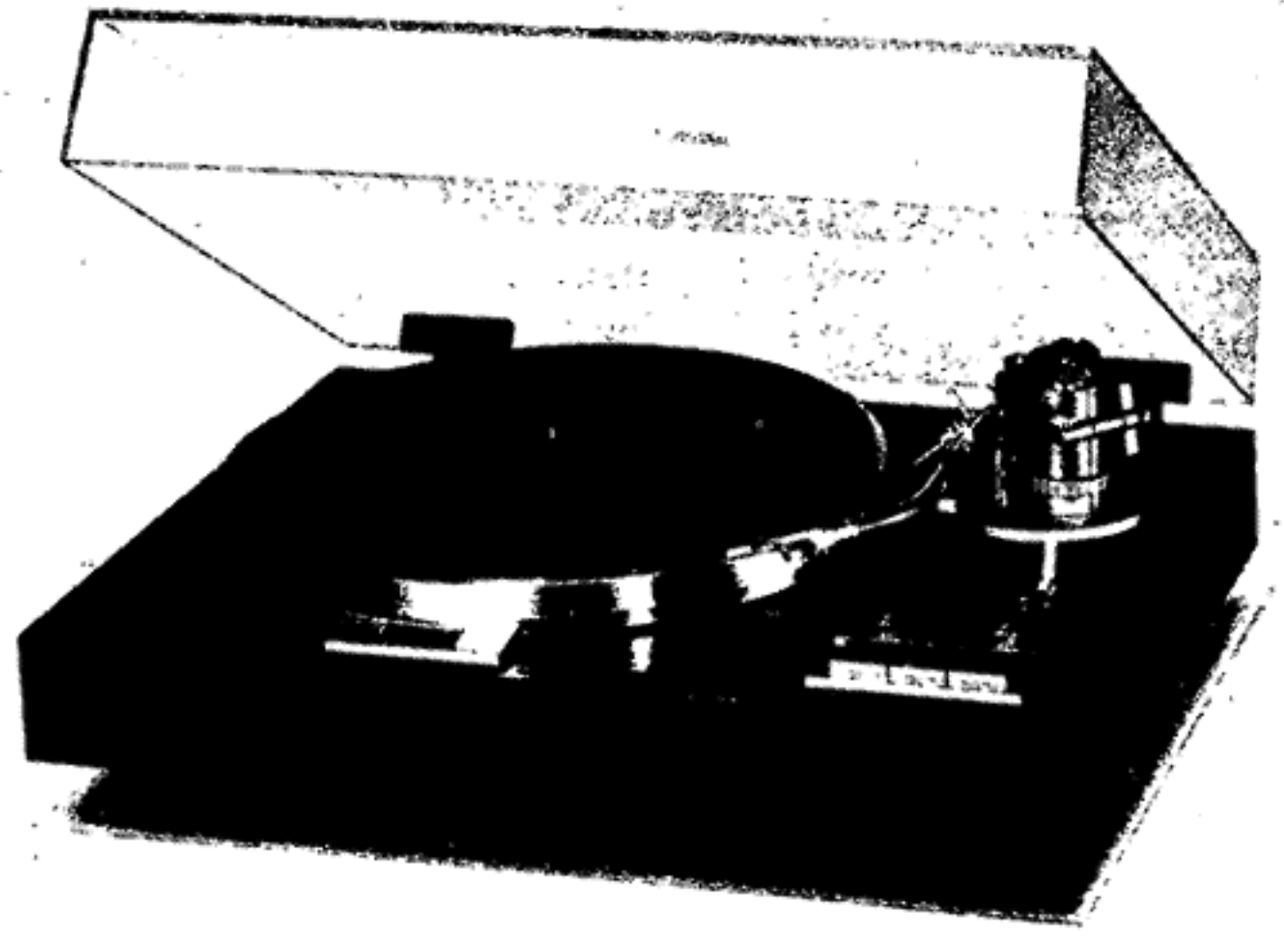
SERVICE MANUAL

YP-D8

STEREO TURNTABLE



SINCE 1887 YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

004355

APRIL '78, 2K Printed in Japan

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■SPECIFICATIONS

TURNTABLE MOTOR SECTION

Drive System	FG Servo-control direct drive
Motor	12-Poles 24-slots DC Hall motor
Motor Torque	1,000g-cm
Turntable Platter	31.5 cm (12-1/4") die-cast aluminum, Weight, 2.7 kg (6 lbs). (including rubber mat)
Turntable Moment of Inertia	360 kg-cm² (including rubber mat)
Speed	33-1/3 r.p.m. 45 r.p.m.
Signal-to-Noise Ratio	Better than 70 dB (DIN-B)
Wow and Flutter	Less than 0.03% (wrms)
Fine Speed Adjustment	±3% (with strobo indicator)

TONEARM SECTION

Arm Type	S-type static balance arm with gimbel supports
Tonearm Effective Length	232 mm (9-1/8")
Overhang	16 mm (1/4")
Tonearm Stand Base/Weight	Diecast zinc/1,000g (2.2 lbs)
Range of Tonearm Height Adjustment	±3 mm (1/8")
Inside Force Canceller	Counterweight and string roller
Sensitivity	Vertical; 3 mg, Horizontal; 5 mg.
Arm Lifter	Oil dump system
Auto-Up Stop	Non-contact photo-electric speed detector, linked with cueing lever and power OFF switch.
Headshell	Diecast aluminum alloy (interchangeable to EIA specs: weight 12g)
Possible Cartridge Weights	2~15g. 9~23g (with subweight)
Output Leads	Gold-plated plugs fitted, using NEGLEX type wire

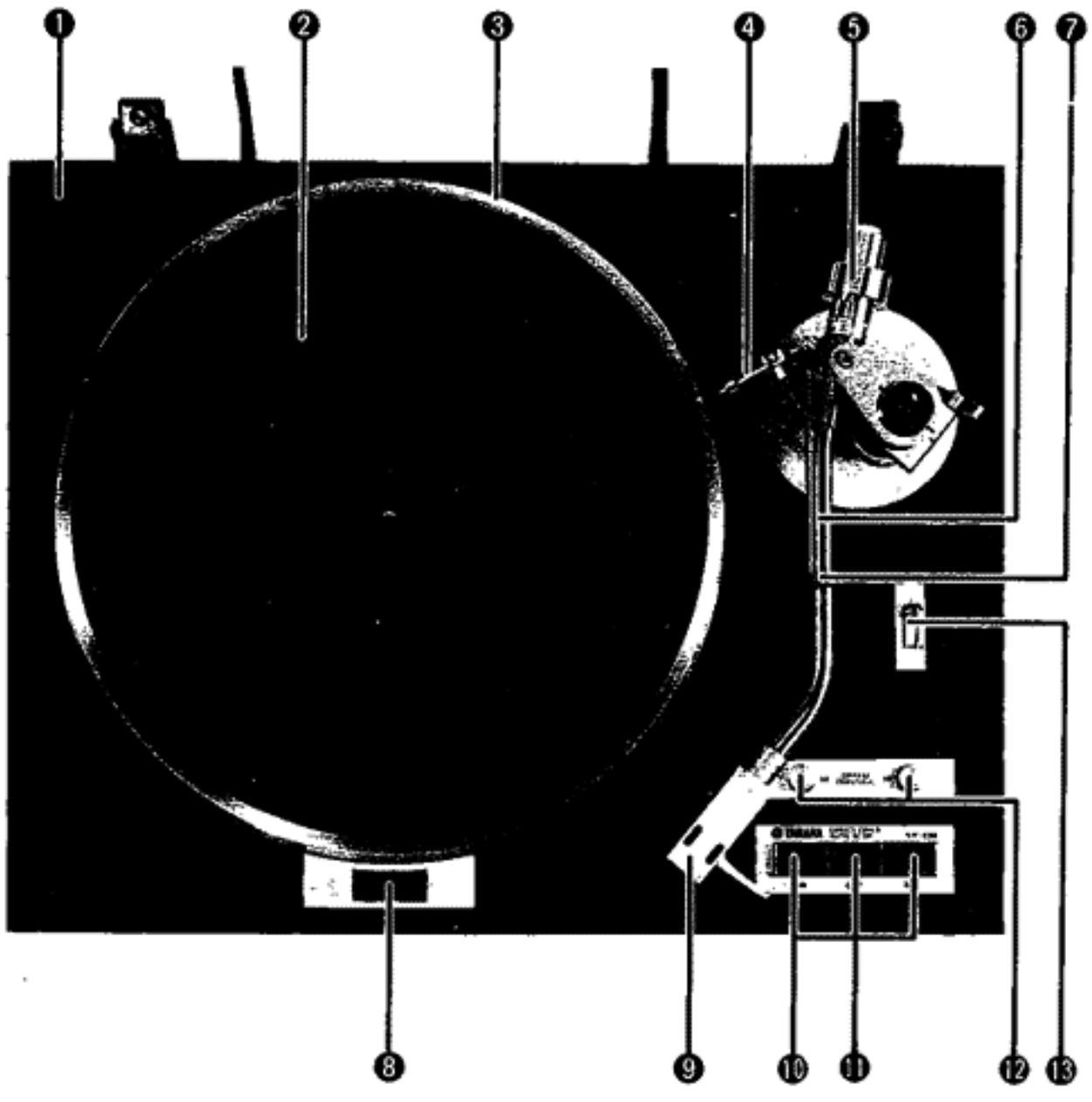
GENERAL

Power Supplies	120V AC 60 Hz (USA & Canada) 110/130/220/240V AC 50/60 Hz (General) 110/130/220/240V AC 60 Hz (Europe) 220V AC 50 Hz (North Europe) 240V AC 50 Hz (Australia)
Power Consumption	6W (U.S.A. & Canada) 5W (Europe, General, North Europe, Australia)
Cabinet	High density coniferous particle board with black polyurethane open-pore decorative paint finish
Dust Cover	Acrylic
Hinges	Free-setting, detachable
Acoustic insulators	Large double-type insulators, with adjustable height
Dimensions (W x H x D)	470 x 163 x 378 mm (18-1/2" x 6-1/16" x 14-7/8")
Weight	15 kg (33 lbs 1 oz)

Specifications subject to change without notice.

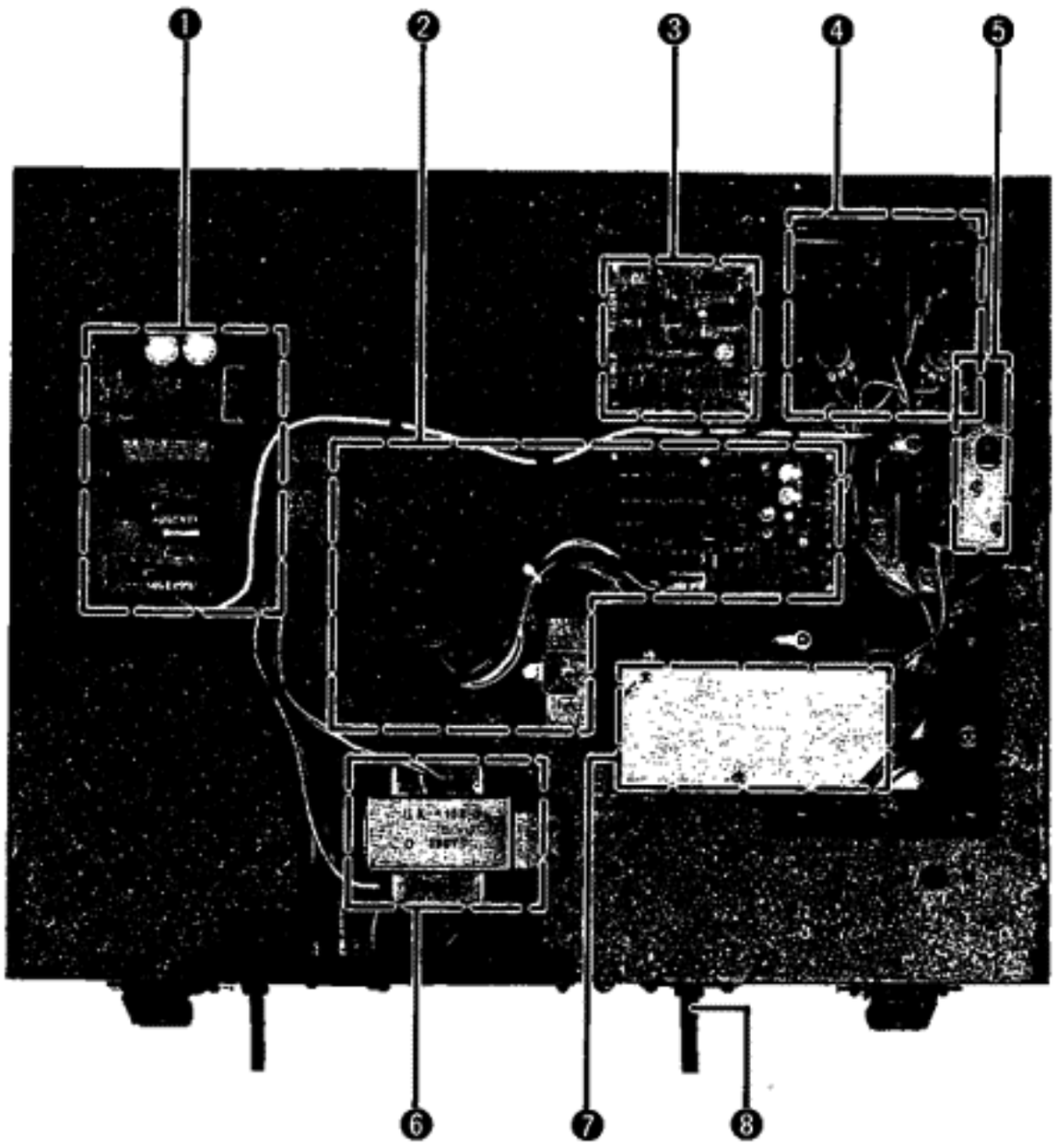
■ INTERNAL VIEW

TOP VIEW



❶ Cabinet
❷ Rubber Mat
❸ Turntable Platter
❹ Inside Force Canceler
❺ Main Weight
❻ Tone Arm
❼ Arm Rest
❽ Storobo Scope
❾ Head Shell
❿ Speed Selector Switches
⓫ OFF/Stop Switch
⓬ Speed Control Knobs
⓭ Cueing Lever

BOTTOM VIEW



❶ Power Supply Circuit Board
❷ Motor Assembly & Motor Servo Circuit Board
❸ Auto Up Circuit Board
❹ Speed Control Assembly
❺ Solenoid Plunger
❻ Power Transformer
❼ Shield Plate
❽ AC Cord

■ DISASSEMBLY PROCEDURES

Before disassembling the unit, remove the platter and headshell with cartridge, and securely tie the arm to the arm rest with string,etc. Then, gently turn the unit upsidedown and place it on books, etc. piled up on both sides to protect the arm and cabinet from damage.

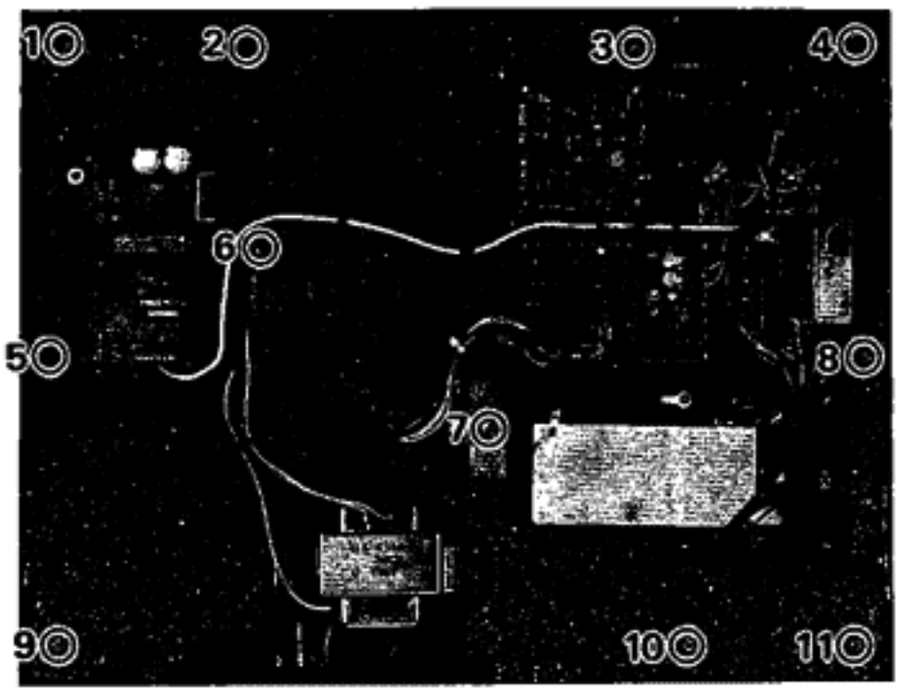


Photo 1

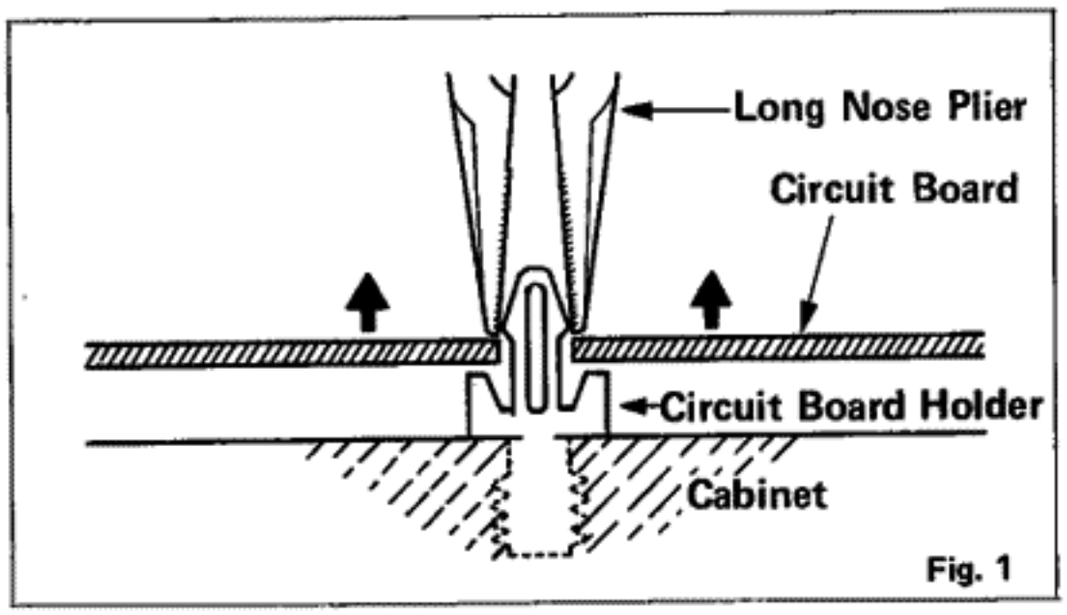


Fig. 1

1. Power Supply Circuit Board Removal

(shown in photo 2)

a. Remove screws 1 to 11 as shown in photo 1, then remove the bottom cover.
b. Pinch the hooked end of Circuit Board Holders on each corner of Power Supply Circuit Board by means of Long Nose Plier and gently lift the corner to remove the Power Supply Circuit Board, as shown in Figure 1.

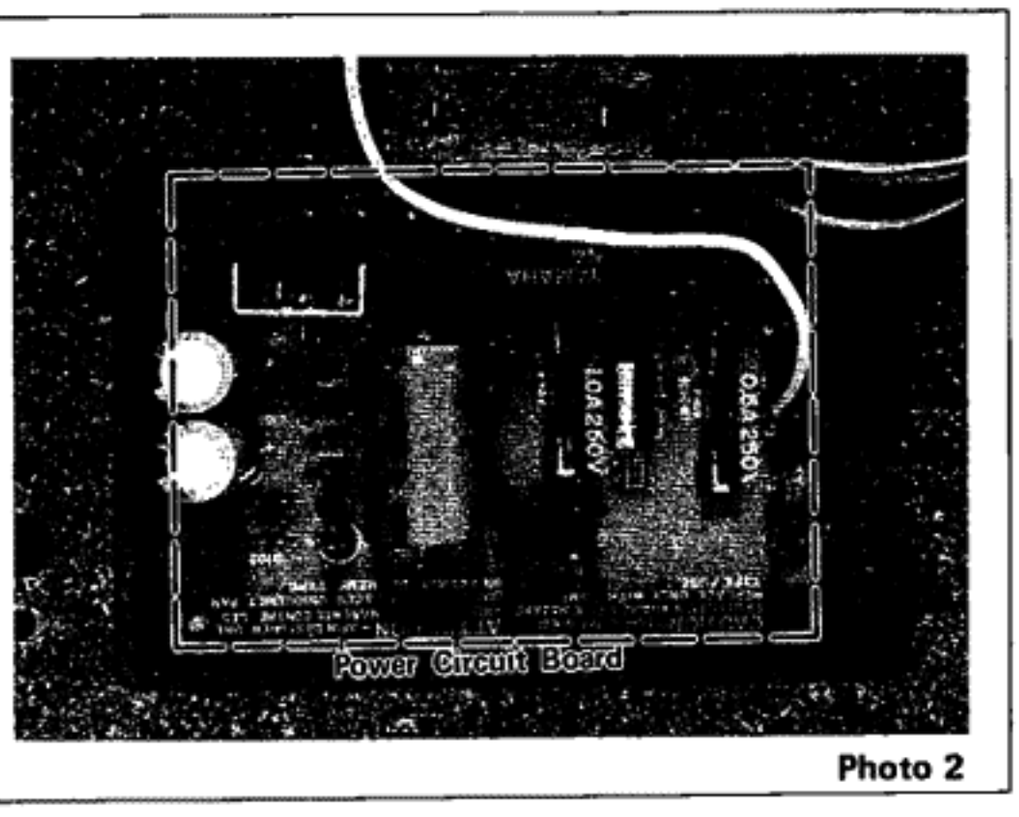


Photo 2

2. Auto Up Circuit Board Removal

(shown in photo 3)

a. Remove the bottom cover. (Refer to Step 1.)
b. Remove the Auto Up Circuit Board. (Refer to Step 1.)

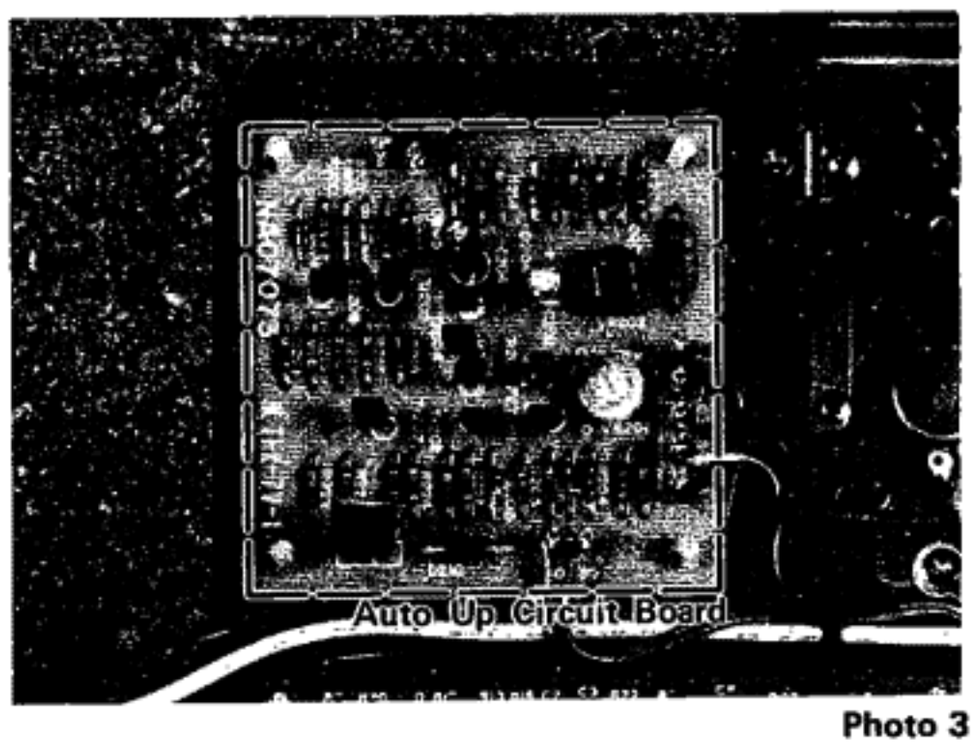


Photo 3

3. Motor Servo Circuit Board Removal

(shown in photo 4)

a. Remove the bottom cover. (Refer to Step 1.)
b. Remove the Motor Servo Circuit Board. (Refer to Step 1.)

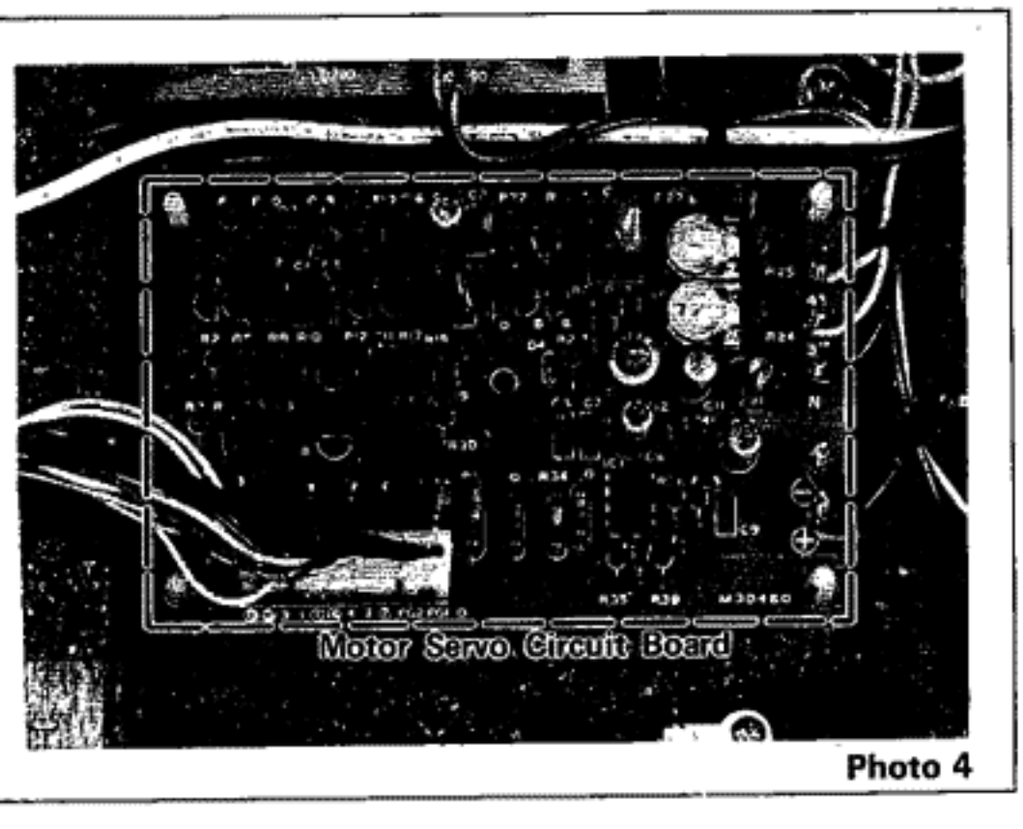


Photo 4

4. Power Transformer Removal

(shown in photo 5)

a. Remove the bottom cover. (Refer to Step 1.)
b. Remove the screws 1 to 4 and lead wire in photo 5, and take them out.

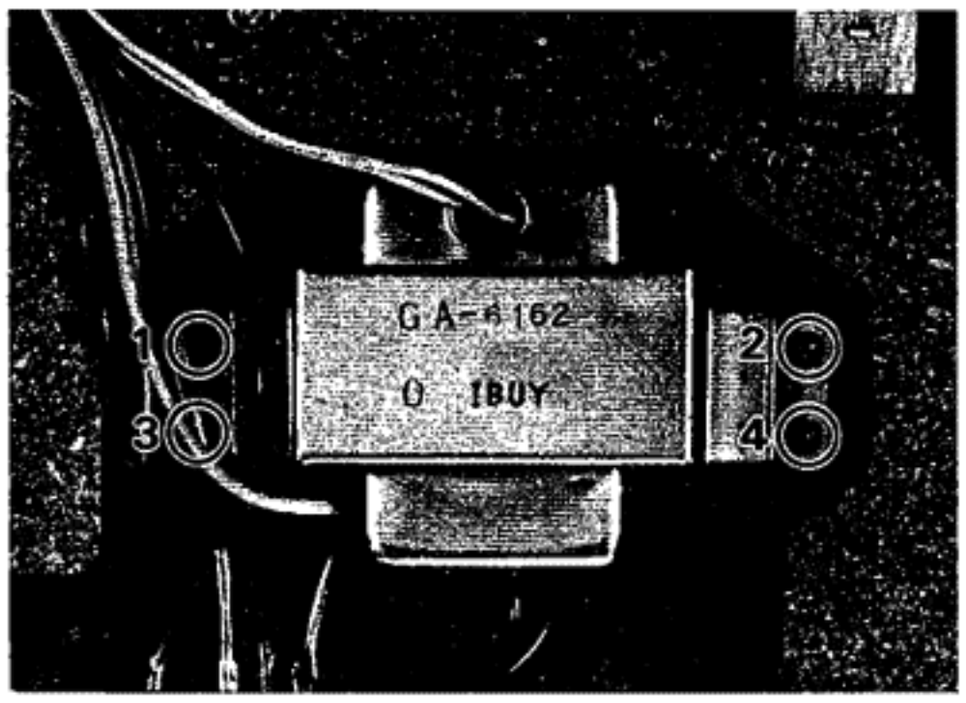


Photo 5

5. Switch Assembly Removal

(shown in photo 6)

a. Remove the bottom cover. (Refer to Step 1.)
b. Pull out the two speed control knobs on the upper surface of the cabinet.
c. Remove screws 1 to 4, then the Switch Assembly can be removed.

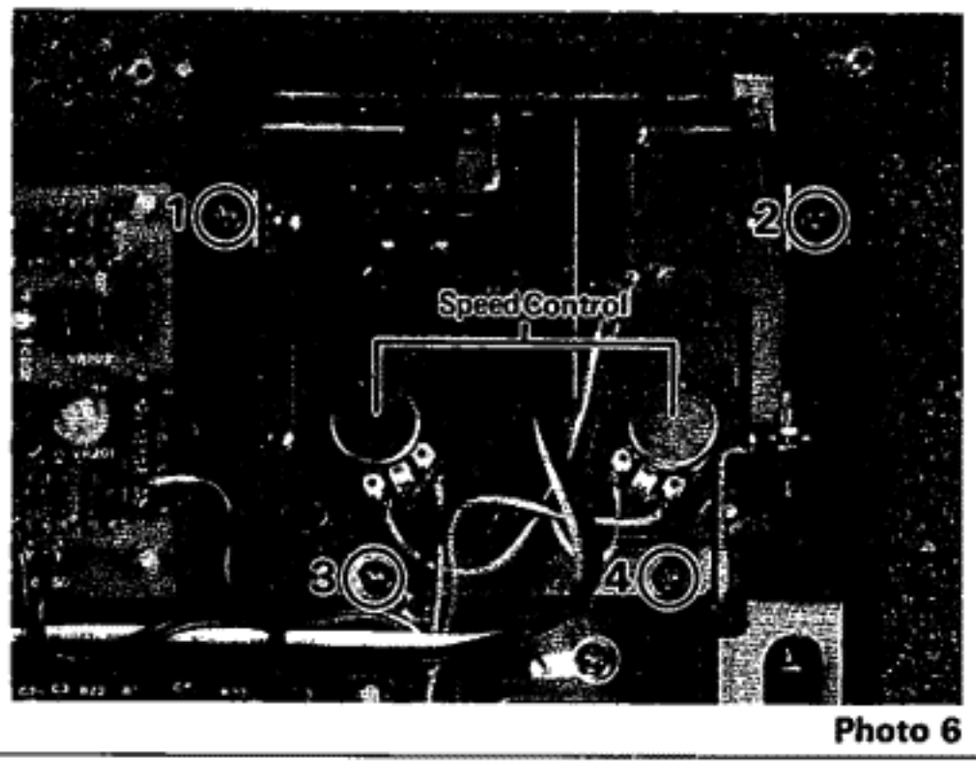


Photo 6

6. Tone Arm Assembly Removal

(shown in photo 7)

a. Remove the bottom cover. (Refer to Step 1.)
b. Remove the shield plate by unscrewing two screws.
c. Remove the six lead wires on DET Circuit Board and lifter wire.
d. Remove screws 1 to 3, S-washers and flat washers, all securing the tonearm assembly.

NOTE: When the arm assembly is reattached, readjustment of the auto-return position is needed (see "ADJUSTMENTS"). Therefore, do not dismantle the arm assembly unless required.

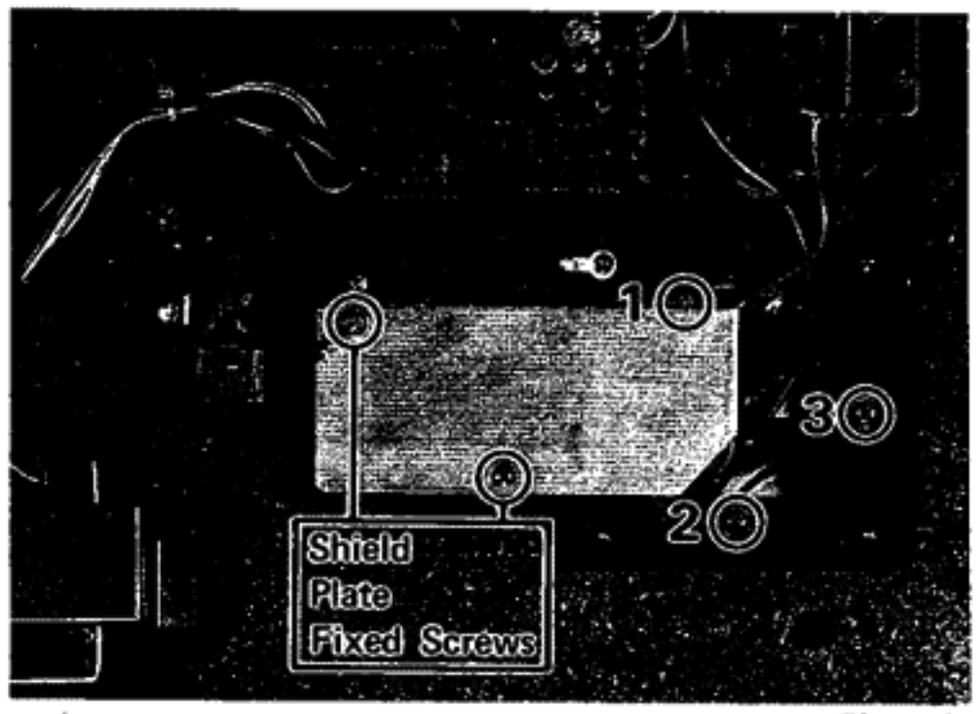


Photo 7

7. Motor Removal

(shown in photo 8)

a. Remove the bottom cover. (Refer to Step 1.)
b. Remove the motor-shielding board from the Cabinet surface.
c. Disconnecting the connector to the motor Servo Circuit Board.
d. Remove screws 1 to 3, then motor can be removed.

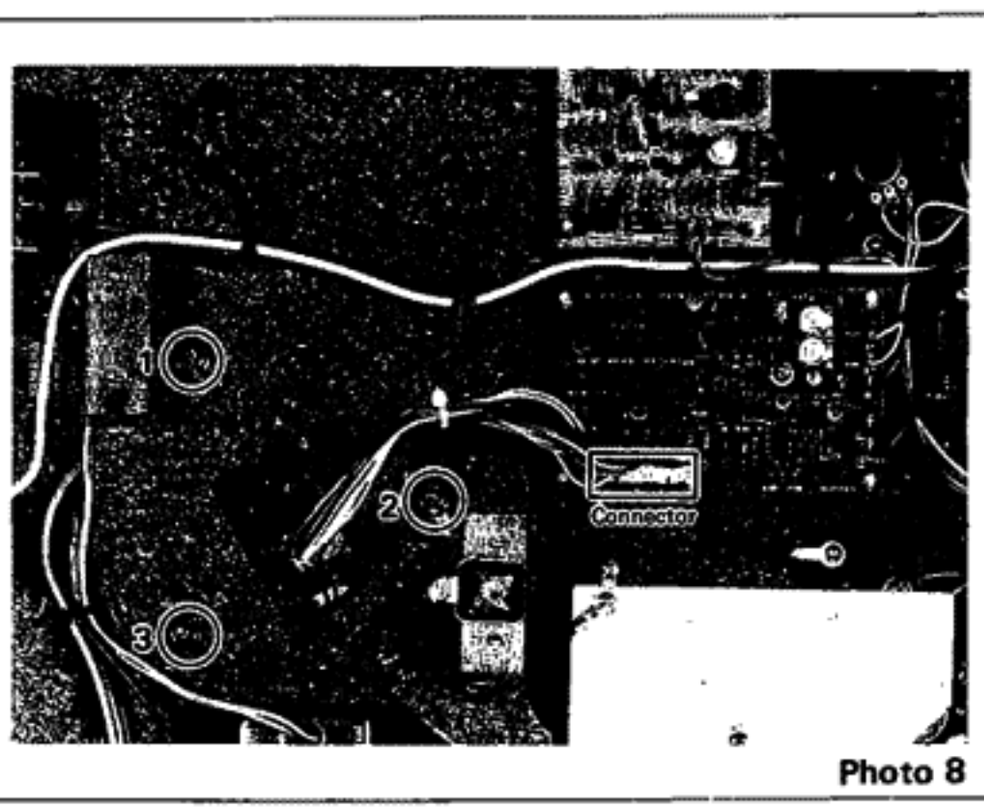


Photo 8

8. Stroboscope Assembly Removal

(shown in photos 9 and 10)

a. Remove screws 1 and 2, then the Strobo cover can be removed, as shown in photo 9.

b. Remove screws 1, 2 and 3, then the Strobo case and Neon Lamp can be removed, as shown in photo 10.

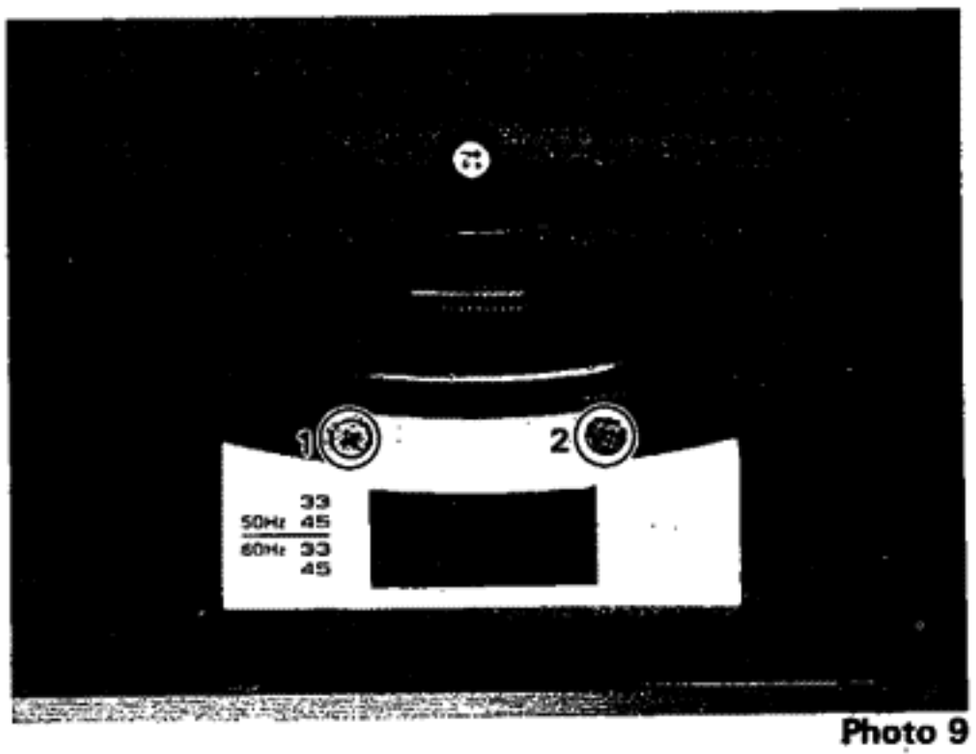


Photo 9

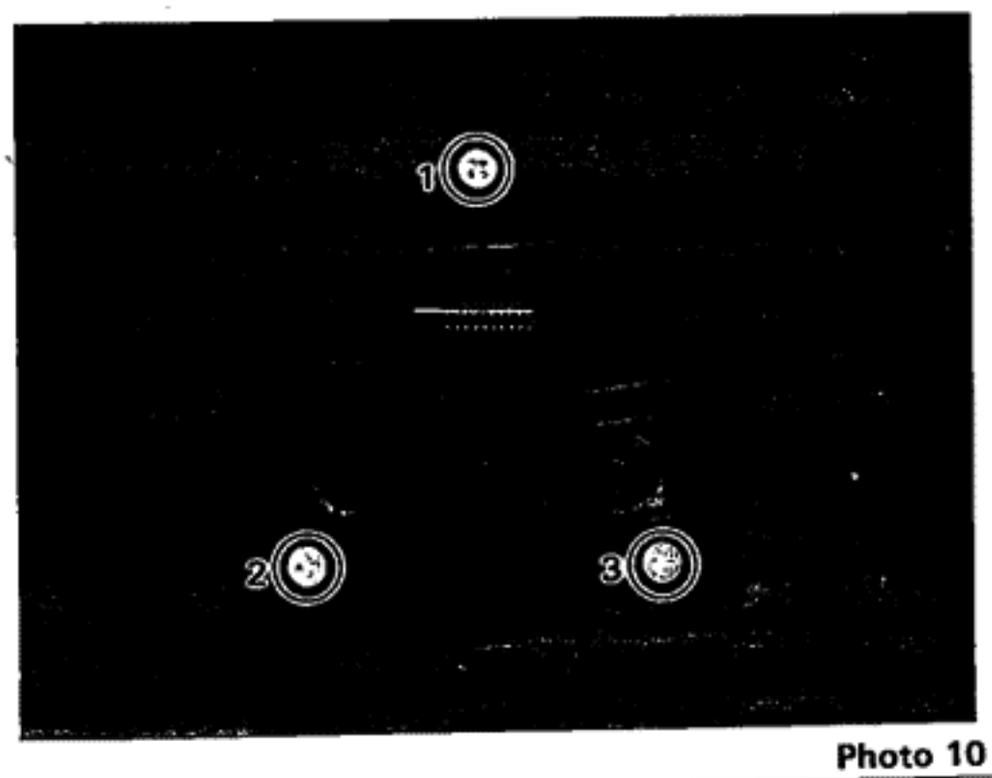


Photo 10

■ ADJUSTMENTS

1. Circuit Board Adjustments

■ **Motor Servo Circuit Board** (r.p.m. adjustment)
The semi-fixed variable resistors VR1 and VR2 provided on the motor servo circuit board are controls for adjusting the motor's rotational speed, VR1 being for 33-1/3 r.p.m. and VR2 for 45 r.p.m. Since they have been perfectly adjusted prior to delivery, they are not to be moved, because it will deteriorate the various characteristics, making normal operations difficult at times. However, when the rotational speed cannot be controlled by means of the speed controls located on the upper surface of the body alone, VR1 and VR2 are to be adjusted in the range shown below.

For 33 r.p.m.: 33-1/3±3% (±1) r.p.m., or more
For 45 r.p.m.: 45±3% (±1.35) r.p.m., or more

By the slip type count method, adjustment is possible in the following range.

For 33 r.p.m.: (2,060~1,940) or more,
Center (2,000) or more.
For 45 r.p.m.: (2,780~2,619) or more,
Center (2,700) or more.

The procedure is as follows. First set the speed controls "33" and "45" on the upper surface of the body to the center of the variable range. Then, adjust VR2 and VR1 in that order so as to make the specified stroboscope stop at the respective rotational speed. Adjust again, using the speed controls.

■ **Auto Up Circuit Board** (auto up adjustment)

VR201 : CdS bias voltage adjustment

Connect a DC voltmeter (with input impedance of not less than 100kΩ) between CdS and + terminals on the Auto Up Circuit Board. And turn on the SPEED SELECTOR switch (33/45). (The arm is positioned on the arm rest.)
Fully turn VR201 clockwise, then turn it back counter-clockwise until the voltmeter reads 10 ± 0.2V.

VR202 : Up point adjustment

After adjusting the mechanism, adjust VR202 while monitoring the output when the test record ES-1008 (NEC) is played.

1. Adjusting the return point (3mm pitch grooves on the first side of the test record.)
   Fully turn VR202 clockwise, then descend the cartridge onto the outside (count of 10 or less) of the 3mm pitch grooves of the test record. After that, turn VR202 counter-clockwise so that the arm automatically ascends at count of 15 to 21. If this adjustment cannot be achieved at one time, repeat it for complete adjustment.
2. Confirming the non-action of the arm (1mm pitch grooves on the second side of the test record).
   Confirm that the arm does not automatically ascend at count of 21 or more after the cartridge is lowered on the outside (count of 10 or less) of the 1mm pitch grooves of the test record.

If the arm automatically ascends, make readjustment according to Item "Adjusting the return point".

2. Mechanism Adjustment

(Positioning of the sub-arm assembly)
When the sub-arm assembly is removed for replacement of the arm, etc., the following adjustment will be required thereafter.

Rough adjustment (Attaching the sub-arm assembly)
With the tonearm locked on the arm rest, tighten the set screws so that the distance between the lamp holder and sub-arm is 22 mm as illustrated below.
Here, previously set the sub-arm near the center of the adjustable range by means of the fine adjustment screw. Tighten the set screw 1 first and tighten the set screw 2 after turning the sub-arm A clockwise, using a hexagonal wrench for M3 (1.5 mm dia.)

Fine adjustment (Setting the end grooves position)
This fine adjustment is made while monitoring the voltage between CdS and + terminals on the Auto Up Circuit Board.
After setting VR201 (see "Circuit Board Adjustment"), move the tonearm so that stylus tip is positioned at a distance of 53.2 mm from the center shaft. (That is, the final groove on a template attached. Then, after having fully turned the fine adjustment screw for sub-arm assembly clockwise, rotate it counter-clockwise so that the voltage between CdS and + terminals becomes 5.0 ± 0.1V. Use a voltmeter with input impedance of 100 kΩ or more.)

■ OUTLINE OF CIRCUITS

■ **Non-contact Photo-electric Detection Auto Stop**

The YP-D8 employs a photo-electric detection auto stop mechanism that detects the end groove of the record, lifts the arm and simultaneously turns off the power.

In the end groove detection mechanism, a shutter interlocked with the arm is inserted between LED and CdS. This shutter serves to block light between LED and CdS. At this time, the speed of the shutter is detected to actuate electric circuits which operate the cueing lever through a solenoid plunger.

Thus, this non-contact photo-electric detection system poses no load to the arm and has no adverse effect on tracking ability. Shown below is block diagram of the non-contact photo-electric detection system.

[Start]

When the switch 33 or 45 is pressed, a micro-switch turns on the primary side of the power transformer, and current flows to the circuits.

When the power supply circuit is turned on, current momentarily flows into C204 On the Auto Up Circuit Board to actuate a flip-flop circuit which holds TR206 in ON condition and TR205 in OFF condition.

[Detection Circuit]

When the stylus tip approaches the end of the record, the shutter interlocked with the arm (sub-arm) inserts between LED and CdS to change the amount of light which is radiated to CdS. Therefore, the resistance value of CdS increases. When the stylus tip traces the inside grooves with rough pitches (4 to 9 mm : JIS) after the end of play, the resistance of CdS changes rapidly. The resistance of CdS determines the base voltage of TR201, changes in the resistance appear at the emitter of TR201 (Emitter follower) and are transmitted to the gate of FET201 through C202. C202 and R206 consistute a differentiation circuit. This means the higher the change speed, the shorter the rising time and the higher the trigger wave height. Thus, the end of the record can be detected by means of the inside rough pitch grooves.

[Discriminating Circuit]

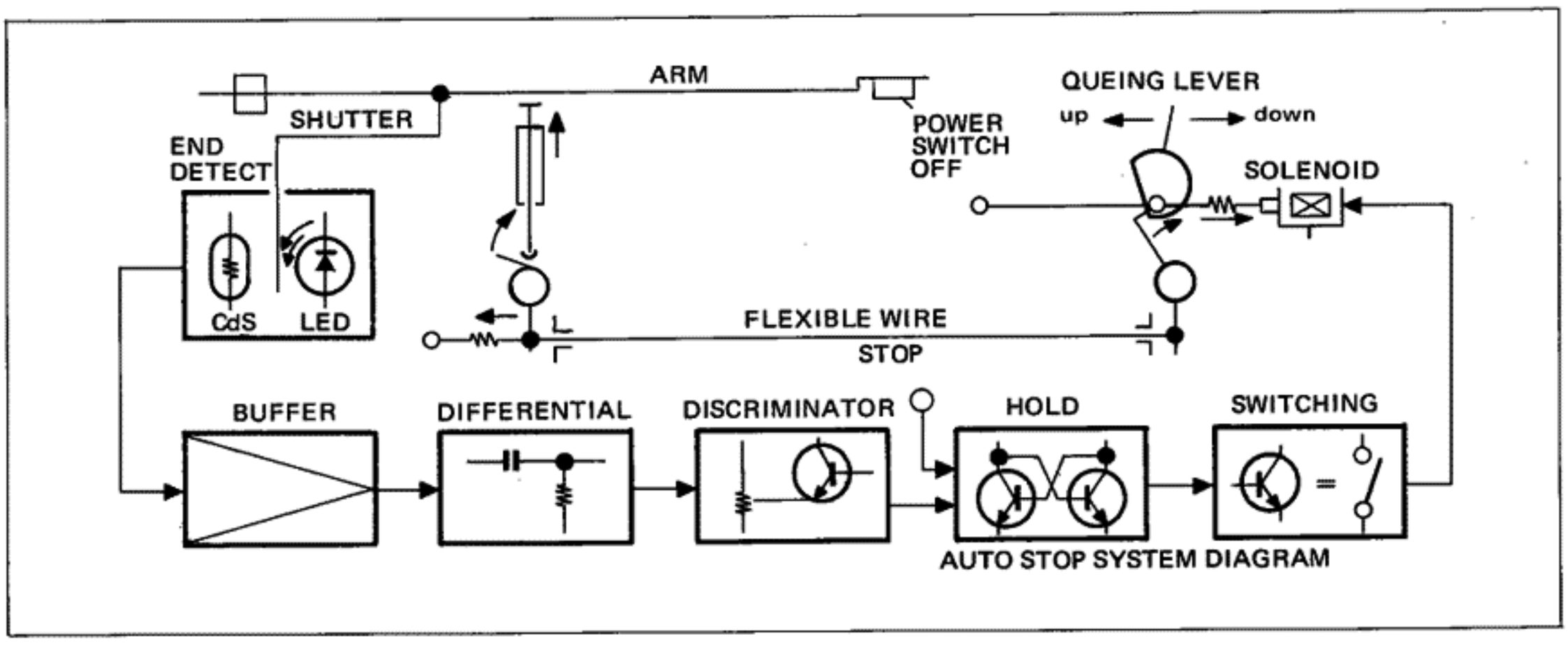
VR202 (see Item "ADJUSTMENT") delivers the bias voltage to the emitter of TR203 to discriminate whether the waveform of currents from the detection circuit is caused by rough pitch grooves or not. This discriminating circuit actuates when groove pitch is 3 mm or more, and prevents erroneous operation due to eccentricity of the record (loose fit between the center shaft and record hole). Only the waveform above the Zener voltage of the inverse-connected D205 can pass the discriminating circuit.

[Hold Circuit]

This hold circuit holds TR206 in ON condition and TR205 in OFF condition when the power is turned on. When the pulse that passes D205 is transmitted to the base of TR205, the hold circuit is inversed.

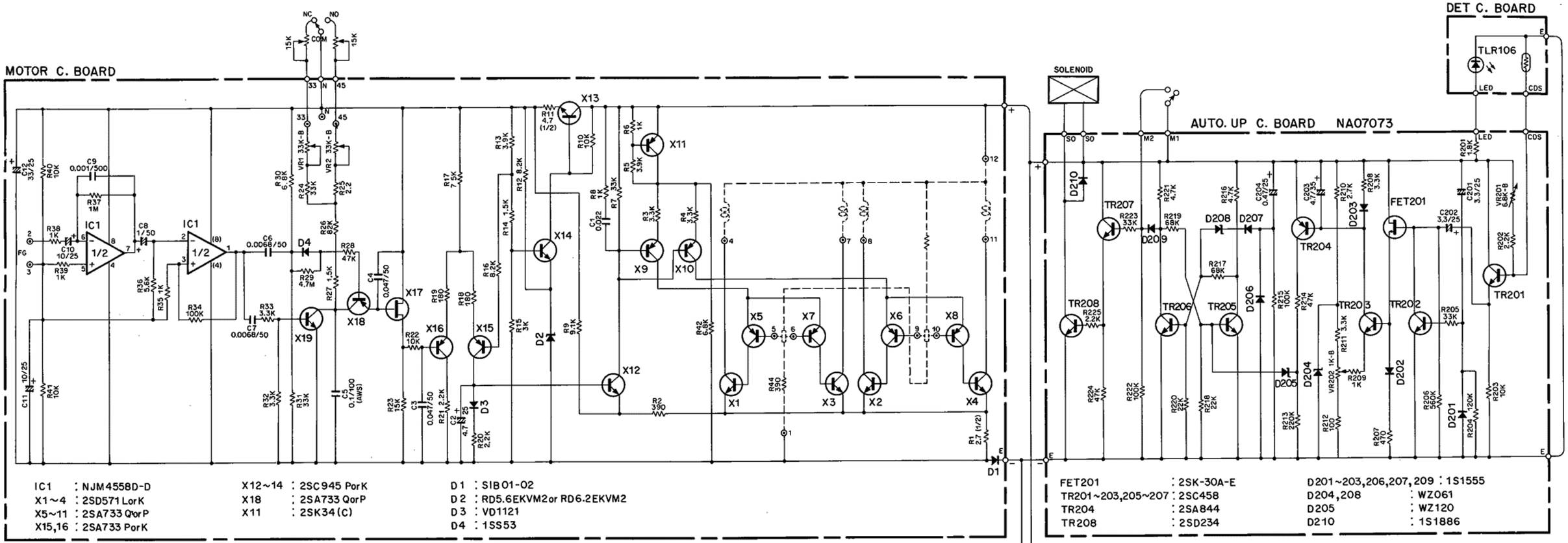
[Switching Circuit]

At the moment when TR206 is turned off, the rising portion of the voltage passes through D209, which turns on TR207 and TR208. As a result, the solenoid plunger is actuated to operate the cueing lever. Thus lifting of the arm is completed and turns off the power switch interlocked with the solenoid plunger. Now the circuitry is completely shut off. (Refer to the attached schematic diagram.)



AUTO STOP SYSTEM DIAGRAM

■ SCHEMATIC DIAGRAM



IC1 : NJM4558D-D
X1~4 : 2SD571 LorK
X5~11 : 2SA733 QorP
X15,16 : 2SA733 PorK

X12~14 : 2SC945 PorK
X18 : 2SA733 QorP
X11 : 2SK34(C)

D1 : SIB01-02
D2 : RD5.6EKVM2or RD6.2EKVM2
D3 : VD1121
D4 : 1SS53

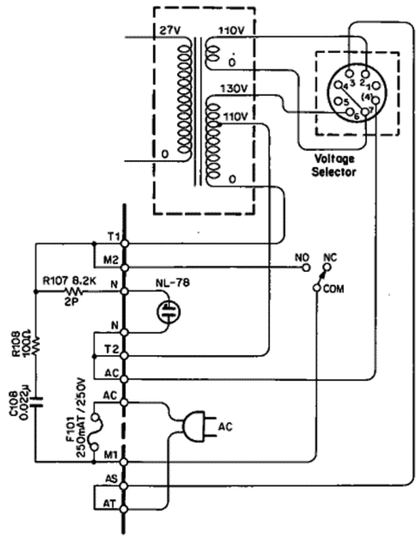
FET201 : 2SK-30A-E
TR201~203,205~207 : 2SC458
TR204 : 2SA844
TR208 : 2SD234

D201~203,206,207,209 : 1S1555
D204,208 : WZ061
D205 : WZ120
D210 : 1S1886

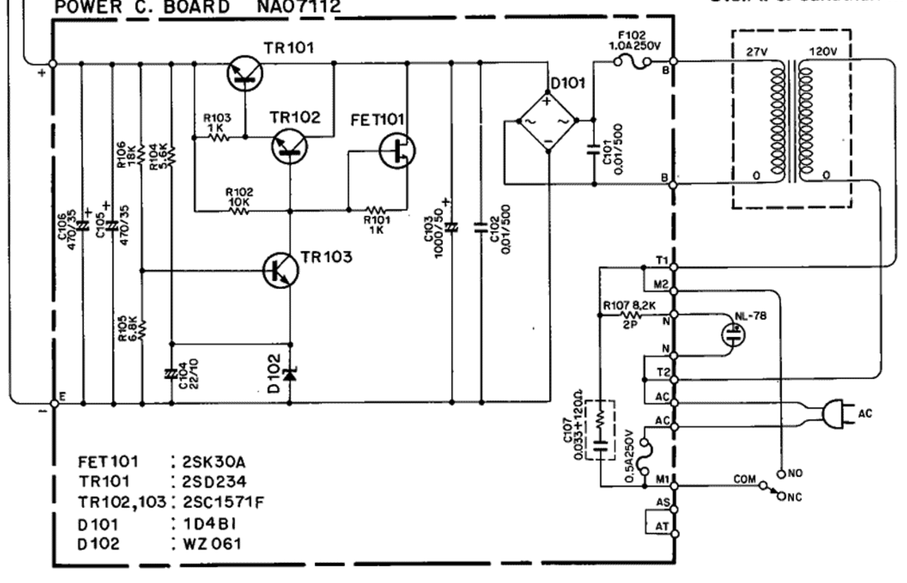
RESISTOR	
SYMBOL	PARTS NAME
⊶⊷⊶	FUSE RESISTOR
△	METALIZED OXIDE RESISTOR
□	CEMENT RESISTOR
NO MARK	CARBON RESISTOR
⊠	CEMENT MOLDED RESISTOR
▲	METALIZED FILM RESISTOR

CAPACITOR	
SYMBOL	PARTS NAME
◎	MYLAR CAPACITOR
NO MARK	CERAMIC CAPACITOR
○	POLYSTYRENE CAPACITOR
NO MARK —‖—	BI-POLAR ELECTROLYTIC CAPACITOR
●	LOW-NOISE ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR

General Export Model



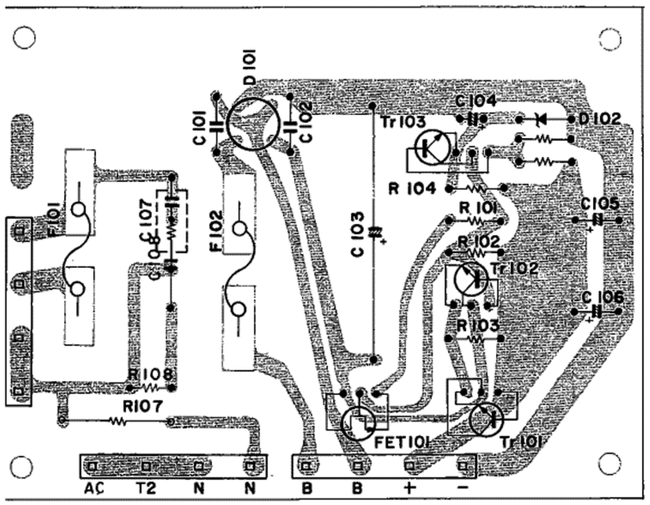
U.S.A. & Canadian Models



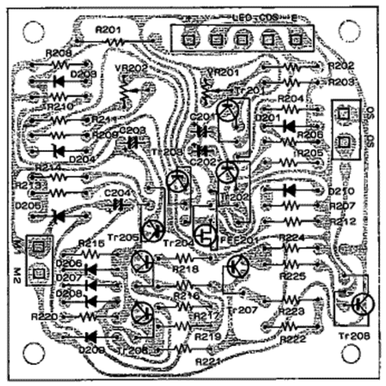
FET101 : 2SK30A
TR101 : 2SD234
TR102,103 : 2SC1571F
D101 : 1D4BI
D102 : WZ061

CIRCUIT BOARDS

wer Supply Circuit Board



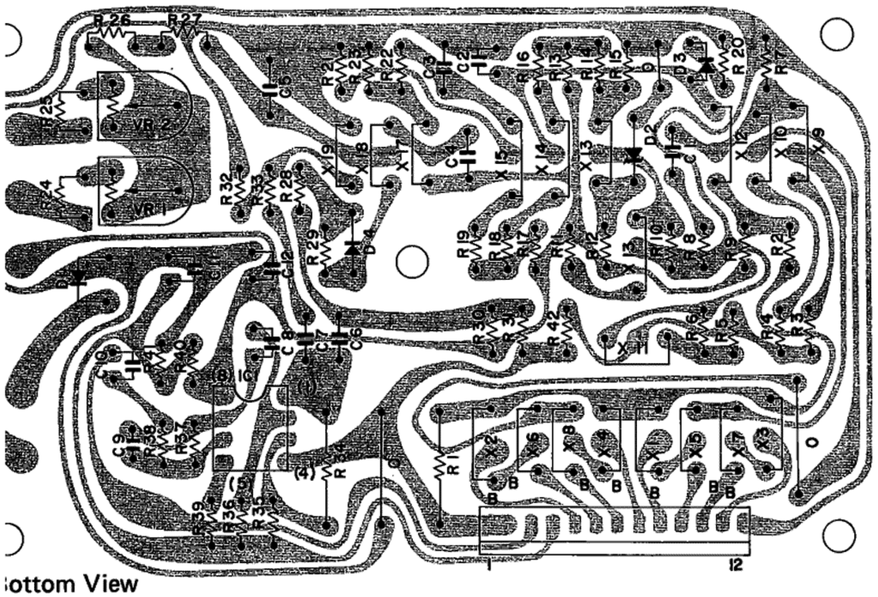
Auto Up Circuit Board



Bottom View

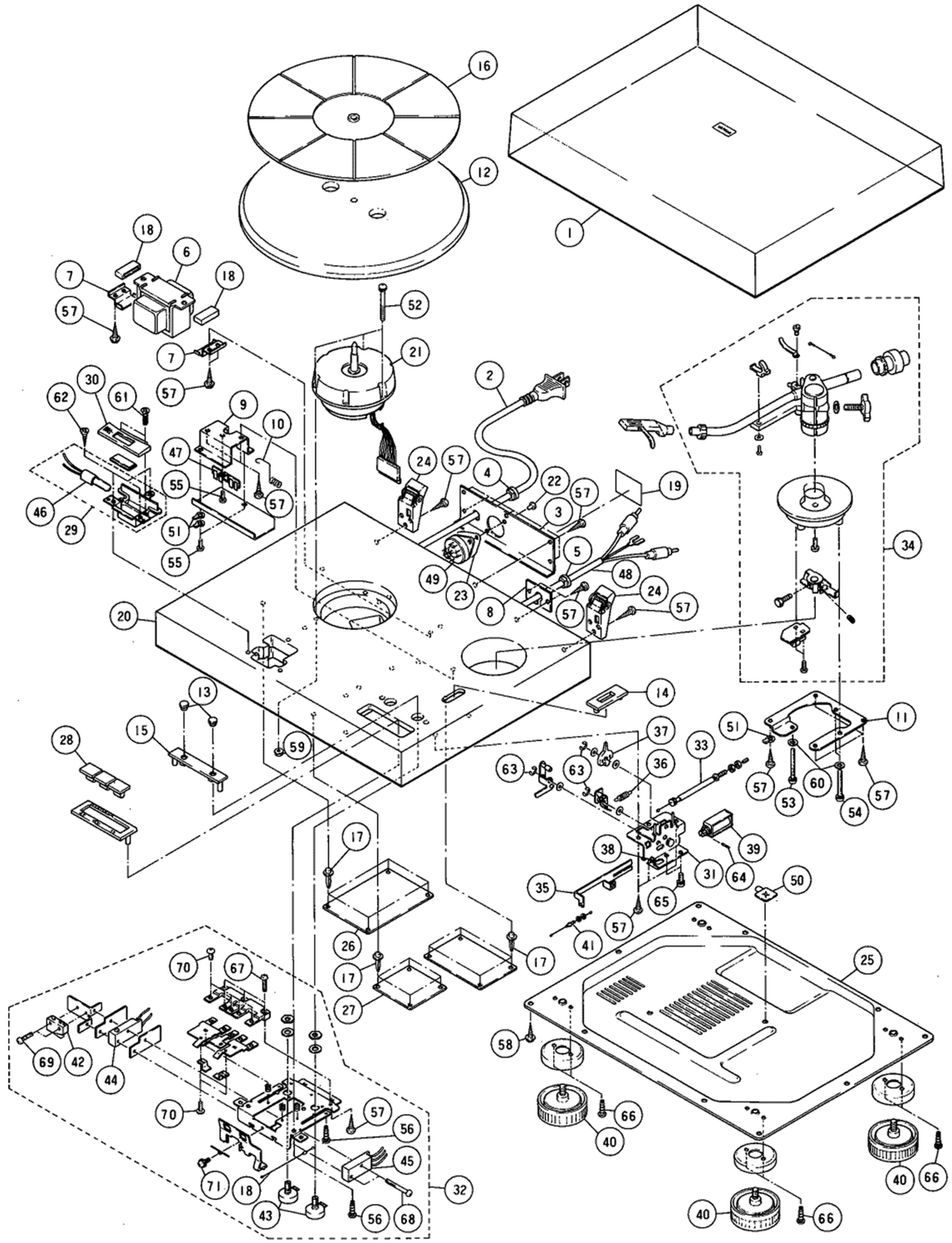
Auto Up Circuit Board Adjustments
VR201: Cds bias voltage adjustment
VR202: Up point adjustment

tor Servo Circuit Board



ottom View

■EXPLODED VIEW



■PARTS LIST

Ref. No.	Part No.	Description	Markets	Remarks
1	32 00 00 NB 08 34 00	Top Cover		
2	42 00 00 MG 00 02 90	AC Cord 412	G	
	42 00 00 MG 00 08 40	– do. – UL. CSA	R. U. C	*
3	32 00 00 AA 09 27 30	Rear Panel (G)	G	*
	32 00 00 AA 09 27 20	– do. – (R)	R	*
4	42 00 00 CB 06 86 30	Cord Stopper	R. U. C	
5	42 00 00 CB 07 27 50	– do. – SR-4N-4	R. U. G. C	
6	42 00 00 GA 61 61 00	Power Transformer	U. C	*
	42 00 00 GA 61 62 00	– do. –	R. G	*
7	32 00 00 AA 08 40 80	Transformer Fixing Metal		
8	32 00 00 AA 08 11 70	Cord Holder PU Cord		
	32 00 00 AA 09 11 20	– do. –	U. C	
9	32 00 00 AA 08 77 60	Shield Cover		
10	32 00 00 AA 08 90 30	Cord Hook		
11	32 00 00 AA 08 72 40	Arm Fixing Board		
12	32 00 00 BA 07 33 40	Turntable Platter		
13	32 00 00 BA 06 94 40	Speed Control Knob		
14	32 00 00 CB 08 60 00	Queing Make Up Plate		*
15	32 00 00 CB 07 85 70	Volume Plate		
16	32 00 00 CB 08 30 30	Rubber Mat	U	
	32 00 00 CB 08 03 80	– do. –	R. G. C	
17	32 00 00 CB 01 09 80	Spacer		
18	32 00 00 CB 08 24 60	Cushion Transformer		
19	42 00 00 CB 07 15 40	Label		
20	32 00 76 25 62 00 10	Cabinet (U)	U. C	*
	32 00 76 25 62 01 10	– do. – (G)	R. G	*
21	42 00 00 JC 00 04 10	Motor Mc-935B		*
22	32 00 00 CB 06 88 80	Plastic Rivet.	R. G	
23	32 00 00 CB 07 64 00	Vs Insulation Plate	R. G	
24	32 00 00 NB 08 23 50	Auto Hinge Assembly		
25	32 00 00 NB 08 54 90	Bottom Cover A	U	*
	32 00 00 NB 08 55 00	– do. –	R. G. C	*
26	32 00 00 NA 07 11 20	Power C. Board Assembly	R. G	*
	32 00 00 NA 07 11 30	– do. –	U. C	*
27	32 00 00 NA 07 07 30	Auto UP C. Board Assembly		*
	32 00 00 MZ 07 31 40	Voltage Selector Assembly	R. G	*
28	32 00 00 NB 08 55 60	Switch Button Assembly		*
29	32 00 00 NB 08 55 50	Strobo Assembly		*
30	32 00 00 NB 08 55 40	Make-Up Plate Strobo Assembly		*
31	32 00 00 NB 08 55 30	Queing Base Assembly		*
32	32 00 00 NB 08 56 00	Switch Assembly	U. C. R	*
	32 00 00 NB 08 55 90	– do. –	G	*
	42 00 00 MZ 07 31 60	PU Cord Assembly	U	*
	42 00 00 MZ 07 31 50	– do. –	R. G. C	*
33	32 00 00 PB 06 08 00	Queing Wire		*
34	32 00 00 SS 06 01 60	Tone Arm Unit YA-22		*
35	32 00 00 AA 09 20 70	Solenoid Arm		*
36	32 00 00 AA 09 27 50	Lever Spring		*
37	32 00 00 BA 07 33 50	Lever A		*
38	32 00 00 CB 08 60 20	Rubber Cushion		*
39	42 00 00 JF 00 00 50	Solenoid		
40	32 00 00 NB 08 23 30	Insulator Assembly	R. G. C	
	32 00 00 NB 08 29 80	– do. –	U	

* NEW PARTS

Ref. No.	Part No.	Description			Markets	Remarks
41	32 00 00 PB 06 08 10	Stop Wire				*
42	42 00 00 KA 60 02 30	Micro Switch (Stop sw)		AH2424		
43	42 00 00 HS 11 02 40	Volume V16L 4N25KC		B-10KΩ		*
44	42 00 00 KA 60 01 30	Micro Switch (Power sw)		AM47009	R. U. C	
	42 00 00 KA 60 01 80	– do. –	XGC-53			
45	42 00 00 KA 60 01 90	– do. –	(Selector)	AM4100		
46	42 00 00 JB 00 06 90	Neon Lamp			C	*
	42 00 00 JB 00 06 50	– do. –			R. U. G	*
47	42 00 00 LA 00 01 10	4PIL Lug Plate				
48	42 00 00 Mi 06 65 70	PU Cord			U	*
	42 00 00 Mi 06 65 60	– do. –			R. G. C	*
49	42 00 00 LB 20 02 50	Voltage Selector			R.G	
50	32 00 00 BB 06 59 10	Earth Metal				
51	42 00 00 LA 00 02 90	Earth Lug	ϕ4			
52	42 00 00 EH 04 06 00	Cums Screw	M4 X 60	ZMC2-Y		
53	42 00 00 EH 04 03 50	– do. –	M4 X 35	– do. –		
54	42 00 00 EH 04 02 50	– do. –	M4 X 25	– do. –		
55	42 00 00 EL 03 00 60	Tap Tight Screw	M3 X 6	– do. –		
56	42 00 00 EI 02 60 80	Bind Head Tapping Screw	M2.6 X 8	– do. –		
57	42 00 00 EQ 33 11 60	Round Head Wood Screw	M3.1 X 16	ZMC2-BL		
58	42 00 00 EQ 33 11 60	Round Head Wood Screw With Frange		M3.1 X 16 – do. –		
59	42 00 00 EV 19 04 00	Hexagonal Nut With Frange	ϕ4	M4		
60	42 00 00 EV 41 00 40	Toothed Lock Washer	ϕ4	ZMC2-Y		
61	42 00 00 EO 13 00 80	Flat Head Tapping Screw	M3 X 12	FNM3-3G		
62	42 00 00 EP 13 11 30	Flat Head Wood Screw	M3.1 X 13	– do. –		
63	42 00 00 EV 50 13 00	E Ring	ϕ3	ZMC2-Y	FNM3-3G	
64	42 00 00 EZ 00 08 00	Spring Pin	ϕ2	L=8		
65	42 00 00 EH 02 60 50	Cums Screws With Flat Washer		M2.6 X 5	ZMC2-Y	
66	42 00 00 EJ 33 06 00	Pan Head Tapping Screw	M3 X 6	ZMC2-BL		
67	42 00 00 EA 03 01 00	Pan Head Screw	M3 X 10	ZMC2-Y		
68	42 00 00 EA 03 03 00	– do. –	M3 X 30	– do. –		
69	42 00 00 EA 02 31 00	– do. –	M2.3 X 10	– do. –		
70	42 00 00 ED 02 60 50	Bind Head Screw	M2.6 X 5	– do. –		
71	42 00 00 EH 03 00 40	Sems Screw With Flat Washer	M3 X 4	– do. –		
	32 00 00 NA 07 07 30	Auto UP C. Board				
FET201	42 00 00 iE 10 10 00	FET	2SK30	E		
TR201-3	42 00 00 iC 04 59 10	Transister	2SC458	D		
204	42 00 00 iA 08 44 00	– do. –	2SA844			
205-7	42 00 00 iC 04 59 10	– do. –	2SC458	D		
208	42 00 00 iD 02 34 20	– do. –	2SD238	Y		
D201-3	42 00 00 iF 00 00 40	Diode	1SI555			
204	42 00 00 iF 00 03 20	Zener Diode	WZ 061			
205	42 00 00 iF 00 02 00	– do. –	WZ 120			

* NEW PARTS

Ref. No.	Part No.	Description	Markets	Remarks
D206.7.9	42 00 00 iF 00 00 40	Diode 1S1555		
208	42 00 00 iF 00 03 20	Zener Diode Wz 061		
210	42 00 00 iF 00 02 50	Diode 1S1886		
R201	42 00 00 HL 31 61 80	Metal Oxide Film Resistor 1P 18K		
202	42 00 00 HK 35 62 20	Carbon Resistor 2.2K		
203	42 00 00 HK 35 71 00	– do. – 10K		
204	42 00 00 HK 35 81 20	– do. – 120K		
205	42 00 00 HK 35 73 30	– do. – 33K		
206	42 00 00 HK 35 85 60	– do. – 560K		
207	42 00 00 HK 35 54 70	– do. – 470K		
208	42 00 00 HK 35 63 30	– do. – 3.3K		
209	42 00 00 HK 35 61 00	– do. – 1K		
210	42 00 00 HK 35 62 70	– do. – 2.7K		
211	42 00 00 HU 57 63 30	Metal Film Resistor 3.3K		
212	42 00 00 HK 35 51 00	– do. – 100K		
213	42 00 00 HK 35 82 20	– do. – 220K		
214	42 00 00 HK 35 74 70	– do. – 47K		
215	42 00 00 HK 35 81 00	– do. – 100K		
216	42 00 00 HK 35 64 70	– do. – 4.7K		
217	42 00 00 HK 35 76 80	– do. – 68K		
218	42 00 00 HK 35 72 20	– do. – 22K		
219	42 00 00 HK 35 76 80	– do. – 68K		
220	42 00 00 HK 35 72 20	– do. – 22K		
221	42 00 00 HK 35 64 70	– do. – 4.7K		
222	42 00 00 HK 35 81 00	– do. – 100K		
223	42 00 00 HK 35 73 30	– do. – 33K		
224	42 00 00 HK 35 74 70	– do. – 47K		
225	42 00 00 HK 35 62 20	– do. – 2.2K		
C201,2	42 00 00 FP 14 63 30	Trntalum Capacitor 3.3μF 25V		
203	42 00 00 FJ 15 64 70	Electrolytic Capacitor 4.7μF 35V		
204	42 00 00 FJ 24 54 70	– do. – 0.47μF 25V		
VR201	42 00 00 HT 41 06 70	Variable Resistor (Solide) B-6.8K		
202	42 00 00 HY 00 01 90	– do. – (Metal Grazed) B-1K		
	42 00 00 LA 00 20 40	Lapping Pin Type 5P P = 5		
	42 00 00 LA 00 21 10	– do. – 2P P = 2		
	32 00 00 NA 07 11 20	**Power Supply C. Board**	U. C	
	32 00 00 NA 07 11 30	– do. –	R. G	
FET101	42 00 00 iE 00 00 20	FET 2SK30A GR		
TR101	42 00 00 iD 02 34 00	Transistor 2SD234		
102,103	42 00 00 iC 15 71 40	– do. – **2SC1571** FG		
D101	42 00 00 iH 00 04 70	Diode 1D4B1		
102	42 00 00 iH 00 03 20	Zener Diode **WZ 061**		
R101,103	42 00 00 HK 35 61 00	Carbon Resistor 1K		
102	42 00 00 HK 35 71 00	– do. – 10K		
104	42 00 00 HK 35 65 60	– do. – 5.6K		
105	42 00 00 HK 35 66 80	– do. – 6.8K		
106	42 00 00 HK 35 71 80	– do. – 1.8K		
107	42 00 00 HL 62 68 20	Metal Oxide Film Resistor 2P 8.2K		

Ref. No.	Part No.	Description	Markets	Remarks
108	42 00 00 HG 10 51 00	Carbon Resistor 1/2P 100K	R. G	
C101,102	42 00 00 FH 23 41 00	Ceramic Capacitor 0.01μF 500V		
103	42 00 00 FK 46 91 00	Electrolytic Capacitor 1000μF 50V		
104	42 00 00 FJ 12 72 20	– do. – 22μF 10V		
105,106	42 00 00 FJ 35 84 70	– do. – 470μF 35V		
107	42 00 00 FZ 00 15 10	Spark Killer Capacitor 0.033μF + 120Ω 125VAC	U. C	
108	42 00 00 FZ 00 06 90	– do. – 0.022μF 250V	R. G	
F101	42 00 00 KB 00 10 10	UL Fuse SS-2 0.5A 250V	U. C	
101	42 00 00 KB 00 06 30	S Fuse Time Lug 250mA – do. –	R. G	
102	42 00 00 KB 00 10 20	UL Fuse SS-2 1.0A – do. –	U. C	
102	42 00 00 KB 00 07 30	S Fuse Time Lug 1AT – do. –	R. G	

POSITIONING OF THE SUB-TONEARM

■ FINE ADJUSTMENT

This fine adjustment can be made by regulating voltage between terminals of **Cds** and + on the **Auto-Up** circuit board. After completion of setting VR201 (see Item "Electrical Adjustment–Control Circuit Board Adjustment").
Position the stylus-tip of the tonearm at distance of 53.2mm (2-3/32 in.) from the center shaft, which is just on the finishing concentric groove of the record, and also indicated on a template provided.
Here, fully turn clockwise the fine adjustment screw for positioning the sub-tonearm assembly, then turn it counter-clockwise until voltage between **Cds** and + becomes 5.0±0.1 volt, using a voltmeter with input impedance of not less than 100kΩ. REFER TO 7 PAGE

回転アームAss'y位置調整

■微調整（最終溝位置調整）

微調整は、AUTOUPシート、CdS, ＋端子の電圧を測定しながら行ないます。VR201（シート調整の項参照）のセッテングが完了したのち、トーンアームを移動し、針先位置がセンターシャフトから53.2㎜たとき、回転アーム Ass'y 位置微調整ネジを右（時計方向）に回わしきった状態から、左（反時計方向）に回わしていき、CdS, ＋端子間の電圧(入力インピーダンス100KΩ 以上の電圧計使用)が、5.0±0.1Vになるようにします。本文7ページ参照

