

ONKYO® SERVICE MANUAL

DIRECT DRIVE

AUTOMATIC RETURN TURNTABLE

Model CP-1015A



120V model

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ONKYO®
AUDIO COMPONENTS

SPECIFICATIONS

120V model

Type :	2-speed automatic-return turntable
Turntable Platter :	31 cm (12-1/4") aluminum diecast
Motor :	Brushless electronic servo direct drive DC motor
Speeds :	33-1/3 rpm, 45 rpm
Speed Controls :	Adjustable range $\pm 3\%$
Wow & Flutter :	0.035% (WRMS)
Signal-to-Noise Ratio :	70 dB (DIN B)
Suitable Cartridge Weight :	5 – 9 grams.
Adjustable Range :	3 grams
Maximum Length :	276 mm
Effective Arm Length :	220 mm
Overhang :	14 mm
Maximum Tracking Error :	+ 3 degrees, -1.5 degrees (offset angle 21 degrees)
Power Supply :	AC 120V, 50/60 Hz
Power Consumption :	6 Watts
Dimensions :	418(W) x 371(D) x 140(H) mm 16-1/2" x 14-1/2" x 5-1/2"
Weight :	5.5 kg (12.1 lbs.)
Cabinet Composition :	
Turntable Board	Painted Plastics
Bottom Board	Hard Board
Dust Cover	Polystyrene

In the interest of further product improvements, specifications are subject to change without notice.

SERVICE PROCEDURES

1. Attaching the cartridge

- 1) Mount the cartridge into position in the headshell.
- 2) Adjust the distance from the stylus tip to the neck of the headshell to the value designated in the diagram with the overhang gauge.
- 3) Connect the following headshell lead wires to the corresponding cartridge pins.

White lead	left channel signal
Blue lead	left channel ground
Red lead	right channel signal
Green lead	right channel ground
- 4) Then lock the headshell onto the tonearm. The above adjustments will ensure that the correct overhang is also adjusted.

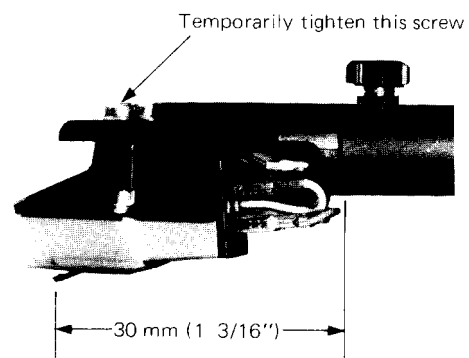
NOTE: In the Universal model the cartridge has already been attached to the tonearm.

Universal model

Type :	2-speed automatic-return turntable
Turntable Platter :	31 cm (12-1/4") aluminum diecast
Motor :	Brushless electronic servo direct drive DC motor
Speeds :	33-1/3 rpm, 45 rpm
Speed Controls :	Adjustable range $\pm 3\%$
Wow & Flutter :	0.035% (WRMS)
Signal-to-Noise Ratio :	70 dB (DIN B)
Tonearm :	Lightweight straight-line static balanced pipe tonearm with detachable headshell (ADC type connector) and counterweight with direct tracking force read out.
Suitable Cartridge	
Weight :	5 – 9 grams.
Adjustable Range :	3 grams
Maximum Length :	276 mm
Effective Arm Length :	220 mm
Overhang :	14 mm
Maximum Tracking	
Error :	+3 degrees, - 1.5 degree (offset angle 21 degrees)

Cartridge

Type :	Tapered carbon fiber cantilever "V" magnet type (0C – 52V)
Frequency Response :	20 Hz ~ 20,000 Hz
Recommended Load	
Impedance :	47 kohms
Recommended	
Tracking Force :	2 grams
Compliance :	8×10^{-6} cm/dyne
Output Voltage :	3.5 mV
Stylus Tip :	0.6 mil diamond
Replacement Stylus :	DN-52ST
Power Supply :	AC110-120, 220-240V, 50/60Hz
Power Consumption :	6 Watts
Dimensions :	418(W) x 371(D) x 140(H) mm 16-1/2" x 14-1/2" x 5-1/2"
Weight :	5.5 kg (12.1 lbs.)

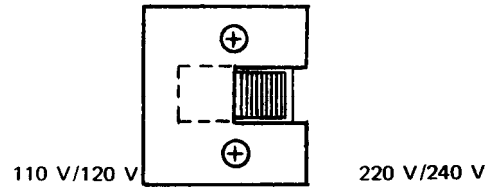


2. Voltage conversion

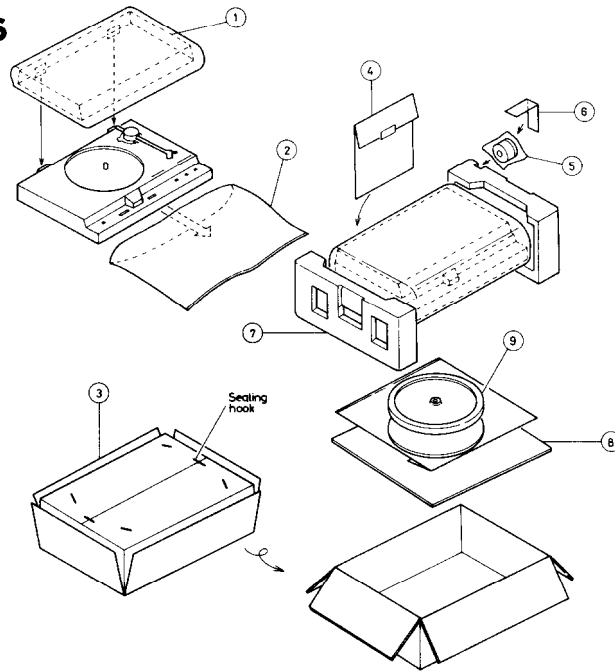
Before connecting the unit to an AC outlet, check whether it is set for the local AC voltage. The turntable may be set to operate at either 110 ~ 120V or 220 ~ 240 V. The voltage selector is under the turntable. If a voltage change is necessary, remove the lock plate, switch to the proper voltage, and replace the plate. Note that the CP-1015A operates at both 50 and 60 Hz power frequencies.

Notice

Some units have been designed to operate only on AC 240V 50Hz or 120V 60Hz, and are consequently not equipped with a voltage selector.



PACKING PROCEDURES



120V model

REF. NO.	PARTS NO.	DESCRIPTION
1	29100050	Poly bag
2	29100049	640 x 620mm, Poly bag
3	29050373	Master carton box
4		Accessory bag complete
	29340428	Instruction manual
	292049A	45 r.p.m. adaptor
	24509197	Over hang gauge
	29365006	Warranty card (Only U.S.A. model)
	29358002	Service station list (Only U.S.A model)
	29100005	220 x 330mm, Poly bag
	24501138	2.6 x 11, Screw for cartridge
	24501123	2.6 x 4, Nut for cartridge
	24500079	Washer for cartridge
5	24501322	Counter weight
	29100002	80 x 150mm, Poly bag
6	260013	W50, P.P. tape
7	29090525	Pad
8	29090526	Pad sheet
9	24509111B	T.T. mat
	24502102	Turntable platter
	29100046	370 x 470mm, Poly bag

UU model

REF. NO.	PARTS NO.	DESCRIPTION
1	29100050	Poly bag
2	29100049	640 x 620mm, Poly bag
3	29050373	Master carton box
4		Accessory bag complete
	29340429	Instruction manual
	292049A	45 r.p.m. adaptor
	24509197	Over hang gauge
	29365005-2	Warranty card (Only Germany model)
	25055018	CV-K-1, Conversion plug (except Germany model)
5	24501322	Counter weight
	29100002	80 x 150mm, Poly bag
6	260013	W50, P.P. tape
7	29090525	Pad
8	29090526	Pad sheet
9	24509111B	T.T. mat
	24502102	Turntable platter
	29100046	370 x 470mm, Poly bag

ALIGNMENT PROCEDURES

1. Auto-return position adjustment

Auto-return position adjustment is made using the eccentric pin ① in Fig. 1.

2. Tonearm height adjustment

Remove the T.T. mat. Move the cue lever to the up position.

Height adjustment is made using the lifter plate retaining screw ② in Fig. 1. Adjust the screw for 18 mm height between the stylus tip and the turntable platter. Turning screw ② clockwise lowers the tonearm counter-clockwise raises it : It is also possible to make the adjustment using screw ③ in Fig. 2. Turning the screw in raises the tonearm and backing it off lowers it. (Note: The tonearm height adjustment is performed simultaneously for auto-return and manual tonearm raising (by cue). Autoreturn and manual cue cannot be adjusted separately.)

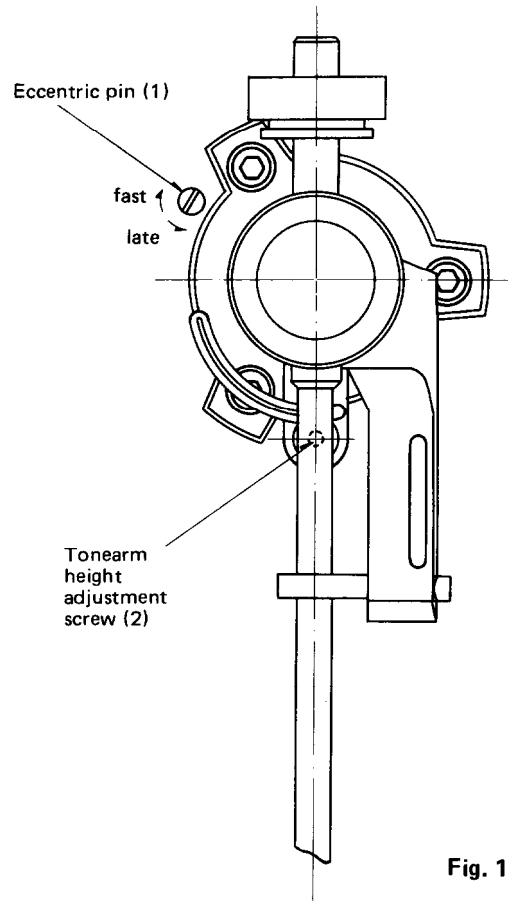


Fig. 1

3. Tonearm lower speed adjustment

- 1) Remove the elevation plate retaining screw in Fig. 2.
- 2) Remove the cue lever assembly. Withdraw the elevation shaft taking care not to damage it. (Remove with elevation bearing attached.)

A. To raise the lowering speed:

Wipe out the (100,000 unit) silicon oil on the spring and area ①, and remove a portion of the silicon oil in the oil cup.

B. To lower the lowering speed:

Add (100,000 unit) silicon oil to the oil cup and apply a small amount to area ①. Faster lowering speed may be obtained by using a silicon oil of lower viscosity. Before checking the raising or lowering speed, raise and lower the elevation shaft a few times by hand to spread the oil evenly.

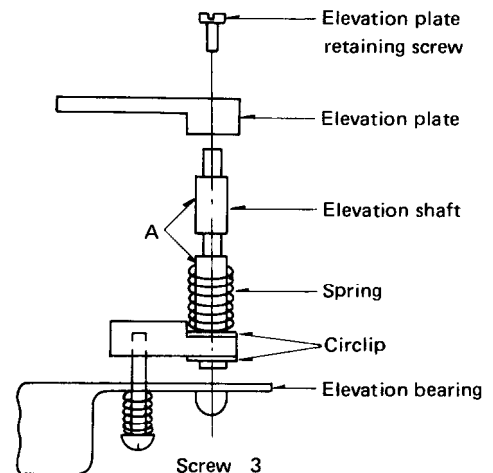


Fig. 2

4. Gear gap adjustment

The gap between the main and pinion gear is adjusted by loosening the DD motor fixing screws (W-SEMS-4PX10) and re-securing the motor when the gap at A and B is 1mm. Gap A should be wider than B, however if B is wider than A, the automatic return will not function correctly. Also, check underneath the turntable and make sure the main gear is not rubbing.

When the correct gap cannot be obtained using the above procedure, remove the spring clip securing the main gear and turn the adjusting pin (fine adjust). Re-install the main gear on the shaft, secure with the spring clip and re-check the gap. (Turning the adjusting pin clockwise will rotate the main gear in a counter-clockwise direction.)

5. Microswitch gap adjustment

Adjust the microswitch gap by turning eccentric pin 3 in Fig. 3.

6. Speed adjustment

- Set the 33 r.p.m. and 45 r.p.m. speed adjustment controls to center positions.
- Set the speed selector to 33 r.p.m., and adjust VR33 so that the stroboscope strips appear to be stationary.
- Then switch over to 45 r.p.m., and adjust VR45 to obtain the same stationary stroboscope condition.

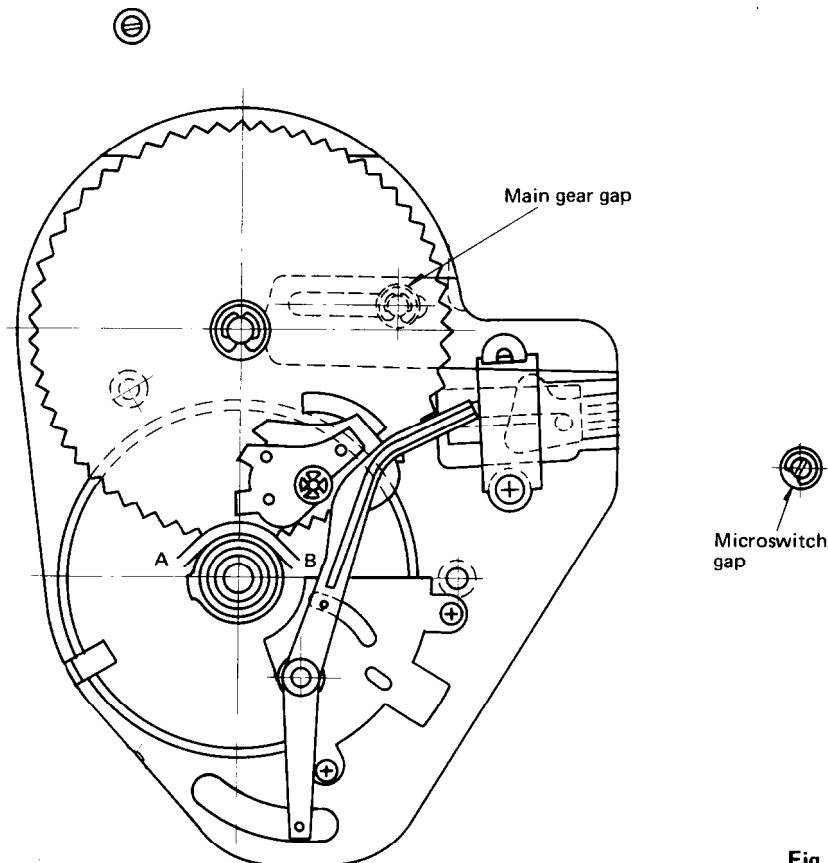
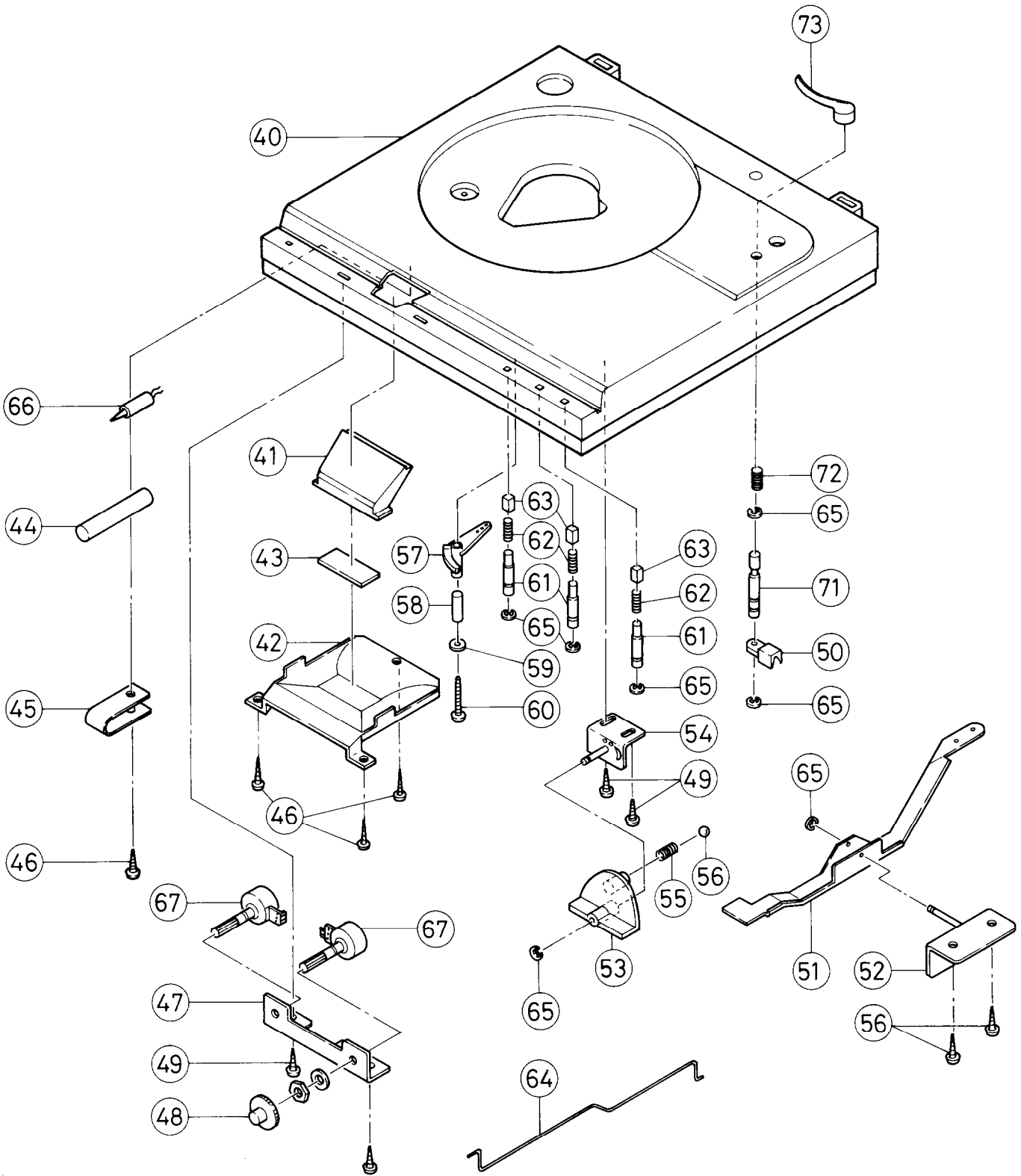
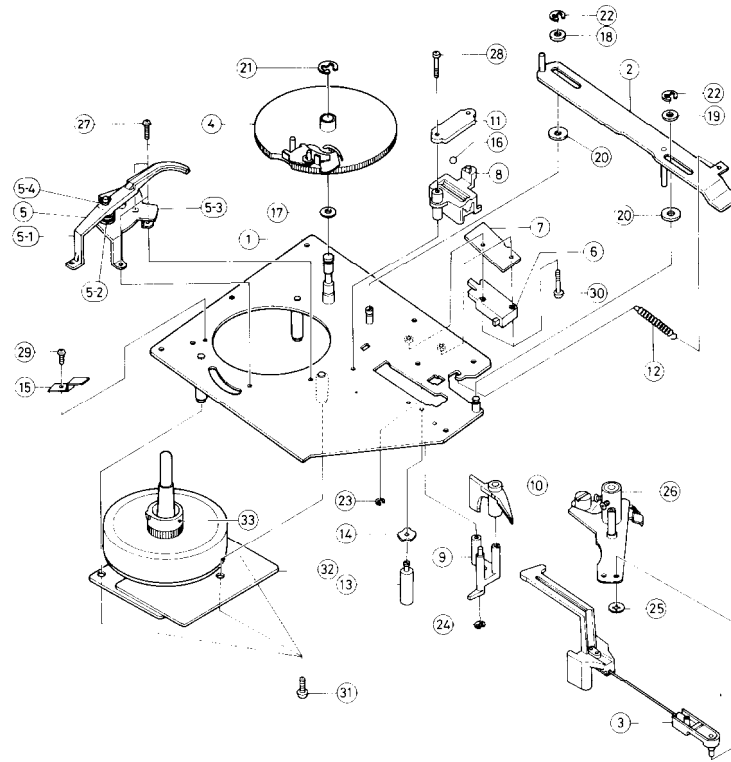


Fig. 3

EXPLODED VIEW





REF. NO.	PARTS NO.	DESCRIPTION
	24506400	Auto return mechanism ass'y
1	24506425	Chassis
2	24506426	Slide arm ass'y
3	24506427	Trip slide
4	24506428	Main gear ass'y
5	24506429	Reject arm ass'y
5-1	24506430	Reject arm
5-2	24506431	Spring
5-3	24506432	Bracket
5-4	893030	φ3, Circlip
6	24503023	Microswitch
7	24506434	Plate for microswitch (Only Universal model)
8	24506435	Holder for trip slide
9	24506436	Holder
10	24506437	Lever
11	24506438	Plate
12	24506439	Spring
13	24506440	Stud
14	24506441	Spring washer
15	24506442	Plate
16	24506443	5 φ, Steelball
17	24506444	9.5 x 6.2 x 0.5, washer
18	24506445	Washer
19	24306446	Washer
20	24506447	Washer
21	893050	Circlip
22	893040	Circlip
23	893030	Circlip
24	893020	Circlip
25	891030	Circlip
26	24506424	Tonearm base Restor lever
27	833130067	3 x 6mm, Pan head screw
28	833130207	3 x 20mm, Pan head screw
29	833126062	2.6 x 6mm, Pan head screw
30	82113014	3P+14F mm, Pan head screw
31	801226	4 x 8mm, Pan head screw
32	24502101	Motor with gear and pc board
33	24506423	T.T. gear

REF. NO.	PARTS NO.	DESCRIPTION
40	28110182	Cabinet
41	24509212	Lamp cover
42	24509213	Receptacle, mirror
43	24509214	Mirror
44	750031	Tube
45	76020	SN-4A, Clamp
46	831130080	3TTW + 8P, Tap screw
47	24506401	Bracket, volume
48	24506402	Knob, volume
49	831130080	3TTW + 8P, Tap screw
50	24506403	Stand, elevation shaft
51	24506404	Cueing lever ass'y
52	24506408	Cueing bracket ass'y
53	24506411	Cam, cueing
54	24506412	Cam bracket ass'y
55	24506415	Cam spring
56	270555	φ4, steelball
57	24506417	Reject lever
58	27270052	4.2 φ x 3 x 20 l, Spacer
59	87613008	W3 x 8F, Washer
60	833130305	3STS + 30BQ, Tapping screw
61	24506418A	Slide axle
62	24506419	Spring
63	28320303	Push button
64	24506420	Reject rod
65	893032	E-3.2, Circlip
66	211006	NE-2HH, Neon lamp
67	5146023	N16R2KB15, Speed control variable resistor
71		Elevation shaft
72		Spring
73		Lafter plate

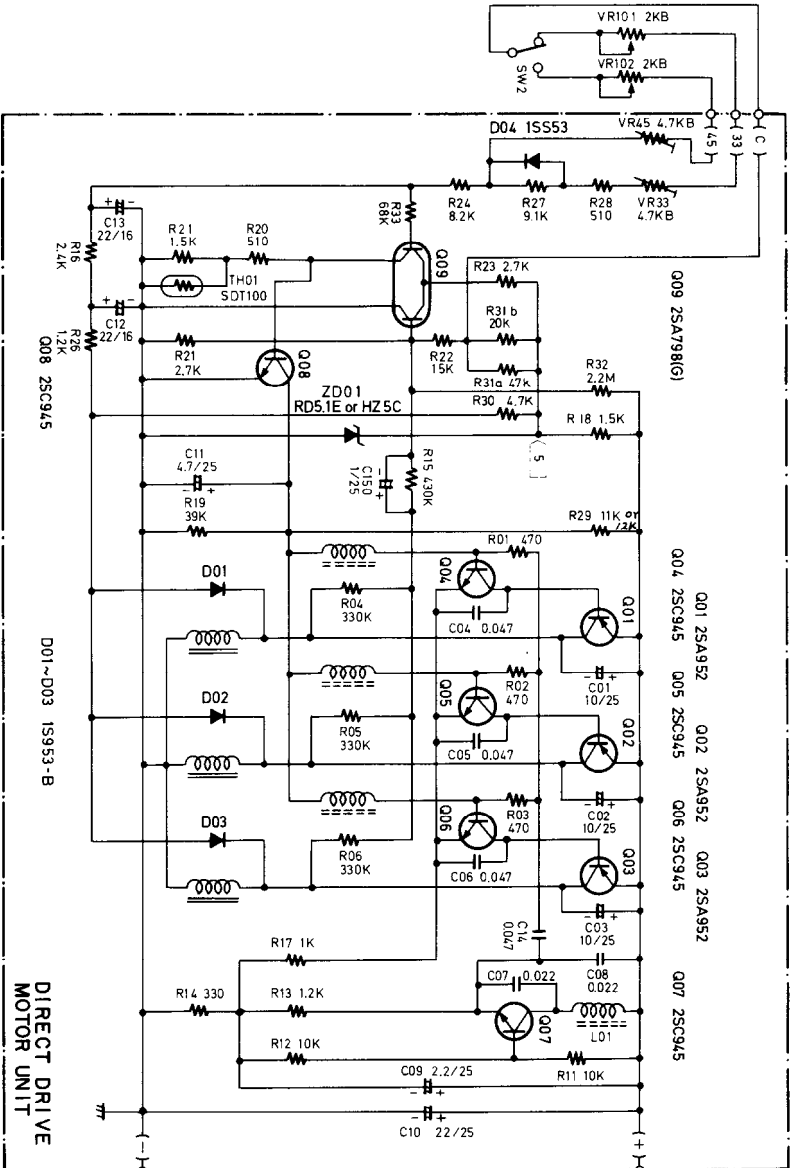
} Tonearm ass'y

PARTS LIST

PARTS NO.	DESCRIPTION	PRINTED CIRCUIT BOARD-PARTS LIST	POWER SUPPLY PC. BOARD (NAPS-883a)
		MOTOR CONTROL PC. BOARD	
		CIRCUIT NO.	CIRCUIT NO.
		PARTS NO.	PARTS NO.
		DESCRIPTION	DESCRIPTION
16760583A	NAPS-883a, Power supply pc board ass'y		
16759584	NASW-884, Switch circuit pc board ass'y		
24502101	Motor ass'y (with T. T. gear and motor control pc board)		
24506423	T. T. gear	Q01 - Q03	Transistors
230387	NPT-708BP, Power transformer	2212022 or	25A952 (L) or
25035189	NPS-122-L153, Power switch	2212023	25A952 (K)
25065106	NSS-2253P, Voltage selector switch	Q04 - Q08	2210353 or
2111006	NE-2HH, Neon lamp	2210354	25C945 (P) or
5146023	N16R2KB15, Speed control variable resistor	Q09	25C945 (Q)
253083	AS-CEE, Power supply cord	2212012 or	25A798 (G) or
24505127	Output cable	2212013	25A798 (H)
25050062	NSAS-5P034, Socket ass'y	ZD01	Diodes
24502102	Turntable platter	D01 - D03	223945
24506433	Auto-return mechanism ass'y	D04	223104
24506424	Restor lever ass'y		223122
24501319	Tonearm ass'y		Resistors
24501321	Screw for tonearm	TH01	4000073
24501322	Counter weight	VR33, VR45	5225019
24501325	Headshell		Capacitors
24501231	M2.6 + 11 ϕ , Screw for headshell	C01 - C03	352751001
24501232	M2.6 x 4 ϕ , Nut for headshell	C09	352750221
242930	OC-52V Cartridge with stylus	C10	352752201
242931	DN-52ST, Stylus	C11	352750471
24501327	Stylus cover	C12, C13	352742201
24500079	Washer for headshell	C15	352750011
28110182	Cabinet		
24509212	Lamp cover		
24509214	Mirror		
24506402	Knob for speed control		
24506404	Cueing lever ass'y		
24506411	Cueing cam		
270555	Steelball		
24506417	Reject lever		
28320303	Button for push switch		
24509215	Dust cover ass'y		
24509184	Stopper rubber for dust cover		
28180062	Hinge		
24509216	Leg		
27170081	Bottom board		
27140393	Bracket for power supply cord		
270280	SR-4K-4, Strainrelief		
29360375	Rating label		
270444	Fixture plate for voltage selector switch		

SCHEMATIC DIAGRAM

UU model



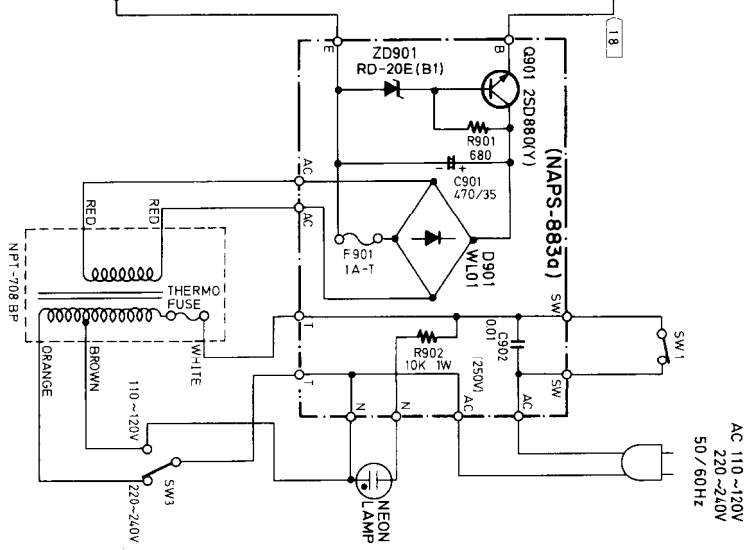
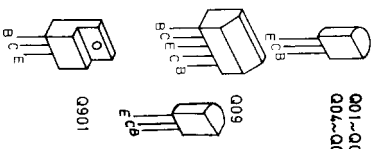
DIRECT DRIVE MOTOR UNIT

- Q01~Q03 25A952(L)(K) or 25B561(C) or 25A509 or 25A950 or 25B605
- Q04~Q08 25C945(P)(O) or 25C320(F)(G) or 25C372 or 25C458 or LC945
- or 25C536 or 25C828 or JA1350 or 25C1815 or 25C733 or 25C2021
- Q09 25A798(G)(H) or 25A733(P)(K) x 2 or 25A999(F)(G) x 2
- or 25A564(or 25A608 or 25A640 or LA733 or 25A933 or 25A1015) x 2
- Q901 25D880(Y)

CIRCUIT NO	FUNCTION	POSITION
SW1	POWER	ON OFF
SW2	SPEED	33 45
SW3	VOLTAGE SELECTOR	110~120 220~240

NOTE:

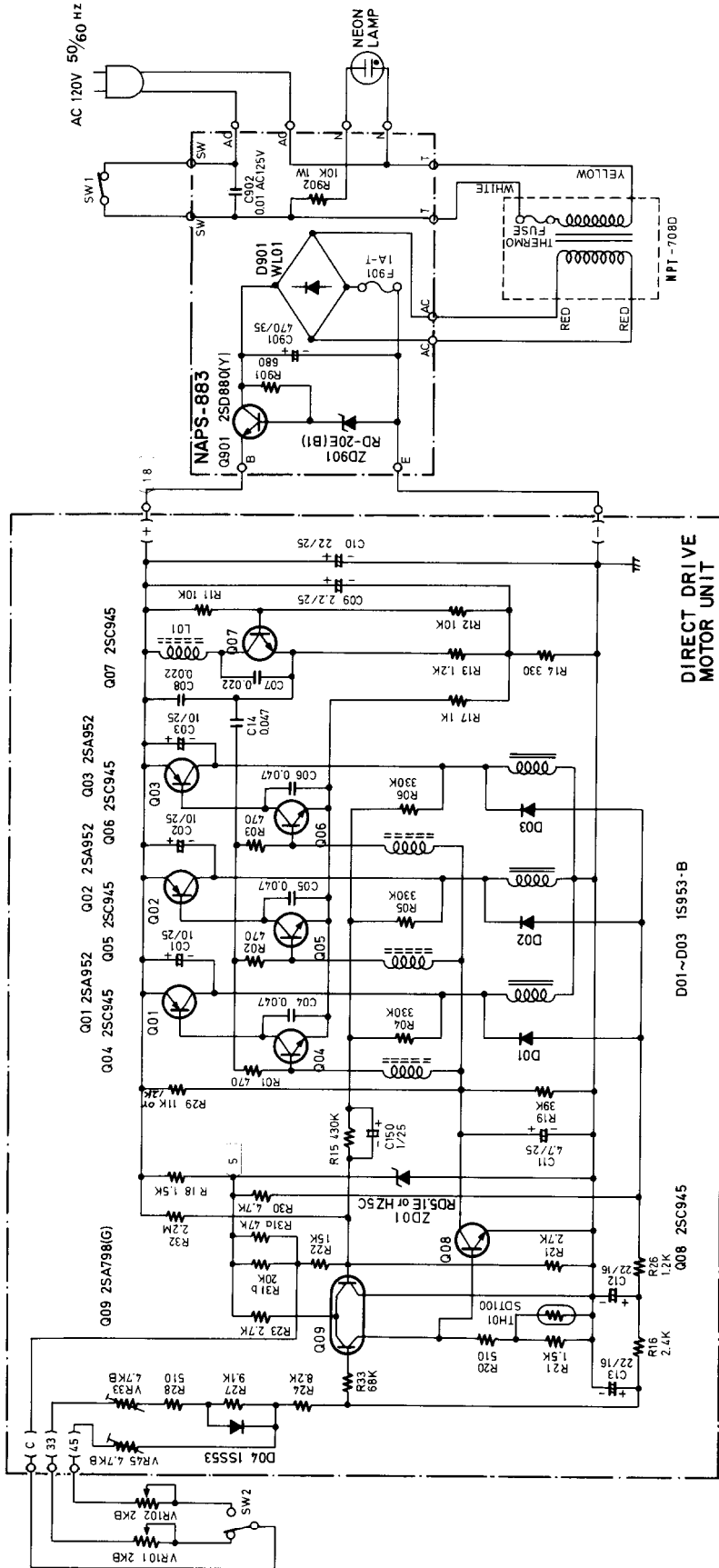
1. ALL RESISTORS ARE IN OHMS, μ WATT UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE IN μ F, 50V UNLESS OTHERWISE NOTED.
3. ELECTROLYTIC CAPACITORS (—+—) ARE IN μ F/WV AND THE LOWEST WV.
4. VOLTAGE IS MEASURED WITH VTVM WHEN POWER SWITCH IS IN ON POSITION. ()



AC 110~120V
220~240V
50/60Hz

SCHEMATIC DIAGRAM

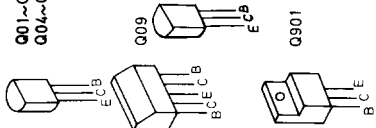
120V model



CIRCUIT NO	FUNCTION	POSITION
SW1	POWER	ON OFF
SW2	SPEED	33 45
SW3	VOLTAGE SELECTOR	110~120 220~240

- NOTE:
1. ALL RESISTORS ARE IN OHMS. VA/WATT UNLESS OTHERWISE NOTED.
 2. ALL CAPACITORS ARE IN μ F. 50WV UNLESS OTHERWISE NOTED.
 3. ELECTROLYTIC CAPACITORS ($\text{---} \text{||} \text{---}$) ARE IN μ F/WV AND THE LOWEST WV.
 4. VOLTAGE IS MEASURED WITH V.T.V.M. WHEN POWER SWITCH IS IN ON POSITION. ($\text{---} \text{||} \text{---}$)

- Q01~Q03 2SA952(L),(K) or 2SB561(C) or 2SA509 or 2SA950 or 2SB605
- Q04~Q08 2SC945(P),(Q) or 2SC2320(F),(G) or 2SC372 or 2SC458 or LC945 or 2SC536 or 2SC828 or JA1350 or 2SC1815 or 2SC733 or 2SC2021
- Q09 2SA798(G),(H) or 2SA733(P),(K) x 2 or 2SA999(F),(G) x 2 or 2SA564(for 2SA608 or 2SA640 or LA733 or 2SA933 or 2SA1015) x 2



Q901 2SD880(Y)

PARTS LIST

PARTS NO.	DESCRIPTION	PRINTED CIRCUIT BOARD-PARTS LIST	POWER SUPPLY PC. BOARD (NAPS-883)
CIRCUIT NO.	DESCRIPTION	CIRCUIT NO.	DESCRIPTION
16759583	NAPS-883, Power supply pc board ass'y	Q901	Transistor 2201074 2SD880(Y)
16759584	NASW-884, Switch circuit pc board ass'y	ZD901	Diodes 224092 RD20EB1
24502101	Motor ass'y (with T.T. gear and motor control pc board)	D901	223862 WL01
24506423	T.T. gear	R902	Resistor 441621034 10k Ω , 1W, Metal oxide film
230386	NPT-708D, Power transformer	C901	Capacitors 352764711 470 μ F, 35V, Elect.
25035189	NPS-122-L153, Power switch	C902	3500060 0.01 μ F, 125V, CS
211006	NE-2HH, Neon lamp	H901	Fuseholder 250113
5146023	N16R2KB15, Speed control variable resistor	F901	Fuse 252045 1A-ST-6
253099A	AS-UC-3, Power supply cord		Fuse label 282728 1.0A
24505127	Output cable		Radiator 27160029
25050062	NSAS-5P034, Socket ass'y		
24502102	Turntable platter		
24506400	Auto-return mechanism ass'y		
24506424	Restor lever ass'y		
24501319	Tonearm ass'y		
24501321	Screw for tonearm		
24501322	Counter weight		
24501325	Headshell		
24501138	M2.6 x 11 ℓ , Screw for headshell		
24501123	M2.6 x 4 ϕ , Nut for headshell		
24500079	Washer for headshell		
28110182	Cabinet		
24509212	Lamp cover		
24509214	Mirror		
24506402	Knob for speed control		
24506404	Cueing lever ass'y		
24506411	Cueing cam		
270555	Steelball		
24506417	Reject lever		
28320303	Button for push switch		
24509215	Dust cover ass'y		
24509184	Stopper rubber for dust cover		
28180062	Hinge		
24509216	Leg		
27170081	Bottom board		
27140393	Bracket for power supply cord		
270025	SR-3P-4, Strainrelief		
29360376	Rating label		