

# **ONKYO® SERVICE MANUAL**

## **DIRECT DRIVE FULLY AUTOMATIC TURNTABLE**

### **MODEL CP-1130F**



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## SPECIFICATIONS

<b>Type:</b>	Direct drive fully automatic turntable auto lead-in and return; reject, repeat, search and cue by button function; two motor micro-computer design.	<b>Tracking Force:</b>	0 – 3.0 grams
<b>Turntable platter:</b>	310 mm (12-1/4") aluminum die-cast, 1.2 kg (2.6 lbs.) (with platter mat)	<b>Other Features:</b>	Tracking force direct readout scale Removable headshell Slide-type anti-skating control
<b>Motor:</b>	Electronic servo direct drive brushless DC motor	<b>Power Supply:</b>	AC 120 V 50/60 Hz, AC 110-120/220-240 V 50/60Hz
<b>Speeds:</b>	33-1/3, 45 rpm, adjustable $\pm 3\%$	<b>Power Consumption:</b>	22 Watts (Max.) 10 Watts (Normal)
<b>Wow &amp; Flutter:</b>	less than 0.025% (WRMS)	<b>Dimensions (WxDxH):</b>	418 x 380 x 130 mm (16-1/2" x 15" x 5-1/8")
<b>Signal-to-Noise Ratio:</b>	better than 72 dB (DIN B)	<b>Weight:</b>	5.6 kg (12.3 lbs.)
<b>Tonearm:</b>	Statically balanced straight type, carbon fiber/pipe construction	<b>Accessories:</b>	Headshell, counterweight, overhang gauge, adapter, instruction manual
<b>Effective Arm Length:</b>	224 mm (8-7/8")	<b>Cabinet Composition</b>	
<b>Overhang:</b>	13 mm (1/2")	<b>Turntable Cabinet:</b>	Plastic
<b>Offset Angle:</b>	21 degrees	<b>Bottom Panel:</b>	Plastic (ABS)
<b>Maximum Tracking Error:</b>	+3 degrees, -1 degrees	<b>Dust Cover:</b>	Polystyrene
<b>Suitable Cartridge Weight:</b>	Min. 5, Max. 9 grams	<b>Optional Recommended Headshell SH-21E</b>	

Specifications are subject to change for further product improvements.

## SERVICE GUIDE

## 1. Cautions

- a The printed resistors are used on the digital circuit pc board. The surface is strong, but it is not damaged with driver etc. If it becomes necessary to replace the printed resistor for any reason, cut the printed resistor with cutter, and add the same rating solid resistor.
- b Do not rotate the main motor with the unit turned upside down. If it becomes necessary to invert the unit for check purposes, remove the socket of main motor.

## 2. Replacing the fuse

Remove the bottom board. The fuse is located on the digital circuit PC board.

Note: For continued protection against fire hazard, replace only with same type and same rating fuse.

Part No.	Description
252046	1.5A-ST-6 (Only 120 V model)
252073	1.6A-SE-EAK (Only Universal model)

## 3. Voltage selector (Universal model)

The voltage selector is located on bottom of the cabinet. If a voltage change is necessary, change the voltage selector switch to the proper voltage.

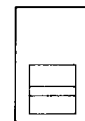
## 4. Precision Platter Sheet

This platter sheet is precision molded using a special type of plastic that improves platter-to-disc interface characteristics. Always handle the sheet with care to avoid scratching the mirror-finished surface.

## Cleaning

1. Wipe the surface with damp cotton.
2. While the surface is still damp, wipe off the surface of the sheet with a velvet record cleaning cloth using a circular could electric charges so that dust and dirt particles do not stick to the sheet. This chemical may appear on the surface of the sheet at times, but it has no effect on records. If it detracts from the appearance of the platter sheet, wipe it off using the method described above.

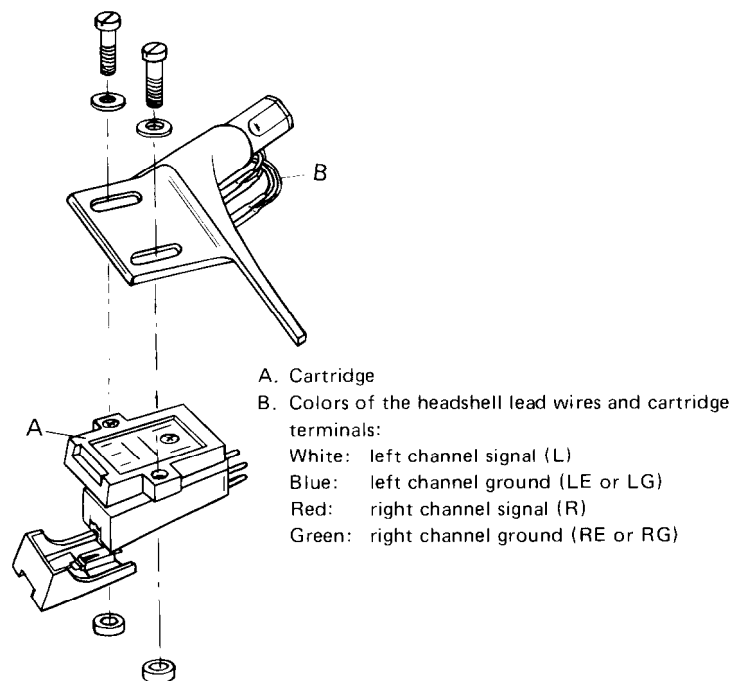
110 – 120 V ~



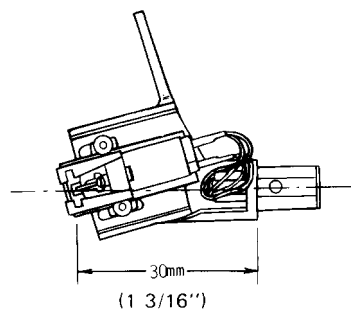
220 – 240 V ~

## 5. Attaching the cartridge

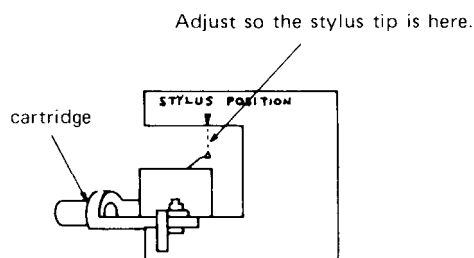
Attach the cartridge as shown below, connecting each of the color coded lead wires to the proper terminal. If a mistake is made, no sound will be heard or stereo reproduction will be lost. Also, to prevent damage to the stylus during installation operations, leave its cover on or remove the stylus completely.



Adjust so the distance between the stylus tip and the base of the headshell is 30 mm (1 3/16") and tighten the screws. This assures the effective length and overhang of the tonearm are correct.



Use the included overhang gauge as shown below, placing the cartridge in the gauge and setting the location of the stylus tip as indicated.



After attaching a different cartridge, always balance the tonearm again and set the appropriate tracking force.

## 6. Search Operation

When the Search Button is depressed, the tonearm rises and slowly moves over the record toward the center stopping when the button is released. Depress the Cue Button to lower the tonearm to the record surface and start record play. If the Search Button is depressed only once, the tonearm will move to the innermost grooves of the record; if depressed once more, the tonearm will return to the outermost grooves. Use the Search Button to simplifier manual operation.

## 7. Remote Control

This unit is equipped with a jack so that the RC-5T remote control unit (sold separately) can be used to perform the following tuntable operations from the comfort of your listening position.

- 1) Play/Reject
- 2) Cue (UP/DOWN)
- 3) Search (IN/OUT)
- 4) Repeat

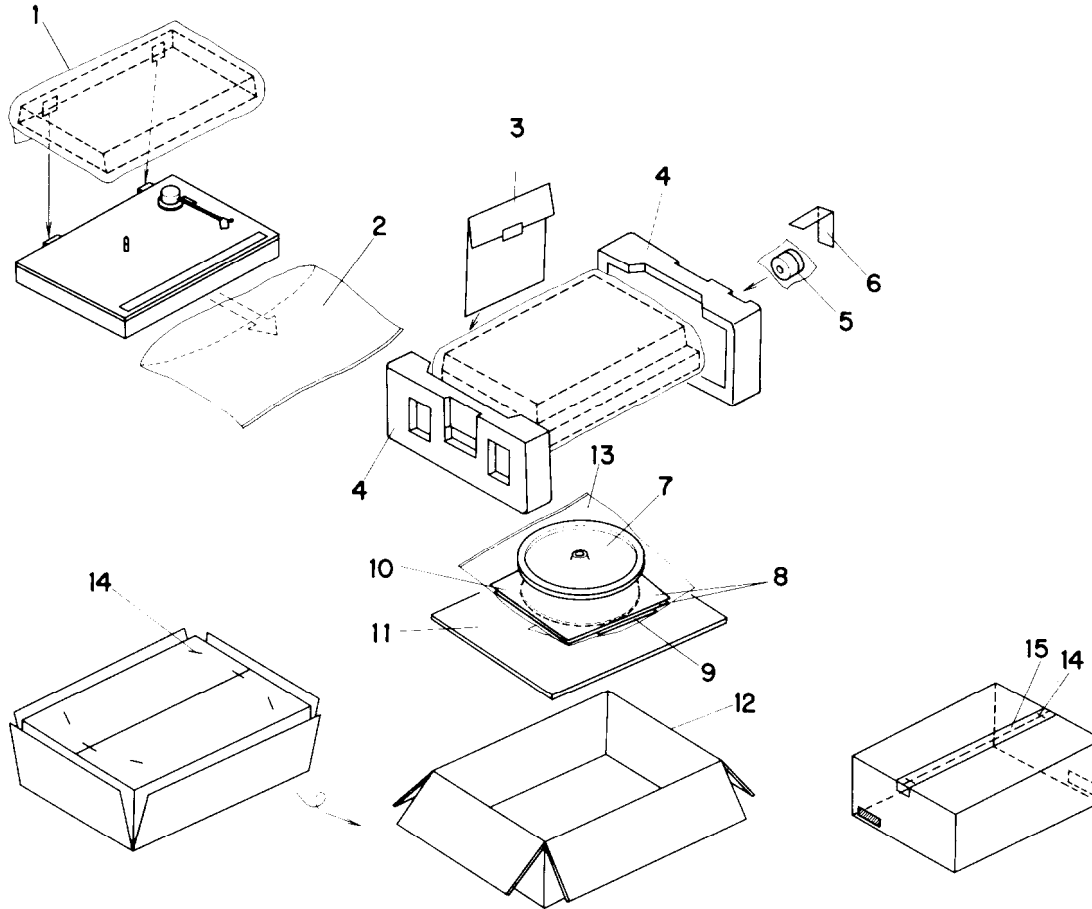
## 8. Memory Repeat

The memory repeat function is used to repeatedly play a record from a desired selection. Read the following instructions carefully to assure correct operation.

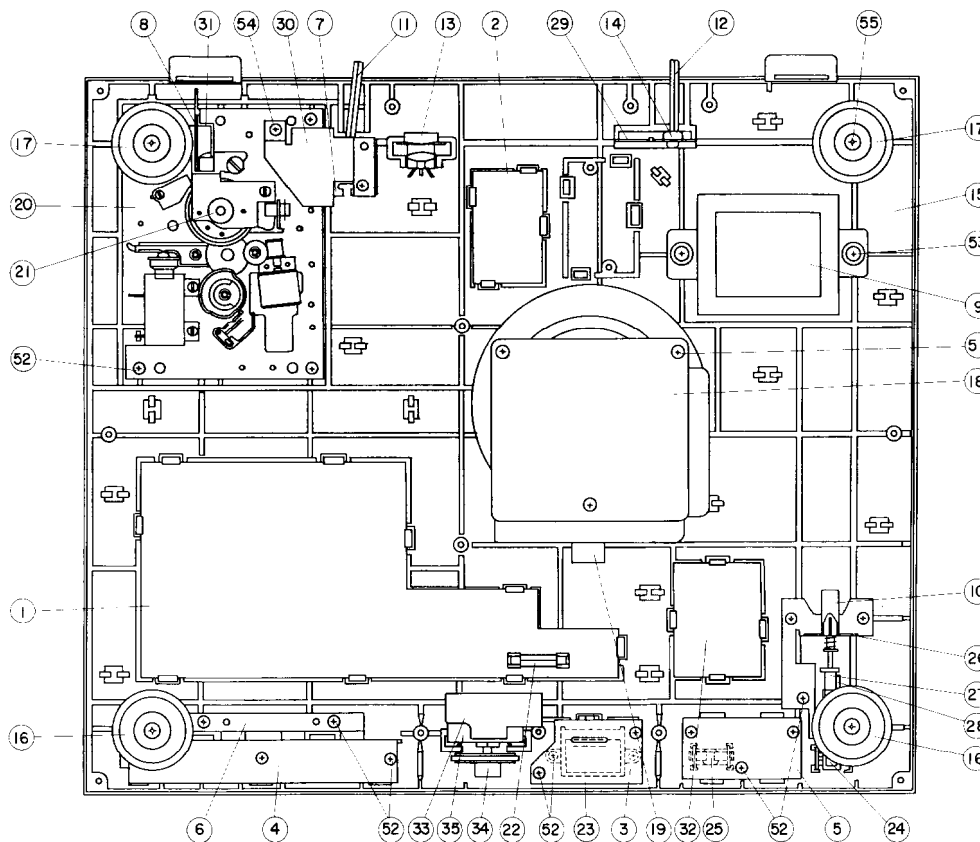
1. Start the memory repeat function only with the tonearm still in the arm rest. If memory repeat is operated during record play, the tonearm will repeatedly play the reocrd from the beginning.
2. Using the Search Button, move the tonearm until it is directly over the section where record play is to be repeated.
3. Depress the Repeat Button to the Repeat position.
4. Depress the Cue Button to lower the tonearm onto the record and memory repeat operation will begin. Note that if the Cue Button is depressed before the Repeat Button, normal repeat operation (i.e., from the beginning of the record) will begin.

Note: Memory repeat can be used for any section of the reocrd from the outer edge (set by the record size selector) to the innermost grooves.

## PACKING PROCEDURES



REF. NO.	PARTS NO.	DESCRIPTION
1	29100050	Protection bag
2	29100049	640×620mm, Poly bag
3	292049A	45 rpm adaptor
	24509197	Overhang gauge
	28199039	Film for T.T. sheet
	29340451	Instruction manual (120V model)
	29340452	Instruction manual (Universal model)
	29365006	Warranty card (U.S.A. model)
	29365005-3	Warranty card (Germany model)
	29358002	Service station list (U.S.A. model)
	24501330	Mounting screw for cartridge
	25055018	CV-K-1, Conversion plug (Universal model)
	29100005	220×330mm, Poly bag
4	29090536	Pad
5	24501341	Counter weight
	29100002	80×150mm, Poly bag
6	260013	50×110mm, Tape
7	24502111	Turntable platter
8	29095161	Protection sheet for T.T. mat
9	29355065	Caution sheet
10	24509231	T.T. mat
11	29090526	Pad sheet
12	29050387	Master carton box
13	29100046	370×470mm, Poly bag
14	282301	Sealing hook
15	260012	W50mm, Tape



**Universal model**

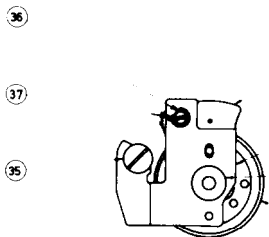
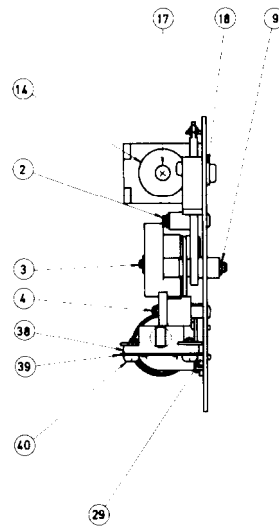
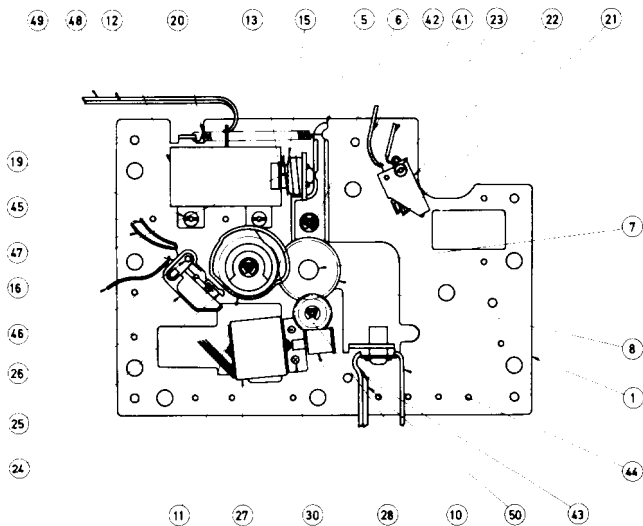
REF. NO.	PARTS NO.	DESCRIPTION
1	16720510C	NADG-910c, Digital circuit pc board ass'y
2	16740511A	NAPS-911a, Power supply pc board ass'y
3	16719512A	NADIS-912a, Power indicator pc board ass'y
4	16739513	NASW-913, Switch pc board ass'y
5	16719514A	NASW-914a, Switch pc board ass'y
6	16739515	NACOV-915, Cover pc board ass'y
7	16739516	NAPI-916, Tonearm terminal pc board ass'y
8	16739517	NARET-917, Return pc board ass'y
9	230400	NPT-709AG, Power transformer
10	25035191	NPS-111-L155P, Power switch
11	24505127	Output cable
12	253083	AS-CEE, Power supply cable
13	25050045	NSCT-7P14, Remote terminal
14	270280	SR-4K-4, Strainrelief
15	28110188	Cabinet
	27262066-1	Plate (R)
	27262067	Plate (L5)
16	24509216-2	Leg
17	24509216-3	Leg
18	24502110	Motor with control pc board
19	25050068	NSAS-6P036, 6P socket
20	24506450A	Mechanism ass'y
21	24501340	Tonearm

**120V model**

REF. NO.	PARTS NO.	DESCRIPTION
1	16719510B	NADG-910b, Digital circuit pc board ass'y
2	16739511	NAPS-911, Power supply pc board ass'y
3	16719512A	NADIS-912a, Power indicator pc board ass'y
4	16739513	NASW-913, Switch pc board ass'y
5	16719514A	NASW-914a, Switch pc board ass'y
6	16739515	NACOV-915, Cover pc board ass'y
7	16739516	NAPI-916, Tonearm terminal pc board ass'y
8	16739517	NARET-917, Return pc board ass'y
9	230399	NPT-709D, Power transformer
10	25035191	NPS-111-L155P, Power switch
11	24505127	Output cable
12	253099A	AS-UC-3, Power supply cable
13	25050045	NSCT-7P14, Remote terminal
14	270025	SR-3P-4, Strainrelief
15	28110188	Cabinet
	27262066-1	Plate (R)
	27262067	Plate (L5)
16	24509216-2	Leg
17	24509216-3	Leg
18	24502110	Motor with control pc board
19	25050068	NSAS-6P036, 6P socket
20	24506450A	Mechanism ass'y

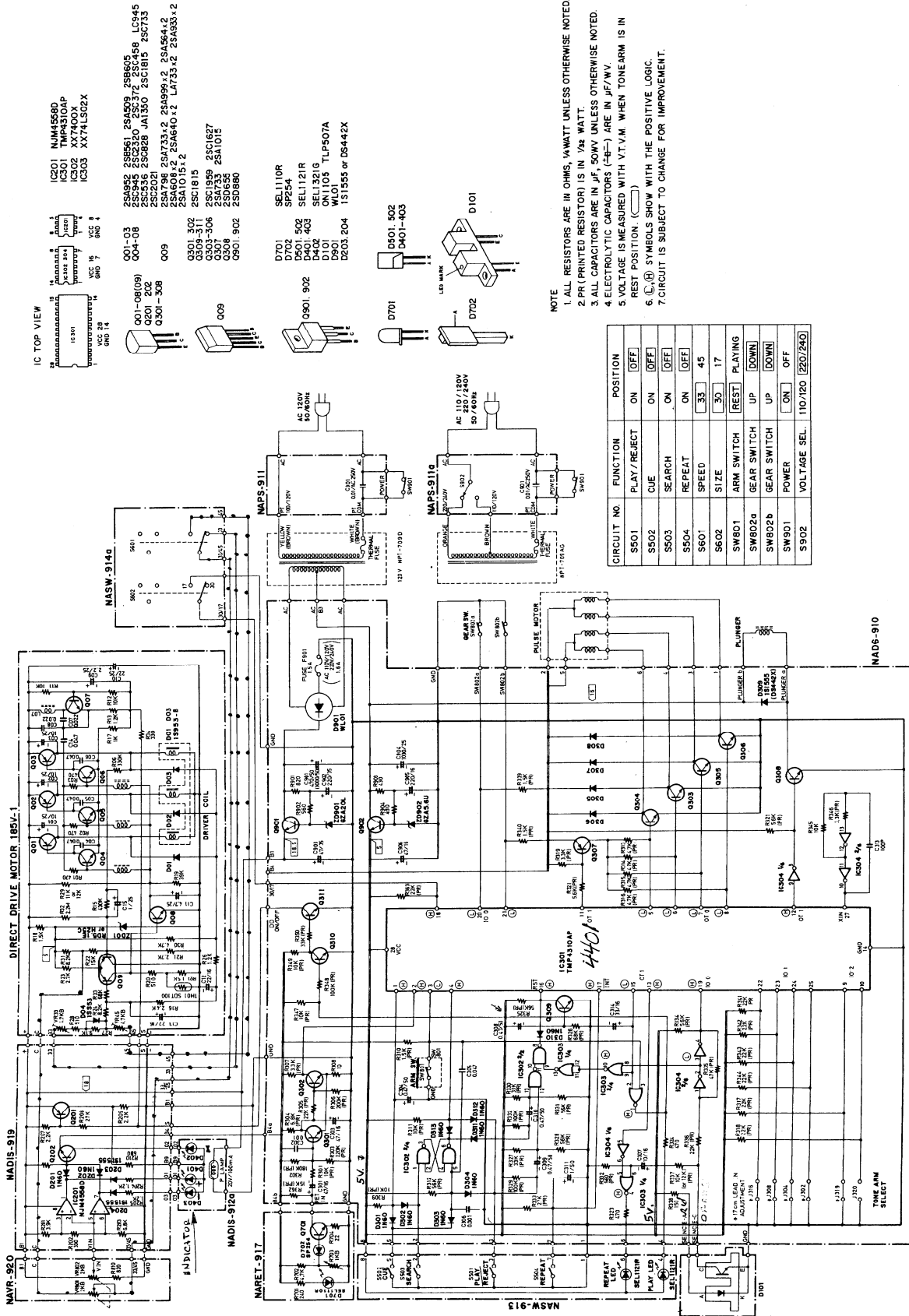
24501321	Screw for headshell	21	24501340	Tonearm
24501325	Headshell		24501321	Screw for headshell
24501341	Counter weight		24501325	Headshell
22 252073	1.6A-SE-EAK, AC fuse		24501341	Counter weight
23 28191064	Clear plate	22	252046	1.5A ST-6, AC fuse
28133032	Back plate	23	28191064	Clear plate
24 28320447	Knob		28133032	Back plate
25 28320446	Knob	24	28320447	Knob
26 27140409	Bracket for power	25	28320446	Knob
27 24504305	Cam	26	27140409	Bracket for power
28 27180062	Spring	27	24504305	Cam
29 27140393	Bracket for power supply cable	28	27180062	Spring
30 27150120	Shielded plate	29	27140393	Bracket for power supply cable
31 27140411	Bracket for interruptor	30	27150120	Shielded plate
32 16719519	NADIS-919, Display pc board ass'y	31	27140411	Bracket for interruptor
33 16719520	NAVR-920, Speed control pc board ass'y	32	16719519	NADIS-919, Display pc board ass'y
34 24506402	Knob, Speed control	33	16719520	NAVR-920, Speed control pc board ass'y
35 27140414	Bracket, volume	34	24506402	Knob, Speed control
51 833140120	4TTP+12P, Tapping screw	35	27140414	Bracket, volume
52 834130100	3TTS+10P, Tapping screw	51	833140120	4TTP+12P, Tapping screw
53 28140209	Cushion	52	834130100	3TTS+10P, Tapping screw
87614012	W4x12F, Washer	53	28140209	Cushion
27265035	Ring		87614012	W4 x 12F, Washer
833142200	4TTP+20P, Tapping screw		27265035	Ring
54 834130082	3STS+8BQ, Tapping screw	54	833140200	4TTP+20P, Tapping screw
55 833140120	4TTP+12P, Tapping screw	55	834130082	3STS+8BQ, Tapping screw
24509215	Dust cover		833140120	4TTP+12P, Tapping screw
28180062	Hinge		24509215	Dust cover
27170086	Bottom board		28180062	Hinge
242935	OC-201V, Cartridge		27170086	Bottom board
242936	DN-201ST, Stylus			

**MECHANISM-COMPONENT LOCATION**



**REF. NO. PARTS NO. DESCRIPTION**

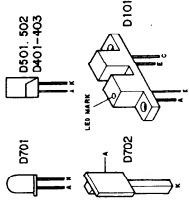
1	24506452	Chassis	24	24503102	Switch
2		Shaft	25	24506463	Cover
3		Shaft	26	82112022	Screw
4		Shaft	27, 28	24502113	Motor ass'y
5	24504304	Lever	29	24506464	Rubber plate
6	893020	E-2, Circlip	30	82152006	Machine screw
7, 8	24503104	Gear ass'y	31-34	24502106	Pulley ass'y
9	893030	E-3, Circlip	32		Bush
10	24503097	Gear	33		Plate
11	24503098	Cam gear	34		Shutter
12-18	24506474	Solenoid ass'y	35	24506468	Eccentric pin
19	24506470	Screw	36	24506469	Eccentric pin
20	24503100	Spring	37	893030	E-3, Circlip
21	24503101	Switch	38-40	24506142	Interruptor ass'y
22	24506462	Cover	41-50		Lead wire
23		Screw		24506450A	Mechanism ass'y
			38-40	24506471	Interruptor



IC TOP VIEW  
 IC301 NJM4558D  
 IC302 TMP4310AP  
 IC303 XY7400X  
 IC305 XY74LS02X

001-08(09) 004-03 25A952 25B561 25A509 25B605  
 0201 202 25C245 25C320 25C375 25C459 L0945  
 0301-308 25C202 25C245 25C368 25A150 25C1815 25F135  
 0301 302 25A798 25A733x.2 25A999x.2 25A564x.2  
 0309-311 25A1015x.2 25A608x.2 25A640x.2 LA733x.2 25A933x.2  
 0307-306 25C1815 25C1827  
 0308 25A733 25A735 25A1015  
 0308 25D655 25D655  
 0501 902 25D890

SEL110R D701  
 SP254 D702  
 SEL1121R D501 502  
 SEL1321G D402 403  
 ON1105 TLP507A D101  
 WLO1 D203 204  
 131593 or D5442X



- NOTE
1. ALL RESISTORS ARE IN OHMS, 1/4WATT UNLESS OTHERWISE NOTED.
  2. PR (PRINTED RESISTOR) IS IN 1/2 WATT.
  3. ALL CAPACITORS ARE IN pF, 50V UNLESS OTHERWISE NOTED.
  4. ELECTROLYTIC CAPACITORS (-40) ARE IN pF/WV.
  5. VOLTAGE IS MEASURED WITH V.T.V.M. WHEN TONEARM IS IN REST POSITION.
  6. (L) (C) SYMBOLS SHOW WITH THE POSITIVE LOGIC.
  7. CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

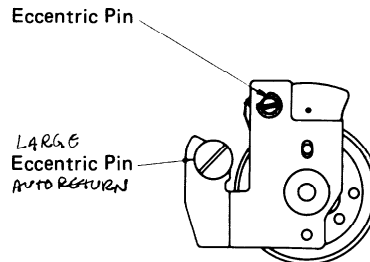
CIRCUIT NO.	FUNCTION	POSITION
S501	PLAY / REJECT	ON OFF
S502	CUE	ON OFF
S503	SEARCH	ON OFF
S504	REPEAT	ON OFF
S601	SPEED	33 45
S602	SIZE	30 17
SWB01	ARM SWITCH	PLAYING
SWB02a	GEAR SWITCH	UP DOWN
SWB02b	GEAR SWITCH	UP DOWN
SW901	POWER	ON OFF
S902	VOLTAGE SEL.	110/120 220/240

## ADJUSTMENT PROCEDURES

### 1. Tonearm height

- 1) Remove the T.T. mat.
- 2) Press the record size selector to 17cm position and the power switch to the ON position.
- 3) Press the play/reject button.
- 4) As soon as the tonearm comes over the turntable platter, press the power switch to the off position.
- 5) Adjust the screw on the lifter plate for  $14 \pm 1$ mm height between the stylus tip and the turntable platter.

Note: To adjust the height for lower, turn the screw clockwise. To adjust the height for higher, turn the screw counter-clockwise.



### 2. Auto-return position

Adjust the return position by the large eccentric pin attached by the tonearm base. To adjust the return position for faster, turn the eccentric pin clockwise. To adjust the return position for later, turn the eccentric pin counter-clockwise.

### 3. Lead-in position

Adjust the lead-in position by the small eccentric pin attached by the tonearm base. Press the record size selector to 30cm position and the speed selector to 45 r.p.m.

To adjust lead-in position for faster (outside), turn the eccentric pin clockwise. To adjust the lead-in position for later (inside), turn the eccentric pin counter-clockwise.

Press the record size selector to 17cm position and confirm the lead-in position. When outside the lead-in position, connect or cut the jumper wires by referring to the below table.

	Cut	Connect
J319	fast	late
J302	0.4 mm	
J304	0.8 mm	
J308	1.6 mm	
J316	3.2 mm	

### 4. PITCH CONTROL ADJUSTMENT

- 1) Put the stroboscope on the turntable platter.
- 2) Set the pitch control so that the center L.E.D. lights up.
- 3) Press the speed switch to 33 rpm., and adjust VR33 so that the stroboscope stripes appear to be stationary.
- 4) Then switch over to 45 rpm., and adjust VR45 to obtain the same stationary stroboscope condition.