

# AIWA®

S/M Code No. 85-007  
DATE OF ISSUE 3/1985

# SERVICE MANUAL

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**TYPE. HB, UB, EB, KB**

**STEREO TURNTABLE  
SYSTEM**

**MODEL NO.**

**LX-80**



**STEREO TURNTABLE  
SYSTEM**

**MODEL NO.**

**LX-120**



# SPECIFICATIONS

## LX-80

### <Turntable Section > Drive system

Fully automatic belt-drive turntable system

**Motor**  
**Turntable platter**  
**Speeds**  
**Wow & flutter**  
**S/N ratio**

DC electronically regulated motor  
Aluminum alloy diecast  
33-1/3 and 45 rpm  
0.055% (WRMS)  
70 dB (DIN-B)

### <Tonearm Section > Type

Linear tracking type,  
straight Dynamic type  
139.5 mm  
10'

**Effective arm length**  
**Tracking error**

### <Cartridge > Type

VM type  
20—20,000 Hz  
2.5 mV

**Frequency response**  
**Output voltage**

### <General >

#### Power requirements

**LX-80 U**  
AC 120 V, 60 Hz  
**LX-80 E,**  
AC 220 V, 50/60 Hz  
**LX-80 K**  
AC 240 V, 50/60 Hz  
**LX-80 H**  
AC 120 V/220 V/240 V  
switchable, 50/60 Hz

#### Power consumption Dimensions

10 W  
330(W) × 85(H) × 330(D) mm  
(13" × 3-3/8" × 13")

#### Weight Accessories

3.2 kg (7 lbs.)  
EP adaptor

- Design and specifications are subject to change without notice.

## LX-120

### <Turntable Section > Drive system

Frequency generated direct drive system

**Motor**

4-phase 8-pole linear torque DD  
hall motor

**Speeds**  
**Wow & flutter**  
**S/N ratio**

33-1/3 and 45 rpm  
0.045% (WRMS)  
75 dB (DIN-B)

### <Tonearm Section > Type

Linear tracking type,  
straight dynamic type  
139.5 mm  
10'

**Effective arm length**  
**Tracking error**

### <Cartridge > Type

VM type  
20—20,000 Hz  
2.5 mV (1 kHz 3.45 cm/sec)

**Frequency response**  
**Output voltage**

### <General >

#### Power requirements

**LX-120 U**  
AC 120 V, 60 Hz  
**LX-120 E,**  
AC 220 V, 50/60 Hz  
**LX-120 K**  
AC 240 V, 50/60 Hz  
**LX-120 H**  
AC 120 V/220 V/240 V  
switchable, 50/60 Hz

#### Power consumption Dimensions

15 W  
330(W) × 85(H) × 330(D) mm  
(13" × 3-3/8" × 13")

#### Weight Accessories

3.5 kg (7.7 lbs.)  
EP adaptor

- Design and specifications are subject to change without notice.

ELECTRICAL MAIN PARTS LIST (LX-80, 120)

+++ mark denotes a component of assembled part which part code is represented by a previously stated component.
\*-mark means less required items and availabilities may be limited.

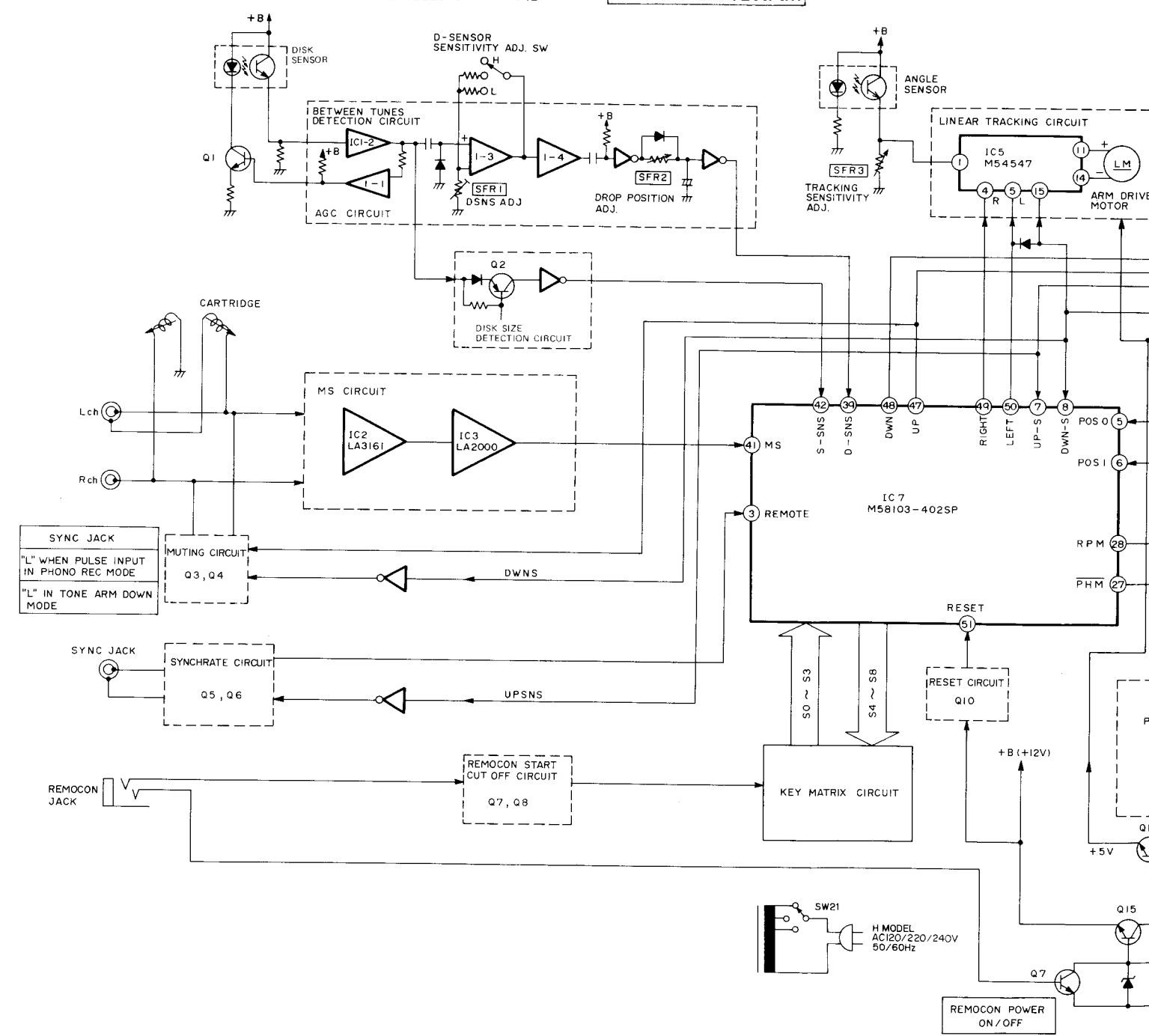
CAPACITORS COILS FUSE
No mark, U, UF: μF MMH: mH MMA: mA
P, PF : pF UH : μH

Table with 6 columns: Ref.No., Part.No., Description, Ref.No., Part.No., Description. It lists various electronic components like ICs, transistors, capacitors, and transformers across different circuit board sections.

Note; Combination Circuit Board
The parts on the electrical parts list which are indicated by an asterisk (\*) are supplied as one single combined circuit board.

- Combination Circuit Board:84-131-610
PCB-A 84-131-611
PCB-B 84-131-612
PCB-C 84-131-613
Combination Circuit Board:84-133-630
PCB-D 84-133-630
PCB-E 84-133-632

BLOCK DIAGRAM



- +++ mark denotes a component of assembled part which part code is represented by a previously stated component.
- \* -mark means less required items and availabilities may be limited.

CAPACITORS COILS FUSE  
No mark, U, UF:  $\mu$ F MMH: mH MMA: mA  
P, PF : pF UH :  $\mu$ H

ption	Ref.No.	Part.No.	Description	Ref.No.	Part.No.	Description
						=== MISCELLANEOUS ===
	D135	* 87-020-383	LED,PR57571-20 (PRG-4)			
	D136	* 87-020-383	LED,PR57571-20 (PRG-5)			
	D137	* 87-020-383	LED,PR57571-20 (PRG-6)			
	D138	* 87-020-383	LED,PR57571-20 (PRG-7)			
	D139	* 87-020-377	LED,PG5731KY (OPERATE)			
	D140	* 87-027-943	LED,PR5751K (FG LOCK LX-120 ONLY)			
	D141	87-027-097	DIODE,1S1555			
	D142	87-027-097	DIODE,1S1555			
	D143	87-027-097	DIODE,1S1555 (LX-80 ONLY)			
	D144	87-027-349	DIODE,ZENER HZ6A1L			
	D145	87-027-556	DIODE,ZENER HZ11B3L (LX-80 ONLY)			
	D145	87-027-676	DIODE,ZENER HZ12B3LT2 (LX-120 ONLY)	M1	84-133-627	MOTOR DC PHONO,MM1-5 ASSY (LX-80 ONLY)
	D146	87-027-676	DIODE,ZENER HZ12B3LT2	M1	84-131-625	MOTOR DC PHONO,SS09AA (LX-120 ONLY)
	D147	87-027-365	DIODE,S5277B	M2	84-133-614	MOTOR DC,MMN-S (LINEAR DRIVE)
	D148	87-027-376	DIODE,1B4B41	M3	84-133-613	MOTOR DC,PON-8 (UD) (UP/DOWN)
	D149	87-027-097	DIODE,1S1555	PT1	84-131-602	TRANSFORMER,PT (U) (U ONLY)
	L101	* 84-131-620	COIL,OSC 490K(T)	PT1	84-131-603	TRANSFORMER,PT (E) (E ONLY)
	L102	* 87-003-051	COIL CHOKE 470UH	PT1	84-131-605	TRANSFORMER,PT (H) (H ONLY)
	L103	87-005-126	COIL CHOKE 1000UH	SW19	87-031-871	LEAF SW1-2 (UP/DOWN)
	R221	87-025-277	RES,MF 1/4W-2.2KF (LX-80 ONLY)	SW21	87-031-685	ROTARY SW (VOLTAGE SELECTOR) (H ONLY)
	SFR1	* 87-021-747	SFR 220K			
	SFR2	* 87-021-745	SFR 47KB			
	SFR3	* 87-021-743	SFR 22K			
	SFR4	* 87-021-743	SFR 22K (LX-80 ONLY)			
	SFR5	* 87-021-741	SFR 4.7K (LX-80 ONLY)			
	SW1	84-131-621	PUSH SW,2-2 SUN 12.5 (POWER)			
	SW2	87-031-741	TACT SW (PRG1)			
	SW3	87-031-741	TACT SW (PRG2)			
	SW4	87-031-741	TACT SW (PRG3)			
	SW5	87-031-741	TACT SW (PRG4)			
	SW6	87-031-741	TACT SW (PRG5)			
	SW7	87-031-741	TACT SW (PRG6)			
	SW8	87-031-741	TACT SW (PRG7)			
	SW9	87-031-741	TACT SW (CLEAR)			
	SW10	87-031-741	TACT SW (INTRO PLAY/LIST)			
	SW11	87-031-741	TACT SW (LEFT)			
	SW12	87-031-741	TACT SW (RIGHT)			
	SW13	87-031-741	TACT SW (REPEAT)			
	SW14	87-031-741	TACT SW (F.SKIP)			
	SW15	87-031-741	TACT SW (B.SKIP)			
	SW16	87-031-741	TACT SW (START/CUT)			
	SW17	87-031-870	SLIDE SW 2-3 SSY (SENSOR)			
	SW18	87-031-869	SLIDE SW 2-2 SSY (SPEED)			
	SW20	87-031-741	TACT SW (UP/DOWN)			
			=== REMOTE CIRCUIT BOARD SECTION ===			
	PCB-B	* 84-131-617	REMOTE CIRCUIT BOARD			
	J1		STEREO JACK 3.5,M7T (REMOTE)			
			=== POWER CIRCUIT BOARD SECTION ===			
	PCB-C	* 84-131-618	POWER CIRCUIT BOARD			
			=== POSITION SENSOR CIRUCIT BOARD SECTION ===			
	PCB-D	* 84-131-619	POSITION SENSOR CIRCUIT BOARD			
	CP102	* 87-020-448	PHOTO INTERRUPTER GP-2S04CB			
	CP103	* 87-020-448	PHOTO INTERRUPTER GP-2S04CB			
			=== ANGLE SENSOR CIRCUIT BOARD SECTION ===			
	PCB-E	* 87-020-150	ANGLE SENSOR CIRCUIT BOARD			
	CP101	* 87-020-150	PHOTO INTERRUPTER KU107			

**Note: Combination Circuit Board**  
The parts on the electrical parts list which are indicated by an asterisk (\*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

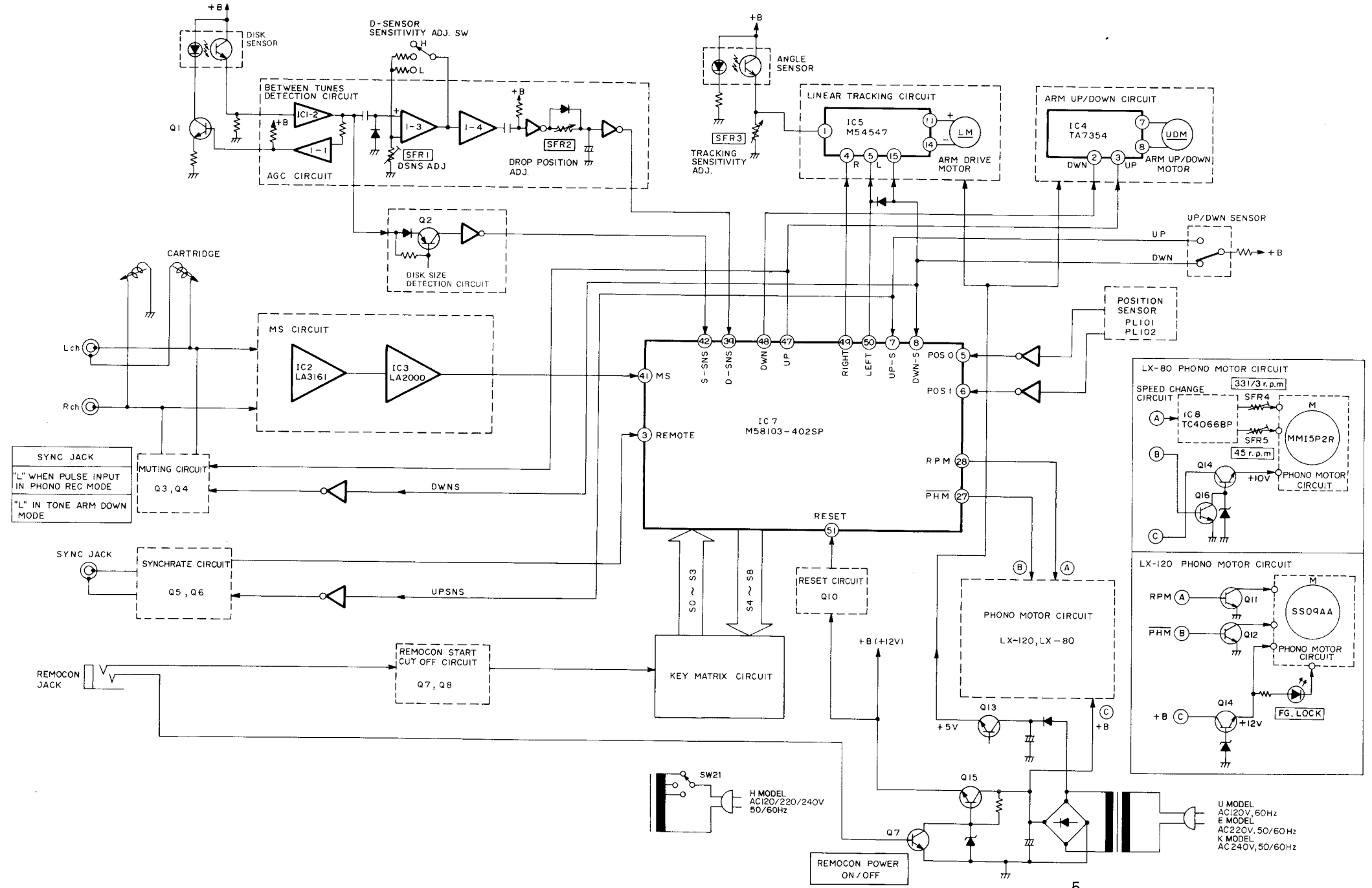
- Combination Circuit Board:84-131-610**  
PCB-A 84-131-611  
PCB-B 84-131-612  
PCB-C 84-131-613
- Combination Circuit Board:84-133-630**  
PCB-D 84-133-630  
PCB-E 84-133-632

**C-MOS IC handling precaution**  
The C-MOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care in regard to following articles.

1. Need to be put on conductive sheet, to be put in a metallic box and to be wrapped by aluminium foil for transportation and deposit.
2. To use solder iron less than 40W (less than 260°C) of power consumption for soldering. But do not overheat more than 10 second.
3. Do not perform a conductivity test with a tester, etc. Refer to the circuit voltages of each part.
4. The ICs on the electrical parts which are indicated by an C-MOS IC symbol mark (  $\text{Ⓢ}$  ).

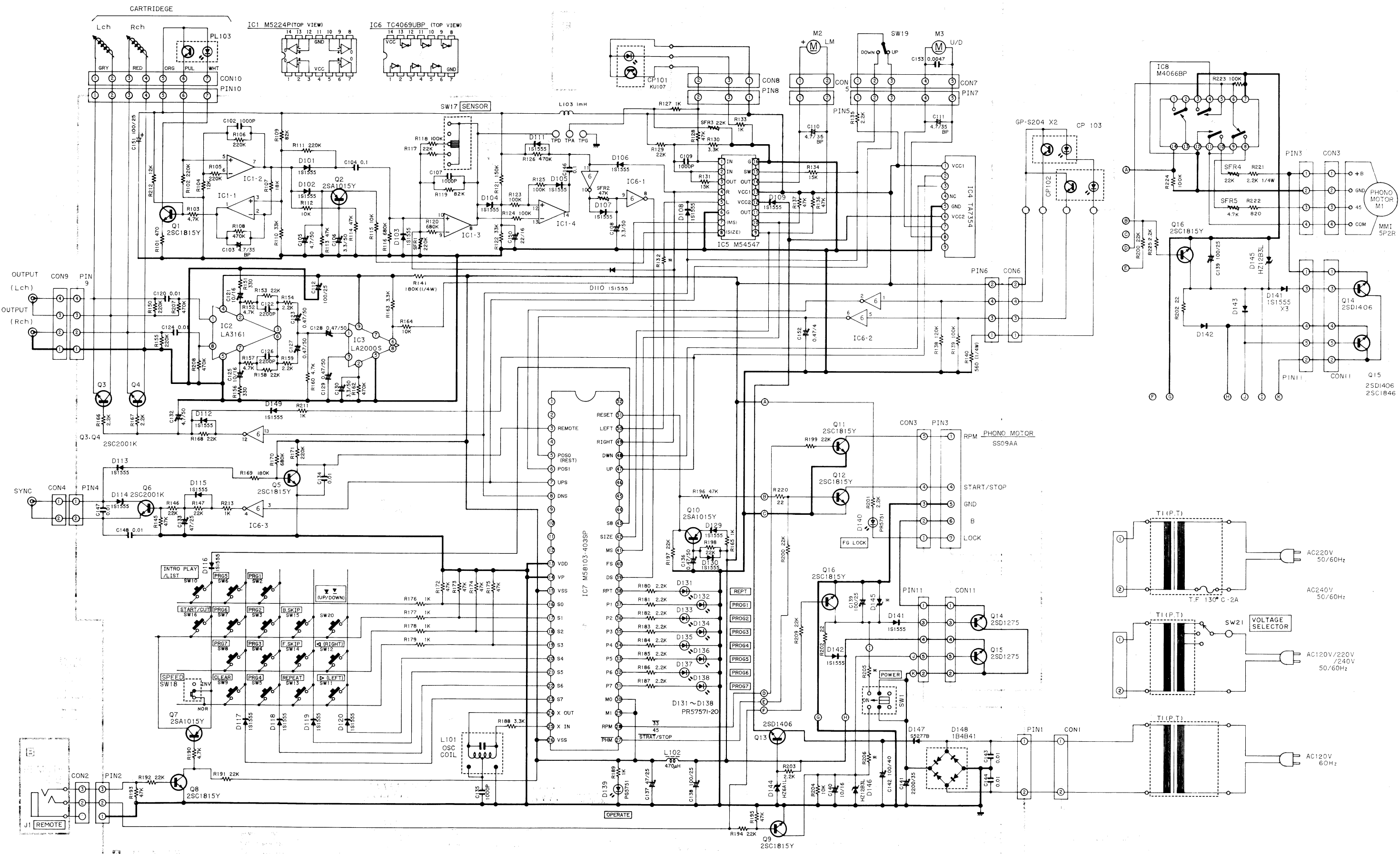
**⚠ Safety component symbol**  
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

**BLOCK DIAGRAM**

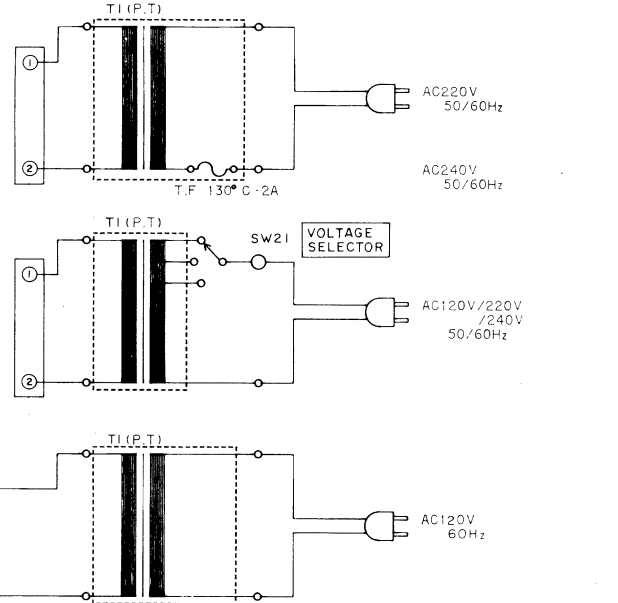
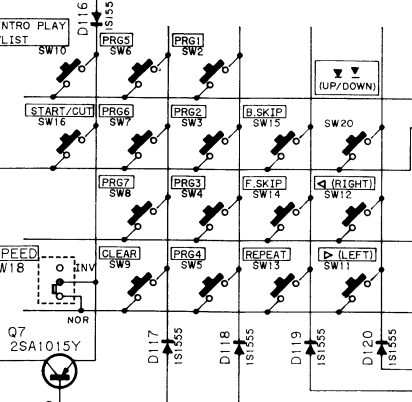
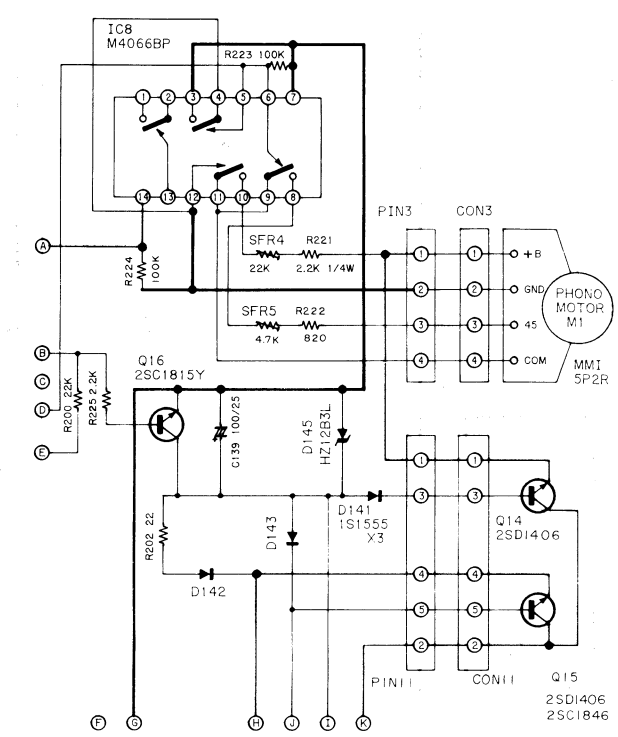
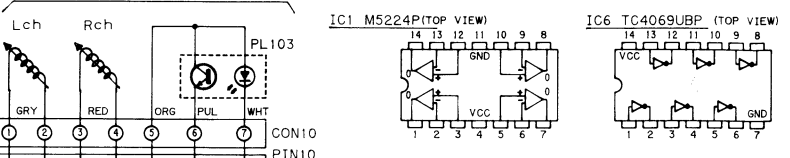


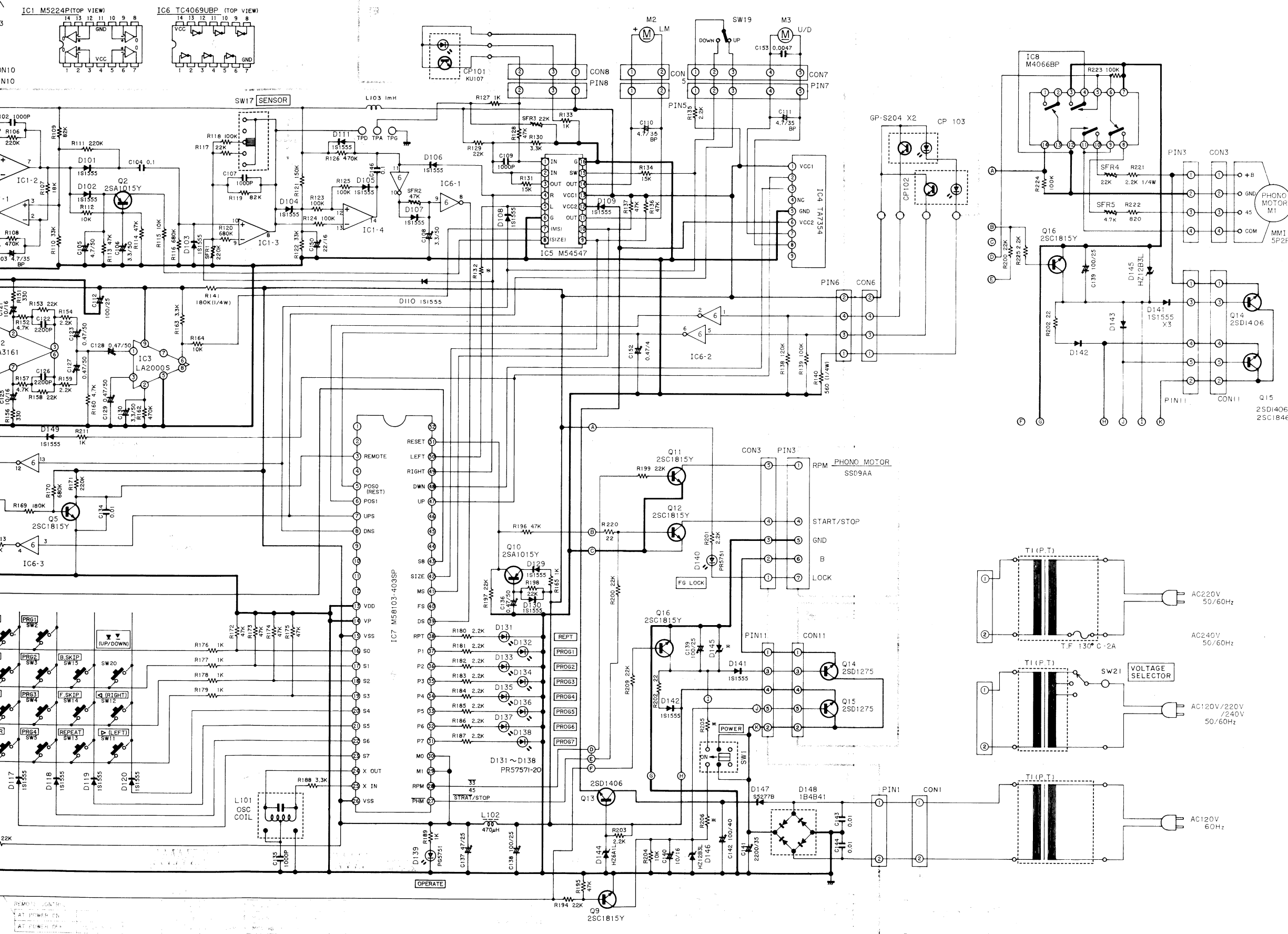
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



CARTRIDGE

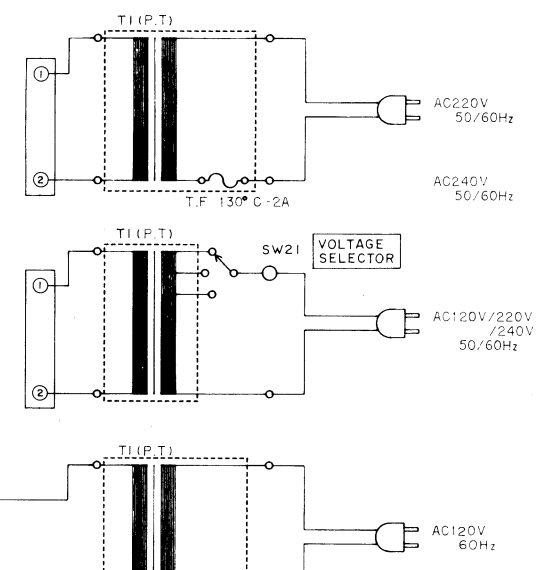
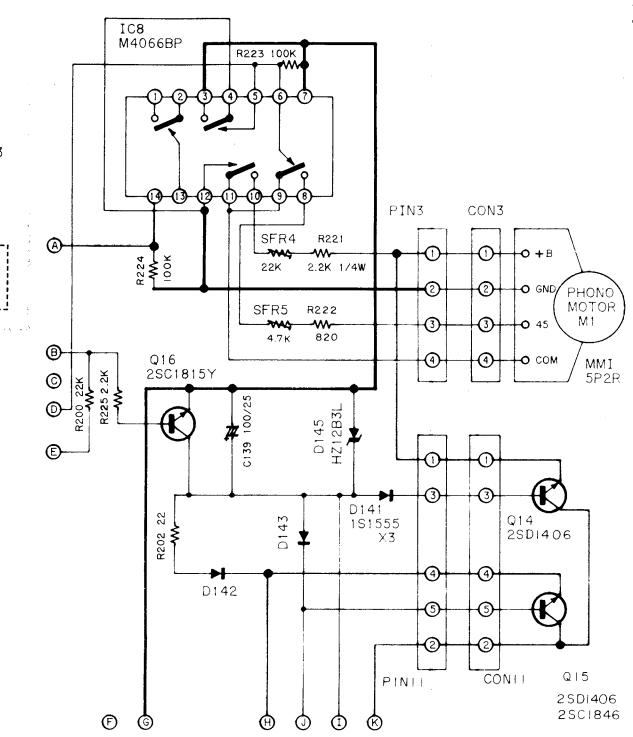
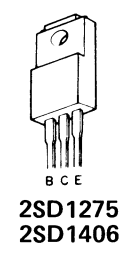
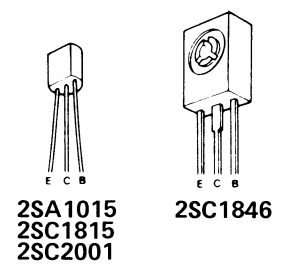




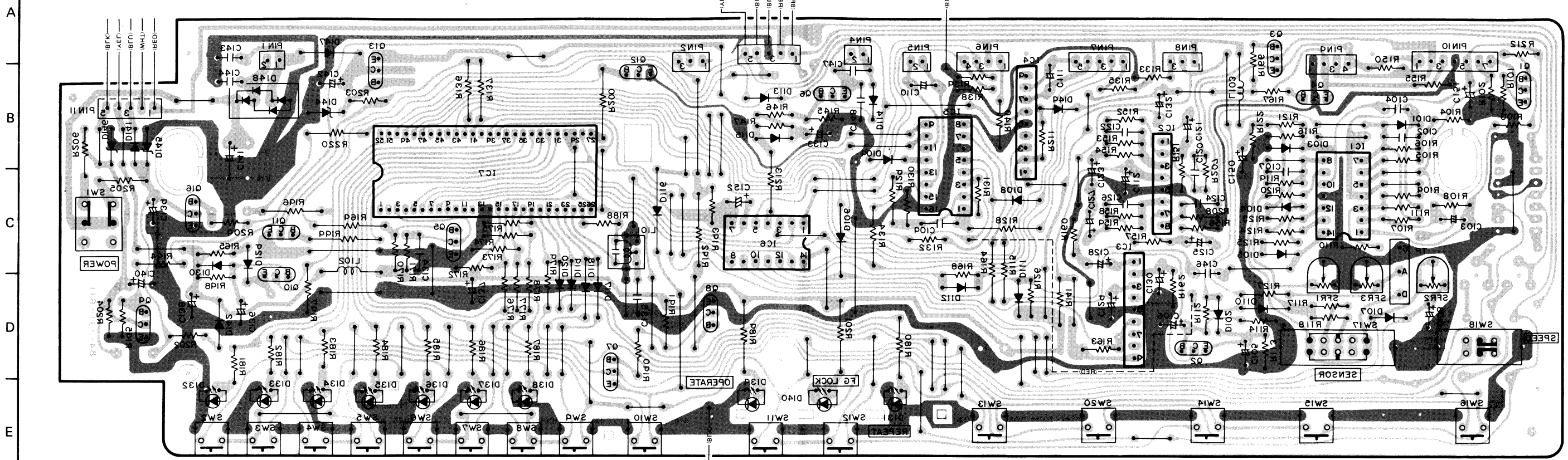
- NOTES:**
- 1) B (+) power supply
  - 2) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals.
  - 3) Resistors with no designation have a rated power of 1/8W and a tolerance of ±5%.
  - 4) Capacitors with no designation have a dielectric strength of less than 50WV.
  - 5) The only capacitor tolerance indicated are ±5% (J) and ±10% (K).
  - 6) Ceramic capacitor symbols:
    - |—|— For temperature compensation (SL)
    - |—|— High dielectric constant system (YY)
    - |—|— High dielectric constant system (YW, YP, YZ)
    - |—|— Semiconductor ceramic
    - |—|— For temperature compensation (SH)
- Explanation of symbols  
 Bi-polarized capacitor

**Safety component symbol**  
 This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

● This schematic diagram is subject to change without notice in the interests of improved performance.



● COMPONENT VIEW (Reverse print: LX-120)

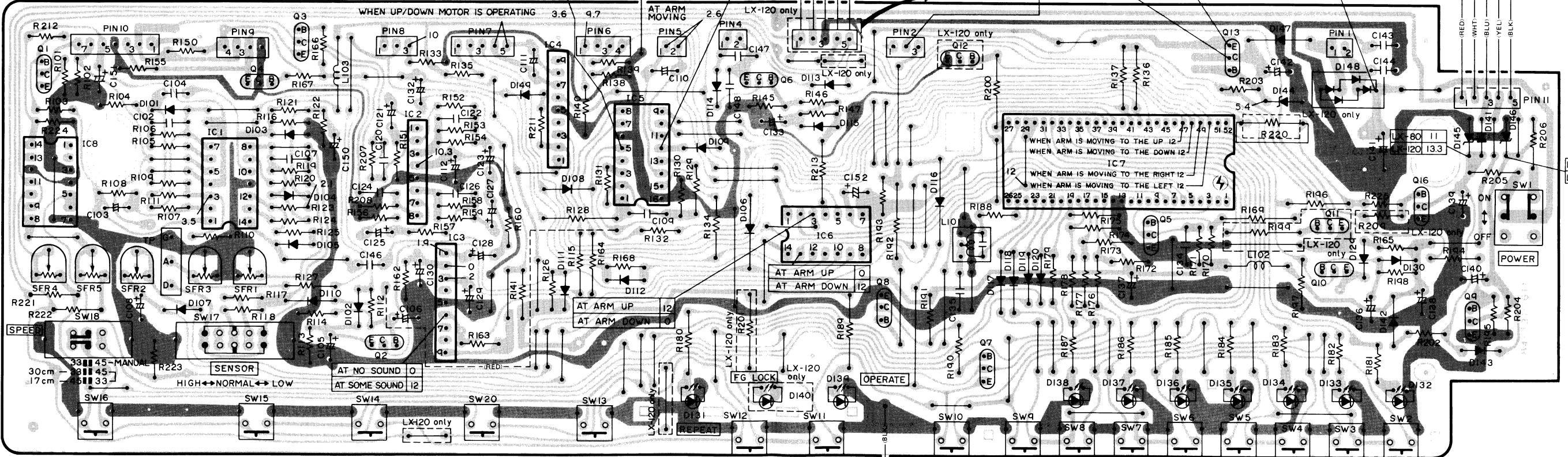


NOTES

- (1) Earth pattern Others pattern
- (2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

● PATTERN VIEW

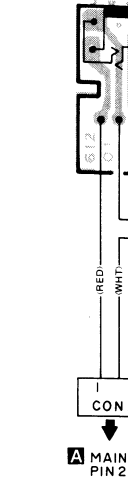
▲ MAIN C.B



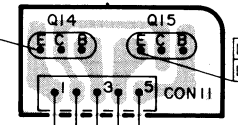
START / CUT    B. SKIP    F. SKIP    (UP/DOWN)    REPEAT    <(RIGHT)>    <(LEFT)>    INTRO PLAY/LIST    CLEAR    SW8,D138    SW7,D137    SW6,D136    SW5,D135    SW4,D134    SW3,D133    SW2,D132

TO PLATE PANEL

▶ REMO



● POWER C.B



REMOTE CONTROL	
AT POWER ON	0
AT POWER OFF	10 or MORE

LX-80	AT STOP	0
LX-120	AT PLAY	10
LX-120		11.8

LX-80/LX-120		LX-80		LX-80/LX-120	
AT ARM MOVING	18 26	4.8	AT POWER OFF	24.5	35
AT REST	21.8 30	5.1	REST POSITION	21	30
			AT PLAY	21	29

WHEN ARM IS MOVING TO THE LEFT	7
AT ARM STOP	11.6
AT ARM MOVING	4

AT ARM MOVING	2.6
AT ARM UP	0
AT ARM DOWN	12

AT ARM MOVING	2.6
AT ARM UP	0
AT ARM DOWN	12

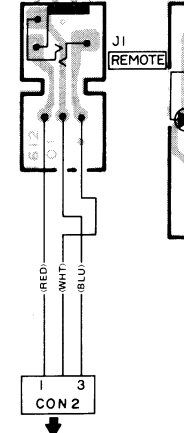
WHEN ARM IS MOVING TO THE UP	12
WHEN ARM IS MOVING TO THE DOWN	12
WHEN ARM IS MOVING TO THE RIGHT	12
WHEN ARM IS MOVING TO THE LEFT	12

LX-80	11
LX-120	13.3

LX-80	13.4
LX-120	13.7

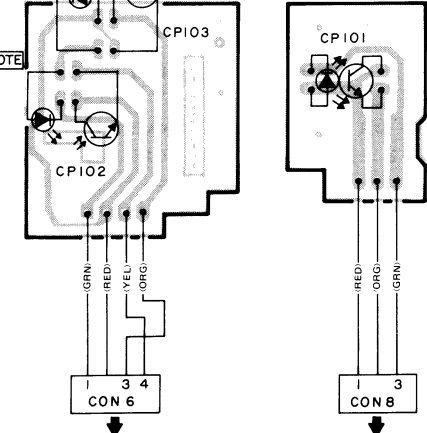
POSITION SENSOR C.B

REMOTE C.B

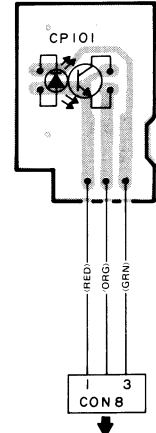


A MAIN C.B. PIN 2

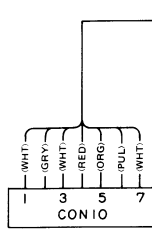
ANGLE SENSOR C.B



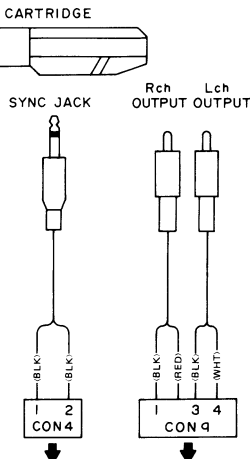
A MAIN C.B. PIN 6



A MAIN C.B. PIN 8



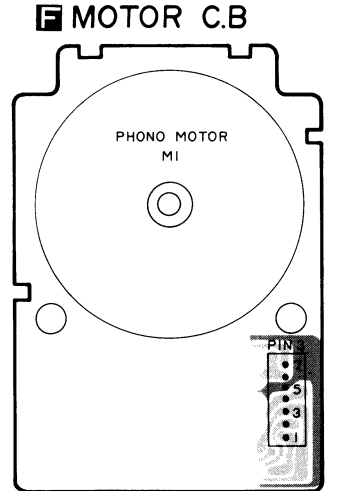
A MAIN C.B. PIN 10



A MAIN C.B. PIN 4

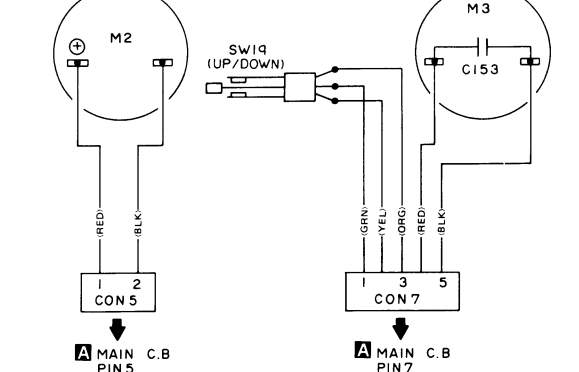
A MAIN C.B. PIN 9

LX-120 only



A MAIN C.B. PIN 11

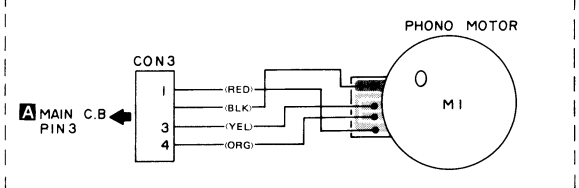
LINEAR DRIVE MOTOR



A MAIN C.B. PIN 5

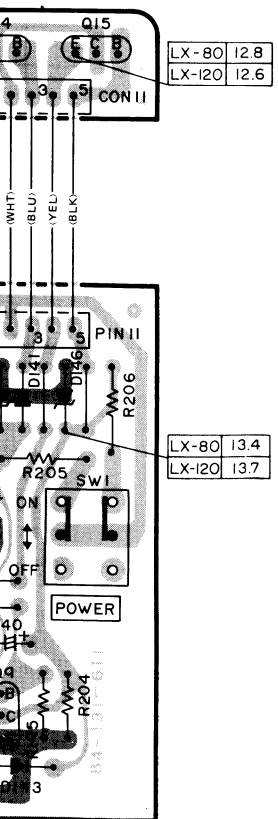
A MAIN C.B. PIN 7

LX-80 only



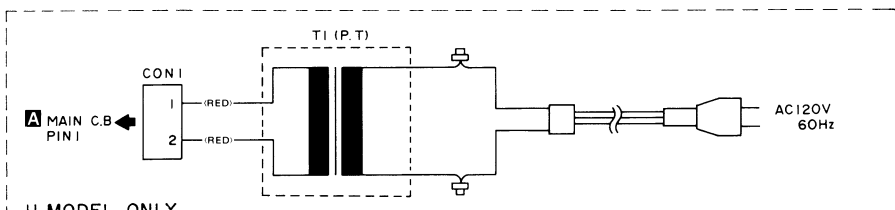
A MAIN C.B. PIN 3

POWER C.B.

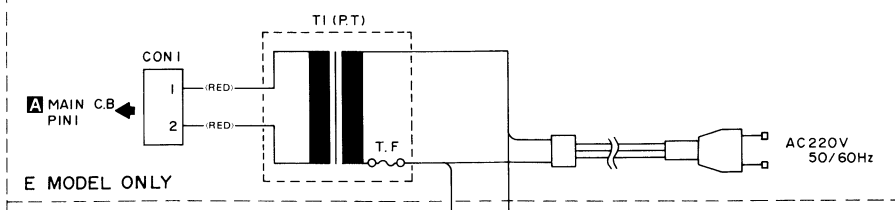


LX-80 12.8  
LX-120 12.6

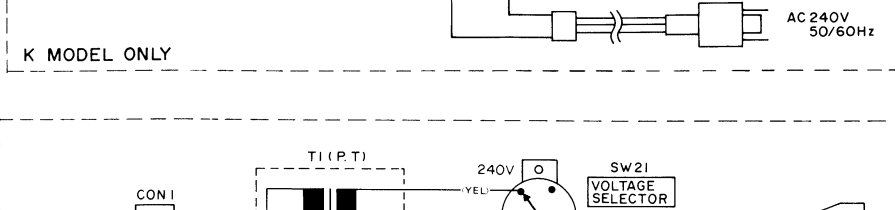
LX-80 13.4  
LX-120 13.7



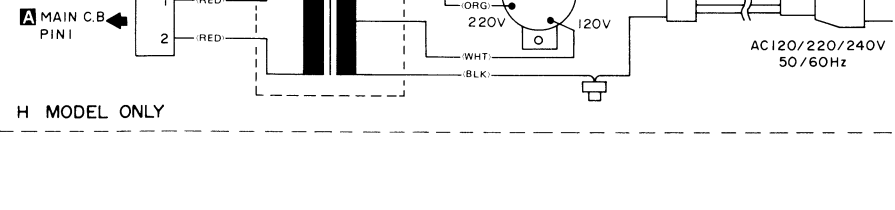
U MODEL ONLY



E MODEL ONLY



K MODEL ONLY



H MODEL ONLY

IC Pin Description

\* As to TA 7354P (IC 4) and M54547 (IC 5), see the service manual of LX-20.

Pin No.	Pin mark	Function
1, 2	—	Not used.
3	REMOTE	Remote control input. Start performance at the rise to "HIGH" from "LOW".
4	—	Not used.
5	POST 0	Detects the amount of movement of the tone arm by counting the position sensor input pulses.
6	POST 1	Tone arm movement range detection input. The arm can move within a certain range at "L" level.
7	UP-S	Tone arm UP sensor input. "H" during UP operation.
8	DN-S	Tone arm DOWN sensor input. "H" during DOWN operation.
9, 10, 11	—	Not used.
12	—	Not used.
13	V <sub>DD</sub>	GND
14	V <sub>SS</sub>	+12V
15	—	Not used.
16~19	S <sub>0</sub> ~S <sub>3</sub>	Key inputs
20~23	S <sub>4</sub> ~S <sub>7</sub>	Key matrix outputs
24	X <sub>0</sub>	Clock output.  6V <sub>p-p</sub> , 500kHz
25	X <sub>1</sub>	Clock input.  12V <sub>p-p</sub> , 470kHz
26	V <sub>SS</sub>	+12V
27	PHM	Phonomotor ON/OFF control output. Rotates at "L" and stops at "H"
28	RPM	Phonomotor speed control output. "L": 33 rpm "H": 45 rpm
29	M <sub>1</sub>	+12V
30	M <sub>0</sub>	+12V
31 35 37	PRG 7 PRG 3 PRG 1	Program No. LED indication outputs. Lit at "H".
38	REPEAT	REPEAT indication output. Lit at "H".
39	D.S	Disc sensor input. The rise to "H" from "L" is set to becomes the input.
40	—	Not used.
41	MS	Performance finish signal input.
42	SS	Record size detection input. The rise from "L" to "H" is the input.
43	S <sub>8</sub>	Key matrix output.
44~46	—	Not used.
47	UP	Arm UP output. "H" during arm UP operation.
48	DOWN	Arm DOWN output. "H" during arm DOWN operation.
49	RIGHT	Arm rightward movement output. "H" during arm movement to the right.
50	LEFT	Arm leftward movement output. "H" during arm movement to the left.
51	RST	RESET input. Reset when "H" level is applied for the period of 36μs or more.
52	—	Not used.



Preparation for Adjustment

Adjusting components are covered with two plates ... Plate O and Plate U. Before performing the following adjustment, remove the plate O, which is under the tonearm, by pushing against with a screwdriver from the bottom side, and take off the plate U, which is on the right hand corner, with a knife.

Plate O ... Refer to the paragraph of "Disassembly Instruction".  
 Plate U ... Detach the bottom steel plate to find out the adjusting components on the circuit board, if it is difficult to remove the plate U.

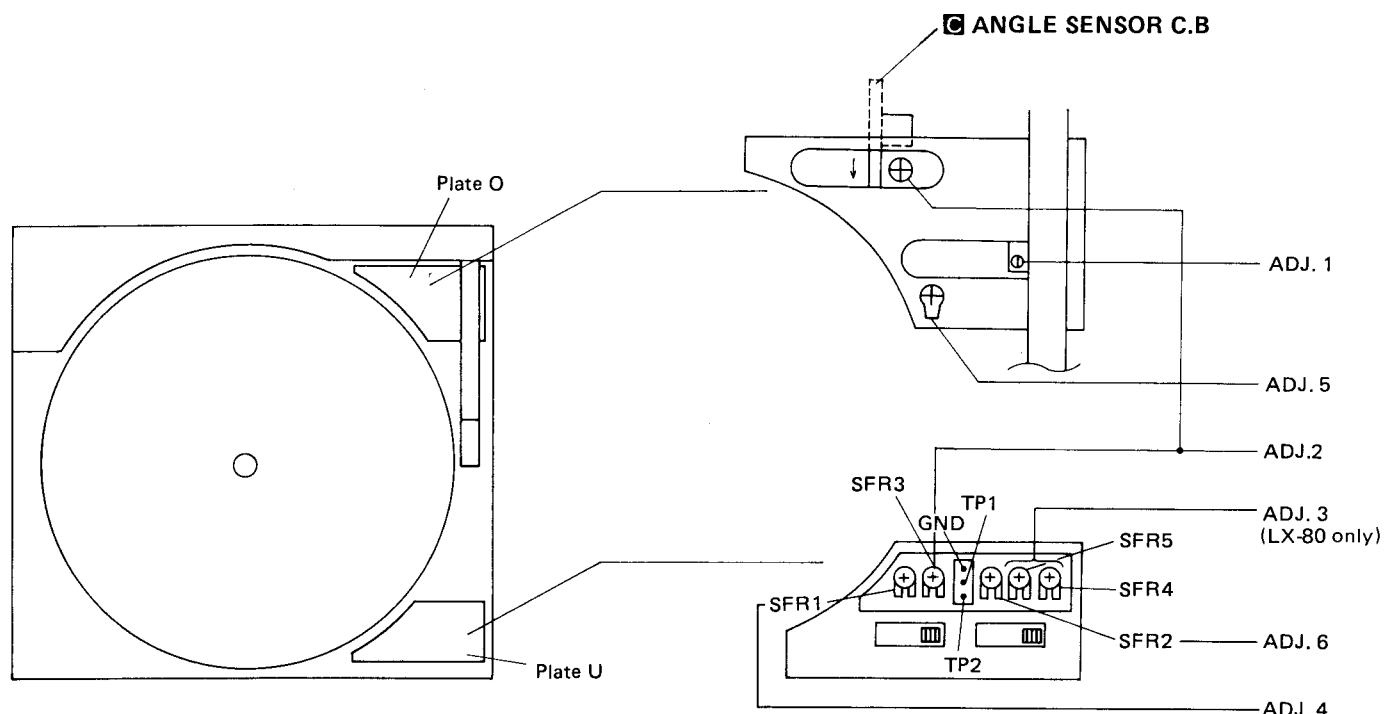


Fig. 1

1 < Stylus Height Adjustment >

- Using Jig  
 Move the tonearm near the lead-in position of 30cm disc size by pressing the "MANUAL" key, and switch power off.  
 Place the height measuring jig under the stylus and turn the adjusting screw to locate the stylus between the steps (4.0 and 4.5mm) as illustrated.

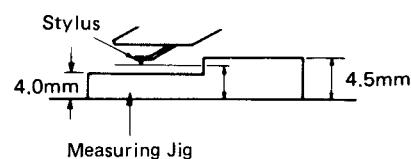


Fig. 2

- Using EP Adaptor  
 Place the original EP adaptor of these models close to the cartridge, and turn the adjusting screw to locate the illustrated part of the cartridge at the shoulder of the EP adaptor.

※ In case the bottom steel plate is detached, the stylus height increases by 0.5mm even if the turntable is set flat.

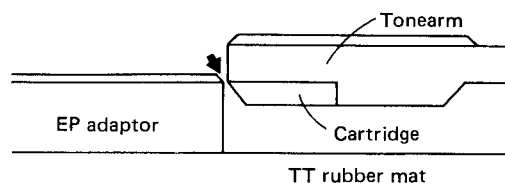


Fig. 3

2 < Angle Sensor Adjustment >

- Remove the belt from the motor pulley and move the tonearm near the lead-in position of 30cm disc size by pressing the "MANUAL" key.  
 ※ LX-120: To stop the turntable, pull off the connector for the phono-motor or catch the turntable by hand.
- Turn the adjusting screw to locate the [C] angle sensor circuit board fully frontward. Then adjust SFR 3 for  $4.5 \pm 0.5V$  at the test point TP 1.
- Turn the adjusting screw again to obtain  $1.0 \pm 0.1V$  at the same test point.
- Confirm that the voltage satisfies  $0.7 \pm 1.2V$  at the same test point when lowered the tonearm.
- If the specified voltage is not satisfied in Step 4), swing the tonearm lightly to the left and right to get a good balance. Then perform the above procedure again.

3 < Motor Speed Adjustment >

(LX-80 only)

Play the 3kHz section of the test disc (ATR-003). Adjust SFR 4 for  $3.050 \pm 10Hz$  in the 33rpm speed mode, and adjust SFR 5 for  $4.060 \pm 10Hz$  in the 45rpm speed mode.

4 < Disc Sensor (D Sensor) Adjustment >

Complete the "Stylus Height" adjustment before performing the following procedure.

- Switch the sensitivity selector to the "NORMAL" position.
- LX-80: To stop the turntable, remove the belt from the motor pulley.  
 LX-120: To stop the turntable, catch the turntable by hand.
- Put a mark on the test disc (ATR-004) as follows:  
 Draw a line between the center hole and the halfway point of the 7th feed-groove, which is located between the 6th track "no sound groove" and the 7th track "wow and flutter check-3kHz", with eyes. Then put an arrow mark on the label at right angle against the above line as shown in Fig. 4.

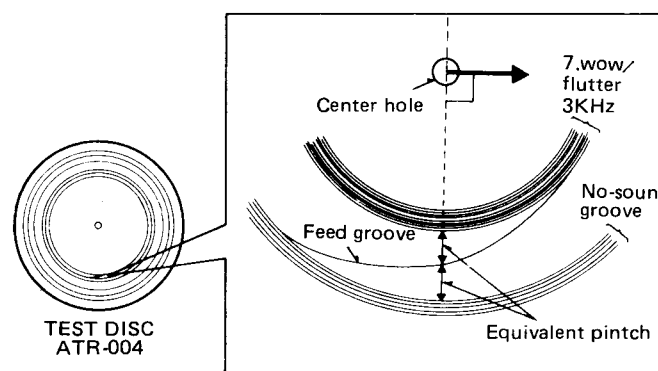


Fig. 4

- Connect oscillator to the test point TP-2 (D sensor) with 10:1 probe.
- Set the test disc so that the arrow mark points to the arm rest.
- Move the tonearm by pressing the "MANUAL" key until it passes through the 7th feed-groove, observing waveforms in the oscilloscope. A waveform of 3.0 to 3.5V will be occurred when the tonearm passed through the 7th feed-groove.  
 If not, adjust SFR 1 for the specified value.

Sensitivity selector	NORMAL
Speed mode	33 rpm



Waveform occurring when passing through the 7th feed-groove

Fig. 5

- Return the tonearm to the arm rest once and perform Step 6 again in order to confirm the specification.

5 < Auto-In/Out Adjustment >

Play the test disc (ATR-003) in the 45rpm speed mode. Turn the adjusting screw so that the auto-in count becomes  $32 \pm 2$  in 17cm disc mode, and confirm that the auto-out count becomes 15 or more in 17cm disc mode. Then confirm, in 30cm disc mode, that the auto-in count becomes 20 to 28 and the auto-out count makes 11 to 14.

6 < Stylus Drop Position Fine Adjustment >

By adjusting SFR 2, a drop position of the stylus enables to be varied by 1 to 2mm right or left.

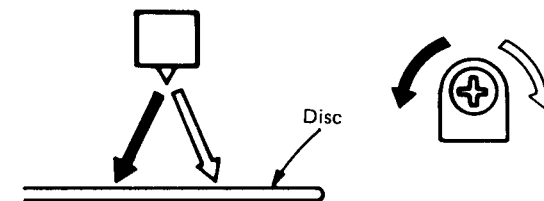


Fig. 6

CIRCUIT DESCRIPTION

PROGRAM TUNE-SELECTION MECHANISM

1. Outline

When the tuner is selected by the program button operation and the START button is pressed, the arm moves to the internal circumference while it is kept in the UP state. The inter-tune position is detected by the disc sensor during this movement and memorized by the microcomputer. The size is sensed simultaneously at this time. The arm moved to the internal circumference moves to the 1st tune of the program and is lowered. When the performance starts (when the arm is lowered), the MS circuit works; when the no-signal state continues for 1.5sec or more, the circuit makes the arm move UP and the arm moves to the 2nd tune. (It moves to the next tune directly without returning to the arm rest.)

2. Memorizing inter-tune position

Slits are engraved with a pitch of 1mm on the mark (black metal plate) of the position sensor as well as holes which sense the rest position, 30cm records and 17cm records. The number of slits before the slit where the inter-tune signal is output is sensed by the microcomputer, to sense the inter-tune position. (The microcomputer, counts 1, 2, 3, 4... every time the position sensor passes the slit.)

a. Inter-tune position sensing slit

Note) LX-80 and 120 are provided with a reflective type of element. An accurate clearance (0.5 to 1.5mm), therefore, must be required between this element and the reflection plate.

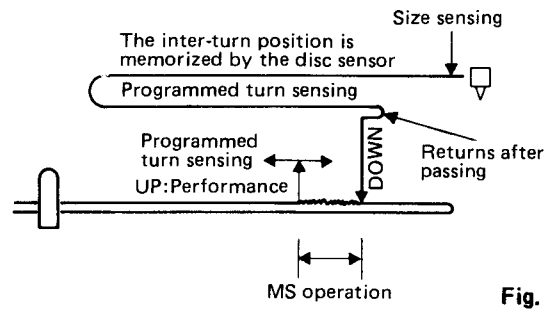


Fig. 1

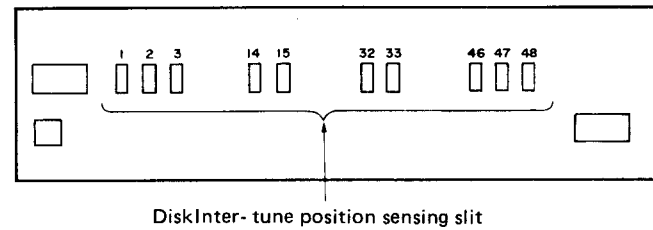


Fig. 2

3. Disc sensor circuit

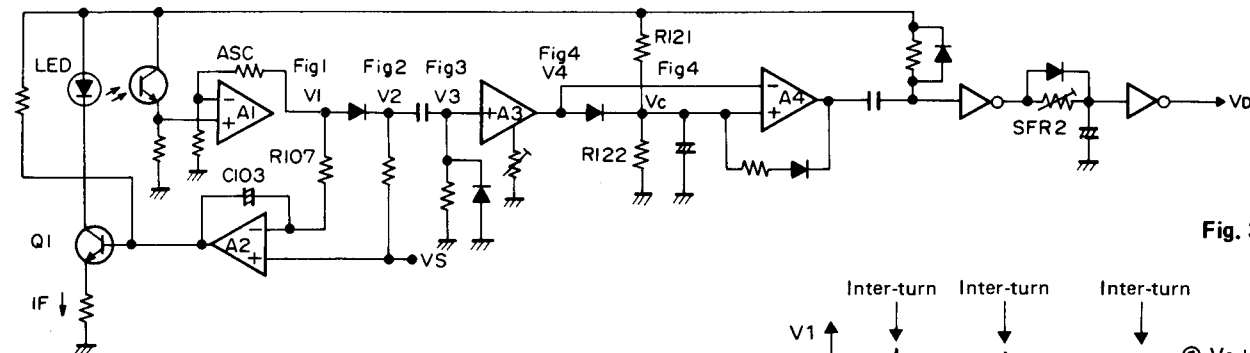


Fig. 3

- 1) Light from the LED is reflected by the record, enters the phototransistor and is converted to current. This signal is amplified by A1 of IC205, and V<sub>1</sub> is obtained. This output V<sub>1</sub> is compared with the reference voltage V<sub>s</sub>, and controlled by the time constant of R107 and C103 so that V<sub>1</sub> = V<sub>s</sub>. (When the amount of light entering the photo transistor increases, the internal resistance of Q1 is increased to dim the LED so that the amount of light incident on the photo transistor is always kept constant.)
- 2) When the arm passes the inter-tune, the incident amount of light is increased, but the time constant T is smaller than R107 · C103, so the waveform as V<sub>1</sub> shown in Fig. 1 is obtained.
- 3) When the waveform is sliced by the dot line (a) via the slice circuit, the waveform shown as V<sub>2</sub> in Fig. 2 is obtained.
- 4) By differentiating this, the waveform shown as V<sub>3</sub> in Fig. 3 is obtained.
- 5) By amplifying this via A3, the waveform shown as V<sub>4</sub> in Fig. 4 is obtained: V<sub>c</sub> is obtained by peak-holding this.

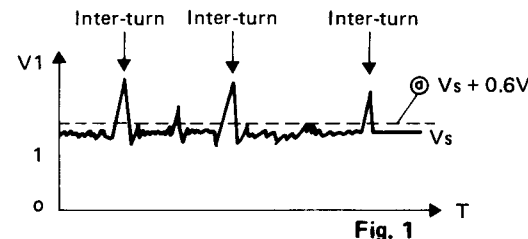


Fig. 1

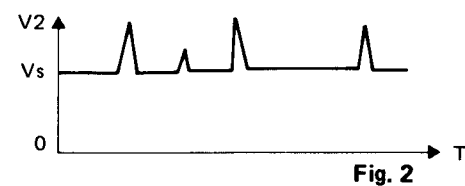


Fig. 2

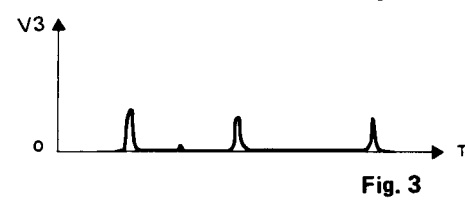


Fig. 3

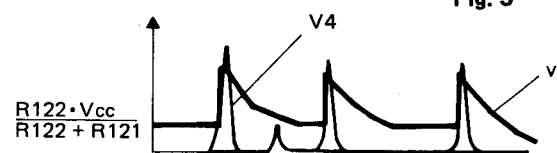


Fig. 4

- 6) A<sub>4</sub> is a comparator with hysteresis, and it compares V<sub>4</sub> and V<sub>c</sub>, and makes the rise of its output V<sub>o</sub> the intertune sensing signal. (Refer to Fig. 5)
- 7) The signal V<sub>o</sub> is differentiated to rectify the waveform and is led into the IC7 as an inter-tune signal, adjusting the drop position of the stylus with SFR2.

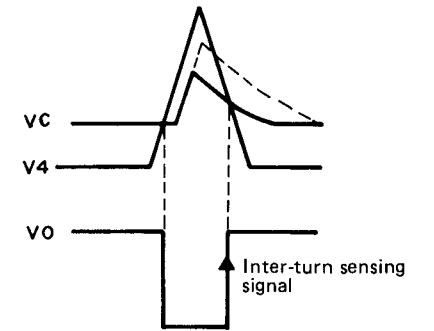


Fig. 5

Note) The drop position of the stylus enables to be varied in the range of 1 to 1.5mm.

4. MS circuit

- 1) When the arm is lowered, muting of Q211, Q212 is released and the signal enters the MS circuit.
- 2) When the arm comes the ±1 count (Slit No. of the mask sensor) of the inter-tune position which was sensed previously during the arm UP operation, the microcomputer (IC7) starts to monitor the MS signal.
- 3) When the no-sound state continues for 1.5sec or more, it is judged as inter-tune and the arm lifts. (However, when the programmed numbers continue, the arm does not lift but the performance is continued as it is.) (MS sensitivity is not related to the positions of SW17 and the sensor switch (LOW, NOR, HIGH).)

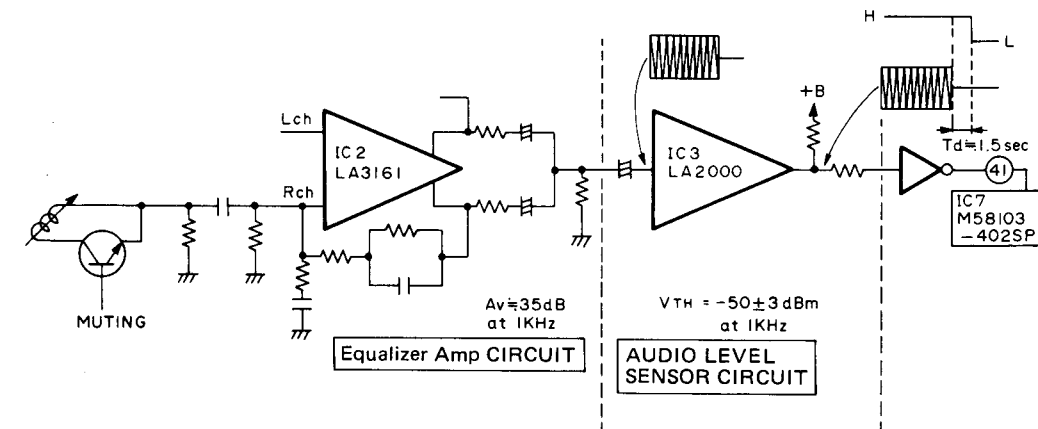


Fig. 6

- 4) Connect the both output cords, Lch and Rch, to the input pins of the amplifier, or connect the earth side of the output cords to ground. Otherwise, the MS circuit may cause malfunction.



# DISASSEMBLY INSTRUCTIONS

## 1. Bottom Lid Removal

- 1) Remove the dust cover and turntable.
- 2) Remove the 5 screws to detach the bottom lid.  
(See Figure-1)

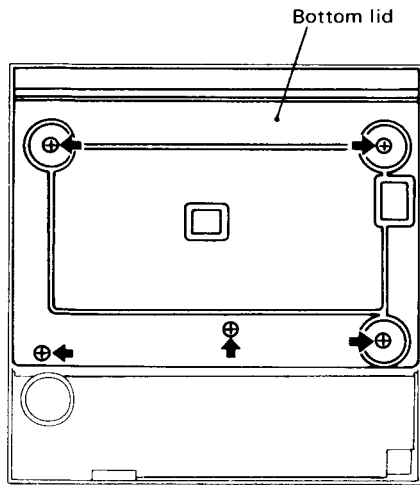


Fig. 1

## 3. Bottom Cabinet Removal

- 1) Remove the 5 screws. (See Figure-3)

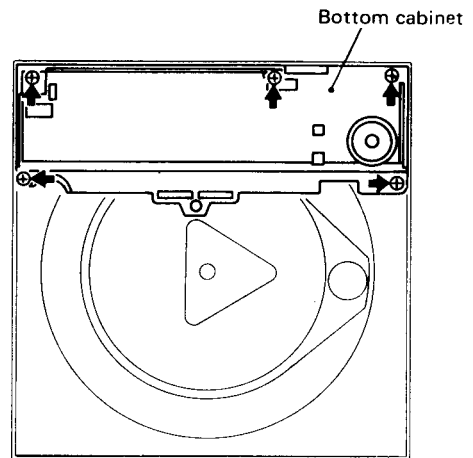


Fig. 3

## 2. Main C.B. Removal

- 1) Remove the 2 screws and unhook the 3 holders.  
(See Figure-2)

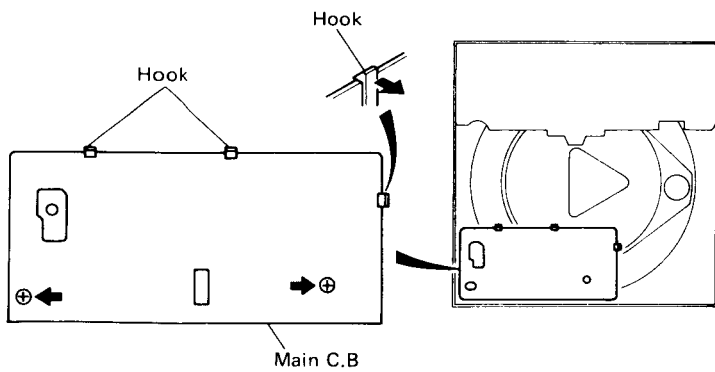


Fig. 2

- 2) Move the tonearm to the illustrated position to detach the main cabinet upward.

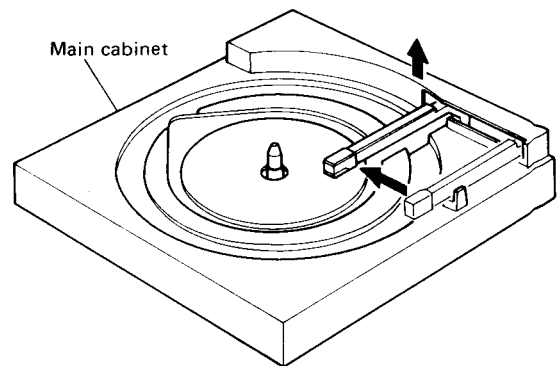


Fig. 4

The following check method may be useful for servicing, because these models (LX-80, 120) are provided with no main bottom chassis.

#### 4. C.B. Check by Turntable Operation

- 1) General operation enables to be performed even though raised the front side of the cabinet by 7~8 cm. So, set the turntable with using of cassette cases as shown and check the circuit board from the component side. (See Figure-5)

Note: Set the turntable flat when performing the adjustments, otherwise correct figures can not be obtained.

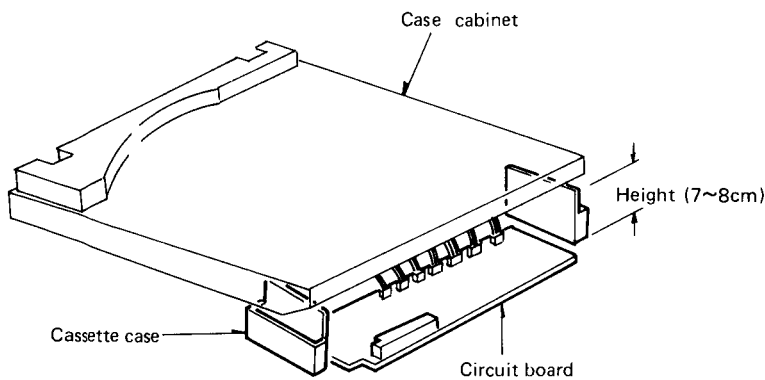


Fig. 5

#### 5. Mechanism Part Replacement and C.B. Check by Tonearm Operation (with Turntable Removed)

- 1) Detach the turntable and turn the cabinet upside down.
- 2) Remove the mechanism chassis and set it as illustrated, placing in parallel with the circuit board. Take care of the tonearm leadwires, otherwise the tonearm may be stuck.

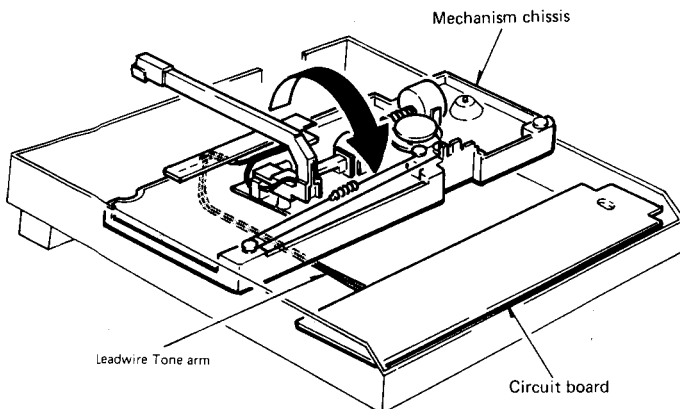


Fig. 6

- 3) Stop the phono motor by pulling off the motor connector, if necessary.

#### 6. Blind Plate Removal

Before performing the adjustment, remove the blind plate because the adjusting pins are situated underneath this plate. Proceed as follows:

- 1) Move the tonearm to the illustrated position. (See Figure-7)

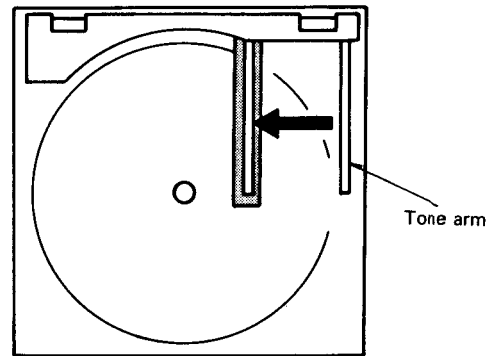


Fig. 7

- 2) Insert a screwdriver into the illustrated opening on the bottom cabinet and push against the blind plate to take off. (See Figure-8)

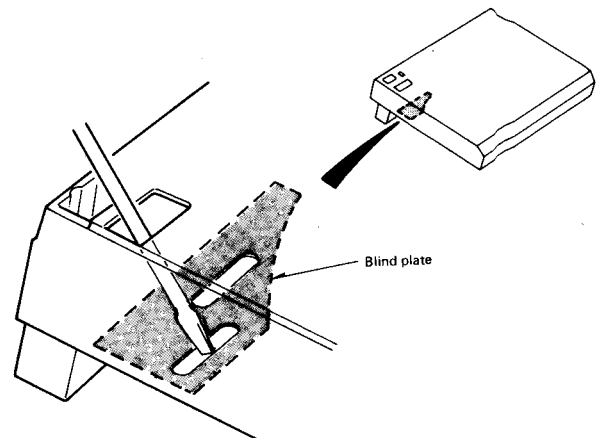
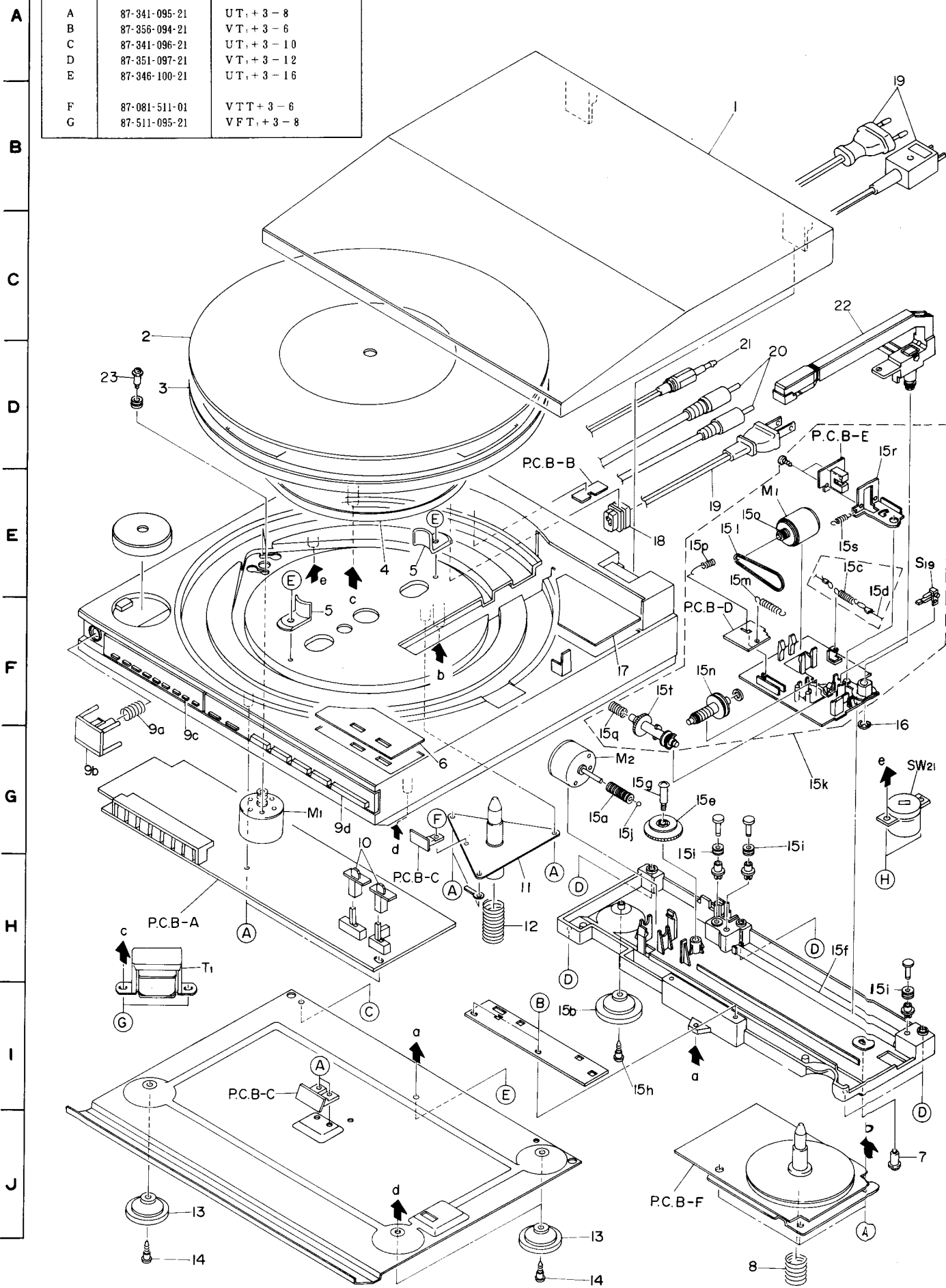


Fig. 8

# EXPLODED VIEW

1 | 2 | 3 | 4 | 5 | 6 | 7

Ref. No.	Part No.	Description
A	87-341-095-21	UT,+3-8
B	87-356-094-21	VT,+3-6
C	87-341-096-21	UT,+3-10
D	87-351-097-21	VT,+3-12
E	87-346-100-21	UT,+3-16
F	87-081-511-01	VTT+3-6
G	87-511-095-21	VFT,+3-8



## PARTS LIST

### MECHANICAL PARTS

● \* mark in this part list shows exclusive part.  
● ★ mark means less required items and availabilities may be limited.

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
	1	84-133-011	DUST COVER Ass'y (LX-80)	LX-30	1
		84-131-018	DUST COVER Ass'y (LX-120)	※	1
	2	★84-132-016	RUBBER SHEET (LX-80) (H, E, K only)	※	1
		★84-132-017	RUBBER SHEET (LX-80) (U only)	※	1
		★84-131-043	RUBBER SHEET (LX-120) (H, E, K only)	※	1
		★84-131-044	RUBBER SHEET (LX-120) (U only)	※	1
	3	★84-133-008	TURN-TABLE (LX-80)	LX-30	1
		★84-128-001	TURN-TABLE (LX-120)	LX-50	1
	4	84-133-213	RUBBER BELT T.T (LX-80)	LX-30	1
	5	★84-124-239	SPACER T.T	LX-70	2
	6	★84-131-035	PLATE U B	※	1
	7	★84-124-238	SCREW	LX-70	1
	8	★84-131-204	C-SPRING, EARTH (LX-120)	※	1
	9	★84-132-018	MAIN CABINET Ass'y F (LX-80)	※	1
		★84-131-046	MAIN CABINET Ass'y F (LX-120)	※	1
	9a	★82-798-209	C-SPRING, POWER	MX-90	1
	9b	★84-131-031	POWER KNOB B Ass'y	※	1
	9c	★84-131-020	PUSH-KEY, L	※	1
	9d	★84-131-040	PUSH-KEY, R	※	1
	10	★84-133-009	KNOB, SPEED	LX-30	2
	11	★84-133-224	HOLDER SHAFT Ass'y F (LX-80)	LX-30	1
	12	★84-133-225	C-SPRING, EARTH (LX-80)	LX-30	1
	13	★84-130-012	RUBBER FOOT		3
	14	★84-133-223	HEADER SCREW, RUBBER FOOT	LX-30	3
	15	★84-131-202	BOTTOM CABINET Ass'y F	※	1
	15a	84-122-210	GEAR A, WORM	AP-D80	1
	15b	★84-130-012	RUBBER FOOT		1
	15c	★84-133-203	E-SPRING, LINEAR	LX-30	1
	15d	★84-133-204	WIRE ROPE	LX-30	1
	15e	★84-133-212	PULLEY A, WORM	LX-30	1
	15f	★84-133-215	PIPE	LX-30	1
	15g	★84-133-222	HEADER SCREW	LX-30	1
	15h	★84-133-223	HEADER SCREW, RUBBER FOOT	LX-30	1
	15i	87-071-019	ROLLER #7		3
	15j	★87-073-006	STEEL BALL 3		1
	15k	★84-131-205	MECHANISM CHASSIS Ass'y F12		1
	15l	82-439-342	COUNTER BELT		1
	15m	★84-123-238	E-SPRING, SENSOR	LX-100	1
	15n	84-124-204	GEAR A, WORM	LX-70	1
	15o	★84-127-206	MOTOR PULLEY S		1
	15p	★84-131-206	E-SPRING, P CIRCUIT BOARD	※	1
	15q	★84-131-208	C-SPRING, UP	※	1
	15r	★84-133-207	LEVER A	LX-30	1
	15s	★84-131-217	E-SPRING, P	※	1
	15t	★84-133-221	CAM A, UP-DOWN	LX-30	1
	16	★87-067-171	STE-6		1
	17	★84-135-013	PLATE O B		1
	18	87-085-199	CORD BUSHING		1
	19	★87-034-958	AC POWER CORD (H only)		1
		★87-034-578	AC POWER CORD (U only)		1
		★87-034-877	AC POWER CORD (E only)		1
		★87-034-711	AC POWER CORD (K only)		1
	20	★84-133-618	PIN CORD CN (H, E, K only)	LX-30	1
		★84-133-638	PIN CORD U CN (U only)	LX-30	1
	21	★84-133-617	SYNCHRATE CORD CN (H, E, K only)	LX-30	1
		★84-133-637	SYNCHRATE CORD U CN (U only)	LX-30	1
	22	★84-131-101	TONE-ARM Ass'y		1
	23	★87-081-483	MOTOR SCREW M2.6		2

## ■ ACCESSORIES/PACKAGE LIST

### LX-80

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
	1	★84-132-904	INSTRUCTION BOOKLET	※	1
	2	★84-190-978	45 ADAPTOR, S BLACK		1

### LX-120

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
	1	★84-131-904	INSTRUCTION BOOKLET	※	1
	2	★84-190-978	45 ADAPTOR, S BLACK		1

**AIWA Co., Ltd. Tokyo Japan**