

# SERVICE MANUAL

COMPUTER CONTROL  
LINEAR TRACKING/FULLY AUTOMATIC DD TURNTABLE

## SANSUI P-M55



### CAUTION

1. Use only replacement parts recommended by the manufacturer.
2. Measure insulation resistance before returning the appliance to the customer to prevent electrical shock.

### •SPECIFICATIONS

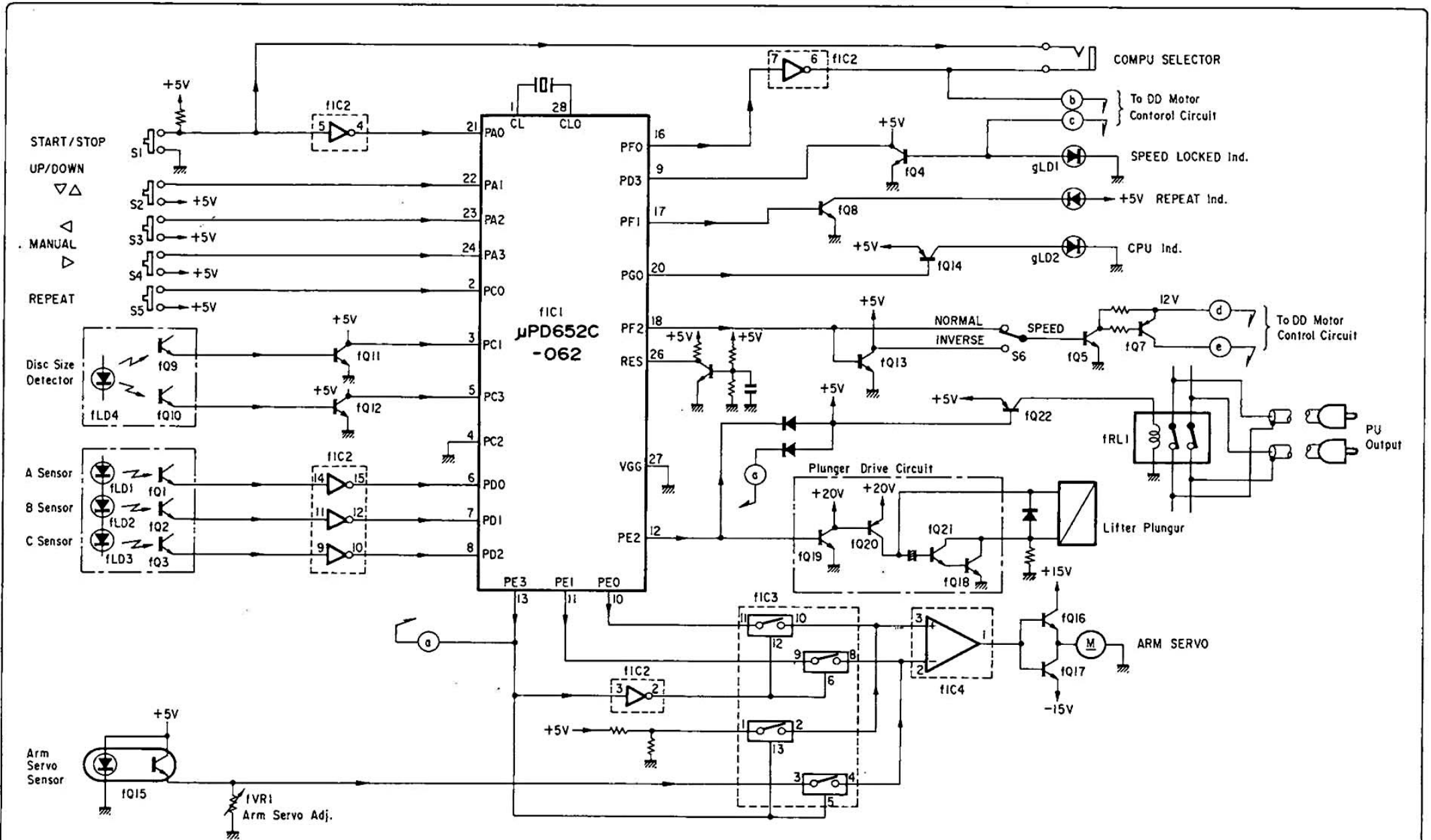
Type.....	Direct-drive turntable
Rated speeds.....	33-1/3, 45 rpm
Platter.....	Aluminum alloy diecast, 306 mm (12-1/16") diameter, 0.6 kg (1.3 lbs.) weight
Motor .....	Coreless and Brushless DC/FG Servo
Wow/flutter .....	0.028% (WRMS)
Signal-to-noise ratio .....	Better than 72 dB (DIN-B) Better than 60 dB (IEC-B)
Tonearm .....	Statically-balanced type
Effective tonearm length .....	142 mm (5-5/8")
Cartridge.....	Dual Magnet type (SV-P515)
Output voltage.....	2.5 mV (1,000 Hz, 35.4 mm/sec)
Correct load impedance .....	47 kohms
Frequency response.....	10 ~ 20,000 Hz
Stylus.....	0.6 mil diamond stylus (SN-P515 replacement stylus)
<b>Others</b>	
Power voltage .....	110 ~ 120/220 ~ 240V (50/60 Hz)
For U.S.A. and Canada	
.....	120 V (60 Hz)
Power consumption .....	15 W
Dimensions .....	345 mm (13-5/8") W 99 mm (3-15/16") H 360 mm (14-3/16") D
Weight.....	5.5 kg (12.8 lbs.) net 6.4 kg (14.6 lbs.) packed

\* Design and specifications subject to change without notice for improvements.

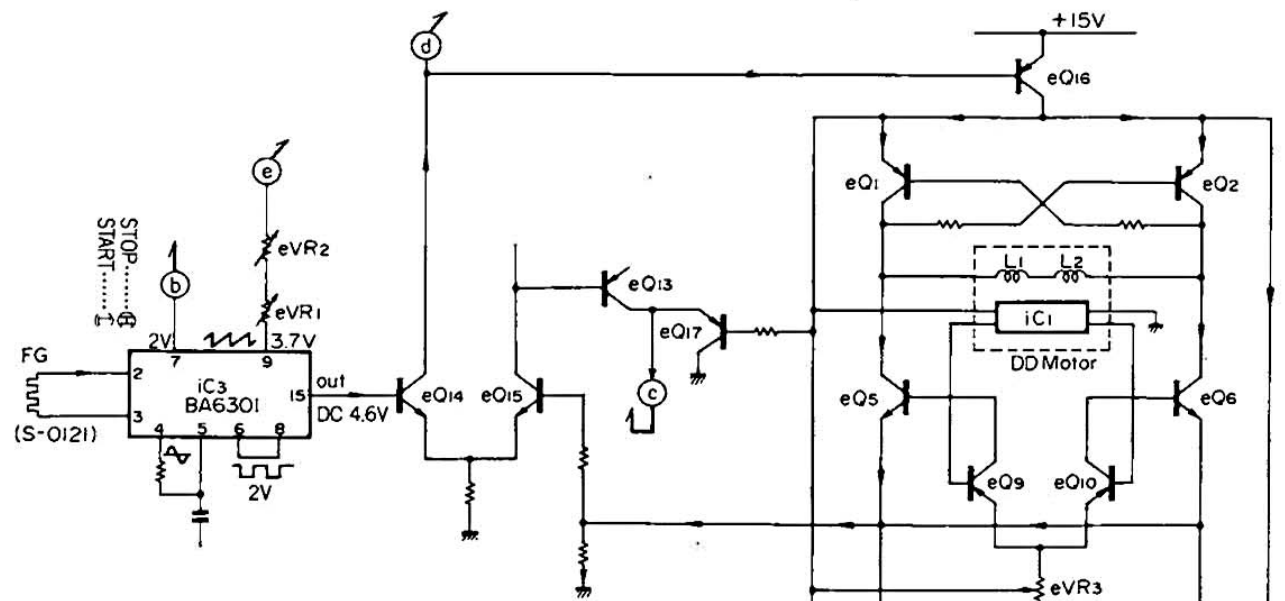
**Sansui**

SANSUI ELECTRIC CO., LTD.

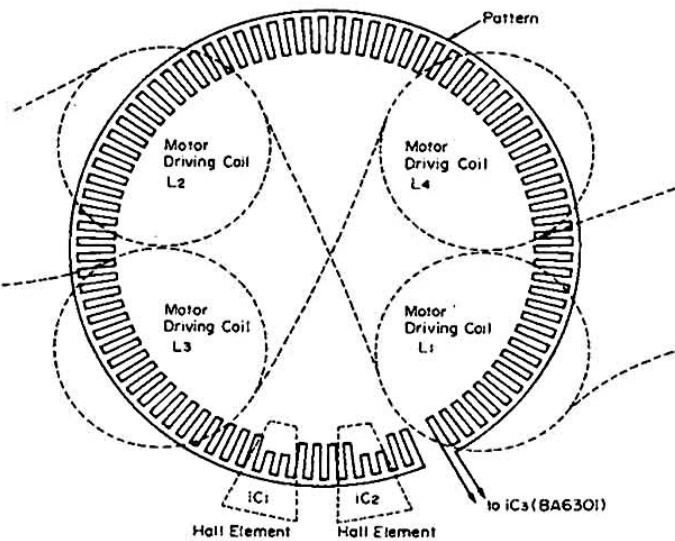
# 1. BLOCK DIAGRAM



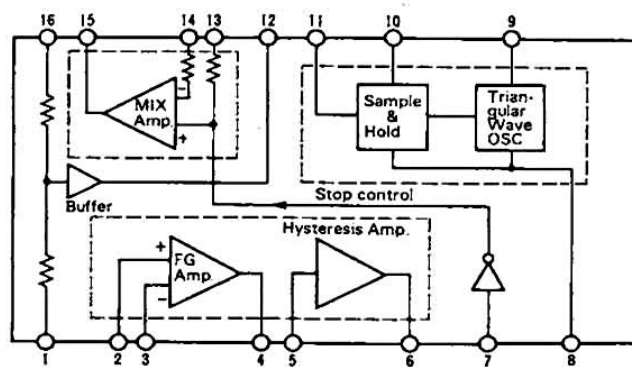
## •DD Motor Control Section



Pattern drawing of motor section (S-0121 Motor Control Circuit Board)

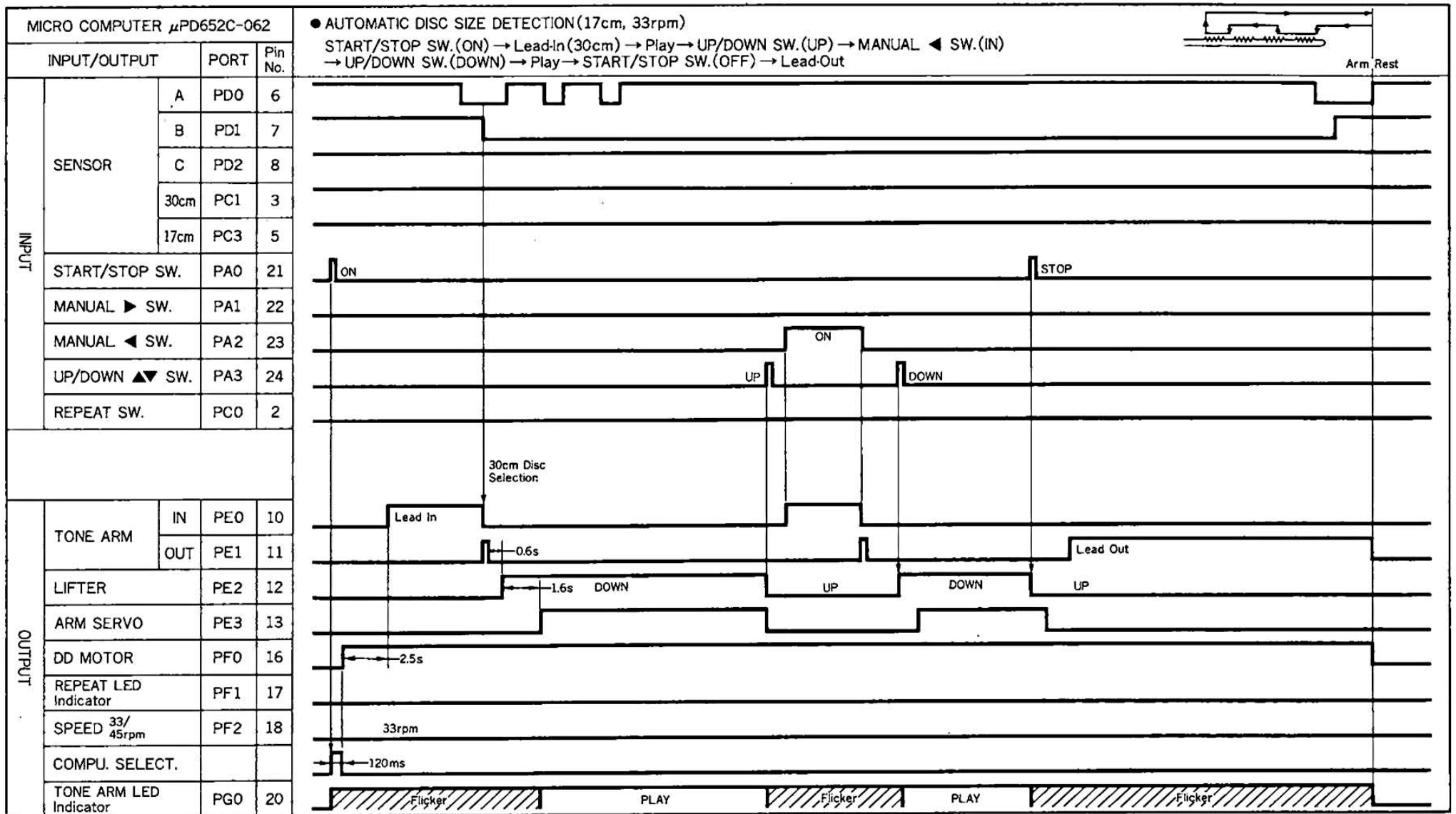


## •BA-6301

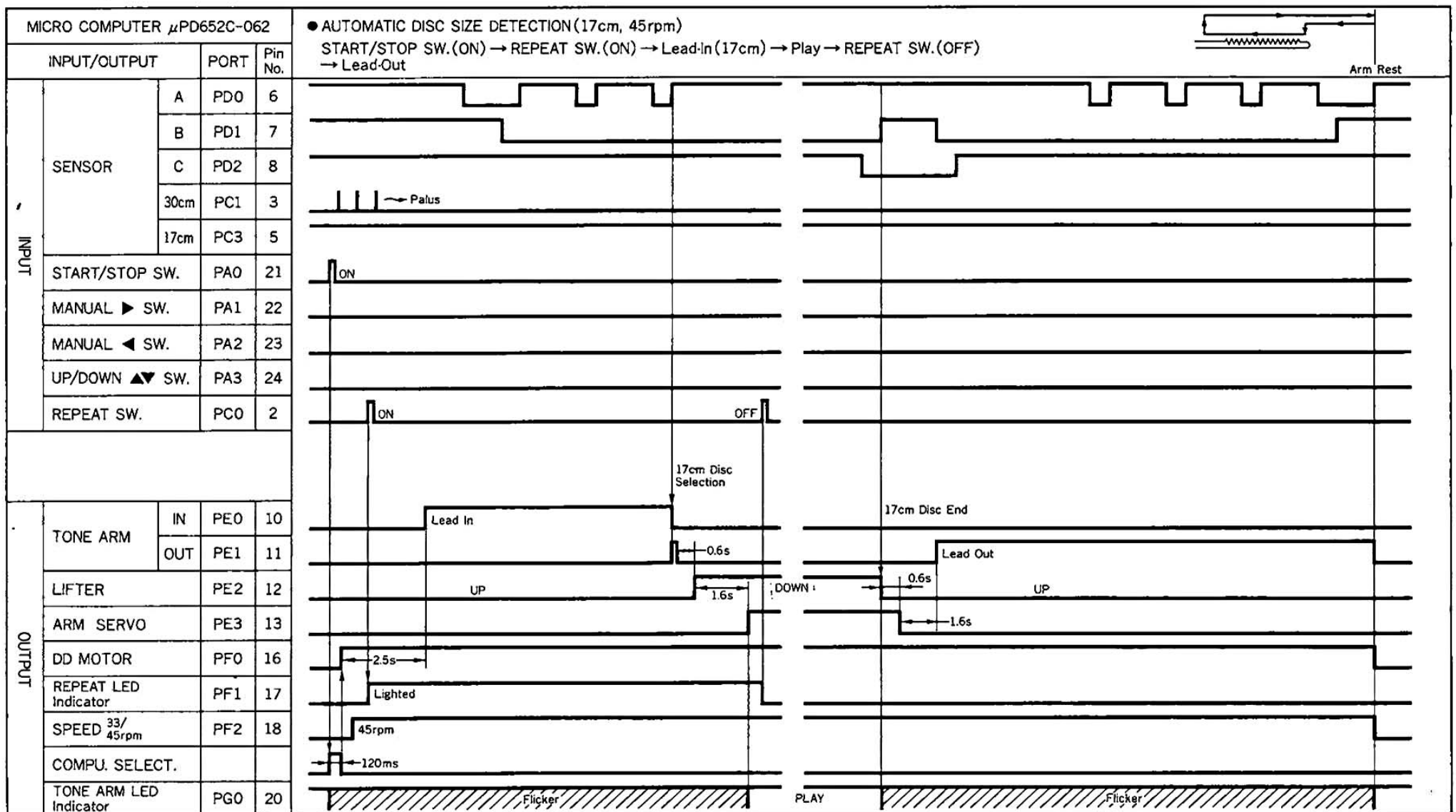


## 2. MICRO COMPUTER, $\mu$ PD652C-062 TIMING CHART

### •Timing Chart 1 AUTOMATIC DISC SIZE DETECTION (30cm, 33rpm)



### •Timing Chart 2 AUTOMATIC DISC SIZE DETECTION (17cm, 45rpm)



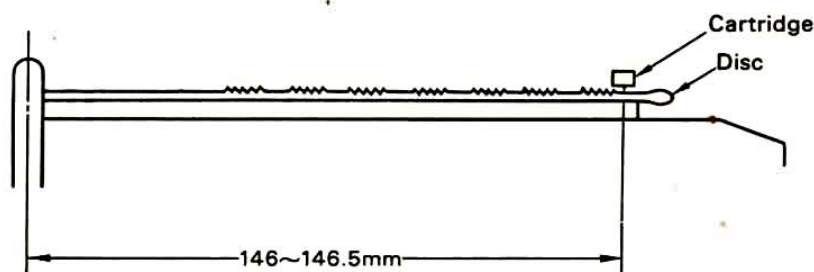
## 3. ADJUSTMENTS

**Note:** Before adjustments of 3-1 and 3-2, remove the player case cover only.

### 3-1. Adjustment of Automatic Disc Size Selection Operation (See Figs. 3-1 and 3-3)

- 1) By using 30 cm size disc, actually carry out the automatic disc size operation (lead-in operation). Adjust the lead-in adjusting cam (See Fig. 3-3) so that the stylus tip may come down to the position (the lead-in groove position) 146 ~ 146.5 mm away from the disc center (See Fig. 3-1).
- 2) By using 17 cm size disc, actually carry out the automatic disc size operation (lead-in operation). Confirm that the stylus tip may come down to the lead-in groove position.

Fig. 3-1



### 3-2. Adjustment of Tone Arm Height (See Figs. 3-2 (a), (b) and 3-3)

#### • Required disc and measuring instruments

- 1) Tester (DC voltmeter)  
Input impedance: 50kohm/V or more. (The higher, the better)
- 2) A vinyl chloride record disc without grooves or with wider leadout spiral than usual.
- 3) A rule with graduation marks starting from the edge.

#### • Adjustment

Adjust the height as shown in Fig. 3-2 (a), (b) by rotating the tone arm height adjusting screw (See Fig. 3-3). (Stop the stylus at a position about 110 mm away from the disc center.)

Fig.3-2(a)

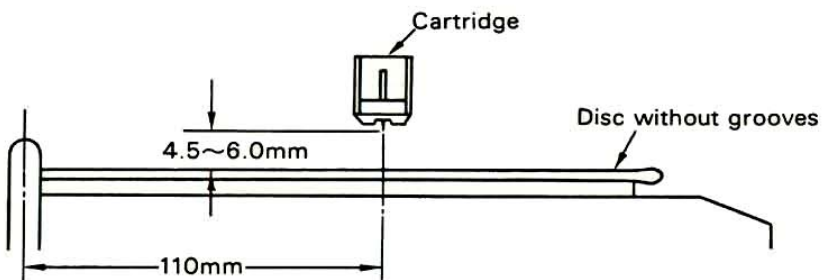


Fig.3-2(b)

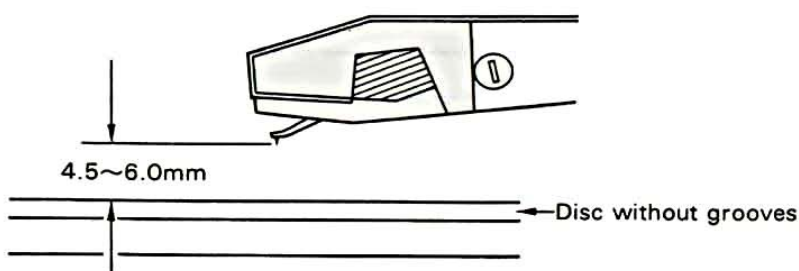
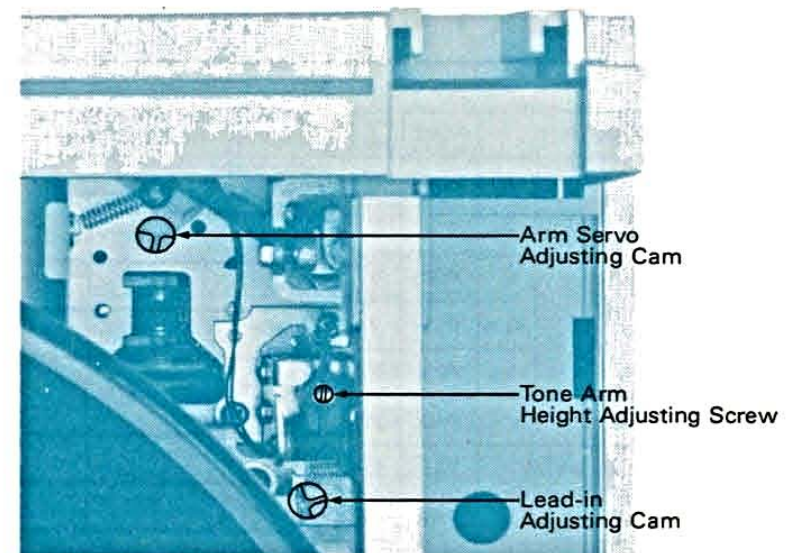


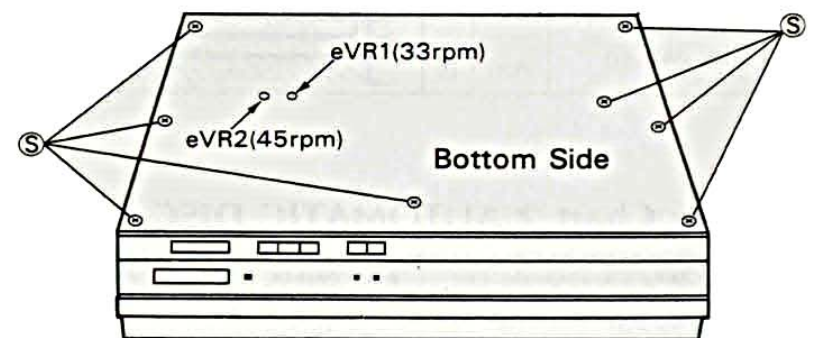
Fig. 3-3



### 3-3. Speed Adjustment

- 1-a) Set the Speed Selector to Normal.
  - 1-b) Mount a 30 cm size record disc and push the START/STOP switch.
  - 1-c) Adjust eVR1 on the D.D. Motor Control Circuit Board (See Fig. 3-4) so as to standstill the strobo marking pattern.
  - 2-a) Set the Speed Selector to Normal.
  - 2-b) Mount a 17 cm size record disc and push the START/STOP switch.
  - 2-c) Adjust eVR2 on the D.D. Motor Control Circuit Board (See Fig. 3-4) so as to standstill the strobo marking pattern.
- Set eVR3 (S-0121) center position.

Fig. 3-4



**Note:** Remove the cabinet before adjustment of 3-4.

#### • How to remove the cabinet. (See Top View on page 7)

- 1) Take off turntable sheet and turntable platter.
- 2) Remove the play case cover.
- 3) Loosen 8 screws (S) to remove cabinet. (See Fig. 3-4)
- 4) Remove the cabinet upward slowly.

**Note:** Do not strike tone arm with the cabinet.

### 3-4. Arm Servo Signal Adjustment

(See Figs. 3-3, 3-5, 3-6 and 3-7)

- 1) Move the tone arm leftward and stop the stylus at a position about 105 mm away from the disc center by depressing the MANUAL (◀) key.
- 2) Connect the DC voltmeter across the test terminal "TR" and "G" shown in Fig. 3-6.
- 3) The tone arm servo level goes up more when the tone arm is moved rightward slightly by hand.

- 4) Adjust the voltage of "item 3)" to DC 4V by rotating the volume (fVR1).
- 5) Move the tone arm downward by depressing UP/DOWN key.
- 6) Rotate the arm servo adjusting cam slowly clockwise just right before the tone arm starts moving outwards, then read the indication on DC voltmeter.
- 7) Next, rotate the arm servo adjusting cam slowly counterclockwise just right before the tone arm starts moving inwards, then read the indication as well.
- 8) Set the fixed value to average voltage between two indications obtained in 6) and 7) above, by rotating the volume (fVR1).
- 9) Connect the DC voltmeter across the terminal "M" and "G" (See Fig. 3-7) and then confirm that the voltage is within  $\pm 1V$ .
- 10) Check that the tone arm will not move in either direction when the UP/DOWN key is depressed repeatedly, if necessary, rotating the volume (fVR1) slightly.

Fig. 3-5

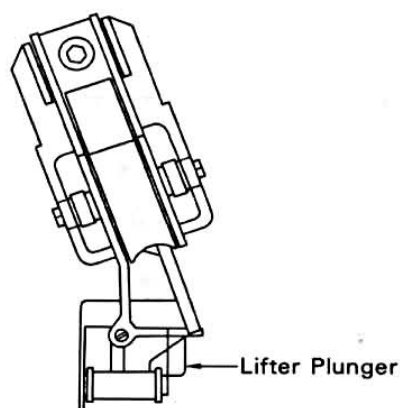


Fig. 3-6

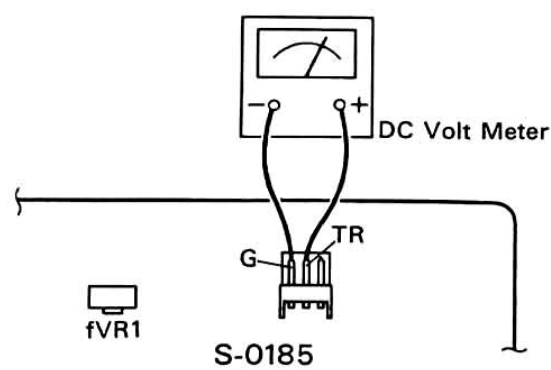
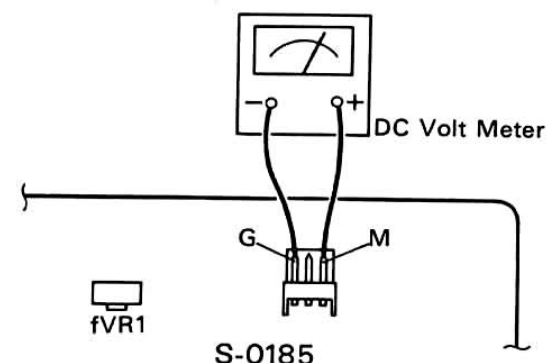


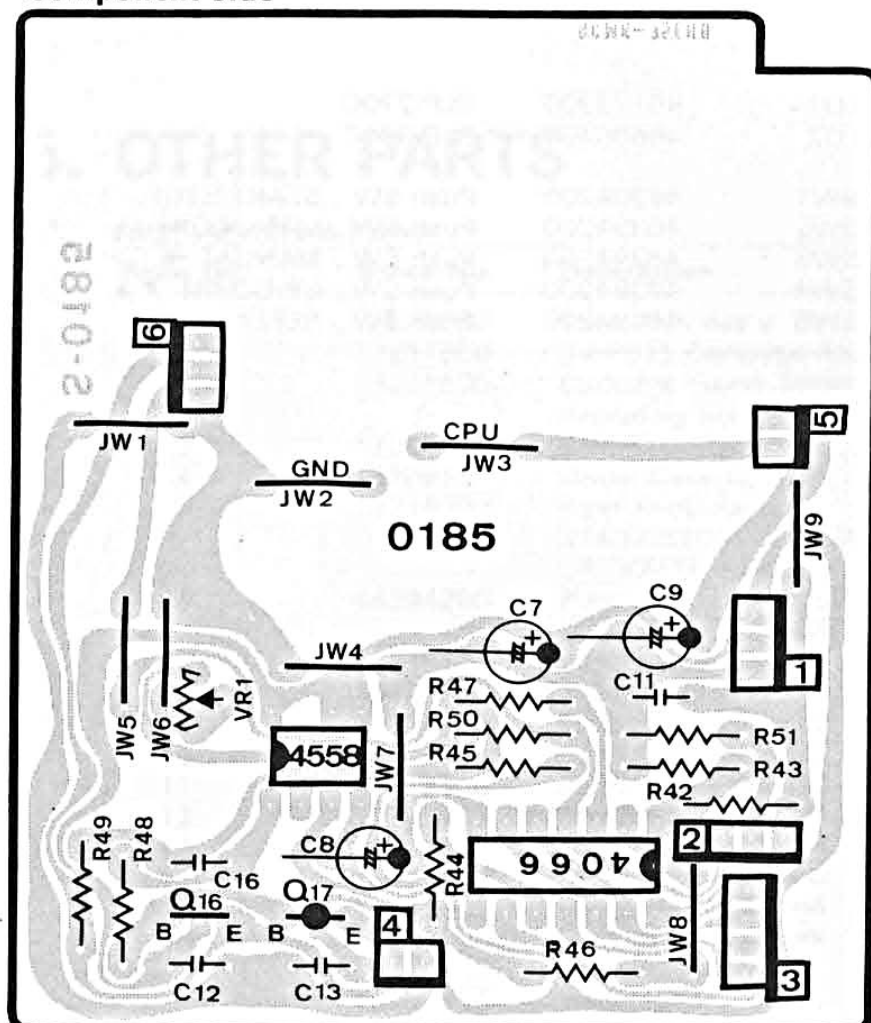
Fig. 3-7



## 4. PARTS LOCATION & PARTS LIST

### 4-1. S-0185 T.A. Control (Sub) Circuit Board (Stock No. 13227001)

Component Side



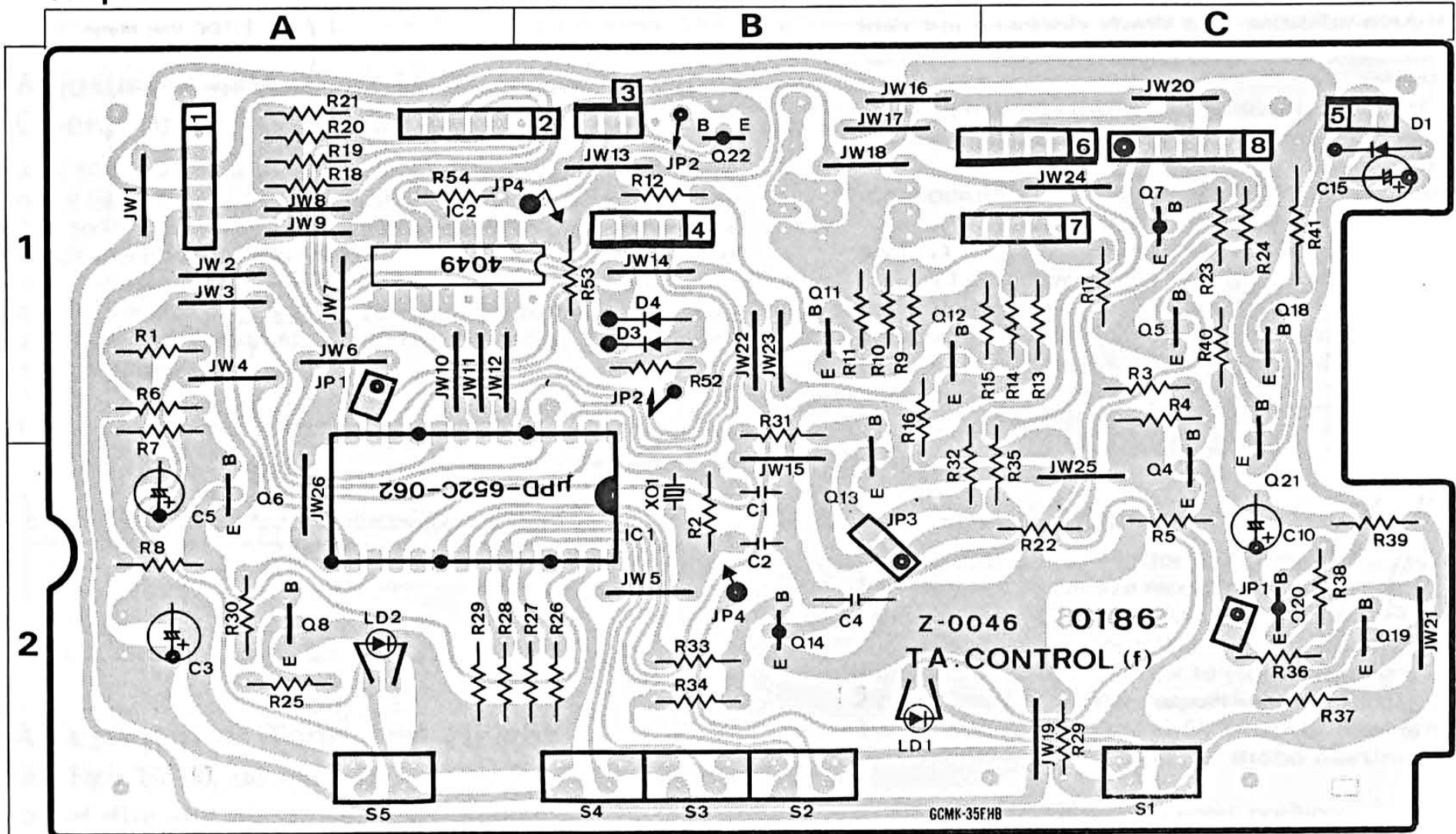
•Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.

#### Parts List

Parts No.	Stock No.	Description
•Transistor		
fQ16	46614101	2SC3243
fQ17	46614001	2SA1283
•IC		
fIC3	07264600	MSM4066RS
	or 46164300	MB84066B
fIC4	03607700	NJM4558D
	or 46580100	M5218P
fVR1	46180100	10k $\Omega$ (B) S.V.R., arm servo adj

## 4-2. S-0186 T.A. Control (Main) Circuit Board (Stock No. 13227101)

Component Side



### Parts List

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
<b>•Transistor</b>			<b>•IC</b>		
fQ4	46367101	2SC2603	fIC1	46610300	μPD652C-062
	or 46367301	2SC2458	fIC2	03611800	MSM4049RS
fQ5	46367101	2SC2603		or 46160400	MB84049B
	or 46367301	2SC2458	fXO1	46396200	OSC Block CSB400P
fQ6	46367101	2SC2603		or 46668700	Ceramic Element KBR-400B
	or 46367301	2SC2458	<b>•Diode</b>		
fQ7	46367001	2SA1115	fD1	03117600	1S2473T77
	or 46367201	2SA1048	fD3	03117600	1S2473T77
fQ8	46367101	2SC2603	fD4	03117600	1S2473T77
	or 46367301	2SC2458	fR41	46624400	120Ω 2W N.I.R.
fQ11	46367101	2SC2603	<b>•LED</b>		
	or 46367301	2SC2458	gLD1	46173900	SLP-270C
fQ12	46367101	2SC2603	gLD2	46606400	SLP-960C
	or 46367301	2SC2458	gSW1	46394200	Push SW., START/STOP
fQ13	46367101	2SC2603	gSW2	46394200	Push SW., MANUAL ▶
	or 46367301	2SC2458	gSW3	46394200	Push SW., MANUAL ◀
fQ14	46367001	2SA1115	gSW4	46394200	Push SW., UP/DOWN ▼▲
	or 46367201	2SA1048	gSW5	46394200	Push SW., REPEAT
fQ18	46501401	2SD1226			
fQ19	46367101	2SC2603			
	or 46367301	2SC2458			
fQ20	46501301	2SB910M			
fQ21	46367101	2SC2603			
	or 46367301	2SC2458			
fQ22	46367001	2SA1115			
	or 46367201	2SA1048			

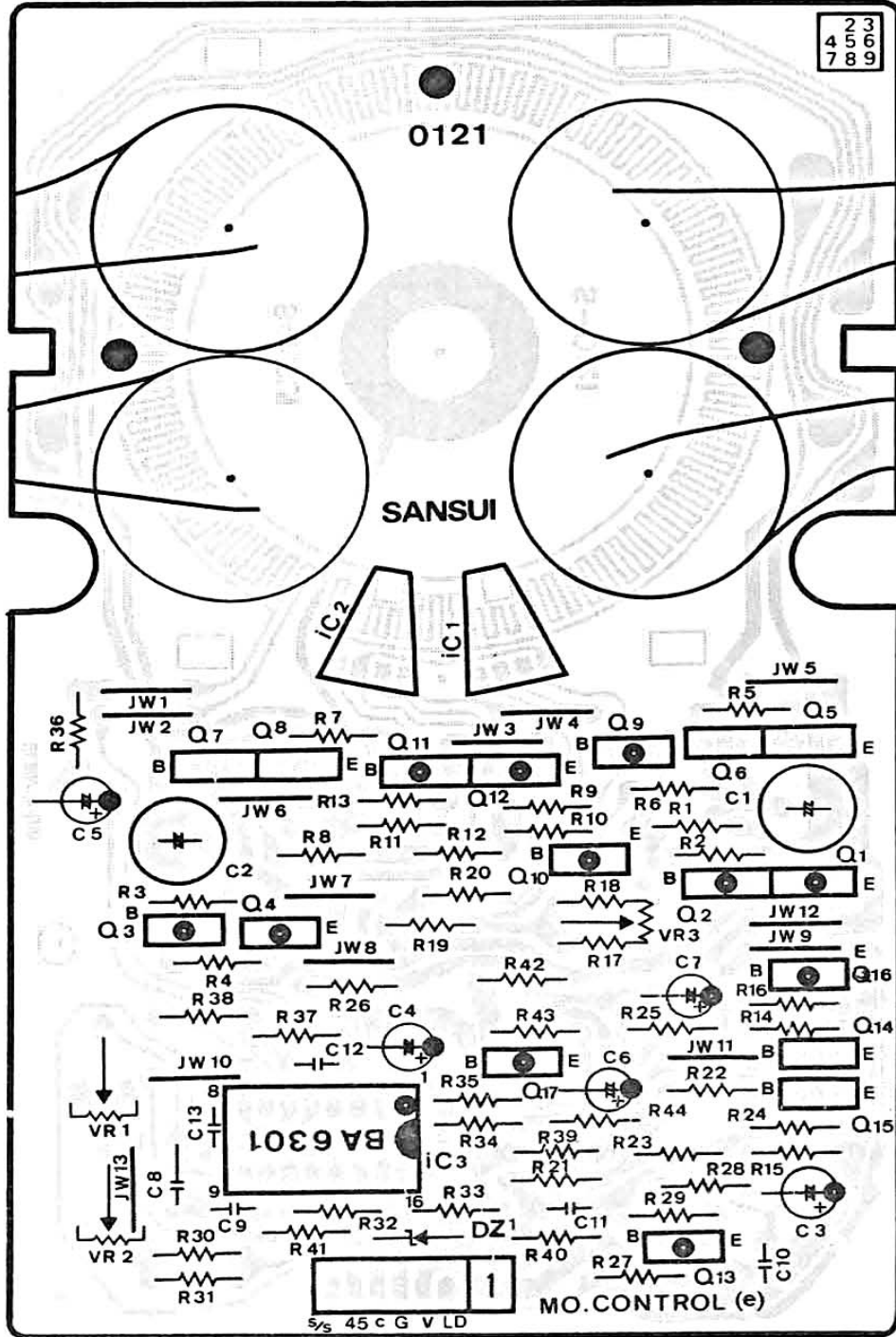
### •Abbreviations

C.R. : Carbon Resistor	E.B. : Bi-Polar Electrolytic Capacitor
S.R. : Solid Resistor	E.B.L. : Low Leak Bi-Polar 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 Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
A.R. : Array Resistor	G.C. : Gimmic Capacitor
C.C. : Ceramic Capacitor	A.C. : Array Capacitor
C.T. : Ceramic Capacitor, Temperature Compensation	V.R. : Variable Resistor
E.C. : Electrolytic Capacitor	S.V.R. : Semi Variable Resistor
E.L. : Low Leak Electrolytic Capacitor	SW. : Switch

•Note: The circuit boards, S-0121, S-0174, S-0157, S-0158, S-0183, S-0184, S-0187, S-0197, S-0198 & S-0177 are not supplied as the assembled. However, the individual parts on the circuit boards are provided orders.

### 4-3. S-0121 DD Motor Control Circuit Board

Component Side

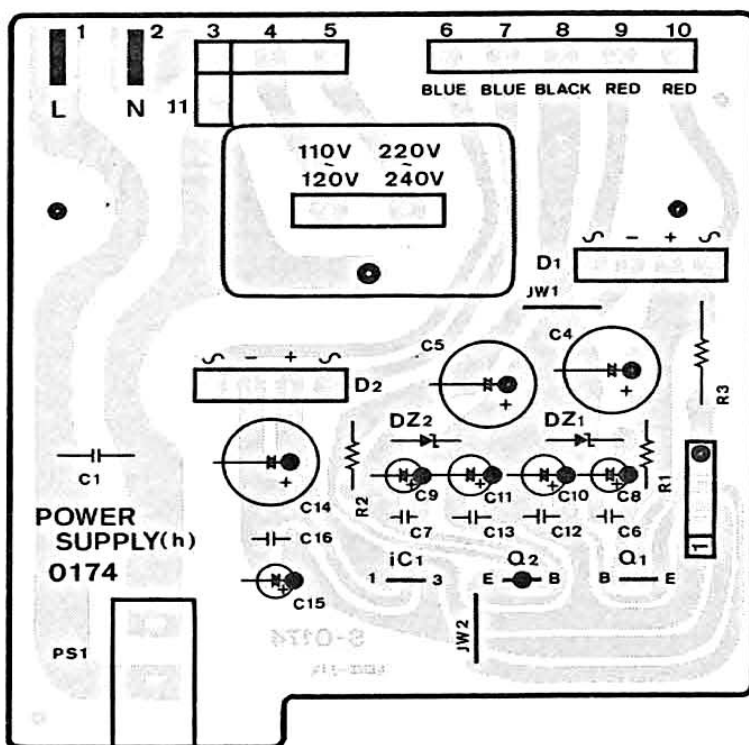


#### Parts List

Parts No.	Stock No.	Description
•Transistor		
eQ1	46359701	2SA952
eQ2	46359701	2SA952
eQ3	46359701	2SA952
eQ4	46359701	2SA952
eQ5	46359801	2SC2001
eQ6	46359801	2SC2001
eQ7	46359801	2SC2001
eQ8	46359801	2SC2001
eQ9	46367401	2SA733A
	or 46367001	2SA1115
	or 46367201	2SA1048
eQ10	46367401	2SA733A
	or 46367001	2SA1115
	or 46367201	2SA1048
eQ11	46367401	2SA733A
	or 46367001	2SA1115
	or 46367201	2SA1048
eQ12	46367401	2SA733A
	or 46367001	2SA1115
	or 46367201	2SA1048
eQ13	46367001	2SA1115
	or 46367201	2SA1048
eQ14	46367101	2SC2603
	or 46367301	2SC2458
	or 46367501	2SC945A
eQ15	46367101	2SC2603
	or 46367301	2SC2458
	or 46367501	2SC945A
eQ16	46614001	2SA1283
eQ17	46367401	2SA733A
	or 46367201	2SA1048
	or 46367001	2SA1115
•IC		
eIC1	46354301,2	H-300BC
eIC2	46354301,2	H-300BC
eIC3	46354400	BA6301
•Zener Diode		
eDZ1	46113900	05Z12-Y
eR41	4663900	250kΩ 1/4W M.R
eC1	08451100	22μF 16V E.B
eC2	08451100	22μF 16V E.B
eVR1	46366600	100kΩ(B) S.V.R, 33r.p.m.
eVR2	07241700	200kΩ(B) S.V.R, 45r.p.m.
eVR3	07241000	1kΩ(B) S.V.R, wow and flatter

### 4-4. S-0174 Power Supply Circuit Board

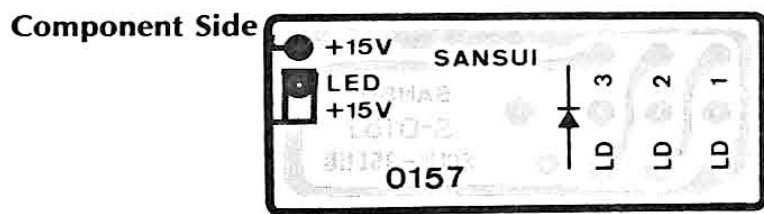
Component Side



#### Parts List

Parts No.	Stock No.	Description
•Transistor		
hQ1	03083901	2SD313AL
hQ2	46149301	2SB744
•IC		
hIC1	07183500	μPC78M05H
	or 46144200	NJM78M05A
•Diode		
hD1	03117000	RB-152
hD2	03117000	RB-152
•Zener Diode		
hDZ1	46104500	05Z16-X
hDZ2	46104500	05Z16-X
hR3	46618000	33Ω 2W N.I.R.
hC1	46425800	10000pF 400V C.C
hPS1	46413900	Push SW., POWER

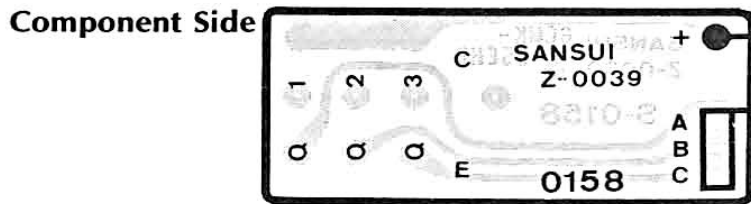
#### 4-5. S-0157 A, B, C Sensor (LED) Circuit Board



##### Parts List

Parts No.	Stock No.	Description
•LED		
fLD1	46150400	TLR121
fLD2	46150400	TLR121
fLD3	46150400	TLR121

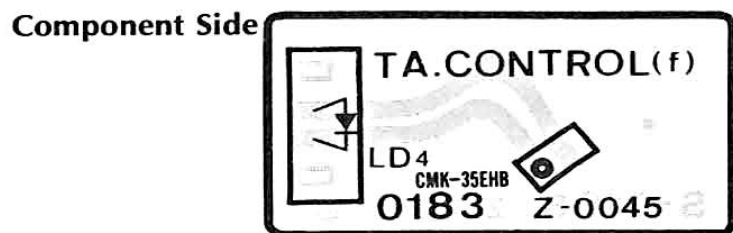
#### 4-6. S-0158 A, B, C Sensor (Photo Transistor) Circuit Board



##### Parts List

Parts No.	Stock No.	Description
•Photo Transistor		
fQ1	46160000	TPS605
fQ2	46160000	TPS605
fQ3	46160000	TPS605

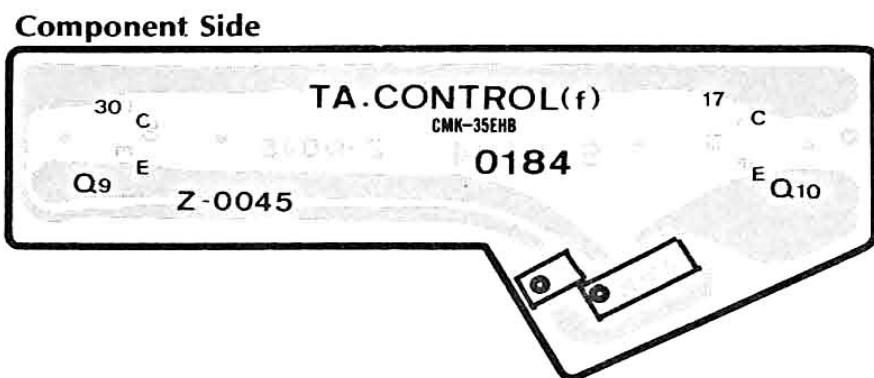
#### 4-7. S-0183 Disc Size Sensor (LED) Circuit Board



##### Parts List

Parts No.	Stock No.	Description
•Light Emitting Diode		
fLD4	46396000	GL-520

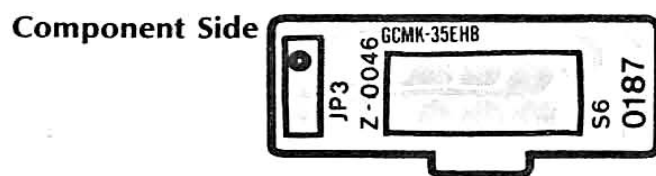
#### 4-8. S-0184 Disc Size Sensor (Photo Transistor) Circuit Board



##### Parts List

Parts No.	Stock No.	Description
•Photo Transistor		
fQ9	03900100	PH101
fQ10	03900100	PH101

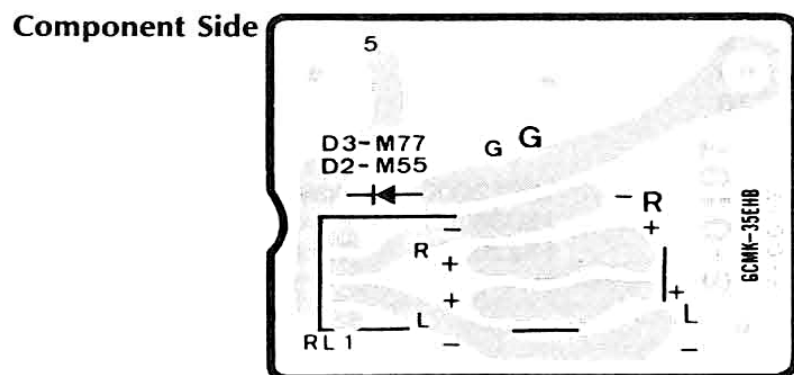
#### 4-9. S-0187 NORMAL/INVERSE Switch Circuit Board



##### Parts List

Parts No.	Stock No.	Description
gSW6	46133600	Slide SW., speed

#### 4-10. S-0197 Muting Relay Circuit Board

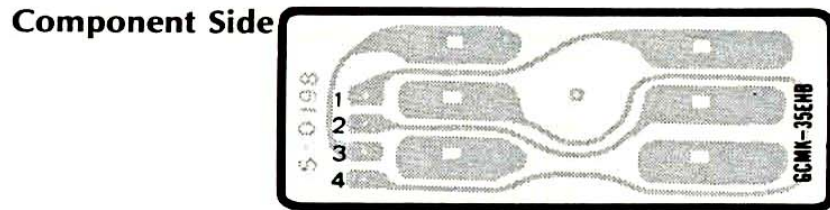


##### Parts List

Parts No.	Stock No.	Description
•Diode		
fD2	07176400	1S2473HS
fRL1	46173300	Relay



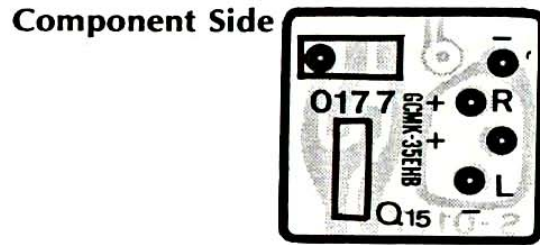
#### 4-11. S-0198 COMPU SELECTOR Jack circuit Board



##### Parts List

Parts No.	Stock No.	Description
	46148200	Jack

#### 4-12. S-0177 Arm Servo Sensor Circuit Board



##### Parts List

Parts No.	Stock No.	Description
fQ15	46603900	Photo Coupler GP-1S03

## 5. OTHER PARTS

##### Parts List < Front View >

Parts No.	Stock No.	Description
1	18075600	Tone Arm Ass'y
2	13231800	SV-P515 Cartridge Ass'y
2-1	13233500	Cartridge Fixing Screw Ass'y (Including Screw and Nut)
3	13231900	SN-P515 Stylus
4	13209110	Player Case Cover
5	13229700	Push Knob Ass'y(A) START/STOP, MANUAL, UP/DOWN, REPEAT
6	46394200	Push SW., START/STOP, MANUAL, UP/DOWN, REPEAT
7	13216500	Slide Knob, SPEED
8	46133600	Slide SW., SPEED
9	13225200	Control Plate
10	13219900	Push Knob, POWER
11	46413900	Push SW., POWER
12	13143810	Turntable Platter
13	13146700	Turntable Sheet
14	13012300	EP Adaptor
15	13213600	Hinge
16	13208800	Dust Cover Ass'y
	13097310	Insulator

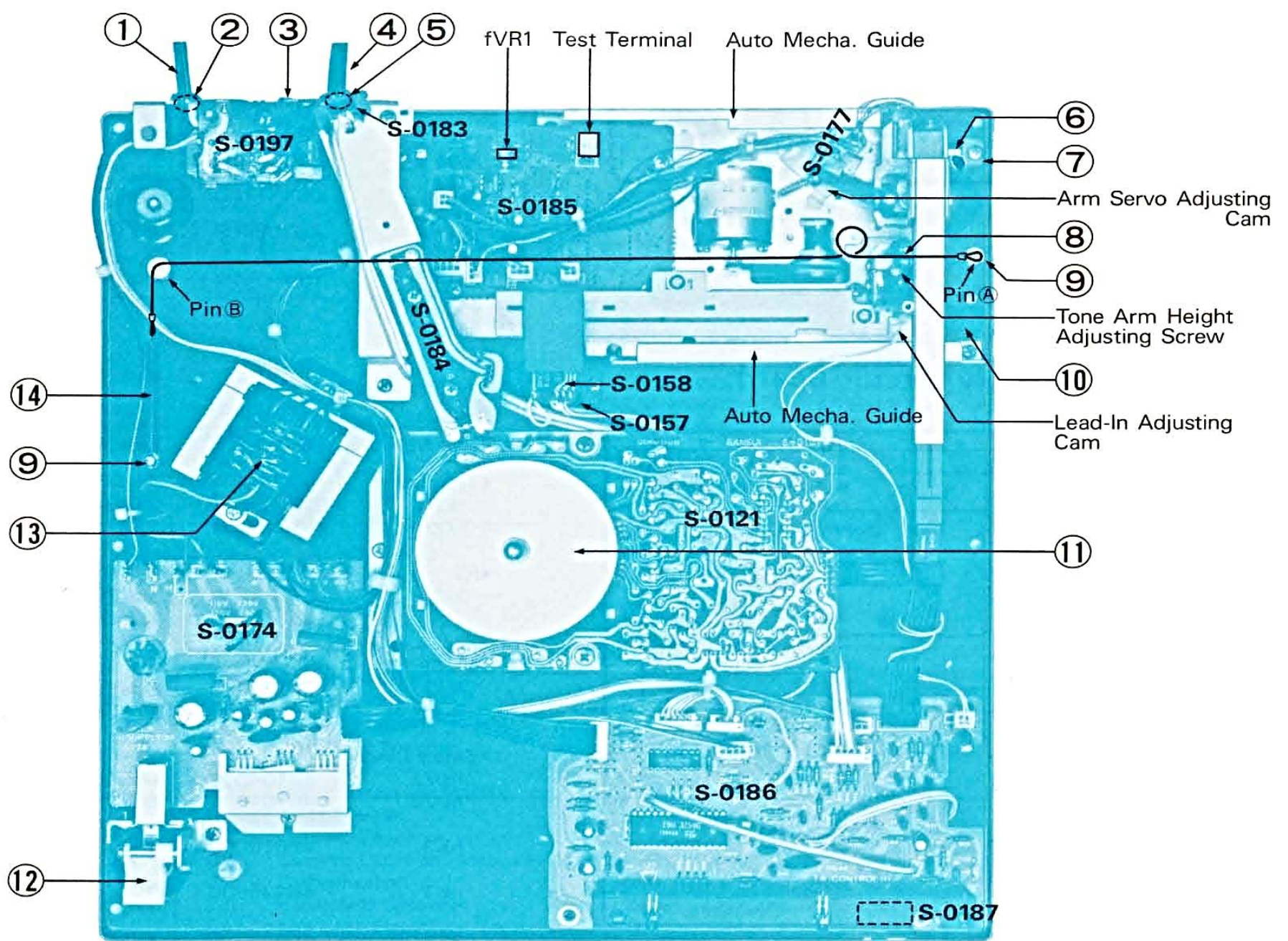
##### Parts List < Top View >

Parts No.	Stock No.	Description
1	46413200	Power Supply Cord
2	39106000	Strain Relief
3	46170400	Jack, COMPU-SELECTOR
4	13222400	P.U. Output Cord
5	39105700	Strain Relief
6	13220300	Pipe
7	13106200	Pipe Holder
8	13220400	Drive Wire
9	00489200	E-Ring 3φ
10	13216400	Angle Rail
11	18032300	DD Motor with Control Circuit Board S-0121
12	13212000	Power Switch Guide
13	15008301	Power Transformer
14	13220500	Tension Spring

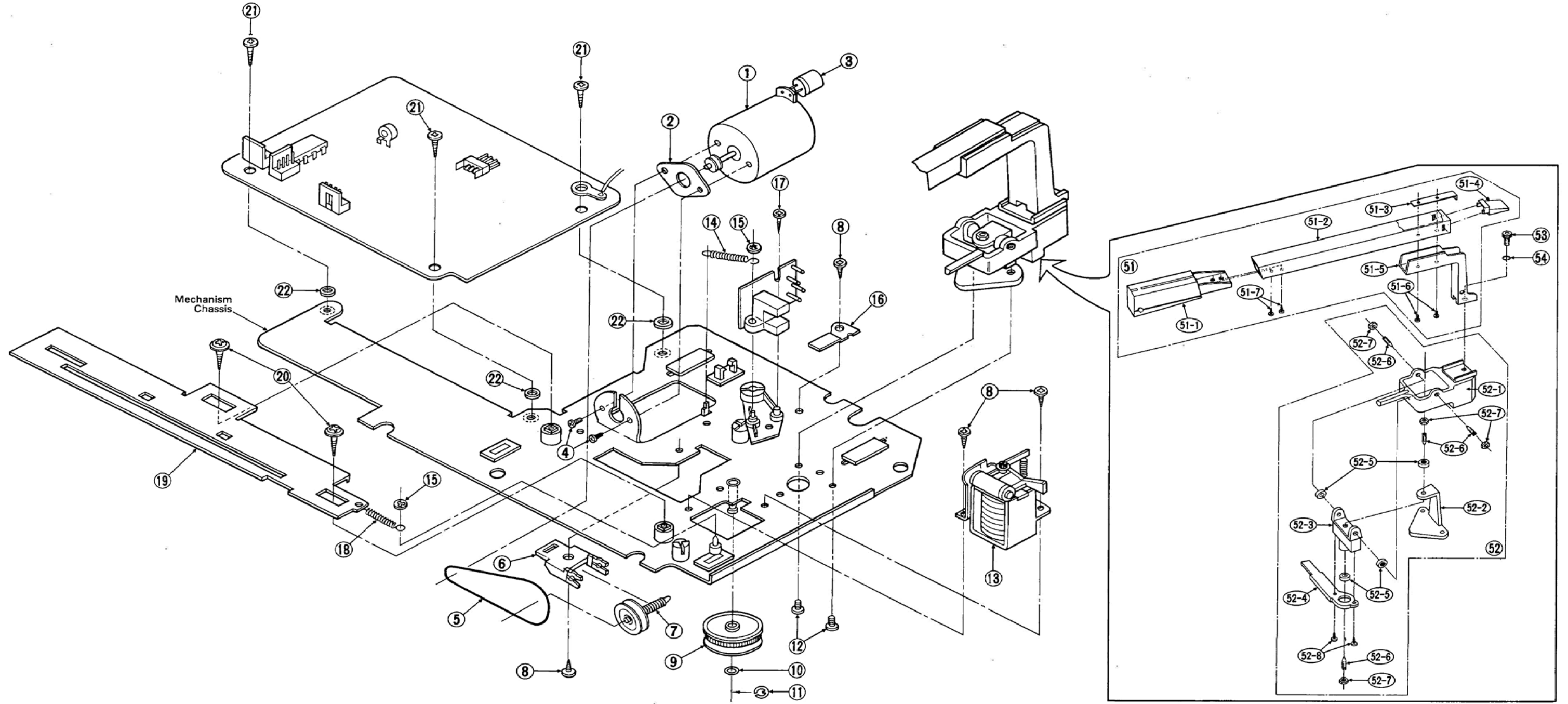
### 5-1. Front View



### 5-2. Top View



## 6. EXPLODED VIEW OF AUTO MECHANISM & PARTS LIST



### Parts List

Parts No.	Stock No.	Description
1	13217500	DC Motor
2	55029810	Rubber Cushion
3	00305600	22µF 25V E.B.
4	00436500	M4×2 Pan Head Screw
5	13103800	Belt
6	13098110	Shaft Guide (B)
7	13134200	Warm Shaft Ass'y (B)
8	00454400	M3×6 Binding Head Tapping Screw
9	13215800	Drive Gear
10	51825300	FT3 Thrust Washer
11	00489000	D2 E. Ring
12	00421900	M3×6 Binding Head Screw

Parts No.	Stock No.	Description
13	13232600	Plunger Solenoid Ass'y
14	13111400	Tension Spring (1)
15	51830000	CS-Type Washer
16	13225900	Protector Plate
17	13226100	M2×4 Binding Head Tapping Screw
18	13111500	Tension Spring (2)
19	13216000	Position Guide
20	51625100	M3×8 Pan Head Tapping Screw
21	00454500	M3×8 Binding Head Tapping Screw
22	13226000	M9 Isolation Washer

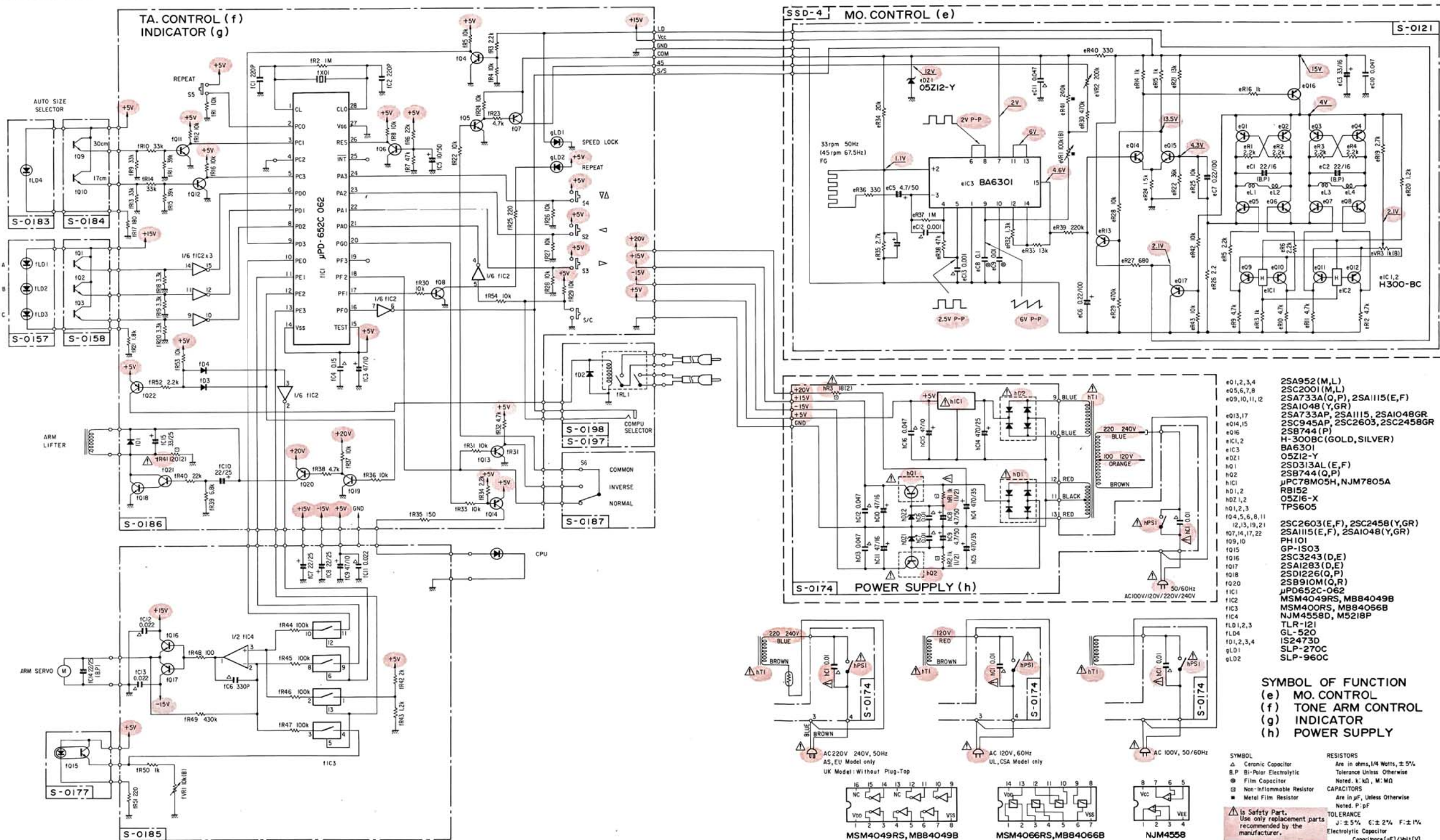
### Parts List

Parts No.	Stock No.	Description
51	18075600	Tone Arm Ass'y
51-1	—	Plug Ass'y
51-2	—	Pipe
51-3	—	GND Rag
51-4	—	Pipe Cover
51-5	—	Pipe Holder
51-6	—	M2×4 Pan Head Screw
51-7	—	M2×4 Pan Head Tapping Screw
52	18075200	Pivot Ass'y
52-1	—	Arm Bracket

Parts No.	Stock No.	Description
52-2	—	Pivot Stay
52-3	—	Pivot Holder
52-4	—	Servo Plate
52-5	—	Pivot Bearing
52-6	—	Pivot
52-7	—	M3 Hexagon Nut
52-8	—	M2×6 Pan Head Tapping Screw
53	00453500	M4×8 Hexagon Socket Head Screw
54	00469800	D4 Spring Washer

# 7. 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.



- 2SA952
- 2SA1283
- 2SA733A
- 2SC3243
- 2SC945A
- 2SA1048
- 2SA1115
- 2SC2603
- 2SC2458

- 2SD1226
- 2SB910M
- PC78M05H
- NJM78M05A

- M5218P
- NJM4558D

- BA6301
- MSM4049RS

- MSM4066RS

- PD652C-062

- MB840498M

- MB840668M

- TLR-121
- GL-520
- IS2473D
- SLP-270C
- SLP-960C

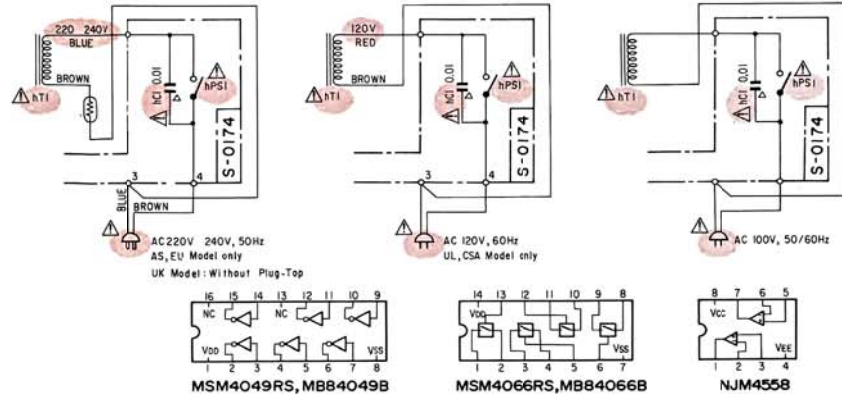
- RB152

- 1S2473D
- 05216-X
- 05212-Y

**SYMBOL OF FUNCTION**  
 (e) MO. CONTROL  
 (f) TONE ARM CONTROL  
 (g) INDICATOR  
 (h) POWER SUPPLY

**SYMBOL**  
 Δ Ceramic Capacitor  
 B.P Bi-Polar Electrolytic  
 ⊕ Film Capacitor  
 □ Non-Inflammable Resistor  
 ■ Metal Film Resistor  
 ⚠ Safety Part. Use only replacement parts recommended by the manufacturer.

**RESISTORS**  
 Are in ohms, 1/4 Watts, ± 5%  
 Tolerance Unless Otherwise  
 None: K, G, M, MG  
 CAPACITORS  
 Are in μF, Unless Otherwise  
 Noted. P:pF  
 TOLERANCE  
 J: ± 5% G: ± 2% F: ± 1%  
 Electrolytic Capacitor  
 Capacitance (μF)/Volt (V)



## 8. MAIN PARTS REPLACEMENT (See Top View on page 7 and Exploded View of Mechanism on page 8)

### 8-1. Replacement of Mechanism Assembly

- 1) Take off turntable sheet and turntable platter.
- 2) Remove the player case cover.
- 3) Loosen 8 screws ⑤ (See Fig. 3-4 on page 3)
- 4) Move the tone arm and stop the stylus at a position about 10 cm away from the disc center.
- 5) Remove the cabinet upward slowly.
- 6) Remove the auto mecha. guide. (See Top View on page 7)
- 7) Remove the wire from pin ⑧. (See Top View on page 7)
- 8) Take off the wire from the driving gear ⑨.

### 8-2. Replacement of Pivot Ass'y ⑤②

- 1) Perform the items 1), 2), 3) and 4) "8-1. Replacement of Mechanism Ass'y" first.
- 2) Loosen the hexagon socket head screw ⑤③ to remove the tone arm ass'y ⑤①.
- 3) Perform the items 6), 7) and 8) "8-1. Replacement of Mechanism Ass'y."
- 4) Remove two screws ⑫ fixing the pivot ass'y under the mechanism chassis.
- 5) Take off the pivot ass'y from the mechanism ass'y.

### 8-3. Note on Parts Replacement

- 1) When replacing the shaft guide (B) ⑥, the worm gear ass'y (B) ⑦ and the driving gear ⑨, remove under the mechanism chassis.
- 2) When installing the wire, wind round the drive gear and fit the pin ⑧ as shown in Fig. 8-1.
- 3) Refer to Fig. 8-2, when wiring from cartridge (tone arm ass'y ⑤①).
- 4) Perform adjustments 3-1, 3-2 and 3-4, when replacing a parts of the mechanism ass'y.

Fig. 8-1

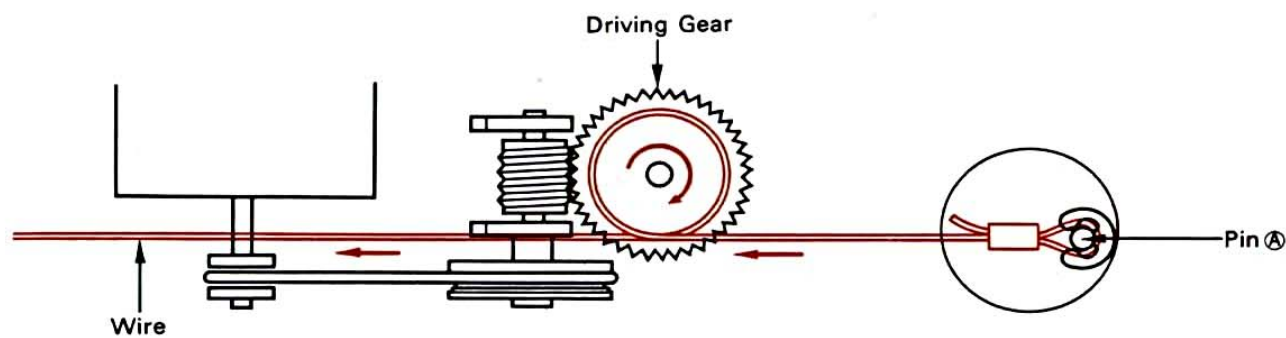
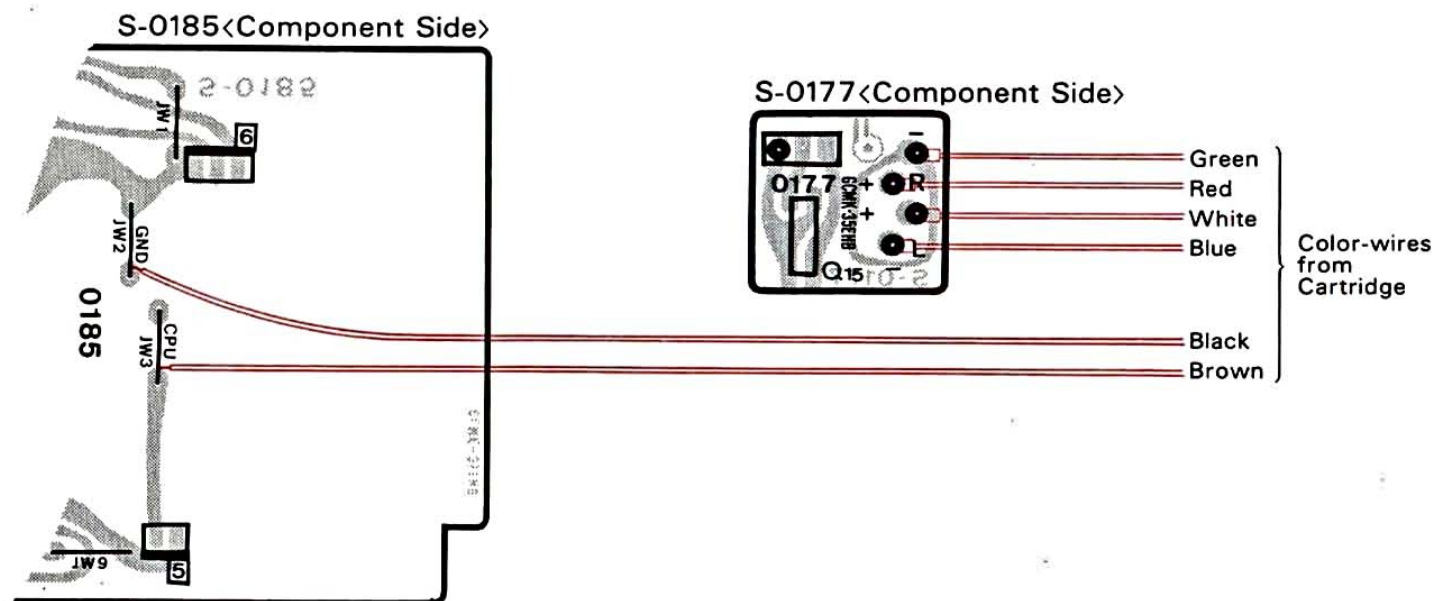


Fig. 8-2

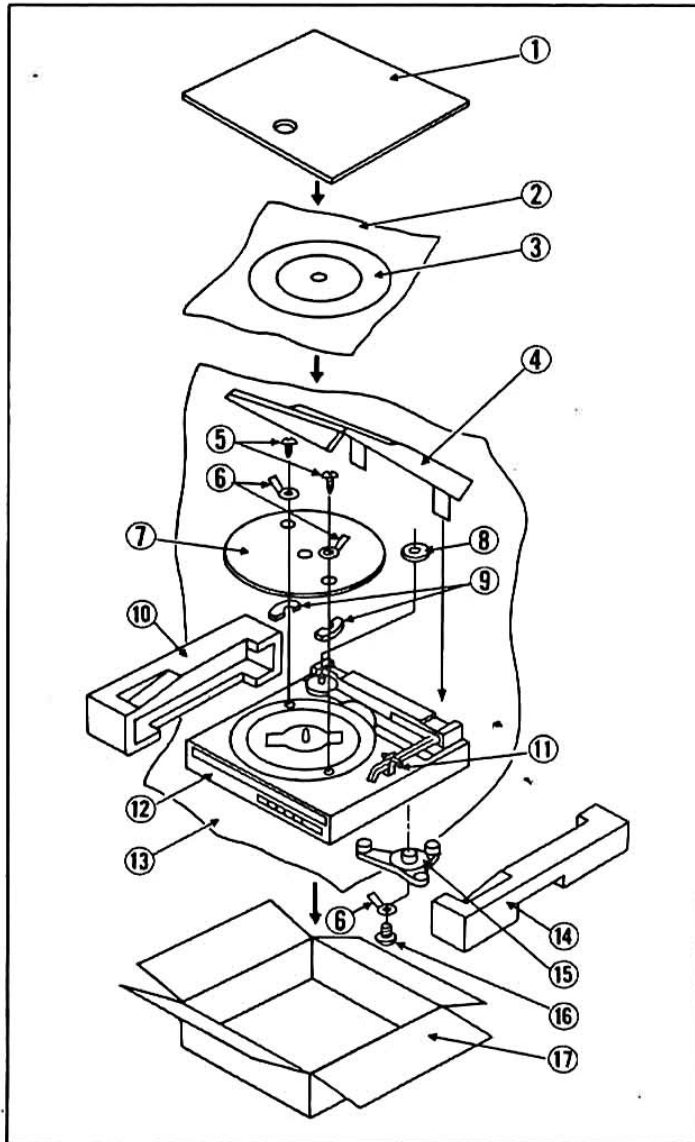


## 9. PACKING LIST

Parts No.	Stock No.	Description
1	—	Corrugated Board
2	91166000	Vinyl Bag, Rubber Mat
5	13186800	M4 x 25 Tapping Screw
6	51829200	Tag Washer
8	13012300	45 Adaptor
9	13163210	Spacer
10	13211600	Styrofoam Packing (Left)
11	—	Binder
13	91122710	Vinyl Bag, Turntable
14	13211500	Styrofoam Packing (Right)
15	13220600	Protector, Auto Mechanism
16	00449700	M4 x 12 Pan Head SEMS Screw
17	13219800	Carton Case

## 10. ACCESSORY LIST

Stock No.	Description
46558100	Operating Instruction
46684500	Operating Sheet
46267300	Mini Plug Cord, COMPU SELECTOR



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