

# Service Manual

Turntable System

## SL-1200MK2

(M), (MC)



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- The model SL-1200MK2 (M) is available in U.S.A. only.
- The model SL-1200MK2 (MC) is available in Canada only.

### SPECIFICATIONS

Specifications subject to change without notice. Weight and dimensions shown are approximate.

#### General

**Power supply:** 120 V, AC, 50 or 60 Hz  
**Power consumption:** 12 W  
**Dimensions:** 45.3 x 16.2 x 36 cm  
 (W x H x D) (17-27/32" x 6-19/64" x 14-11/64")  
**Weight:** 11 kg (24.3 lb)

#### Turntable section

**Type:** Quartz direct drive  
 Manual turntable  
**Drive method:** Direct drive  
**Motor:** Brushless DC motor  
**Turntable platter:** Aluminum diecast  
 Diameter 33.2 cm (13-5/64")  
 Weight 2 kg (4.4 lb.)  
**Turntable speeds:** 33-1/3 rpm and 45 rpm  
**Pitch control:** All quartz-locked  $\pm 8\%$  range  
**Starting torque:** 1.5 kg·cm (1.3 lb·in)  
**Build-up characteristics:** 0.7 s. from standstill to 33-1/3 rpm  
**Braking system:** Electronic brake  
**Speed change due to load torque:** 0% within 1.0 kg·cm (0.87 lb·in)  
 0.01% WRMS\*  
**Wow and flutter:** 0.025% WRMS (JIS C5521)  
 $\pm 0.035\%$  peak (IEC 98A Weighted)

\* This rating refers to turntable assembly alone, excluding effects of record, cartridge or tonearm, but including platter. Measured by obtaining signal from built-in frequency generator of motor assembly.

**Rumble:** -56 dB (IEC 98A Unweighted)  
 -78 dB (IEC 98A Weighted)

#### Tonearm section

**Type:** Universal  
**Effective length:** 230mm (9-1/16")  
**Arm height adjustment range:** 31.8–37.8 mm (helicoid part 6 mm)  
 (1-21/32"–3-35/64")  
 (helicoid part 15/64")  
**Overhang:** 15 mm (19/32")  
**Effective mass:** 12 g (without cartridge)  
**Offset angle:** 22°  
**Friction:** Less than 7 mg (lateral, vertical)  
**Tracking error angle:** Within 2° 32' (at the outer groove of 30 cm (12") record)  
 Within 0° 32' (at the inner groove of 30 cm (12") record)

**Stylus pressure adjustment range:** 0–2.5 g  
**Applicable cartridge weight range:** 6–10 g  
**(with auxiliary weight):** 13.5–17.5 g (including headshell)  
 9.5–13 g  
**(with shell weight):** 17–20.5 g (including headshell)  
 3.5–6.5 g  
 11–14 g (including headshell)  
**Headshell weight:** 7.5 g

## Technics

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 Division of Matsushita Electric  
 Corporation of America  
 One Panasonic Way, Secaucus,  
 New Jersey 07094

**Panasonic Hawaii, Inc.**  
 320 Waiakamilo Road, Honolulu,  
 Hawaii 96817

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 5770 Ambler Drive,  
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SL-1200MK2

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## ■ DISASSEMBLY PROCEDURE

### How to remove panel cover

1. Remove head shell and turntable.
2. Secure arm with arm clamp.
3. Remove 5 screws **A** of the panel cover as shown in Fig. 1.

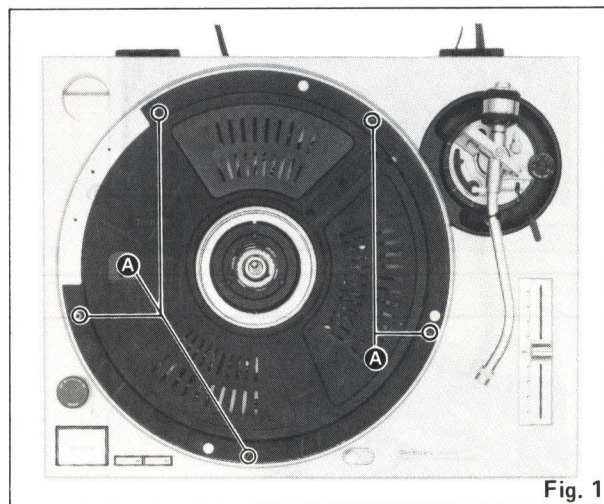


Fig. 1

### How to remove stator frame coil and F.G detector coil

4. Remove 3 connectors **B** and 2 read wires **C** from power transformer as shown in Fig. 2.
5. Remove 3 screws **D** of the drive circuit board and 3 screws **E** of the stator frame cover as shown in Fig. 2.
6. Disconnect 18 soldered parts **F** of the stator coil and 4 soldered parts **G** of the F.G detector coil as shown in Fig. 3.
7. Remove 3 screws **H** of the stator frame ass'y as shown in Fig. 3.

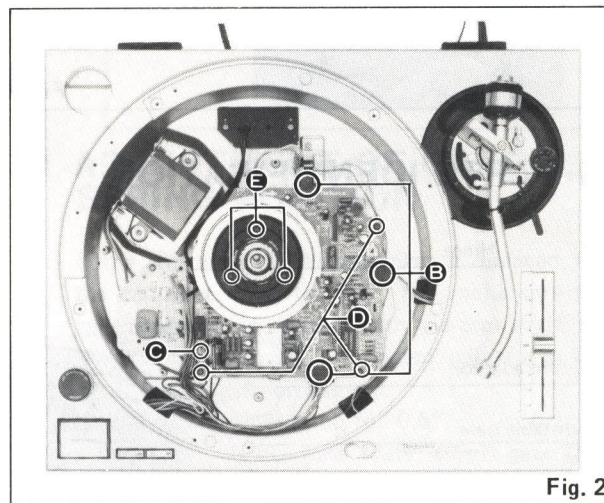


Fig. 2

### How to remove bottom base ass'y

8. Remove 4 audio insulators. (Counterclockwise rotation)
9. Remove 17 screws and spacer **I** as shown in Fig. 4.
10. Remove 11 screws **J** as shown in Fig. 4.

### How to remove stylus-illuminator lamp

11. Remove 2 screws **K** of the stylus-illuminator lamp ass'y as shown in Fig. 5.
12. Remove 1 screw **L** as shown in Fig. 6.

### How to remove neon-illuminator L.E.D.

13. Remove 4 screws **M** as shown in Fig. 5.
14. Remove 1 circlip **N** and switch cam **O** as shown in Fig. 5.
15. Remove strobo-illuminator case.

### How to remove tone arm

16. Remove 4 screws **P** of the arm base cover as shown in Fig. 5.
17. Remove 2 screws **Q** of the phono cord clammer as shown in Fig. 5.
18. Remove phono cord clammer as shown in Fig. 7.
19. Remove 2 screws **R** of the phono cord p.c.b. as shown in Fig. 8.
20. Remove 2 screws **S** as shown in Fig. 8.
21. Remove 2 screws **T** of the silicon oil dumper as shown in Fig. 8.
22. Remove 3 screws **U** as shown in Fig. 8.
23. Remove 2 screws **X** of the tone arm as shown in Fig. 9.

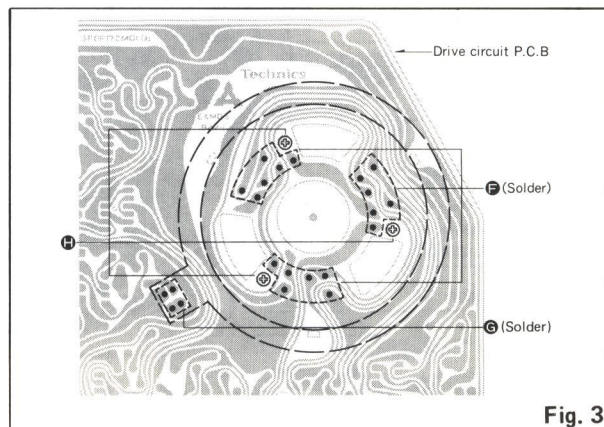


Fig. 3

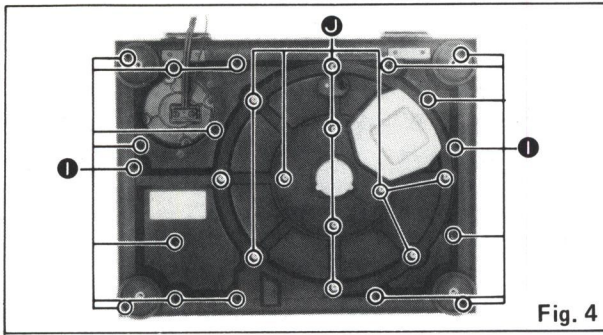


Fig. 4

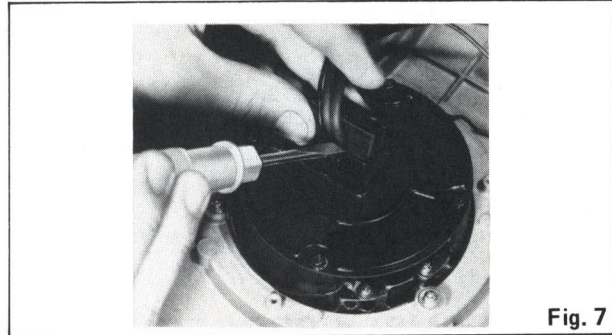


Fig. 7

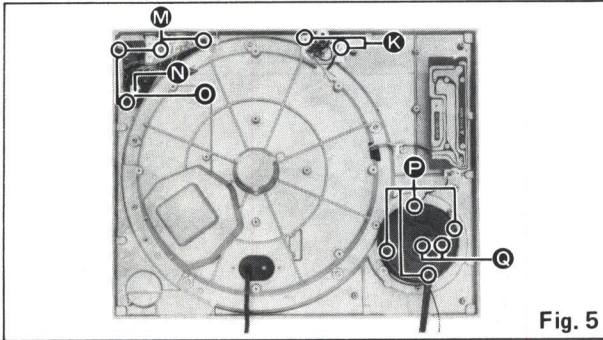


Fig. 5

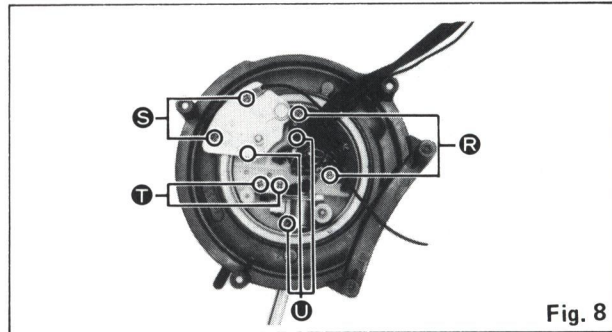


Fig. 8

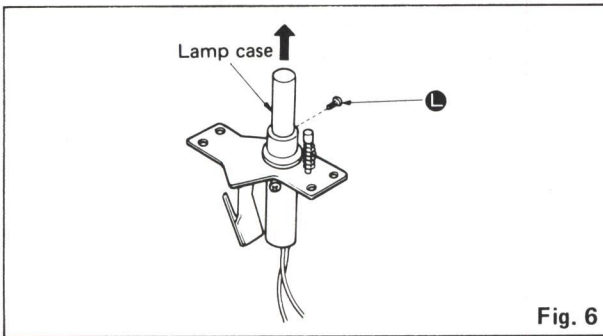


Fig. 6

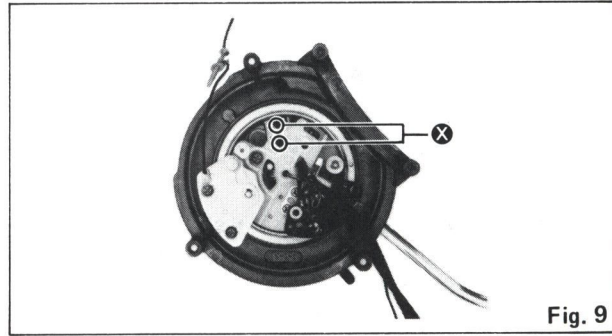


Fig. 9

## ■ PARTS IDENTIFICATION

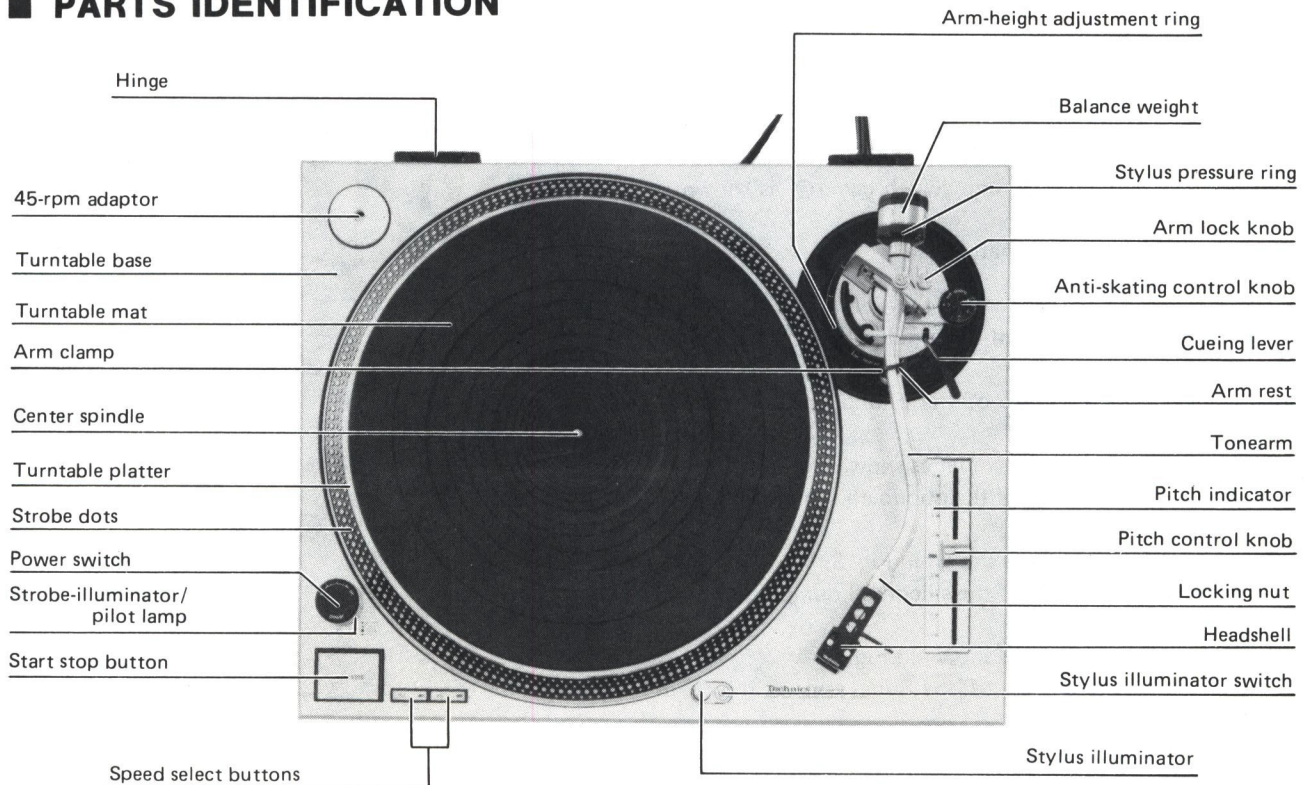
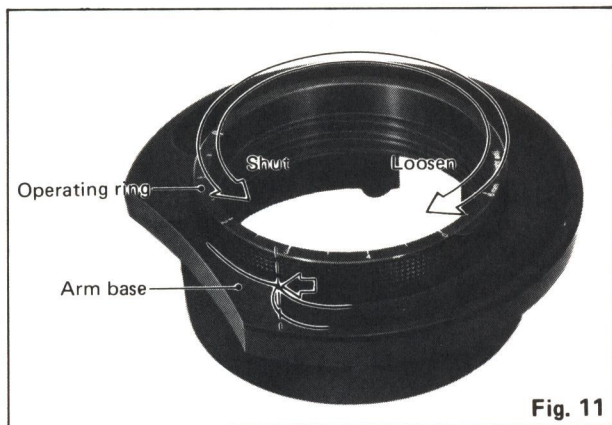


Fig. 10 3

## ■ ARM BASE ASSEMBLING PROCEDURE

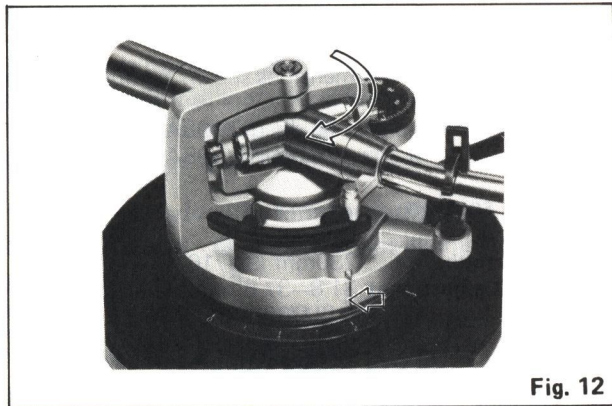
1. Attach the control ring to the arm base seat. (The control ring should be rotated counterclockwise.)
2. Completely tighten the control ring, and then loosen it 1.5~2.5 turns to set the scale to "3". (See Fig. 11)



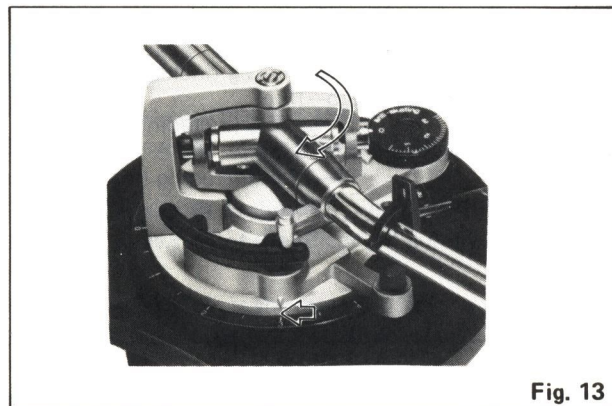
3. Hold the arm base and set the red line mark on the arm base to the scale near "2", then turn the arm base clockwise. (See Fig. 12)

### Note:

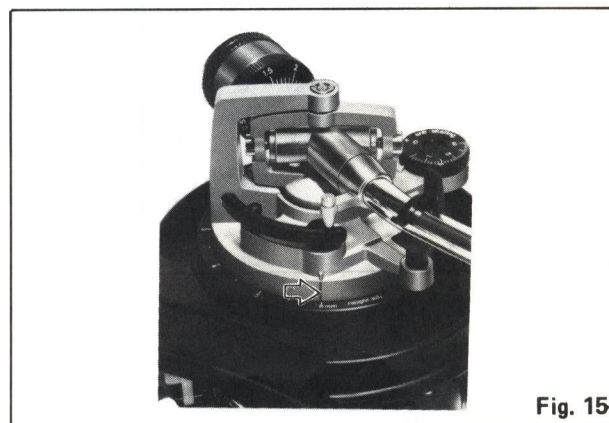
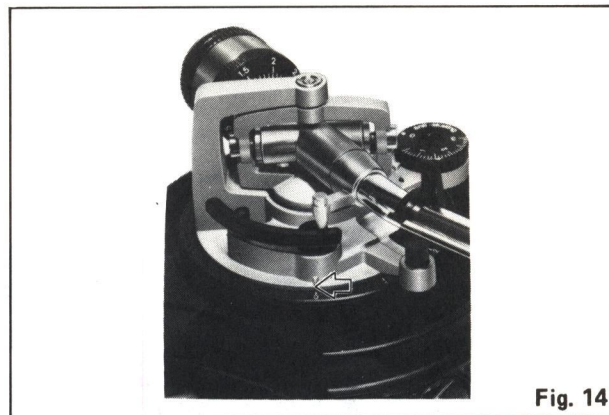
Take care not to allow deflection of the predetermined positions of the control ring and arm base seat.



4. Adjust the arm base so that the red line mark on the arm base is set to the scale "3" of the control ring. Next, secure the positioning base plate with two setscrews. (See Fig. 13)



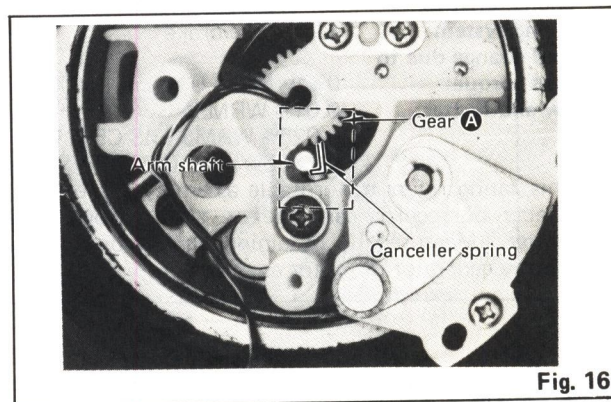
5. Rotate the control ring and make sure that the arm base shifts within the range of 0~6mm. (See Figs. 14 and 15) If it does not shift within the specified range, the arm base position is deflected. In that case, disassemble the parts and check as specified in step 3.



## ■ ADJUSTMENT OF CANCELLER SPRING POSITION

If the arm body or PU base plate is replaced, be sure to set the canceller knob to "0.5" and make sure that the canceller spring is in contact with the arm shaft. (See Fig. 16) If the canceller spring is deflected, adjust it as follows:

1. Clamp the arm on the rest.
2. Set the canceller knob to "0.5".
3. Remove the PU base plate, adjust gear A so that the canceller spring is in the position of Fig. 16.
4. Mount the PU base plate onto the arm base and check the spring position.



## ■ FEATURES

### Total quartz locked continuous pitch adjustment $\pm 8\%$

Quartz-phase-locked control means almost perfect accuracy of turntable rotation.

But with most quartz turntables, this accurate control circuit must be cut out when the pitch control is employed. With the SL-1200MK2, however, pitch is variable continuously (analogically) by up to  $\pm 8\%$  under total quartz-locked control. The pitch is controlled with a large sliding lever, located to the right of the turntable platter.

Four lines of platter markings are also provided indicating +6%, +3.3%, 0% (exact rated speed) and -3.3% change from rated speed.

### Aluminum diecast cabinet and special heavy rubber base material provide acoustic isolation

The effects of external vibrations are dramatically reduced in the turntable by this new turntable construction.

The turntable base is precision-made aluminum diecast. And the underside of the main base is made of a heavy rubber material (special one-piece molding) which has excellent vibration resistance and absorbing characteristics. The turntable platter is also vibration-damped with specially fabricat rubber matting in the underside along with the thick turntable sheet (rubber mat). Four large-size insulating feet also help to absorb unwanted vibrations.

These features make SL-1200MK2 ideal for use with extra-high sound pressure levels.

### High torque for fast starts

The integral rotor/platter motor delivers 1.5kg-cm (1.3lb-in) starting torque. This high torque gives very quick starts enabling the platter to reach 33-1/3 rpm within 0.7 s. (a quarter of a turn). This is a big advantage in many professional applications where fast cueing is a necessity.

### Stylus illuminator for low-light conditions

You'll appreciate the stylus illuminator when you are using the turntable under low-light conditions. The illuminator can be hidden in the turntable base, should you need it, simply push a button and it will pop up gently and cast a beam of light across the disc in the area traversed by the tonearm.

You can then clearly see the spaces between the selections on the record, and cue the arm exactly where you want it. The illuminator can then be pushed back down into the base.

### High sensitivity, low mass, gimbal suspension tonearm

The highly sensitive tonearm features a genuine gimbal suspension, the rotational center of which is precisely defined at one point. Bearings are finished to a tolerance of  $\pm 0.5$  microns. This and the extra-closeness of pivot center to the bearings, result in the minimal friction of 7 mg (0.007 g) for both horizontal and vertical movement. Add to this the low 12-gram effective tonearm mass (including headshell, without cartridge) and you have a tonearm compatible with the wide range of compliances found in today's cartridges. If you choose a popular high compliance MM cartridge, the low range resonance frequency will appear in the correct area to avoid warp frequencies of records, but without entering the low end of the audio spectrum. This tonearm is provided with a computer designed, light-weight, high-rigidity headshell made of single-piece diecast aluminum to resist partial vibration. The universal design allows headshell interchangeability. Contacts are gold-plated.

### Helicoid tonearm height adjustment

Arm height is adjustable within a range of 6 mm to accommodate varying cartridge dimensions. Adjustments are done with a precision-made helicoid.

### Other fine features

- Quick stops are achieved with a fully electronic braking system.
- A strobe illuminator is provided. The stroboscope is controlled by the extremely stable quartz oscillator, rather than potentially unstable AC line frequency.
- Power on/off control built-into strobe illuminator for ease-of-operation.
- Soft-touch start-stop switch allowing precision control capability without the annoyance of accidental operation.
- Technics integral rotor/platter motor construction with full cycle detection FG.

Cross section of SL-1200MK2

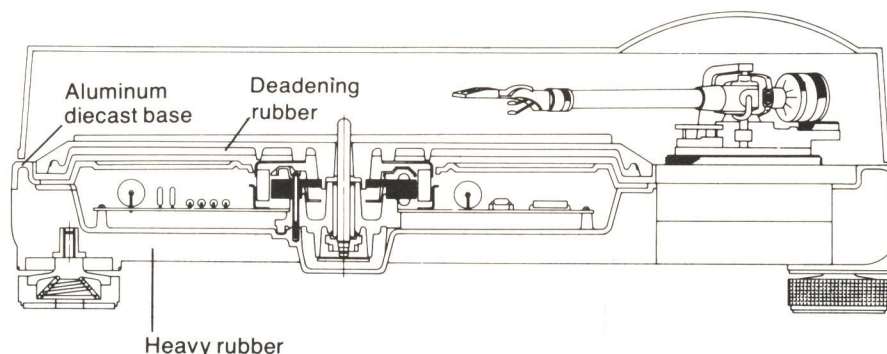


Fig. 17

## ■ ADJUSTMENTS

### Pitch control (fine adjustment of speed) (See Figs. 18 and 19.)

When the pitch control knob is located at the center of the position after turning on the power, the green LED indicator is lit showing the operating condition for the predetermined speed (either 33-1/3 or 45 rpm). The pitch control is variable in a range of 0~±8%.

Adjustment should be done on the basis of indicator scale. Figures on the indicator show approximate percentages for variable pitch control.

When the strobe dots in 4 stages marked at the peripheral edge of the turntable appear to be stationary, variation of individual pitches is shown. (See Fig. 19.)

#### Note:

The strobe-illumination of this unit employs a strobe-illuminator LED synchronized with the precise quartz frequency.

For fine adjustment of the turntable speed, be sure to effect the adjustment according to the LED illumination.

The LED illumination is not synchronized with fluorescent lamps.

### Adjustment of arm-lift height (See Figs. 20 and 21.)

The arm-lift height (distance between the stylus tip and record surface when cueing lever is raised) has been adjusted at the factory before shipping to approximately 8-13mm.

If the clearance becomes too narrow or too wide, turn the adjustment screw clockwise or counterclockwise, while pushing the arm lift down.

#### Clockwise rotation

—distance between the record and stylus tip is decreased.

#### Counterclockwise rotation

—distance between the record and stylus tip is increased.

#### Note:

As the adjusting screw has hexagonal head, be sure to make the adjustment while depressing the arm lift, or the screw will not move freely.

Also be sure that the hexagonal head retracts correctly into the arm lift when the latter is released.

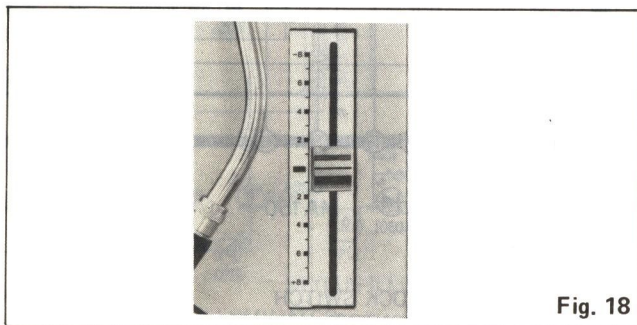


Fig. 18

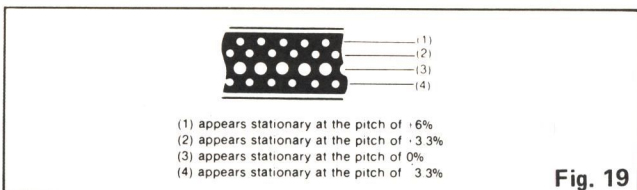


Fig. 19

### Adjustment of the tonearm height (See Fig. 22.)

The height of the tonearm can be adjusted up to 6 mm, and a scale is provided on the adjust ring in 0.5 mm increments. Be sure to set the proper arm height using the adjust ring scale and referring to the table.

Height of cartridge (mm) (H)	Scale reading on the arm-height adjust ring
15	0
16	1
17	2
18	3
19	4
20	5
21	6

For example, if the cartridge height is 17.5 mm, the arm-height adjust ring should be positioned at the intermediate location between 2 and 3 on the scale. (See Fig. 22.)

#### Caution:

Be sure to lock the tonearm by turning the arm lock knob in the direction indicated by the arrow after finishing the height adjustment for the tonearm.

### Lubrication (See Fig. 23.)

Apply 2 or 3 drops of oil once after every 2000 hours of operation.

The time interval is much longer than that for conventional type motors (200-500 hours).

Please purchase original oil. (Part number is SFWO 010.)

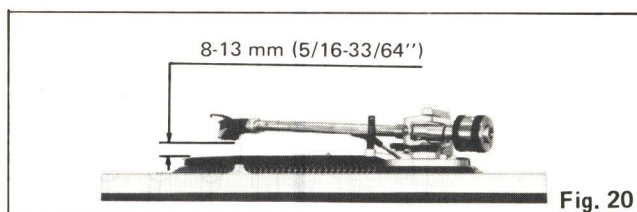


Fig. 20

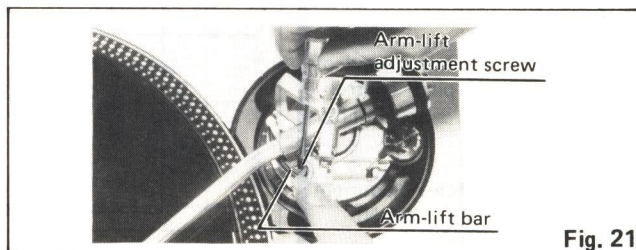


Fig. 21

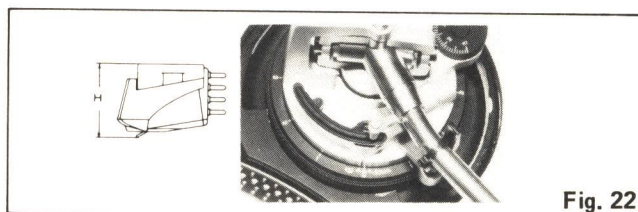


Fig. 22

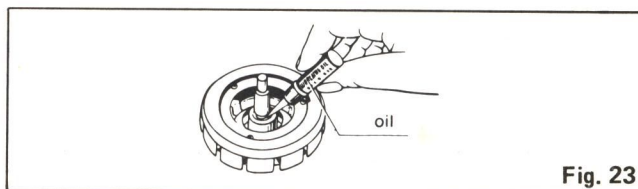
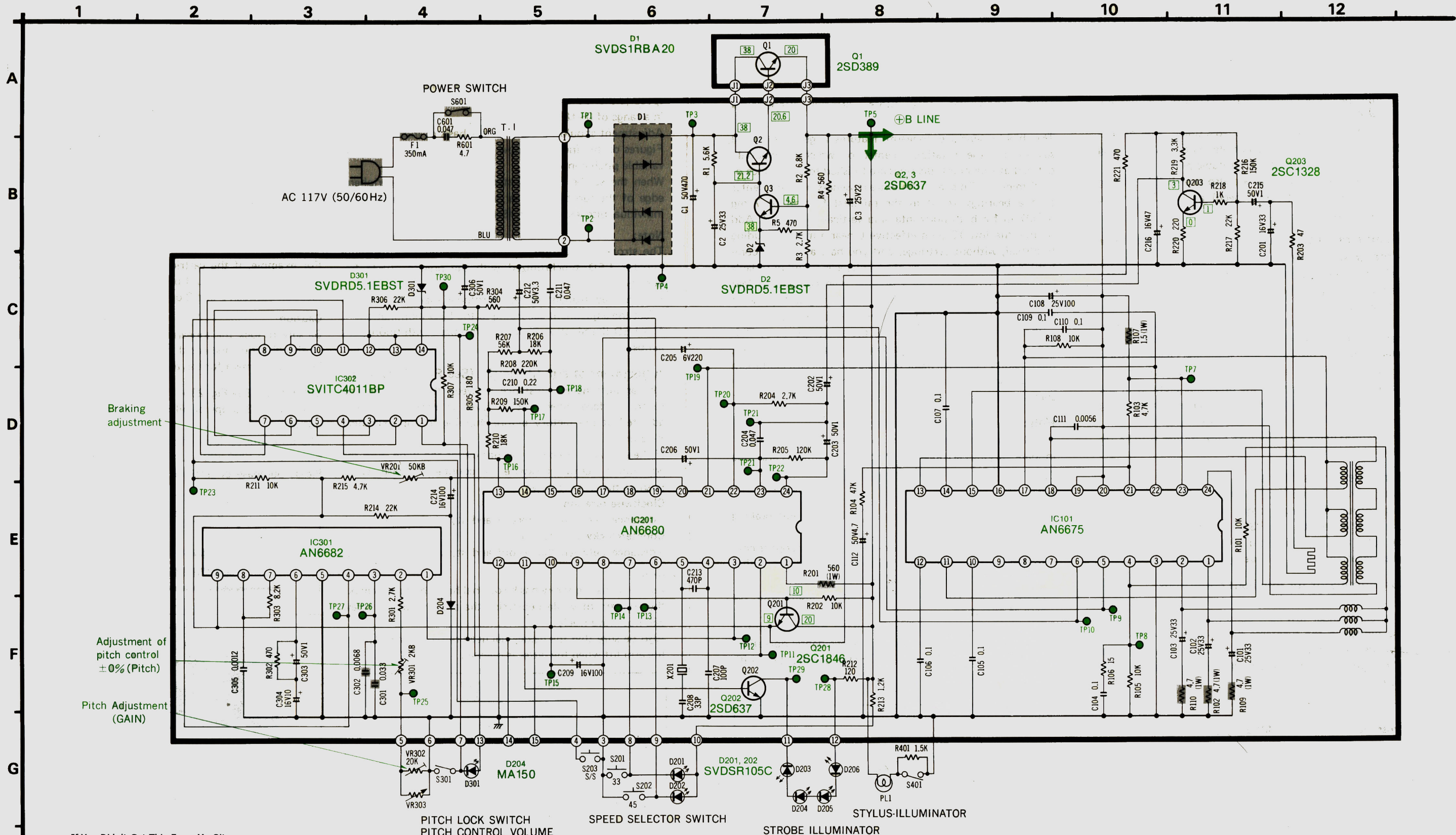


Fig. 23

# Schematic Diagram (This schematic diagram may be modified at any time with the development of new technology.)



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**IMPORTANT SAFETY NOTICE**  
THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR SAFETY. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.

- NOTO:**
1. S201: Speed selector switch (33-1/3 r.p.m.) in "ON" position. (push condition)
  2. S202: Speed selector switch (45 r.p.m.) in "OFF" position. (not-push condition)
  3. S203: Start/Stop switch in "OFF" position. (not-push condition)
  4. S301: Pitch lock switch in "ON" position. (center position)
  5. S401: Stylus-illuminator switch in "OFF" position.

6. S601: Power switch in "ON" position.
7. The drive circuit IC voltage and wave form are not indicated in side the schematic diagram.
8. Indicated voltage values are the standard values for the unit measured by DC electronic circuit tester (high impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

**REPLACEMENT PARTS LIST (Electrical)**

- Notes:** 1. Part numbers are indicated on most mechanical parts.  
 Please use this part number for parts orders.  
 2.  $\Delta$  indicates that only parts specified by manufacturer be used for safety.  
 3. SL-1200MK2(M)  $\rightarrow$  [M], SL-1200MK2 (MC)  $\rightarrow$  [MC]

Ref. No.	Part No.	Part Name & Description
<b>INTEGRATED CIRCUITS</b>		
IC101	AN6675	Integrated Circuit
IC201	AN6680	Integrated Circuit
IC301	AN6682	Integrated Circuit
IC302	SVITC4011BP	Integrated Circuit
<b>TRANSISTORS</b>		
Q1	2SD389A-Q	Transistor
Q2, 3, 202	2SD637	Transistor
Q201	2SC1846-R	Transistor
Q203	2SC1328-T	Transistor
<b>DIODES</b>		
D1	$\Delta$ SVDS1RBA40	Rectifier
D2, 301	MA1051	Diode, Zener 5.1V
D204	MA162A	Diode
D201, 202	SVDSR-105C	Light Emitting Diode
D203~206	SVDEBR5505S	Light Emitting Diode
D301	SVDGL-9PG2	Light Emitting Diode
<b>CRYSTAL</b>		
X201	SVQU306115	Crystal, 4.19328MHz Oscillator
<b>VARIABLE RESISTORS</b>		
VR201	EVLS6AA00B54	Braking Adjustment (BRAKE), 50k $\Omega$ (B)
VR301	EVMH2GA00B53	Adjustment of Pitch Control $\pm$ 0%(PITCH), 5k $\Omega$ (B)
VR302	EVLS6AA00B54	Pitch Adjustment (Gain) 50k $\Omega$
VR303	EVBJ05C19ABE	Pitch Control Volume
<b>SWITCHES</b>		
S201	EVQP5R04K	Switch, Speed Selector (33-1/3 r.p.m.)
S202	EVQP5R04K	Switch, Speed Selector (45 r.p.m.)
S203	SFDS5SGL13C	Switch, Start/Stop
S401	SFDS2MSL-4	Switch, Stylus-illuminator
S601	$\Delta$ SFDS5SGL-2	Switch, Power
<b>LAMP</b>		
PL1	SFDN172-01	Lamp, Stylus-illuminator
<b>TRANSFORMER</b>		
T1	$\Delta$ SLT60EU7B	Power Transformer
<b>FUSE</b>		
F1	$\Delta$ XBA2F03NU100	Fuse, 350mA
<b>RESISTORS</b>		
R1	ERD25FJ562	Carbon, 5.6k $\Omega$ , 1/4W, $\pm$ 5%
R2	ERD25FJ682	Carbon, 6.8k $\Omega$ , 1/4W, $\pm$ 5%
R3	ERD25FJ272	Carbon, 2.7k $\Omega$ , 1/4W, $\pm$ 5%
R4	ERD25FJ561	Carbon, 560 $\Omega$ , 1/4W, $\pm$ 5%
R5	ERD25FJ471	Carbon, 470 $\Omega$ , 1/4W, $\pm$ 5%
R101	ERD25FJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%
R102	$\Delta$ ERX1ANJ4R7	Metal Film, 4.7 $\Omega$ , 1W, $\pm$ 5%
R103	ERD25FJ472	Carbon, 4.7k $\Omega$ , 1/4W, $\pm$ 5%
R104	ERD25TJ473	Carbon, 47k $\Omega$ , 1/4W, $\pm$ 5%
R105	ERD25FJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%
R106	ERD25FJ150	Carbon, 15 $\Omega$ , 1/4W, $\pm$ 5%
R107	$\Delta$ ERX1ANJ1R5	Metal Film, 1.5 $\Omega$ , 1W, $\pm$ 5%

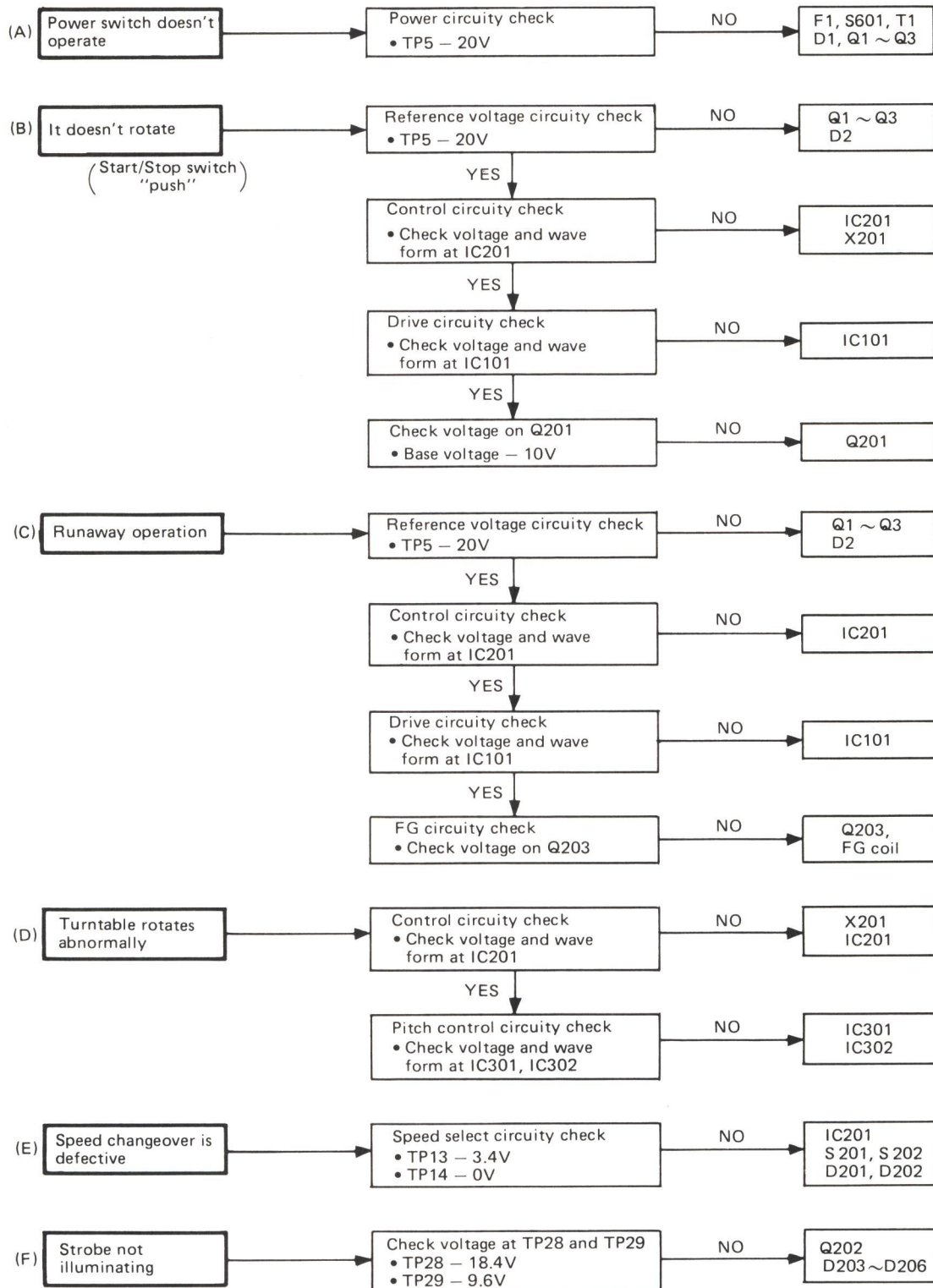
Ref. No.	Part No.	Part Name & Description
R108	ERD25FJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%
R109, 110	$\Delta$ ERX1ANJ4R7	Metal Film, 4.7 $\Omega$ , 1W, $\pm$ 5%
R201	$\Delta$ ERG1ANJ561	Metal Oxide, 560 $\Omega$ , 1W, $\pm$ 5%
R202	ERD25FJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%
R203	ERD25FJ470	Carbon, 47 $\Omega$ , 1/4W, $\pm$ 5%
R204	ERD25FJ272	Carbon, 2.7k $\Omega$ , 1/4W, $\pm$ 5%
R205	ERD25TJ124	Carbon, 120k $\Omega$ , 1/4W, $\pm$ 5%
R206	ERD25TJ183	Carbon, 18k $\Omega$ , 1/4W, $\pm$ 5%
R207	ERD25TJ563	Carbon, 56k $\Omega$ , 1/4W, $\pm$ 5%
R208	ERD25TJ224	Carbon, 220k $\Omega$ , 1/4W, $\pm$ 5%
R209	ERD25TJ154	Carbon, 150k $\Omega$ , 1/4W, $\pm$ 5%
R210	ERD25TJ183	Carbon, 18k $\Omega$ , 1/4W, $\pm$ 5%
R211	ERD25FJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%
R212	ERD25FJ121	Carbon, 120 $\Omega$ , 1/4W, $\pm$ 5%
R213	ERD25FJ122	Carbon, 1.2k $\Omega$ , 1/4W, $\pm$ 5%
R214	ERD25TJ223	Carbon, 22k $\Omega$ , 1/4W, $\pm$ 5%
R215	ERD25FJ472	Carbon, 4.7k $\Omega$ , 1/4W, $\pm$ 5%
R216	ERD25TJ154	Carbon, 150k $\Omega$ , 1/4W, $\pm$ 5%
R217	ERD25TJ223	Carbon, 22k $\Omega$ , 1/4W, $\pm$ 5%
R218	ERD25FJ102	Carbon, 1k $\Omega$ , 1/4W, $\pm$ 5%
R219	ERD25FJ332	Carbon, 3.3k $\Omega$ , 1/4W, $\pm$ 5%
R220	ERD25FJ221	Carbon, 220 $\Omega$ , 1/4W, $\pm$ 5%
R221	ERD25FJ471	Carbon, 470 $\Omega$ , 1/4W, $\pm$ 5%
R301	ERO25CKF3301	Metal Film, 3.3k $\Omega$ , 1/4W, $\pm$ 1%
R302	ERD25FJ471	Carbon, 470 $\Omega$ , 1/4W, $\pm$ 5%
R303	ERD25FJ822	Carbon, 8.2k $\Omega$ , 1/4W, $\pm$ 5%
R304	ERD25FJ152	Carbon, 1.5k $\Omega$ , 1/4W, $\pm$ 5%
R306	ERD25TJ223	Carbon, 22k $\Omega$ , 1/4W, $\pm$ 5%
R601	ERD25FJ4R7	Carbon, 4.7 $\Omega$ , 1/4W, $\pm$ 5%
<b>CAPACITORS</b>		
C1	ECEB1HS471	Electrolytic, 470 $\mu$ F, 50V
C2	ECEA1VS330	Electrolytic, 33 $\mu$ F, 35V
C3	ECEA1ES220	Electrolytic, 22 $\mu$ F, 25V
C101, 102	ECEA1VS330	Electrolytic, 33 $\mu$ F, 35V
C103	ECEA1VS330	Electrolytic, 33 $\mu$ F, 35V
C104, 105	ECQM1H104KZ	Polyester, 0.1 $\mu$ F, 50V, $\pm$ 10%
C106, 107	ECQM1H104KZ	Polyester, 0.1 $\mu$ F, 50V, $\pm$ 10%
C108	ECEA1ES101	Electrolytic, 100 $\mu$ F, 25V
C109, 110	ECQM1H104KZ	Polyester, 0.1 $\mu$ F, 50V, $\pm$ 10%
C111	ECQM1H562KZ	Polyester, 0.0056 $\mu$ F, 50V, $\pm$ 10%
C112	ECEA1JS4R7	Electrolytic, 4.7 $\mu$ F, 63V
C201	ECEA1CS330	Electrolytic, 33 $\mu$ F, 16V
C202, 203	ECEA50Z1	Electrolytic, 1 $\mu$ F, 50V
C204	ECQM1H473KZ	Polyester, 0.047 $\mu$ F, 50V, $\pm$ 10%
C205	ECEA1AS221	Electrolytic, 220 $\mu$ F, 10V
C206	ECEA50Z1	Electrolytic, 1 $\mu$ F, 50V
C207	ECCD1H101K	Ceramic, 100pF, 50V, $\pm$ 10%
C208	ECCD1H390K	Ceramic, 39pF, 50V, $\pm$ 10%
C209	ECEA1ES101	Electrolytic, 100 $\mu$ F, 16V
C210	ECQM1H224KZ	Polyester, 0.22 $\mu$ F, 50V, $\pm$ 10%
C211	ECQM1H473KZ	Polyester, 0.047 $\mu$ F, 50V, $\pm$ 10%
C212	ECEA50Z3R3	Electrolytic, 3.3 $\mu$ F, 50V
C213	ECCD1H471K	Ceramic, 470pF, 50V, $\pm$ 10%
C214	ECEA1ES101	Electrolytic, 100 $\mu$ F, 25V
C215	ECEA50Z1	Electrolytic, 1 $\mu$ F, 50V
C216	ECEA1ES470	Electrolytic, 47 $\mu$ F, 25V
C301, 302	$\Delta$ ECQK1123FZ	Polyester, 0.012 $\mu$ F, 125V, $\pm$ 1%
C303	ECEA50Z1	Electrolytic, 1 $\mu$ F, 50V
C304	ECEA1HS100	Electrolytic, 10 $\mu$ F, 50V
C305	ECQM1H122KZ	Polyester, 0.0012 $\mu$ F, 50V, $\pm$ 10%
C306	ECEA50Z1	Electrolytic, 1 $\mu$ F, 50V
C601 [M]	$\Delta$ ECQF1A473MD	Polyester, 0.047 $\mu$ F, 400V, $\pm$ 20%
C601 [MC]	$\Delta$ ECQU1A473ME	Polyester, 0.047 $\mu$ F, 400V, $\pm$ 20%

**TERMINAL GUIDE OF TRANSISTOR AND IC**

AN6675	AN6680	AN6682	SVITC4011BP	2SC1846	2SC1328	2SD637	2SD389

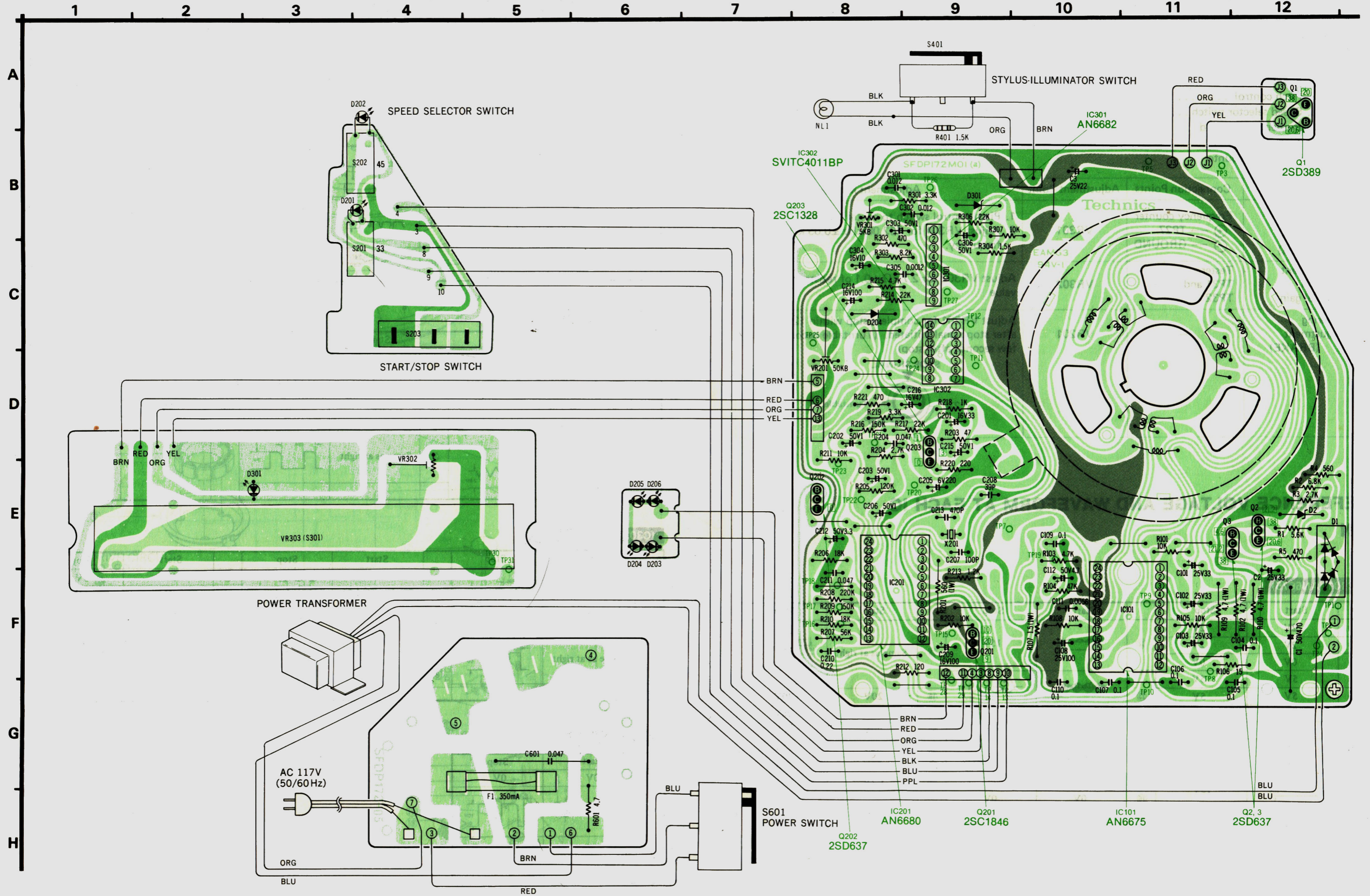


## ■ TROUBLE SHOOTING



# Printed Circuit Board

+ B lines  
 Earth (Ground) lines



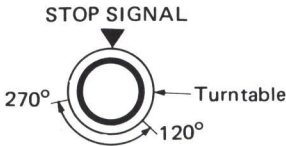
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## ■ ADJUSTMENT (Electrical)

### Adjustments (Electrical)

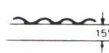
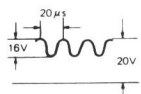


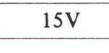
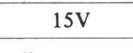
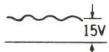
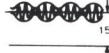

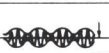

Notes: ● Make the following adjustments after replacing parts such as IC's, transistors, diodes, etc.

- Condition of the set.
  1. Power switch . . . . . ON
  2. Pitch control . . . . . Center position
  3. Speed selector switch . . . . . 33-1/3 r.p.m.
- Instruments to be used
  1. Tester
  2. Frequency counter


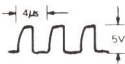
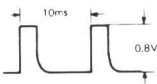
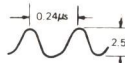
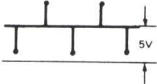
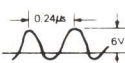

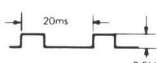

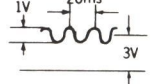
	Adjustment	Connection Points	Adjustment Point	Adjustment Method
A	Adjustment of pitch control $\pm 0\%$ (PITCH)	Frequency counter ⊕ — TP27 ⊖ — GROUND	VR301	1. Pitch control switch to center position. 2. Adjust VR301 for 262.08 kHz $\pm 0.05$ kHz of frequency.
B	Adjustment of pitch control gain	Tester TP31 and TP32	VR302	Adjust VR302 for 2.7 k $\Omega$ $\pm 0.1$ of resistance value
C	Braking adjustment (BRAKE)	—	VR201	Adjust VR201 for complete stop within 120° ~ 270° after stop signal initiated. (Turntable becomes free a few seconds after stop) 

## ■ REFERENCE VOLTAGE AND WAVEFORM AT EACH IC PIN





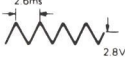

### IC101 (AN6675)

	Start	Stop		Start	Stop		Start	Stop		
①	2V	2V	⑫		15V	⑮	Same as at right			
②	2V	2V								
③	0V	0V								
④	5V	5V	⑬			⑲	20V	20V		
⑤	5V	5V								
⑥	5V	6.6V		⑳	15V		15V	20V	20V	
⑦	0V	0V								
⑧	5V	5V	⑭				㉑	20V	20V	
⑨	0V	0V								
⑩		15V		⑮				㉒	0.2V	0.2V
⑪			⑯		0V	0V	㉓		20V	20V
					⑰	15V			15V	㉔





**IC201 (AN6680)**

	Start	Stop		Start	Stop		Start	Stop
①	2.5V	2.5V	⑧	0V	0V	⑬	5V	2.5V
②	Same as at right		⑨	9.8V	9.8V	⑭	5V	5V
			⑩	10V	10V		⑮	0V
③	Same as at right		⑪	Same as at right		⑯	7.5V	0V
			⑫	0V			0V	⑰
④	Same as at right		⑬		0.2V	⑳	1.5V	0V
⑤	Same as at right		⑭				㉑	3V
⑥	3.4V	3.4V	⑮		8V	㉒	3V	3V
⑦	0V	0V					㉓	

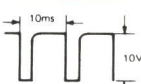
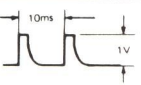
**IC301 (AN6682)**

	Start	Stop		Start	Stop		Start	Stop
①	Same as at right		④	Same as at right		⑧	Same as at right	
②	Same as at right		⑤	0V	0V	⑨	9V	9V
			⑥	3.9V	3.9V			
③	Same as at right		⑦	Same as at right				

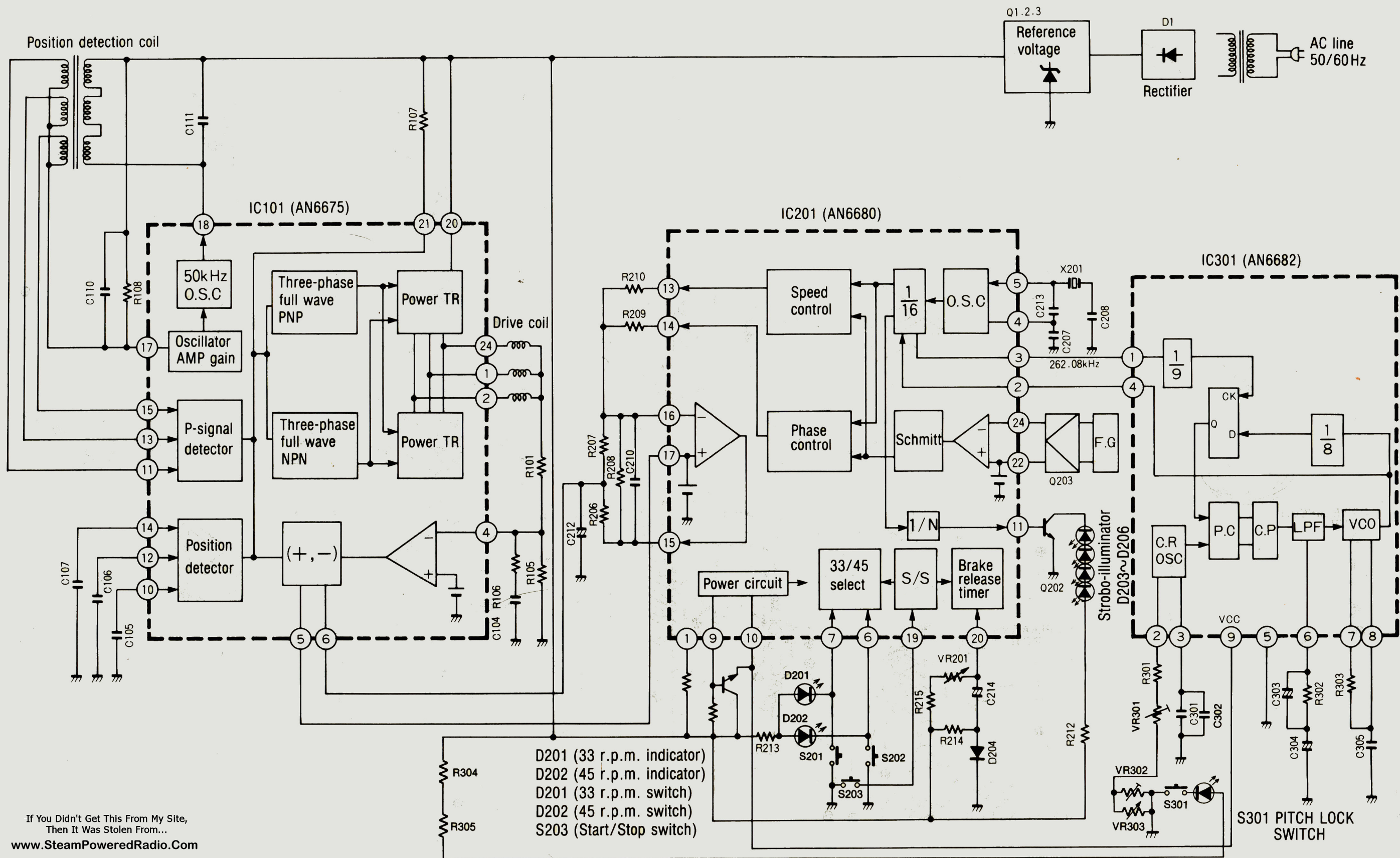
**IC302 (SVITC4011BP)**

	Start	Stop		Start	Stop		Start	Stop
①	Same as at right		⑤	Same as at right		⑨	5V	5V
②	5V	5V	⑥	5V	5V	⑩	5V	5V
③	Same as at right		⑦	0V	0V	⑪	5V	5V
			⑧	Same as at right		⑫	0.6V	0.6V
④	5V	5V				⑬	0.6V	0.6V
						⑭	5V	5V

**Q202 (2SD637)**

	Start	Stop
E	0V	0V
C	Same as at right	
B	Same as at right	

■ BLOCK DIAGRAM



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# REPLACEMENT PARTS LIST (Mechanical)

- Notes:**
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
  2.  $\Delta$  indicates that only parts specified by manufacturer be used for safety.
  3. SL-1200MK2(M)  $\rightarrow$  [M] , SL-1200MK2(MC)  $\rightarrow$  [MC]

Ref. No.	Part No.	Part Name & Description
<b>CABINET and CHASSIS PARTS</b>		
1	SFAD122-01A	Dust Cover
2	SFTG172-01	Turntable Mat
3	SFTE172-01Z	Turntable
4	SFUM172-05	Cover, Turntable
5	SFMGQ20-01	Cover, Stater Frame Ass'y
6	SFMG520-31A	Stater Frame
7	SFMZ172-01E	FG Detector Coil Ass'y
8	SFMZQ20-01A	Shaft, Stater Frame Ass'y
9	SFUP122-12	Plate, Shield
10	SFAC122-01	Cabinet
11	SFUM172-04	Ornament, Stylus-illuminator
12	SFKT122-01	Knob, Power Switch
13	SFKK122-01E	Case, Strobe-illuminator
14	SFKT015-06	Knob, Start/Stop Switch
15	SFQA122-01	Spring, Start/Stop Knob
16	SFUM122-01	Base, Operation
17	SFKT015-01E	Knob, Speed Selector (33-1/3 r.p.m.)
18	SFDJ122-02E	Connector, 7-PIN
19	SFGZ122-01	Spacer, Rubber (Speed Selector)
20	SFYB5-32	Ball, Switch Cam
21	SFQA520-01	Spring, Switch Cam
22	SFUM122-03	Cam, Switch
23	SFUM015-11	Spacer, LED
24	SFKK172-01	Cover, Lamp
25	SFXB122-02	Boss, Drive
26	SFQA172-01	Spring, Drive Boss
27	SFXJ172-01	Pin, Lock Canceler
28	SFUP122-02E	Bracket, Stylus-illuminator
29	SFUP122-03	Plate, Lock OPeration
30	SFDJ122-03E	Connector, 3-PIN
31	SFXO172-01	Pin, Guide
32	SFQA520-01	Spring, Lock Canceler Pin
33	SFQA001-02	Spring, Lock Operating Plate M'tg
34	SFXJ172-05	Pin, Lock Operating Plate M'tg
35	SFHK040L	Clamper, AC Cord
36	SFUP025-01	Bracket, AC Cord
37	<b>RJA9YA</b>	AC Cord
38	SFUP132-03	Bracket, Power Transformer
39	SFGC122-01	Cushion, Power Transformer
40	SFUP122-10	Spacer, Power Transformer
41	SFKT122-02	Knob, Pitch Control Volume
42	SFKK122-03	Ornament, Pitch Control Volume
43	SFUZ122-01	Shading Cloth, Pitch Control Volume
44	SFUP122-09	Holder, LED
45	SFUP122-01	Bracket, Pitch Control Volume
46	SFDJ122-01E	Connector, 4-PIN
47	SFUP122-13	Supporter, Bottom Base
48	SFAU122-01	Base, Bottom
49	SFUP122-05	Supporter (A), Hinge
50	SFUP122-04	Supporter (B), Hinge
51	SFUM170-07	Case, Hinge
52	SFGC122-02E	Audio Insulator
53	SFUP122-06	Supporter (C), Hinge
54	SFKT015-02E	Knob, Speed Selector (45 r.p.m.)
55 [M]	SFNN122M01	Name Plate
55 [MC]	SFNN122C01	Name Plate
56	SFXO122-01	Pipe (A)
57	SFXO122-02	Pipe (B)
58	SFAT122-01A	Hinge Ass'y
<b>STONE ARM and ARM BASE</b>		
61	SFPCC31001K	Head Shell
62	SFPAM18201K	Tone Arm Ass'y
63	SFPWG17201K	Balance Weight Ass'y
64	SFPRT18201K	Lift Ass'y
65	SFPZB17202	Knob, Arm Base Lock
66	SFQA829-03	Spring, Lift Ass'y
67	SFPAB13202	Knob, Arm Lift
68	SFPJL18202K	Oil Damper
70	SFPZB12203	Plate, Arm Base Cover
71	SFUM170-06	Spacer, Phono Cord
72	SFPZB12204	Clamper, Phono Cord
73	SFPAB18201K	Tone Arm Fixing Plate Ass'y
74	SFPZB12201K	Plate, Position Fix

Ref. No.	Part No.	Part Name & Description
75 [M]	SFDH360M01	Phono Cord
75 [MC]	SFDH028-01	Phono Cord
76	SFEL028-01E	Ground Wire
77	SFPRT17201K	Arm Rest
78	SFPKD17203	Arm Base
79	SFPKB17201S	Ring, Arm Base Operation
80	SFPKD12201	Bracket, Arm Base
81	SFPAB17206	Knob, Anti-skate Force Control
<b>SCREWS, WASHERS and CIRCLIPS</b>		
①	<b>XTN3+8BFZ</b>	Screw
②	SFXGQ20-02	Screw
③	<b>XTN3+8B</b>	Screw
④	<b>XTN26+6B</b>	Screw
⑤	<b>XTN4+10B</b>	Screw
⑥	<b>XWA4B</b>	Washer
⑦	<b>XUC3FT</b>	Circlip
⑧	<b>XUC2FT</b>	Circlip
⑨	<b>XUC25FT</b>	Circlip
⑩	SFXW910J02	Washer
⑪	<b>XTN3+40BFZ</b>	Screw
⑫	<b>XSN3+10BVS</b>	Screw
⑬	XWE3F12FZ	Washer
⑭	<b>XTN3+25BFZ</b>	Screw
⑮	SFXW122-01	Washer
⑯	<b>XWE3E10</b>	Washer
⑰	SFPEW1100	Washer
⑱	SFPEW11003	Washer
⑲	<b>XSN3+8S</b>	Screw
⑳	SFXG132-01	Screw
㉑	<b>XTV3+8BFN</b>	Screw
㉒	<b>XTN3+10B</b>	Screw
㉓	<b>XTN2+10B</b>	Screw
㉔	XSN17+3FY	Screw
㉕	<b>XSN3+14S</b>	Screw
㉖	SFXW172-04	Washer
㉗	XUB14FT	Circlip
㉘	SFUZ172-05	O Ring
㉙	<b>XTN3+6B</b>	Screw
㉚	<b>XSN3+6S</b>	Screw
㉛	<b>XWA3BFZ</b>	Washer
㉜	<b>XWA3B</b>	Washer
㉝	<b>XWG3</b>	Washer
㉞	SFXG829-1	Screw
㉟	<b>XUC5FT</b>	Circlip
㊱	<b>XTW3+6B</b>	Screw
㊲	<b>XTV3+6BFN</b>	Screw
㊳	<b>XWE4A10EW</b>	Washer
㊴	<b>XTN3+25B</b>	Screw
㊵	XYN3+C6FZS	Screw
㊶	<b>XSN3+12BVS</b>	Screw
㊷	SFPEW17201	Washer
㊸	XWG26	Washer
<b>ACCESSORIES</b>		
A1 [M]	SFNU122M01	Instruction Book
A1 [MC]	SFNU122C01	Instruction Book
A2	SFWE010	Adaptor, 45 r.p.m.
A3	SFPEP3302	Nut, Cartridge
A4	SFPEW9601	Washer, Cartridge
A5	SFCZV8801	Screw, Cartridge
A6	SFPEV9801	Screw, Cartridge
A7	SFKO135-01	Overhang Gauge
A8	SFPZB3501	Shell Weight
<b>PACKINGS</b>		
P1 [M]	SFHP122M01	Carton
P1 [MC]	SFHP122C01	Carton
P2	SFHH122-01	Pad, Front
P3	SFHH122-02	Pad, Rear
P4	SFHD122-01	Pad, Top
P5	SFHD122-02	Pad, (A), Turntable
P6	SFHD122-03	Pad, (B), Turntable
P7	SFYH60X60	Polyethylene Cover, Turntable Unit and Dust Cover
P8	SFYH40X45	Polyethylene Cover, Turntable

