

PS-DJ9000

SERVICE MANUAL

Ver 1.1 2001.06

*US Model
AEP Model
UK Model
E Model*



This set is the stereo turntable in PMPK-DJ9000.

SPECIFICATIONS

Motor and Platter

Drive system	Direct drive quartz
Motor	3 phase 8 pole Brushless DC motor
Platter	Aluminum die-cast Diameter 332 mm (13.1 inches) Weight 750 g (1.85 lbs)
Speeds	33 1/3 and 45 rpm
Wow and flutter	Less than 0.15 % (WRMS)
Signal to noise ratio	More than 55 dB (DIN-B)

Tone Arm

Type	Static balanced S-shaped tonearm with detachable headshell
Effective arm length	230 mm
Overhang	15 mm
Usable cartridge weight	4 g (min.) to 10 g (max.)

General

Power requirements	U.S.A. and Mexico: 120 V AC, 60 Hz European countries: 220 - 230 V AC, 50/60 Hz Other countries: 110 - 120 V/ 220 - 240 V AC, 50/60 Hz
Power consumption	15 W
Dimensions	Approx. 450 × 152 × 352 mm (17 11/16 × 5 11/16 × 13 3/4 in) (w/h/d)
Mass	10 kg (22 lbs)

Supplied Accessories

Platter (2)
Slip mat (2)
Dust cover (with hinges) (2)
Counterweight (2)
Cartridge and headshell (2)
45 adaptor (2)
Audio cord (with ground wire) (2)
AC power cord (2)

Design and specifications are subject to change without notice.

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Sony Corporation
Home Audio Company
Shinagawa Tec Service Manual Production Group

Replacing the Cartridge

The life expectancy of the stylus tip is about 500 hours. To maintain optimum sound quality and prevent damage to your records, we recommend replacing the cartridge before the end of this time duration. Obtain a replacement cartridge from your Sony dealer.

STEREO TURNTABLE SYSTEM

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.

Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers).

Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

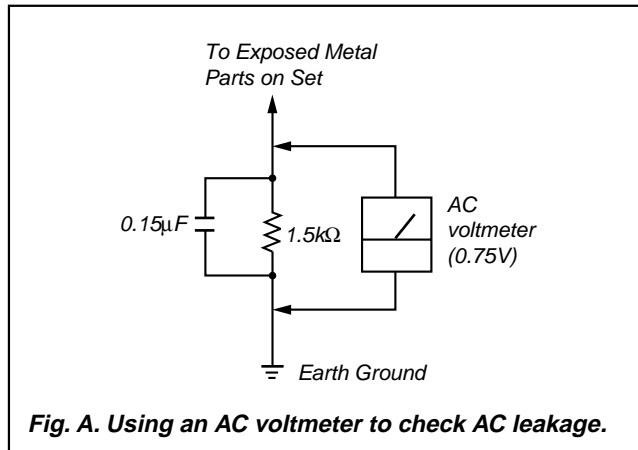


Fig. A. Using an AC voltmeter to check AC leakage.

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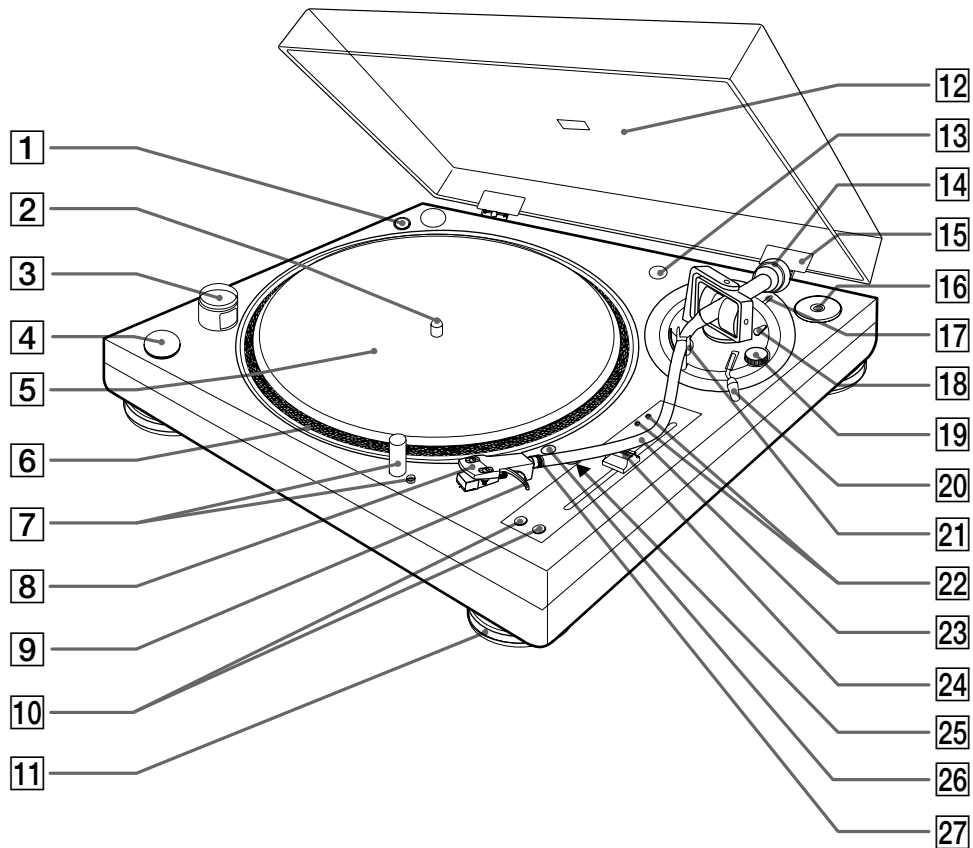
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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 GENERAL

This section is extracted from instruction manual.



1 POWER ON/OFF switch

2 Spindle

3 Strobe lamp

4 START/STOP button

5 Slip mat

6 Platter

7 TARGET LIGHT and release button

The TARGET LIGHT allows you to see the position of the stylus in the dark. Push and depress the TARGET LIGHT to turn it off. Push the release button to raise the light again and turn it on.

8 Cartridge and headshell

9 Finger lift

10 PITCH BEND + and – buttons

11 Insulator

12 Dust cover

13 Headshell holder

14 Counter weight

15 Hinge

16 45 adaptor

17 height adj (adjusting) lever

Use this lever to adjust the vertical position of the tonearm (**23**).

18 LOCK lever (for height adjustment)

19 ANTI-SKATING dial

20 Cueing lever

21 Arm stand

22 Speed-adjustment hole

This hole is for use by qualified service technicians only.

23 Tonearm

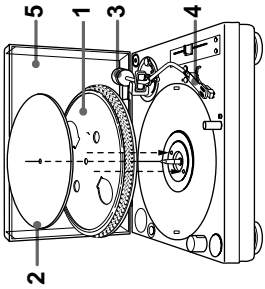
24 PITCH ADJ. (adjusting) knob

25 QUARTZ lock button

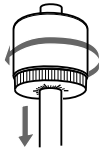
26 SPEED (33/45) button

27 Locking ring

Assembling the Turntable



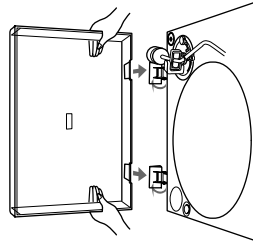
- Carefully place the platter onto the spindle. Make sure the two pins on the bottom of the platter are properly inserted into the two holes in the motor, as indicated by the arrows in the illustration above.
- Place the slip mat on the platter.
- Slide the counterweight onto the shaft at the rear of the tonearm and turn 3 or 4 times in the direction of the arrow.



- Insert the headshell into the end of the tonearm. Turn the locking ring in the direction of the arrow until the headshell is secure.



- Insert the hinges on the dust cover into the hinge pockets on the rear of the cabinet.



Getting Started

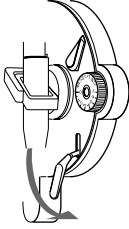
Adjusting the Turntable

Before attempting to play any records, be sure to complete the following steps to properly adjust the tonearm balance, tracking force and anti-skating dial. Failure to complete these adjustments will result in inferior sound quality and may cause permanent damage to the stylus and record.

- Make sure the turntable is level.
- Set ANTI-SKATING to "0."



- Set the cueing lever to the down position.



- Turn up the protective cover to expose the stylus, and move the tonearm to the space between the arm stand and the platter. Take care not to damage the stylus.

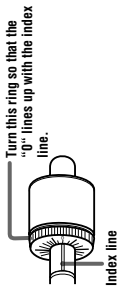
- Balance the tonearm by turning the counterweight either clockwise or counterclockwise.

When the tonearm is properly balanced it will remain level with the platter when released. It should not tilt in the direction of either the headshell or the counterweight.

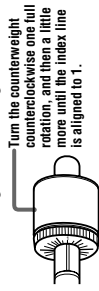
- Return the tonearm to the arm stand.

- A properly balanced tonearm has a tracking force of zero. Therefore, rotate the tracking force scale ring until "0" is aligned to the index line.

Restrain the counterweight with your other hand so that it does not rotate along with the scale ring.



- When you use the supplied cartridge, turn the counterweight counterclockwise one full rotation, and then continue turning it until the index line comes to 1. Since one full rotation of the counterweight yields a tracking force of 3 grams, this adjustment results in a tracking force of 4 grams, which is the normal requirement for the supplied cartridge. You can set a tracking force of 3 to 7 grams.

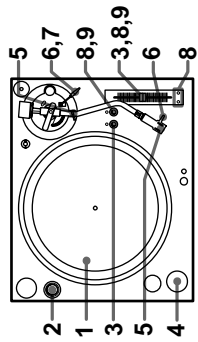


When optionally available cartridge is used

The tracking force scale ring is marked in 0.1-gram units. One full rotation yields a tracking force of 3 grams.

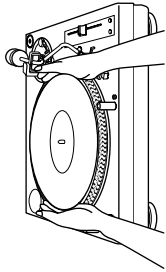
- Set ANTI-SKATING to the same value as the tracking force scale ring. The numbers on the ANTI-SKATING dial indicate the number of grams in tracking force.

Playing a Record



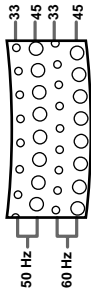
Before playing a record, be sure the PHONO LINE switch on the mixer is set to PHONO

- 1 Place a record on the platter



Note
Place only one record on the platter at a time. If two or more records are stacked on the platter, the stylus will not make proper contact with the grooves and the quality of reproduction will be impaired.

- 2 Turn the POWER switch to ON
The strobo lamp, the QUARTZ lock indicator, and SPEED indicator light up
Turn the POWER switch on the mixer and amplifier to ON also
- 3 Set PITCH ADJ knob to the center position
When the turntable is turned on, the platter speed is automatically set to 33 rpm. Verify that the green indicator lights up
- 4 Press **▶ START/STOP**
The platter starts rotating
If you select 33 rpm when the turntable is connected to a 50 Hz power source, the uppermost row of the strobe dots should appear to stand still



- 5 Remove the protective cover from the cartridge and release the arm stopper
- 6 Set the cueing lever in the up position
Move the tonearm to the desired point on the record
- 7 Set the cueing lever to the down position
The tonearm will descend slowly to the record and play will begin
- 8 If you want to change the pitch, press the QUARTZ lock button (the QUARTZ indicator will turn off). Then adjust the pitch by moving the PITCH ADJ knob
The distance from the center position to the farthest point on the scale represents a change of 10% in the pitch. You can also use the PITCH BEND + and - buttons to change the pitch (see "Using the PITCH BEND + and - buttons" on page 8)
- 9 If you wish, you can return to normal speed (33 1/3 or 45 rpm) while the PITCH ADJ knob is off center by pressing the QUARTZ lock button (the QUARTZ indicator will turn on)
Press the QUARTZ lock button again to go back to the previous pitch setting (the QUARTZ indicator will turn off)

Note
The PITCH ADJ knob does not function while the QUARTZ lock is on (i.e., while the QUARTZ indicator is on).

- 10 To adjust the volume, use the respective channel fader on the mixer, or the volume control on the stereo component system or amplifier

To stop play

- 1 Set the cueing lever in the up position and return the tonearm to the arm stand
Attach the protective cover onto the cartridge to prevent damage to the stylus
- 2 Press **▶ START/STOP**
The platter stops rotating
Secure the tonearm with the arm stopper
- 3 Turn POWER to OFF

To pause play

Press **▶ START/STOP** or set the cueing lever in the up position to raise the stylus

To play an another part of the record

- 1 Set the cueing lever to the up position to raise the stylus.
- 2 Move the tonearm to the desired position.
- 3 Set the cueing lever to the down position.

To play a 45 single

Place the supplied 45 adaptor onto the spindle. Press SPEED to select 45 rpm.
The green indicator changes to red.
After you have finished using the adaptor, return it to the adaptor tray.

Using the PITCH BEND + and - buttons

You can use the PITCH BEND + and - buttons to synchronize the beat of the selection playing on one turntable with the beat of another selection playing on the other turntable. You can use these buttons even if the QUARTZ lock button is turned on or off.

- 1 Use the PITCH ADJ knob to synchronize the speed of the selection playing on one of the turntables with the speed of the selection on the other turntable.
- 2 Press the PITCH BEND + and - buttons to synchronize the beat of both selections. Pressing and holding down the + or - button causes the selection to play 10% faster or slower than the normal playing speed.

If the strobe dots are not stationary when the PITCH ADJ knob is set to the center position

Adjust the platter speed by sliding the PITCH ADJ knob toward + or - until the strobe dots become stationary.

If you have an extra headshell, keep it in the headshell holder.

SECTION 2
DIAGRAMS

NOTE FOR PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

Note on Printed Wiring Board:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- ▨ : Pattern from the side which enables seeing.

Note on Schematic Diagram:

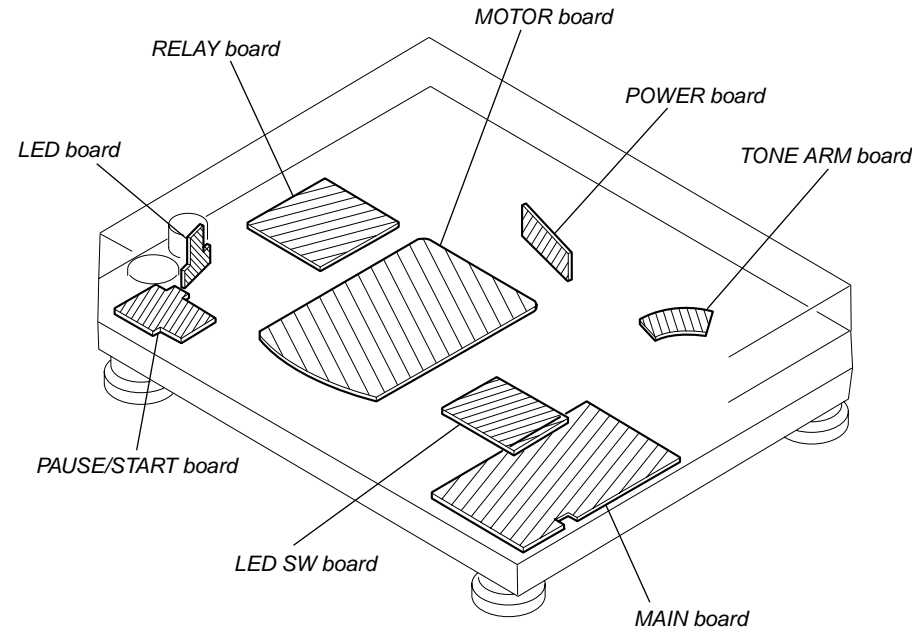
- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{ W}$ or less unless otherwise specified.
- : panel designation.

Note: The components identified by mark \triangle or dotted line with mark \triangle are critical for safety.
Replace only with part number specified.

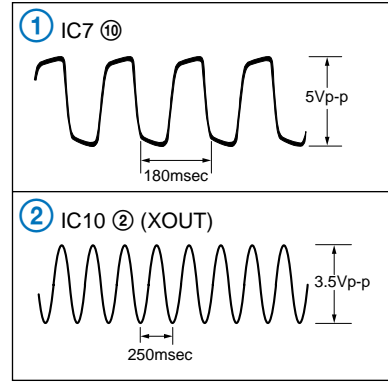
- B+ : B+ Line.
- B- : B- Line.
- Voltages are dc with respect to ground under no-signal conditions.
no mark : Power on
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.

(Continued)

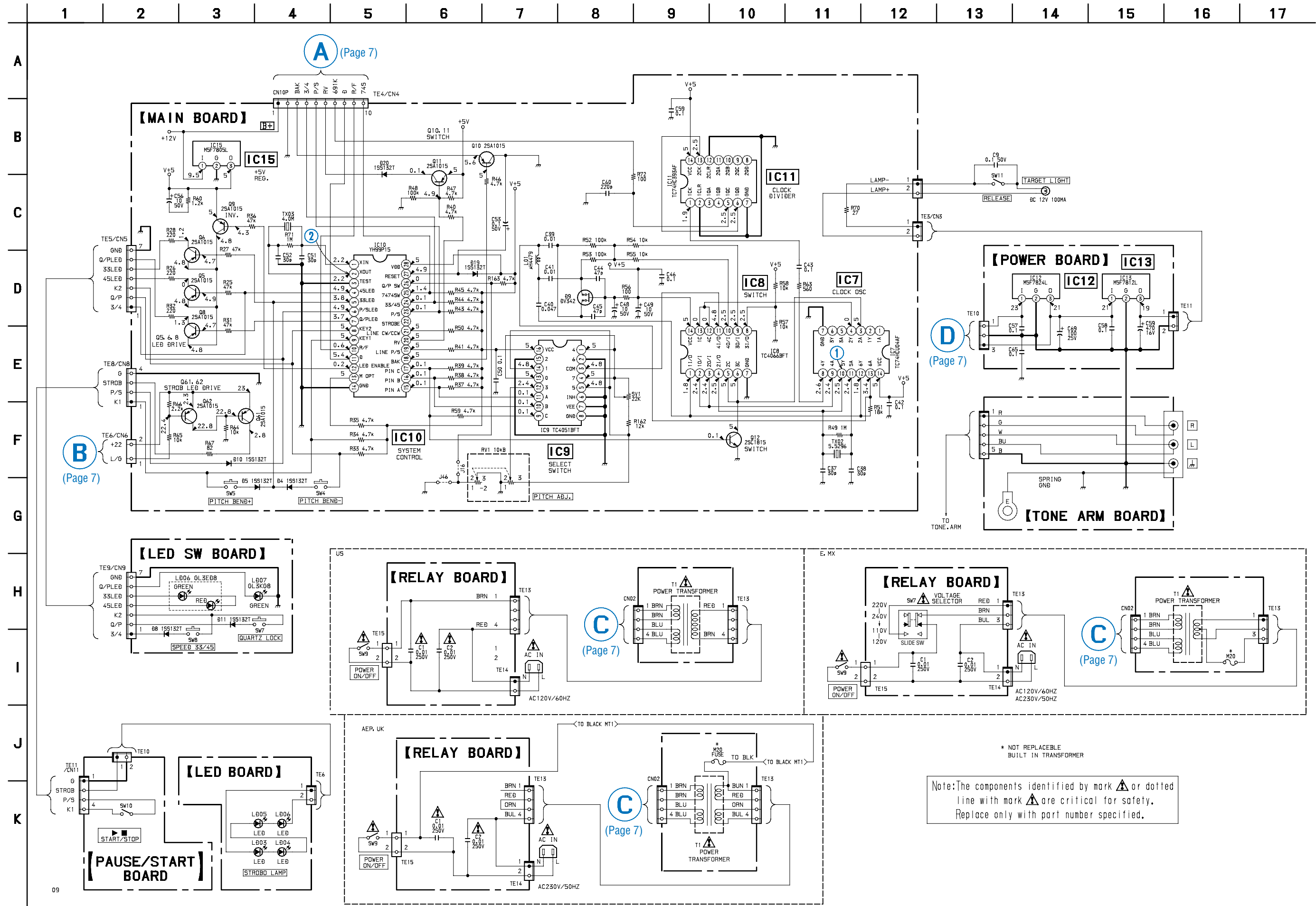
2-1. Circuit Boards Location



• WAVEFORMS
- MAIN SECTION -

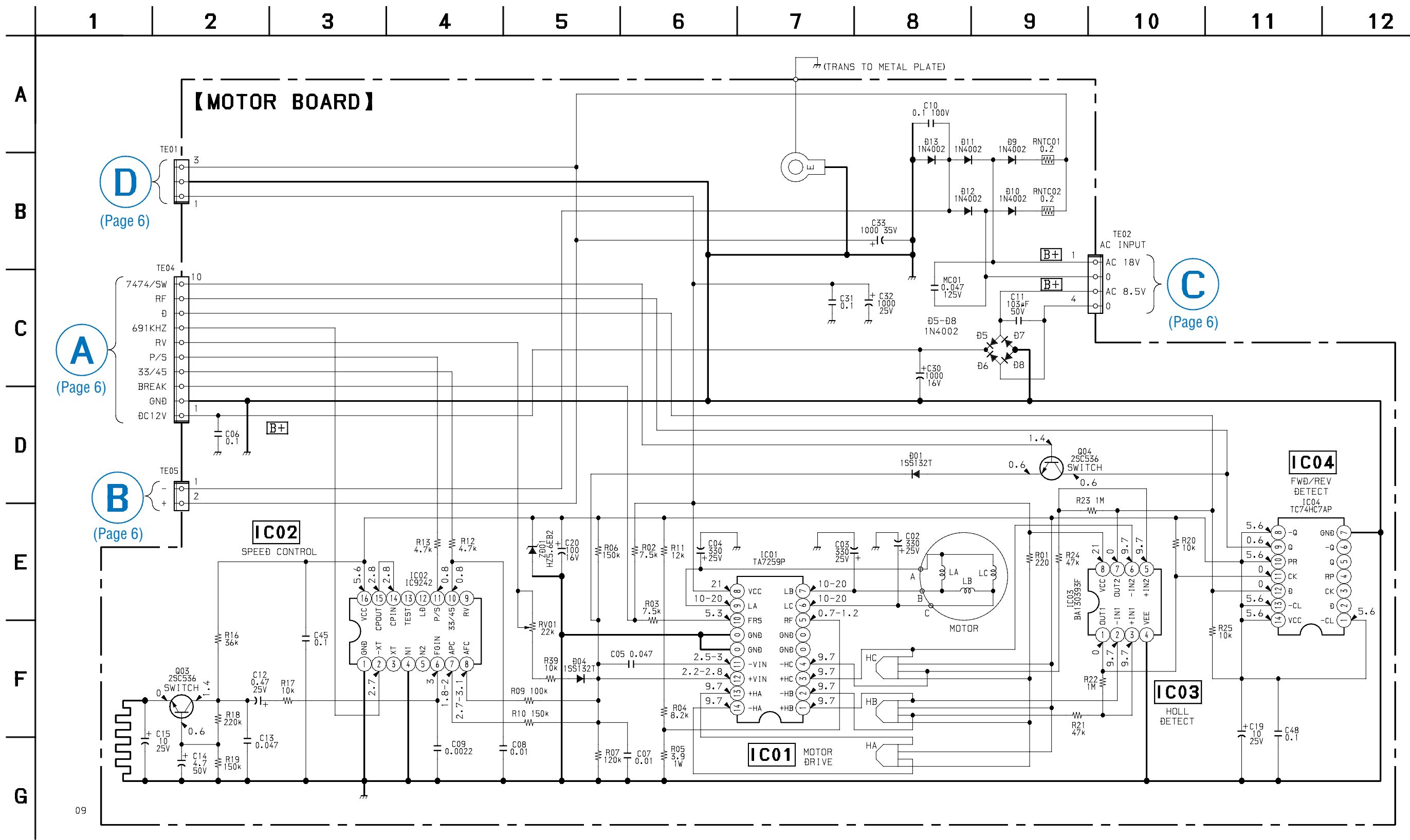


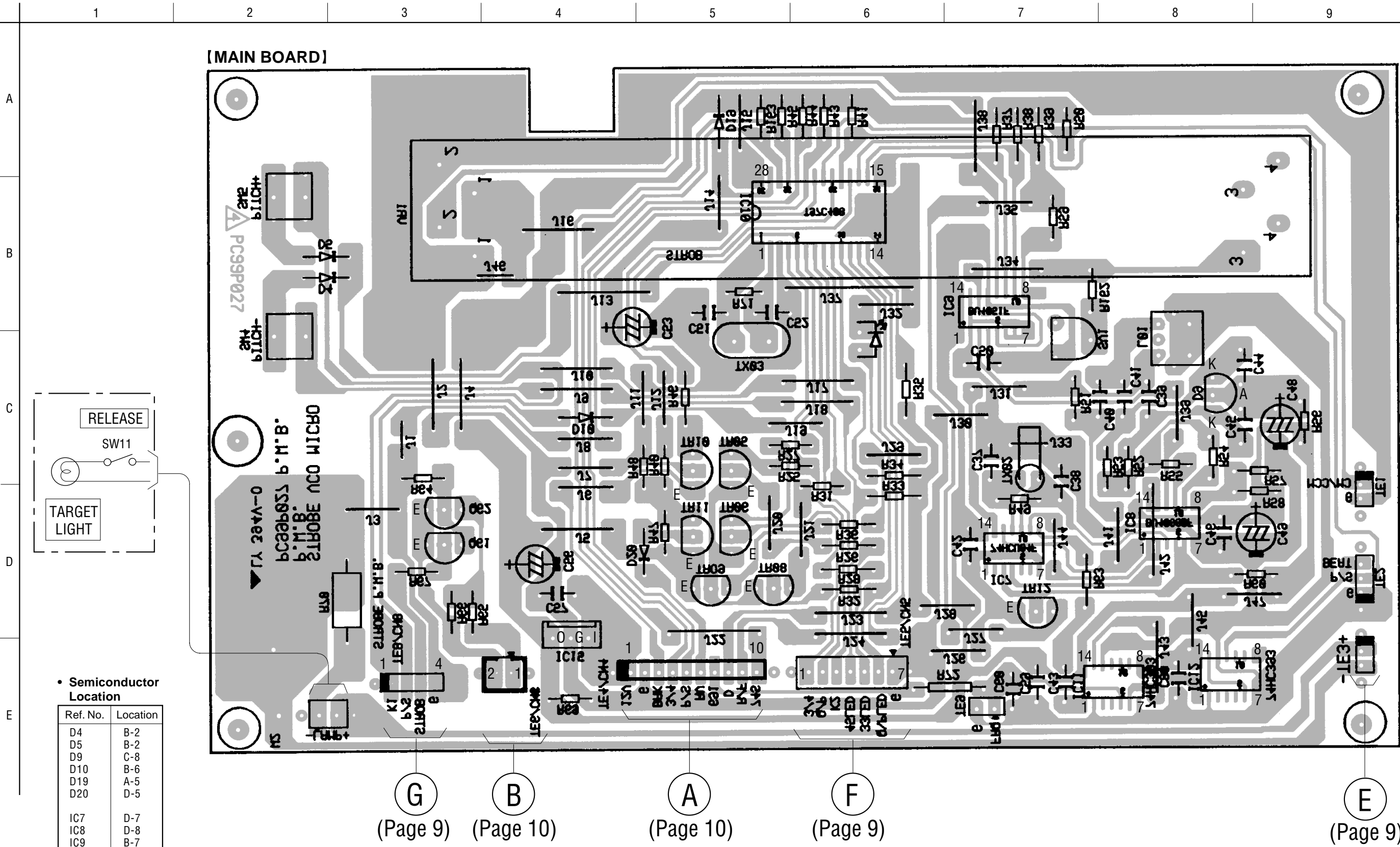
2-2. SCHEMATIC DIAGRAM – MAIN SECTION – • See Page 8 and 9 for Printed Wiring Boards.



L003, L004, L005, L006:
Exchange all the four when even this one diode breaks in either one.

2-3. SCHEMATIC DIAGRAM – MOTOR SECTION – • See Page 10 for Printed Wiring Boards.





• Semiconductor Location

Ref. No.	Location
D4	B-2
D5	B-2
D9	C-8
D10	B-6
D19	A-5
D20	D-5
IC7	D-7
IC8	D-8
IC9	B-7
IC10	B-5
IC11	E-8
IC15	D-4
Q5	C-5
Q6	D-5
Q8	D-5
Q9	D-5
Q10	C-5
Q11	D-5
Q12	D-7
Q61	D-3
Q62	D-3

G
(Page 9)

B
(Page 10)

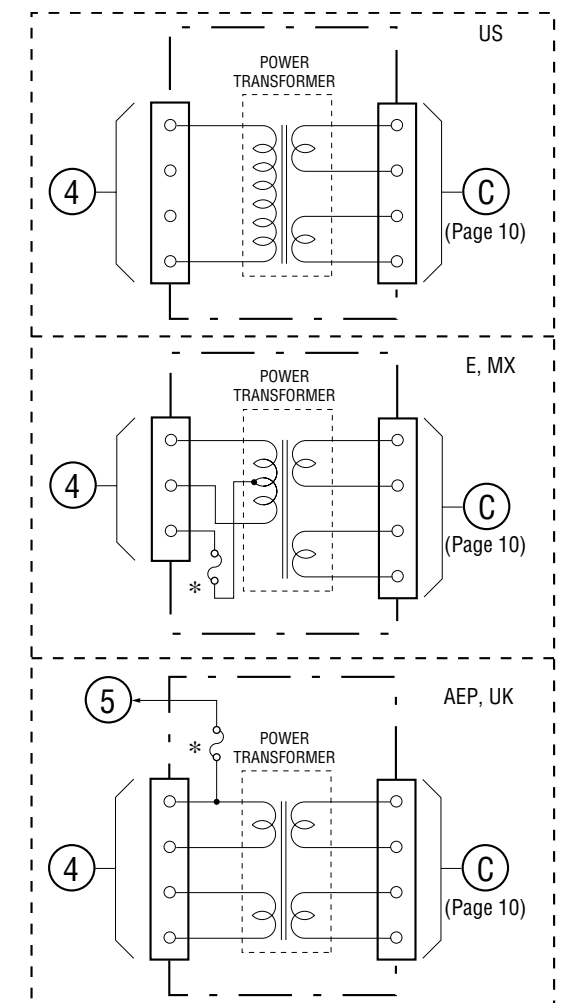
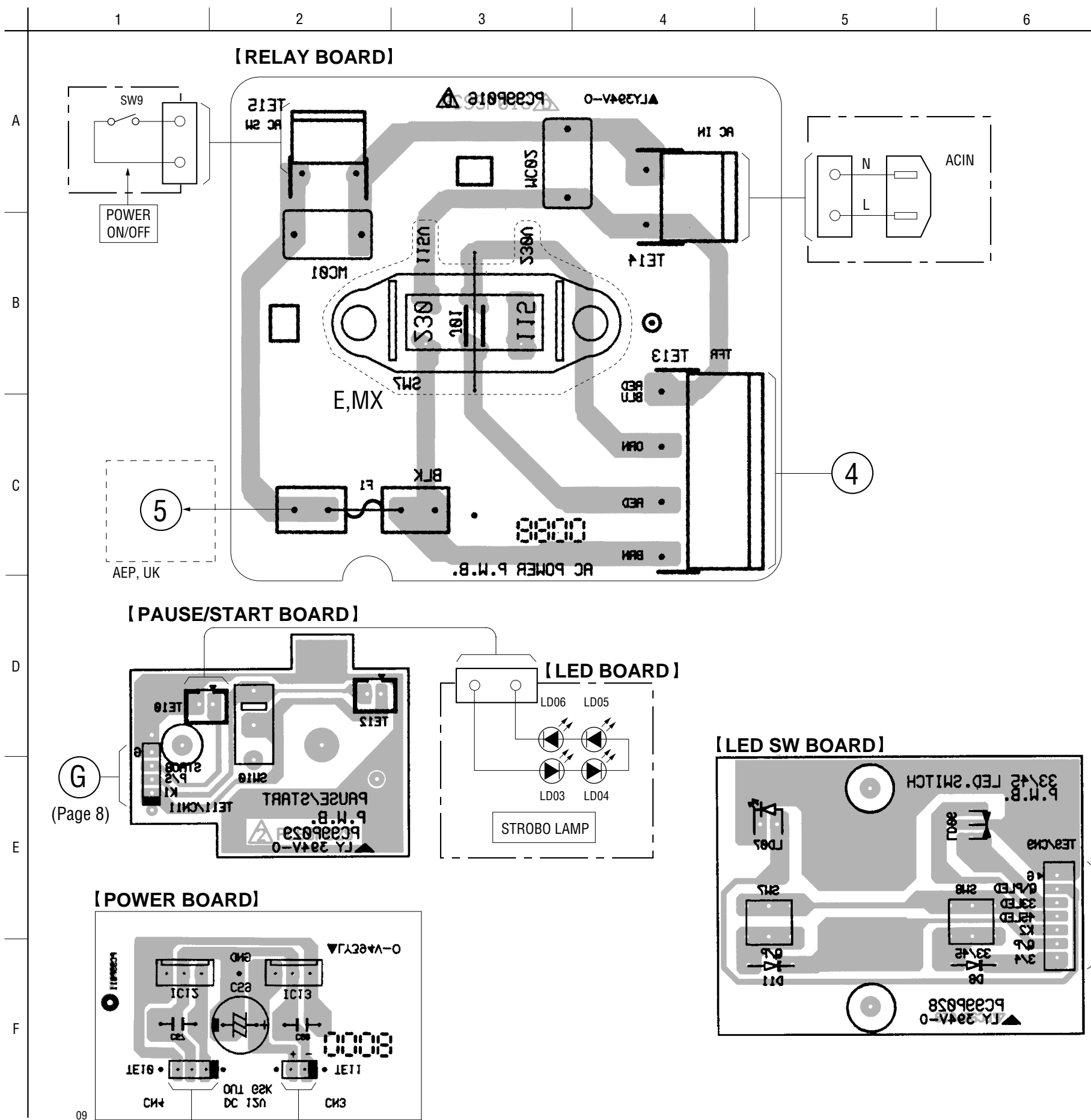
A
(Page 10)

F
(Page 9)

E
(Page 9)

There are a few cases that the part isn't mounted in model is printed on diagram.

2-5. PRINTED WIRING BOARD – POWER SECTION – • See Page 5 for Circuit Boards Location. • See Page 6 for Schematic Diagram.



* NOT REPLACEABLE:
BUILT IN TRANSFORMER

G
(Page 8)

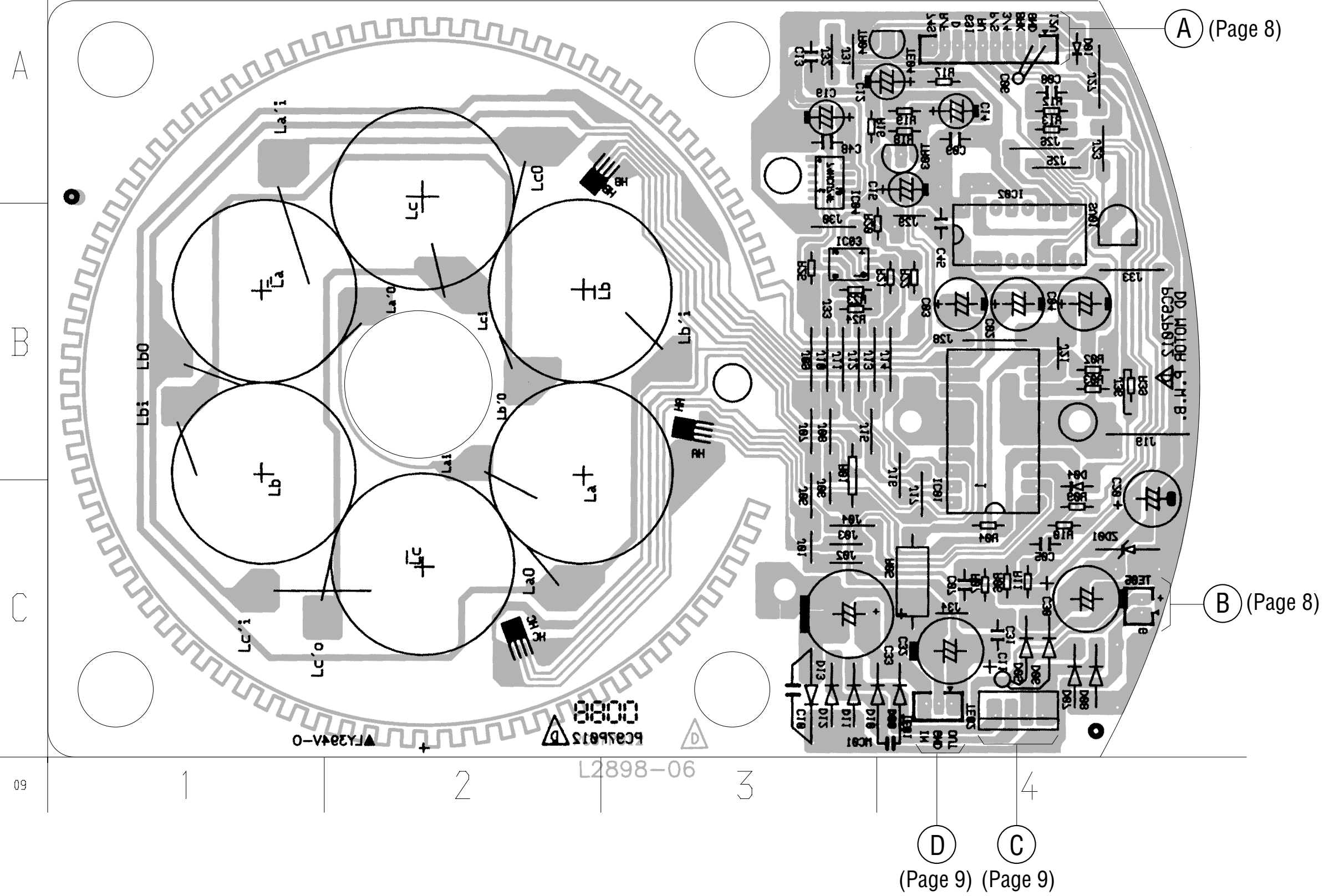
F
(Page 8)

D
(Page 10)

E
(Page 8)

There are a few cases that the part isn't mounted in model is printed on diagram.

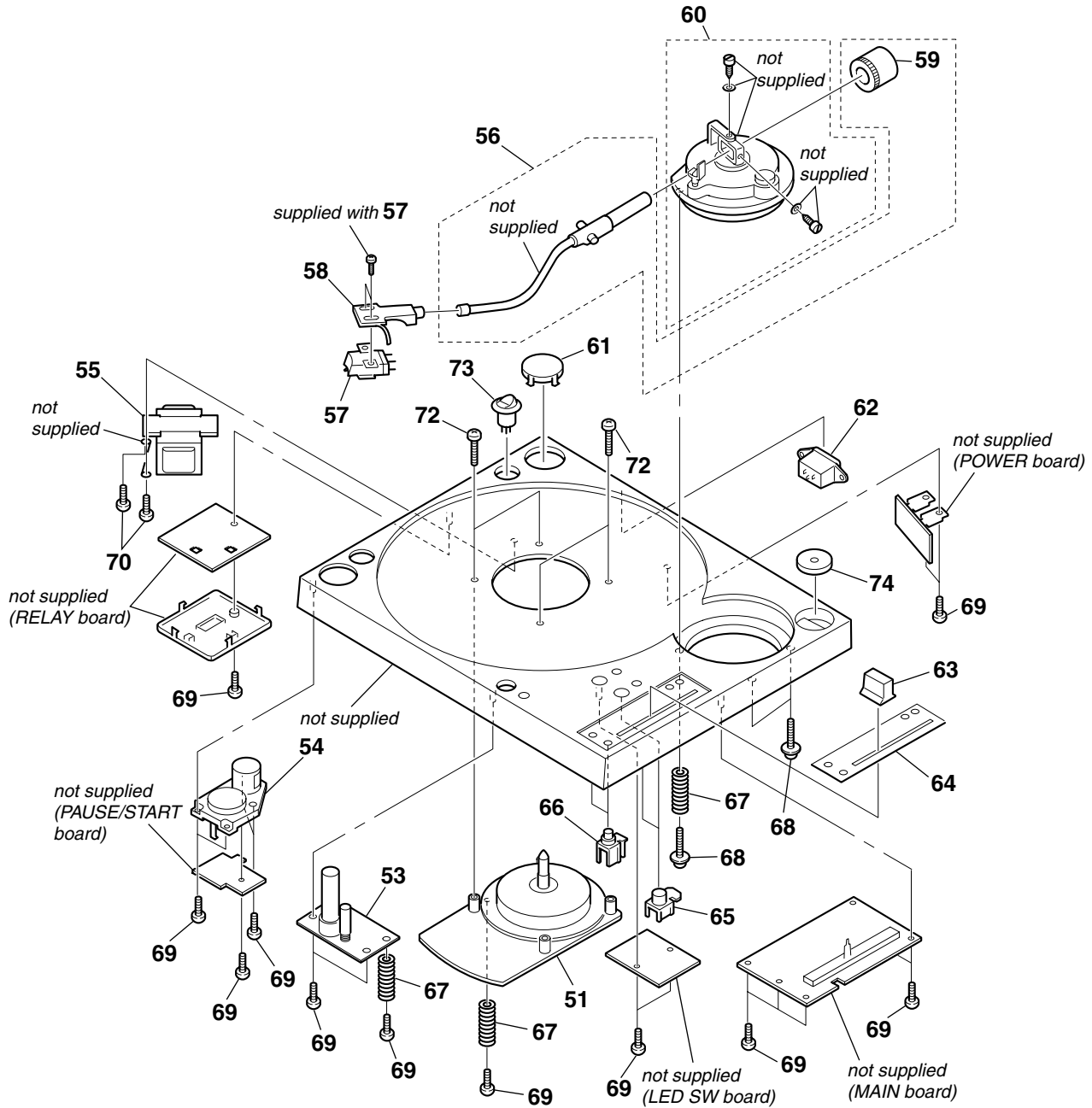
[MOTOR BOARD]



• Semiconductor Location

Ref. No.	Location
D1	A-4
D4	B-4
D5	C-4
D6	C-4
D7	C-4
D8	C-4
D9	C-4
D10	C-4
D11	C-3
D12	C-3
D13	C-3
ZD1	C-4
IC1	B-4
IC3	B-3
IC4	A-3
Q3	A-4
Q4	A-4

3-2. CABINET SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	A-4412-592-A	MOTOR BOARD, COMPLETE		64	4-231-214-01	PLATE, VR NAME	
53	4-231-231-01	TERGET (LIGHT) ASSY		65	4-231-215-01	KNOB, QUARTZ	
54	4-231-232-01	BASE ASSY, KNOB (AEP,UK)		66	4-231-212-01	KNOB, P/B (AEP,UK)	
54	4-232-018-01	BASE ASSY, KNOB (US,MX,E)		66	4-232-016-01	KNOB, P/B (US,MX,E)	
56	4-231-230-01	ARM ASSY, TONE		67	4-231-224-01	SPRING	
				68	3-703-136-11	SCREW, TAPPING	
57	1-251-931-11	CARTRIDGE (INCLUDING STYLUS)		69	7-685-647-79	SCREW +P3x10 TYPE2 SLIT	
58	4-231-511-01	SHELL ASSY, HEAD		70	7-685-903-31	SCREW +PTPWH3x10 (TYPE2)	
59	4-231-239-01	WEIGHT ASSY, COUNTER		72	7-682-162-01	SCREW +P4x10	
60	4-231-233-01	BASE ASSY, TONE ARM		73	4-231-223-01	BRACKET (POWER SW)	
61	4-231-228-01	KNOB		74	4-234-872-01	45 ADAPTOR	
				T1	1-435-743-11	TRANSFORMER, POWER (US,MX)	
62	4-231-234-01	SOCKET ASSY, AC		T1	1-435-744-11	TRANSFORMER, POWER (AEP,UK)	
63	4-231-213-01	KNOB, VR (AEP,UK)		T1	1-435-745-11	TRANSFORMER, POWER (E)	
63	4-232-017-01	KNOB, VR (US,MX,E)					

SECTION 4 ELECTRICAL PARTS LIST

LED

LED SW

MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA. . . : μ A. . . uPA. . . : μ PA. . .
uPB. . . : μ PB. . . uPC. . . : μ PC. . .
uPD. . . : μ PD. . .
- CAPACITORS
uF: μ F
- COILS
uH: μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

- Abbreviation
MX: Mexican Model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
LED BOARD *****				< DIODE >			
LD3	8-719-301-38	DIODE SEL2210S-C		D4	8-719-107-94	DIODE 1SS132T-73	
LD4	8-719-301-38	DIODE SEL2210S-C		D5	8-719-107-94	DIODE 1SS132T-73	
LD5	8-719-301-38	DIODE SEL2210S-C		D9	8-719-979-71	DIODE SVC342-L	
LD6	8-719-301-38	DIODE SEL2210S-C		D10	8-719-107-94	DIODE 1SS132T-73	
*****				D19	8-719-107-94	DIODE 1SS132T-73	
LED SW BOARD *****				D20	8-719-107-94	DIODE 1SS132T-73	
< DIODE >				< IC >			
D8	8-719-107-94	DIODE 1SS132T-73		IC7	8-759-233-64	IC TC74HCU04AF-TP1	
D11	8-719-107-94	DIODE 1SS132T-73		IC8	8-759-530-28	IC TC4066BFT(EL,N)	
LD06	8-719-981-49	DIODE GL3ED8 (SPEED 33/45)		IC9	8-759-009-05	IC TC4051BFT(EL,N)	
LD07	8-719-988-04	DIODE GL3KG8 (QUARTZ LOCK)		IC10	8-759-832-40	IC TC9915	
< SWITCH >				IC11	8-759-233-26	IC TC74HC393AF-TP1	
SW7	1-553-856-00	SWITCH, KEY BOARD (QUARTZ LOCK)		IC15	8-759-231-53	IC M5F7805L	
SW8	1-553-856-00	SWITCH, KEY BOARD (SPEED 33/45)		< TRANSISTOR >			
*****				Q5	8-729-201-53	TRANSISTOR 2SA1015-YGR	
MAIN BOARD *****				Q6	8-729-201-53	TRANSISTOR 2SA1015-YGR	
< CAPACITOR >				Q8	8-729-201-53	TRANSISTOR 2SA1015-YGR	
C37	1-162-210-31	CERAMIC	30PF 5% 50V	Q9	8-729-201-53	TRANSISTOR 2SA1015-YGR	
C38	1-162-210-31	CERAMIC	30PF 5% 50V	Q10	8-729-201-53	TRANSISTOR 2SA1015-YGR	
C39	1-162-306-11	CERAMIC	0.01uF 20.00% 16V	Q11	8-729-201-53	TRANSISTOR 2SA1015-YGR	
C40	1-164-206-41	CERAMIC	0.047uF 99% 50V	Q12	8-729-119-78	TRANSISTOR 2SC1815-YGR	
C41	1-162-306-11	CERAMIC	0.01uF 20.00% 16V	Q61	8-729-201-53	TRANSISTOR 2SA1015-YGR	
C42	1-136-165-00	FILM	0.1uF 5.00% 50V	Q62	8-729-201-53	TRANSISTOR 2SA1015-YGR	
C43	1-136-165-00	FILM	0.1uF 5.00% 50V	< RESISTOR >			
C44	1-162-215-31	CERAMIC	47PF 5% 50V	R25	1-247-871-11	CARBON	47K 5% 1/4W
C45	1-162-215-31	CERAMIC	47PF 5% 50V	R26	1-249-409-11	CARBON	220 5% 1/4W F
C46	1-136-165-00	FILM	0.1uF 5.00% 50V	R27	1-247-871-11	CARBON	47K 5% 1/4W
C48	1-126-964-11	ELECT	10uF 20.00% 50V	R28	1-249-409-11	CARBON	220 5% 1/4W F
C49	1-126-964-11	ELECT	10uF 20.00% 50V	R31	1-247-871-11	CARBON	47K 5% 1/4W
C50	1-136-165-00	FILM	0.1uF 5.00% 50V	R32	1-249-409-11	CARBON	220 5% 1/4W F
C51	1-162-210-31	CERAMIC	30PF 5% 50V	R33	1-247-847-11	CARBON	4.7K 5% 1/4W
C52	1-162-210-31	CERAMIC	30PF 5% 50V	R34	1-247-847-11	CARBON	4.7K 5% 1/4W
C53	1-126-956-11	ELECT	0.1uF 20.00% 50V	R36	1-247-871-11	CARBON	47K 5% 1/4W
C56	1-126-964-11	ELECT	10uF 20.00% 50V	R37	1-247-847-11	CARBON	4.7K 5% 1/4W
C59	1-136-165-00	FILM	0.1uF 5.00% 50V	R38	1-247-847-11	CARBON	4.7K 5% 1/4W
C60	1-162-286-31	CERAMIC	220PF 10% 50V	R39	1-247-847-11	CARBON	4.7K 5% 1/4W
				R40	1-247-847-11	CARBON	4.7K 5% 1/4W
				R41	1-247-847-11	CARBON	4.7K 5% 1/4W
				R43	1-247-847-11	CARBON	4.7K 5% 1/4W

L003, L004, L005, L006:
Exchange all the four when even this one diode breaks in either one.

MAIN	MOTOR
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Ref. No.	Part No.	Description	Remark
R44	1-247-847-11	CARBON 4.7K 5%	1/4W
R45	1-247-847-11	CARBON 4.7K 5%	1/4W
R46	1-247-847-11	CARBON 4.7K 5%	1/4W
R47	1-247-847-11	CARBON 4.7K 5%	1/4W
R48	1-247-879-11	CARBON 100K 5%	1/4W
R49	1-247-903-00	CARBON 1M 5%	1/4W
R50	1-247-847-11	CARBON 4.7K 5%	1/4W
R51	1-249-432-11	CARBON 18K 5%	1/4W
R52	1-247-879-11	CARBON 100K 5%	1/4W
R53	1-247-879-11	CARBON 100K 5%	1/4W
R54	1-247-855-11	CARBON 10K 5%	1/4W
R55	1-247-855-11	CARBON 10K 5%	1/4W
R56	1-247-807-11	CARBON 100 5%	1/4W
R57	1-247-855-11	CARBON 10K 5%	1/4W
R58	1-247-855-11	CARBON 10K 5%	1/4W
R59	1-247-847-11	CARBON 4.7K 5%	1/4W
R60	1-247-855-11	CARBON 10K 5%	1/4W
R63	1-247-825-11	CARBON 560 5%	1/4W
R64	1-247-855-11	CARBON 10K 5%	1/4W
R65	1-247-855-11	CARBON 10K 5%	1/4W
R66	1-247-839-11	CARBON 2.2K 5%	1/4W
R67	1-249-404-00	CARBON 82 5%	1/4W F
R70	1-247-693-11	CARBON 27 5%	1/4W F
R71	1-247-903-00	CARBON 1M 5%	1/4W
R72	1-247-807-11	CARBON 100 5%	1/4W
R162	1-249-430-11	CARBON 12K 5%	1/4W
R163	1-247-847-11	CARBON 4.7K 5%	1/4W
< VARIABLE RESISTOR >			
RV1	1-227-359-11	RES, VAR (SLIDE) 10K	
SV1	1-241-765-11	RES, ADJ, CARBON 22K	
< SWITCH >			
SW4	1-553-856-00	SWITCH, KEY BOARD (PITCH BEND -)	
SW5	1-553-856-00	SWITCH, KEY BOARD (PITCH BEND +)	
< VIBRATOR >			
TX02	1-795-150-11	VIBRATOR CRYSTAL (5.5296MHz)	
TX03	1-795-151-11	VIBRATOR CRYSTAL (4MHz)	

A-4412-592-A	MOTOR BOARD, COMPLETE		

< CAPACITOR >			
C2	1-126-940-11	ELECT 330uF 20.00%	25V
C3	1-126-940-11	ELECT 330uF 20.00%	25V
C4	1-126-940-11	ELECT 330uF 20.00%	25V
C5	1-101-006-99	CERAMIC 0.047uF	50V
C6	1-164-159-11	CERAMIC 0.1uF	50V
C7	1-101-004-00	CERAMIC 0.01uF	50V
C8	1-101-004-00	CERAMIC 0.01uF	50V
C9	1-101-002-00	CERAMIC 0.0022uF	
C10	1-164-159-11	CERAMIC 0.1uF	50V
C11	1-101-004-00	CERAMIC 0.01uF	50V
C12	1-126-959-11	ELECT 0.47uF	25V
C13	1-101-006-99	CERAMIC 0.047uF	50V
C14	1-126-963-11	ELECT 4.7uF	50V
C15	1-126-964-11	ELECT 10uF	20.00% 50V

Ref. No.	Part No.	Description	Remark
C19	1-126-964-11	ELECT 10uF	20.00% 50V
C20	1-126-768-11	ELECT 2200uF	20.00% 16V
C30	1-126-942-11	ELECT 1000uF	20.00% 25V
C31	1-164-159-11	CERAMIC 0.1uF	50V
C32	1-126-942-11	ELECT 1000uF	20.00% 25V
C33	1-126-952-11	ELECT 1000uF	20.00% 35V
C45	1-164-159-11	CERAMIC 0.1uF	50V
C48	1-164-159-11	CERAMIC 0.1uF	50V
< DIODE >			
D1	8-719-107-94	DIODE 1SS132	
D4	8-719-107-94	DIODE 1SS132	
D5	8-719-200-02	DIODE 1N4002	
D6	8-719-200-02	DIODE 1N4002	
D7	8-719-200-02	DIODE 1N4002	
D8	8-719-200-02	DIODE 1N4002	
D9	8-719-200-02	DIODE 1N4002	
D10	8-719-200-02	DIODE 1N4002	
D11	8-719-200-02	DIODE 1N4002	
D12	8-719-200-02	DIODE 1N4002	
D13	8-719-200-02	DIODE 1N4002	
DZ1	8-719-109-89	DIODE HZ5.6EB2	
< IC >			
IC1	8-759-202-02	IC TA7259P	
IC2	8-759-832-39	IC IC9242P	
IC3	8-759-510-72	IC BA10393F-E1	
IC4	8-759-032-81	IC TC74HC74AP	
< TRANSISTOR >			
Q3	8-729-281-53	TRANSISTOR 2SC536-2F	
Q4	8-729-281-53	TRANSISTOR 2SC536-2F	
< RESISTOR >			
R2	1-247-852-11	CARBON 7.5K 5%	1/4W
R3	1-247-852-11	CARBON 7.5K 5%	1/4W
R5	1-216-356-00	METAL OXIDE FILM 3.9	5% 1/4W
R6	1-247-883-00	CARBON 150K 5%	1/4W
R7	1-247-879-11	CARBON 100K 5%	1/4W
R9	1-247-879-11	CARBON 100K 5%	1/4W
R10	1-247-883-00	CARBON 150K 5%	1/4W
R11	1-247-857-11	CARBON 12K 5%	1/4W
R12	1-247-847-11	CARBON 4.7K 5%	1/4W
R13	1-247-847-11	CARBON 4.7K 5%	1/4W
R16	1-247-868-11	CARBON 36K 5%	1/4W
R17	1-247-855-11	CARBON 10K 5%	1/4W
R18	1-247-887-00	CARBON 220K 5%	1/4W
R19	1-247-883-00	CARBON 150K 5%	1/4W
R20	1-247-855-11	CARBON 10K 5%	1/4W
R21	1-247-847-11	CARBON 4.7K 5%	1/4W
R22	1-247-903-00	CARBON 1M 5%	1/4W
R23	1-247-903-00	CARBON 1M 5%	1/4W
R24	1-247-847-11	CARBON 4.7K 5%	1/4W
R25	1-247-855-11	CARBON 10K 5%	1/4W
R39	1-247-855-11	CARBON 10K 5%	1/4W
< VARIABLE RESISTOR >			
SV1	1-241-765-11	RES, ADJ, CARBON 22K	

PAUSE/START

POWER

RELAY

TONE ARM

Ref. No. Part No. Description Remark

PAUSE/START BOARD

<SWITCH>

SW10 1-570-245-11 SWITCH, MICRO (▶■ START STOP)

POWER BOARD

< CAPACITOR >

C57	1-164-159-11	CERAMIC	0.1uF	50V
C58	1-164-159-11	CERAMIC	0.1uF	50V
C59	1-126-935-11	ELECT	470uF	20.00% 16V
C65	1-164-159-11	CERAMIC	0.1uF	50V
C69	1-126-942-61	ELECT	1000uF	20.00% 25V

< IC >

IC12 8-759-604-89 IC M5F7824L
IC13 8-759-231-58 IC M5F7812L

RELAY BOARD

< CAPACITOR >

△C1	1-113-925-11	CERAMIC	0.01uF	20.00% 250V
△C2	1-113-925-11	CERAMIC	0.01uF	20.00% 250V

<SWITCH>

△SW7 1-786-111-11 SWITCH, VOLTAGE SELECTION (E,MX)

TONE ARM BOARD

MISCELLANEOUS

57	1-251-931-11	CARTRIDGE		
△62	4-231-234-01	SOCKET ASSY AC		
△T1	1-435-743-11	TRANSFORMER, POWER (US,MX)		
△T1	1-435-744-11	TRANSFORMER, POWER (AEP,UK)		
△T1	1-435-745-11	TRANSFORMER, POWER (E)		

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

