

# SERVICE MANUAL

FULLY AUTOMATIC TURNTABLE

## SANSUI P-E350



### CAUTION

1. Parts identified by the  $\triangle$  symbol and shaded parts on the parts list and the schematic diagram are critical for safety.  
Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

### ● Specifications

Type .....	Belt drive system
Rated speeds .....	33-1/3, 45 rpm
Platter .....	Plastic platter (diameter 285 mm) (11-7/32")
Motor .....	DC servo motor
Wow/flutter .....	0.06% (WRMS)
Signal-to-noise ratio .....	Better than 68 dB (DIN-B)
Tonearm .....	Dynamically balanced straight arm
Effective tonearm length .....	145 mm (5-11/16")
Power voltage .....	110 ~ 120V/220 ~ 240V (50/60 Hz)
	For U.S.A. and Canada 120 V (60 Hz)
Power consumption .....	10 W
Dimensions .....	380 mm (14-31/32") W 93 mm (3-11/16") H 355 mm (14") D
Weight .....	3.3 kg (7.26 lbs.) net 4.4 kg (9.68 lbs.) packed

### Specifications of the cartridge (applicable only to the units with cartridge)

Model SV-P313	
Type .....	Dual Magnet type
Output voltage .....	2.5 mV (1,000 Hz, 50 mm/sec)
Correct load impedance .....	47 kohms
Frequency response .....	20 ~ 20,000 Hz
Stylus .....	0.6 mil diamond stylus (SN-P313 replacement stylus)

- \* Design and specifications subject to change without notice for improvements.
- \* Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors

*Sansui*

SANSUI ELECTRIC CO., LTD.

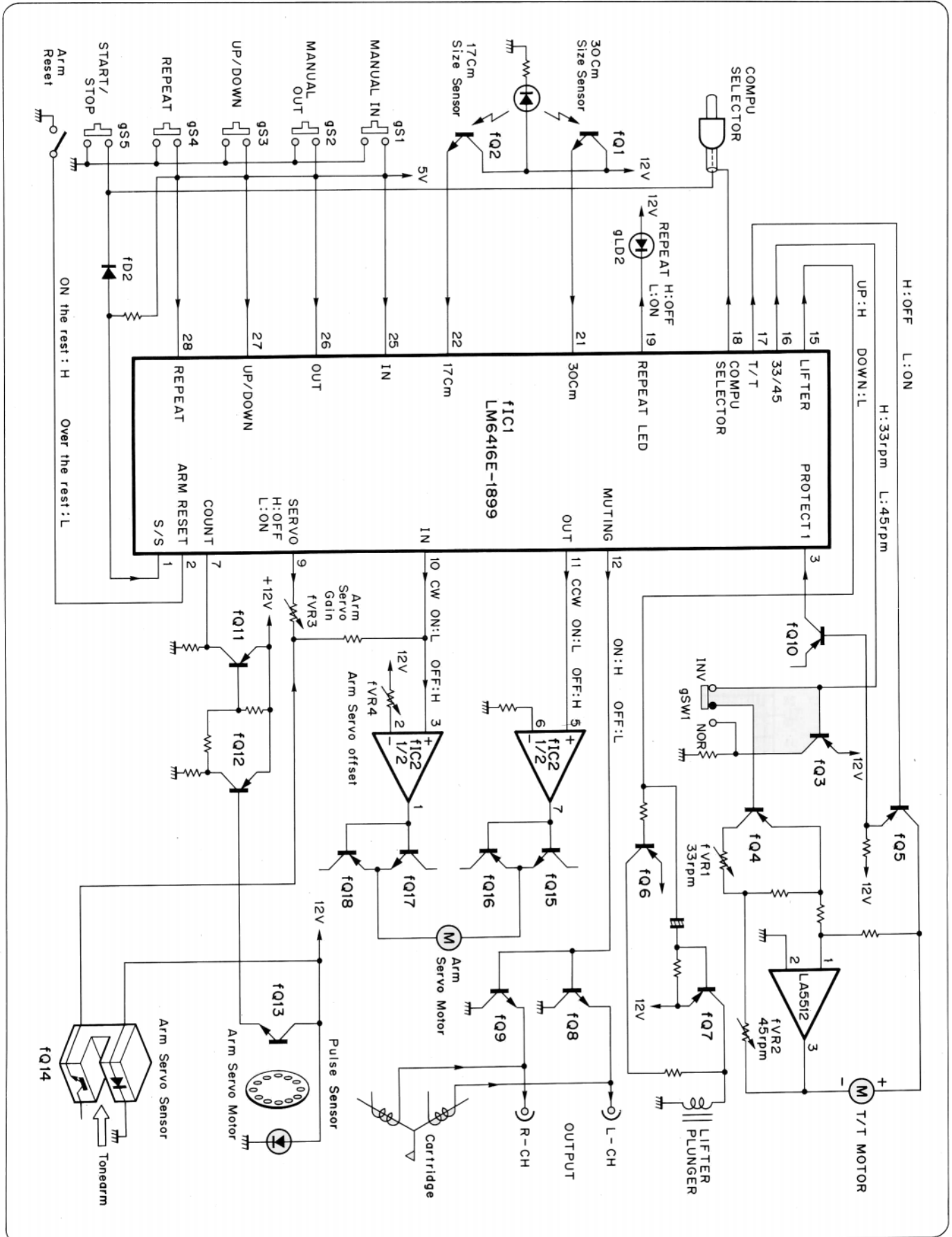
## CAUTION

1. The symbols, UL, CSA, SA, BS, UK, EU, AS and XX on the parts list and the schematic diagram mean followings respectively.
  - UL ..... Manufactured for U.S.A market.  
(Underwriters Laboratories approved model.)
  - CSA ..... Manufactured for Canadian market.
  - SA ..... Manufactured for South African market.
  - BS, UK ..... Manufactured for United Kingdom market.
  - EU ..... Manufactured for European market.
  - AS ..... Manufactured for Australian market.
  - XX ..... Standard Version.
  - NON MARK ..... Common Parts.
  
2. Some printed circuit boards are not supplied as the assembled. To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.
  
3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.
  
4. Abbreviations in this service manual are as follows.

### • Abbreviations List

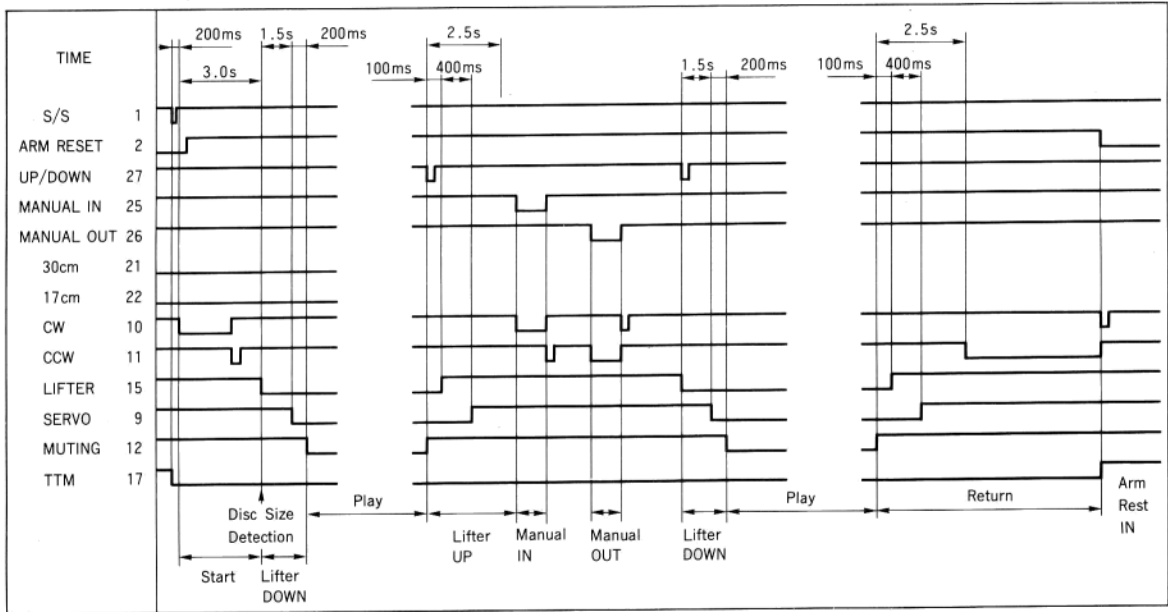
C.R. : Carbon Resistor	E.B.L. : Low Leak Bi-Polar
S.R. : Solid Resistor	Electrolytic Capacitor
Ce.R : Cement Resistor	Ta.C. : Tantalum Capacitor
M.R. : Metal Film Resistor	F.C. : Film Capacitor
F.R. : Fusing Resistor	M.P. : Metalized Paper
N.I.R. : Non-Inflammable Resistor	Capacitor
A.R. : Array Resistor	P.C. : Polystyrene Capacitor
C.C. : Ceramic Capacitor	G.C. : Gimmic Capacitor
C.T. : Ceramic Capacitor,	A.C. : Array Capacitor
Temperature Compensation	V.R. : Variable Resistor
E.C. : Electrolytic Capacitor	S.V.R. : Semi Variable Resistor
E.L. : Low Leak Electrolytic	SW. : Switch
Capacitor	Chip R. : Chip Resistor
E.B. : Bi-Polar Electrolytic	Chip C. : Chip Capacitor
Capacitor	

# 1. BLOCK DIAGRAM

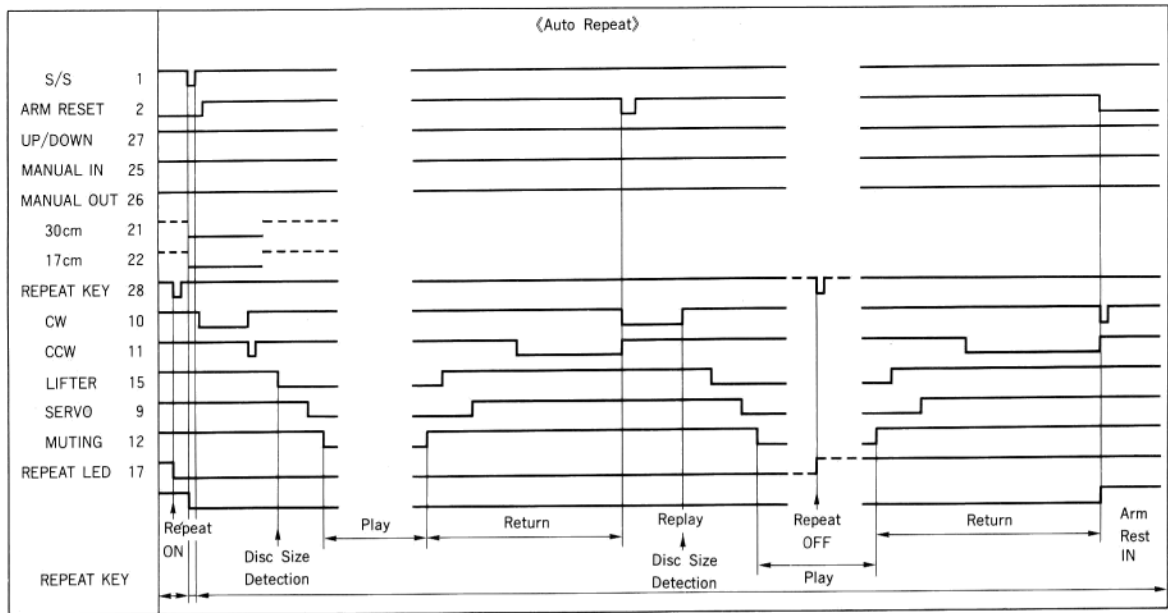


## 2. TIMING CHART OF CONTROL IC, LM6416

### 2-1. Automatic Disc Size Detection (Manual operation) < 30cm-dia. >

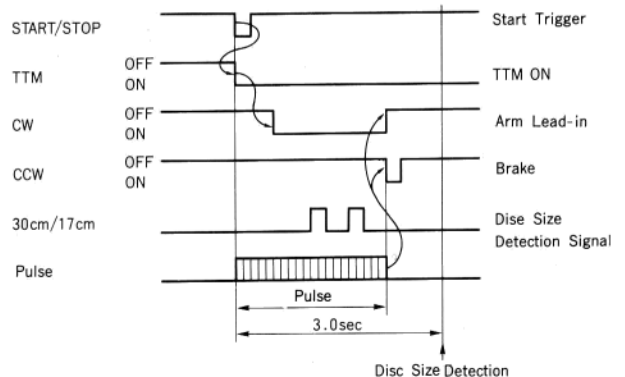


### 2-2. Automatic Disc Size Detection (Auto Repeat/Repeat Clear) < 30cm-dia. >



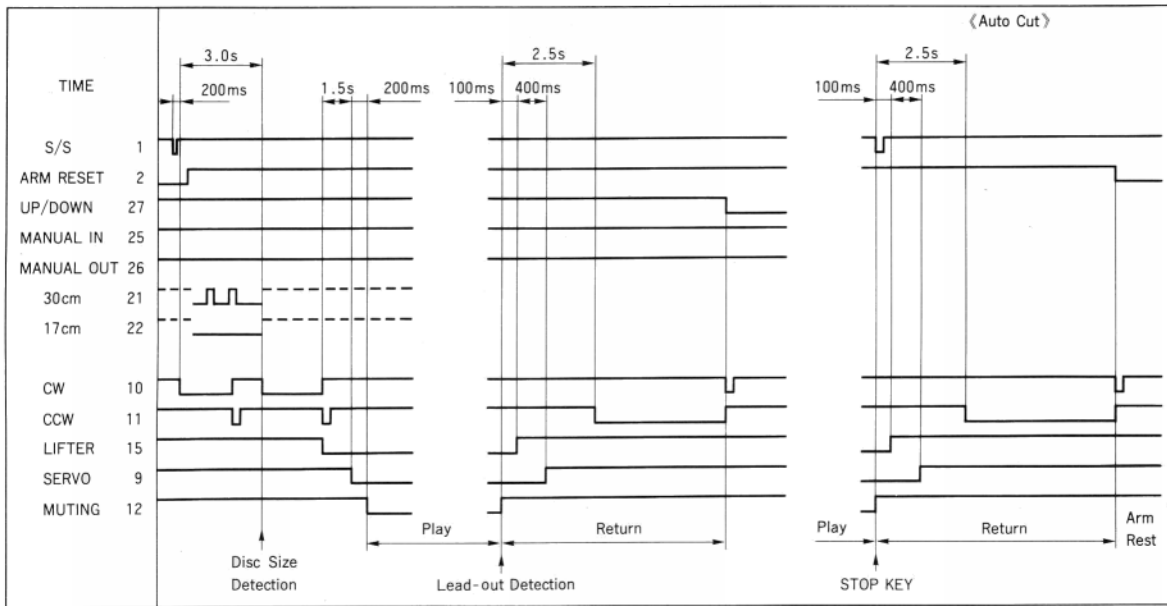
#### < Disc Size Detection >

Disc Size	30 cm (Pin 21)	17 cm (Pin 22)
30 cm	L	L
17 cm		L
No disc	—	

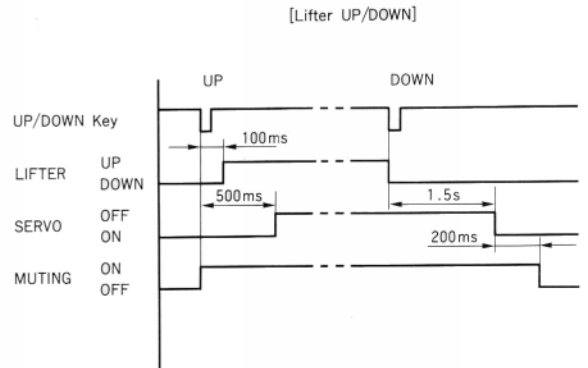
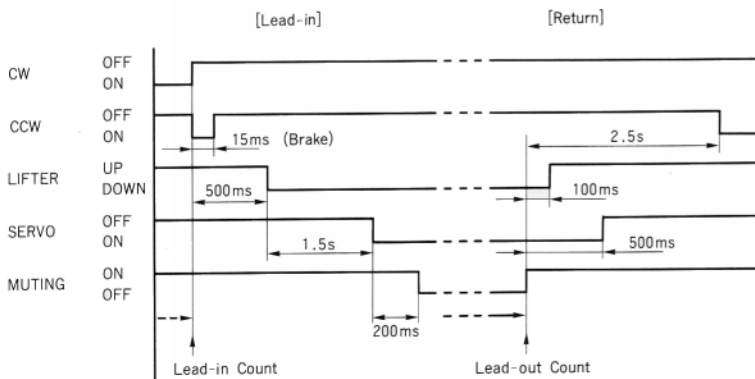
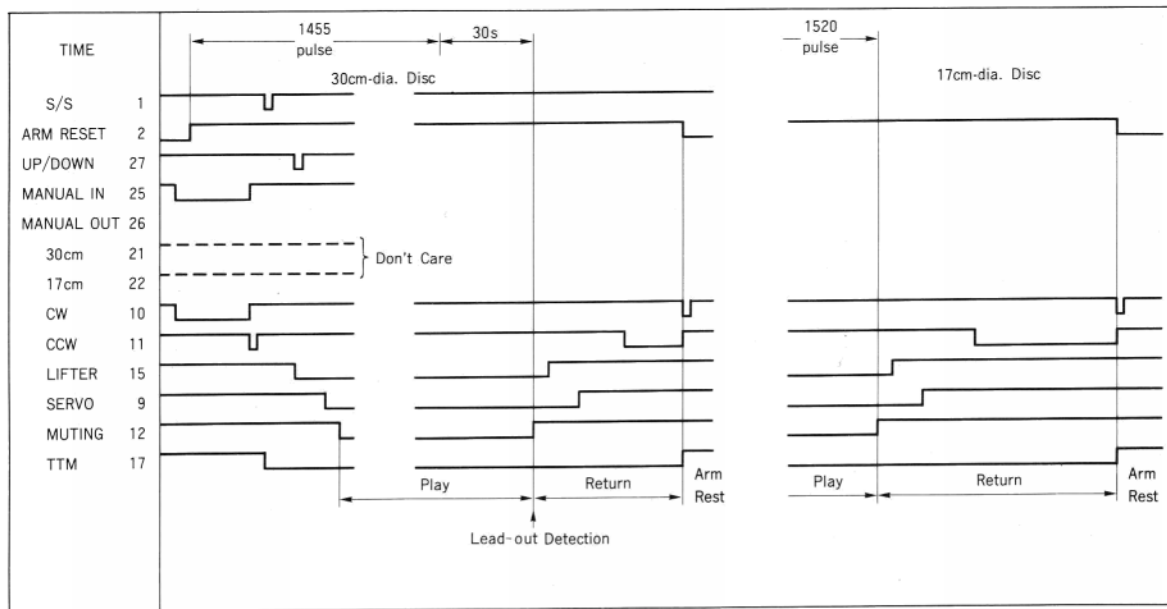




### 2-3. Automatic Disc Size Detection (Auto Cut) < 17cm-dia. >



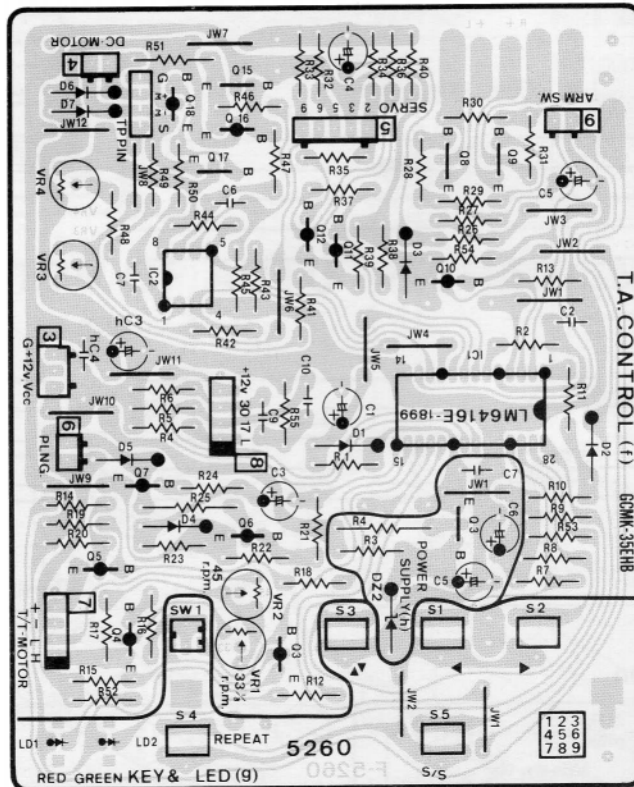
### 2-4. Manual Operation



### 3. PARTS LOCATION & PARTS LIST

#### 3-1. F-5260 Tonearm Control Board (Stock No.00955901)

Component Side



#### Parts List

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
• Transistor			• IC		
fQ3	46719800	DTA124ES	fIC1	48338300	LM6416E-1899
fQ4	46367001	2SA1115	fIC2	46173100	NJM2904D
	or 46367201	2SA1048		or 48163600	BA728
	or 48058601	2SA933S	• Diode		
fQ5	46359701	2SA952	fD1	03117600	1S2473T77
	or 46614001	2SA1283		or 46086000	1S1588TP-3
	or 48000801	2SA934	fD2	03117600	1S2473T77
fQ6	46367001	2SA1115		or 46086000	1S1588TP-3
fQ7	46359701	2SA952	fD3	03117600	1S2473T77
	or 46614001	2SA1283		or 46086000	1S1588TP-3
	or 48000801	2SA934	fD4	03117600	1S2473T77
fQ8	46540801	2SC2878		or 46086000	1S1588TP-3
	or 46604301	2SC3327	fD5	03117600	1S2473T77
fQ9	46540801	2SC2878		or 46086000	1S1588TP-3
	or 46604301	2SC3327	fD6	03117600	1S2473T77
fQ10	46367001	2SA1115		or 46086000	1S1588TP-3
	or 46367201	2SA1048	fD7	03117600	1S2473T77
	or 48058601	2SA933S		or 46086000	1S1588TP-3
fQ11	46367001	2SA1115	fVR1	46634400	15KΩ S.V.R., 33rpm Adj.
	or 46367201	2SA1048		or 48199700	20KΩ (B) S.V.R., 33rpm Adj.
	or 48058601	2SA933S	fVR2	46634300	10KΩ S.V.R., 45rpm Adj.
fQ12	46367001	2SA1115		or 48199600	10KΩ (B) S.V.R., 45rpm Adj.
	or 46367201	2SA1048	fVR3	46634700	47KΩ S.V.R., Arm Servo Gain
	or 48058601	2SA933S		or 48199800	50KΩ (B) S.V.R., Arm Servo Gain
fQ15	46359801	2SC2001	fVR4	46633900	2.2KΩ S.V.R., Arm Servo Offset
	or 46614101	2SC3243		or 48199400	2KΩ (B) S.V.R., Arm Servo Offset
	or 48000901	2SC2060	△ fR4	00141600	39Ω 1W N.I.R.
fQ16	46359701	2SA952	△ fR21	00133400	2.2Ω 1/2W N.I.R.
	or 46614001	2SA1283	△ fR51	00119000	4.7Ω 1/4W F.R.
	or 48000801	2SA934			
fQ17	46359801	2SC2001			
	or 46614101	2SC3243			
	or 48000901	2SC2060			
fQ18	46359701	2SA952			
	or 46614001	2SA1283			
	or 48000801	2SA934			

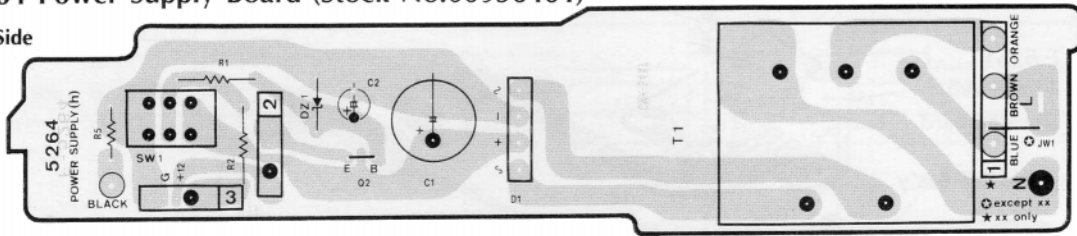
Parts List (F-5260)

Parts No.	Stock No.	Description
• LED		
gLD1	46095200	TLR123
	or 46176900	TLS-123
	or 46470200	SEL2210S
gLD2	07250900	TLG-123A
	or 46470300	SEL2410E
gS1	48306900	Push SW., IN
gS2	48306900	Push SW., OUT
gS3	48306900	Push SW., UP/DOWN
gS4	48306900	Push SW., REPEAT
gS5	48306900	Push SW., START/STOP

Parts No.	Stock No.	Description
gSW1	46500000	Push SW., SPEED
• Transistor		
hQ3	46149401	2SD794
	or 48150501	2SD1189
• Zener Diode		
hDZ2	46111400	05Z5.6-X
	or 46111500	05Z5.6-Y
	or 46111600	05Z5.6-Z
hR3	00136600	680Ω 1/2W N.I.R.

3-2. F-5264 Power Supply Board (Stock No.00956401)

Component Side



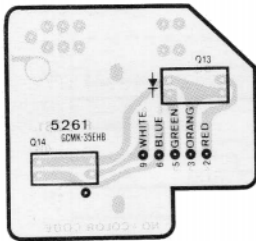
Parts List

Parts No.	Stock No.	Description
• Transistor		
hQ2	07299701	2SC2603
	or 46078801	2SC2458
	or 48058701	2SC1740S
• Diode		
hD1	03117000	RB152-LFF

Parts No.	Stock No.	Description
• Zener Diode		
hDZ1	46103900	05Z13-X
	or 46104000	05Z13-Y
hR1	00136600	680Ω 1/2W N.I.R
hR2	46624200	82Ω 2W N.I.R.
hSW1	48175900	Push SW., POWER

3-3. F-5261 Arm Servo Sensor Board

Component Side

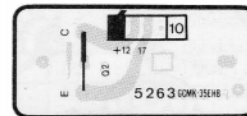


Parts List

Parts No.	Stock No.	Description
fQ13	46395800	Photo Interrupter GP-1S04
fQ14	46938400	Photo Interrupter ON1128

3-5. F-5263 17cm-dia. Disc Detection Board

Component Side

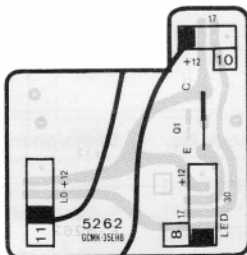


Parts List

Parts No.	Stock No.	Description
fQ2	46160000	Photo Transistor TPS605

3-4. F-5262 30cm-dia. Disc Detection Board

Component Side

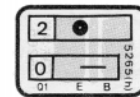


Parts List

Parts No.	Stock No.	Description
fQ1	46160000	Photo Transistor TPS605

3-6. F-5265 Regulator Transistor Board

Component Side

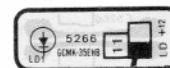


Parts List

Parts No.	Stock No.	Description
• Transistor		
fQ1	48150101	2SD1406

3-7. F-5266 Disc Detection Board

Component Side

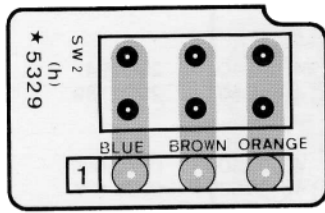


Parts List

Parts No.	Stock No.	Description
• LED		
fLD1	46396000	GL-520

3-8. F-5329 Voltage Selector SW. Board < XX only >

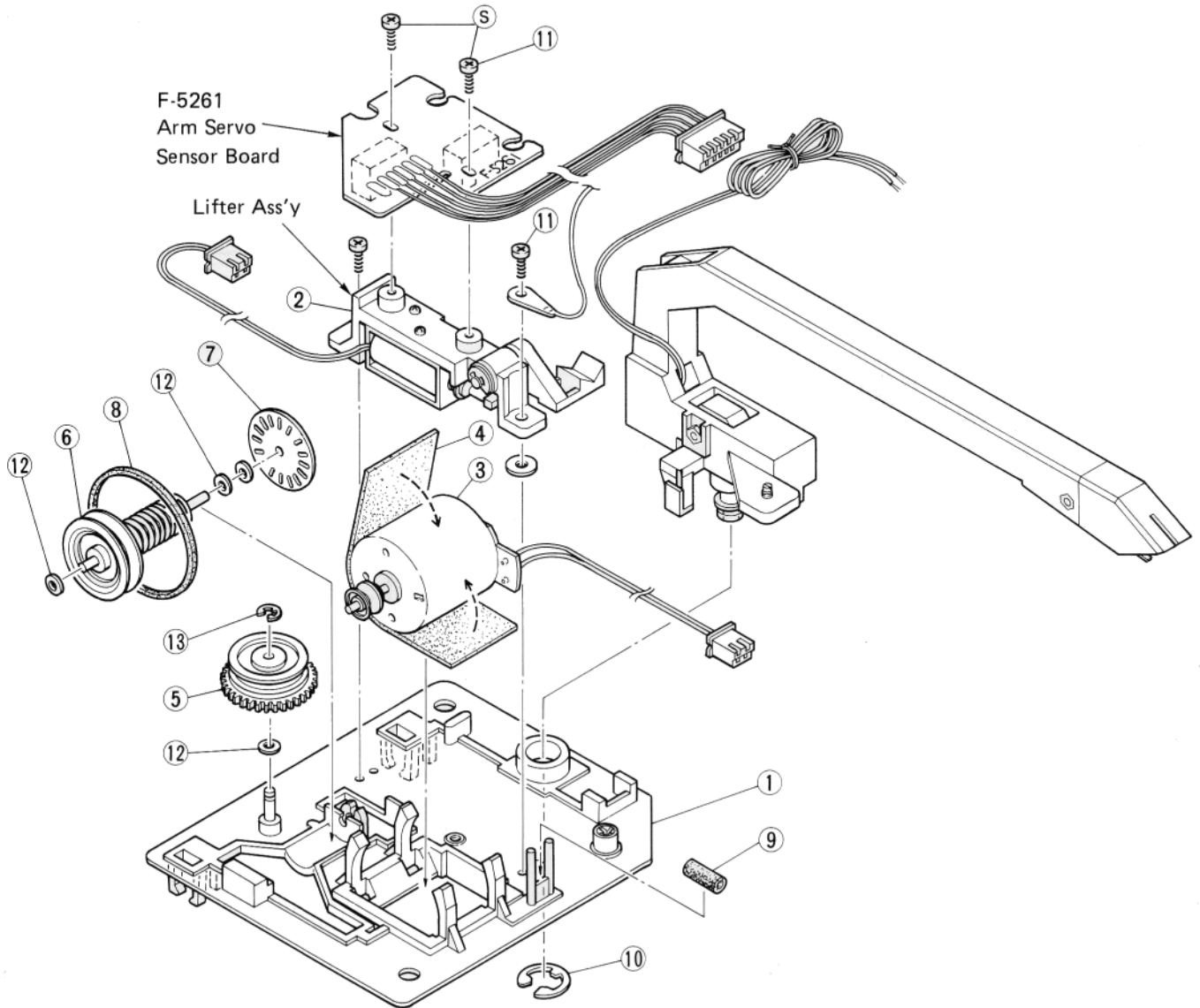
Component Side



Parts List

Parts No.	Stock No.	Description
△ hSW2	48310900	Slide SW., (XX)

4. EXPLODED VIEW OF AUTO MECHANISM & PARTS LIST



Parts List

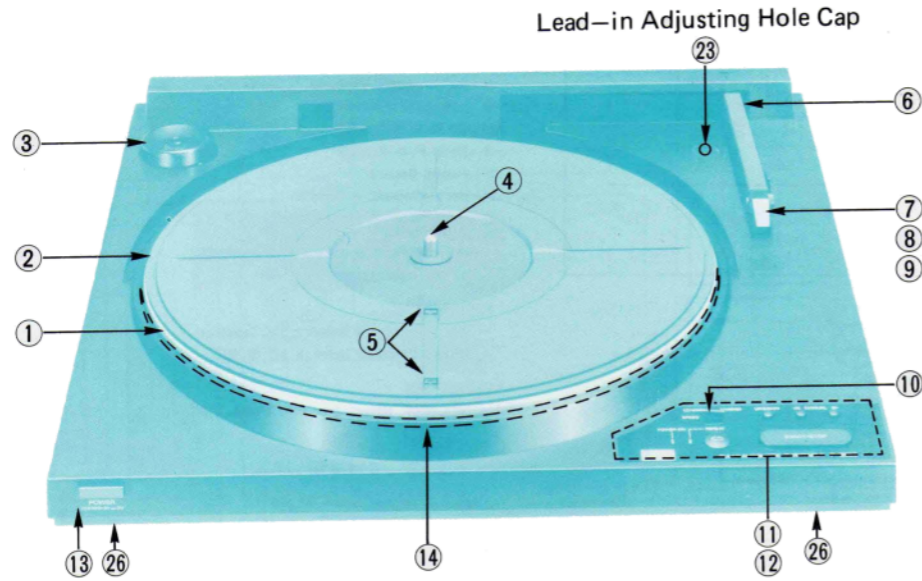
Parts No.	Stock No.	Description
1	27046600	Mecha Chassis
2	48361910	Lifter Ass'y
3	48362000	DC Motor
4	27064600	Motor Holder Rubber
5	13215820	Drive Gear
6	27040200	Worm Pulley
7	13274600	Slit Plate

Parts No.	Stock No.	Description
8	13103810	Belt
9	13718500	Rubber Bushing
10	48368000	E Ring
11	48368100	Screw, M2.6x6
12	51821600	Washer
13	13285900	2.3φ E Ring

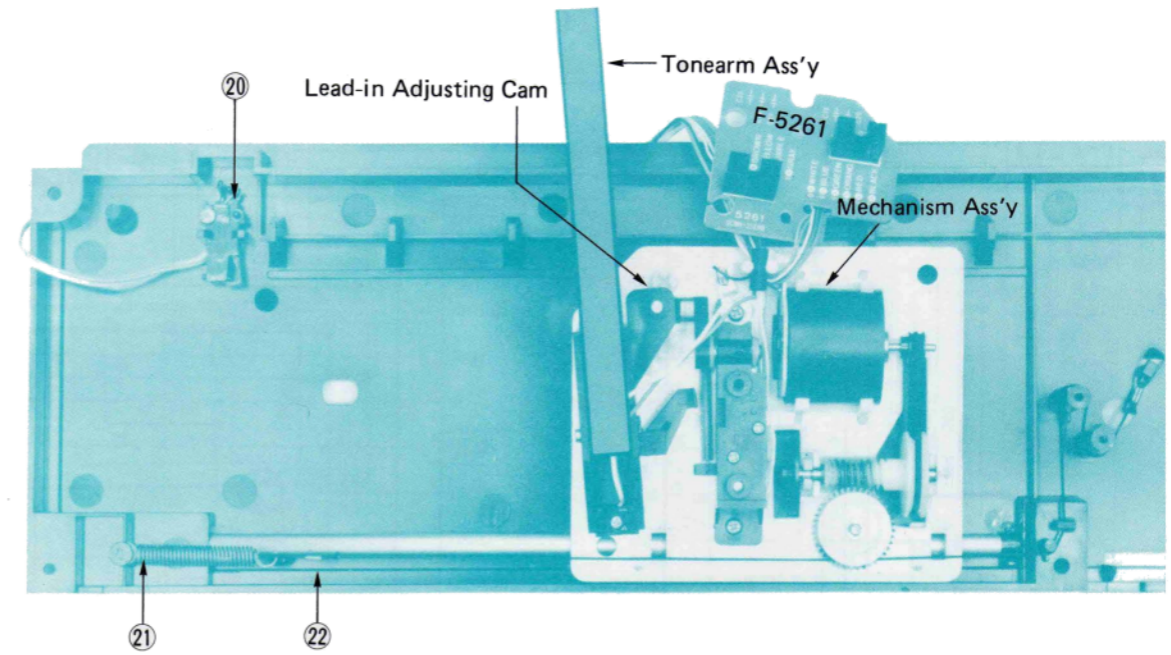


# 5. OTHER PARTS

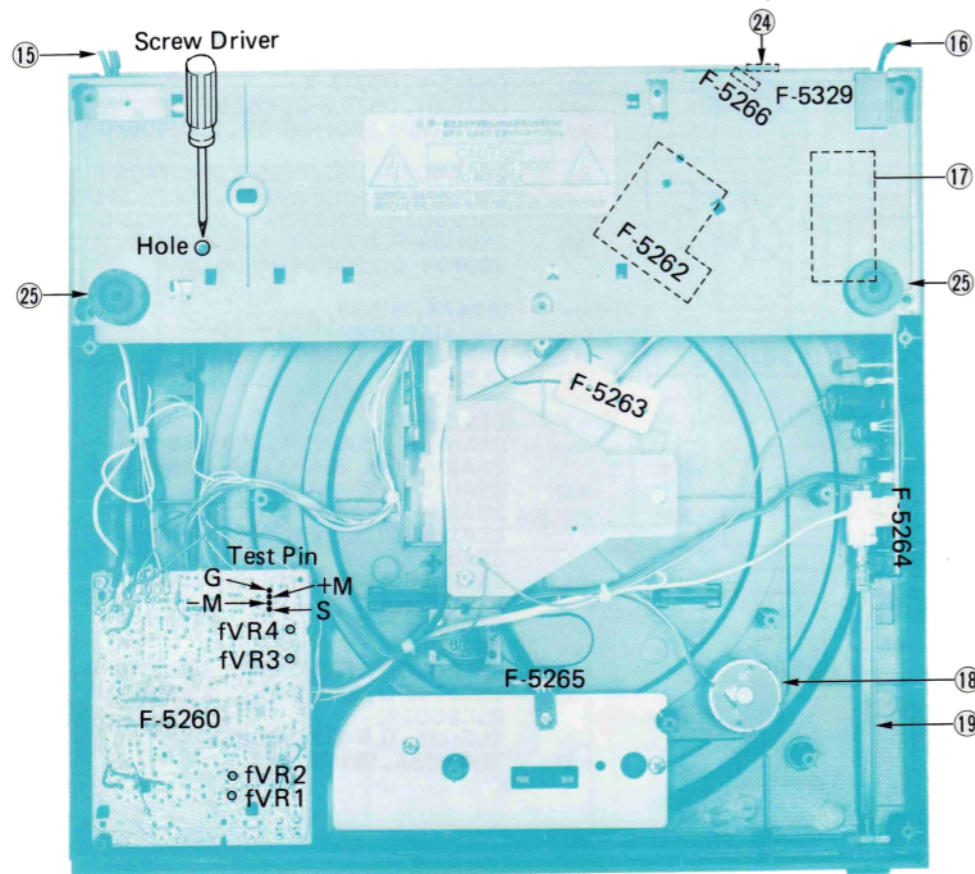
5-1. Top View



5-3. Mechanism Ass'y View



5-2. Bottom View

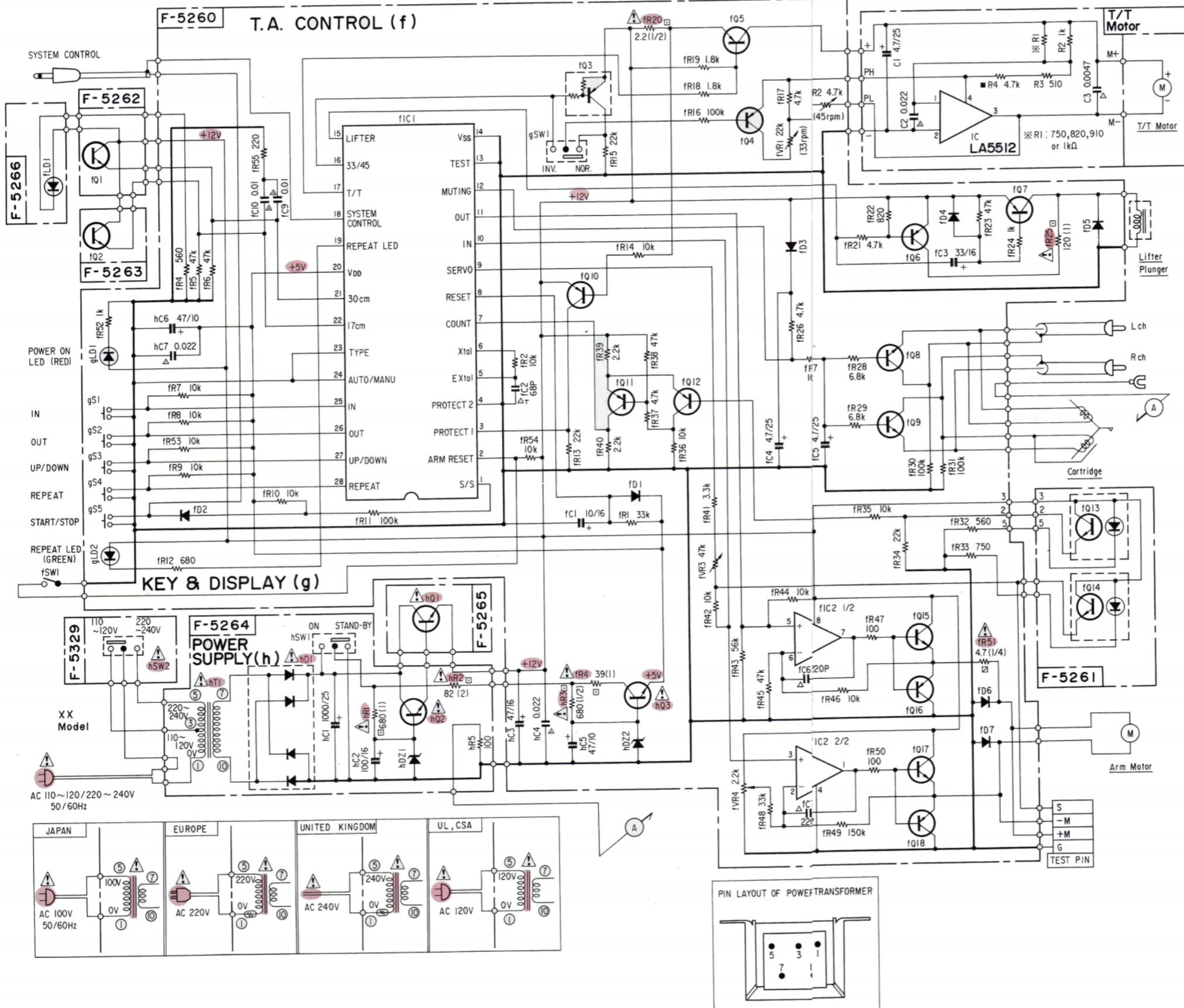


Parts List (Top View, Bottom View and Mechanism Ass'y View)

Parts No.	Stock No.	Description
1	27060100	Turntable Platter
2	27060200	Turntable Sheet (XX,CSA,EU,BS & AS)
	27060300	Turntable Sheet (UL)
3	13012300	45rpm Adaptor
4	27060400	Center Spindle
5	27060500	Disc Selector Prism
6	13734100	Tonearm Ass'y
7	13283300	SV-P313 Cartridge
8	13283400	SN-P313 Stylus
9	13233500	Screw for Stylus
10	27114000	Speed Switch Knob
11	27060610	Control Button
12	27174900	Control Button Plate
13	27039700	Power Knob
14	47797600	Belt, platter
15	13154300	PU Output Cord (XX,CSA,EU,BS & AS)
	13154400	PU Output Cord (UL)
△ 16	46413200	Power Supply Cord (XX,CSA)
△	38004700	Power Supply Cord (UL)
△	38004500	Power Supply Cord (EU)
△	38004300	Power Supply Cord (BS)
△ 17	15022501	Power Transformer (XX)
△	15022502	Power Transformer (UL)
△	15022503	Power Transformer (CSA)
△	15022505	Power Transformer (EU & BS)
18	48338400	DC Motor, turntable
19	27063000	Joint Shaft
20	46926900	Micro Switch
21	27064700	Tension Spring
22	27015400	Drive Wire
23	27059700	Lead In Adjusting Hole Cap
△ 24	48310900	Slide SW., Voltage Selector (XX)
25	27116400	Insulator A (Rear Side)
26	27123100	Insulator B (Front Side)



# 6. SCHEMATIC DIAGRAM



• Design and specifications subject to change without notice for improvement.  
 • La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.  
 • Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

- SYMBOL**
- △ Ceramic
  - △T Ceramic (Temperature Compensation)
  - △ Barrier Layer Capacitor
  - Low-Leak Electrolytic
  - (BP) Bi-Polar Electrolytic
  - Metal Film Resistor
  - ⊠ Fusing Resistor
  - Non-Inflammable Resistor
- ⚠ is Safety Part.  
 Use only replacement parts recommended by the manufacturer.

**RESISTORS**  
 Are in ohms, 1/4 Watts, ±5% Tolerance  
 Unless Otherwise Noted. k:kΩ, M:MΩ

**CAPACITORS**  
 Are in μF, Unless Otherwise Noted. P:pF

**TOLERANCE**  
 J:±5%, G:±2%, F:±1%

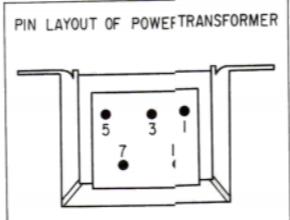
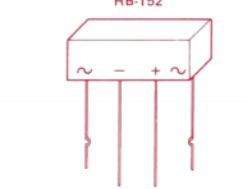
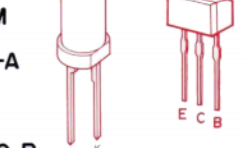
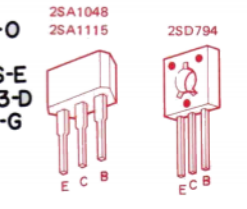
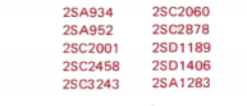
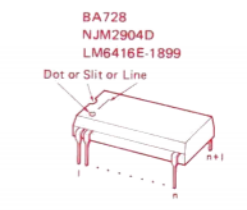
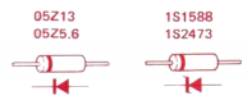
Each D.C. Voltage shows the nominal value in volts at 33 1/3 r.p.m

Each D.C. Voltage measured by the instruments described below shows the nominal value in volts at 33 1/3 r.p.m

Measuring instruments:  
 Volt Meter D.C. 20kΩ/V, A.C. 1kΩ/V  
 Oscilloscope 5MHz

Electrolytic Capacitor:  
 Capacitance (μF) / Volt(V)

- hD1 **RB152**
- hD2 **05Z13-Y, 05Z13-X**
- hD2 **05Z5.6Y, 05Z5.6-Z, 05Z5.6-X**
- hQ1 **2SD1406-Y, 2SD1406-GR, 2SD1406-O**
- hQ2 **2SC1740S-R, 2SC1740S-S, 2SC1740S-E**
- hQ2 **2SC2458-Y, 2SC2458-GR, 2SC2603-D**
- hQ2 **2SC2603-F, 2SC2603-F, 2SC2603-G**
- hQ3 **2SD1189-P, 2SD1189-Q, 2SD1189-R**
- hQ3 **2SD794-Q, 2SD794-P**
- FD1~7 **IS2473, ISI588**
- FIC1 **LM6416E-1899**
- FIC2 **BA728, NJM2904D**
- FLD1 **GL520**
- FQ1,2 **TPS605**
- FQ3 **DTA124ES**
- FQ4,10~12 **2SA1115-E, 2SA1115-F, 2SA1048-Y**
- FQ4,10~12 **2SA1048-GR, 2SA933S-R, 2SA933S-S**
- FQ6 **2SA1115-E, 2SA1115-F**
- FQ5,7,16,18 **2SA934-P, 2SA934-Q, 2SA934-R**
- FQ5,7,16,18 **2SA1283-D, 2SA1283-E, 2SA952-M**
- FQ8,9 **2SA952-L**
- FQ8,9 **2SC2878-A, 2SC2878-B, 2SC3327-A**
- FQ8,9 **2SC3327-B**
- FQ13 **GP-1S04**
- FQ14 **ON1128**
- FQ15,17 **2SC2060-P, 2SC2060-Q, 2SC2060-R**
- FQ15,17 **2SC3243-D, 2SC3243-E, 2SC2001-M**
- FQ15,17 **2SC2001-L**
- gLD1 **TL5-123, TLR-123, SEL2210S**
- gLD2 **TLG-123A, SEL2410E**



1

2

3

4

5



## 7. ADJUSTMENTS

### 7-1. Lead-In Operation Adjustment

Note: Before this adjustment, remove the lead-in adjusting hole cap (23) (See 5-1. Top View on page 8)

#### A. How to remove the lead-in adjusting hole cap

- 1) Move the tonearm to the lead-out position by the depressing MANUAL (◀) switch.
- 2) Insert a screw driver to the hole (See 5-2. Bottom View on page 8) of bottom plate, and remove the lead-in adjusting hole cap by pushing the screw driver.

#### B. How to Adjustment

- 1) By using 30Cm-dia. disc having a narrow lead-in groove, actually carry out the automatic operation (lead-in operation).
- 2) Adjust the lead-in adjusting cam (See 5-3. Mechanism Ass'y View on page 8) by the tonearm placed on the arm rest position so that the stylus tip may come down to the lead-in groove position.
- 3) Perform the lead-out operation and check that the stylus tip is lifted up at the lead-out groove.
- 4) By using 17Cm-dia. disc, actually carry out the automatic operation (lead-in operation). Confirm that the stylus tip comes down to the lead-in groove position.

### 7-2. Arm Servo Adjustment

#### A. Arm Servo Gain Adjustment

- 1) Connect a DC voltmeter between TP(G) and TP(S) on the F-5260 board. (See 5-2. Bottom View on page 8)
- 2) Move the tonearm by MANUAL operation so that stylus tip is approx. 110mm away from the center of the platter.
- 3) Turn the fVR4 on the F-5260 board fully counterclockwise as viewed from the pattern side.
- 4) Press the UP/DOWN switch to lower the tonearm.

- 5) Move the cartridge portion of tonearm rightward by hand until it will stop, and adjust fVR3 on the F-5260 board so that the reading of the DC voltmeter is  $10V \pm 1V$ .
- 6) Press the UP/DOWN switch to upward the tonearm.
- 7) Press the UP/DOWN switch to lower the tonearm again, and then confirm that the voltmeter pointer indicates DC  $3.0V \sim 8.0V$ .

\* If voltmeter pointer indication is not obtained DC  $3.0V \sim 8.0V$ , loosen two screws (S) for fixing F-5261 board (See 4. Exploded View of Mechanism Ass'y on page 7) and shift the F-5261 board fixing position on the lifter ass'y (See 4. Exploded View of Mechanism Ass'y on page 7), and then perform the procedures 1) ~ 7) repeatedly.

#### B. Arm Servo Offset Voltage Adjustment

- 1) Connect a DC voltmeter between TP(—M) and TP(+M) on the F-5260 board. (See 5-2. Bottom View on page 8)
- 2) Move the tonearm to the lead-in position by depressing MANUAL (◀) switch.
- 3) Press the UP/DOWN switch to lower the tonearm, and adjust fVR4 on the F-5260 board so that the reading of DC voltmeter is  $1V \pm 0.2V$ .
- 4) Move the tonearm downward by depressing the UP/DOWN switch several times, and then confirm that the voltmeter pointer indicates DC  $1V \pm 0.2V$ .

### 7-3. Speed Adjustment

Note: Before adjustment, remove the bottom cover.

- 1) Set the SPEED switch to "INVERSE" position.
- 2) Place a 30Cm-dia. disc on the platter and press the START/STOP switch.
- 3) Adjust the fVR2 on the F-5260 board so as to standstill a 45rpm strobo marking pattern.
- 4) Set the SPEED switch to "NORMAL" position.
- 5) Press the START/STOP switch.
- 6) Adjust the fVR1 on the F-5260 board so as to standstill a 33rpm strobo marking pattern.

## 8. PACKING LIST

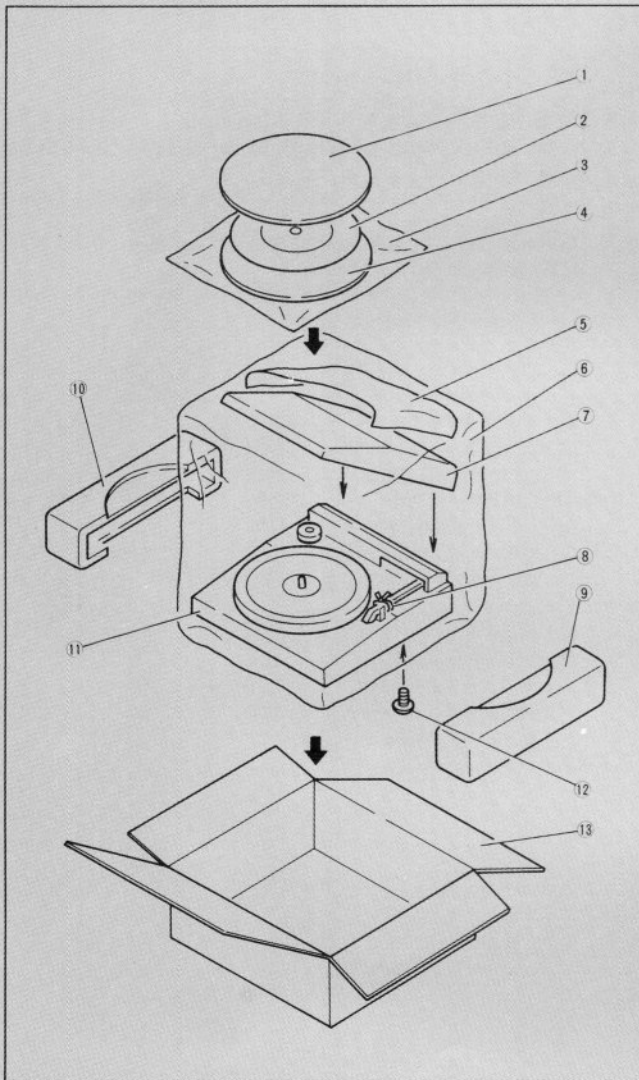
Parts No.	Stock No.	Description
1	—	Packing for Turntable
2	27060200	Turntable Sheet (XX, CSA, EU, BS & AS)
	27060300	Turntable Sheet (UL)
3	—	Polyethylene Bag
4	27060100	Turntable (Platter)
5	—	Polystyrene Mat
6	47859600	Polyethylene Bag
7	27064800	Dust Cover Ass'y
	48366700	Auto Hinge, Dust Cover Ass'y Binder
8	—	Inner Packing (Right)
9	27118500	Inner Packing (Left)
10	27118300	Inner Packing (Left)
11	—	Unit
12	27087400	Shipping Screw
13	27118100	Carton Case

## 9. ACCESSORY LIST

Stock No.	Description
13012300	45rpm Adaptor
46997500	Operating Instruction (* E.F.S)
46997600	Operating Instruction (* G.I.SW)
48366410	Mini Pin Plug Cord
47797600	Belt, platter

**\*Note:**

E.F.S :English, France and Spanish Version  
 G.I.SW:Germany, Italian and SWedish Version



**Sansui**

SANSUI ELECTRIC CO., LTD.:

SANSUI ELECTRONICS CORPORATION:

SANSUI ELECTRONICS (U.K.) LTD.:  
 SANSUI ELECTRONICS G.M.B.H.:

14-1, Izumi 2-chome, Suginami-ku, Tokyo 168 Japan  
 PHONE: (03) 324-8891/TELEX: 232-2076 (International Division)

1250 Valley Brook Ave. Lyndhurst, N.J. 07071 U.S.A.  
 17150 South Margay Ave. Carson, California 90746 U.S.A.  
 3036 Koapaka Street, Honolulu, Hawaii 96819 U.S.A.

Unit 10A, Lyon Industrial Estate, Rockware Avenue, Greenford, Middx UB6, OAA, England  
 Pau Ehrich Strasse 8, 6074 Rödermark 2, West Germany