



OPTONICA

SERVICE MANUAL

RP-5200H
RP-5200HB

ATSM281019PLY



STEREO TURNTABLE

MODEL

RP-5200H

RP-5200HB

In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.

SPECIFICATIONS

● GENERAL

Power supply source: AC 110/220/240 V, 50 Hz
Power rating: 10 Watts
Dimensions: Width; 430 mm (16-15/16")
Height (including dust cover); 106 mm (4- 3/16")
Depth; 345 mm (13-19/32")

Weight
(including dust cover): 5 kg (11.0 lbs.)

● TURNTABLE

Type: Direct drive
Motor: Core-less DC-servo motor with 160-pole frequency generator
Drive system: Direct-drive system
Speed: 33-1/3 r.p.m. and 45 r.p.m.
Speed adjustable range: more than $\pm 4\%$
Wow and flutter: $\pm 0.06\%$ (DIN 45 507)
Rumble: Better than 65 dB (DIN "B")
Turntable: 30 cm (12") die-cast aluminum

● TONEARM

Type: Statically balanced tubular arm
Effective length: 215 mm
Off-set angle: 23°
Cartridge weight range: 4 to 8 grams
Headshell weight: 3 grams

● CARTRIDGE

Type: VM (AUDIO TECHNICA AT-71)
Frequency response: 20 Hz — 20 kHz
Output: 3 mV
Channel separation: 20 dB
Impedance: 47K ohms
Tracking force: 2 grams (recommended)
Compliance: 7×10^{-6} cm/dyne
Cartridge: CART-115
Stylus: STY-115

Specifications are subject to change without prior notice.

SHARP CORPORATION OSAKA, JAPAN

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT,
PLEASE REFER TO THE OPERATION MANUAL

NAMES OF PARTS

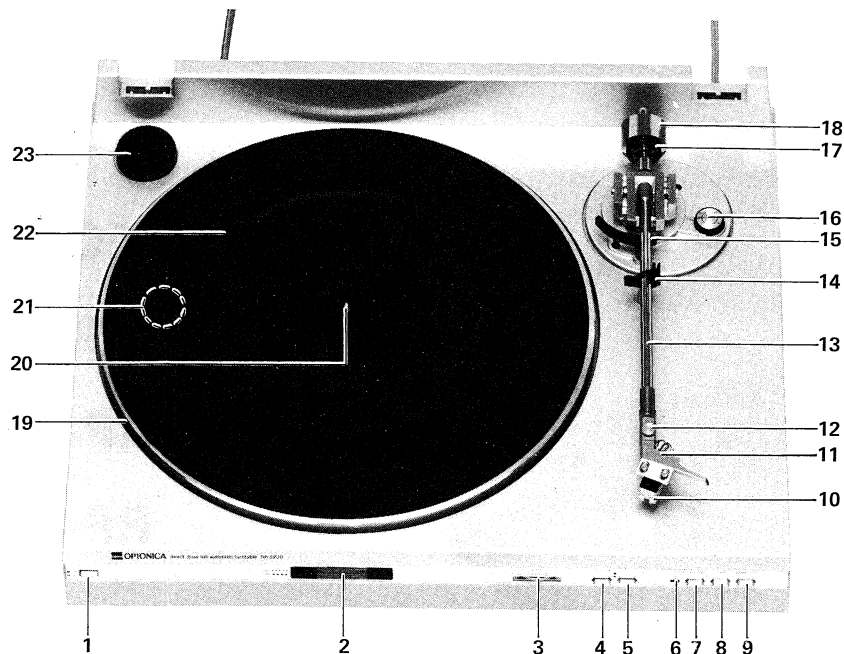


Figure 2-1

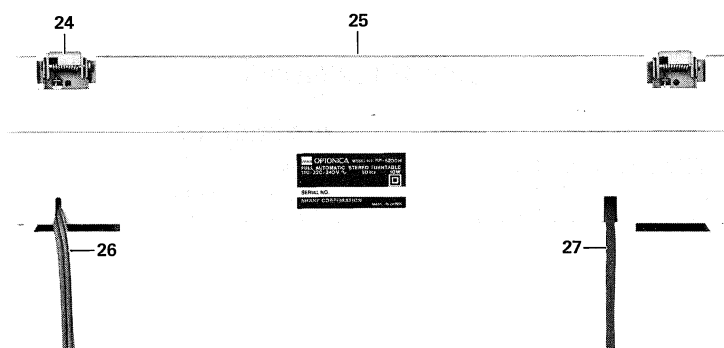


Figure 2-2

- | | |
|------------------------------------|--|
| 1. Power switch button | 15. Tonearm lifter |
| 2. Stroboscopic speed indicator | 16. Anti-skating control knob |
| 3. Pitch (Fine speed) control knob | 17. Tracking force gauge |
| 4. Speed selector button | 18. Tonearm counterbalance weight |
| 5. Record size selector button | 19. Turntable |
| 6. Repeat play mode indicator | 20. Turntable center spindle |
| 7. Repeat play button | 21. AC supply voltage selector |
| 8. Tonearm cue button | 22. Turntable rubber mat |
| 9. Play start/cut-out button | 23. Spindle adaptor for 45 r.p.m. record |
| 10. Stylus | 24. Dust cover hinge |
| 11. Head shell | 25. Dust cover |
| 12. Head shell removal screw | 26. Output leads |
| 13. Tonearm | 27. AC supply lead |
| 14. Tonearm rest | |

AC MAINS VOLTAGE SELECTION

(See Removal of Turntable)

The unit is designed to operate from 110V, 220V or 240V A.C. mains.

Check the preset AC voltage before connecting the AC supply cord to an wall outlet. If the setting is different from your local supply AC voltage, the selector must be re-set as follows: Rotate the voltage selector by using a screw-driver so that your local voltage number can be seen in the window.

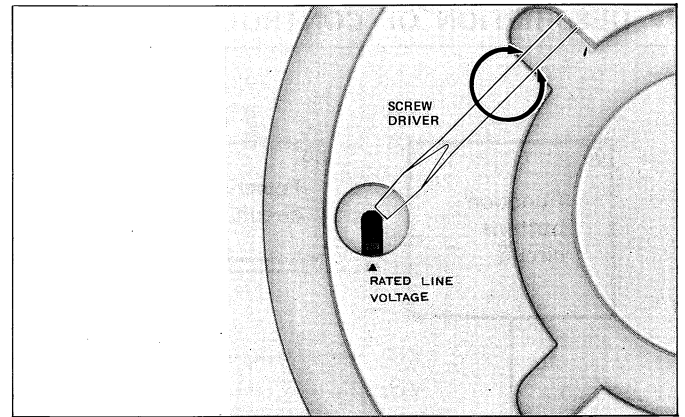


Figure 3-1

DISASSEMBLY

Note:

Prior to disassembly, never forget to remove the AC supply lead from a wall outlet and this unit output plug from the rear of the set.

• REMOVAL OF DUST COVER

1. Open the dust cover and pull it out in the arrow direction shown in Figure 3-2. The hinge is also removable from the cabinet.

• REMOVAL OF TURNTABLE

1. Take the rubber mat off the turntable. See Figure 3-3.
2. Gently pull the turntable out upwards. See Figure 3-4.

• REMOVAL OF BOTTOM BOARD

1. Remove the rubber mat and turntable with reference to "Removal of Turntable".
2. Fit the dust cover onto the cabinet, and turn the set over.
3. Remove 8 screws from the bottom board and detach it. See Figure 3-5.

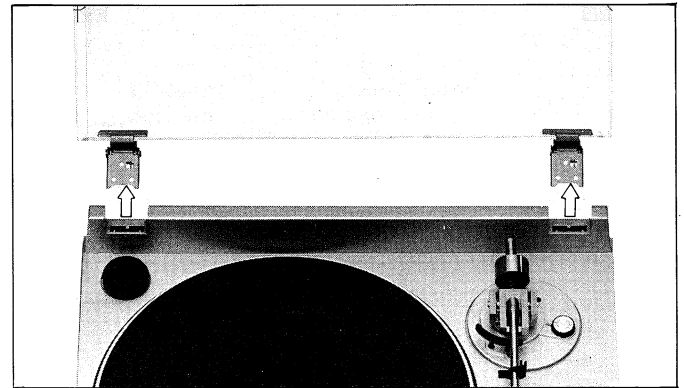


Figure 3-2

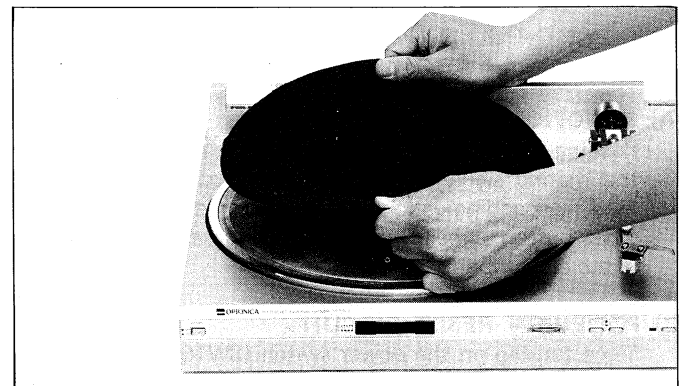


Figure 3-3

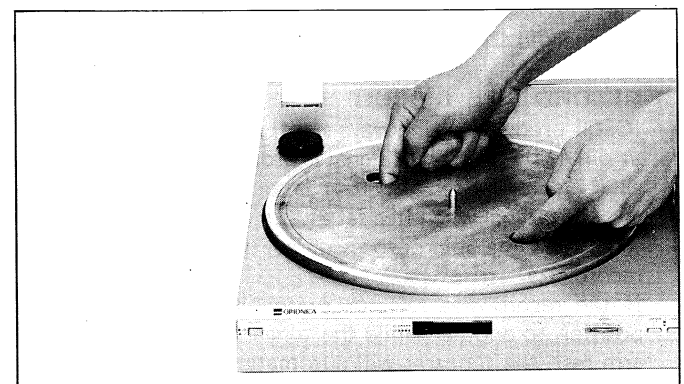


Figure 3-4

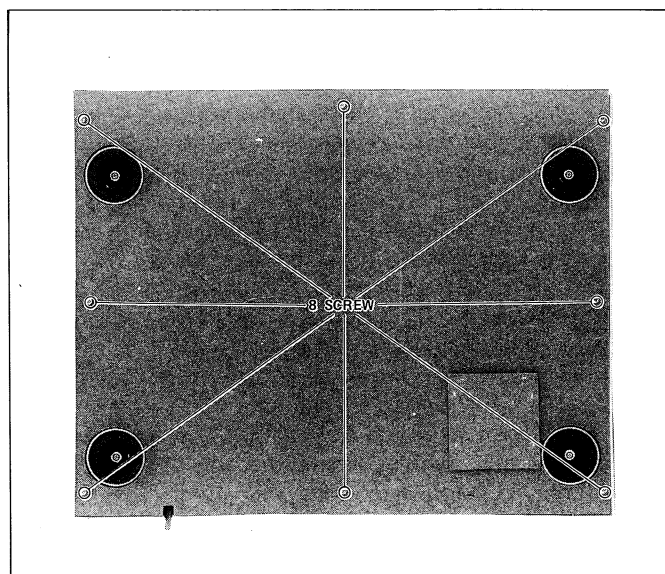


Figure 3-5

■ DESCRIPTION OF CONTROL CIRCUIT

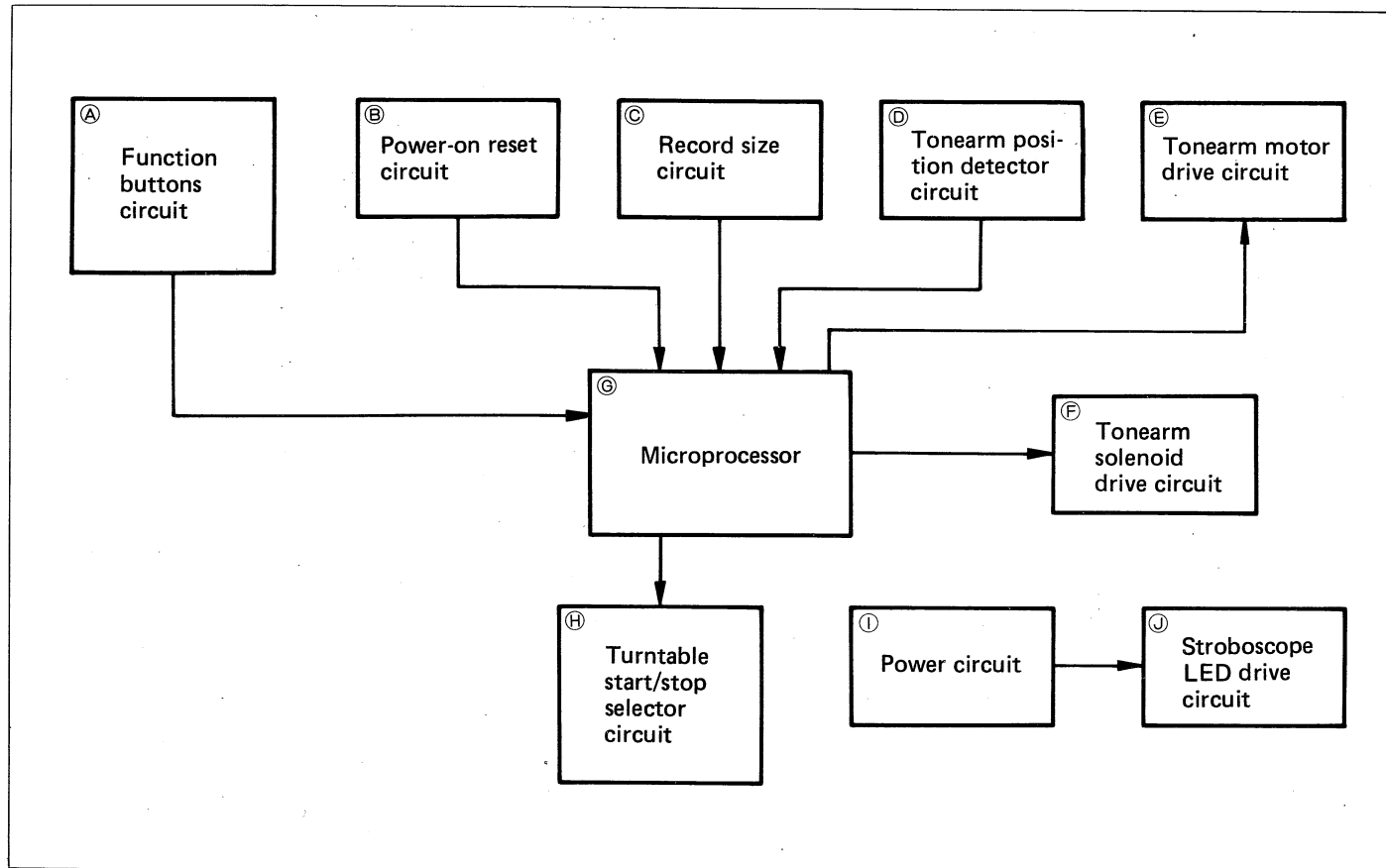


Figure 4 BLOCK DIAGRAM OF CONTROL CIRCUIT

(A) FUNCTION BUTTONS CIRCUIT

Pushing the play/cut, cue or repeat play buttons causes the mating signal line to change from "low" to "high" level, depending upon which the microprocessor tells what button is being pushed on to permit the set to get in the corresponding mode.

(B) POWER-ON RESET CIRCUIT

Since turning on the power switch (SW107) accompanies charging up of C109, Q109 turns on and its collector becomes "low" level to reset (deenergize) the microprocessor.

D117, with the power switch turned off, is to discharge the charged C109 rapidly.

(C) RECORD SIZE CIRCUIT

IC105 produces a sine wave signal of either 50 Hz or 1 Hz at pin (11): the 50 Hz signal is produced when the record size selector switch (SW104) is set at "LP" position and the 1 Hz signal when it is set at "EP" position. The signal will enter the microprocessor so that it will judge the record size.

If the record size selector switch is changed from one position to another while the tonearm is out of the tonearm rest, the tonearm will automatically turn back to the rest.

(D) TONEARM POSITION DETECTOR CIRCUIT

(See Figure 5-1)

Composed of one infrared light emitting diode LED102 and three phototransistors Q110, Q111 and Q112, the circuit produces different signals shown in Figure 5-1 according to where the tonearm is situated, and delivers them to the microprocessor.

(E) TONEARM MOTOR DRIVE CIRCUIT

Receiving the signal from the microprocessor, this circuit energizes the tonearm drive coil and controls the tonearm to move at uniform speeds, in either inward or outward direction.

The tonearm is permitted to move in inward direction, when the circuit works in the following ways:

1. Pin (13) of IC101 becomes "high" level.
2. Pin (6) of IC102 becomes "high" level, and the pin (8)-to-pin(9) junction turns on.
3. Negative reference voltage is applied to pin (3) of IC103.
4. The output from pin (1) of IC103 becomes negative, and negative current is amplified by Q107 and Q108 to flow in the tonearm drive coil.
5. The tonearm starts to move in inward direction.
6. Negative voltage the amount of which is proportional to the tonearm speed, is produced at the speed detector coil.

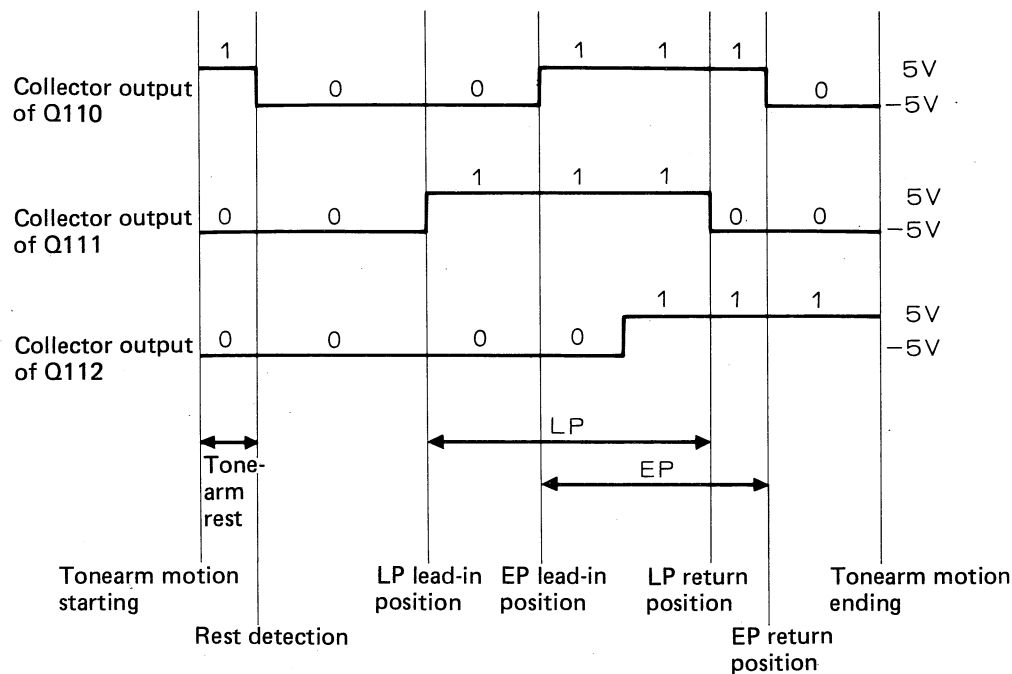


Figure 5-1

7. The negative voltage enters pin (5) of IC103 where it is amplified. Since the pin (10) -to-pin (11) junction of IC102 then turns on, voltage goes out of pin (7) of IC103 reaching pin (2) of IC103.

8. The output from pin (1) of IC103 controls pins (2) and (3) to have the same voltage.

The amount of output from pin (2) of IC103 is proportional to the tonearm speed, so that the tonearm can move at exactly the uniform speed.

9. The output from pin (13) of IC101 becomes "low" level and the pin (8) -to-pin (9) junction of IC102 immediately turns off, so that 0 V is applied to pin (3) of IC103.

It is then that C105 discharges for 1 second (the time constant determined by C105 and R113) during which the pin (11) -to-pin (10) junction of IC102 is kept on so that the signal from the microprocessor is applied to pin (2) of IC103. Thus the output from pin (1) of IC103 becomes positive to change the direction of current flowing in the coil, then to stop the tonearm inward motion.

- In order for the tonearm to move in outward direction: Pin (12) of IC101 becomes "high" level, the pin (3) -to-pin (4) junction of IC102 turns on, and the output from pin (3) of IC103 becomes positive, thus controlling the tonearm to travel at the uniform speed.
- VR102 is used for DC balance adjustment of IC103, and VR101 for speed adjustment of the tonearm.

(F) TONEARM SOLENOID DRIVE CIRCUIT

(See Figure 5-2)

- The tonearm solenoid is fed with 24 V when Q104 turns on, and with 12 V when Q105 turns on.
- It is fed with 24 V when Q104 and Q105 turn on at a time.
- The bases of Q104 as well as Q105 are driven by the signal coming from the microprocessor.
- With the solenoid pulled, Q104 and Q105 turn on and off in the following timing.

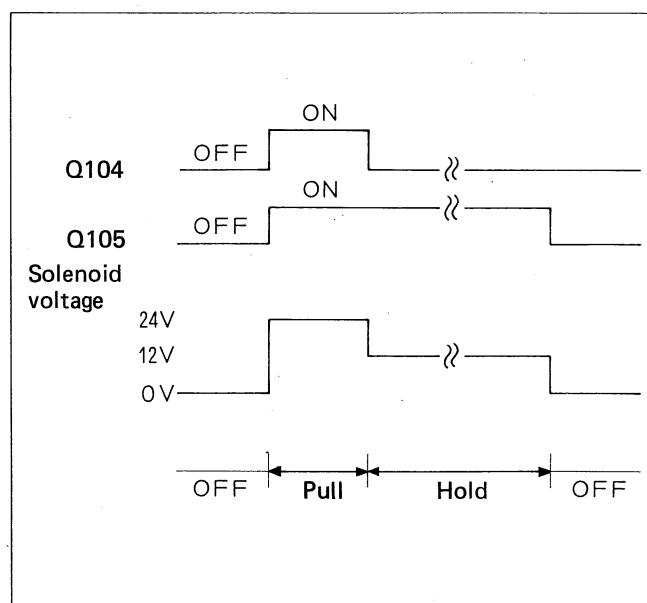


Figure 5-2

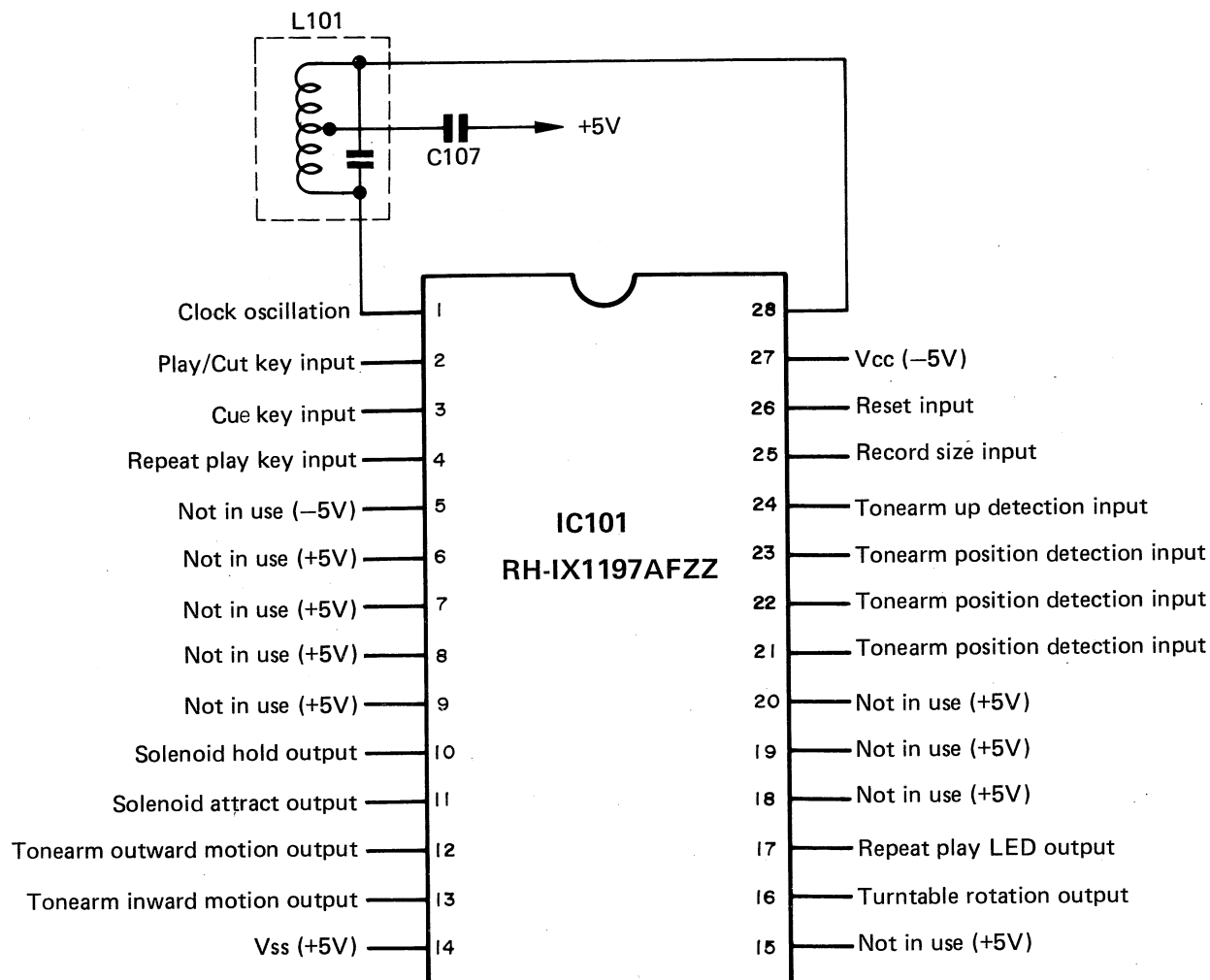


Figure 6 IC101 (RH-IX1197AFZZ)

(G) MICROPROCESSOR (See Figure 6)

- It is a 4-bit, 1-chip microprocessor of P channel MOS type.
- L101 and C10 produce clock pulses of frequency (400 kHz).

(H) TURNTABLE START/STOP SELECTOR CIRCUIT

- When pin (16) of IC101 is at "low" level, pins (1) and (2) of C MOS analog switch turn off and Q106 turns on, thereby causing the motor to stop rotating.
- When pin (16) of IC101 is at "high" level, pins (1) and (2) of C MOS analog switch turn on and Q106 turns off, thereby causing the motor to start rotating.

(I) POWER CIRCUIT

- D101, D102, D103 and D104 supply a regulated power to the turntable motor.
- D105, D106, D107 and D108 supply a regulated power (± 12 V) to the tonearm drive circuit and control circuit.
- ± 5 V power for the control circuit is regulated by Q106, Q107, ZD101 and ZD102.

(J) STROBOSCOPE LED DRIVE CIRCUIT

- AC frequency from the transformer secondary side is full-wave rectified by D109 and D110, and as twice a signal as the AC frequency is applied to the base of Q101, so that Q101 is switched over to light up LED103 or LED104.
- D111 and C101 rectify the power to be supplied to the stroboscope.

■ DESCRIPTION OF DC-SERVO MOTOR CIRCUIT

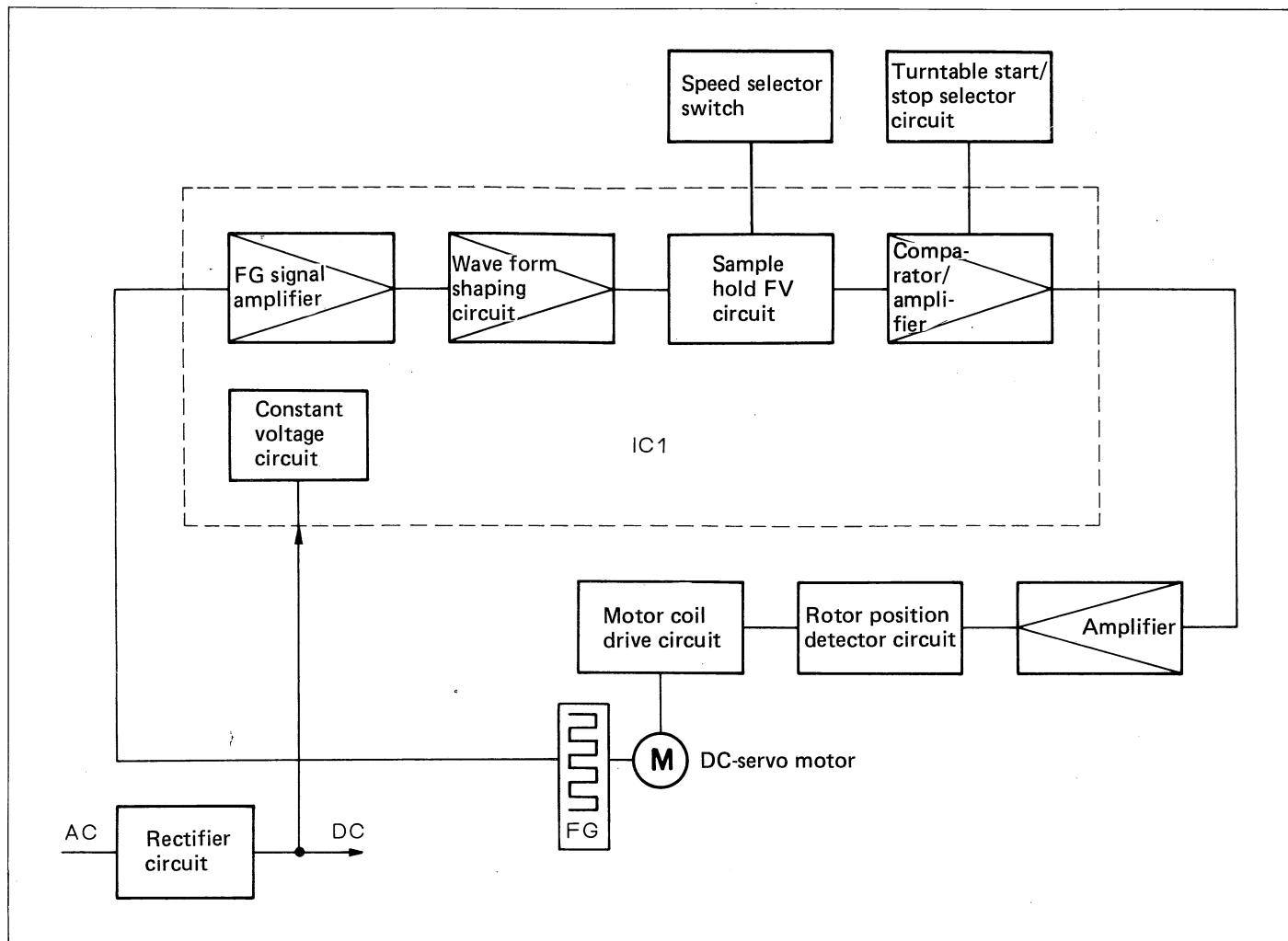


Figure 7-1 BLOCK DIAGRAM OF MOTOR DRIVE CIRCUIT

● DESCRIPTION OF MOTOR DRIVE CIRCUIT

(See Figure 7-2)

The signal from pin ⑩ of IC1 is amplified by Q1, Q2, Q3 and Q4. The amplified signal from Q3 and Q4 is a signal to control the motor coil drive current, thereby controlling the emitter current of Q5, Q6, Q7 and Q8 as well.

The bases of Q5, Q6, Q7 and Q8 are connected with Hall elements, the output of each of which varies in polarity and intensity with the rotor in rotation: the result is that the motor coil current, as the rotor rotates, also varies in polarity and intensity according to the magnitude of the control signal from IC1.

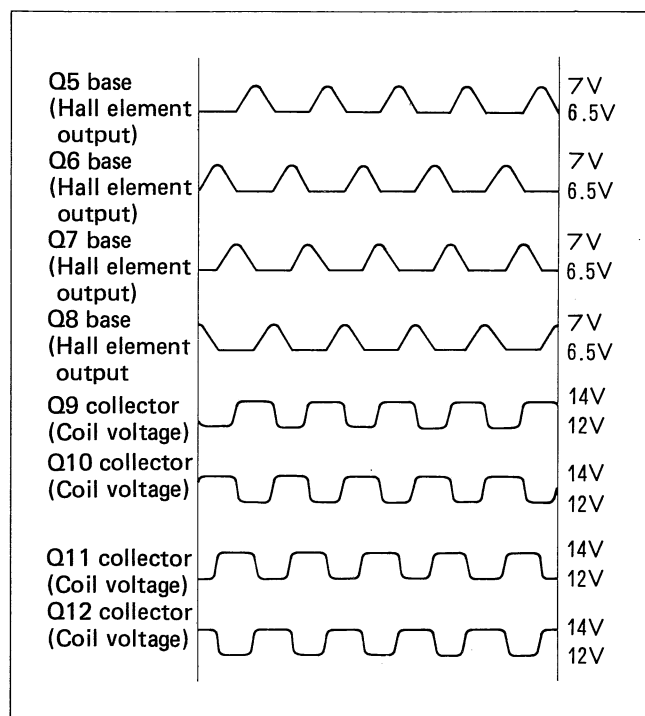


Figure 7-2 WAVEFORMS OF MOTOR DRIVE CIRCUIT

91Z μ PC1043C

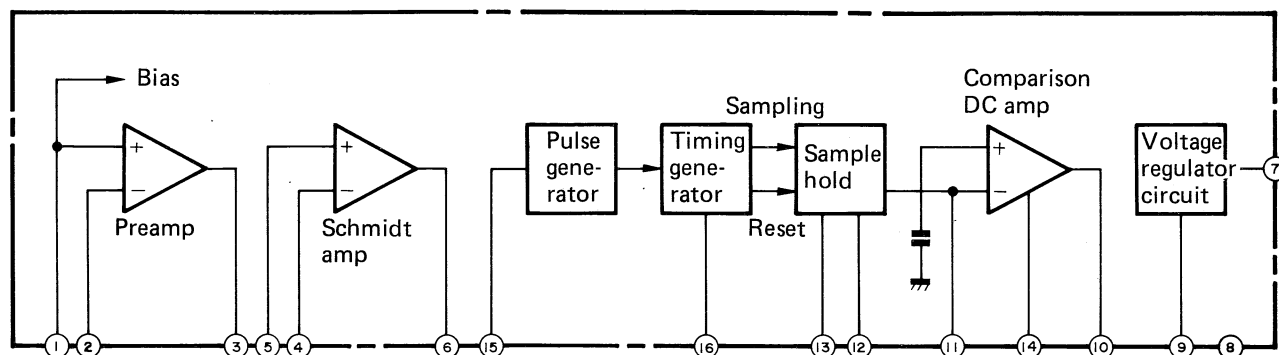
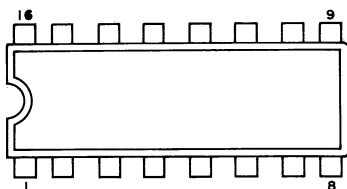


Figure 8-1 BLOCK DIAGRAM OF IC1

• BEHAVIOR OF IC1 (μ PC1043C)

- Signal from the frequency generator is applied to pins ① and ② of the preamplifier where it is amplified, and goes out of pin ③. The signal from pin ③ enters pin ④ of Schmidt amplifier where it is wave form shaped to become a square wave signal going out of pin ⑥. The signal is then differentiated by C5 and enters the sample hold circuit via the pulse generator circuit and timing generator circuit.
- The sample hold circuit is controlled by the time constant decided by C8 and Turntable speed setting resistors, so that the output at its pin ⑪ is proportional to the Turntable speed.
- The output from the sample hold circuit is compared with the reference voltage of the comparison DC amplifier, and a signal which is proportional to the difference voltage available from that comparison goes out of pin ⑩.

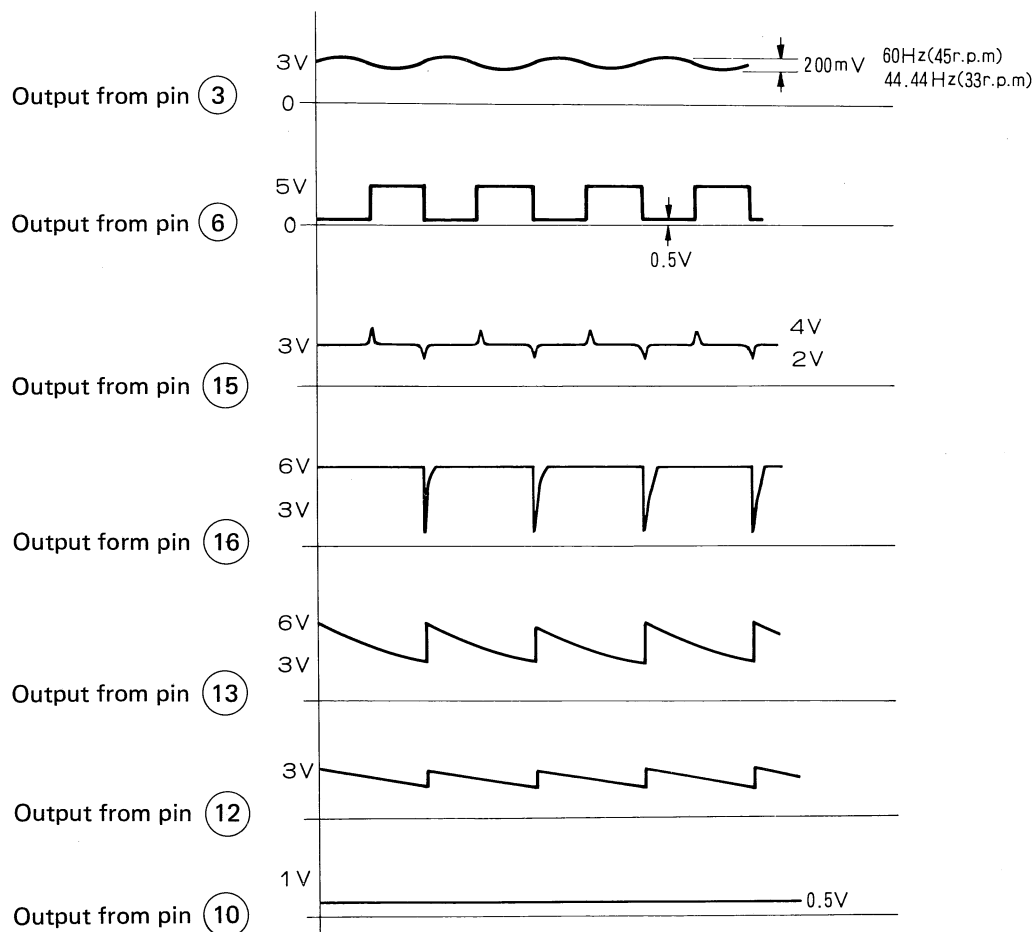


Figure 8-2 OUTPUT WAVEFORM OF IC1

■ ADJUSTMENT OF STYLUS HEIGHT

1. Set the power switch (SW107) at "OFF" position.
2. Swing the tonearm along the tonearm lifter over the surface of a record.
3. Turn the adjusting nut of the tonearm lifter in either direction by using a screwdriver, so that there is a distance of about 4 mm between the stylus top and record surface. The clockwise direction will shorten the distance while the counterclockwise direction will lengthen it. See Figure 9-1.

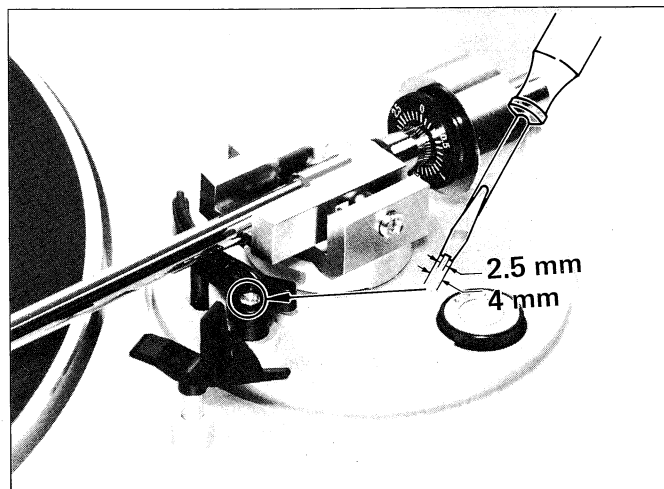


Figure 9-1

■ ADJUSTMENT OF CONTROL CIRCUIT

● DC BALANCE ADJUSTMENT

Shorting pins ③ and ⑤ of CNP104 while the tonearm is at the rest, turn the variable resistor VR102 so that there is 0 ± 0.1 V between pin ① (+) and pin ② (–) of CNP104 on DC VTVM or tester.

● TONEARM SPEED ADJUSTMENT

With EP record played in automatic return mode, turn the variable resistor VR101 so that it takes 3 to 4.5 seconds for the tonearm to reach the rest leaving its end position: the time counting should exclude the duration in which the tonearm leaves a record before it starts returning to the rest.

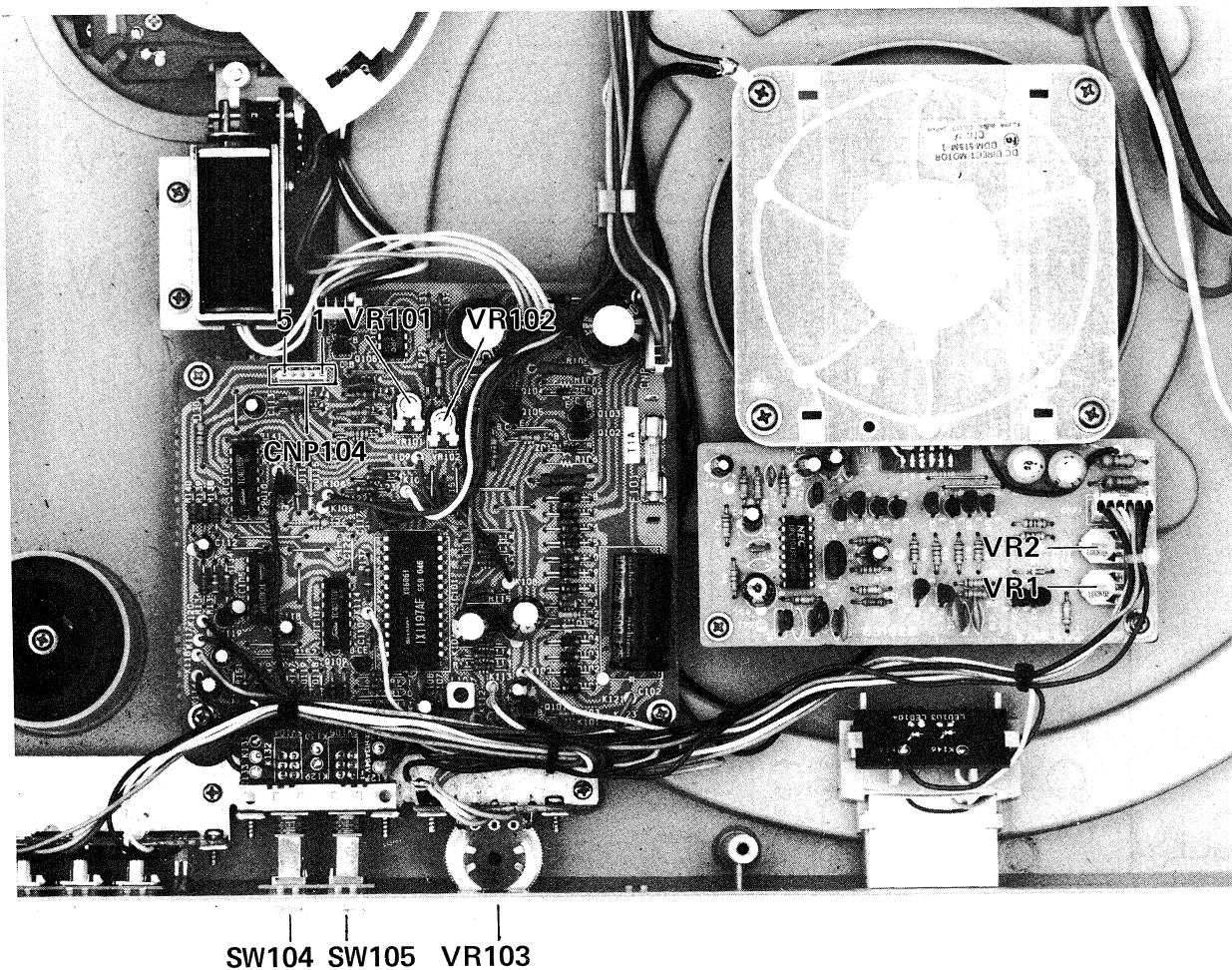


Figure 9-2

● TURNTABLE SPEED ADJUSTMENT

1. Swing the tonearm from the rest over the turntable. The turntable will start revolving.
2. At the stroboscopic viewer, there are two lines of dots with each appearing according to the power frequency and record speed. If dots are moving, in either direction, adjust the pitch (fine speed) control until dots appear to be motionless.
 - (1) When dots are moving in the same direction as the turntable is rotating, this shows the turntable speed is faster than specified. Turn the pitch control (VR103) towards "s" until dots appear to be stationary.
 - (2) When dots are moving against the turning direction of turntable, this shows the turntable speed is slower than specified. Turn the pitch control (VR104) towards "f" until dots appear to be stationary.
3. If dots still do not appear to be motionless, further try the following procedure.
4. Set the pitch control (VR103) at the midpoint between "s" and "f", and turn the speed selector switch SW105 to "45" position.
5. Adjust the variable resistor VR1 so that dots appear to be stationary.

6. Turn the speed selector switch (SW105) to "33" position, and adjust the variable resistor VR2 so that dots appears to be stationary.

Note:

The 45 r.p.m. adjustment must precede the 33 r.p.m. adjustment.

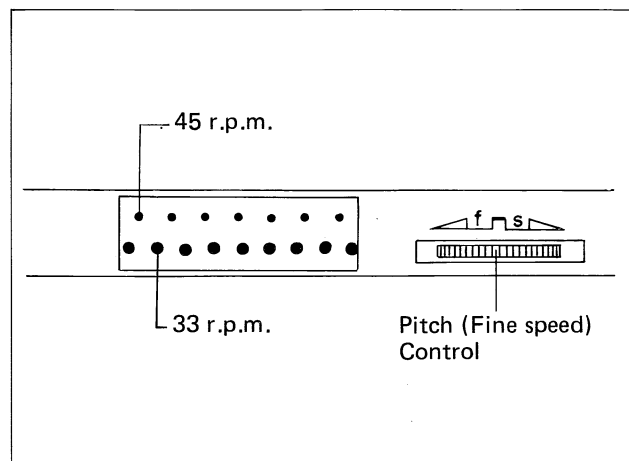


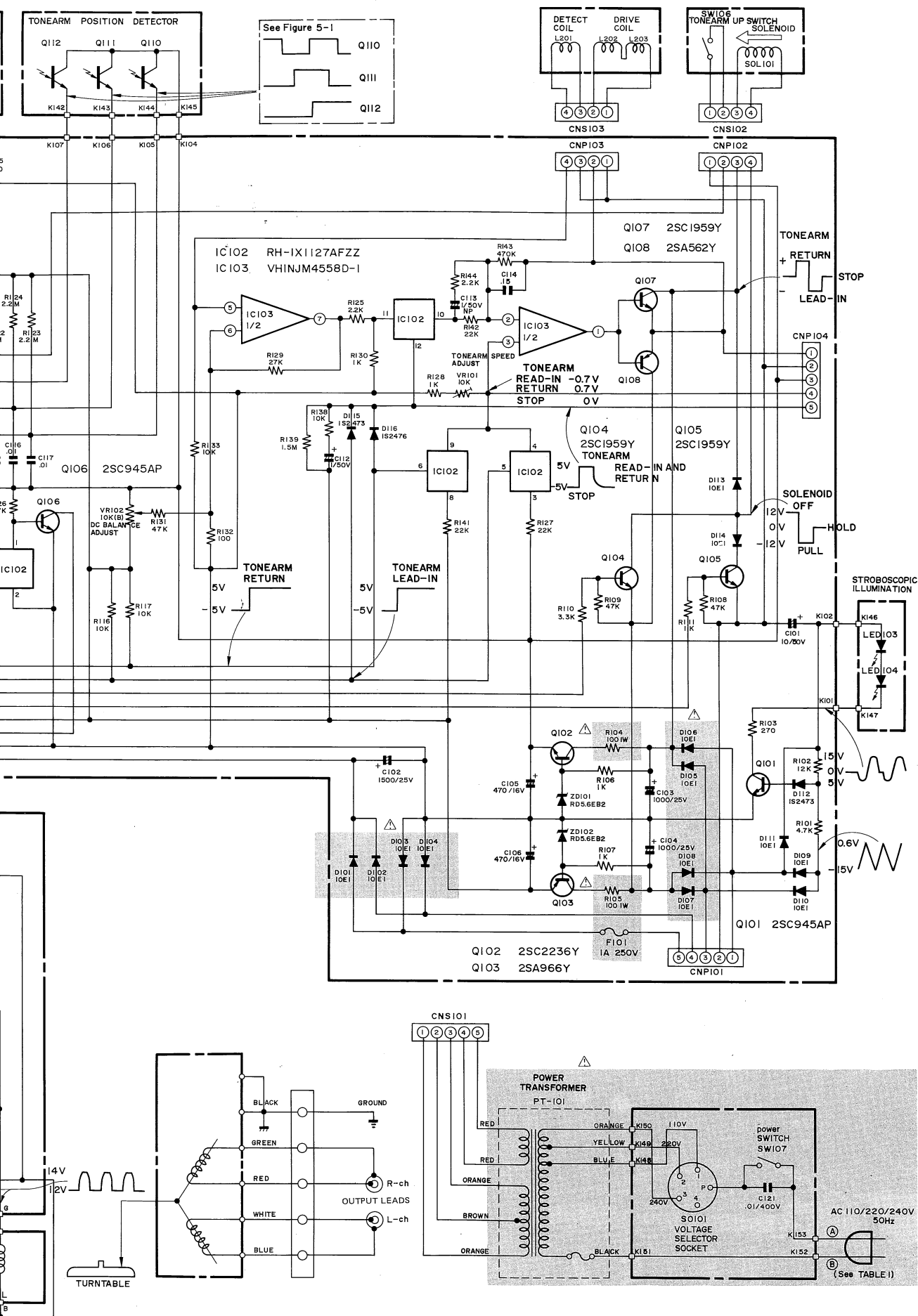
Figure 10

AC supply lead	Fixing Position of AC supply lead holder	Connection		Figure
		(A)	(B)	
QACCL0052AFZZ		Projection stripe	Brand stamp	
QACCV0001AGZZ		Brown	Light blue	
QACCB0054AF09		Brown	Blue	

TABLE 1 MAINS SUPPLY LEAD WIRING CONNECTION

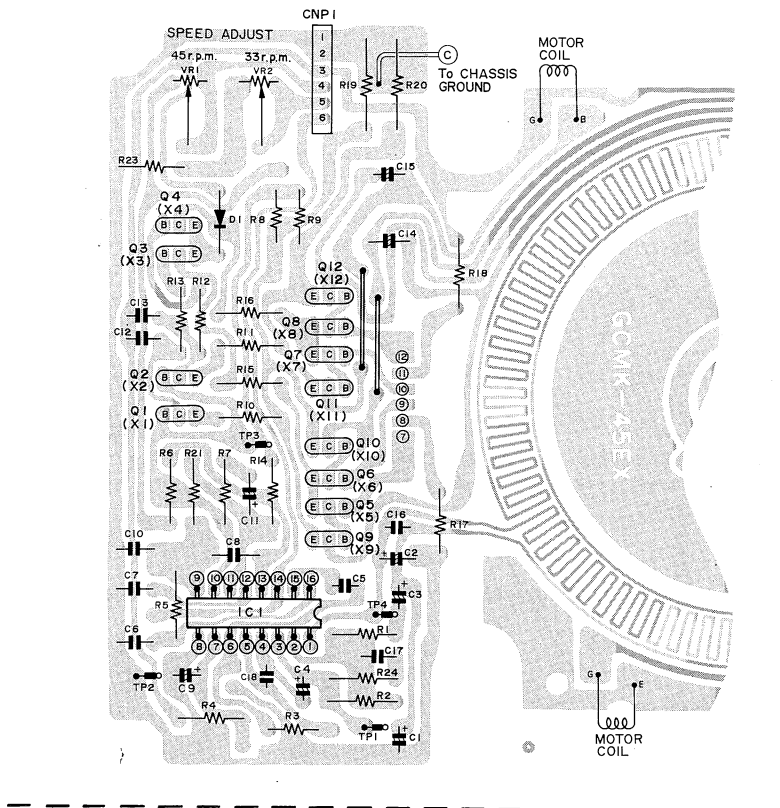
■ NOTES ON SCHEMATIC DIAGRAM

1. SW101: Play/cut switch
2. SW102: Cue switch
3. SW103: Repeat play switch
4. SW104: Size selector switch
5. SW105: Speed selector switch
6. SW106: Tonearm up-motion detector switch
7. SW107: Power switch (shown in "OFF" position)
8. Resistor: Unless otherwise specified, any resistance is expressed in ohms. K = 1000 ohms and M = 1000K ohms. The rated power is 1/4 W.
9. Capacitor: Unless otherwise specified, any capacitance is expressed in microfarad. ML shows mylar type capacitor.
10. Electronic capacitor: The expression "capacitance/withstand voltage" is used.
11. Parts marked with "Δ" () are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.
12. Specifications or wiring diagrams of this model are subject to change for the improvement without prior notice.



C DIAGRAM

MOTOR P.W. BOARD



MAIN P.W. BOARD

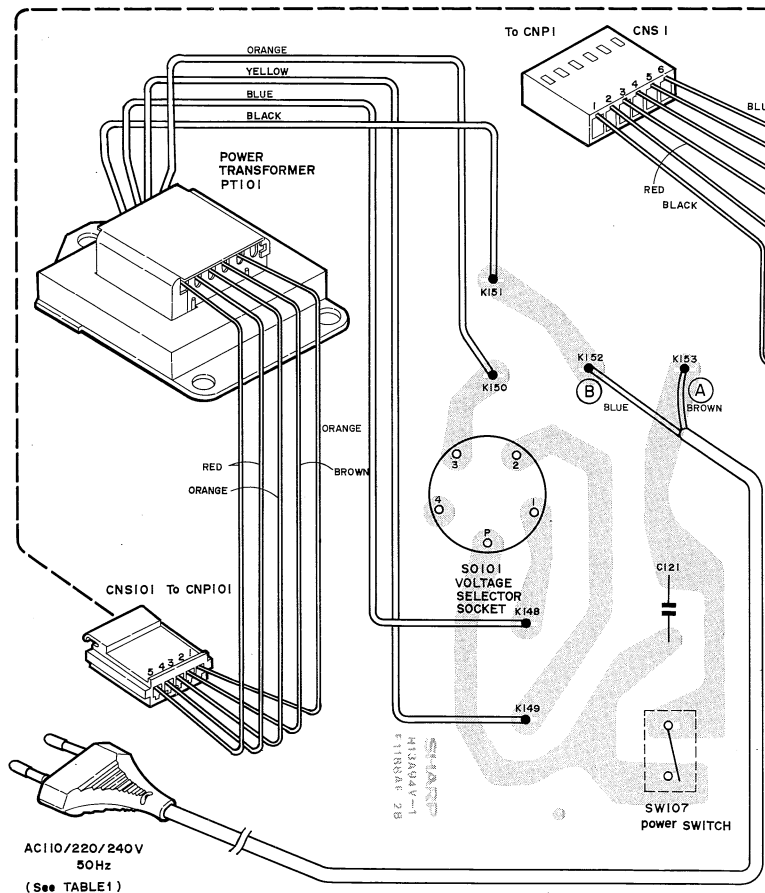
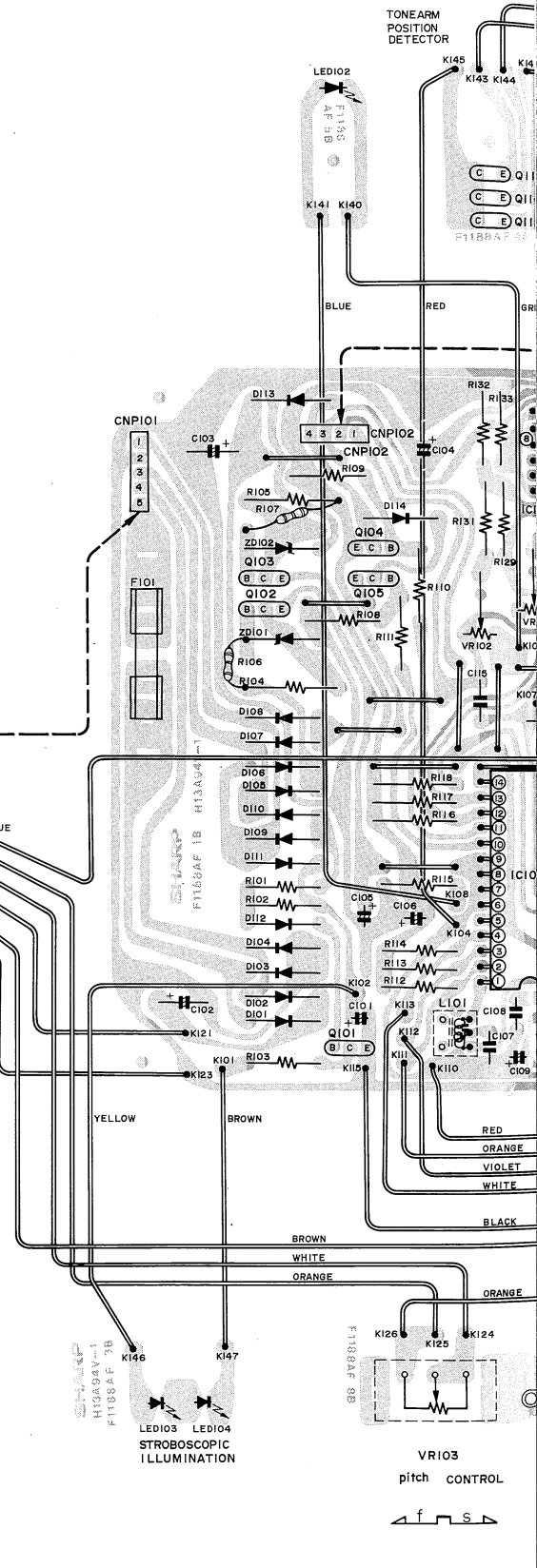
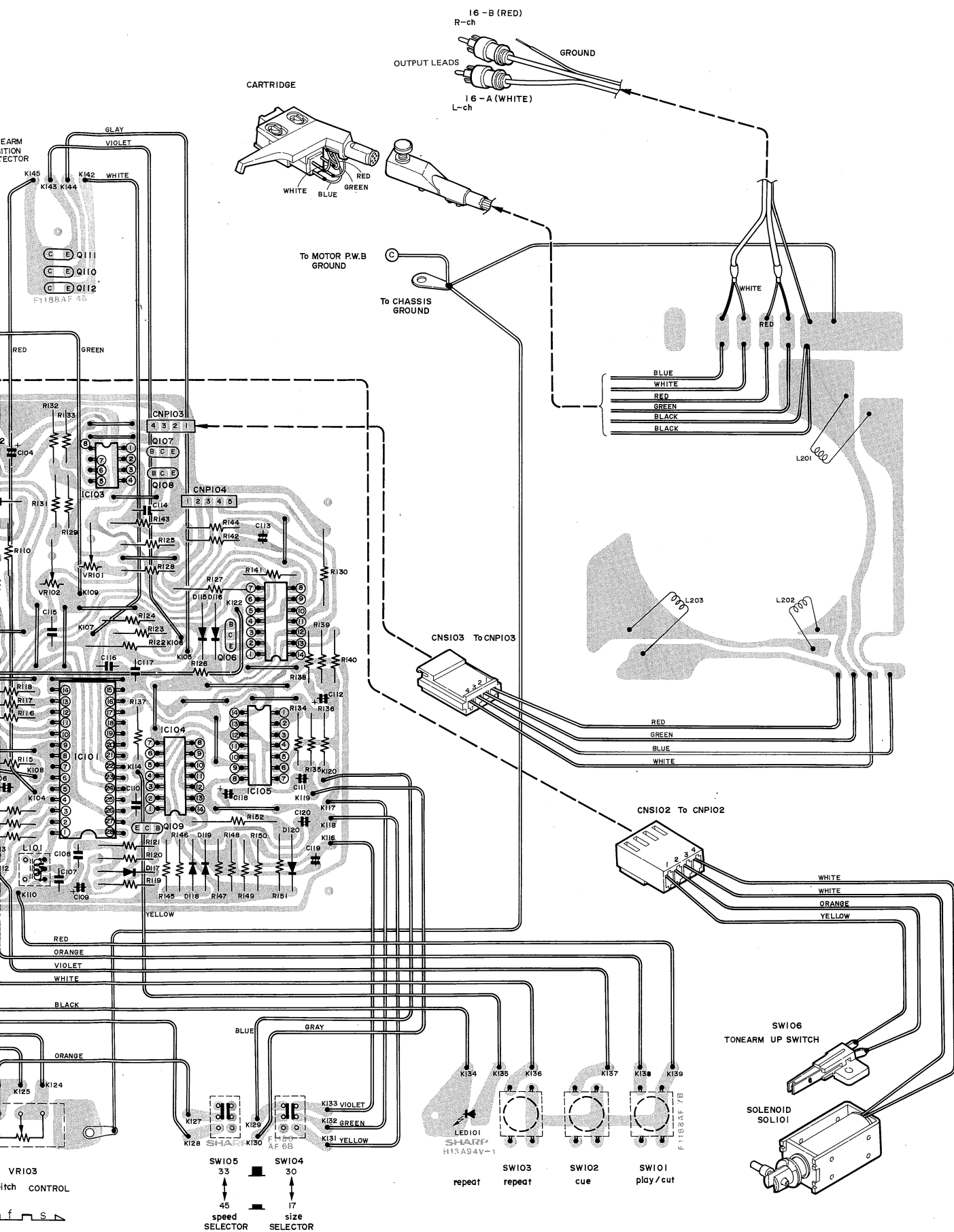
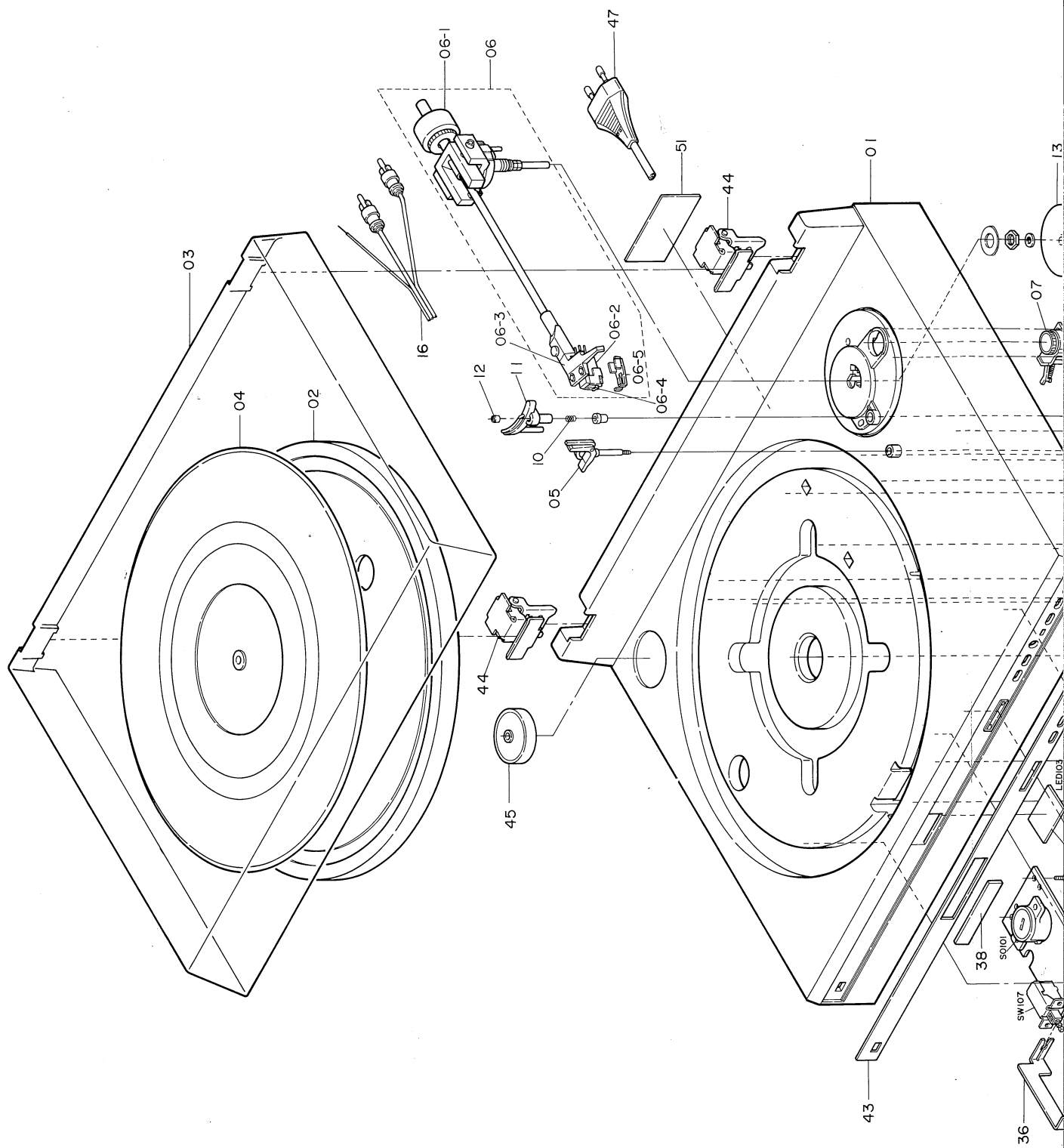
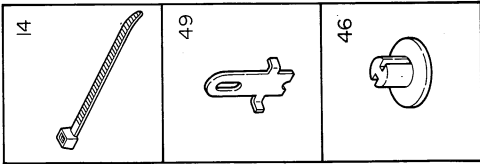


Figure 13 WIRING SIDE OF PRINTED V



PRINTED WIRING BOARD (MAIN AND MOTOR)





—16—

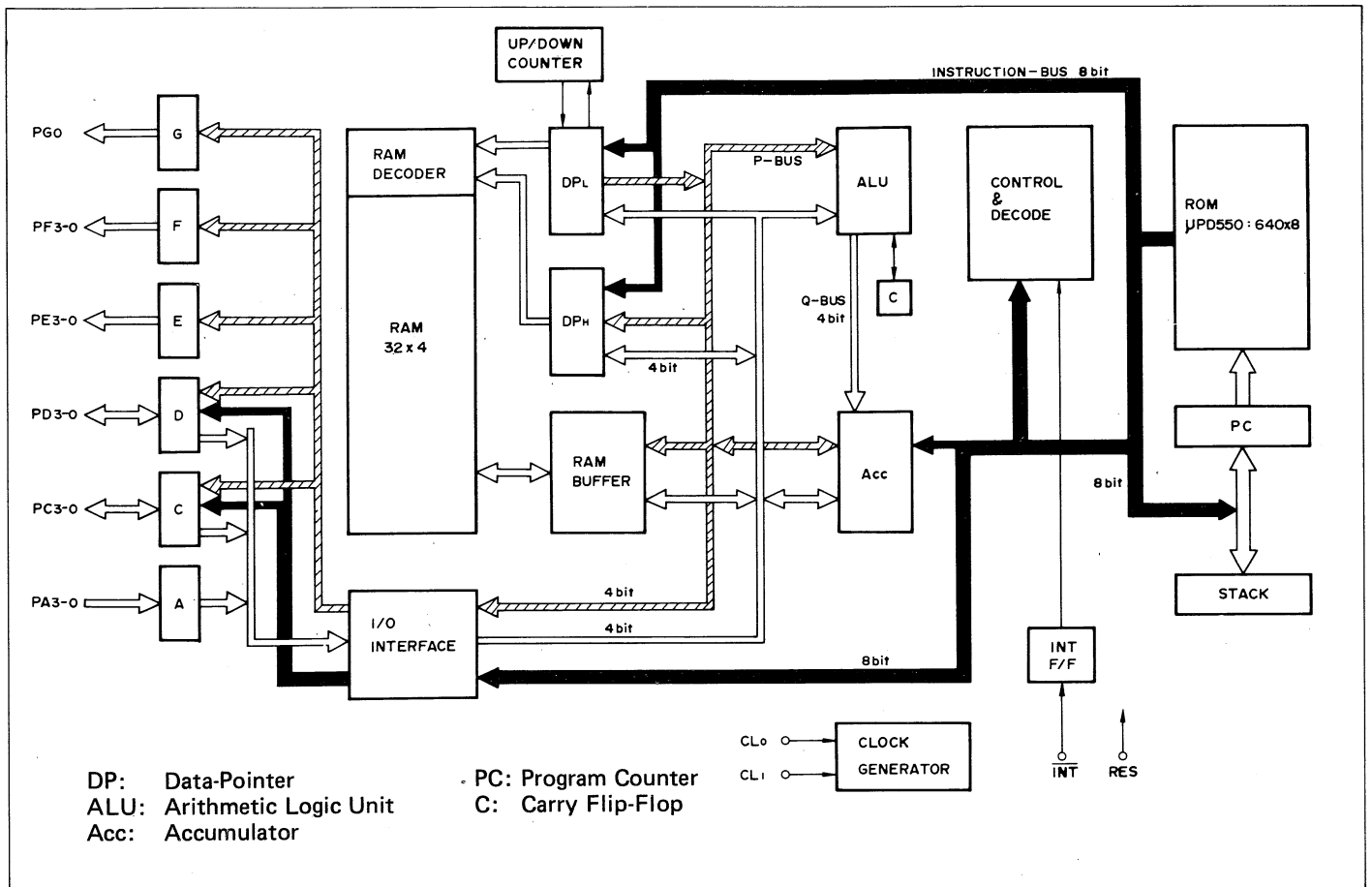


Figure 17-1 BLOCK DIAGRAM OF INTEGRATED CIRCUIT (IC101)

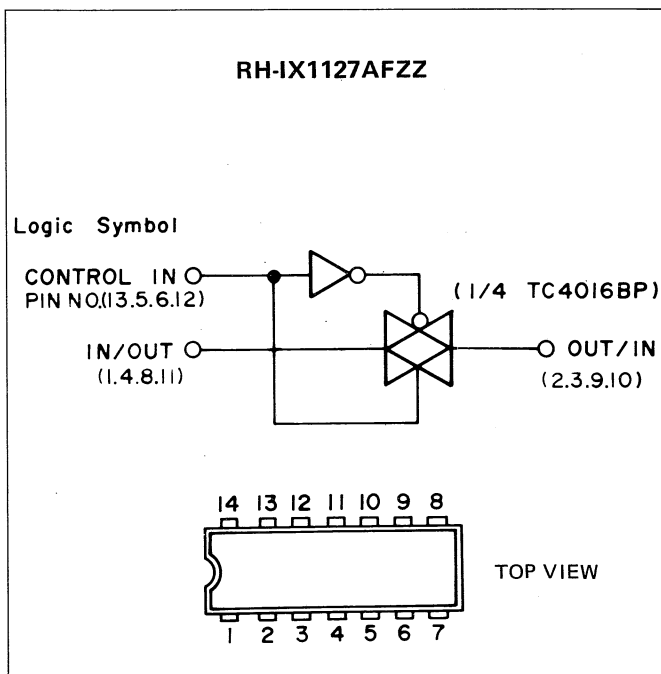


Figure 17-2 BLOCK DIAGRAM OF INTEGRATED CIRCUIT (IC102)

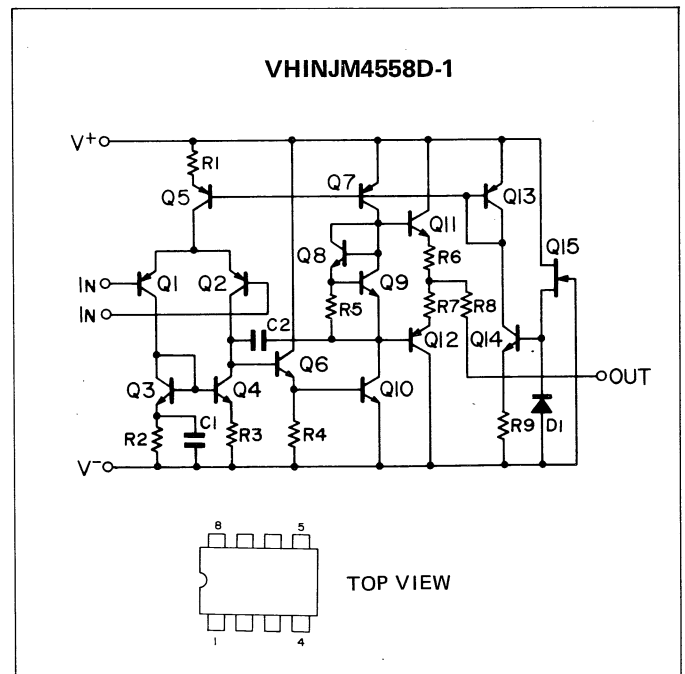


Figure 17-3 EQUIVALENT CIRCUIT OF INTEGRATED CIRCUIT (IC103)

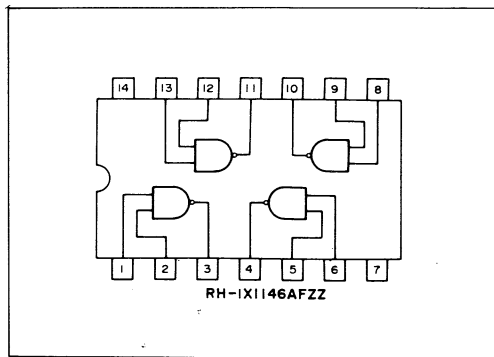


Figure 18 TOP VIEW OF LOGIC IC
(IC104, IC105)

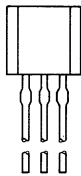
TRANSISTORS

1. EMITTER
2. COLLECTOR
3. BASE

DIODES (LIGHT EMITTING DIODES)

1. ANODE
2. CATHODE

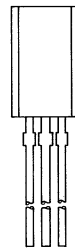
91Z2SA733AP VS2SA562-Y/-1
(2SA733AP) (2SA562Y)
91Z2SC945AP VS2SC1959Y/-1
VS2SC945AP/-1 (2SC1959Y)
(2SC945AP)



Q1 ~ Q8
Q101
Q104 ~ Q109



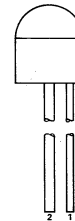
VS2SA966-Y/-1
(2SA966Y)
VS2SC2236Y/-1
(2SC2236Y)



Q102, Q103



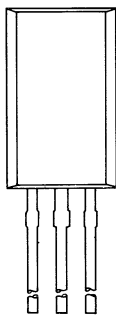
VHPPT-350//1
(PT-350)



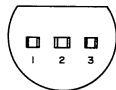
Q110 ~ Q112



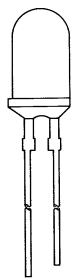
91Z2SD667C
(2SD667C)



Q9 ~ Q12



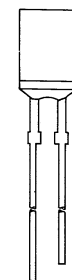
VHPGL-5HD5/-1
(GL-5HD5)



LED103,
LED104



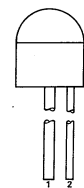
RH-PX1008AFZZ



LED101



VHPGL350//1
(GL-350)



LED102



REPLACEMENT PARTS LIST

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

- | | |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. NO. |
| 3. PART NO. | 4. DESCRIPTION |

NOTES:

Parts marked with "△" () are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO.	PART NO.	DESCRIPTION	CODE
INTEGRATED CIRCUITS			
IC1	91ZμPC1043C	Motor Drive IC (μPC1043C)	
IC101	RH-IX1197AFZZ	Microprocessor (μPD550C)	AU
IC102	RH-IX1127AFZZ	C-MOS, Analog Switch (TC4016BP)	AK
IC103	VHINJM4558D-1	Operational Amplifier (NJM4558D)	AH
IC104, 105	RH-IX1146AFZZ	C-MOS, NAND Gates (TC4011BP)	AE

TRANSISTORS

Q1 (X1), Q2 (X2)	91Z2SC945P or 91Z2SC1815 91Z2SC2308	Amplifier (2SC945P, 2SC1815, 2SC2308)	
Q3 (X3), Q4 (X4)	91Z2SA733AP or 91Z2SA844 91Z2SA1015 91Z2SA641 91Z2SA640	Amplifier (2SA733AP, 2SA844, 2SA1015, 2SA641, 2SA640)	
Q5 (X5), Q6 (X6), Q7 (X7), Q8 (X8)	91Z2SA733AP or 91Z2SA844 91Z2SA1015 91Z2SA641 91Z2SA640	Position Detect (2SA733AP, 2SA844, 2SA1015, 2SA641, 2SA640)	
Q9 (X9), Q10 (X10), Q11 (X11), Q12 (X12)	91Z2SD667C or 91Z2SC2236 91Z2SD468 91Z2SD471	Coil Drive (2SD677C, 2SC2236, 2SD468, 2SD471)	
Q101	VS2SC945AP/-1	Strobe Drive (2SC945AP)	AB
Q102	VS2SC2236Y/-1	Constant Voltage (2SC2236Y)	AD
Q103	VS2SA966-Y/-1	Constant Voltage (2SA966Y)	AE
Q104, 105	VS2SC1959Y/-1	Solenoid Drive (2SC1959Y)	AC
Q106	VS2SC945AP/-1	Motor Control (2SC945AP)	AB
Q107	VS2SC1959Y/-1	Tonearm Drive (2SC1959Y)	AC
Q108	VS2SA562-Y/-1	Tonearm Drive (2SA562Y)	AC
Q109	VS2SC945AP/-1	Power On Switching Reset (2SC945AP)	AB
Q110, 111, Q112	VHPPT-350// -1	Photo Transistor (PT350)	AH

DIODES

D1	91Z1S953 or 91Z1SS53	Temperature Compensation (1S953, 1SS53)	
△ D101, 102, D103, 104, D105, 106, D107, 108	VHD10E1////-1	Rectifier (10E1)	AC
D109, 110, D111	VHD10E1////-1	Rectifier (10E1)	AC

REF. NO.	PART NO.	DESCRIPTION	CODE
D112	VHD1S2473// -1	Protector (1S2473)	AB
D113, 114	VHD10E1////-1	Protector (10E1)	AC
D115, 116	VHD1S2473// -1	Protector (1S2473)	AB
D117	VHD1S2473// -1	Discharger (1S2473)	AB
D118, 119, D120	VHD1S2473// -1	Protector (1S2473)	AB
ZD101, 102	VHERD5R6EB2-1	Constant Voltage (RD5.6EB2)	AB

LIGHT EMITTING DIODES

LED101	RH-PX1008AFZZ	Repeat Play Mode Indicator (GL-9PR12)	AD
LED102	VHPGL-350// -1	Tonearm Position Detector (GL-350)	AH
LED103, 104	VHPGL-5HD5/-1	Stroboscopic Illumination (GL-5HD5)	AD

CONTROLS

VR1	91ZTM8KV-1 or 91ZVZ083KL	Speed Adjust, 45 r.p.m., 100K ohm (B)	
VR2	91ZTM8KV-1 or 91ZVZ083KL	Speed Adjust, 33 r.p.m., 100K ohm (B)	
VR101	RVR-M0248AFZZ	Tonearm Speed Adjust, 10K ohm	AB
VR102	RVR-M0248AFZZ	DC Balance Adjust, 10K ohm	AB
VR103	RVR-B0240AFZZ	Pitch (Fine Speed) Adjust, 50K ohm (B)	AD

COIL

L101	RCILB0509AFZZ	Oscillator (400 kHz)	AD
L201	91Z705720-1	Tonearm Detect	
L202, 203	91Z705720-1	Tonearm Drive	

TRANSFORMER

△PT101	91Z872975	Power Transformer	
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ELECTROLYTIC CAPACITORS

C1, 2	RC-EZS226AF1A	22MFD, 10V, ±20%	AB
C3	VCEAAU1EW475Y	4.7MFD, 25V, +50 -10%	AB
C4	VCEAAU1HW105A	1MFD, 50V, +75 -10%	AB
C9	VCEAAU1EW107Y	100MFD, 25V, +50 -10%	AC
C11	VCEALU1HC474M	.47MFD, 50V, ±20%	AC
C14, 15	RC-EZT476AF1E	47MFD, 25V, ±20%, Non-polar	
C101	RC-EZS106AF1H	10MFD, 50V, ±20%	AB
C102	RC-EZS158AF1E	1500MFD, 25V, ±20%	AF

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
C103, 104	RC-EZS108AF1E	1000MFD, 25V, $\pm 20\%$	AE	R111	VRD-ST2EE102J	1K ohm	
C105, 106	RC-EZS477AF1C	470MFD, 16V, $\pm 20\%$	AC	R112, 113, } R114	VRD-ST2EE103J	10K ohm	
C109	RC-EZS105AF1H	1MFD, 50V, $\pm 20\%$	AB	R115	VRD-ST2EE151J	150 ohm	
C111	RC-EZT105AF1H	1MFD, 50V, $\pm 20\%$, Non-polar	AC	R116, 117, } R118, 119, } R120, 121	VRD-ST2EE103J	10K ohm	
C112	RC-EZS105AF1H	1MFD, 50V, $\pm 20\%$	AB	R122, 123, } R124	VRD-ST2EE225J	2.2Meg ohm	
C113	RC-EZT105AF1H	1MFD, 50V, $\pm 20\%$, Non-polar	AC	R125	VRD-ST2EE222J	2.2K ohm	
C118	RC-EZS105AF1H	1MFD, 50V, $\pm 20\%$	AB	R126	VRD-ST2EE473J	47K ohm	
C119, 120	RC-EZT105AF1H	1MFD, 50V, $\pm 20\%$, Non-polar	AC	R127	VRD-ST2EE223J	22K ohm	
CAPACITORS				R128	VRD-ST2EE102J	1K ohm	
C5, 6	VCQYKU1HM103K	.01MFD, 50V, $\pm 10\%$, Mylar	AA	R129	VRD-ST2EE273J	27K ohm	
C7	VCQYKU1HM223K	.022MFD, 50V, $\pm 10\%$, Mylar	AB	R130	VRD-ST2EE102J	1K ohm	
C8	VCQYKU1HM104K	.1MFD, 50V, $\pm 10\%$, Mylar	AB	R131	VRD-ST2EE473J	47K ohm	
C10, 12, } C13	VCKZPU1HF473Z	.047MFD, 50V, +80 -20%, Ceramic	AA	R132	VRD-ST2EE101J	100 ohm	AA
C16	VCKZPU1HF103Z	.01MFD, 50V, +80 -20%, Ceramic	AA	R133	VRD-ST2EE103J	10K ohm	
C17	VCKZPU1HF472Z	.0047MFD, 50V, +80 -20%, Ceramic	AA	R134	VRD-ST2EE225J	2.2Meg ohm	
C18	VCKZPU1HF103Z	.01MFD, 50V, +80 -20%, Ceramic	AA	R135	VRD-ST2EE474J	470K ohm	
C107	VCQYKU1HM472J	.0047MFD, 50V, $\pm 5\%$, Mylar	AB	R136	VRD-ST2EE103J	10K ohm	
C108	VCKZPU1NB104M	.1MFD, 12V, $\pm 20\%$, Ceramic	AB	R137	VRD-ST2EE471J	470 ohm	
C110	VCKZPU1HF102Z	.001MFD, 50V, +80 -20%, Ceramic	AA	R138	VRD-ST2EE103J	10K ohm	
C114	VCKZPU1NB154M	.15MFD, 12V, $\pm 20\%$, Ceramic	AA	R139	VRD-ST2EE155J	1.5Meg ohm	
C115, 116, } C117	VCKZPU1HF103Z	.01MFD, 50V, +80 -20%, Ceramic	AA	R140	VRD-ST2EE103J	10K ohm	
△C121	RC-KZ067CAFZZ	.01MFD, 400V, +100 -0%, Ceramic	AG	R141, 142	VRD-ST2EE223J	22K ohm	
RESISTORS				R143	VRD-ST2EE474J	470K ohm	
(Unless otherwise specified resistors are 1/4W, $\pm 5\%$, Carbon type.)				R144	VRD-ST2EE222J	2.2K ohm	
R1	VRD-ST2EE102J	1K ohm		R145, 146, } R147, 148, } R149, 150	VRD-ST2EE103J	10K ohm	
R2	VRD-ST2EE564J	560K ohm		R151	VRD-ST2EE155J	1.5Meg ohm	
R3	VRD-ST2EE105J	1Meg ohm		R152	VRD-ST2EE103J	10K ohm	
R4	VRD-ST2EE561J	560 ohm		MISCELLANEOUS			
R5	VRD-ST2EE104J	100K ohm		01	91Z848194	Cabinet (RP-5200H)	
R6	VRD-ST2EE184J	180K ohm			91Z848194-1	Cabinet (RP-5200HB)	
R7	VRD-ST2EE102J	1K ohm	AA	02	91Z620081-4	Turntable	
R8, 9	VRD-ST2EE101J	100 ohm		03	91Z852357	Dust Cover	
R10, 11	VRD-ST2EE102J	1K ohm		04	91Z871956	Rubber Mat, Turntable	
R12, 13	VRD-ST2EE183J	18K ohm		05	91Z910589	Tonearm Rest Assembly	
R14	VRD-ST2EE393J	39K ohm		06	91Z852358	Tonearm Assembly	
R15, 16	VRD-ST2EE102J	1K ohm		06-1	91ZMWICHT5200	Main Weight with Counter Ring	
R17, 18	VRD-ST2EE471J	470 ohm		06-2	RCTRE5055AFSA	Cartridge	
R19, 20	VRD-ST2HE4R7J	4.7 ohm, 1/2W, $\pm 5\%$, Carbon		06-3	91ZH-SHELL5200	Head Shell	
R21	VRD-ST2EE564J	560K ohm		06-4	91ZSTY-115	Stylus	
R23	VRD-ST2EE393J	39K ohm		06-5	91ZHARICOV5200	Cover, Stylus	
R24	VRD-ST2EE223J	22K ohm		07	91Z899888	Anti-Skating Device Assembly	
R101	VRD-ST2EE472J	4.7K ohm		08	91Z899981-1	Arm Lifter Shaft Assembly	
R102	VRD-ST2EE123J	12K ohm	AA	09	91Z910073	Spring, Tonearm Lifter (Large)	
R103	VRD-ST2EE271J	270 ohm		10	91Z287680	Spring, Tonearm Lifter (Small)	
△R104, 105	VRS-PT3AB101K	100 ohm, 1W, $\pm 10\%$, Metal		11	91Z910590	Tonearm Lifter	
R106, 107	VRD-ST2EE102J	1K ohm		12	91Z896268	Nut, Tonearm Lifter	
R108, 109	VRD-ST2EE473J	47K ohm		13	91Z899985	Disk Plate	
R110	VRD-ST2EE332J	3.3K ohm		14	LHLDW1075AFZZ	Nylone Band	AA
				15	91Z631947	Spool, Tonearm	
				16	91Z894205-1	Output Leads	
				17	91Z899990-2	Tonearm Rotor Assembly	
				18	91Z896598-4	Pin, Slit Plate Adjust	
				19	91Z899957-2	Slit Plate	

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
20	91Z899993	Bracket, Solenoid Retaining		42	91Z892227	Leg, Rubber	
21	91Z899958	Lever, Tonearm Lifter		43	91Z852361	Panel, Controls (RP-5200H)	
22	91Z899994	Spring, Tonearm Lifter Lever			91Z852361-1	Panel, Controls (RP-5200HB)	
23	91Z897682	Rubber, Solenoid Stopper		44	91Z910603	Hinge, Dust Cover	
24	91Z910295	Spacer, Tonearm-up Switch		45	91Z890876	Adaptor, 45 r.p.m.	
25	91Z898529-2	Mirror, Stroboscopic Speed Indicators		46	PSPA0060AFZZ	Spacer, (LED101)	AA
26	PSPA0080AFSA	Spacer, Power Switch (RP-5200H)	AB	47	QACCL0052AFZZ	AC Supply Lead	AL
	PSPA0080AFSB	Spacer, Power Switch (RP-5200HB)	AB		QACCV0001AGZZ	AC Supply Lead	AL
27	91Z897736	Spacer, Control Switch (RP-5200H)			QACCB0054AF09	AC Supply Lead	AL
	91Z897736-2	Spacer, Control Switch (RP-5200HB)		48	91Z898550-1	Holder, AC Supply Lead	
28	91Z896614	Knob, Pitch (Fine Speed) Control (RP-5200H)		49	QLUGP0156AFZZ	Lug Terminal, Printed Wiring Board	AA
	91Z896614-2	Knob, Pitch (Fine Speed) Control (RP-5200HB)		50	91Z892975	Lug, Ground	
29	91Z910098	Plate, Shield		51	91Z910604	Plate, Serial NO (RP-5200H)	
31	91Z899956	Holder, Tonearm Position Detector			91Z910604-1	Plate, Serial NO (RP-5200HB)	
32	91Z631946	Motor Assembly		CNP1	QCNCM132FAFZZ	Plug, 6-pin	
33	JKNBM0297AFSA	Knob, Power Switch (RP-5200H)	AD	CNP101	QCNCM438EAFZZ	Plug, 5-pin	AB
	JKNBM0297AFSB	Knob, Power Switch (RP-5200HB)	AD	CNP102	QCNCM400DAFZZ	Plug, 4-pin	AB
34	91Z897683	Button, Play/Cut, Cuing/ Pause and Repeat Play (RP-5200H)		CNP103	QCNCM437DAFZZ	Plug, 4-pin	AB
	91Z897683-2	Button, Play/Cut, Cuing/ Pause and Repeat Play (RP-5200HB)		CNP104	QCNCM216EAFZZ	Plug, 5-pin	AB
35	91Z897684	Button, Size Selector and Speed Selector (RP-5200H)		CNS1	QCNCW103FAFZZ	Socket, 6-pin	AB
	91Z897684-2	Button, Size Selector and Speed Selector (RP-5200HB)		CNS101	QCNCW321EAFZZ	Socket, 5-pin	
36	91Z910591	Lever, Power Switch		CNS102	QCNCW306DAFZZ	Socket, 4-pin	
37	91Z872970	Bracket, Pitch Control and Control Switches		CNS103	QCNCW320EAFZZ	Socket, 4-pin	
38	91Z910586	Window, Stroboscopic Speed Indicators		SO101	QSOCE0571AFZZ	Socket, Voltage Selector	AG
39	91ZE-242020	Rubber Washer, Transformer		SOL101	91Z89995	Solenoid	
40	91Z898146	Screw with Flange, Transformer		SW101	QSW-Z0051AFZZ	Switch, Play/Cut	
41	91Z852362	Board, Bottom		SW102	QSW-Z0051AFZZ	Switch, Cuing/Pause	AC
				SW103	QSW-Z0051AFZZ	Switch, Repeat Play	AC
				SW104, 105	QSW-P0303AFZZ	Switch, Record Size Selector and Speed Selector	AH
				SW106	91Z89996	Switch, Tonearm up	
				SW107	QSW-P9132AFZZ	Switch, Power	AG
				F101	91Z893791-1	Fuse, T1A	
					QFSDH2051AFZZ	Holder, Fuse	AA
					TINSL0175AFZZ	Operation Manual	AL
					91Z827471	Polyethylene Sheet, Unit	
					91Z852359	Cushion, Packing Case	
					91Z852360	Packing Case (RP-5200H)	
					91Z852360-1	Packing Case (RP-5200HB)	

P.W.B. ASSEMBLY

(Not Replacement Item)

DUNT0044AF02
(Combined Assembly)

Mein,
Power,
Switch,
LED.

BN