>			
S1	△ SSRG100A	VOLTAGE SELECTOR, [X, XS, XD, XT]	1
<b>FUSES</b>			
F1	△ XBA1C40NU100	4A, 125V, [M, MC, XM]	1
F1	△ XBA2C16TB0	T1.6A, 250V, [X, XS, XD, XT]	1
F2	△ XBA2C10TB0	T1.0A, 250V, [X, XS, XD, XT]	1
F3	△ XBA2C10TB0	T1.0A, 250V, [EN, EK, EZ, EW, EF, EA, EH, EP, XP, XL, XR, XW, X, XS, XD, XT]	1
F4, 5	△ XBA2C16TB0	T1.6A, 250V	2
<b>RESISTORS</b>			
R1, 2	ERDS2TJ103	10k $\Omega$	2
R3~5	△ ERD2FCVJ6R8	6.8 $\Omega$ , 1/4W, FUSE TYPE	3
R6	ERDS2TJ104	100k $\Omega$	1
R7, 8	ERDS2TJ473	47k $\Omega$	2
R9	ERDS2TJ103	10k $\Omega$	1
R10	ERDS2TJ332	3.3k $\Omega$	1
R11	ERDS2TJ472	4.7k $\Omega$	1
R12~14	ERDS2TJ103	10k $\Omega$	3
R15	ERDS2TJ472	4.7k $\Omega$	1
R17	ERDS2TJ332	3.3k $\Omega$	1
R18, 19	ERDS2TJ334	330k $\Omega$	2
R20	ERDS2TJ222	2.2k $\Omega$	1
R21	ERDS2TJ220	22 $\Omega$	1
R22	△ ERD25FVJ4R7	4.7 $\Omega$ , 1/4W, FLAME-PROOF	1
R23	△ ERD2FCVG220	22 $\Omega$ , 1/4W, FUSE TYPE	1
R24, 25	ERDS2TJ334	330k $\Omega$	2
R26	ERDS2TJ222	2.2k $\Omega$	1
R27	ERDS2TJ220	22 $\Omega$	1
R28	△ ERD25FVJ4R7	4.7 $\Omega$ , 1/4W, FLAME-PROOF	1
R29	△ ERD2FCVG220	22 $\Omega$ , 1/4W, FUSE TYPE	1
R30	ERDS2TJ332	3.3k $\Omega$	1
R31	ERDS2TJ682	6.8k $\Omega$	1
R32	ERDS2TJ223	22k $\Omega$	1
R33	ERDS2TJ563	56k $\Omega$	1
R34	ERDS2TJ682	6.8k $\Omega$	1
R35	ERDS2TJ332	3.3k $\Omega$	1

Ref. No.	Part No.	Description	P/S
R36	ERDS2TJ682	6.8k $\Omega$	1
R37	ERDS2TJ223	22k $\Omega$	1
R38	ERDS2TJ563	56k $\Omega$	1
R39, 40	ERDS2TJ682	6.8k $\Omega$	2
R41	ERDS2TJ152	1.5k $\Omega$	1
R42	ERDS2TJ274	270k $\Omega$	1
R43	ERDS2TJ222	2.2k $\Omega$	1
R44	ERDS2TJ274	270k $\Omega$	1
R45	ERDS2TJ103	10k $\Omega$	1
R46	ERDS2TJ274	270k $\Omega$	1
R47	ERDS2TJ122	1.2k $\Omega$	1
R48	ERDS2TJ224	220k $\Omega$	1
R49	ERDS2TJ182	1.8k $\Omega$	1
R50	ERDS2TJ224	220k $\Omega$	1
R51	ERDS2TJ222	2.2k $\Omega$	1
R52	ERDS2TJ274	270k $\Omega$	1
R53	ERDS2TJ682	6.8k $\Omega$	1
R54	ERDS2TJ152	1.5k $\Omega$	1
R55	ERDS2TJ274	270k $\Omega$	1
R56	ERDS2TJ222	2.2k $\Omega$	1
R57	ERDS2TJ274	270k $\Omega$	1
R58	ERDS2TJ103	10k $\Omega$	1
R59	ERDS2TJ274	270k $\Omega$	1
R60	ERDS2TJ122	1.2k $\Omega$	1
R61	ERDS2TJ224	220k $\Omega$	1
R62	ERDS2TJ182	1.8k $\Omega$	1
R63	ERDS2TJ224	220k $\Omega$	1
R64	ERDS2TJ222	2.2k $\Omega$	1
R65	ERDS2TJ274	270k $\Omega$	1
R66	ERDS2TJ223	22k $\Omega$	1
R67	ERDS2TJ474	470k $\Omega$	1
R68	ERDS2TJ102	1k $\Omega$	1
R69	ERDS2TJ272	2.7k $\Omega$	1
R70	ER0S2CKF1001	1k $\Omega$ , ±1%	1
R71	ER0S2CKF1002	10k $\Omega$ , ±1%	1
R72	ER0S2CKF1001	1k $\Omega$ , ±1%	1
R73	ERDS2TJ272	2.7k $\Omega$	1
R74	△ ERD2FCVG101	100 $\Omega$ , 1/4W, FUSE TYPE	1
R76~78	△ ERD2FCVG101	330 $\Omega$	3
R79	△ ERD2FCVG101	100 $\Omega$ , 1/4W, FUSE TYPE	1
R80	△ ERD2FCVJ4R7	4.7 $\Omega$ , 1/4W, FUSE TYPE	1
R82	ERDS2TJ223	22k $\Omega$	1
R83	ERDS2TJ474	470k $\Omega$	1
R84	ERDS2TJ102	1k $\Omega$	1
R85	ERDS2TJ272	2.7k $\Omega$	1
R86	ER0S2CKF1001	1k $\Omega$ , ±1%	1
R87	ER0S2CKF1002	10k $\Omega$ , ±1%	1
R88	ER0S2CKF1001	1k $\Omega$ , ±1%	1
R89	ERDS2TJ272	2.7k $\Omega$	1
R90	△ ERD2FCVG101	100 $\Omega$ , 1/4W, FUSE TYPE	1
R91~93	△ ERD2FCVG101	330 $\Omega$	3
R94	△ ERD2FCVG101	100 $\Omega$ , 1/4W, FUSE TYPE	1
R95	△ ERD2FCVJ4R7	4.7 $\Omega$ , 1/4W, FUSE TYPE	1
R99, 100	ERDS2TJ681	680 $\Omega$	2
R102, 104, 106	ERDS2TJ471	470 $\Omega$	3
R110	ERDS2TJ151	150 $\Omega$	1
R111	ERDS2TJ330	33 $\Omega$	1
R113	ERDS2TJ221	220 $\Omega$	1
R114	ERDS2TJ331	330 $\Omega$	1
R115, 116	△ ERQ14AJ2R0	2 $\Omega$ , 1/4W, FUSE TYPE	2
<b>CAPACITORS</b>			
C1	△ ECKVA1472MF	4700pF, LINE CAPACITOR	1
C2	△ ECQU2A104MN	0.1 $\mu$ F, 250V, ACROSS-THE-LINE CAPACITOR	1
C4, 6	ECA1VM472	4700 $\mu$ F, 35V	2
C8, 9	ECRF1H104ZF	0.1 $\mu$ F	2
C10	ECEA1CKA100	10 $\mu$ F, 16V	1

Ref. No.	Part No.	Description	P/S
C11	ECA1CM331	330 $\mu$ F, 16V	1
C12	ECEA1HKN010	1 $\mu$ F, 50V	1
C13	ECCR1H221J	220pF	1
C14	ECEA1HKN010	1 $\mu$ F, 50V	1
C15	ECCR1H221J	220pF	1
C16	ECQB1H103JF	0.01 $\mu$ F	1
C17	ECEA1HKN010	1 $\mu$ F, 50V	1
C18	ECQV1H104JM	0.1 $\mu$ F	1
C19	ECQB1H333JF	0.033 $\mu$ F	1
C20	ECQG1H682KZ	0.0068 $\mu$ F	1
C21	ECQV1H683JM	0.068 $\mu$ F	1
C22	ECQG1H472KZ	0.0047 $\mu$ F	1
C23	ECQV1H104JM	0.1 $\mu$ F	1
C24	ECQG1H152KZ	0.0015 $\mu$ F	1
C25	ECQV1H224JM	0.22 $\mu$ F	1
C26	ECQG1H472KZ	0.0047 $\mu$ F	1
C27	ECQG1H682KZ	0.0068 $\mu$ F	1
C28	ECQG1H102KZ	0.001 $\mu$ F	1
C29	ECQB1H103JF	0.01 $\mu$ F	1
C30	ECEA1HKN010	1 $\mu$ F, 50V	1
C31	ECQV1H104JM	0.1 $\mu$ F	1
C32	ECQB1H333JF	0.033 $\mu$ F	1
C33	ECQG1H682KZ	0.0068 $\mu$ F	1
C34	ECQV1H683JM	0.068 $\mu$ F	1
C35	ECQB1H223JF	0.022 $\mu$ F	1
C36	ECQV1H104JM	0.1 $\mu$ F	1
C37	ECQG1H152KZ	0.0015 $\mu$ F	1
C38	ECQV1H224JM	0.22 $\mu$ F	1
C39	ECQG1H472KZ	0.0047 $\mu$ F	1
C40	ECQG1H682KZ	0.0068 $\mu$ F	1
C41	ECQG1H102KZ	0.001 $\mu$ F	1
C42, 43	ECCR1H100D	10pF	2
C44	ECQV1H334JM	0.33 $\mu$ F	1
C45	ECQB1H223JF	0.022 $\mu$ F	1
C46	ECQV1H104JM	0.1 $\mu$ F	1
C49	ECQV1H334JM	0.33 $\mu$ F	1
C50	ECQB1H223JF	0.022 $\mu$ F	1
C51	ECQV1H104JM	0.1 $\mu$ F	1
C54, 55	ECBA1C222MR	0.0022 $\mu$ F	2
C56, 57	ECRF1H104ZF	0.1 $\mu$ F	2
C58, 59	ECBA1C222MR	0.0022 $\mu$ F	2
C60	ECRF1H104ZF	0.1 $\mu$ F	1
C65	ECCR1H221J	220pF	1
C66	ECKF1E473ZV	0.047 $\mu$ F	1
C67	ECEA1HKA010	1 $\mu$ F, 50V	1
C73	ECRF1H104ZF	0.1 $\mu$ F	1

### HP: HEADPHONE CIRCUIT

Ref. No.	Part No.	Description	P/S
<b>DIODE</b>			
D1	SEL4214RLC05	LED, POWER INDICATOR	1
<b>COIL</b>			
○ L1	QLQGT3T131LA	130 $\mu$ H X3	1
<b>JACKS</b>			
JK1	QJJG010AA	HEADPHONE 1	1
JK2	QJJG010AA	HEADPHONE 2	1

Ref. No.	Part No.	Description	P/S
<b>WIRE</b>			
W1	QEXGRA01005A	WIRE	1
<b>RESISTORS</b>			
R1~4	△ ERG1SJ470	47 $\Omega$ , 1W, FLAME-PROOF	4
<b>CAPACITORS</b>			
C1, 2	ECKF1E473ZV	0.047 $\mu$ F	2
C3	ECRF1H104ZF	0.1 $\mu$ F	1

### CPL: CONTROL PANEL LEFT CIRCUIT

Ref. No.	Part No.	Description	P/S
<b>INTEGRATED CIRCUITS</b>			
IC1	M37471M2196S	8 BIT MICROCOMPUTER	1
IC2, 3	HD74LS07P	HEX BUFFERS	2
<b>TRANSISTORS</b>			
Q2~6	2SA830SB	TRANSISTOR	5
<b>DIODES</b>			
D59, 60, 66~69, 73~76, 81, 84, 89	MA165	DIODE	13
D256~259, 265~267, 280~283, 288, 291	LN282R	LED (RED)	13
<b>OSCILLATOR</b>			
X1	EF0EC4004A3	4MHz, CERAMIC OSCILLATOR	1
<b>SWITCHES</b>			
S59, 60, 66~68, 73~76, 81, 84, 89	EVQ21507K	PUSH SWITCH	12
<b>VARIABLE RESISTOR</b>			
VR2	QRVG25P01B53	5k $\Omega$ B, MAIN VOLUME	1
<b>WIRE</b>			
○ W1	QEXGRA01007L	WIRE	1
<b>RESISTORS</b>			
R1	ERDS2TJ472	4.7k $\Omega$	1
R2, 3	ERDS2T0	0 $\Omega$ , 1/4W	2
R4	ERDS2TJ101	100 $\Omega$	1
R5	ERDS2TJ471	470 $\Omega$	1
R6, 7	ERDS2TJ221	220 $\Omega$	2
R8	ERDS2TJ471	470 $\Omega$	1
R9, 10	ERDS2TJ103	10k $\Omega$	2
R11	ERDS2TJ104	100k $\Omega$	1
R12~19, 21~25	ERDS2TJ103	10k $\Omega$	13
R26~37	ERDS2TJ101	100 $\Omega$	12

Ref. No.	Part No.	Description	P/S
<b>CAPACITORS</b>			
C1	ECEA0JKS101	100 $\mu$ F, 6.3V	1
C2	QCBG1H104ZFA	0.1 $\mu$ F	1
C3	ECBA1E223ZF	0.022 $\mu$ F	1
C4	ECEA0JKS101	100 $\mu$ F, 6.3V	1
C7, 10	QCBG1H104ZFA	0.1 $\mu$ F	2

Ref. No.	Part No.	Description	P/S
<b>DIODES</b>			
C1	ECRF1H104ZF	0.1 $\mu$ F	1
C2	ECEA0JKA470	47 $\mu$ F, 6.3V	1
C3, 4	ECRF1H104ZF	0.1 $\mu$ F	2

### MKB2: MANUAL KEYBOARD 2 CIRCUIT

#### CPR: CONTROL PANEL RIGHT CIRCUIT

Ref. No.	Part No.	Description	P/S
<b>DIODES</b>			
D1, 2, 9, 10, 17, 18, 25, 26, 33, 34, 41, 42, 49 D232~242, 244~246	MA165	DIODE	13
LN282R		LED (RED)	14
<b>DISPLAY</b>			
LED1	LB603VF	TRIPLE 8 SEGMENTS DISPLAY	1
<b>SWITCHES</b>			
S1, 2, 9, 10, 17, 18, 25, 26, 33, 34, 41, 42, 49	EVQ21507K	PUSH SWITCH	13

Ref. No.	Part No.	Description	P/S
<b>INTEGRATED CIRCUITS</b>			
IC3, 4	HD74LS138P	3 TO 8 DECODER	2
<b>DIODES</b>			
D89~176	MA165	DIODE	88
<b>CAPACITORS</b>			
C5, 6	ECRF1H104ZF	0.1 $\mu$ F	2

### ■ WIRING PARTS

Ref. No.	Part No.	Description	P/S
W1	QJLG013AA	PEDAL CORD	1
W2	QEXGSS10015A	CONNECTOR WITH WIRE	1
W3	QEXGSS07010A	CONNECTOR WITH WIRE	1
W4	QEXGSS12010A	CONNECTOR WITH WIRE	1
W5	QEXGSS06105A	CONNECTOR WITH WIRE	1
W6	QEXGSS16060A	CONNECTOR WITH WIRE	1
W7	QEXGSS04065A	CONNECTOR WITH WIRE	1
W8	QEXGSS05028A	CONNECTOR WITH WIRE	1
W9	QEXGSS06030B	CONNECTOR WITH WIRE	1
W10	QEXGVH02055C	CONNECTOR WITH WIRE	1
W11	QEXGVH02040B	CONNECTOR WITH WIRE	1
W12	QEXGSS16022C	CONNECTOR WITH WIRE	1
W13	QEUGKCH06BB	FLAT CABLE	1
W14	QEUGK8H07BB	FLAT CABLE	1
W15	QEXGVH03105B	CONNECTOR WITH WIRE	1

#### PKB: PEDAL KEYBOARD CIRCUIT

Ref. No.	Part No.	Description	P/S
<b>SWITCHES</b>			
S1~3	QSTGT001AA	LEVER SWITCH	3
<b>RESISTORS</b>			
JR1~3 R8~10	ERDS2T0 ERDS2TJ472	0 $\Omega$ , 1/4W 4.7k $\Omega$	3 3
<b>CAPACITOR</b>			
C1	ECRF1H104ZF	0.1 $\mu$ F	1

#### MKB1: MANUAL KEYBOARD 1 CIRCUIT

Ref. No.	Part No.	Description	P/S
<b>INTEGRATED CIRCUITS</b>			
IC1 IC2	ST93C46CB1 HD74LS138P	1M BIT PROGRAMMED EEPROM 3 TO 8 DECODER	1 1
<b>DIODES</b>			
D1~88	MA165	DIODE	88

# REPLACEMENT PARTS LIST.....Cabinet and Chassis Parts List

## Notes:

1. The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention.

After the end of this period, the assembly will no longer be available.

2. ○ mark are new parts.

Cabinet Colour

● SX-PX332.....Black      ● SX-PX332M.....Walnut

## 3. Important safety notice

Components identified by △ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

## 4. For part No. with area mark, check the area when placing an order.

## 5. The raw material indication for synthetic resin

In order to facilitate classification of parts of synthetic resin manufacture and to promote the recycling of natural resources, a raw material symbol for such parts is indicated in the Ref. No./Material column.

## 6. The marking (※) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production; the item will continue to be available for a specific period of time.

## SX-PX332: CABINET & CHASSIS PARTS

Ref. No.	Part No.	Description	P/S
<b>SPEAKERS</b>			
○ SP1, 2	EAS14PL93E	14cm, 6Ω	2
<b>TRANSFORMERS</b>			
T1	△ QTPG1M025A	POWER TRANSFORMER, [EN, EK, EZ, EW, EF, EA, EP, EH, X, XL, XR, XS, XT, XD, XP, XW]	1
T1	△ QTPG1M022A	POWER TRANSFORMER, [M, MC, XM]	1
<b>POWER CORDS &amp; PLUG</b>			
PC1	△ QJAG027AA	POWER CORD, [EN, EZ, EW, EF, EA, EP, EH, X, XS, XT, XP, XW]	1
PC1	△ QJAG025AA	POWER CORD, [M, MC, XM]	1
PC1	△ QJAG028AA	POWER CORD, [EK, XD]	1
PC1	△ QJAG029AA	POWER CORD, [XL, XR]	1
PC2	△ SJP5213-2	ATTACHMENT PLUG, [X, XT, XP]	1
<b>CABINET PARTS</b>			
○ 1	SBNG7050A	KNOB	1
2	QPGP0125DA	CONTROL PANEL	1
3	QMFG1107AA	FELT (RED)	1
4	QPGP0106AA	LED PANEL	1
5	QPGP0123BB	BUTTON	1
6	QPGP0124AB	BUTTON	1
7	QMCG004AA	SPACER	9
9	△ SJS9231A	AC INLET COVER, [EN, EK, EZ, EW, EF, EA, EP, EH, X, XL, XR, XS, XT, XD, XP, XW]	1
9	△ SJS9334A	AC INLET COVER, [M, MC, XM]	1
○ 10	QMRG5155AAK	CUSHION	2
○ 11	QKSGG010DA	GUIDE	1
○ 12	QKSGG011DA	GUIDE	1
○ 13	QYAG1040AB ( SBLG230A )	MUSIC STAND STAY	1
11	PS		2

## SX-PX332M: CABINET & CHASSIS PARTS

Ref. No.	Part No.	Description	P/S
<b>SPEAKERS</b>			
○ SP1, 2	EAS14PL93E	14cm, 6Ω	2
<b>TRANSFORMERS</b>			
T1	△ QTPG1M025A	POWER TRANSFORMER, [EN, EK, EZ, EW, EA, EP, X, XL, XR]	1
T1	△ QTPG1M022A	POWER TRANSFORMER, [M, MC, XM]	1
<b>POWER CORDS &amp; PLUG</b>			
PC1	△ QJAG027AA	POWER CORD, [EN, EZ, EW, EA, EP, X]	1
PC1	△ QJAG025AA	POWER CORD, [M, MC, XM]	1
PC1	△ QJAG028AA	POWER CORD, [EK]	1
PC1	△ QJAG029AA	POWER CORD, [XL, XR]	1
PC2	△ SJP5213-2	ATTACHMENT PLUG, [X]	1
<b>CABINET PARTS</b>			
○ 1	SBNG7050A	KNOB	1
2	QPGP0125DA	CONTROL PANEL	1
3	QMFG1107AA	FELT (RED)	1
4	QPGP0106AA	LED PANEL	1
5	ABS	BUTTON	1
6	ABS	BUTTON	1
7	QPGP0124AB	SPACER	9
9	△ SJS9231A	AC INLET COVER, [EN, EK, EZ, EW, EA, EP, X, XL, XR]	1
9	△ SJS9334A	AC INLET COVER, [M, MC, XM]	1
○ 10	QMRG5155AAK	CUSHION	2
○ 11	QKSGG010DA	GUIDE	1
○ 12	QKSGG011DA	GUIDE	1
○ 13	QYAG1040AB ( SBLG230A )	MUSIC STAND STAY	1
13-1	PS		2

**SX-PX332: CABINET & CHASSIS PARTS**

Ref. No.	Part No.	Description	P/S
○ 12	PS QKSGG011DA	GUIDE	1
○ 13	QYAG1040AA	MUSIC STAND	1
13-1	SBLG230A	STAY	2
○ 14	QKQGA136AA	TOP COVER ASS'Y	1
14-1	QMRG7021AB	SLEEVE	2
○ 14-2	QMFG1274AA	FELT	3
14-3	QMFG1057AA	FELT	4
14-4	SGBG160B	BADGE	1
○ 15	QKQGF036AA	KEYBOARD COVER ASS'Y	1
15-1	QMRG7056AA	HOLDER	2
15-2	QWBG002AA	HOLDER	1
15-3	QXQG007AA	AXLETREE	1
15-4	QGKG0132AA	ORNAMENT	1
15-5	QMRG7031DC	PROTECTOR	1
15-6	QMRG7032DC	PROTECTOR	1
16	QWBG002AA	HOLDER	3
17	SHRG1230A	CORD CLAMPER	1
18	QLZG021A	CORE	3
○ 19*	QYKG245AA	CABINET ASS'Y	1
○ 20	QKQGD122AA	CROSS BOARD	1
21	SHRG9620A	CORD CLAMPER	3
22	QMFG4197AA	CUSHION	1
23	QMFG4198AA	CUSHION	1
○ 24	QMRG5206AA	CUSHION	1
○ 25	QKQGB507AA	LEFT PLANK ASS'Y	1
○ 25-1	QMF1229AA	FELT	1
○ 25-2	QKSGB006AAK	LEG	1
25-3	PP SHRG2130B-K	FOOT	2
○ 26	QKQGB508AA	RIGHT PLANK ASS'Y	1
○ 26-1	QMF1229AA	FELT	1
○ 26-2	QKSGB006AAK	LEG	1
26-3	PP SHRG2130B-K	FOOT	2
○ 27	QKQGM098AF	PEDAL BOX ASS'Y	1
27-1	QGKG0113AA	ORNAMENT	3
28	QMBO009AA	SPRING	3
29	QMFG1133AA	FELT	3
30	QMFG1134AA	FELT	3
31	QMWG4002AA	PEDAL ARM	3
32	QMFG1135AA	FELT	3
33	QKAG0011AA	FOOT	1
34	SGKG980A	LABEL	1
○ 35	QMFG1240AAK	FELT	4
○ 36	QMFG1241AAK	FELT	2

**SCREWS & WASHERS**

N1	XNS12FZ	NUT	2
N2	XTB3+6A	SCREW	6
N3	XTB4+10A	SCREW	2
N4	XTB3+10AFZ	SCREW	1
N5	XTN4+16F	SCREW WITH WASHER	1
N6	XYN4+F16FZ	SCREW WITH WASHER	3
N7	XTB35+14A	SCREW	1
N8	XTT4+25A	SCREW	6
N9	XTT4+12AFZ	SCREW	2
N10	XTB3+10AFZ	SCREW	2
N11	XTW3+10Q	SCREW	24
N12	XTW3+20TFZ	SCREW	7
○ N13	XYA35+JA12	SCREW	10
N15	XYN3+C8FZ	SCREW WITH WASHER	1
N16	XTW3+10JFZ	SCREW	3
N17	XTB4+16A	SCREW	8
N18	XTT4+10AFZ	SCREW	2
N19	XTT4+16A	SCREW	2
N20	QHDG021AA	SCREW WITH WASHER	10
N21	QHVG007AA	NUT	2
N22	XTB35+10A	SCREW	3
N23	GTT4+25AFZ	SCREW	4
N24	XYN4+F16	SCREW WITH WASHER	4
N25	XYN4+F25	SCREW WITH WASHER	8

**SX-PX332M: CABINET & CHASSIS PARTS**

Ref. No.	Part No.	Description	P/S
○ 14	QKQGA136AB	TOP COVER ASS'Y	1
14-1	QMRG7021AA	SLEEVE	2
○ 14-2	QMFG1274AA	FELT	3
14-3	QMFG1057AA	FELT	4
14-4	SGBG160B	BADGE	1
○ 15	QKQGF036AB	KEYBOARD COVER ASS'Y	1
15-1	QMRG7056AA	HOLDER	2
15-2	QWBG002AA	HOLDER	1
15-3	QXQG007AA	AXLETREE	1
15-4	QGKG0132AB	ORNAMENT	1
15-5	QMRG7031DC	PROTECTOR	1
15-6	QMRG7032DC	PROTECTOR	1
16	QWBG002AA	HOLDER	3
17	SHRG1230A	CORD CLAMPER	1
18	QLZG021A	CORE	3
○ 19*	QYKG245AB	CABINET ASS'Y	1
○ 20	QKQGD122AB	CROSS BOARD	1
21	SHRG9620A	CORD CLAMPER	3
22	QMFG4197AA	CUSHION	1
23	QMFG4198AA	CUSHION	1
○ 24	QMRG5206AA	CUSHION	1
○ 25	QKQGB507AB	LEFT PLANK ASS'Y	1
○ 25-1	QMF1229AA	FELT	1
○ 25-2	QKSGB006ACK	LEG	1
25-3	PP SHRG2130B-K	FOOT	2
○ 26	QKQGB508AB	RIGHT PLANK ASS'Y	1
○ 26-1	QMF1229AA	FELT	1
○ 26-2	QKSGB007ACK	LEG	1
26-3	PP SHRG2130B-K	FOOT	2
○ 27	QKQGM098AC	PEDAL BOX ASS'Y	1
27-1	QGKG0113AA	ORNAMENT	3
28	QMBG009AA	SPRING	3
29	QMFG1133AA	FELT	3
30	QMFG1134AA	FELT	3
31	QMWG4002AA	PEDAL ARM	3
32	QMFG1135AA	FELT	3
33	QKAG0011AA	FOOT	1
34	SGKG980A	LABEL	1
○ 35	QMFG1240AAK	FELT	4
○ 36	QMFG1241AAK	FELT	2

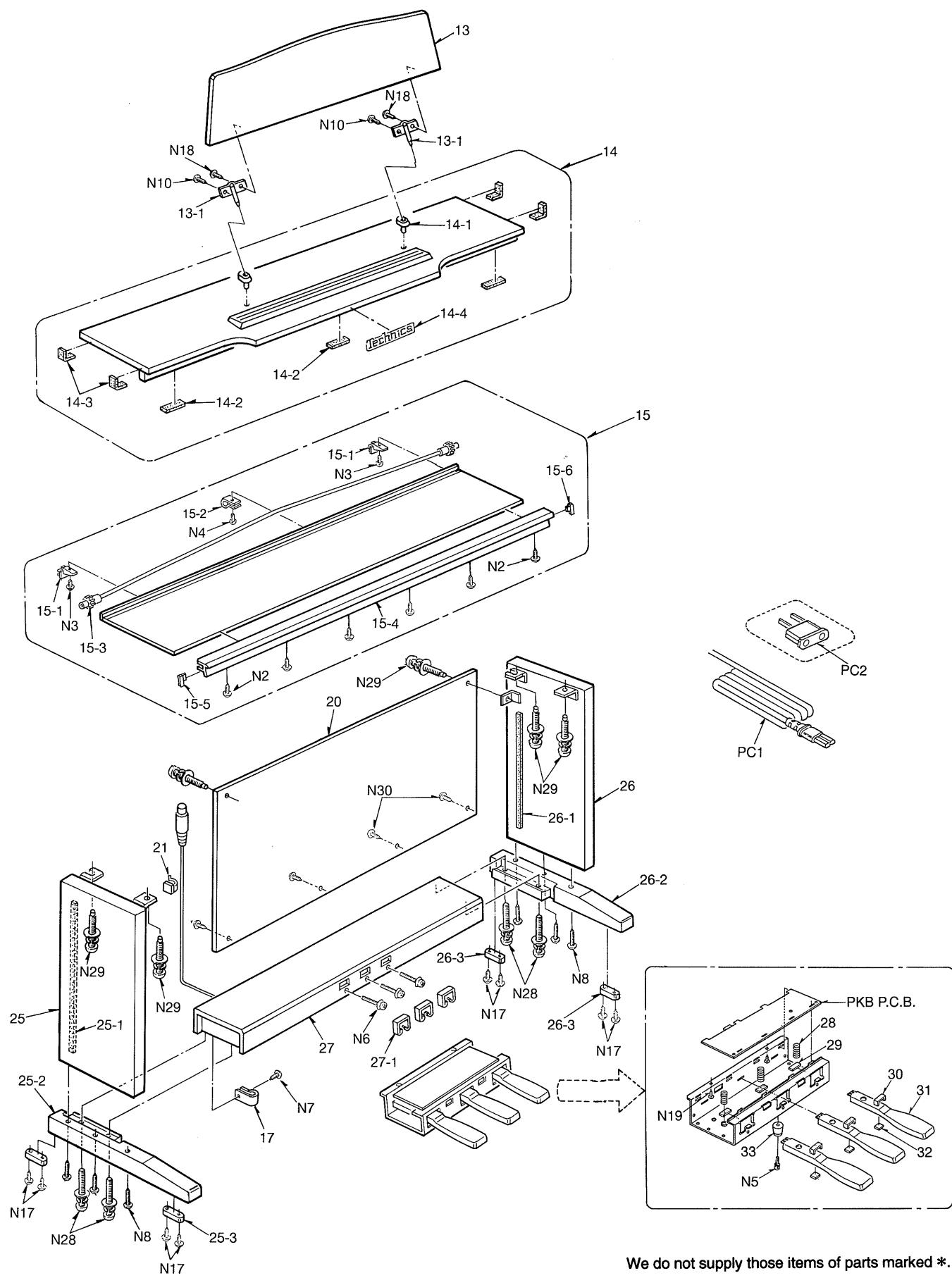
**SCREWS & WASHERS**

N1	XNS12FZ	NUT	2
N2	XTB3+6A	SCREW	6
N3	XTB4+10A	SCREW	2
N4	XTB3+10AFZ	SCREW	1
N5	XTN4+16F	SCREW WITH WASHER	1
N6	XYN4+F16FZ	SCREW WITH WASHER	3
N7	XTB35+14A	SCREW	1
N8	XTT4+25A	SCREW	6
N9	XTT4+12AFZ	SCREW	2
N10	XTB3+10AFZ	SCREW	2
N11	XTW3+10Q	SCREW	24
N12	XTW3+20TFZ	SCREW	7
○ N13	XYA35+JA12	SCREW	10
N15	XYN3+C8FZ	SCREW WITH WASHER	1
N16	XTW3+10JFZ	SCREW	3
N17	XTB4+16A	SCREW	8
N18	XTT4+10AFZ	SCREW	2
N19	XTT4+16A	SCREW	2
N20	QHDG021AA	SCREW WITH WASHER	10
N21	QHVG007AA	NUT	2
N22	XTB35+10A	SCREW	3
N23	GTT4+25AFZ	SCREW	4
N24	XYN4+F16	SCREW WITH WASHER	4
N25	XYN4+F25	SCREW WITH WASHER	8

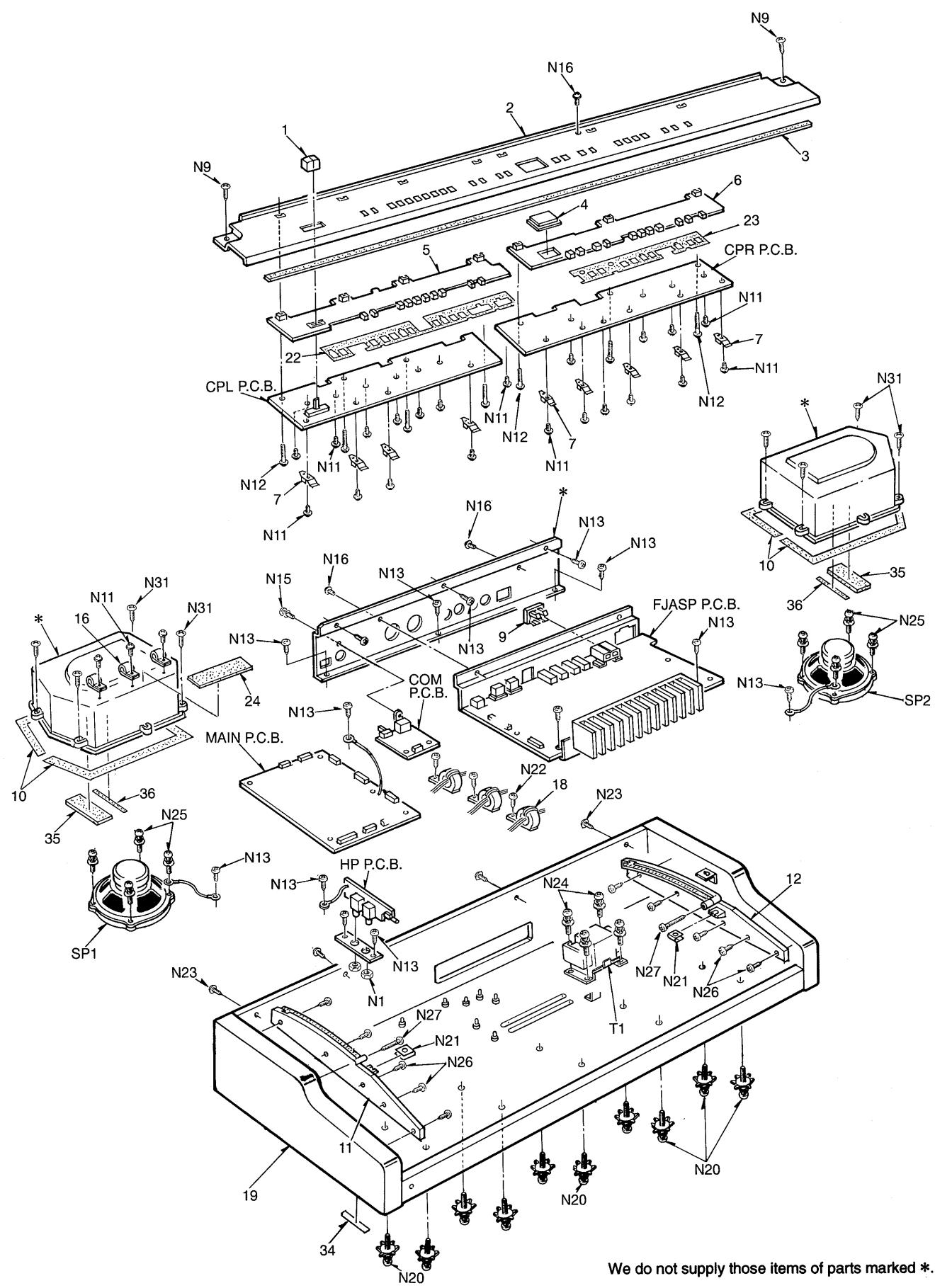
**SX-PX332: CABINET & CHASSIS PARTS****SX-PX332M: CABINET & CHASSIS PARTS**

Ref. No.	Part No.	Description	P/S	Ref. No.	Part No.	Description	P/S
○ N23	GTT4+25AFZ	SCREW	4	N26	XTB35+16A	SCREW	10
N24	XYN4+F16	SCREW WITH WASHER	4	N27	XTN4+50AFZ	SCREW	2
N25	XYN4+F25	SCREW WITH WASHER	8	N28	QHDG032AB	SCREW WITH WASHER	4
N26	XTB35+16A	SCREW	10	N29	QHDG016AB	SCREW BOLT	6
N27	XTN4+50AFZ	SCREW	2	N30	XTT5+20AFZ	SCREW	4
N28	QHDG032AB	SCREW WITH WASHER	4	○ N31	QHDG055AA	SCREW	8
N29	QHDG016AB	SCREW BOLT	6				
N30	XTT5+20AFZ	SCREW	4				
○ N31	QHDG055AA	SCREW	8				

## CABINET PARTS LOCATION

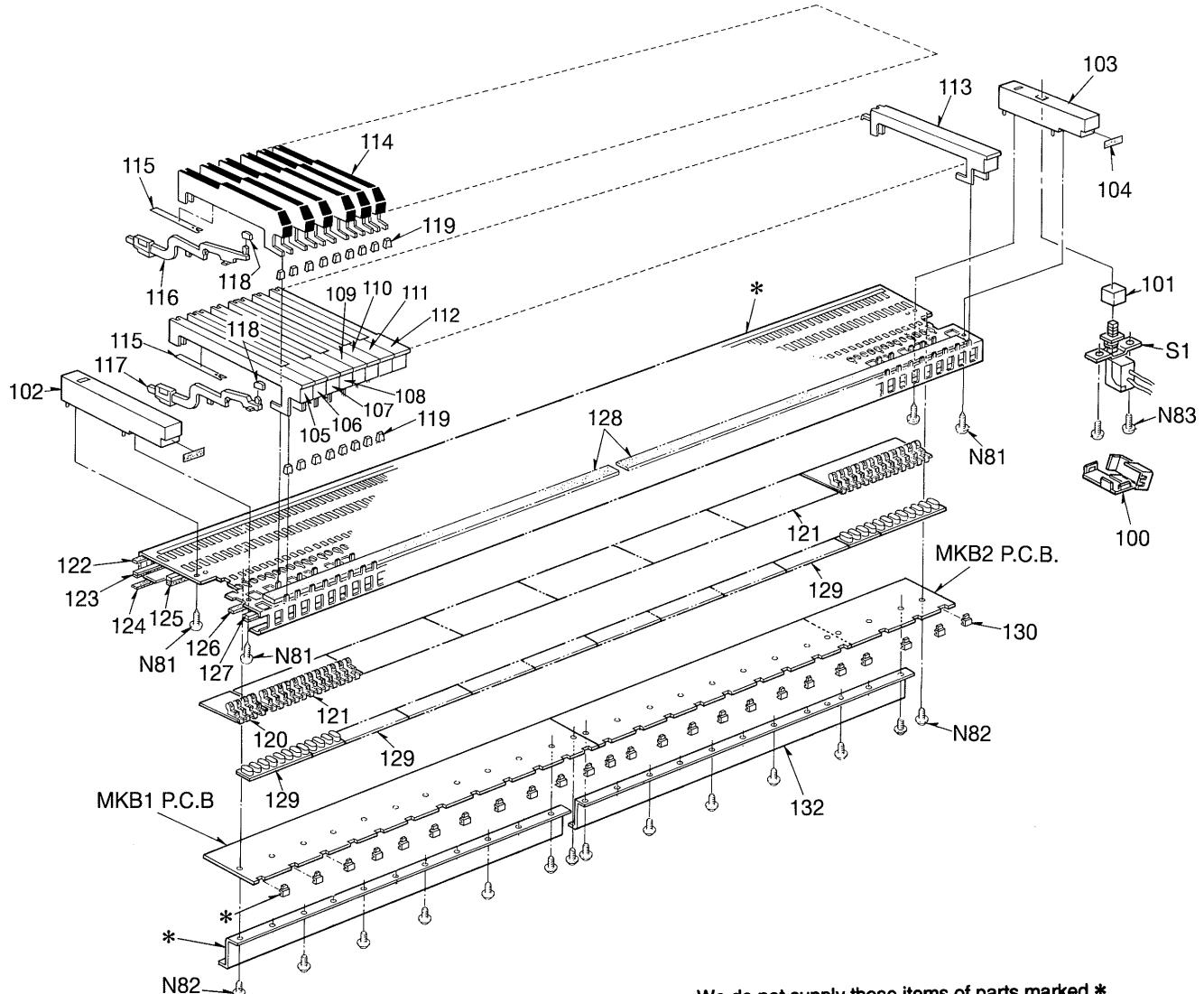


We do not supply those items of parts marked \*.



We do not supply those items of parts marked \*.

## ■ MANUAL KEYBOARD PARTS LOCATION

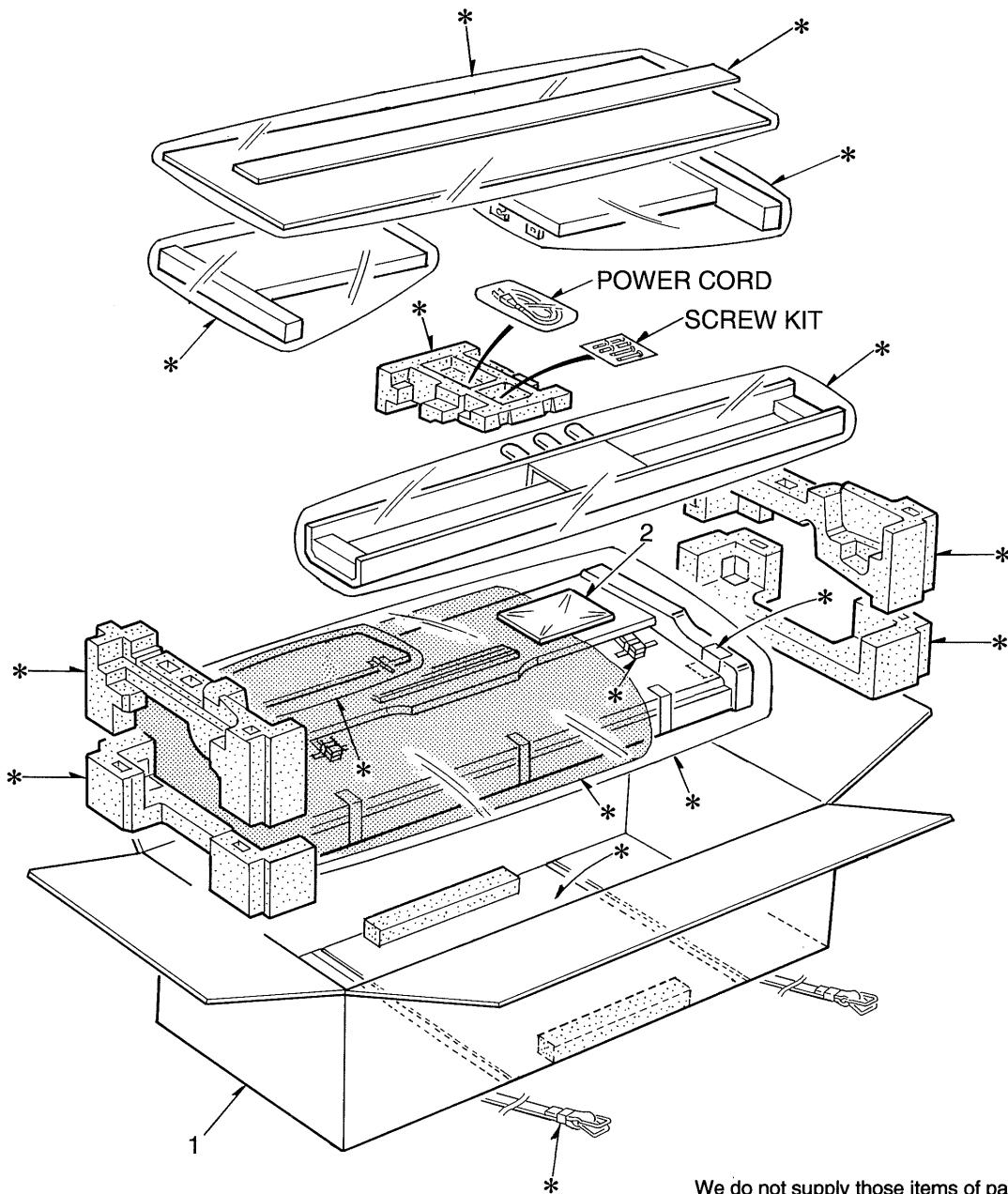


## ■ MANUAL KEYBOARD PARTS

Ref. No.	Part No.	Description	P/S
<b>SWITCH</b>			
S1	△ ESB8273V	POWER SWITCH	1
<b>MANUAL KEYBOARD PARTS</b>			
100	△ PP SHRG8390A	COVER, POWER SW	1
101	△ ABS QGUG1040AA	BUTTON, POWER SWITCH	1
102	△ PS QGPG0042AB	END COVER PANEL, LEFT	1
103	△ PS QGPG0041CB	END COVER PANEL, RIGHT	1
104	△ AS QMFG1104AA	FELT	2
105	△ AS QMWG1001AB	WHITE KEY (FIRST OCTAVE A KEY)	1
106	△ AS QMWG1002AB	WHITE KEY (B KEY)	8
107	△ AS QMWG1003AB	WHITE KEY (C KEY)	7
108	△ AS QMWG1004AB	WHITE KEY (D KEY)	7
109	△ AS QMWG1005AB	WHITE KEY (E KEY)	7
110	△ AS QMWG1006AB	WHITE KEY (F KEY)	7
111	△ AS QMWG1007AB	WHITE KEY (G KEY)	7
112	△ AS QMWG1008AB	WHITE KEY (A KEY)	7
113	△ AS QMWG1009AB	WHITE KEY (TOP OCTAVE C KEY)	1
114	△ AS QMWG2001AC	BLACK KEY	36
115	SUSG534A	SPRING	88
116	△ AS QMWG8019CA	HAMMER (BLACK KEY)	36
117	△ AS QMWG8017DA	HAMMER (WHITE KEY)	52

Ref. No.	Part No.	Description	P/S
118	SHGG9121A	RUBBER CAP (HAMMER)	88
119	PA QMWG8037AA	KEY GUIDE	88
120	ABS QMWG8022AA	FULCURUM (4 PCS. ON ONE)	1
121	ABS QMWG8021AA	FULCURUM (12 PCS. ON ONE)	7
122	SHRGA9080A	Sponge	2
123	QMFG1073AA	FELT	2
124	QMFG1230AA	FELT	2
125	QMFG1101AA	FELT	2
126	QMFG1061AB	FELT	2
127	QMFG1231AC	FELT	2
128	QMFG1086AB	FELT	2
129	QMWG6006AA	RUBBER SWITCH (8 PCS. ON ONE)	11
<b>SCREWS</b>			
N81	XTB4+12A	SCREW	4
N82	XTW3+10T	SCREW	14
N83	XTV3+10C	SCREW	2

## ■PACKING



## ■PACKING PARTS

Ref. No.	Part No.	Description	P/S
<b>PACKING PARTS</b>			
<input type="radio"/> 1	QPGG0440AA	PACKING CASE, PAPER, SX-PX332	1
<input type="radio"/> 1	QPGG0440AB	PACKING CASE, PAPER, SX-PX332M	1
<b>PACKING PARTS</b>			
<input type="radio"/> 2	QQFGPX332AA	OPERATING INSTRUCTION MANUAL, [EN, EP, X, XT, XD, XP, XM]	1
<input type="radio"/> 2	QQFGPX332CA	OPERATING INSTRUCTION MANUAL, [M]	1
<input type="radio"/> 2-1	QQTG0509A	ENGLISH	1
<input type="radio"/> 2-2	QQTG0510A	FRANCAIS, NERDERLANDS, ITALIANO	1
<input type="radio"/> 2	QQFGPX332DA	OPERATING INSTRUCTION MANUAL, [MC]	1

Ref. No.	Part No.	Description	P/S
<b>OPERATING INSTRUCTION MANUAL</b>			
<input type="radio"/> 2	QQFGPX332EA	OPERATING INSTRUCTION MANUAL, [EK, XL, XR, XS, XW]	1
<input type="radio"/> 2	QQFGPX332FA	OPERATING INSTRUCTION MANUAL, [EZ]	1
<input type="radio"/> 2-1	QQTG0510A	FRANCAIS, NERDERLANDS, ITALIANO	1
<input type="radio"/> 2-2	QQTG0511A	DEUTSCH	1
<input type="radio"/> 2	QQFGPX332GA	OPERATING INSTRUCTION MANUAL, [EW, EH]	1
<input type="radio"/> 2	QQFGPX332HA	OPERATING INSTRUCTION MANUAL, [EF]	1
<input type="radio"/> 2	QQFGPX332JA	OPERATING INSTRUCTION MANUAL, [EA]	1

# Memo

# **Memo**