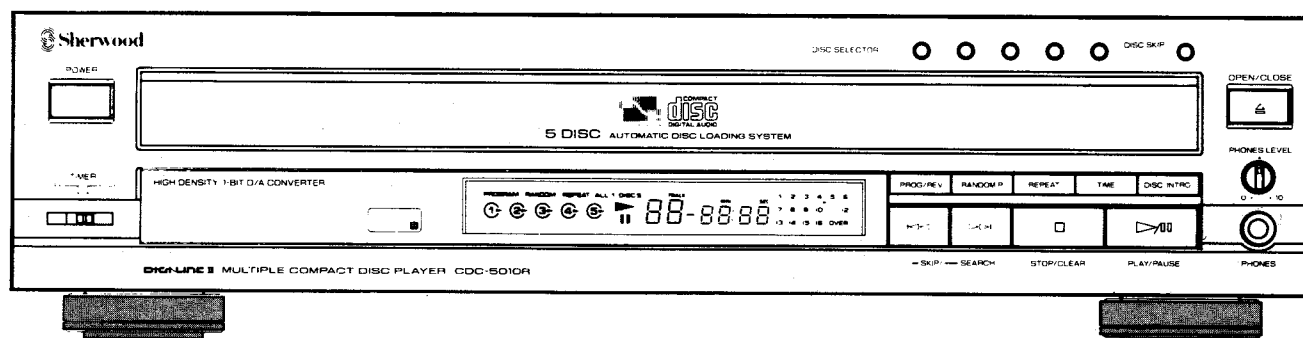


SERVICE MANUAL

CDC-5010R/C

MULTI COMPACT DISC PLAYER



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 **Sherwood**

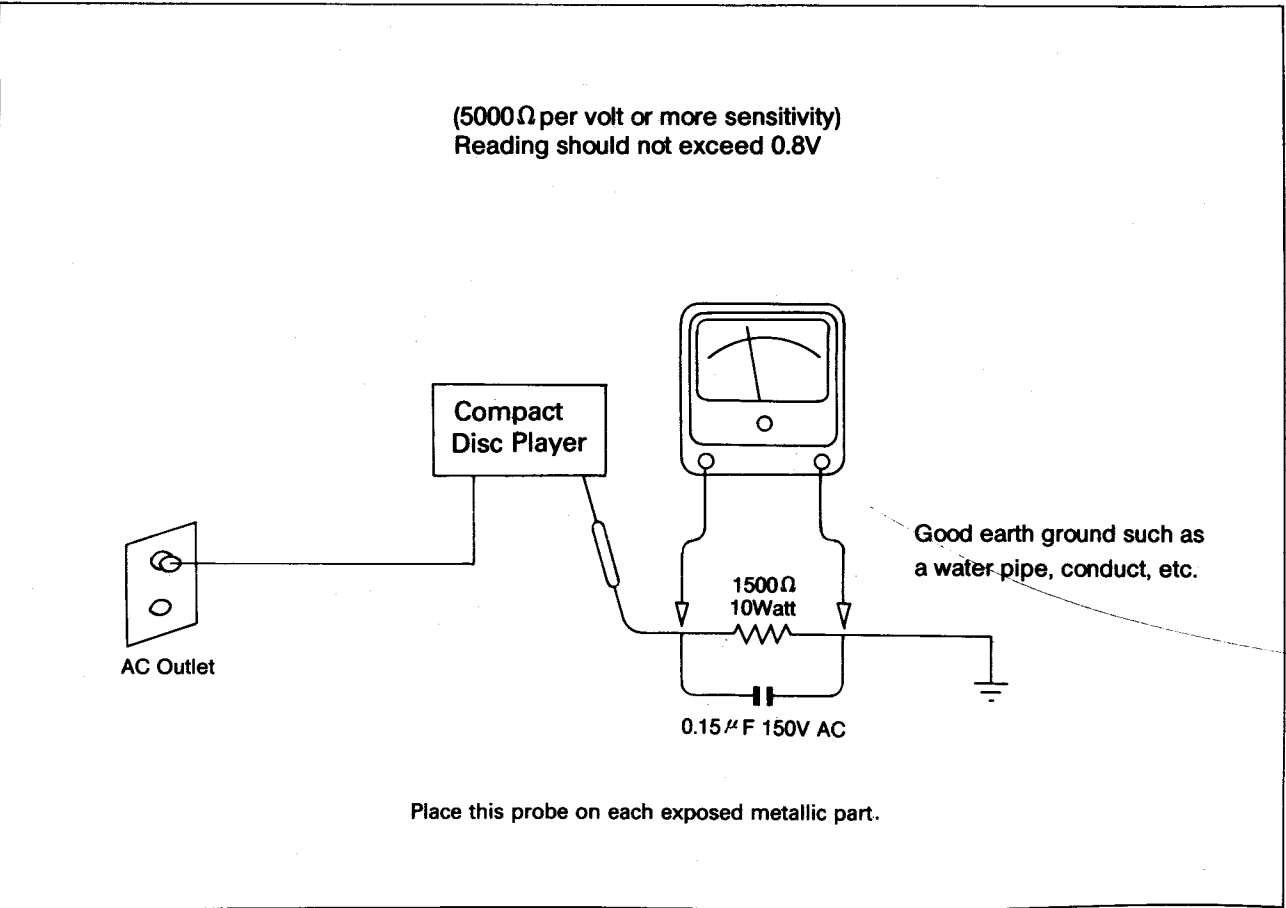
Safety Precaution

WARNING

Service should not be attempted by anyone unfamiliar with the necessary precautions on this player. The following precautions are necessary during servicing.

- 1. Many electrical and mechanical parts in this player have special characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristic are identified in this manual and its supplements : electrical components having such features are identified by a Δ in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.
- 2. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as

terminals, screwheads, metal overlays, etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet(120V Version only).(Do not use a line isolation transformer during this check.) Use an AC voltmeter having 5000 Ω per volt or more sensitivity in the following manner : Connect a 1500 Ω 10watt resistor paralleled by a 0.15 μ F 150V AC capacitor, between a known good earth ground(water pipe, conduct, etc.)and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 Ω resistor and 0.15 μ F capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts RMS. This corresponds to 0.2mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



Specifications

General

Transmission Bit Rate	4.3218 Mbit / Sec
Transmission on Clock	16.9344 MHz
Error correction	CIRC C1, C2 Double Correction

Pickup

System	Object Lens Drive Type Optical Pickup
Object Lens Drive System	2 Dimensional Parallel Drive Type
Optical Source	Semiconductor Laser
Wave Length	780 nm
Tracking System	3 Beam Tracking Servo Type

Others

Digital Filter	8Time Oversampling Type
Analog Filter	Analog 2 Pole RC Type
D / A Converter	1 Bit Stream Type
Power Supply Voltage	See type plate at the rear of the unit
Power Consumption	12W(approx)

Power Requirement ;

A : 120V 60Hz for American / Canadian Version	
B : 120V / 220, 60 / 50Hz for Multi-Voltage Version(Switchable)	
C : 230V 50Hz for General European Version	
D : 230V 50Hz for Germanian / Italian Version	
E : 240V 50Hz for U.K / Australian Version	
F : 230V 50Hz for Swiss / Scandinavian Version	
Dimensions	(H)95mmX(W)440mmX(D)380mm (H)3.7X(W)17.3X(D)14.9 inches
Weight (Net)	6.5kg (14 lbs 4.8 oz)

Electrical

Test Item	Unit	Nominal
Output Voltage at 1 kHz	(V)	2.05
Distortion and Noise without Filter		
20Hz	(%)	0.014
1kHz	(%)	0.015
10kHz	(%)	0.015
16kHz	(%)	0.017
18kHz	(%)	0.017
20kHz	(%)	0.017
Distortion and Noise with Filter 30kHz		
20Hz	(%)	0.0036
1kHz	(%)	0.0035
S / N Ratio without Filter	(dB)	85
S / N Ratio with Filter 30kHz	(dB)	95
Dynamic Range at 1kHz	(dB)	-95
Frequency Response (0 dB at 1kHz)		
20Hz	(dB)	-0.1
100Hz	(dB)	-0.1
10kHz	(dB)	-0.1
20kHz	(dB)	-0.27
De-Emphasis		
1kHz	(dB)	-0.35
5kHz	(dB)	-4.0

16kHz	(dB)	-9.1
Channel Separation	(dB)	91
Channel Balance	(dB)	0.1
Minimum Operation Voltage (% of normal supply voltage)		80

Environmental

Test to Specification
 Temperature between 59°F (15°C) and 95°F (35°C) and relative humidity between 45% and 75%, with Power supply voltage of $\pm 10\%$ the normal supply voltage.
 Test Disc : SONY YEDS-7 Type-3 or A.BEX TCD-781

Operation

Unit must work properly and correctly at the temperature range from 32°F (0°C) to 113°F (45°C) and the relative humidity from 40% to 80%, and with the supply voltage.

Storage

Temperature Test 48 hours each at -40°F (-40°C) and 149°F (65°C)
 Humidity Test : 40°C 95% relative humidity

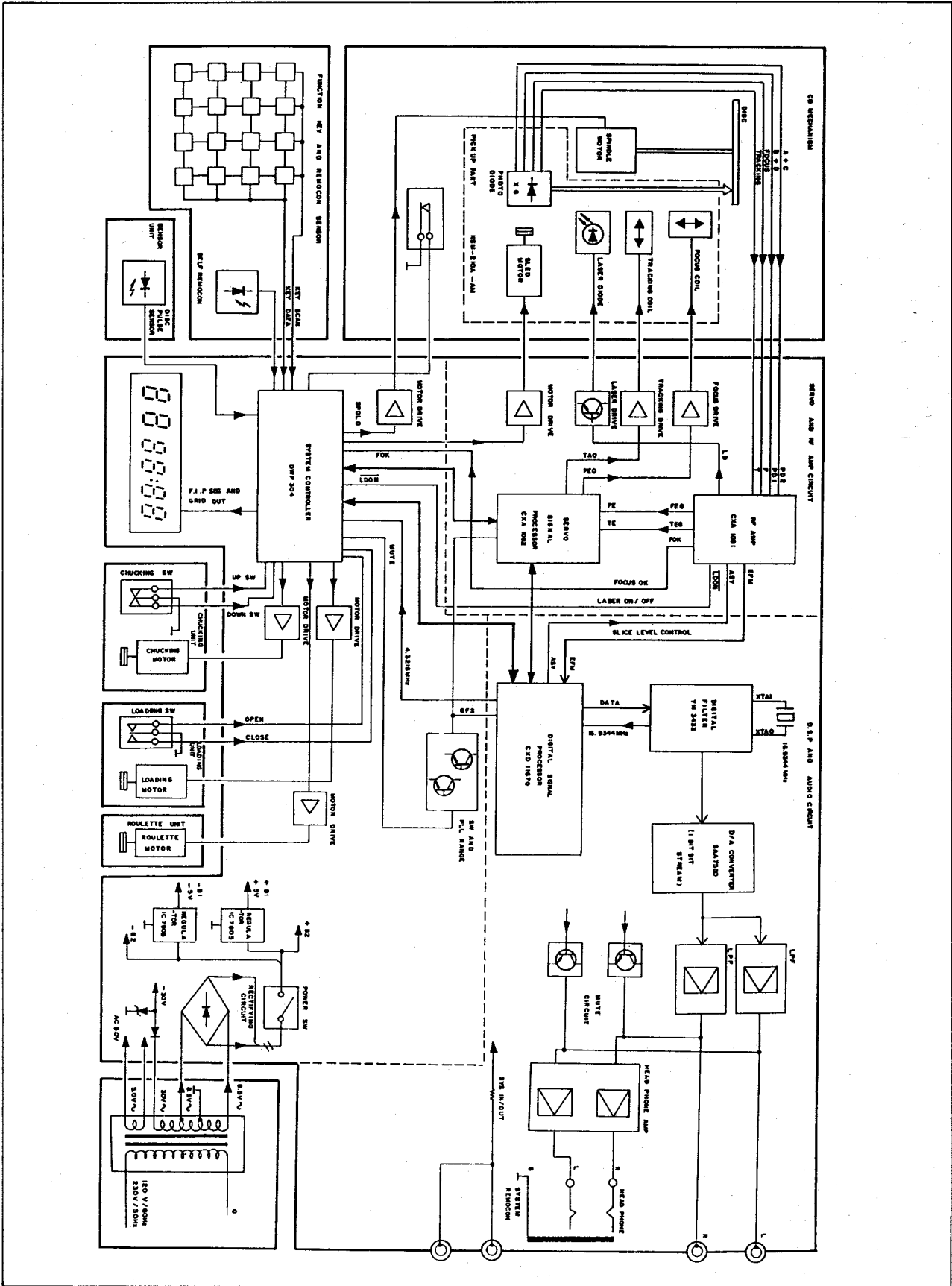
Note : Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the American (A) standard, and provides information on regional circuit modification through use of alternate schematic diagram or wiring diagram, and information on regional component variations through use of parts list. Design and Specifications subject to change without notice for improvement.

Product safety notice

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements. Electrical components having such features are identified by a Δ in the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Block Diagram



Instructions for Handling Optical System Block Pickup

Electrostatic breakdown of the laser diode in the optical system block may occur due to a potential difference caused by electrostatic charge accumulated on clothing, a human body, etc..
A ground must be provided as follows to prevent any electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band (1MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Work bench

Be sure to place a conductive sheet (1MΩ) or copper plate with proper grounding on the work bench or other surface on which the pickup is to be placed.

3. Because the static electricity charge on the clothing does not discharge through the body grounding band, do not let clothing contact the pickup unit.

Incorrect

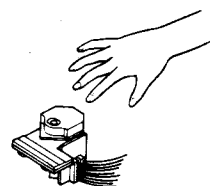


Figure 2

Correct

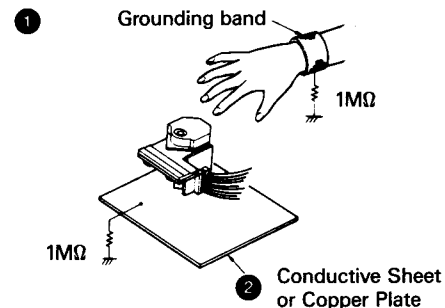


Figure 3

Note: Laser diodes are so susceptible to damage from static electricity that even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly.

Precautions for Checking Beam Emission of Laser Diode

The laser beam of this unit is focused on the reflecting surface of the objective lens in the optical system block. Therefore, keep your eyes at least 12 inches (30cm) away from the objective lens when the laser diode is ON.

[Operation Check Method for Laser Diode and Focus Search Function.]

When the Power switch is turned ON after the chucking arm is removed, observe the objective lens and confirm that the following operations are performed properly.

(The optical system block should be at the lead-in area position when it is checked at this time.)

- (1) The disc table should be at the innermost position after the chucking arm is removed.
- (2) The diffused light of the laser beam can be seen when the power switch is turned ON.
- (3) Vertical (up and down) movement of the objective lens (2 or 3 times) will take place.

Pickup Replacement

Caution:

Laser diodes are extremely susceptible to damage from static electricity. Even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly. When replacing the pickup, use a conductive mat, a grounded soldering iron, and so on, to protect the laser diode from static damage.

1. Remove the CD mechanism assembly by referring to Exploded View. (See Figure 4).

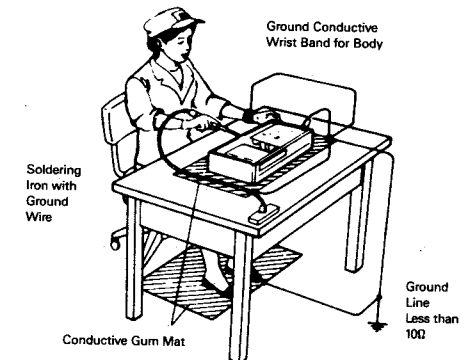


Figure 4

2. Remove four Screws (S12) & Rubber Damping(20). (See Figure 5.)

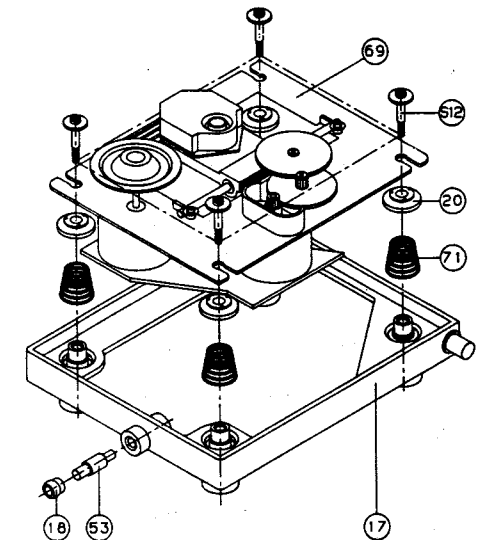


Figure 5

3. Remove a washer (B) holding the gear. (See Figure 6.)
4. Remove two screws (C). (See Figure 6.)

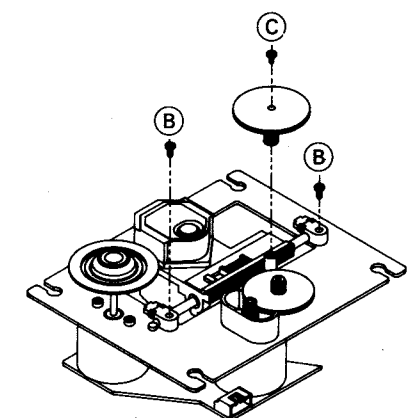


Figure 6

Circuit Adjustment

Equipment Required

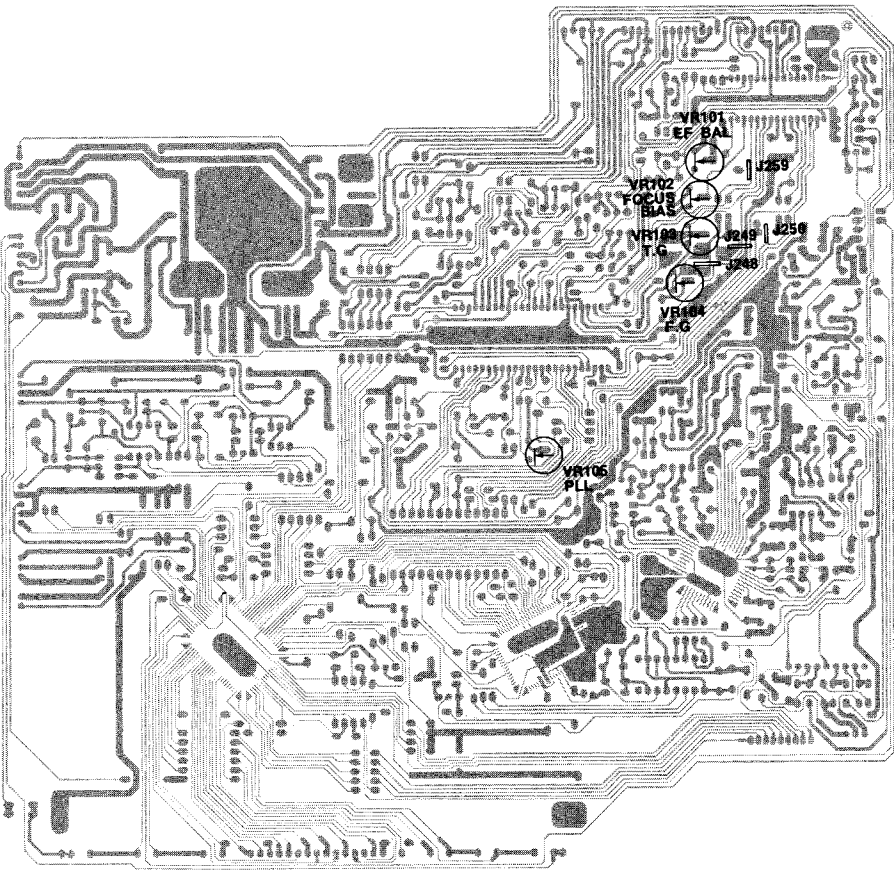
- Oscilloscope(over 50MHz)
- Frequency Counter
- Test Disc PHILIPS 5A
- A Regular Compact Disc

Before Adjustments

- Make the adjustment with a numeric order.
- Use the dualtrace oscilloscope with high impedance(more than 10M ohm)
- How to enter into the TEST MODE
 - 1) Open the disc tray
 - 2) Power off.
 - 3) Power on with pressing "SW101(TEST MODE)."
 - 4) "O" or all segments appears in the display and it means the TEST MODE O.
 - 5) If you press the PLAT button, the TEST MODE changes to the TEST MODE 1.
 - 6) If you press the PLAY button again, the TEST MODE changes to the TEST MODE 2.
- Tentative setting of Volume
 - Set the semi-fixed resistance tentatively as follows ;

VR101(EF. Balance)	Center Position
VR102(F. Bias)	Center Position
VR103(T. Gain)	Turn to the first counterclockwise
VR104(F. Gain)	Turn to the end counterclockwise
VR105(PLL)	Center Position

Test Point Locations(PCB Top View)



5. Take out the pickup ①. Then pull out the shaft ②.
(See Figure 7.)

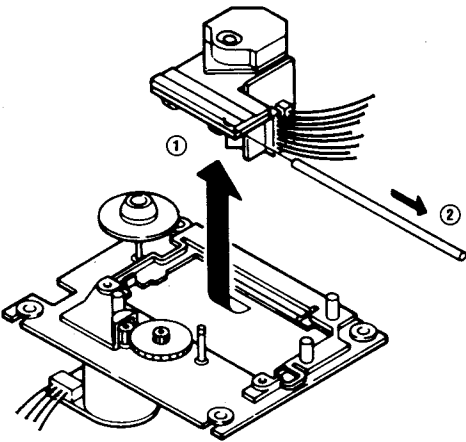


Figure 7

6. After you connect the wire connector, desolder and remove the shorting tab. (See Figure 8.)

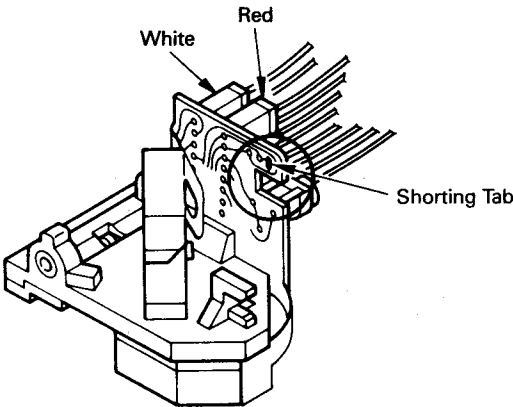
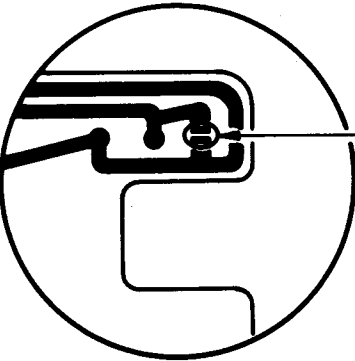


Figure 8

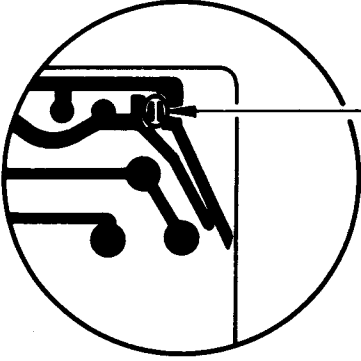
KSS-150A

KSS-210A



Shorting Tab

Figure 8-1

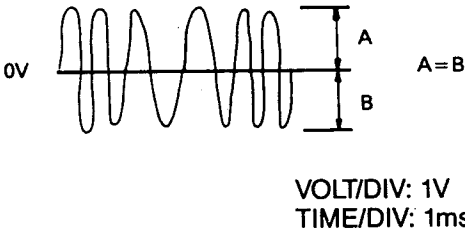


Shorting Tab

Figure 8-2

7. Refer to the drawings of the exploded view of the compact disc mechanism on page 33 for the detailed information.

PLL & EF. Balance Adjustment

Step	Connect	Setting	Adjust	Remarks
PLL(Phase Locked Loop)Adjustment				
1	See Figure	In the TEST MODE 0	VR105	Counter reading to be 4.3 MHz.
2	Disconnect between J259 (GND) and J250(ASY)			
3	Check the counter reading to be 4.3218 $\pm$ 0.0025 MHz in the TEST MODE 2.			
EF Balance Adjustment				
1	See Figure	In the TEST MODE 1		
2		Turn a disc softly with a finger and adjust VR101 to obtain symmetrical waveform	VR101	
3	The above adjustments must be made very carefully as the misadjustment may cause skipping.			

PLL Adjustment

EF Balance Adjustment

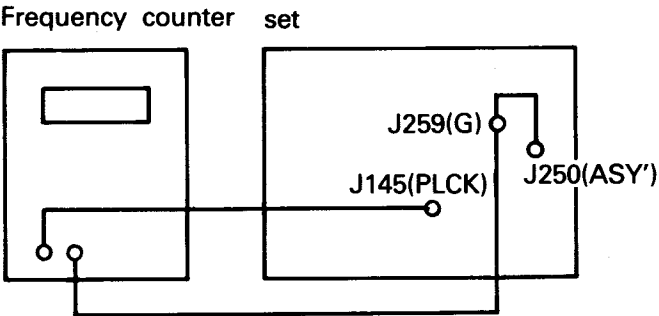


Figure 10

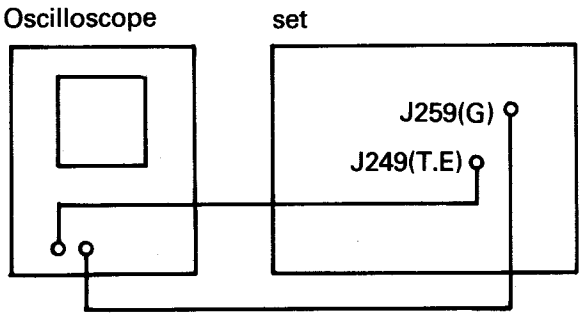
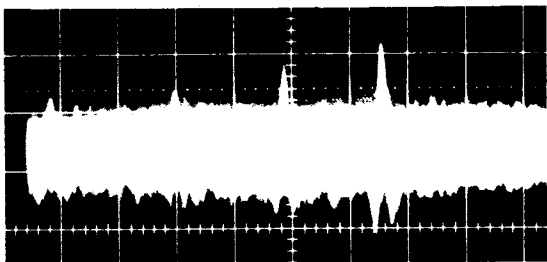
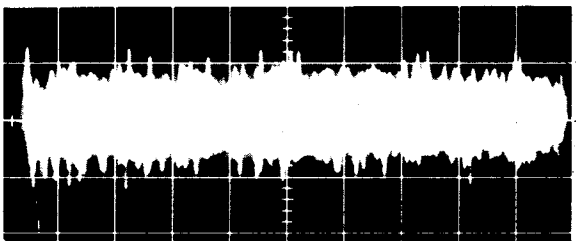


Figure 11

Step	Connect	Setting	Adjust	Remarks
Focus Gain Adjustment				
1	See Figure	In the TEST MODE 2	VR104	 Focus error signal of about 100mV.
2	To increase the focus gain, turn VR104 clockwise.			
Tracking Gain Adjustmmt				
1	See Figure	In the TEST MODE 2	VR103	 Obtain the tracking drive signal of about 1 Volt. 100mV
2	Change the regular disc to PHILIPS test disc 5A and play where the black dot of 800 μ m is, set confirm no skipping.			
3	If there is any skipping, adjust VR103 to reduce the tracking servo gain till no skipping occurs. To reduce the gain, turn VR103 counterclockwise.			

EF Balance Adjustment

Focus Gain Adjustment

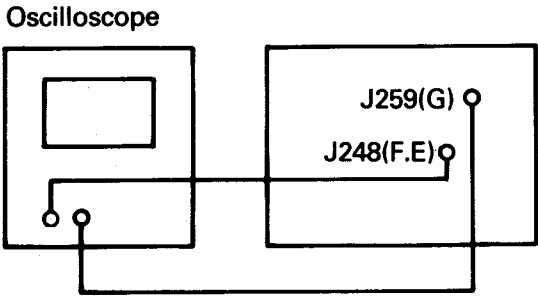


Figure 12

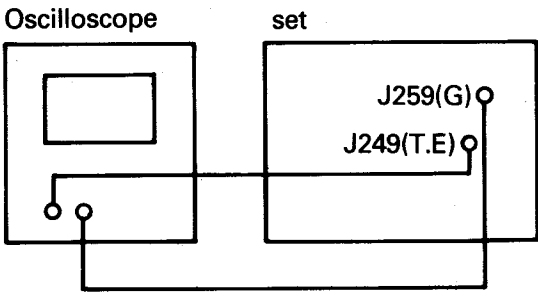
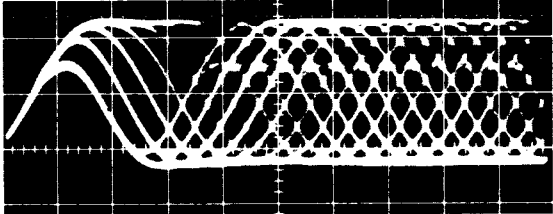


Figure 13

Troubleshooting Chart

Step	Connect	Setting	Adjust	Remarks
Focus Gain Adjustment				
1	See Figure	In the TEST MODE 2	VR103	Obtain the maximum amplitude and the biggest diamond windows of the eye pattern.  The above is an example of good eye pattern. The diamond windows in the center portion are large and clear.

Focus Bias Adjustment

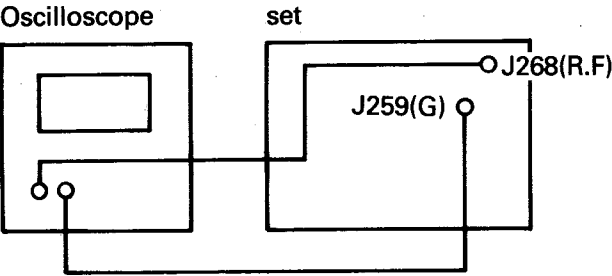
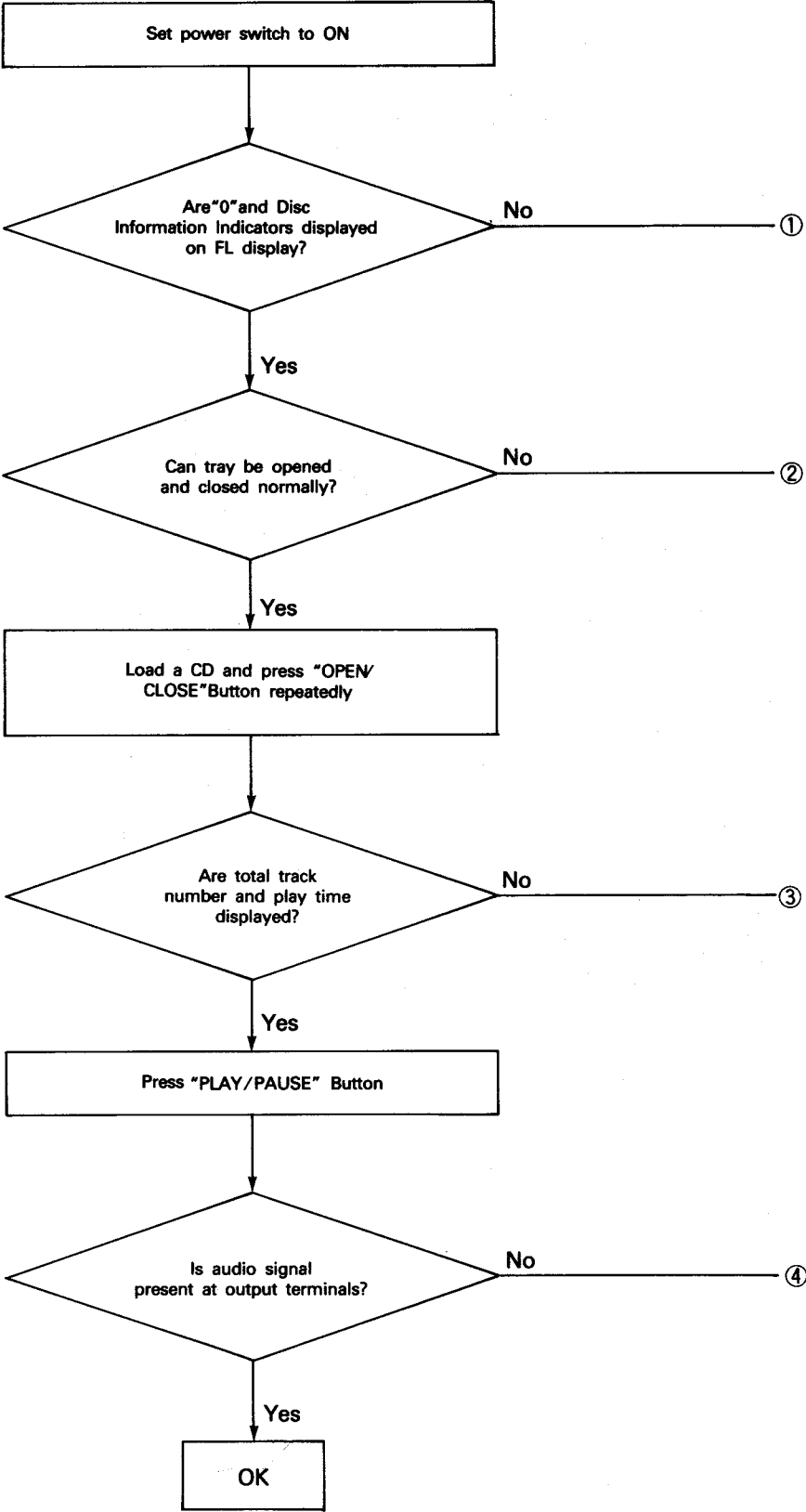
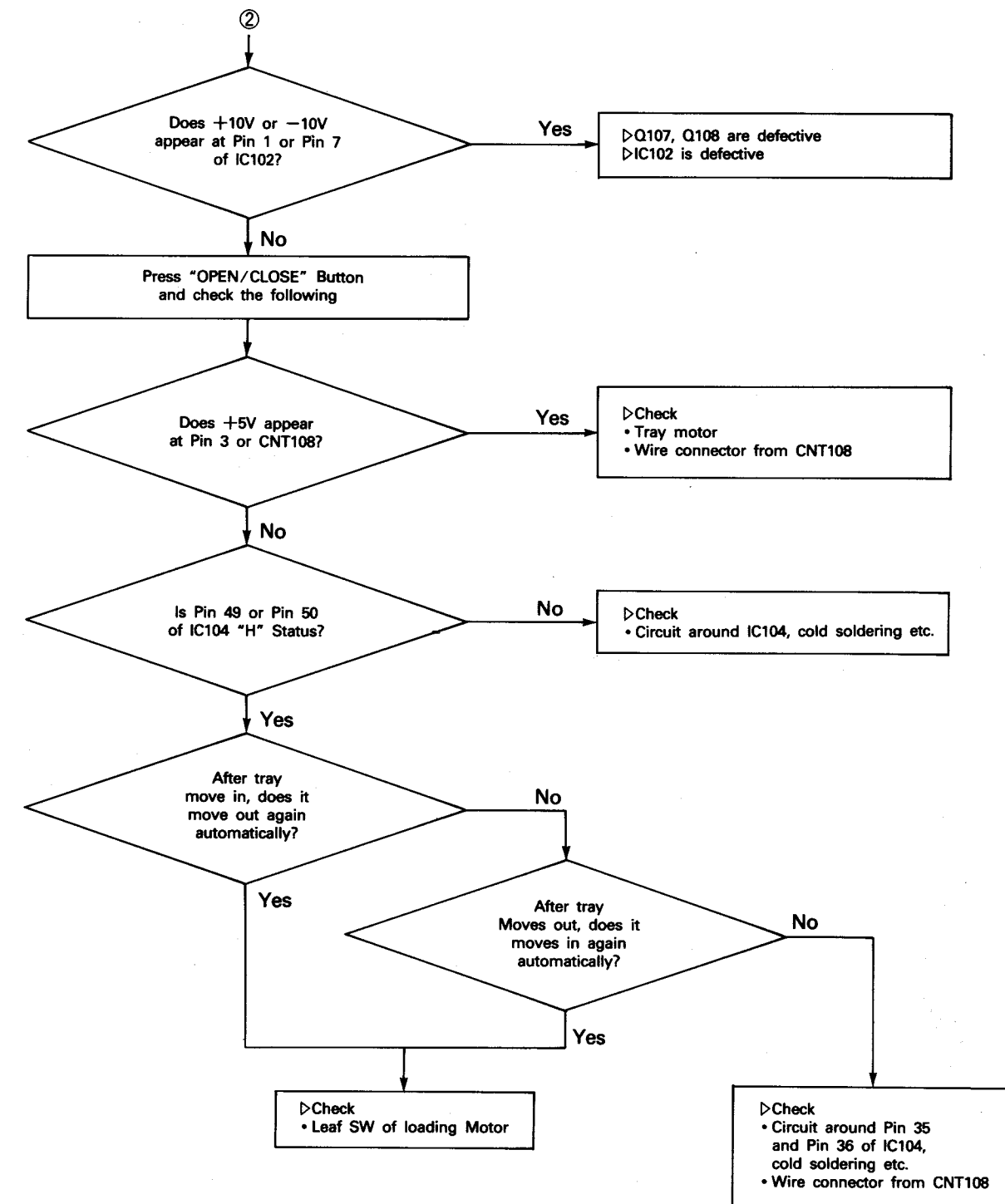
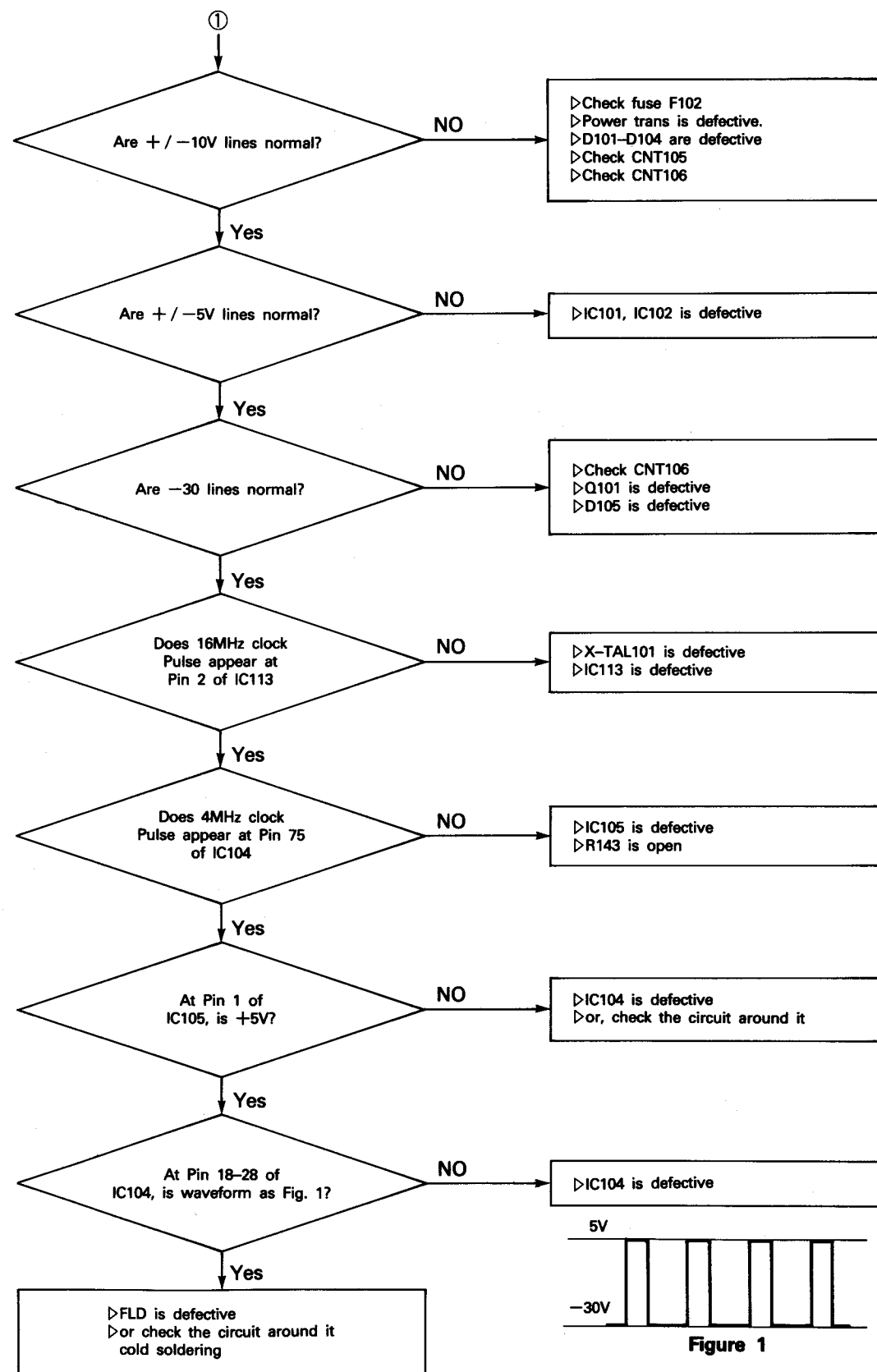
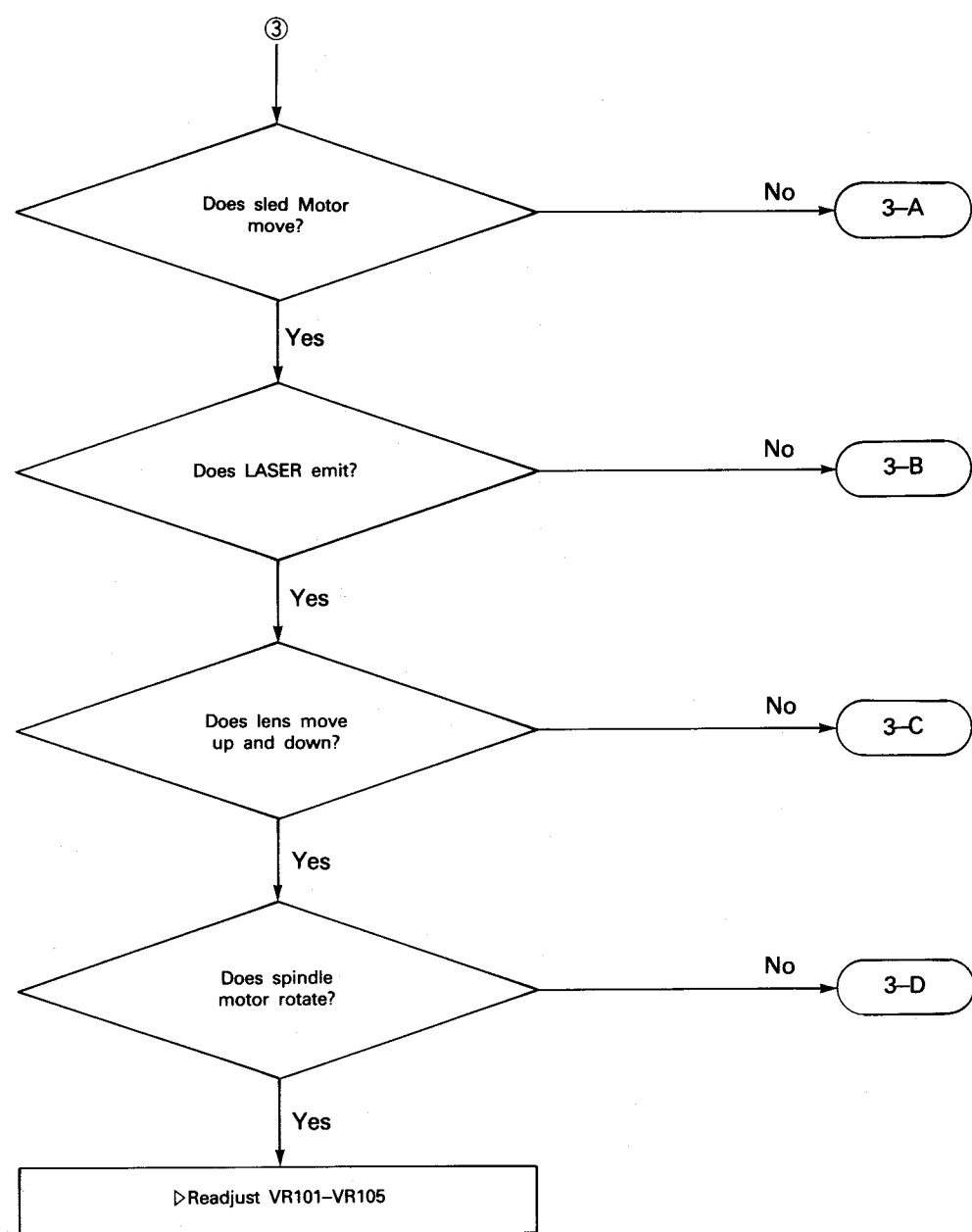


Figure 14

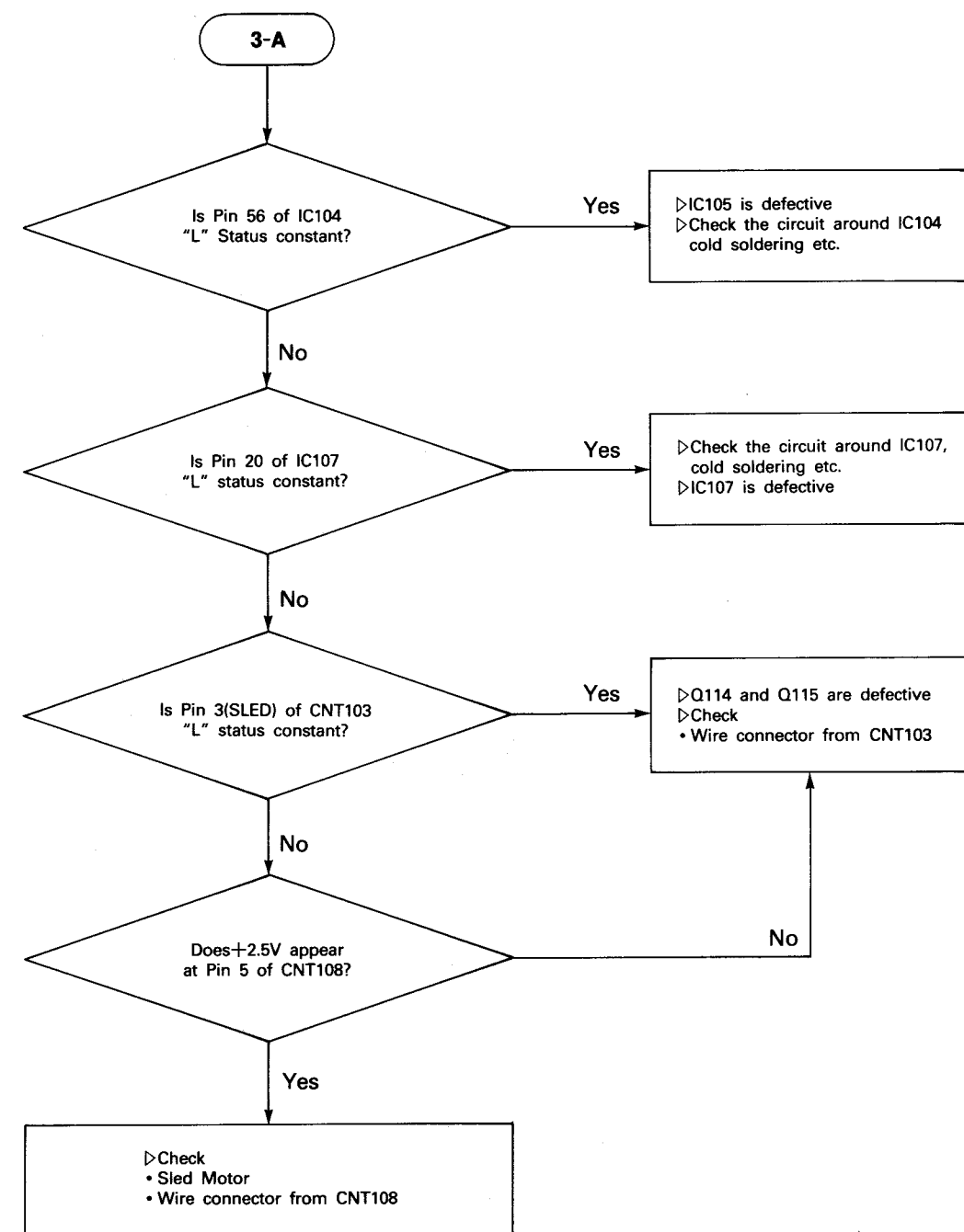




[Repair item 3] "O" is displayed instead of total track number and play time.



[Repair item 3-A] Sled motor does not move.



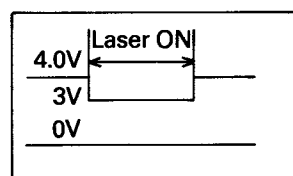
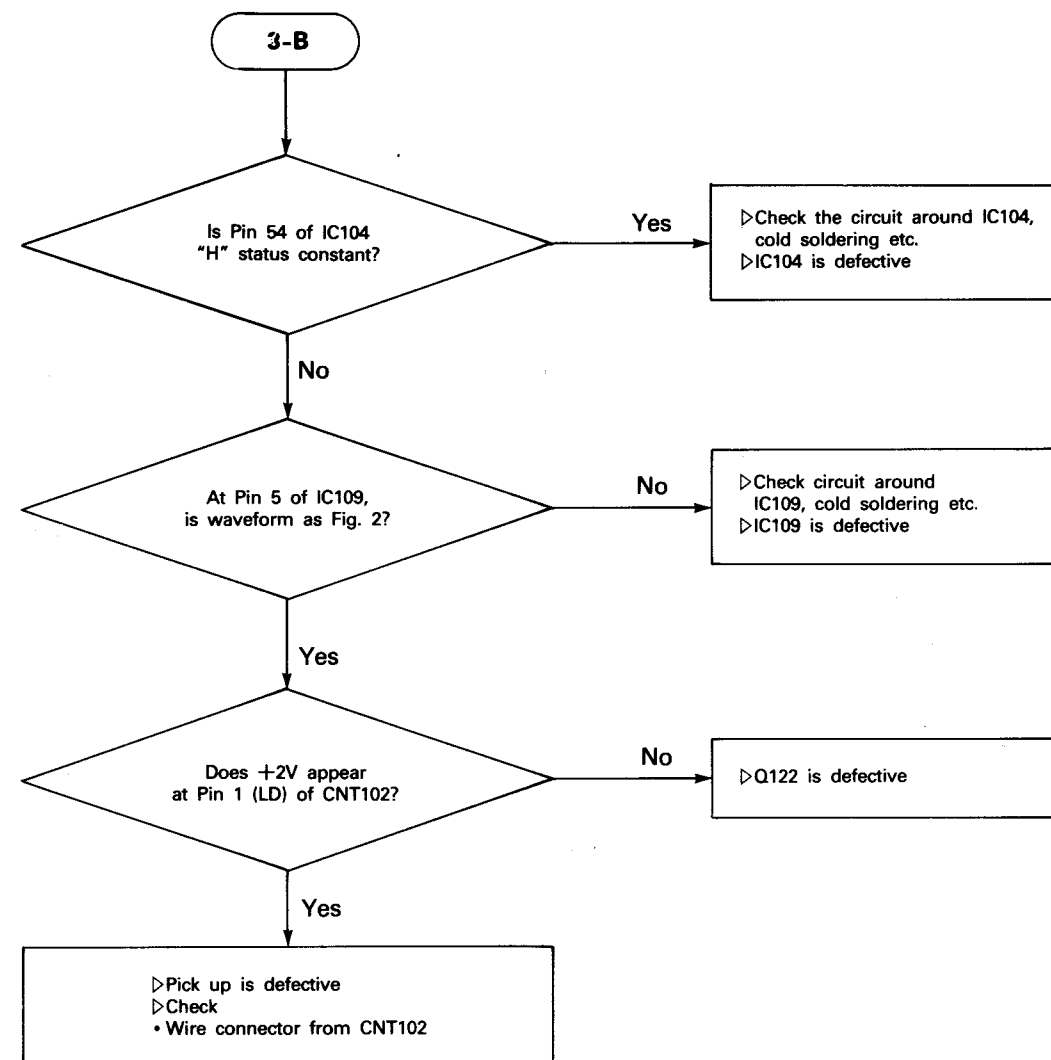


Figure 2

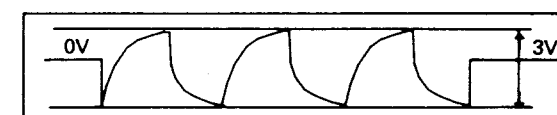
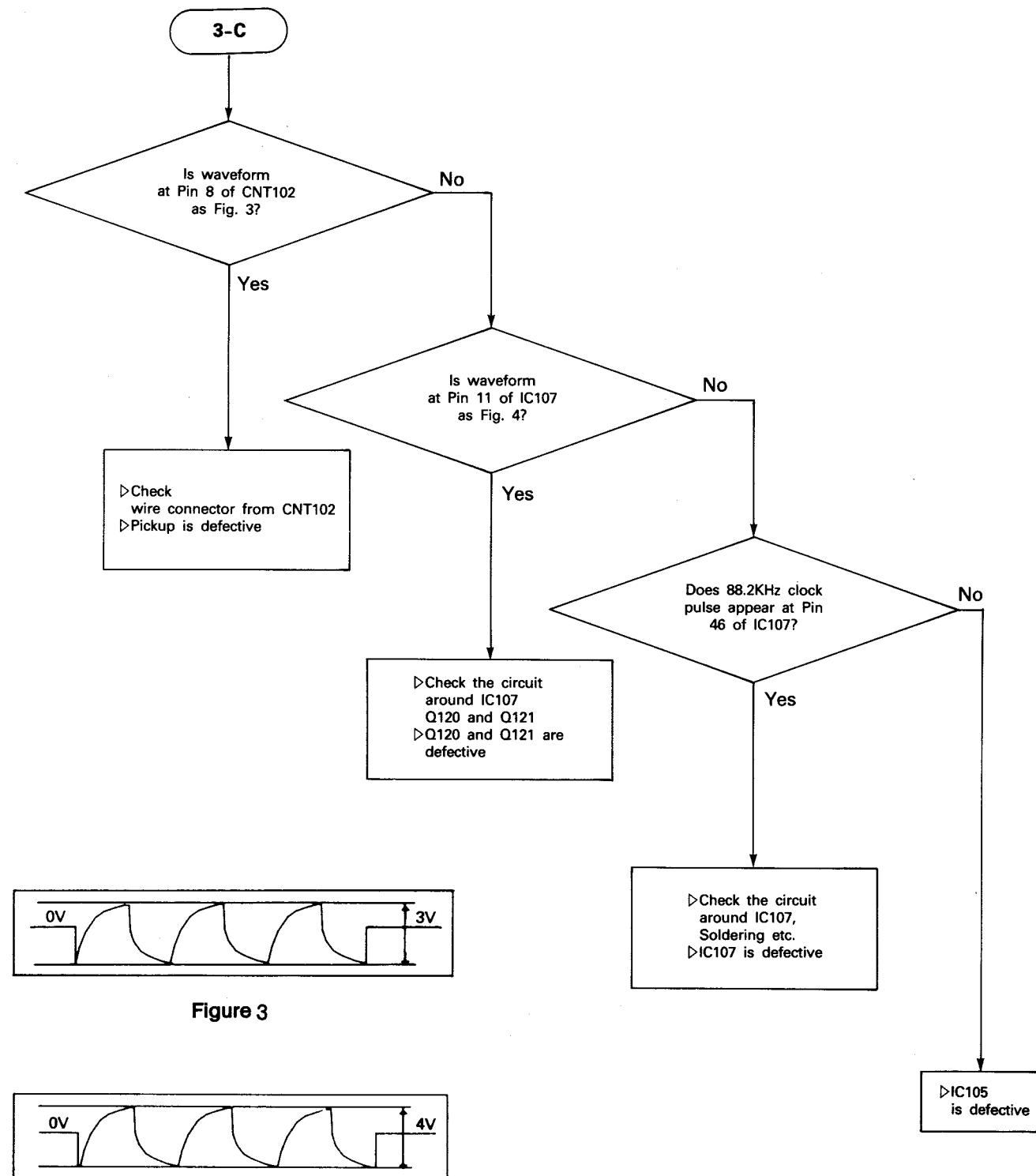


Figure 3

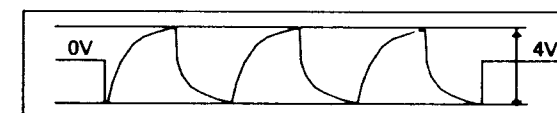


Figure 4

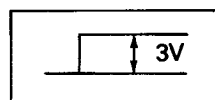
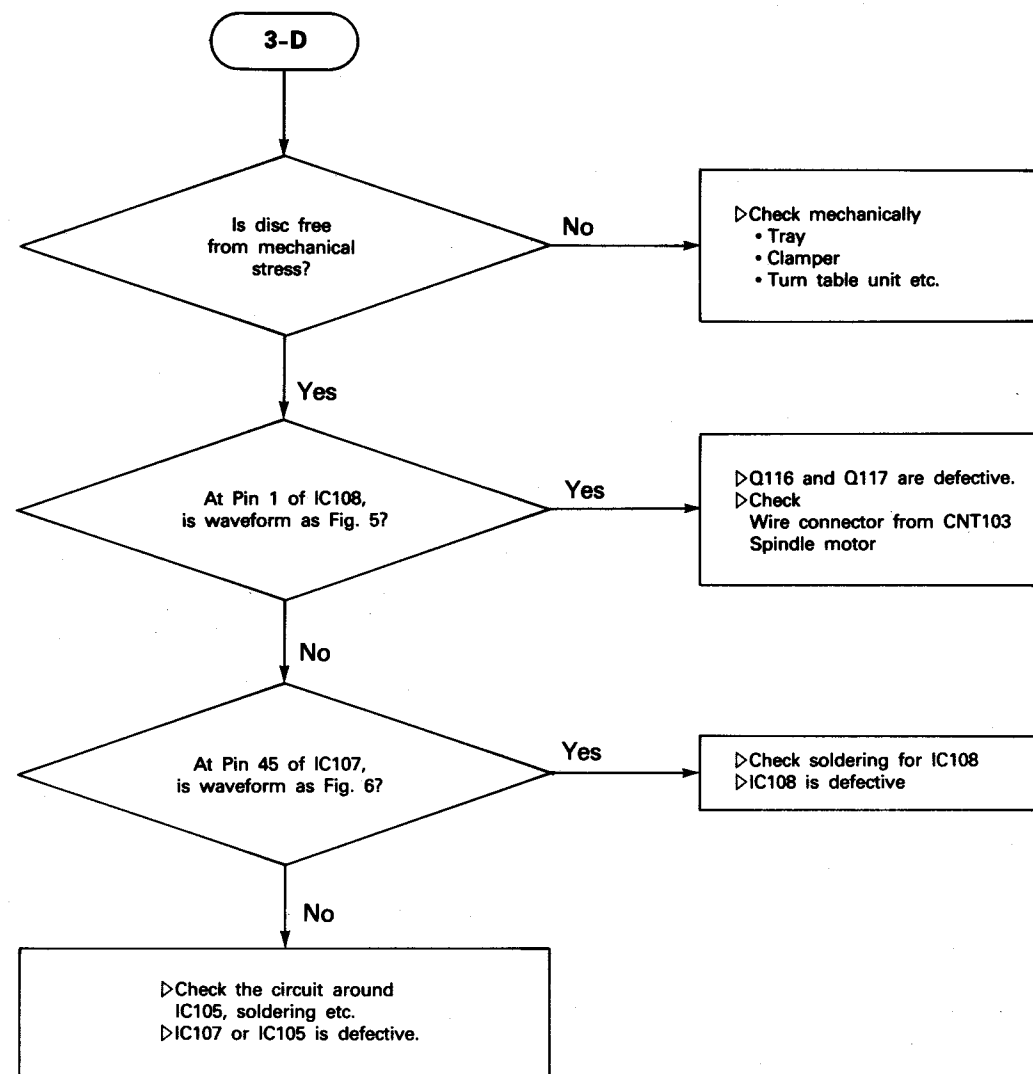


Figure 5

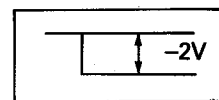
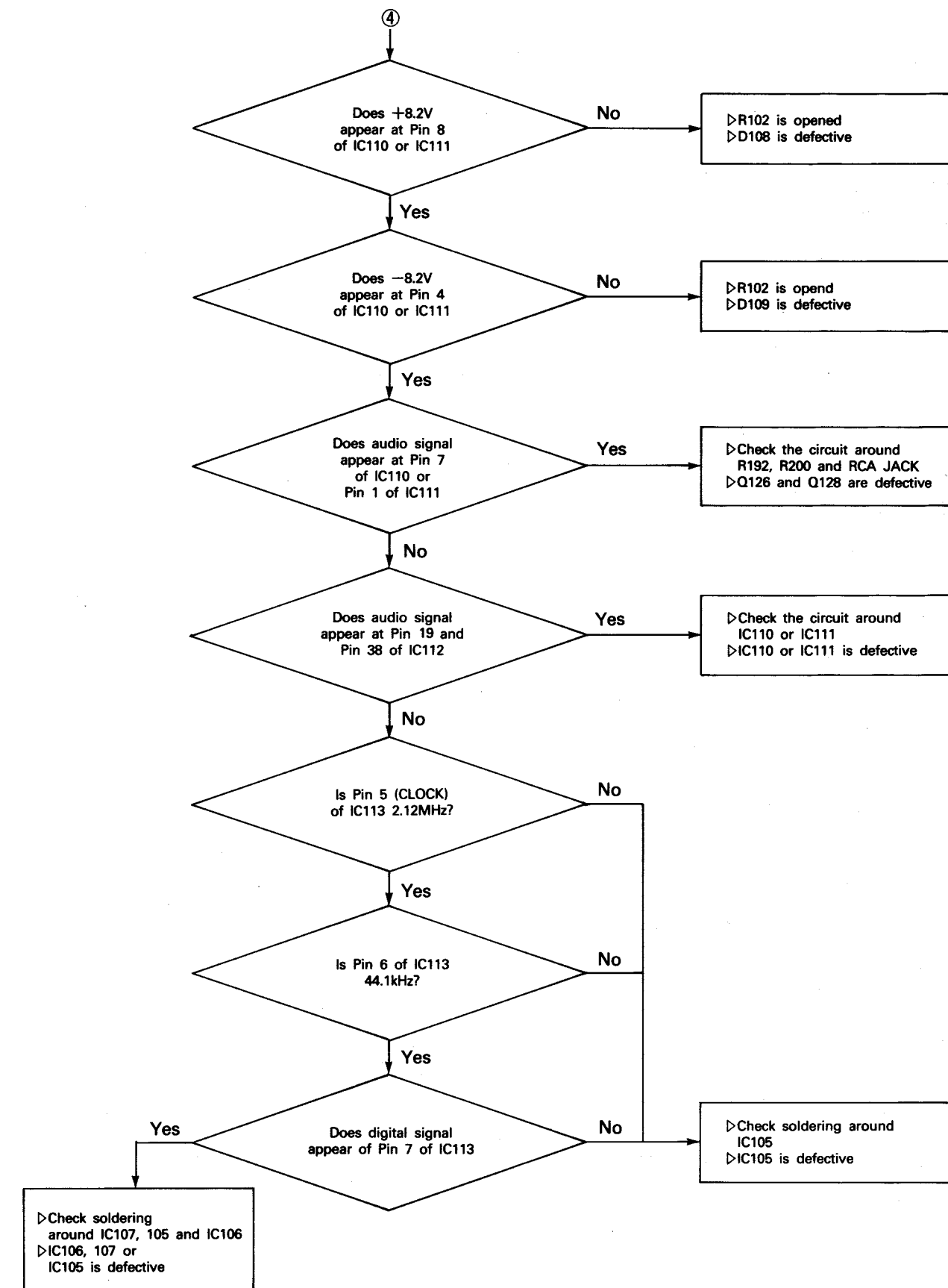
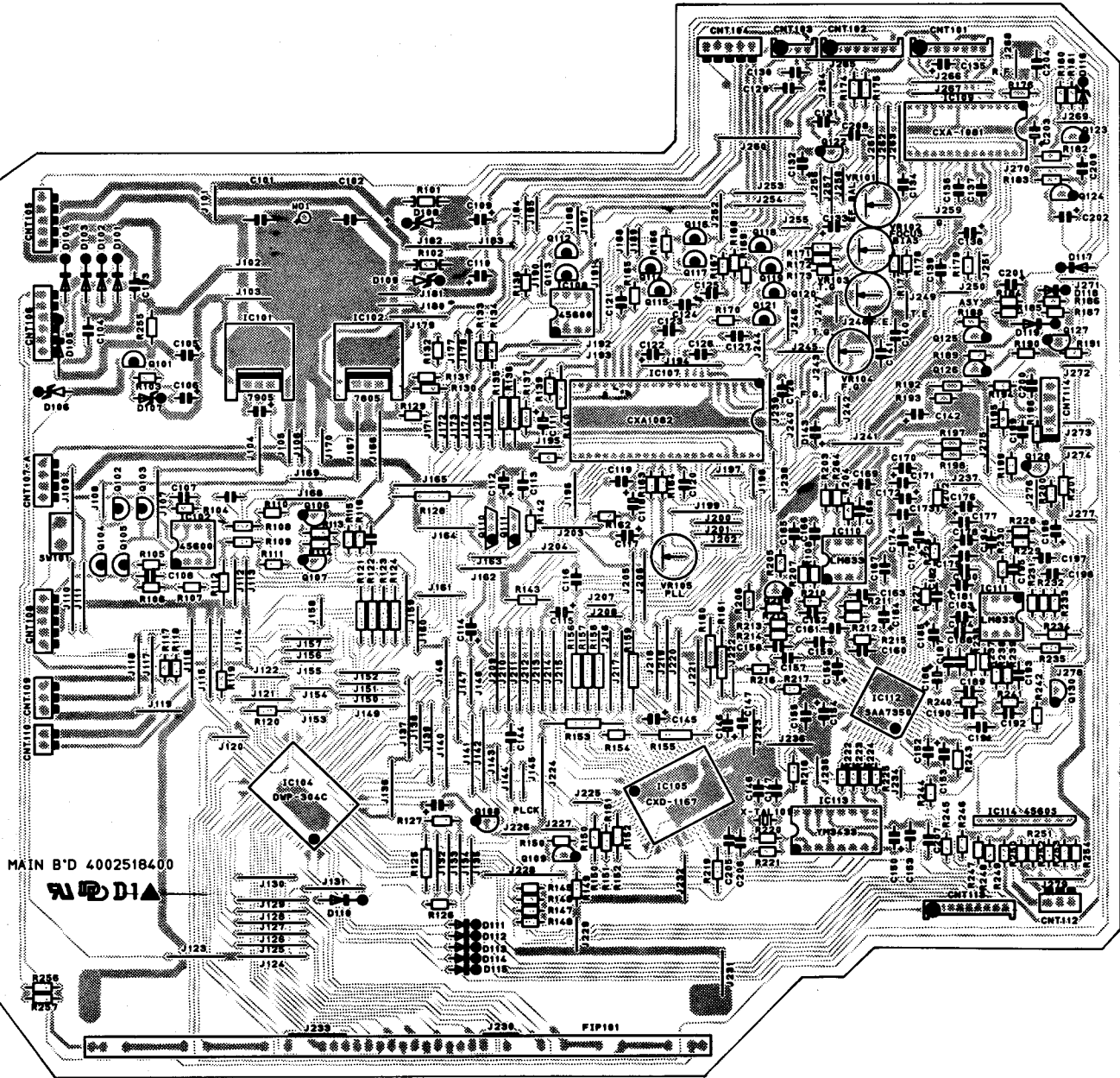


Figure 6

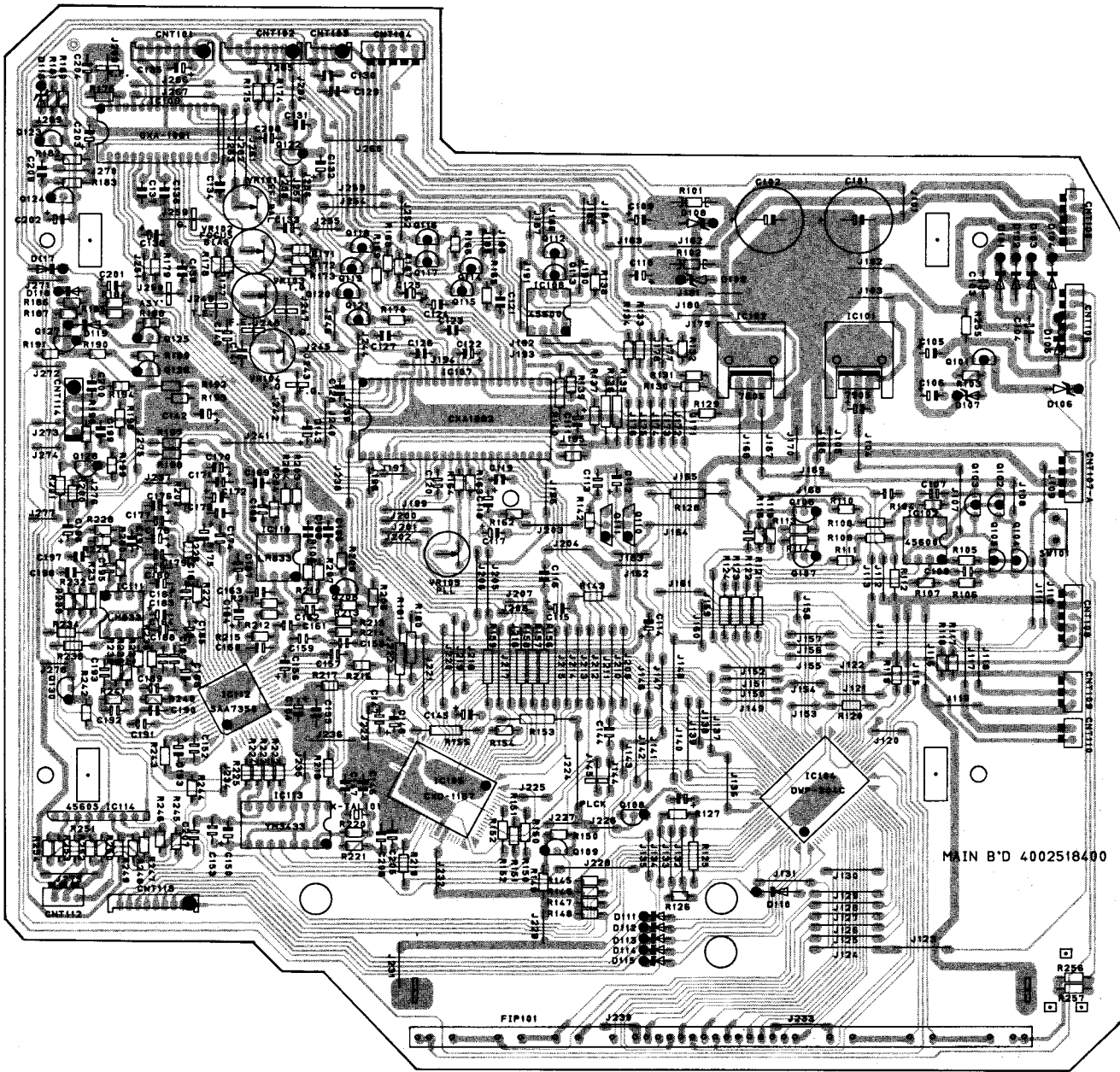


P.C. Boards(Top & Bottom Views)

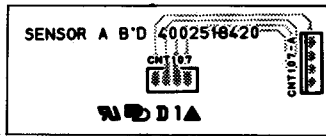
MAIN P.C. BOARD
(TOP VIEW)



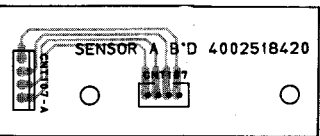
(BOTTOM VIEW)



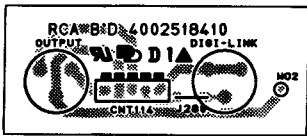
SENSOR A P.C BOARD
(TOP VIEW)



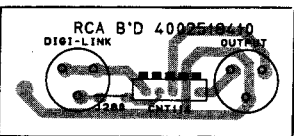
(BOTTOM VIEW)



RCA P.C BOARD
(TOP VIEW)



(BOTTOM VIEW)



Electrical Parts List

PRODUCT SAFETY NOTICE : If you replace any of these components, carefully read the product safety notice of this manual. Don't degrade the safety of the product through improper servicing. Remark meaning for version, therefore refer to power requirement of Specifications in this manual. Resistors & Capacitors tolerance, D : (±0.5%), J : (±5%), K : (±10%), M : (±20%), Z : (+80%, -20%).

Ref.No	Part No.	Description	Remark
Main P.C. Board			
Capacitors			
C101/C102	340922239	Electric SA 2200 µF 16V M	Axial
C103/C104	3519473935	Ceramic 0.047 µF 50V J	
C105/C106	3479247071	Electric SA 47 µF 50V M	Axial
C107/C108	3519102935	Ceramic 0.001 µF 50V J	
C109/C110	3409222139	Electric SA 220 µF 25V M	Axial
C111	3479347041	Electric SA 47 µF 25V M	
C112	3479210971	Electric SA 1 µF 50V M	Axial
C113	3519223935	Ceramic 0.022 µF 50V J	
C114	3409210121	Electric SA 100 µF 10V M	Axial
C115	3479247871	Electric SA 0.47 µF 50V M	
C116	3679333120	Mylar 0.033 µF 100V J	Axial
C117	3479347041	Electric SA 47 µF 25V M	
C118	3479247971	Electric SA 4.7 µF 50V M	Axial
C119	3679472120	Mylar 0.0047 µF 100V J	
C120	3519102935	Ceramic 0.001 µF 50V J	Axial
C121	3679153120	Mylar 0.015 µF 100V J	
C122	3479247971	Electric SA 4.7 µF 50V M	Axial
C123	3679104122	Mylar 0.1 µF 100V J	
C124	3479233971	Electric SA 3.3 µF 50V M	Axial
C125	3479322071	Electric SA 22 µF 50V M	
C126	3679473120	Mylar 0.047 µF 100V J	Axial
C127	3679104122	Mylar 0.1 µF 100V J	
C128	3679472120	Mylar 0.0022 µF 100V J	Axial
C129/C130	3519561935	Ceramic 560pF 50V J	
C131	3679472120	Mylar 0.0022 µF 100V J	Axial
C132/C133	3479347041	Electric SA 47 µF 25V M	
C134	3679333120	Mylar 0.033 µF 100V J	Axial
C135	3479347041	Electric SA 47 µF 25V M	
C136	3679333120	Mylar 0.033 µF 100V J	Axial
C137	3679103120	Mylar 0.01 µF 100V J	
C138	3479247871	Electric SA 0.47 µF 50V M	Axial
C139	3679103120	Mylar 0.01 µF 100V J	
C140	3519561935	Ceramic 560pF 50V J	Axial
C141	3519472915	Ceramic 0.0047 µF 50V J	
C142	3479210071	Electric SA 10 µF 50V M	Axial
C143	3479347041	Electric SA 47 µF 25V M	
C144	3519103915	Ceramic 0.01 µF 50V J	Axial
C145	3409210121	Electric SA 100 µF 10V M	
C146	3479347041	Electric SA 47 µF 25V M	Axial
C147	3519473935	Ceramic 0.047 µF 50V J	
C148/C149	3529330210	Ceramic 33pF 50V J	Axial
C150	3479347041	Electric SA 47 µF 25V M	
C151/C152	3519473935	Ceramic 0.047 µF 50V J	Axial
C153/C154	3479347041	Electric SA 47 µF 25V M	
C155	3519473935	Ceramic 0.047 µF 50V J	Axial
C156	3479347041	Electric SA 47 µF 25V M	
C157	3519473935	Ceramic 0.047 µF 50V J	Axial
C158	3519330935	Ceramic 33pF 50V J	
C159	3519471935	Ceramic 470pF 50V J	Axial
C160	3519330935	Ceramic 33pF 50V J	
C161	3519471935	Ceramic 470pF 50V J	Axial
C162/C163	3519271935	Ceramic 270pF 50V J	
C164	3479347041	Electric SA 47 µF 25V M	

Ref.No	Part No.	Description				Remark
C165	3679102120	Mylar	0.001 µF	100V	J	Axial
C166	3679333120	Mylar	0.033 µF	100V	J	
C167	3519473935	Ceramic	0.047 µF	50V	J	
C168	3519101935	Ceramic	100pF	50V	J	Axial
C169	3679102120	Mylar	0.001 µF	100V	J	Axial
C170	3479347041	Electric SA	47 µF	25V	M	
C171	3519473935	Ceramic	0.047 µF	50V	J	
C172	3479347041	Electric SA	47 µF	25V	M	Axial
C173/C174	3519473935	Ceramic	0.047 µF	50V	J	
C175/C176	3479347041	Electric SA	47 µF	25V	M	
C177	3519473935	Ceramic	0.047 µF	50V	J	Axial
C178	3479347041	Electric SA	47 µF	25V	M	Axial
C179/C180	3519473935	Ceramic	0.047 µF	50V	J	
C181	3479347041	Electric SA	47 µF	25V	M	
C182	3519473935	Ceramic	0.047 µF	50V	J	Axial
C183	3479347041	Electric SA	47 µF	25V	M	Axial
C184	3519473935	Ceramic	0.047 µF	50V	J	
C185/C186	3479347041	Electric SA	47 µF	25V	M	
C187	3519473935	Ceramic	0.047 µF	50V	J	Axial
C188	3519271935	Ceramic	270pF	50V	J	Axial
C189	3519330935	Ceramic	33pF	50V	J	Axial
C190/C191	3519471935	Ceramic	470pF	50V	J	Axial
C192	3519330935	Ceramic	33pF	50V	J	Axial
C193	3519271935	Ceramic	270pF	50V	J	Axial
C194	3679102120	Mylar	0.001 µF	100V	J	Axial
C195	3519101935	Ceramic	100pF	50V	J	
C196	3479210071	Electric SA	10 µF	50V	M	
C197	3679333120	Mylar	0.033 µF	100V	J	Axial
C198	3679102120	Mylar	0.001 µF	100V	J	
C199/C200	3679392120	Mylar	0.0039 µF	100V	J	
C201	3479347041	Electric SA	47 µF	25V	M	Axial
C202	3479247871	Electric SA	0.47 µF	50V	M	
C203	3479347041	Electric SA	47 µF	25V	M	
C204	3519103915	Ceramic	0.01 µF	50V	J	
Connectors						
CNT101	4428525580	Plug 8P				
CNT102	4428525580	Plug 8P				
CNT103	4428525540	Plug 4P				
CNT104	4428513450	Plug 5P				
CNT105	4428513450	Plug 5P				
CNT106	4428513460	Plug 6P				
CNT107-A	4428513440	Plug 4P				
CNT108	4428513450	Plug 5P				
CNT109	4428513430	Plug 3P				
CNT110	4428513420	Plug 2P				
CNT111		Not used!				
CNT112	4428513430	Plug 3P				
CNT113	4428525590	Plug 9P				
CNT114	4119105263	Slat wire 5P 260mm to RCA B'D				
Diodes						
D101-D105	2258100135	1N4002, Rectifier				
D106	2258599107	Zener, RD-9.18M, Rectifier				
D107	2258599128	Zener, RD-30BM, Rectifier				

Ref.No	Part No.	Description	Remark
D108/D109	2258599123	Zener, RD-8.2BM, Rectifier	
D110-D115	2058306101	1N4148, Switch	
D116	2258522108	Zener, RD-4.3B	
D117-D119	2058306101	1N4148, Switch	
IC's			
IC101	2168600105	MC7905, Regulator(-5V)	
IC102	2168601101	GL7805, Regulator(+5V)	
IC103	2168220103	NJM4560D, OP Amplifier	
IC104	2138322125	DWP-304C, CXP50112 CPU	
IC105	2138022110	CXD1167Q, Digital Signal Processor	
IC106		Not used!	
IC107	2138022112	CXA1082BS, Servo Signal Processor	
IC108	2168220103	NJM4560D, OP Amplifier	
IC109	2138022111	CXA1081S, RF Amplifier	
IC110/IC111	2168200105	LM833, OP Amplifier	
IC112	2138000156	SAA7350, D/A Converter	
IC113	2138000149	YM3433, Digital Filter	
IC114	2168020101	NJM4560S, OP Amplifier	
Resistors : All Resistors are 1/5W carbon film $\pm 5\%$ tolerance, unless otherwise specified. M. is metal film, M.O is metal oxide and C. is cement type.			
R101/R102	3069101970	100 Ω	
R103	3069472970	4.7k Ω	
R104	3069124970	120k Ω	
R105	3069100970	10 Ω	
R106	3069104970	100k Ω	
R107	3069393970	39k Ω	
R108/R109	3069104970	100k Ω	
R110/R111	3069362970	3.6k Ω	
R112	3069124970	120k Ω	
R113/R114	3069512970	5.1k Ω	
R115	3069104970	100k Ω	
R116	3069393970	39k Ω	
R117/R118	3069333970	33k Ω	
R119		Not used!	
R120	3069333970	33k Ω	
R121/R122	3069104970	100k Ω	
R123/R124	3069512970	5.1k Ω	
R125	3069474970	470k Ω	
R126	3069104970	100k Ω	
R127		Not used!	
R128	3069223970	22k Ω	
R129-R131	3069333970	33k Ω	
R132-R134	3069104970	100k Ω	
R135	3069472970	4.7k Ω	
R136		Not used!	
R137/R138	3069104970	100k Ω	
R139	3069474970	470k Ω	
R140	3069822970	8.2k Ω	
R141	3069473970	47k Ω	
R142	3069102970	1k Ω	
R143	3069105970	1M Ω	
R144	3069103970	10k Ω	
R145-R148	3069333970	33k Ω	
R149	3069103970	10k Ω	
R150-R152	3069681970	680 Ω	
R153	3069473970	47k Ω	
R154	3069104970	100k Ω	
R155	3069473970	47k Ω	
R156	3069203970	20k Ω	
R157	3069102970	1k Ω	
R158-R161	3069103970	10k Ω	

Ref.No	Part No.	Description	Remark
R162	3069104970	100kΩ	
R163	3069124970	120kΩ	
R164	3069362970	3.6kΩ	
R165	3069124970	120kΩ	
R166	3069512970	5.1kΩ	
R167	3069153970	15kΩ	
R168/R169	3069823970	82kΩ	
R170	3069104970	100kΩ	
R171	3069223970	22kΩ	
R172/R173	3069103970	10kΩ	
R174	3069101970	100Ω	
R175	3069102970	1kΩ	
R176	3069243970	24kΩ	
R177/R178	3069472970	4.7kΩ	
R179	3069104970	100kΩ	
R180-R182	3069102970	1kΩ	
R183	3069274970	270kΩ	
R184	3069104970	100kΩ	
R185	3069103970	10kΩ	
R186/R187	3069223970	22kΩ	
R188/R189	3069103970	10kΩ	
R190	3069102970	1kΩ	
R191	3069103970	10kΩ	
R192	3069151970	150Ω	
R193	3069104970	100kΩ	
R194	3069101970	100Ω	
R195	3069102970	1kΩ	
R196	3069103970	10kΩ	
R197-R199	3069101970	100Ω	
R200	3069151970	150Ω	
R201	3069104970	100kΩ	
R202	3069101970	100Ω	
R203	3069512970	5.1kΩ	
R204	3069822970	8.2kΩ	
R205	3069105970	1MΩ	
R206	3069473970	47kΩ	
R207	3069391970	390Ω	
R208	3069122970	1.2kΩ	
R209	3069682970	6.8kΩ	
R210-R213	3069822970	8.2kΩ	
R214/R215	3069273970	27kΩ	
R216/R217	3069101970	100Ω	
R218/R219	3069561970	560Ω	
R220	3069335970	3.3MΩ	
R221	3069561970	560Ω	
R222-R225	3069681970	680Ω	
R226	3069101970	100Ω	
R227	3069243970	24kΩ	
R228	3069123970	12kΩ	
R229	3069512970	5.1kΩ	
R230	3069822970	8.2kΩ	
R231	3069122970	1.2kΩ	
R232	3069391970	390Ω	
R233	3069105970	1MΩ	
R234/R235	3069101970	100Ω	
R236-R239	3069822970	8.2kΩ	
R240/R241	3069273970	27kΩ	
R242	3069682970	6.8kΩ	
R243	3069101970	100Ω	
R244	3069105970	1MΩ	
R245	3069220970	22Ω	
R246	3069362970	3.6kΩ	
R247	3069272970	2.7kΩ	

Ref.No	Part No.	Description	Remark
R248/R249	3069183970	18k Ω	
R250	3069272970	2.7k Ω	
R251/R252	3069183970	18k Ω	
R253	3069220970	22 Ω	
R254	3069362970	3.6k Ω	
R255	3069103970	10k Ω	
R256/R257	3069339970	3.3k Ω	
R258-R263		Not used!	
R264	3069123970	12k Ω	

Variable Resistors

VR101	3248020343	Semi 20k Ω , EF Balance	
VR102	3248050343	Semi 50k Ω , Focus Bias	
VR103	3248020343	Semi 20k Ω , Tracking Gain	
VR104	3248020343	Semi 20k Ω , Focus Gain	
VR105	3248010243	Semi 1k Ω , PLL	

Transistors

Q101	2208206113	MPS A56 PNP	
Q102	2208606114	MPS A06 NPN	
Q103	2208206113	MPS A56 PNP	
Q104	2208606114	MPS A06 PNP	
Q105	2208206113	MPS A56 PNP	
Q106-Q108	2208606104	KTC1815Y NPN	
Q109	2208206105	KTA1015Y PNP	
Q110/Q111	2208622109	DTC144E NPN	
Q112	2208606114	MPS A06 NPN	
Q113/Q114	2208206113	MPS A56 PNP	
Q115/Q116	2208606114	MPS A06 NPN	
Q117	2208206113	MPS A56 PNP	
Q118	2208606114	MPS A06 NPN	
Q119	2208206113	MPS A56 PNP	
Q120	2208606114	MPS A06 NPN	
Q121	2208206113	MPS A56 PNP	
Q122	2208206105	KTA1015Y PNP	
Q123-Q125	2208606104	KTC1815Y NPN	
Q126	2208606112	2SD1302S NPN	
Q127	2208206105	KTA1015Y PNP	
Q128-Q130	2208606112	2SD1302S NPN	

Others

X-101	3938101500	Crystal, 16.9344MHz	
FIP101	2328130523	FL Tube 11RM8	

Ref.No	Part No.	Description	Remark
Trans P.C. Board			
Connector			
CNT106	4358106162	Ass'y 6P 160mm to Main B'D	
Others			
Trans	2828081801	Power Transformer	DOM., B
.	2828082801	Power Transformer	A
.	2828083801	Power Transformer	C,D,F
.	2828085801	Power Transformer	E
.	4255001010	Fuse Clip	
F101	5508201630	NB500mA/250V	DOM., B
F102	5508205231	NB350mA/250V	A
(F102)	5508300834	T.L 125mA/250V	C,D,E,F
(F102)	5508201230	NB 250mA/250V	A

Ref.No	Part No.	Description	Remark
Remocon Sensor P.C. Board			
Connector			
CNT109	4358103129	Ass'y 3P 120mm to Main B'D	
Others			
RMC	2138022113	Remocon Sensor	

Ref.No	Part No.	Description	Remark
Headphone P.C. Board			
Connector			
CNT112	4358103129	Ass'y 3P 120mm to Main B'D	
Others			
C302/C303	3579332530	Capacitor, Ceramic 0.0033 μ F 50V J	
R303/R304	3069560970	Resistor, 56k Ω	

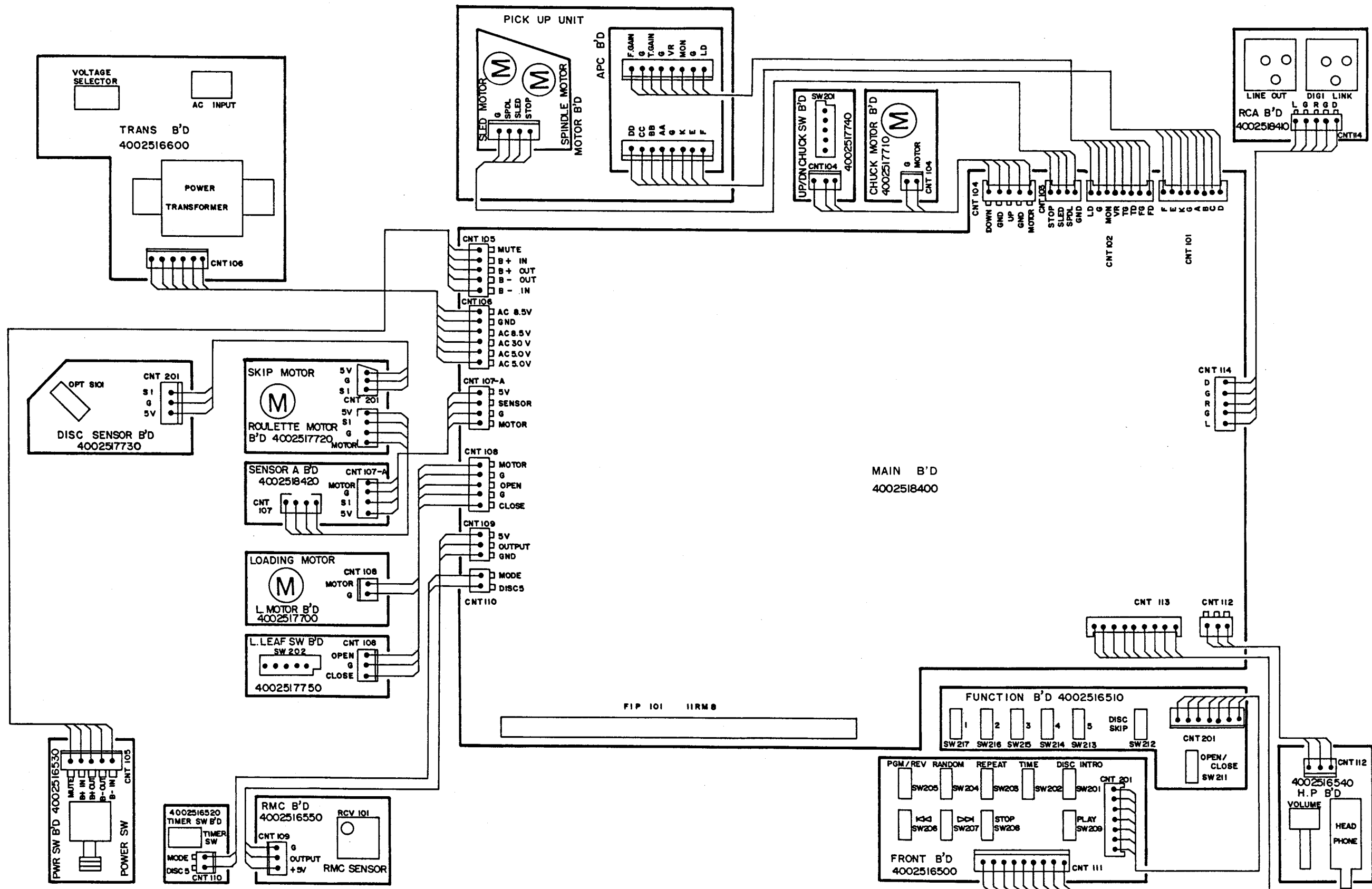
Ref.No	Part No.	Description	Remark
Disc Sensor P.C. Board			
Connector			
CNT201	4358103247	Ass'y 3P 200mm S.Motor Board	
Others			
R301	3069151970	Resistor, 150 Ω	
R302	3069103970	Resistor, 10k Ω	

Connector Lead Ass'ies

CNT101	4358508201	(From Mechanism) Ass'y 8P 200mm to Main B'D	
CNT102	4358508202	Ass'y 8P 200mm to Main B'D	
CNT103	4358504105	Ass'y 4P 100mm to Main B'D	
CNT104	4358105204	Ass'y 5P 200mm to Main B'D where Ass'y 2P from Chucking Motor B'D and where Ass'y 3P from Up/Down Leaf B'D	
CNT105	4358105263	(From Power Switch B'D) Ass'y 5P 260mm to Main B'D	
CNT107	4358504290	(From Sensor A B'D) Ass'y 4P 290mm to Sensor Motor B'D	
CNT107 - A	4358104164	Ass'y 4P 160mm to Main B'D	
CNT108	4358105203	Ass'y 5P 200mm to Main B'D where Ass'y 2P from Loading Motor and where Ass'y 3P from IN/OUT Leaf B'D	
CNT110	4358102200	(From Timer B'D) Ass'y 2P 200mm to Main B'D	
CNT113	4358509121	(From Front B'D) Ass'y 9P 120mm to Main B'D	
CNT201	4358507161	(From Function B'D) Ass'y 7P 160mm to Front B'D	

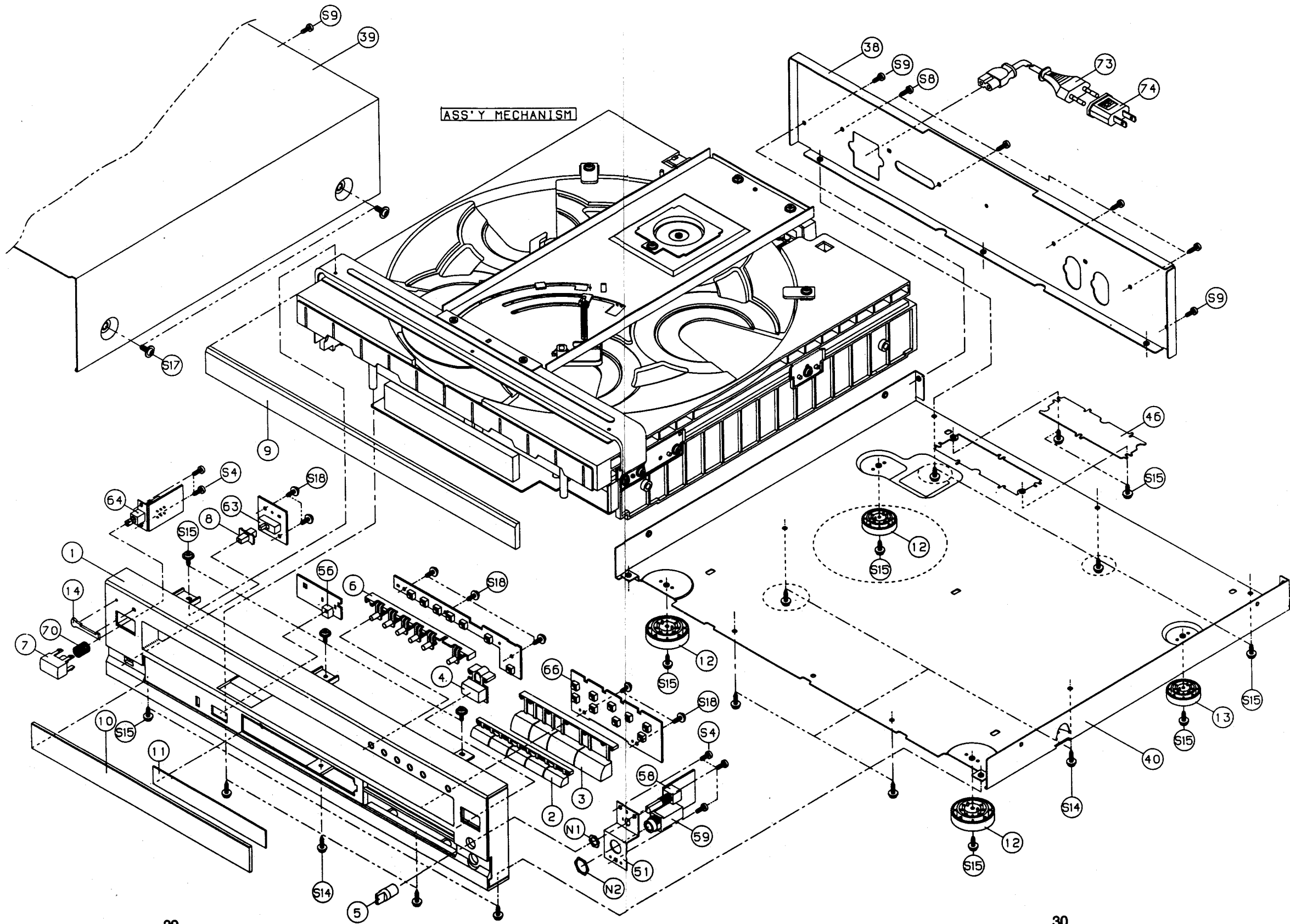
Wiring Diagram

Model No. : CDC-5010R/C



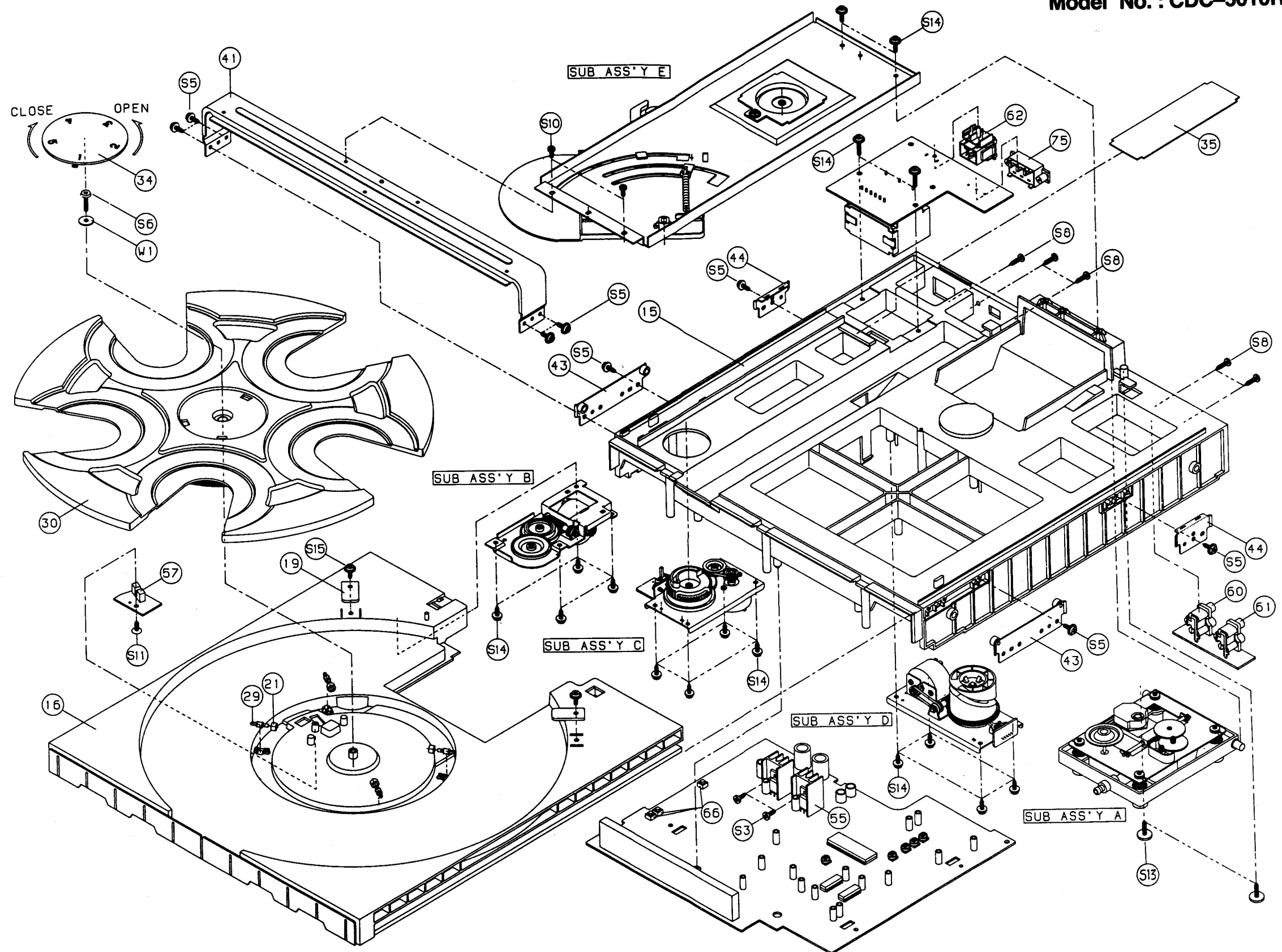
Exploded View(I)

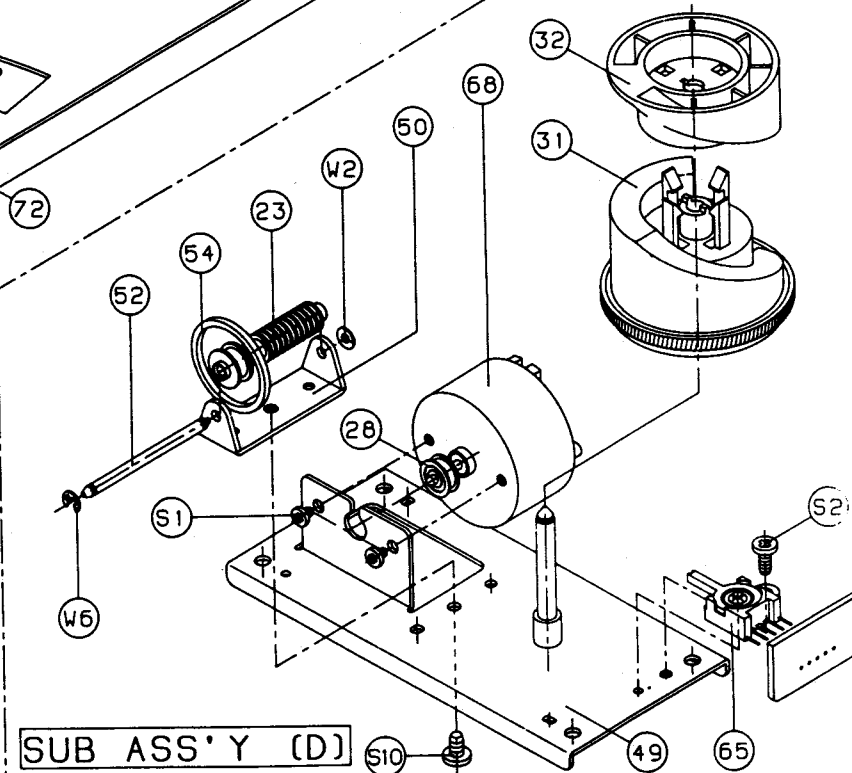
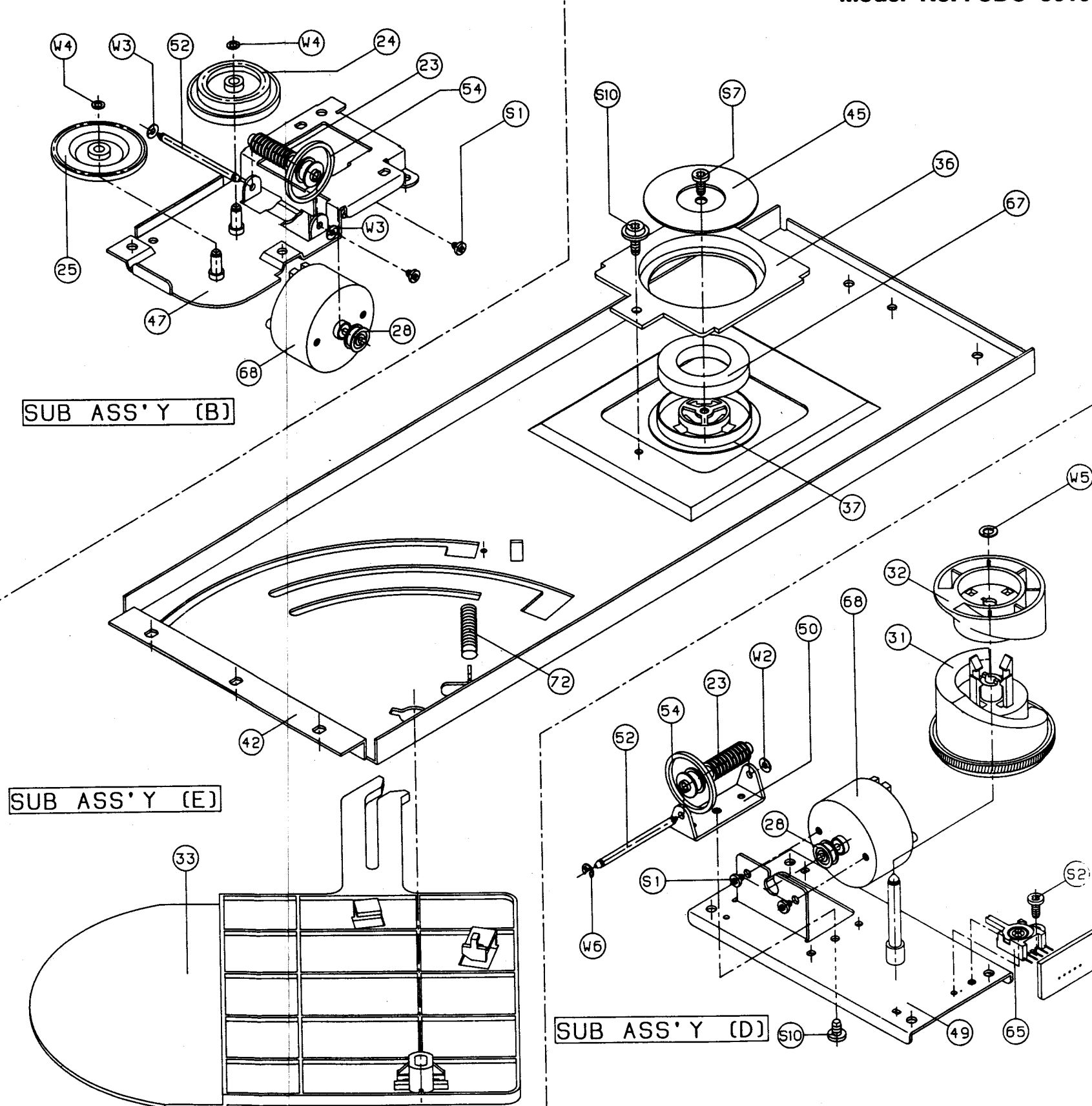
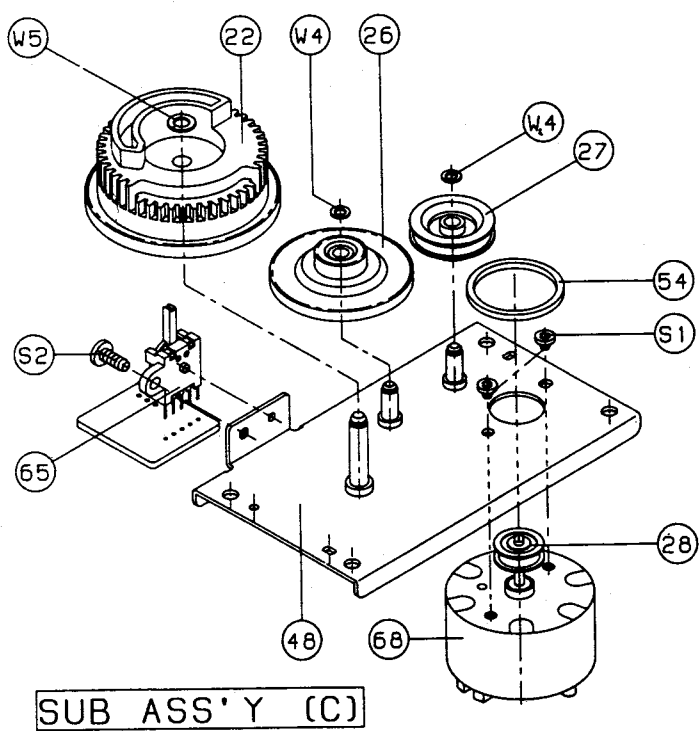
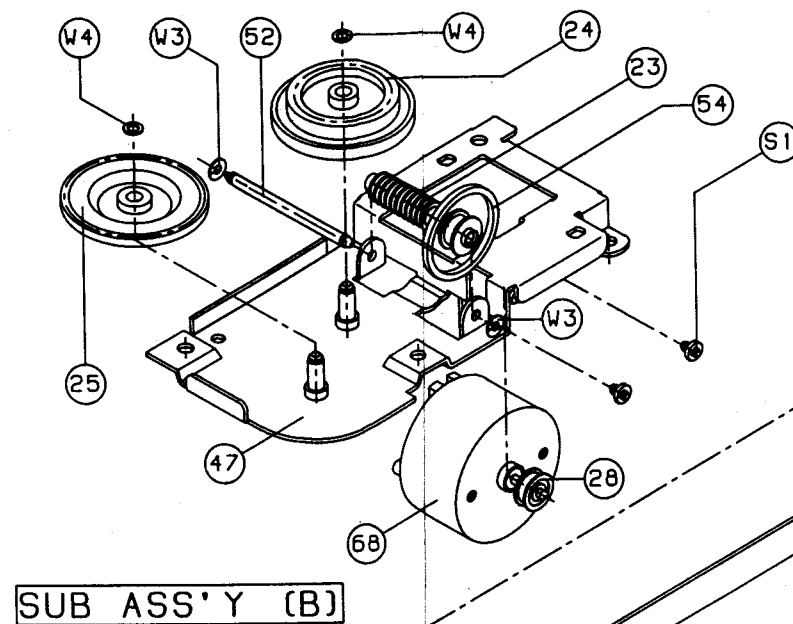
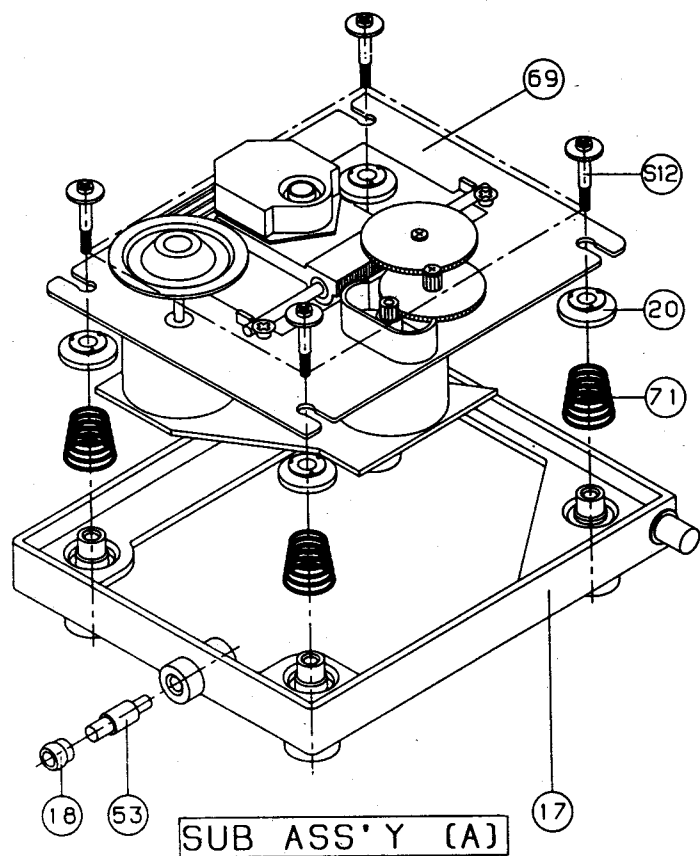
Model No. : CDC-5010R/C



Exploded View(Ⅱ)

Model No. : CDC-5010R/C





Mechanical Parts List

Ref.No	Description	Part No.	Q'ty	Remark
1	Panel Front, Black	048501019513	1	Amber Color only
2	Knob Function A, Black	048543033411	1	
3	Knob Function B, Black	048543033511	1	
4	Knob Open/Close	048545082711	1	
5	Knob Rotary	048545087411	1	
6	Knob Disc	8543033310	1	
7	Button Power, Black	8545074330	1	
8	Knob Slide, Black	8545077110	1	
9	Door Tray, Black	048562002012	1	
10	Window FIP, White	048555034314	1	
11	Filter FIP	8535032120	1	
12	Foot, Heatsink	046033101611	2	
13	Foot Base	6035101510	2	
14	Badge, Sherwood	048535033911	1	
(14)	Badge	048535032511	1	
15	Body Mechanism	6020600010	1	
16	Tray Roulette	6020800010	1	
17	Base Drive Unit	6022601810	1	
18	Rolling Cap.	65103210	1	
19	Cover Drop	6065104110	2	
20	Rubber Damping	6715018420	4	
21	Rubber Roller	6715018820	4	
22	Gear Loading	7102000110	1	
23	Worm	7103000910	2	
24	Gear Roulette	7103001110	1	Dom A B C D E F
25	Gear Idle	7103001210	1	
26	Gear Center	7103001310	1	
27	Gear Pulley	7103001410	1	
28	Pulley Motor	7113001310	3	
29	Roller Roulette	7115003210	4	
30	Roulette	7121400210	1	
31	Cam Gear	7142000210	1	
32	Cam Cover	7142000310	1	
33	Cover Disc	8582001010	1	
34	Cover Roulette	8583004110	1	
35	Cover Power Board	8585006010	1	
36	Guide Chuck	6043008410	1	
37	Base Magnet	6062100610	1	
38	Chassis Back, Black	046102030313	1	
(38)	Chassis Back, Black	046102030323	1	
(38)	Chassis Back, Black	046102030333	1	
(38)	Chassis Back, Black	046102030343	1	
(38)	Chassis Back, Black	046102030353	1	
(38)	Chassis Back, Black	046102030363	1	
(38)	Chassis Back, Black	046102030373	1	
39	Cover Top, Black	046122022011	1	
40	Chassis Main	6121606610	1	
41	Frame Body	6122631530	1	
42	Chuck Chassis	6125000120	1	
43	Guide Tray(F)	6143001120	2	
44	Guide Tray(B)	6145002120	2	
45	Cover Magnet	6163107310	1	
46	Cover Fuse	6165138410	1	
47	Bracket Roulette	6503019420	1	
48	Bracket Loading	6503019510	1	
49	Bracket Cam	6503019610	1	
50	Bracket Worm2	6505105610	1	
51	Bracket Phone	6505108410	1	
52	Shaft Worm	7005007110	2	
53	Shaft Base Drive Unit	7005007230	1	
54	Belt Drive, ϕ 18	7165002420	3	
55	Heatsink Regulator TR	7505206210	2	
56	IC SBX161002 Receiver	2138022113	1	

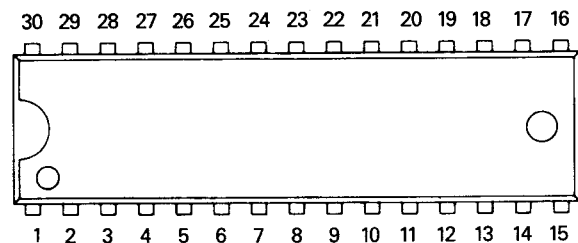
Ref.No	Description	Part No.	Q'ty	Remark
57	Sensor Photo	2408001111	1	A only
58	VR TP96G00	3228015910	1	
59	Jack Phone, Gold	4438005010	1	
60	Jack RCA 2P	4438105710	1	
61	Jack Remote	4438105010	1	
62	Power Socket	4448003510	1	
(62)	Power Socket	4448003310	1	
63	Switch Slide	4618006910	1	
64	Switch Push, Power	4628055410	1	
65	Switch Lever	4638003210	2	
66	Switch Tact	4658003710	19	Domestic A,B C,D E Domestic
67	Ferrite Magnet	5125000910	1	
68	Motor RF-500TB-14415	5558200310	3	
69	Optical Pick-up, KSM-210-AAM	5708007210	1	
70	Spring Button	6555004380	1	
71	Spring Damping	6555009220	4	
72	Spring Cover	6555306110	1	
73	Cord AC Power, Black	4308001810	1	
(73)	Cord AC Power, Black	4308005810	1	
(73)	Cord AC Power, Black	4308002010	1	
(73)	Cord AC Power, Black	4308006010	1	
74	Adapter AC Plug	4428300310	1	
75	Voltage Selector	4618006610	1	

Screws

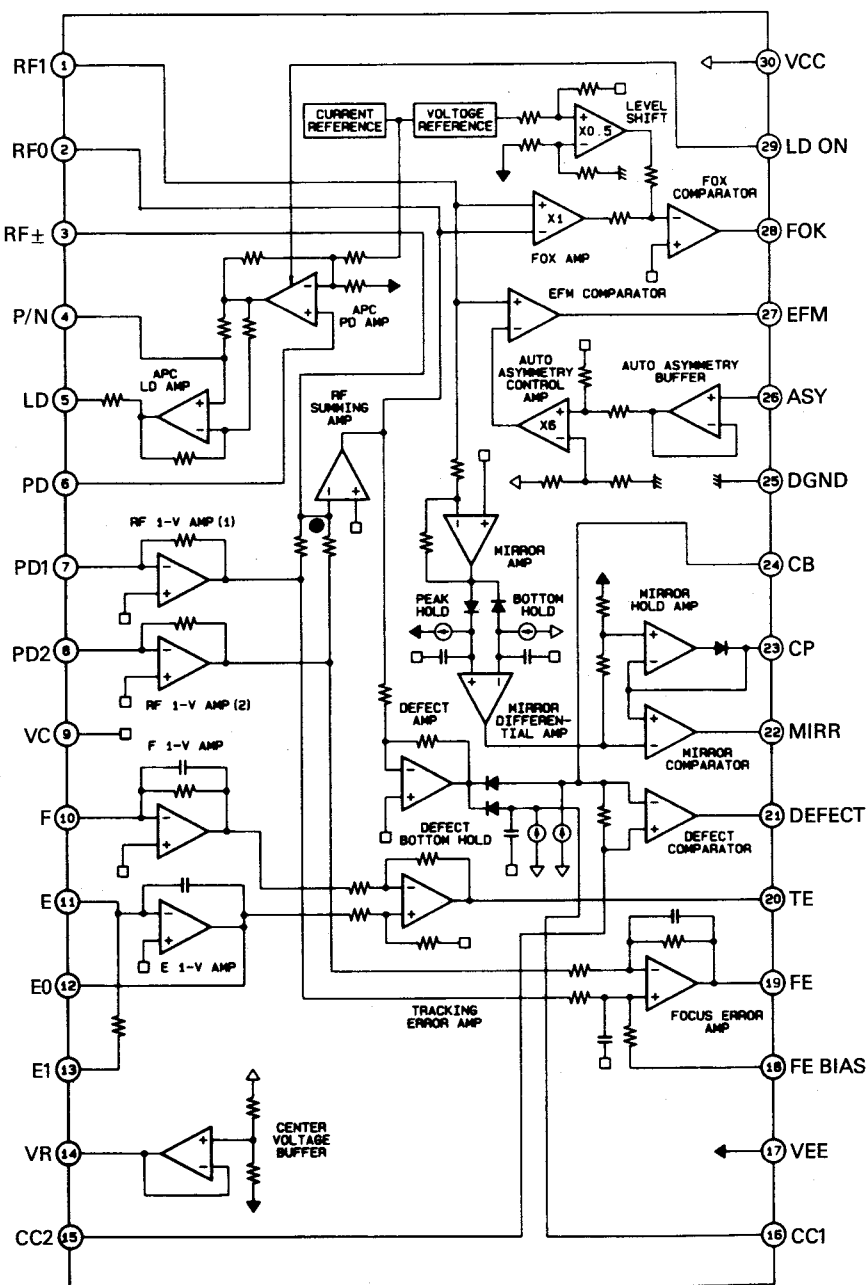
Ref.No	Description	Part No.	Q'ty	Remark
S1	BM 2.6×3 ZNY	8009126031	6	
S2	BM 2.6×3 ZNY	8009126061	2	
S3	2BTC 3×8 ZNY	8109230081	2	
S4	2BTC 3×8 ZNB	8109230083	9	
S5	2BTC 3×10 ZNY	8109230101	8	
S6	2BTC 3×16 ZNY	8109230161	1	
S7	2BT 2.6×5 ZNY	8109626051	1	
S8	1PTC 3×12 ZNB	8119130123	7	
S9	2PTC 3×8 ZNB	8119230083	4	
S10	SAM 3×5 ZNY	8119430051	3	
S11	1FT 2.6×10 ZNB	8129126103	1	
S12	Damping ZNY	8155001110	4	
S13	Fixed Mechanism ZNY	8155001210	2	
S14	1WPTC 3×12 ZNY	8159130121	23	
S15	2WPTC 3×8 ZNY	8159230081	11	
S16	2WPTC 3×8 ZNB	8159230083	5	
S17	WSAM 4×8 ZNB	8159440083	4	
S18	2WPT 2.6×8 ZNY	8159626081	7	
W1	Washer Plain ϕ 14	8305003810	1	
W2	Poly Washer 2.1×5×0.3	8338300610	1	
W3	Poly Washer 2.1×5×0.5	8338300710	2	
W4	Poly Washer 2.6×5×0.5	8338300810	4	
W5	Poly Washer 3.2×5×0.5	8338300910	2	
W6	Washer E-Ring ϕ 2	8339020011	1	
N1	Nut M7		1	
N2	Mut M12		1	

IC Lead Identification & Internal Circuitry

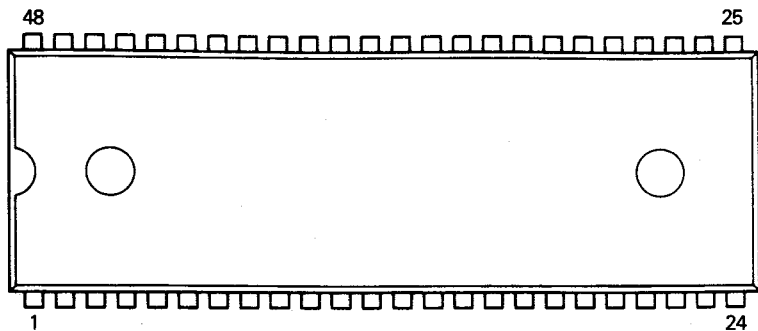
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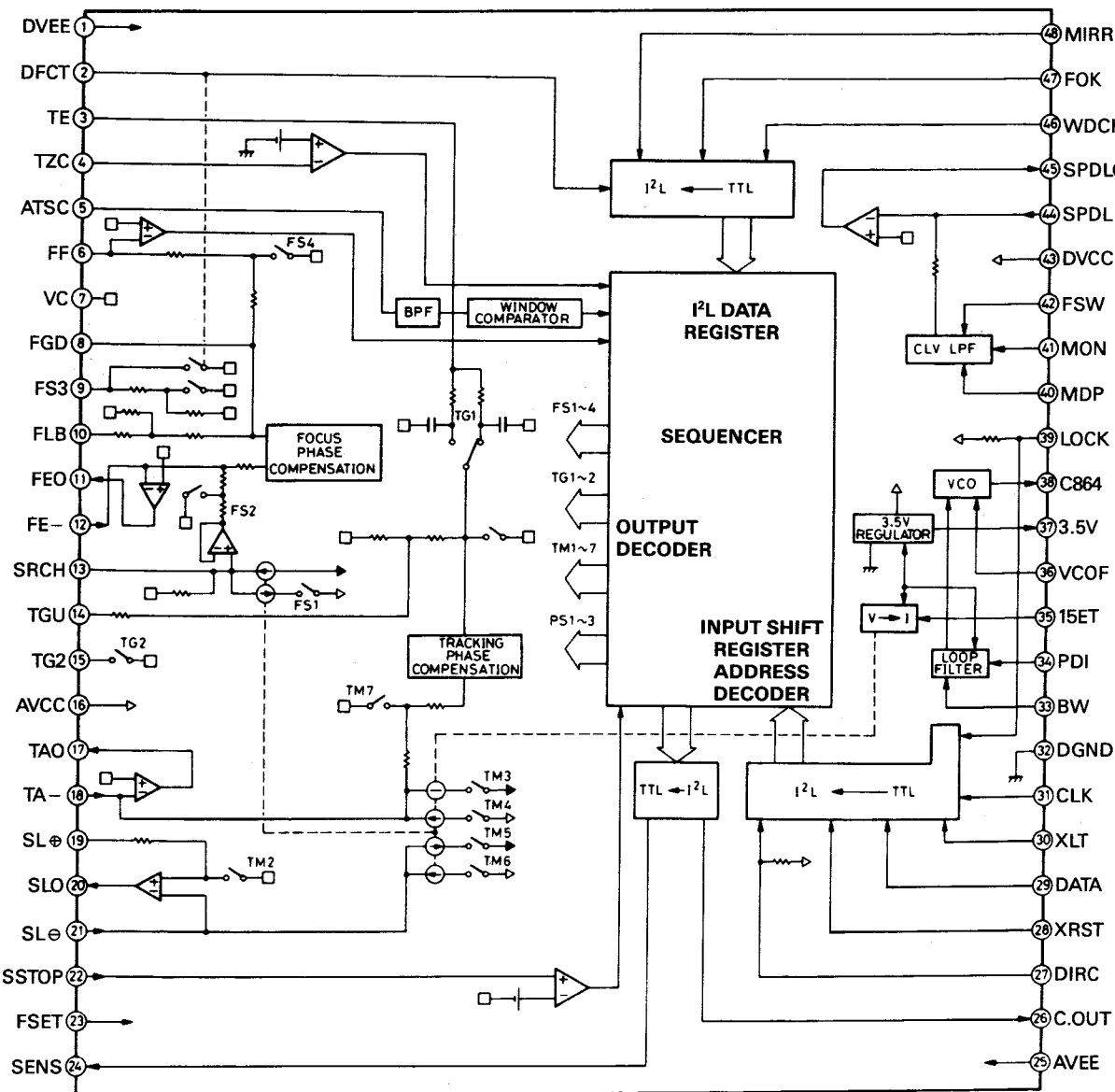
RF Amp.



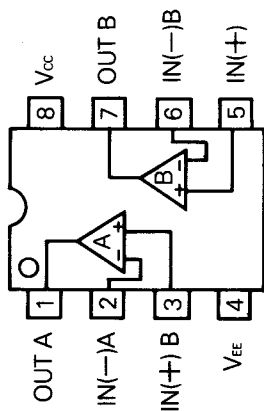
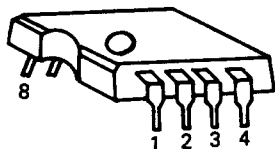
CXA1082BS : IC107



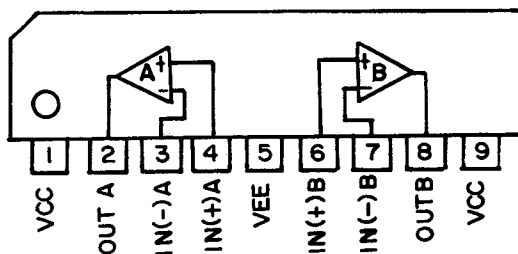
Servo Signal Processor



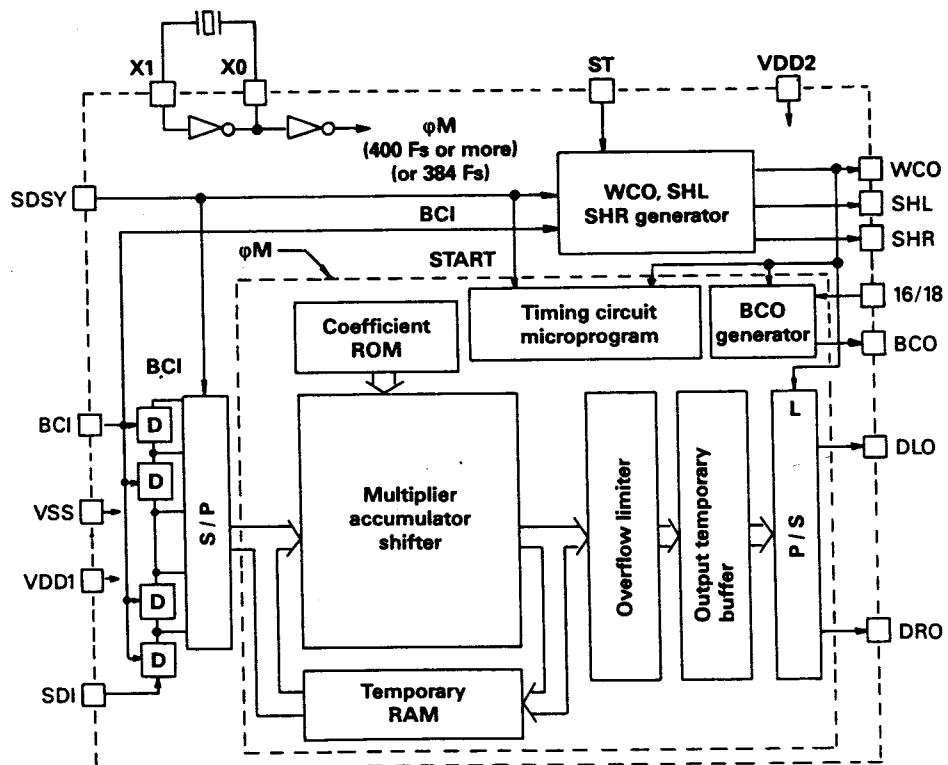
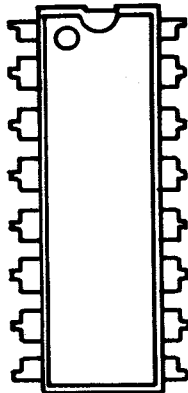
NJM4560D : IC103, IC108
LM833 : IC110, IC111

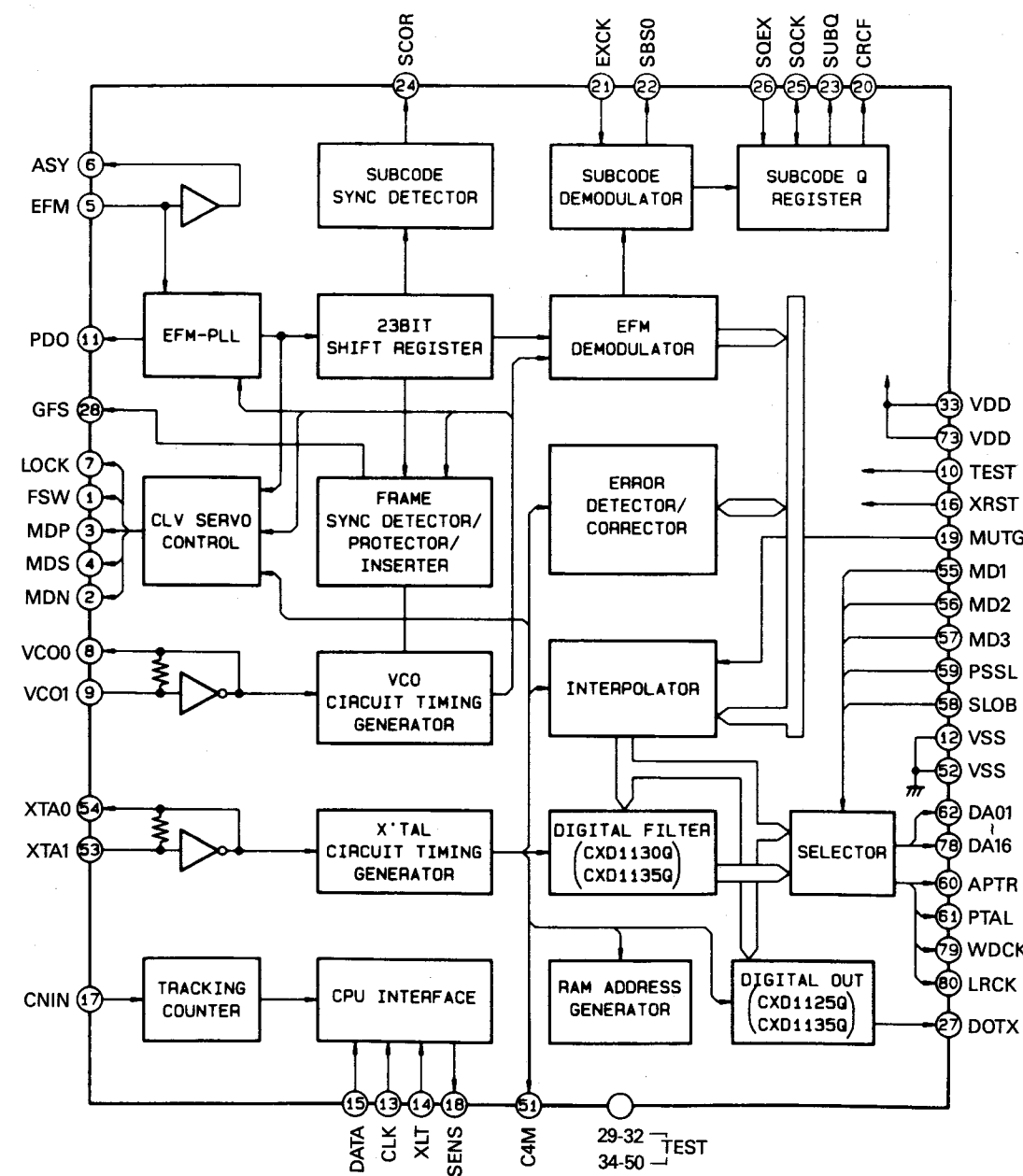
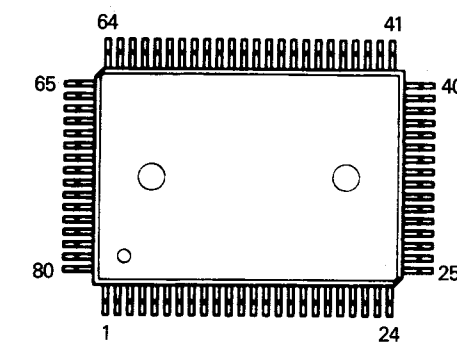


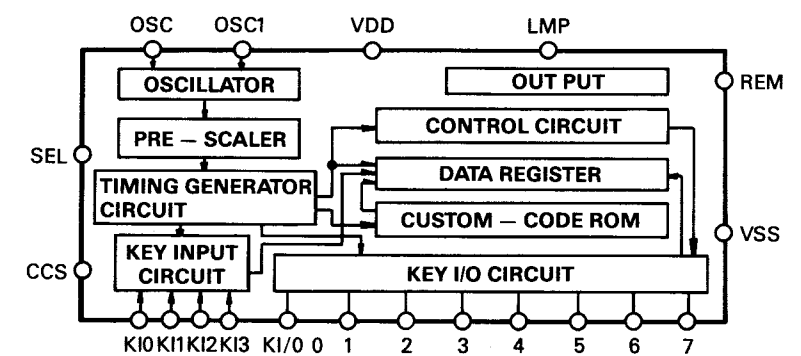
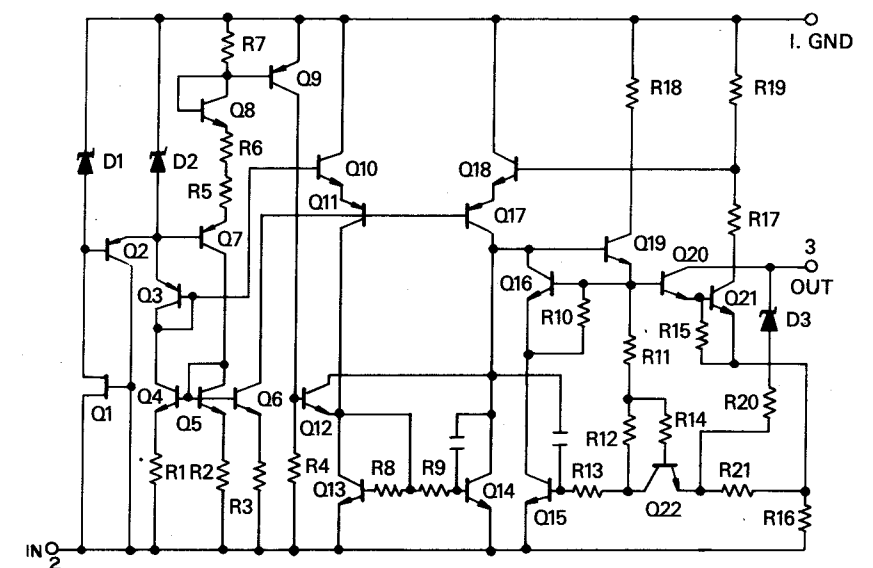
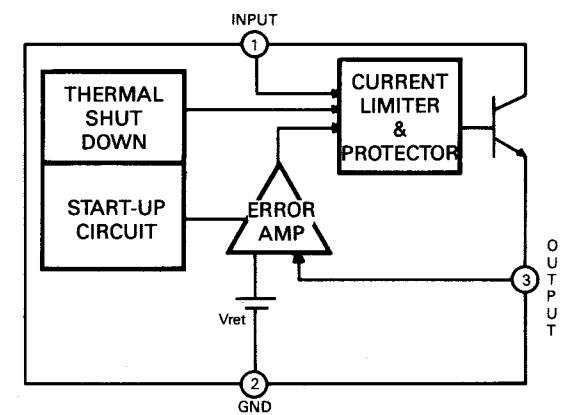
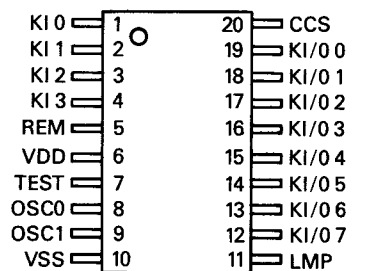
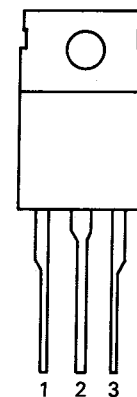
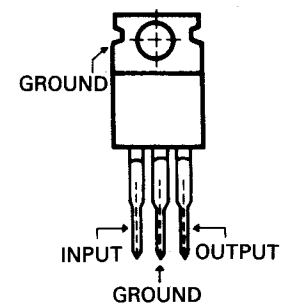
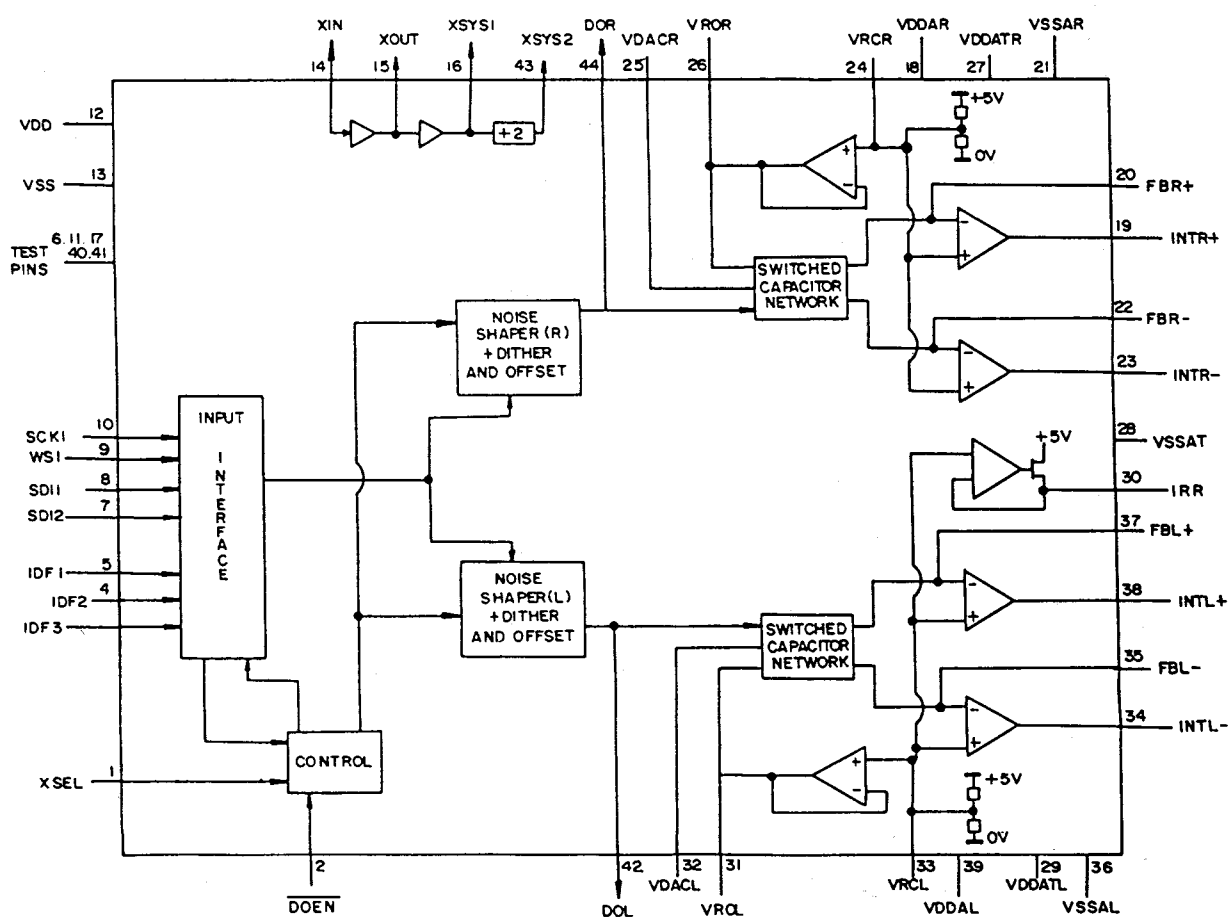
NJM4560S : IC114



YM3433 : IC113



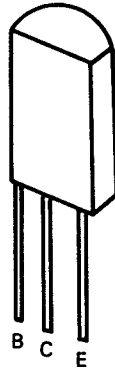
CXD1167Q : IC105(Digital Signal Processor)



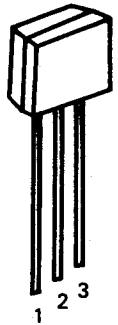
Transistor Lead Identification

MPS A06 : Q102, Q104, Q112,
Q115 Q116, Q118,
Q120

MPS A56 : Q101, Q103, Q105,
Q113, Q114, Q117,
Q119, Q121



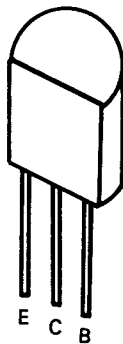
DTC 144E : Q110, Q111



1. GND 2. OUT 3. IN

KTA 1015Y : Q109, Q122, Q127
KTC 1815Y : Q106, Q107, Q108,
Q123, Q124, Q125

2SD 1302S : Q126, Q128,
Q129, Q130

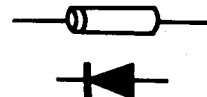


KLR 226E : D1

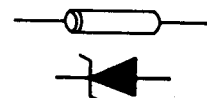


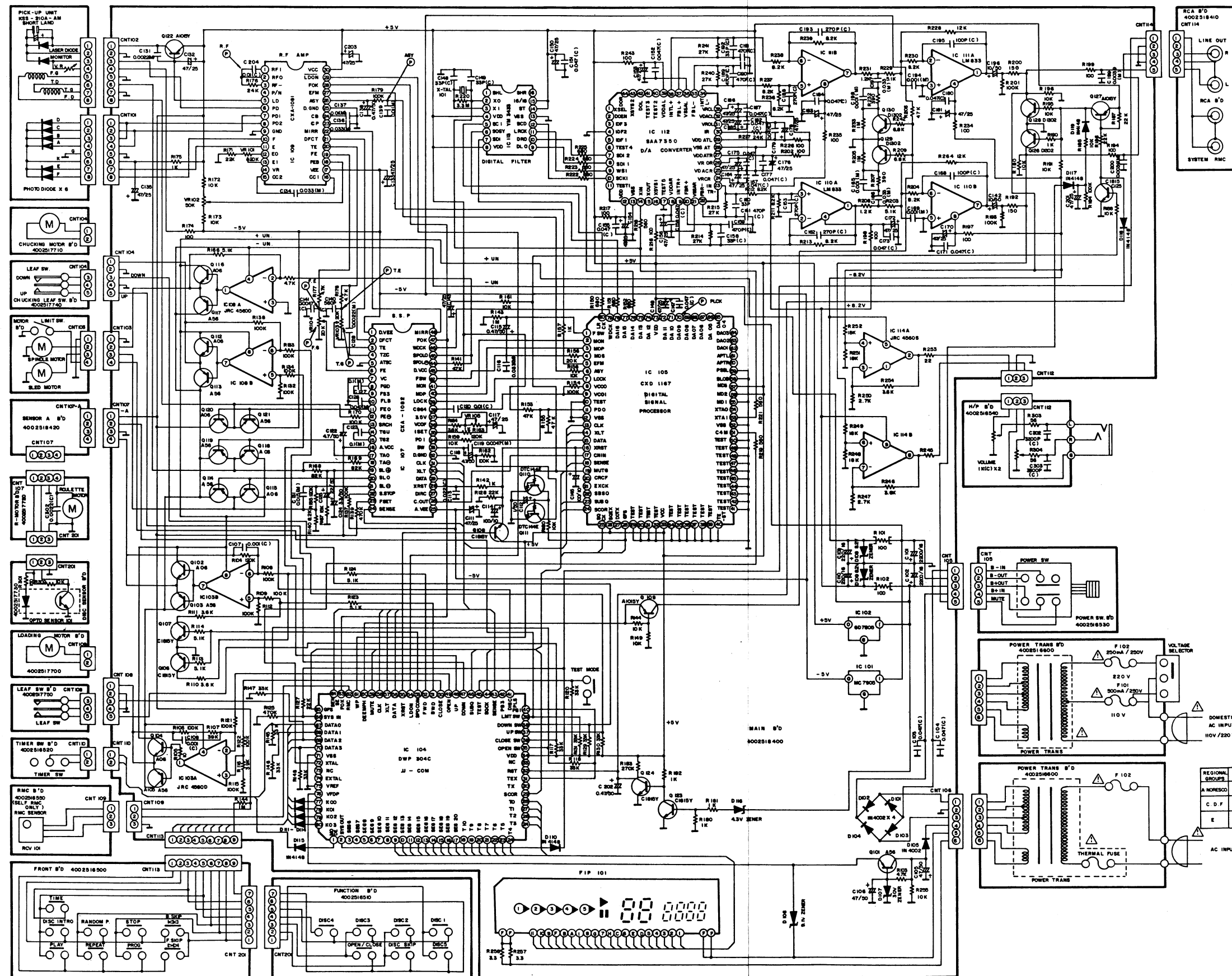
1. ANODE
2. CATHODE

IN 4148 : D110-D115, D117-D119
IN 4002 : D101-D105



RD4.3B, RD8.2BM, RD9.1BM,
RD30BM : D106, D107, D108,
D109, D116





NOTES

1. Resistance values are indicated in ohms unless otherwise specified (K=1,000 M=1,000,000)
2. Capacitance values are shown in microfarads unless otherwise noted (P=micro micro farads.)

CAUTION

Safety precautions to be followed during servicing

1. Since those parts marked with Δ are critical parts for safety, use the ane described parts list.
2. Before returning the receiver to the customer, make appropriate leakage current or resistance measurements to determine that exposed parts are properly insulated from the supply circuit.

REGIONAL GROUPS	VOLTAGE / FREQUENCY	F 102
A N O R E S C O	120V / 60 Hz	NB 300mA 250V
C D F	230V / 50Hz	TL 125mA 250V
E	240V / 50 Hz	TL 125mA 250V