

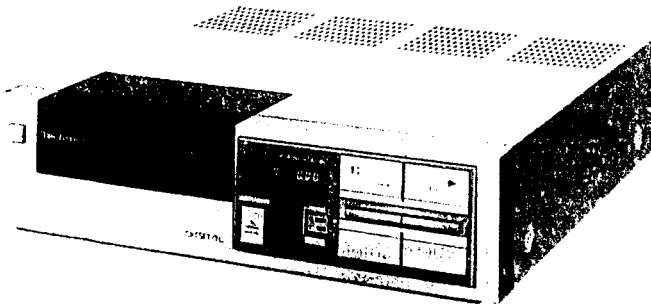
Service Manual

DIGITAL

Compact Disc Player

SL-P7/(K)

[E], [EK], [XL], [EG],
[EB], [EH], [EF], [Ei],
[XA], [PA], [PE], [PC]



*The colors of this model include silver and black.
*The black type model is provided with (K) in the Service Manual.

Areas

- * [E] is available in Switzerland and Scandinavia.
- * [EK] is available in United Kingdom.
- * [XL] is available in Australia.
- * [EG] is available in F.R Germany.
- * [EB] is available in Belgium.
- * [EH] is available in Holland.
- * [EF] is available in France.
- * [Ei] is available in Italy.
- * [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
- * [PA] is available in far East PX.
- * [PE] is available in European Military.
- * [PC] is available in European Audio Club.

Specifications

Specifications are subject to change without notice for further improvement.
Weight and dimensions shown are approximate.

- | | |
|---|--|
| <ul style="list-style-type: none"> ■ Audio No. of channels: 2 (left and right stereo) Frequency response: 2 ~ 20,000 Hz ± 0.5 dB Dynamic range: more than 96 dB S/N ratio: more than 96 dB Total harm. dist.: less than 0.003% (1 kHz, 0 dB) Channel separation: more than 90 dB Wow and flutter: Below measurable limit ■ Signal Format Sampling frequency: 44.1 kHz Correction system: Technics Super Decoding Algorithm ■ Pickup Type: Astigma 3-beam Light source: Semiconductor laser Wavelength: 800 nm ■ General Power supply: ~110-120/220-240V, 50 or 60 Hz Power consumption: 30W Output voltage: 2.0 volts (at 0 dB) Output impedance: 330 ohms Load impedance: more than 5 kohms Dimensions (WxDxH): 31.5 x 32.5 x 8.8cm
(When disc holder is opened
(31.5x45.1x8.8cm) Weight: 4.9 g | <ul style="list-style-type: none"> ■ Functions Search modes: Manual search, Index search
Skip search Display functions: All tracks, All playing time,
Playing track, Playing time
Index number Operation buttons: Basic buttons; 7
Repeat button; 1 Disc loading: Motor driven, lateral loading ■ Disc specifications Diameter: 12 cm Thickness: 0.12 cm Spindle hole: 1.5 cm Min. inside diameter of recorded section: 5 cm Max. outside diameter of recorded section: 11.6 cm
(disc is played from the inside to the outside edge) Direction of rotation: Counterclockwise
(seen from recorded side of disc) Tracking speed: 1.2 to 1.4 meters/second, CLV
(Constant Linear Velocity) Rotations per minute: About 500 to 200 rpm Playing time: About 60 minutes (up to 75 min. can be contained) Track pitch: 1.6µm Material: Clear plastic |
|---|--|

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

Panasonic Tokyo
Matsushita Electric Industrial Co., Ltd.
1-2, 1-chome, Shibakoen, Minato-ku, Tokyo

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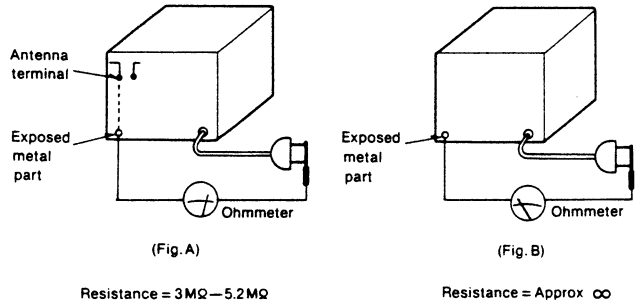
SAFETY PRECAUTION

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

INSULATION RESISTANCE TEST

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between $3M\Omega$ and $5.2M\Omega$ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

Caution : This product utilizes a laser diode.
 ADVARSEL : I dette apparat anvendes laser.



ADVARSEL-Usynligt laserlyst udstråles ved åbning.
UNDGÅ DIREKTE BESTRÅLING.

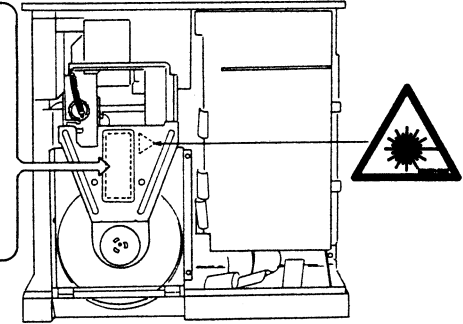
DANGER-Invisible laser radiation when open.
AVOID DIRECT EXPOSURE TO BEAM.

"CAUTION-HAZARDOUS LASER, AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED"
 "ATTENTION-RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ENCLENCHEMENT DE SECURITE ABIMBLE"

Use of caution labels

	U.S.A.	Canada	Europe	Others
SRNZ010S01	X	X	O	O
SRNZ007S05	O	X	O	O
SRNZ010C01	X	O	X	X
SRNZ010S02	X	X	O	O

Note: O Mark Label is used. X Mark Label is not used.



CHANGES

REPLACEMENT PARTS LIST

Notes:

- (1) Mentioned in this parts list are only those changed in Model No. SL-P7 for destination [E] area.
- (2) Important safety notice: Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- (3) The "S" mark is service standard parts and may differ from production parts.

Ref. No.	Change of Part No.		Part Name & Description	Per Set (Pcs.)	Remarks
	SL-P7/(K) (OLD)	SL-P7/(K) (NEW)			
INTEGRATED CIRCUITS					
IC3	AN7915	AN7915T	Regulator	1	
IC403	MN4053B	MN4053BS	Analog Switch	1	
IC805 (A)	SVIUPD4053BC	SVILM833NA	Operational Amplifier	1	
IC805 (B)		SVIUPD4053BC	Analog Switch	1	
IC861	SVILM833NA	Deletion	0	
TRANSISTOR					
Q208	2SC1344	2SC1328-T	CLV Control	1	S
DIODES					
D206	Addition	MA165	Traverse Servo Control	1	
D207	MA165	Deletion	0	
D403	MA165	Deletion	0	
VARIABLE RESISTOR					
VR104	EVN32CA00B14	EVN32CA00B53	Tracking Balance Adj., 5k Ω (B)	1	

Ref. No.	Change of Part No.		Part Name & Description	Per Set (Pcs.)	Remarks
	SL-P7/(K) (OLD)	SL-P7/(K) (NEW)			
VARIABLE CAPACITOR					
CT401	ECV1ZW25X53N	ECV1ZW25X53T	Trimmer, PLL Adj.	1	
RESISTORS					
R112	ERDS2TJ101	ERDS2TJ221	Carbon, 1/4W, 220Ω, ± 5%	1	
R122	ERDS2TJ334	ERDS2TJ184	Carbon, 1/4W, 180kΩ, ± 5%	1	
R125	ERDS2TJ183	ERDS2TJ103	Carbon, 1/4W, 10kΩ, ± 5%	1	
R127	ERDS2TJ562	ERDS2TJ822	Carbon, 1/4W, 8.2kΩ, ± 5%	1	
R133	ERDS2TJ392	ERDS2TJ222	Carbon, 1/4W, 2.2kΩ, ± 5%	1	
R141	ERDS2TJ102	ERDS2TJ101	Carbon, 1/4W, 100Ω, ± 5%	1	
R143	ERDS2TJ562	ERDS2TJ822	Carbon, 1/4W, 8.2kΩ, ± 5%	1	
R247	ERDS2TJ104	ERDS2TJ273	Carbon, 1/4W, 27kΩ, ± 5%	1	
R267	ERDS2TJ103	ERDS2TJ472	Carbon, 1/4W, 4.7kΩ, ± 5%	1	
R268	ERDS2TJ103	ERDS2TJ472	Carbon, 1/4W, 4.7kΩ, ± 5%	1	
R273	Addition	ERDS2TJ103	Carbon, 1/4W, 10kΩ, ± 5%	1	
R274	Addition	ERDS2TJ273	Carbon, 1/4W, 27kΩ, ± 5%	1	
R275	Addition	ERDS2TJ683	Carbon, 1/4W, 68kΩ, ± 5%	1	
R276	Addition	ERDS2TJ102	Carbon, 1/4W, 1kΩ, ± 5%	1	
R319	ERDS2TJ560	ERD25FJ560	Carbon, 1/4W, 56Ω, ± 5%	1	Ⓢ ⚠
R409	ERDS2TJ223	ERDS2TJ273	Carbon, 1/4W, 27kΩ, ± 5%	1	
R411	ERD25FJ103	ERDS2TJ103	Carbon, 1/4W, 10kΩ, ± 5%	1	
R412	ERD25FJ152	ERDS2TJ152	Carbon, 1/4W, 1.5kΩ, ± 5%	1	
R413	ERDS2TJ273	ERDS2TJ223	Carbon, 1/4W, 22kΩ, ± 5%	1	
R423	ERD25TJ104	ERDS2TJ104	Carbon, 1/4W, 100kΩ, ± 5%	1	
R424	ERD25FJ102	Deletion	-----	0	
R425	ERD25FJ103	ERDS2TJ103	Carbon, 1/4W, 10kΩ, ± 5%	1	
R426	ERD25FJ561	ERDS2TJ561	Carbon, 1/4W, 560Ω, ± 5%	1	
R427	ERD25FJ682	ERDS2TJ682	Carbon, 1/4W, 6.8kΩ, ± 5%	1	
R428	ERD25FJ471	ERDS2TJ103	Carbon, 1/4W, 10kΩ, ± 5%	1	
R429	ERD25FJ103	ERDS2TJ103	Carbon, 1/4W, 10kΩ, ± 5%	1	
R430	ERD25FJ221	ERDS2TJ221	Carbon, 1/4W, 220Ω, ± 5%	1	
R553	ERDS2TJ153	ERDS2TJ123	Carbon, 1/4W, 12kΩ, ± 5%	1	
R582	Addition	ERDS2TJ103	Carbon, 1/4W, 10kΩ, ± 5%	1	
R589	ERDS2TJ103	Deletion	-----	0	
R610	ERDS2TJ333	ERDS2TJ472	Carbon, 1/4W, 4.7kΩ, ± 5%	1	
R619	ERDS2TJ333	Deletion	-----	0	
R621	Addition	ERDS2TJ333	Carbon, 1/4W, 33kΩ, ± 5%	1	
R622	Addition	ERDS2TJ103	Carbon, 1/4W, 10kΩ, ± 5%	1	
R623	Addition	ERDS2TJ103	Carbon, 1/4W, 10kΩ, ± 5%	1	
R851	ERD25TJ183	ERDS2TJ183	Carbon, 1/4W, 18kΩ, ± 5%	1	
R852	ERD25FJ102	ERDS2TJ102	Carbon, 1/4W, 1kΩ, ± 5%	1	
R853	ERD25FJ682	ERDS2TJ682	Carbon, 1/4W, 6.8kΩ, ± 5%	1	
R854	ERD25FJ472	ERDS2TJ472	Carbon, 1/4W, 4.7kΩ, ± 5%	1	
R855	ERD25FJ472	ERDS2TJ472	Carbon, 1/4W, 4.7kΩ, ± 5%	1	
R856	ERD25FJ682	ERDS2TJ682	Carbon, 1/4W, 6.8kΩ, ± 5%	1	
R857	ERD25FJ102	ERDS2TJ102	Carbon, 1/4W, 1kΩ, ± 5%	1	
R858	ERD25FJ471	ERDS2TJ471	Carbon, 1/4W, 470Ω, ± 5%	1	
R859	ERD25FJ822	ERDS2TJ822	Carbon, 1/4W, 8.2kΩ, ± 5%	1	
R863	ERD25FJ472	ERDS2TJ472	Carbon, 1/4W, 4.7kΩ, ± 5%	1	
R864	ERD25FJ682	ERDS2TJ682	Carbon, 1/4W, 6.8kΩ, ± 5%	1	
R865	ERD25FJ472	ERDS2TJ472	Carbon, 1/4W, 4.7kΩ, ± 5%	1	

Ref. No.	Change of Part No.		Part Name & Description	Per Set (Pcs.)	Remarks
	SL-P7/(K) (OLD)	SL-P7/(K) (NEW)			
CAPACITORS					
C23	ECEA1HU100	Deletion	-----	0	
C26	ECEA1HU100	Deletion	-----	0	
C94	Addition	ECEA50Z1	Electrolytic, 50V, 1μF	1	Ⓢ
C95	Addition	ECEA1HU100	Electrolytic, 50V, 10μF	1	Ⓢ
C96	Addition	ECEA1HU100	Electrolytic, 50V, 10μF	1	Ⓢ
C119	ECKD1H472KB	ECFR1E104ZF	Ceramic, 25V, 0.1μF, +80% -20%	1	
C126	ECKD1H152KB	ECQM1H562KV	Polyester, 50V, 0.0058μF, ± 10%	1	
C127	ECQM1H103KV	ECQM1H223KV	Polyester, 50V, 0.022μF, ± 10%	1	
C133	ECKD1H681KB	ECQM1H102KV	Polyester, 50V, 0.001μF, ± 10%	1	
C134	ECKD1H681KB	ECCD1H681K	Ceramic, 50V, 680pF, ± 10%	1	
C135	ECKD1H473ZF	ECFR1E104ZF	Ceramic, 25V, 0.1μF, +80% -20%	1	
C205	ECEA1HN010	ECEA1HN010S	Electrolytic, 50V, 1μF	1	Ⓢ ⚠
C225	ECEA50Z2R2	ECEA50ZR33	Electrolytic, 50V, 0.33μF	1	Ⓢ
C234	Addition	ECEA1CN100S	Electrolytic, 16V, 10μF	1	Ⓢ ⚠
C306	ECEA0JN220S	ECEA1AN220S	Electrolytic, 10V, 22μF	1	⚠
C503	ECEA125N4R7	ECEA25N4R7	Electrolytic, 25V, 4.7μF	1	Ⓢ ⚠
C504	ECEA125N4R7	ECEA25N4R7	Electrolytic, 25V, 4.7μF	1	Ⓢ ⚠
C506	ECUV1E102JC	ECKD1H102KB	Ceramic, 50V, 0.001μF, ± 10%	1	Ⓢ
C507	ECEA1MU100	ECEA1HU100	Electrolytic, 50V, 10μF	1	Ⓢ
C554	ECKF1H473ZF	ECKD1H473ZF	Ceramic, 50V, 0.047μF, +80% -20%	1	Ⓢ
C571	ECCD1H151K	ECCD1H181K	Ceramic, 50V, 180pF, ± 10%	1	Ⓢ
C606	ECEA1AU470	ECEA1AU331	Electrolytic, 10V, 330μF	1	Ⓢ
C713	Addition	ECKD1H681KB	Ceramic, 50V, 680pF, ± 10%	1	Ⓢ
C811	Addition	ECKD1H103ZF	Ceramic, 50V, 0.01μF, +80% -20%	1	Ⓢ
C812	Addition	ECKD1H103ZF	Ceramic, 50V, 0.01μF, +80% -20%	1	Ⓢ

HOW TO CHECK THE PRINTED CIRCUIT BOARD

* For removal of each part, refer to the Service Manual of SL-P7, (Disassembly instruction on Page 9 ~ 13).

● Servo P.C.B.

1. Remove the 4 setscrews of cabinet.
2. Remove the cabinet in the direction of the arrow.
3. Check each part. (Part side)

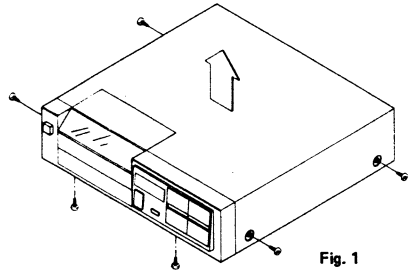


Fig. 1

4. When checking the soldered parts on the servo P.C.B., raise the P.C.B. as in Fig. 2. (Tie the power switch rod to the servo P.C.B. with a string.)

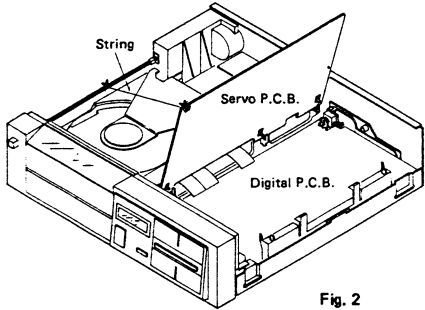


Fig. 2

● Fluorescent display tube P.C.B.

1. Remove the cabinet.
2. Remove the switch rod from the power switch.
3. Remove the 4 setscrews of the front panel.

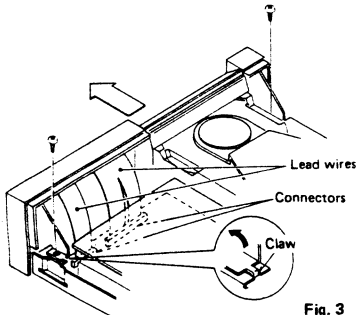


Fig. 3

4. Turn over the front panel and check the P.C.B. as shown in Fig. 4.

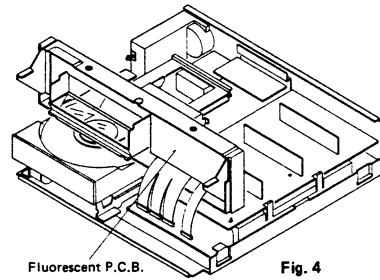


Fig. 4

5. Also remove the 3 setscrews of the P.C.B., and release the 9 claws. (Fig. 5)
6. Shift it as in Fig. 6 and check.

Cautions:

- (1) Take care not to damage F.L.
- (2) When installing the power switch rod, set it through the lead wire as in Fig. 7.
- (3) When installing cabinet, take care not to squeeze the lead wire.

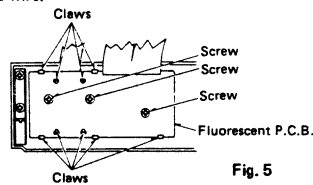


Fig. 5

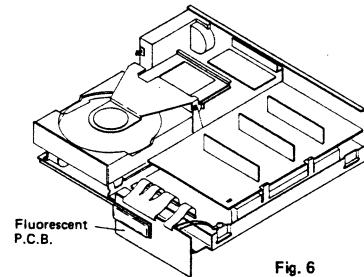


Fig. 6

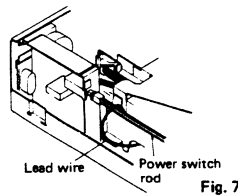


Fig. 7

● Digital P.C.B.

1. Remove the cabinet.
2. Remove the servo P.C.B. to shift it as in Fig. 8, and check each part.

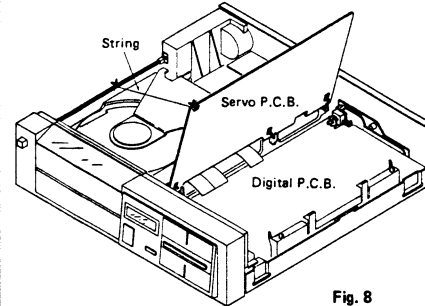


Fig. 8

3. How to check soldered parts:

- (1) Remove the front panel and Fluorescent display tube P.C.B.
- (2) Remove the 3 setscrews of the P.C.B. holder. (Fig. 9)
- (3) Shift it as in Fig. 10 and check.

Caution:

When checking as in Fig. 10, connect the ground (earth) terminal of digital P.C.B. to the chassis before turning power supply ON.

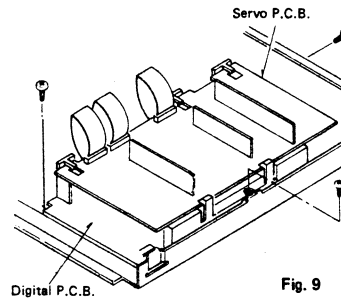


Fig. 9

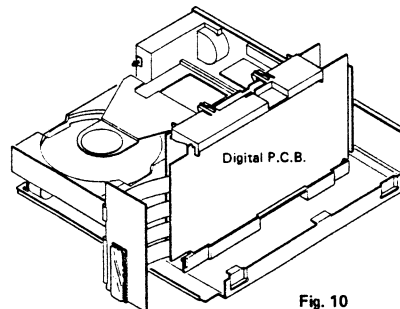
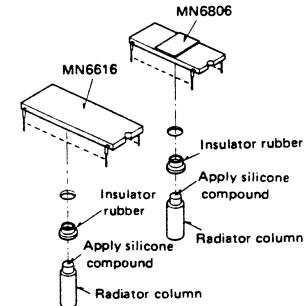


Fig. 10

*Precautions for removal of MN6616 and MN6806
MN6616 and MN6806 attached to the digital P.C.B. are radiated by the radiator column. When fitting LSI, apply silicone compound (or equivalent head diffusing agent) to the radiator column. (Fig. 11)



[The radiator column and insulation (rubber are fixed (glued) on P.C.B.)

Fig. 11

● Head amplifier P.C.B.

* For the details, refer to the adjustment manual.

1. Remove the cabinet.
2. Remove the front panel, and Fluorescent display tube P.C.B.
3. Pull out the traverse unit connector (attached to the servo P.C.B.). [CN552, CN101 ~ CN106, CN109, earth wire.]
4. Remove the 4 traverse unit setscrews. (Fig. 12)

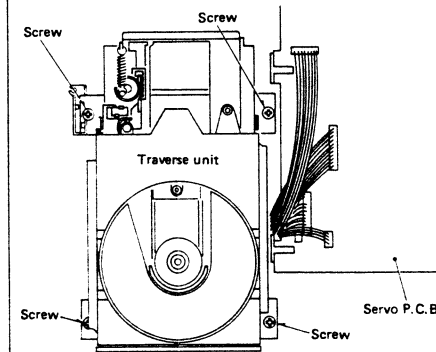


Fig. 12

5. Turn over the traverse unit and remove the 4 nuts (Fig. 13), then the traverse unit ass'y can be removed.
6. Remove the head amplifier P.C.B.
7. Fix the traverse unit ass'y on the jig. (Fig. 14)
8. Check each part.

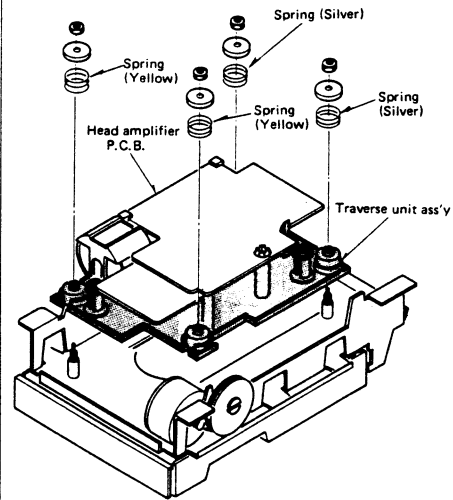


Fig. 13

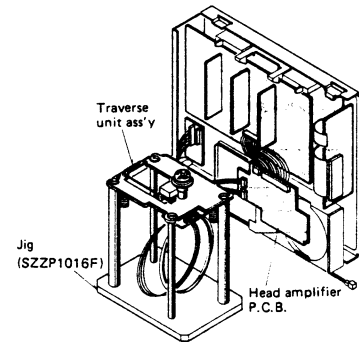


Fig. 14

• Spindle motor drive P.C.B.

1. Remove the cabinet.
2. Check each part. (Part side)
3. How to check soldered parts:
 - (1) Remove the switch rod from the power switch.
 - (2) Remove the 2 setscrews of the power transformer. (Fig. 15)
 - (3) Remove the radiator setscrew and take the power transformer block out of the chassis. (Fig. 15)
 - (4) Remove the setscrew and latch. (Fig. 16)
 - (5) Turn over the P.C.B. and check the P.C.B.

Caution:

When fitting the P.C.B., be sure to set the insulator sheet.

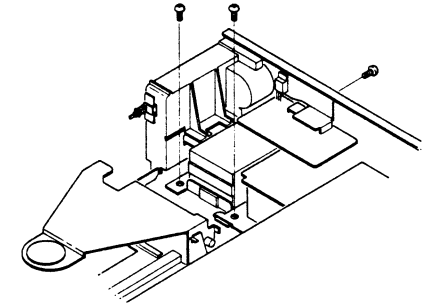


Fig. 15

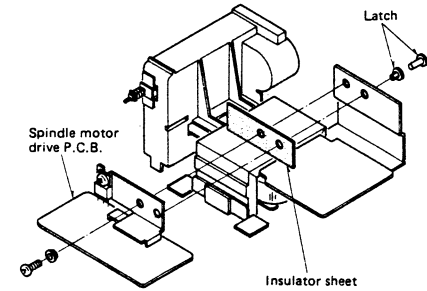
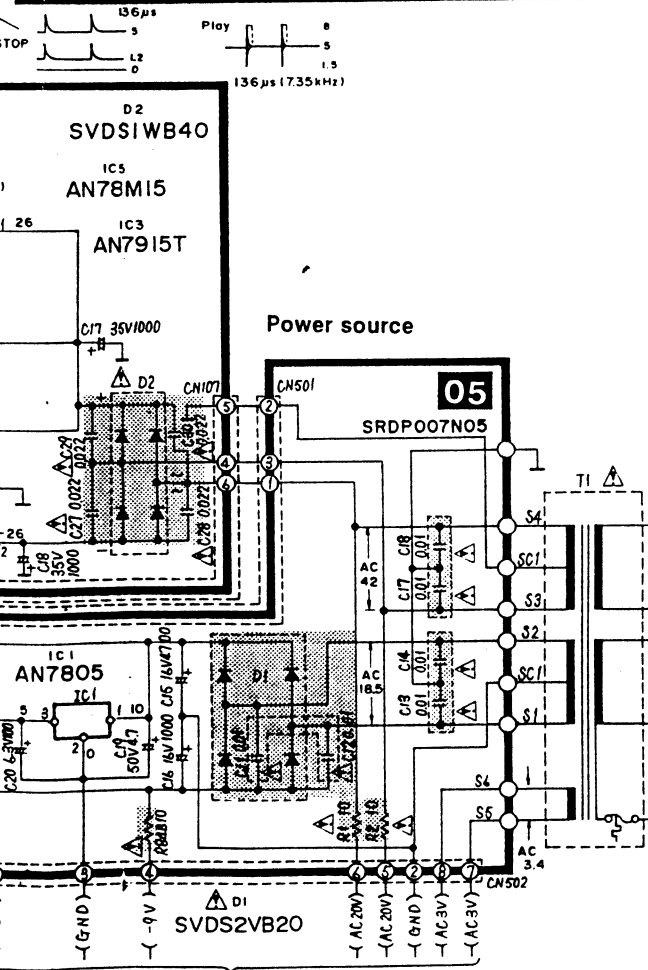
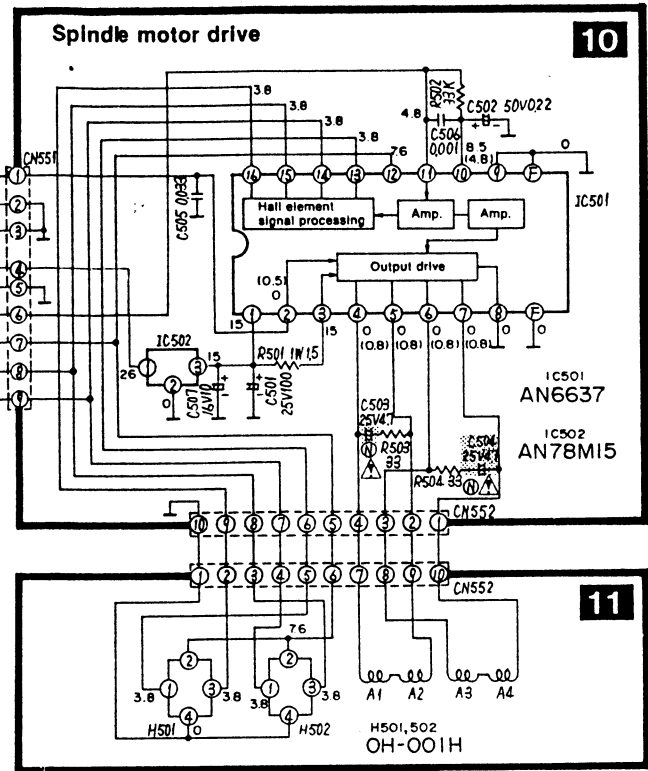
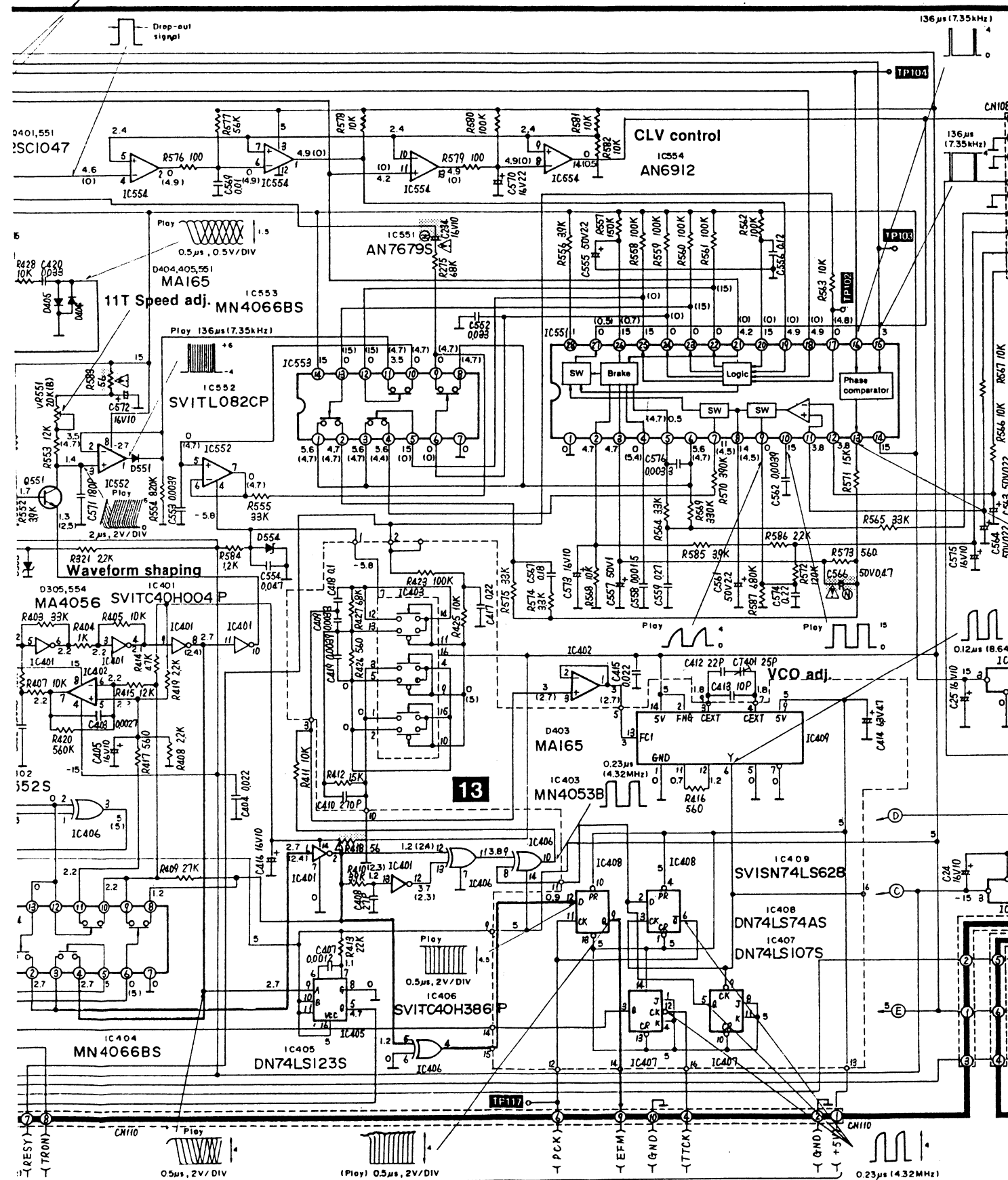


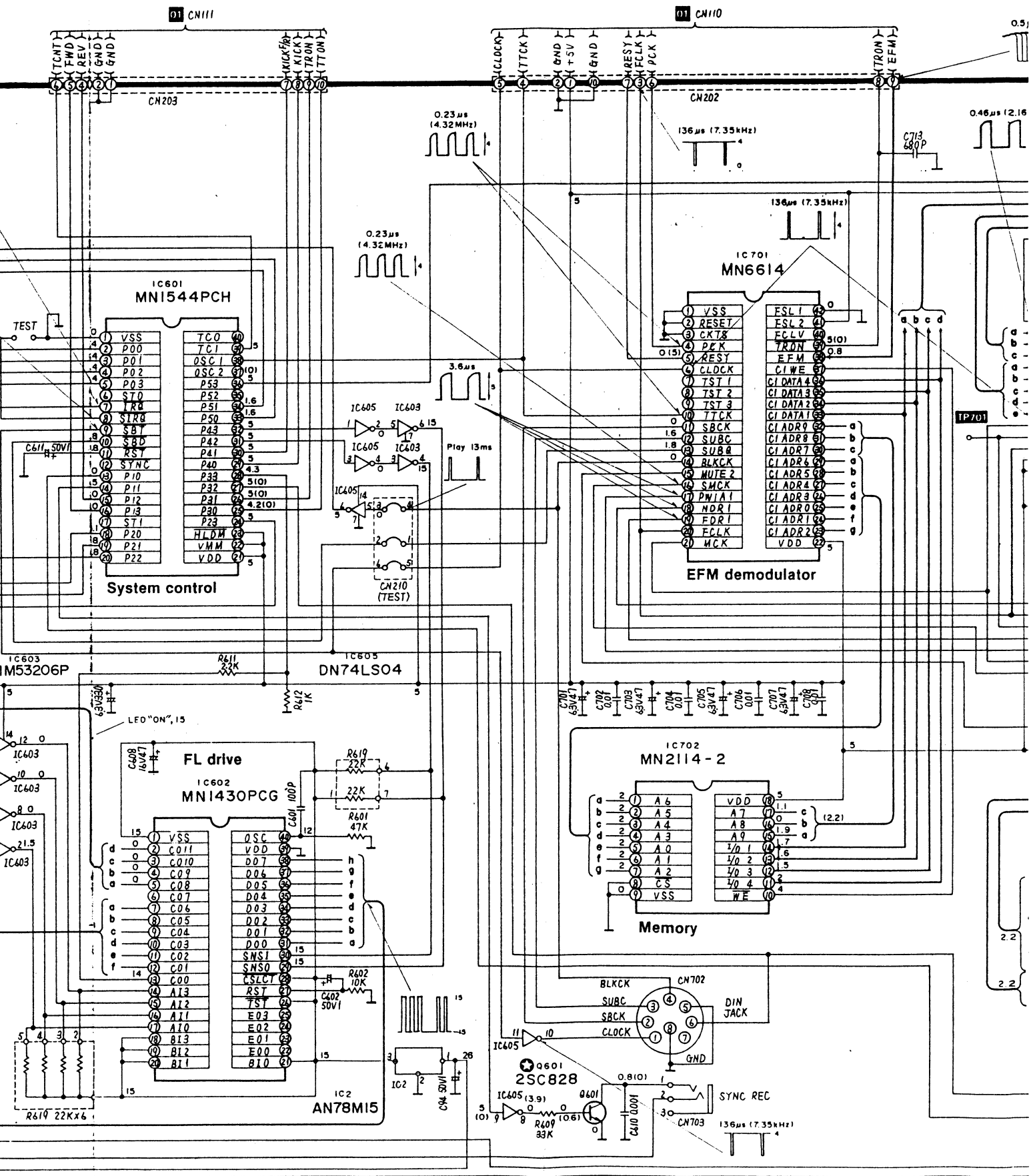
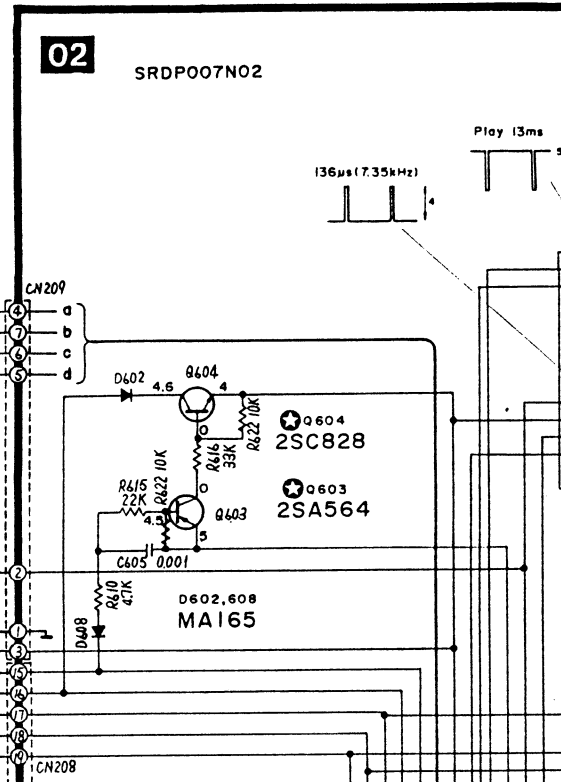
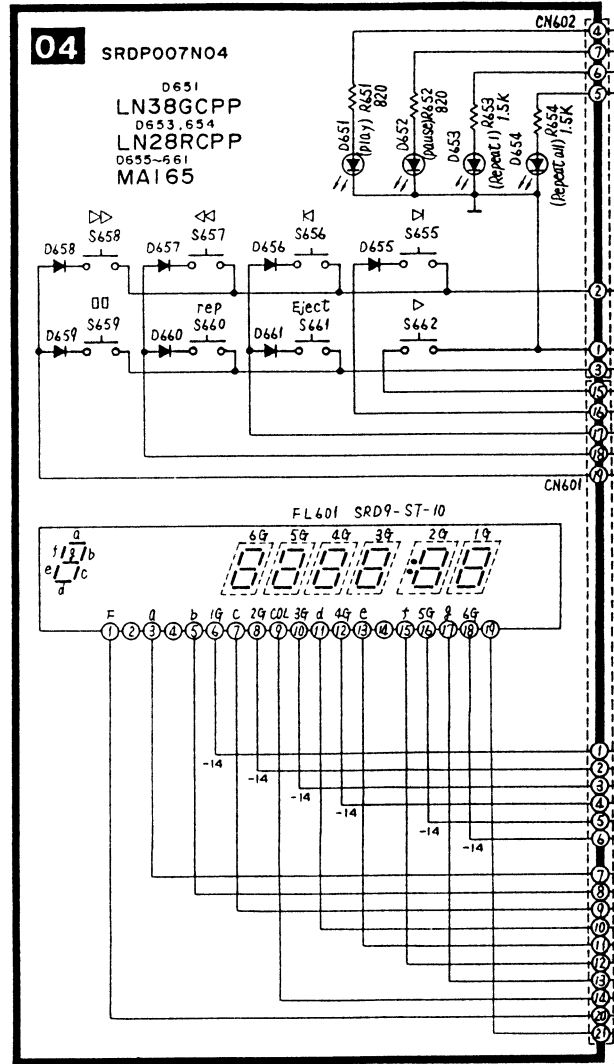
Fig. 16

Play 2ms, 5V/DIV

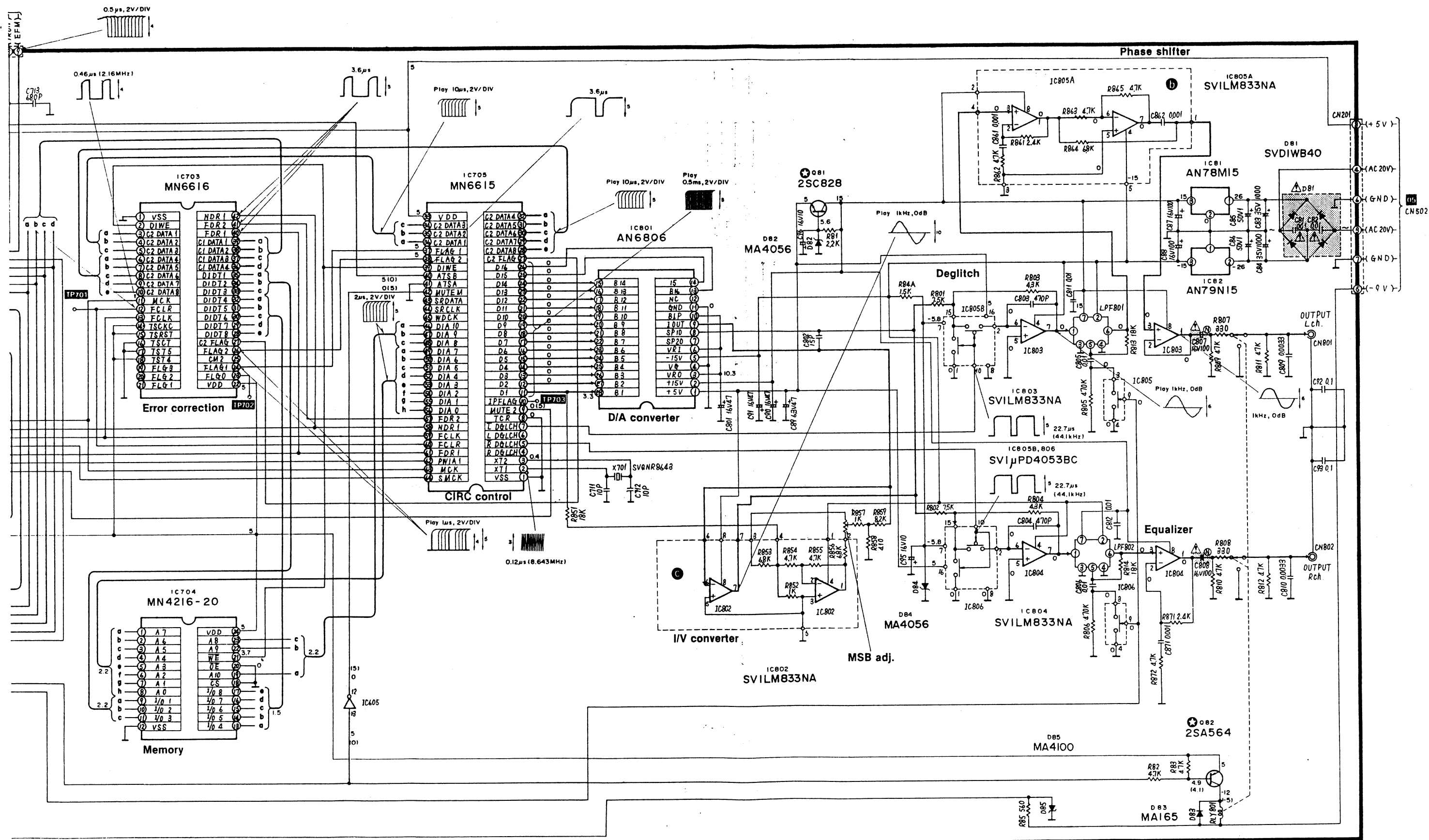
Drop-out signal



- Notes:**
- S1** : Power switch in "on" position.
 - S2** : Voltage selector switch.
 - S101** : Rest switch. (Disc innermost position detection)
 - S102** : End switch. (Disc outside detection)
 - S103** : Disc holder close detection switch.
 - S104** : Disc holder open detection switch.
 - S105** : Disc holder close detection switch.
 - S655** : Forward skip switch.
 - S656** : Reverse skip switch.
 - S657** : Reverse search switch.
 - S658** : Forward search switch.
 - S659** : Pause/stop switch.
 - S660** : Repeat switch.
 - S661** : Open/close switch.
 - S662** : Play switch.
16. The voltage value, and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in the voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.
* The parenthesized are the values of voltage generated during playing. Others are the voltage values in stop mode.
17. Part No. with \oplus mark are not identical between regular part No. and repair part No. supplied. So, when placing an order for repair parts, use the part No. in the replacement part list of repair parts.
18. — : +B voltage lines. \cdots : Audio signal lines.
— : -B voltage lines.
19. This schematic diagram may be modified at any time with the development of new technology.
20. Important safety notice:
Components identifier by Δ make have special characteristics important for safety.

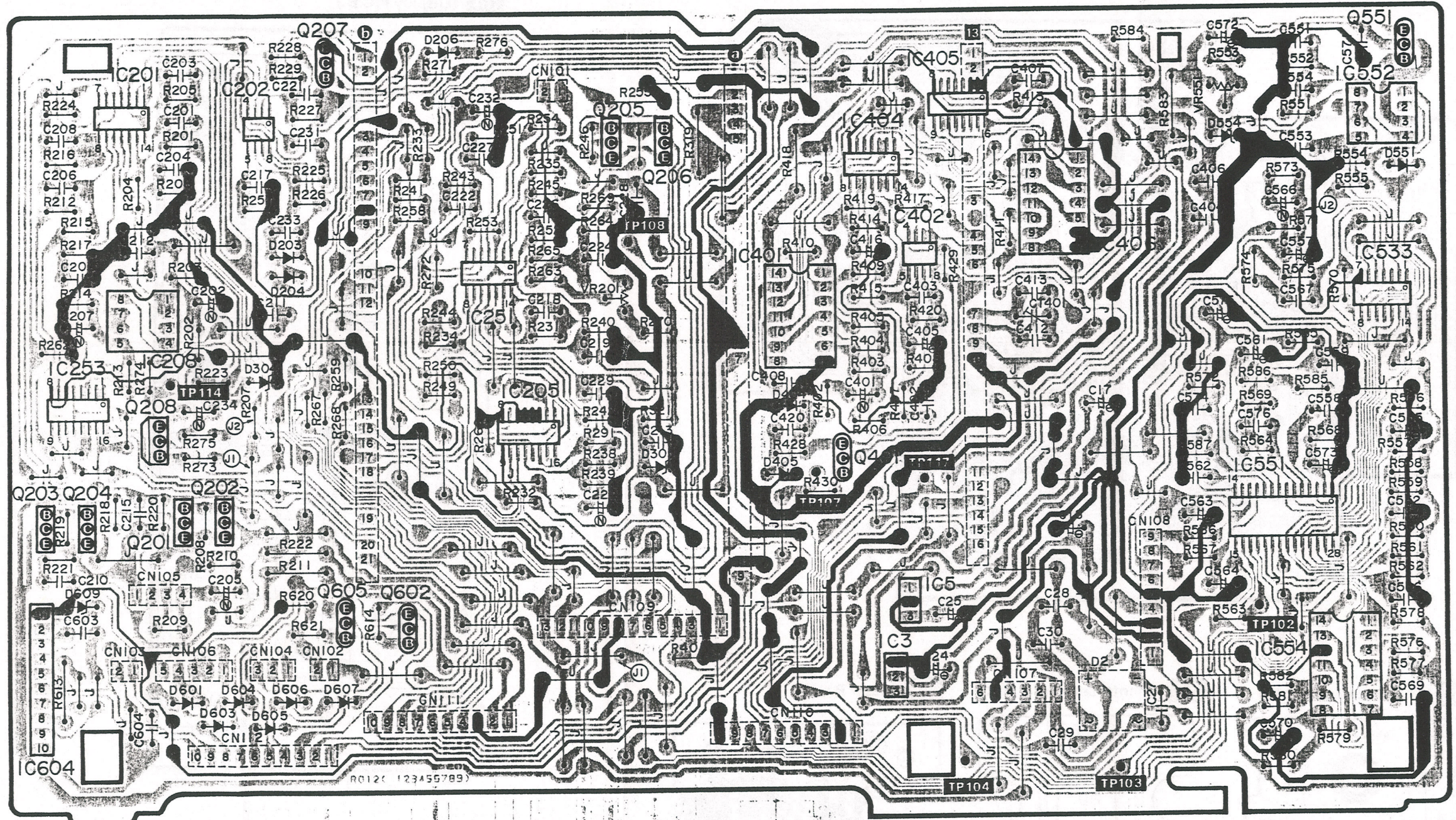


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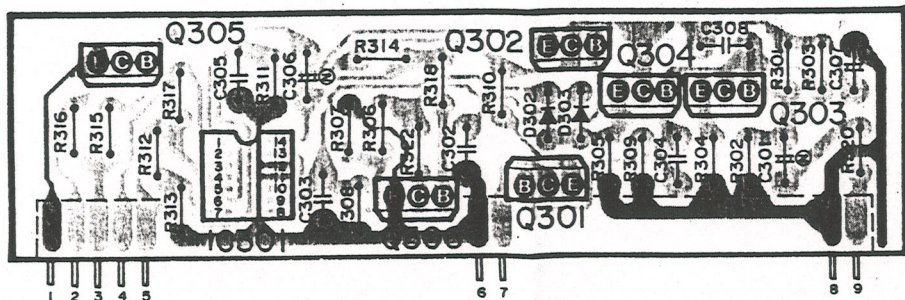


01 (Servo P.C.B.)

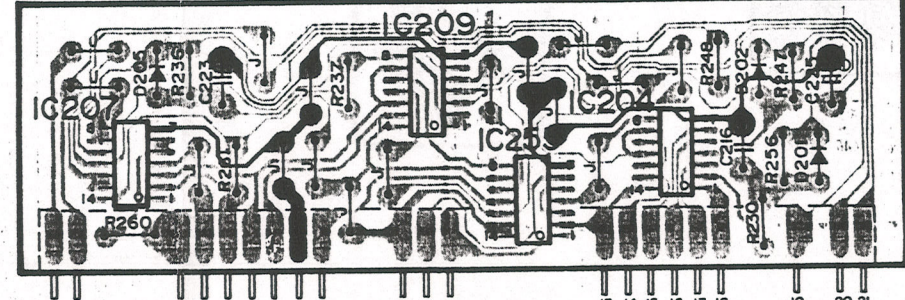
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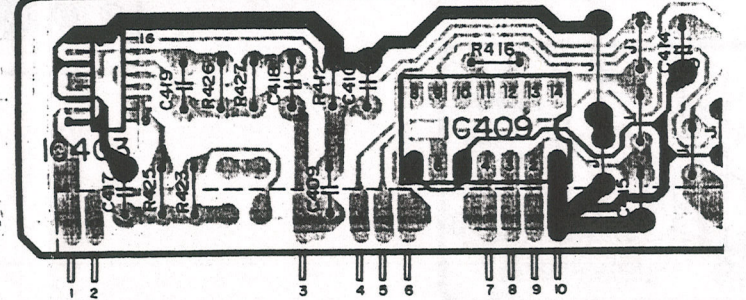
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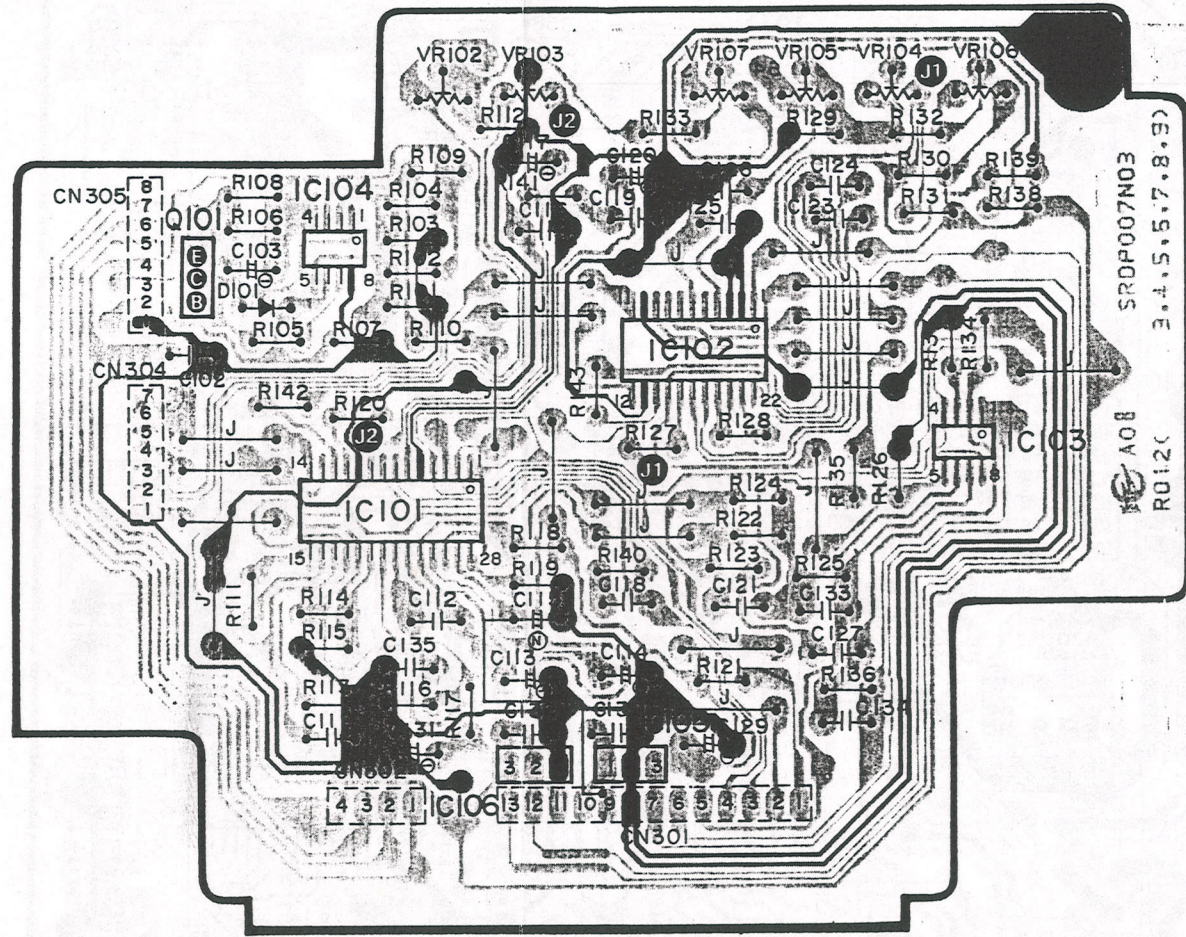
01 b



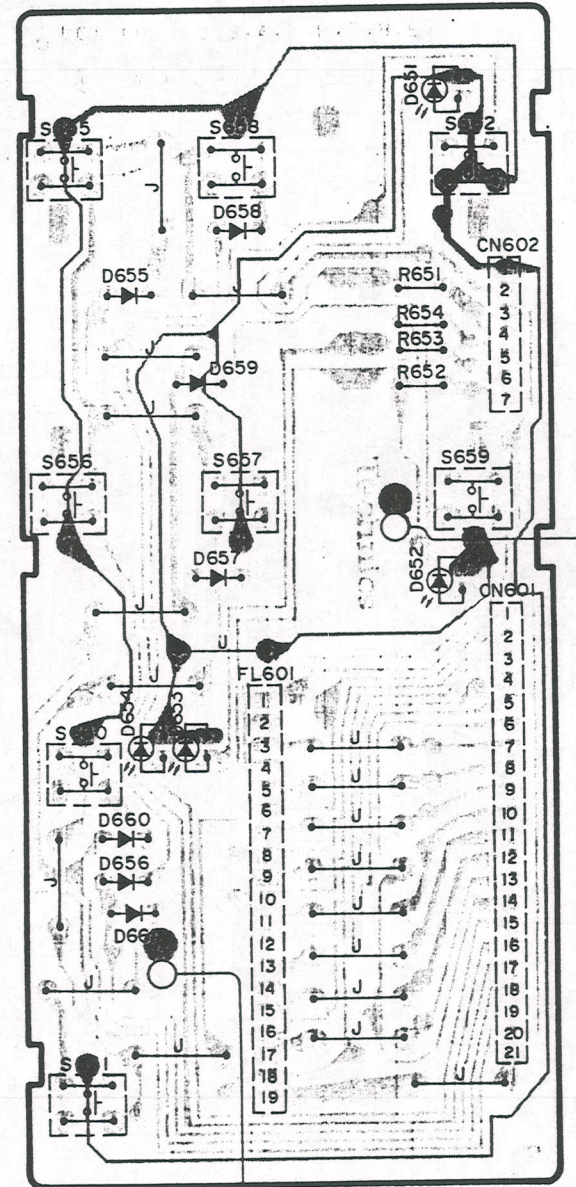
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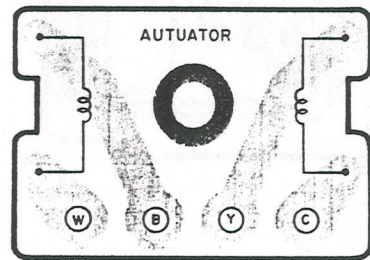
03 (Head amplifier P.C.B.)



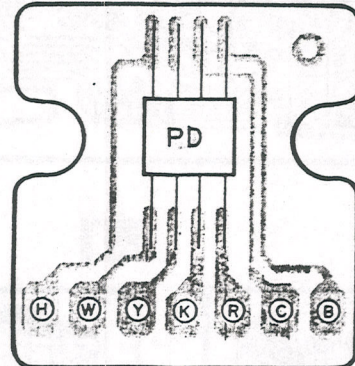
04 (Display P.C.B.)



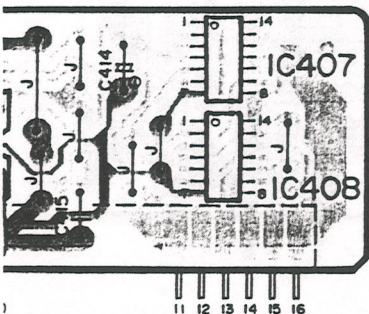
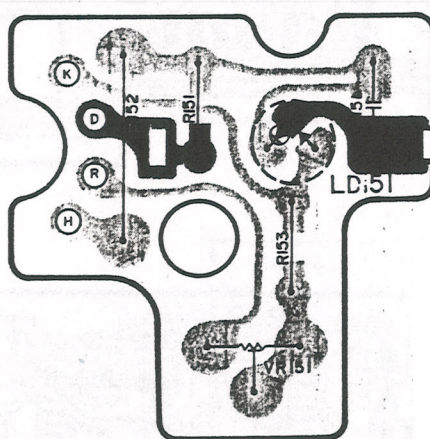
33 (Actuator coil P.C.B.)



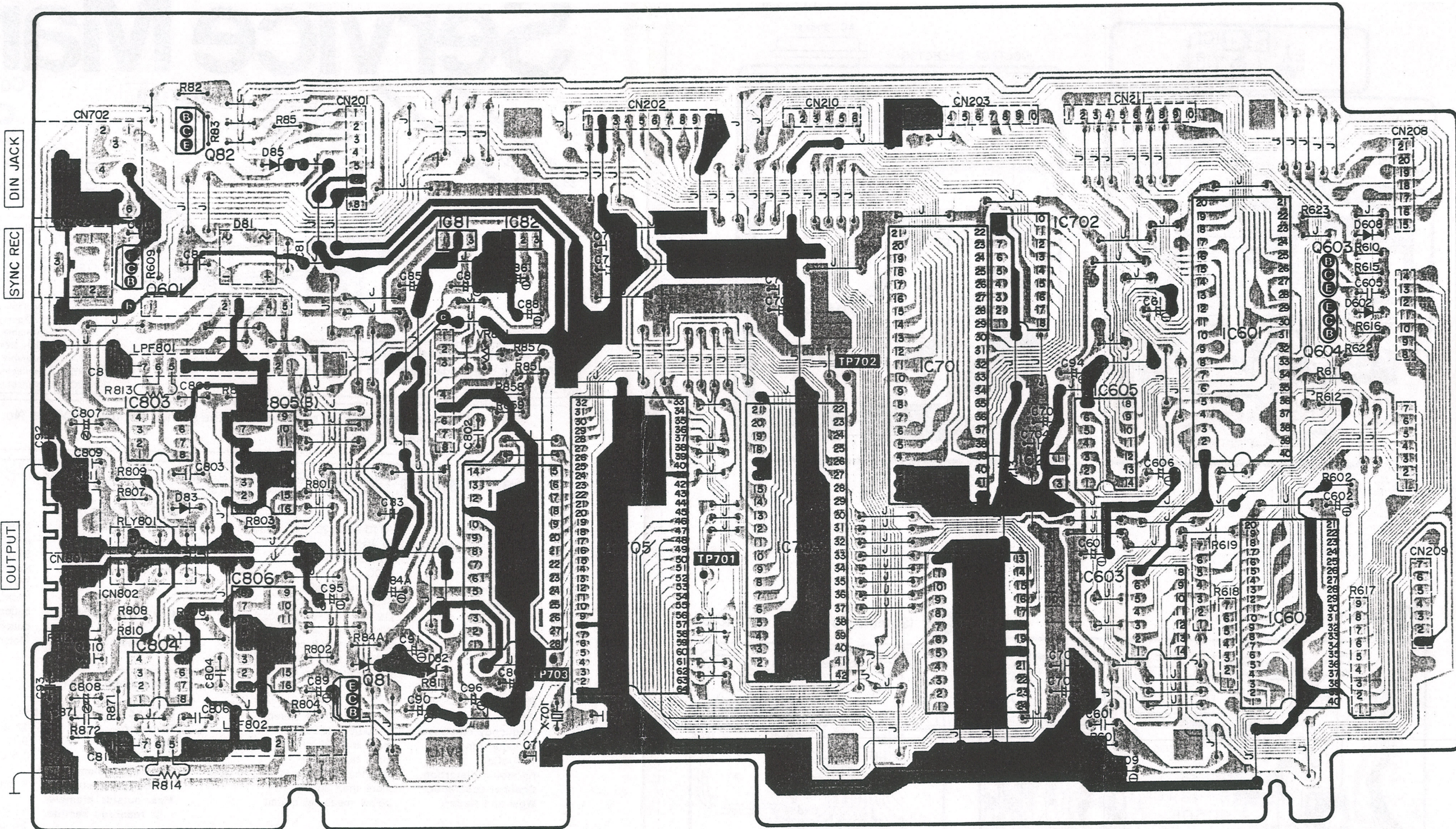
32 (Photo detector P.C.B.)



35 (Laser P.C.B.)



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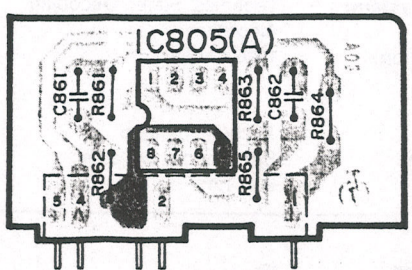


DIN JACK

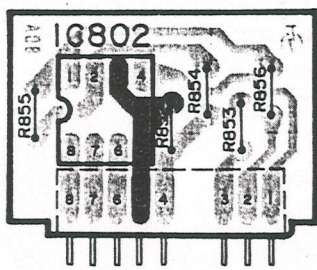
SYNC REC

OUTPUT

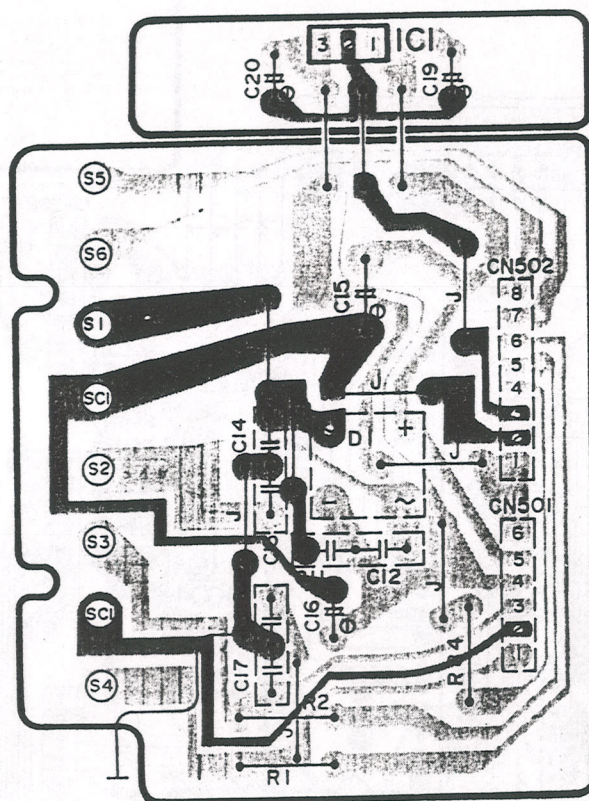
02 b



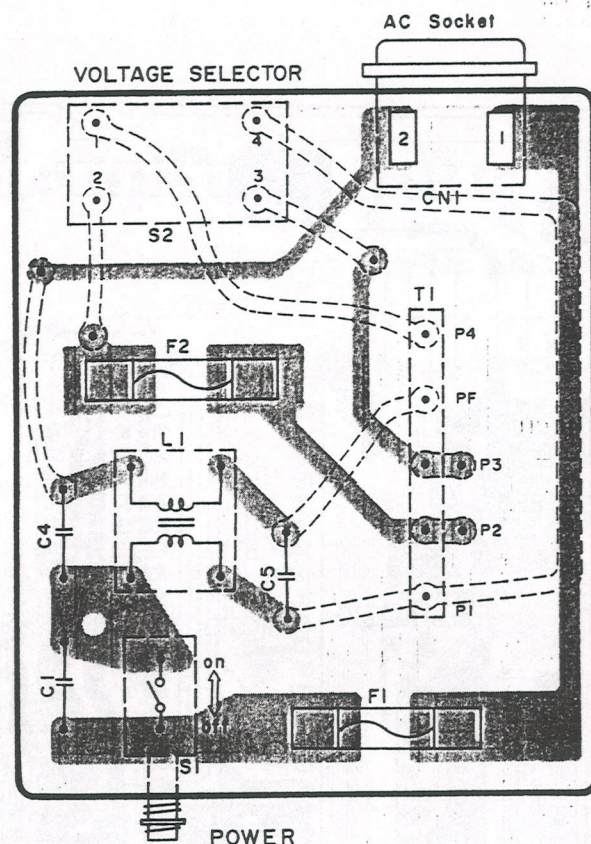
02 c



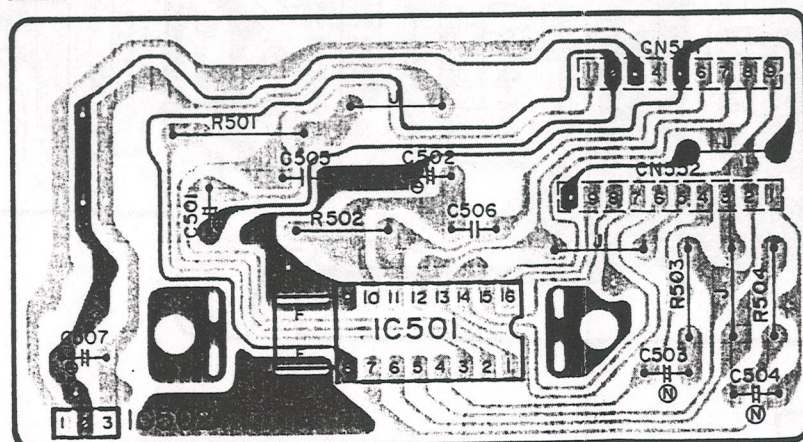
05 (Power supply P.C.B.)



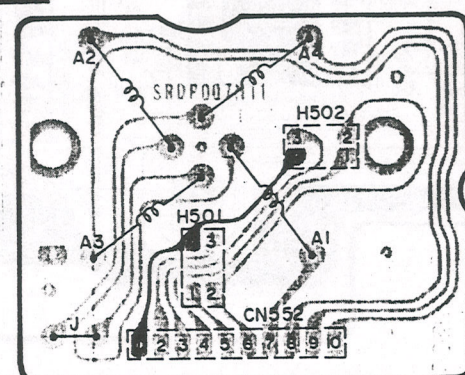
07 (Power fuse P.C.B.) circuit view on top of P.C.B.



10 (Spindle motor drive P.C.B.)



11 (Spindle motor drive coil P.C.B.)



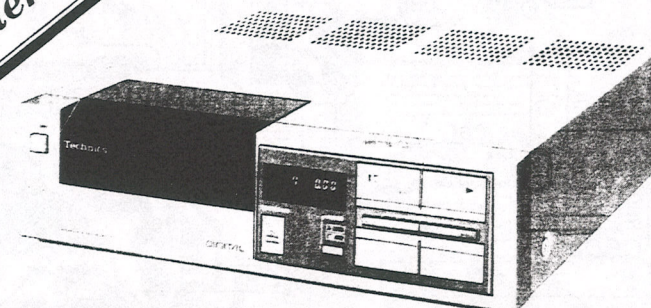
Service Manual

Compact Disc Player
SL-P7/(K)

Supplement-1

COMPACT
disc
DIGITAL AUDIO

DIGITAL



[E], [EK], [XL], [EG], [EB], [EH],
[EF], [Ei], [XA], [PA], [PE], [PC]

Areas

- * [E] is available in Switzerland and Scandinavia.
- * [EK] is available in United Kingdom.
- * [XL] is available in Australia.
- * [EG] is available in F. R Germany.
- * [EB] is available in Belgium.
- * [EH] is available in Holland.
- * [EF] is available in France.
- * [Ei] is available in Italy.
- * [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
- * [PA] is available in far East PX.
- * [PE] is available in European Military.
- * [PC] is available in European Audio Club.

* The colors of this model include silver and black.
* The black type model is provided with (K) in the Service Manual.

Please use this manual together with the service manual for Model No. SL-P7/(K),
Order No. DPD83080021C9.

Specifications

Specifications are subject to change without notice for further improvement.
Weight and dimensions shown are approximate.

General

Power supply: ~110-120/220-240 V, 50/60 Hz
Power consumption: 30 watts
Output voltage: 2 volts (at 0 dB)
Output impedance: 330Ω
Load impedance: more than 5 kΩ
Dimensions (W×D×H): 31.5×32.5×8.8 cm (12¹³/₃₂"×12³/₁₆"×3⁵/₃₂")
 (When disc holder is opened) 31.5×45.1×8.8 cm (12¹³/₃₂"×17³/₄"×3⁵/₃₂")
Weight: 4.9 kg (10.8 lbs)

Functions

Search modes: Manual search
Index search
Skip search
Display functions: No. of tracks, Total playing time, Track being played, Playing time of track being played, Index number
Operation buttons: buttons: 7
button: 1
Disc loading: Motor driven, lateral loading

Reference

Disc specifications

Diameter: 12 cm
Thickness: 0.12 cm
Spindle hole: 1.5 cm
Min. inside diameter of recorded section: 5 cm
Max. outside diameter of recorded section: 11.6 cm (disc is played from the inside to the outside edge)
Direction of rotation: Counterclockwise (seen from recorded side of disc)
Tracking speed: 1.2 to 1.4 meters/second, CLV (Constant Linear Velocity)
Rotations per minute: About 500 to 200 rpm
Playing time: About 60 minutes (up to 75 min. can be contained)
Track pitch: 1.6 μm
Material: Clear plastic

Audio

No. of channels: 2 (left and right stereo)
Frequency response: 4-20,000 Hz±0.5 dB
Dynamic range: more than 96 dB
S/N ratio: more than 96 dB
Harmonic distortion: less than 0.003% (1 kHz, 0 dB)
Channel separation: more than 90 dB
Wow and flutter: below measurable limit

Signal Format

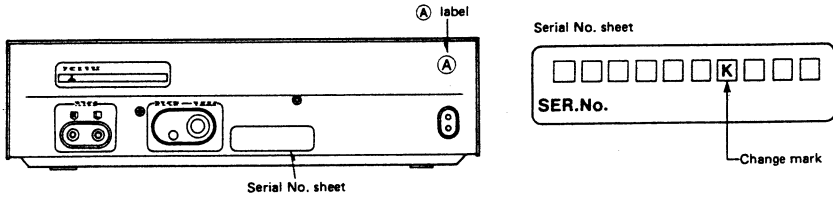
Sampling frequency: 44.1 kHz
Correction system: Technics Super Decoding Algorithm
D-A conversion: 16-bit linear

Pickup

Type: Astigma 3-beam
Light source: Semiconductor laser
Wavelength: 800 nm

Note:

- * In order to improve the performance and servicing convenience of SL-P7, discontinuing of P.C.B. (12 P.C.B. ; audio circuit, 15 P.C.B. ; CLV circuit), change of P.C.B. pattern diagram (01 P.C.B. ; servo circuit, 02 P.C.B. ; digital circuit) and circuit change are conducted during production.
 - * The present change is of the sets after the change mark **K** shown in the serial No. sheet provided on the rear chassis of the unit and the carton box.
- Also confirm that the label **A** is provided on AC socket top of rear chassis.



- * This supplement refers to after-change P.C.B., schematic diagram, P.C.B. checking method and replacement parts list. The other descriptions are the same as in the service manual (Order No. DPD83080021C9) of SL-P7.
- * This supplement is intended to be used together with the service manual (Order No. DPD83080025C1) of SL-P7.

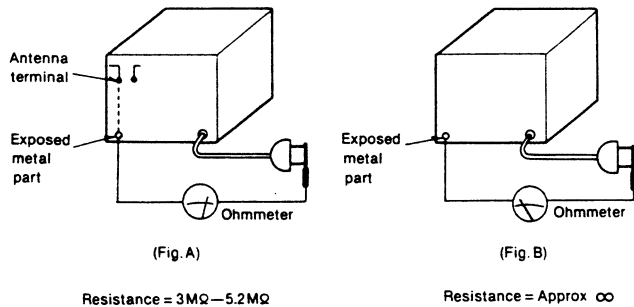
SAFETY PRECAUTION

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

INSULATION RESISTANCE TEST

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

Caution : This product utilizes a laser diode.



ADVARSEL-Der vil udstråles osynlig laser når apparatet åbnes. UNDGÅ AT BLIVE UDSÆT FOR LASERBESTRÅLING.

DANGER-Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION-HAZARDOUS LASER, AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED

ATTENTION-RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ENCLÈCHEMENT DE SÉCURITÉ ARRÊTÉ

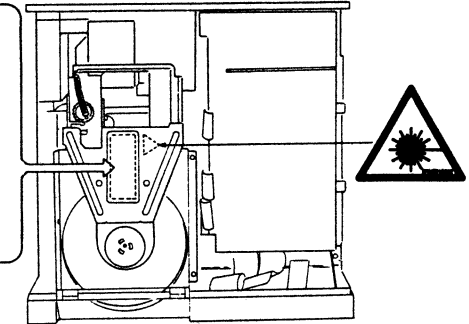
SRN22079002

SRN22079001

Use of caution labels

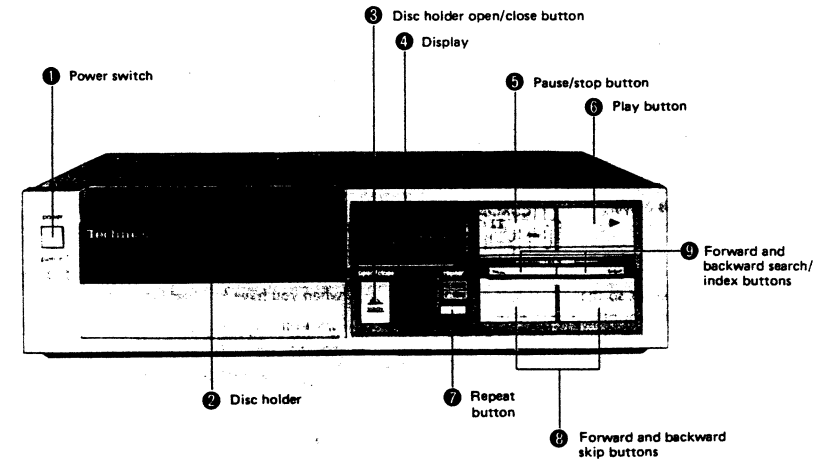
	U.S.A.	Canada	Europe	Others
SRNZ010S01	X	X	○	○
SRNZ007S02	○	X	○	○
SRNZ010C01	X	○	X	X
SRNZ010S02	X	X	○	○

Note: ○ Mark Label is used. X Mark Label is not used.

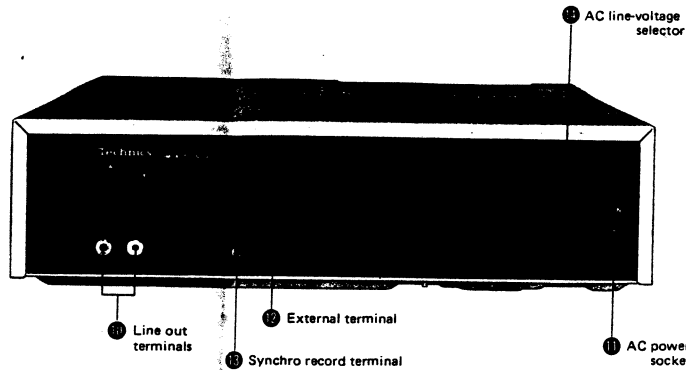


LOCATION OF CONTROLS

Front panel view



• Rear panel view



Functions

1 Power switch

- Press once to turn power on and again to turn power off.
- When power is turned on, the display 4 will read (0) for the track number and (000) for the time.
- If no disc is in the holder, the play button 6 (▶) will only light up for about five seconds.

2 Disc holder

- The disc is inserted in this holder.
- Press the disc holder open/close button 3 to open the holder and press the open/close button again to close the holder.
- The holder is also closed automatically when the play button 6 is pressed even when the open/close button is not pressed a second time. (The holder can also be closed by hand.)

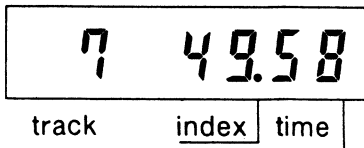
3 Disc holder open/close button

- Press this button to insert or remove a disc. When this button is pressed, the disc holder 2 opens.
- Press this button again to close the holder.

4 Display

The display consists of the following items:

- Track number (up to 99)
- Index number—Displays the minutes portion of the total playing time or the index number. Note that the index number is displayed only when the unit is in the index play mode.
- Time—Displays the seconds portion of the total playing time except when the index number is being displayed.



- The unit switches to the standby mode when a disc is inserted in the holder. In the standby mode, the pickup is located at the beginning of the first track and the display is showing the total number of tracks on the disc and the total playing time.

- The above example shows the display for a disc having seven tracks and a total playing time of 49 minutes 58 seconds.

- The number of tracks and total playing time is also displayed when the play button 6 is pressed after inserting a disc (without pressing the open/close button 3 to close the disc holder 2). In this case, disc play will automatically begin from the first track.

5 Pause/stop button

- This button activates both the pause and stop modes.
- When this button is pressed while a disc is being played, the II indicator lights to show that the pause mode has been activated. Press the play button 6 to cancel the pause mode and resume disc play.
- If the pause/stop button 5 is held down for more than about two seconds, the stop mode is activated (the II indicator goes out) and the pickup returns to the beginning of the first track on the disc.
- The disc continues to rotate for about 20 seconds after the stop mode is activated so that the player can quickly switch to the play or skip function if one of those buttons is pressed. If these buttons are not pressed during the 20 seconds period, the disc will stop rotating.

6 Play button

- Press this button to begin disc play. The play indicator (▶) lights up to show when this button has been pressed.
- When this button is pressed during disc play, the pickup returns to the starting position and disc play starts again from the beginning.
- When this button is pressed while the pause mode is activated, pause is cancelled and the player returns to the play mode.

7 Repeat button

- Press this button to activate the repeat play mode.
- When the [REPEAT] indicator lights, only the current track will be played repeatedly.
- When the [ALL] indicator lights, the entire side of the disc will be played repeatedly.
- When neither indicator is on, the repeat mode has been cancelled.

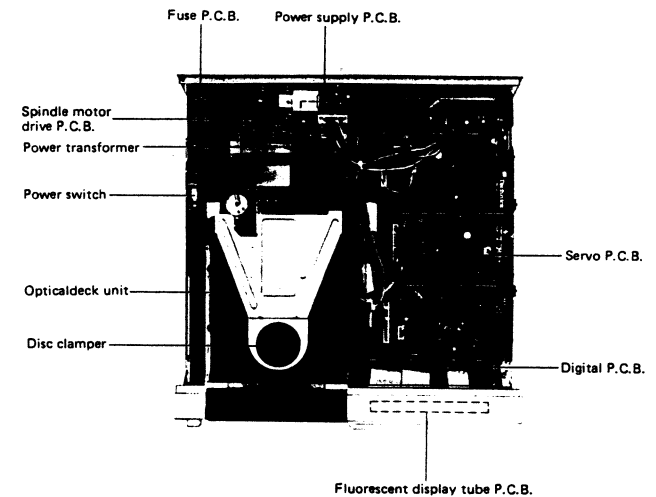
8 Forward and backward skip buttons

- Use these buttons to move the pickup forward and backward to the beginning of a specific track. The buttons are used in the following manner.
 1. For direct access play to locate the beginning of a specific track when the player is in the stop or pause mode.
 2. For skip play to skip one or more track when the player is in the play or pause mode.
- Press the [SKIP FWD] button to move the pickup forward.
- Press the [SKIP BWD] button to move the pickup backward.
- When either of these buttons is held down, tracks are skipped continuously. (Quick skip)

9 Forward and backward search/index buttons

- Use these buttons to move the pickup forward and backward. The buttons are used in the following manner.
 1. For manual search play by moving the pickup to a specific location when the player is in play or pause mode.
 - Press the [SEARCH FWD] button to move the pickup forward.
 - Press the [SEARCH BWD] button to move the pickup backward.
 - When either of these buttons is pressed, the pickup will move slowly at first and then rapidly if the button is held down for more than about three seconds.
- 2. For index play when the player is in the stop mode.

• Top view



10 Line out terminals (LINE OUT)

- These are the audio output terminals.
- Connect the line out terminals to the AUX or TAPE PLAYBACK terminals on your amplifier or receiver.

11 AC power socket (AC IN)

Connect this socket to a wall socket using the power cord.

12 External terminal

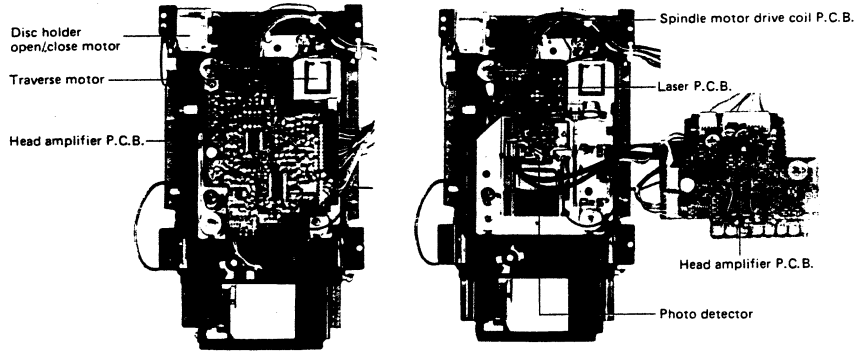
13 Synchro record terminal

The following functions are possible when this terminal is used:

1. Recording can be synchronized with the beginning and end of disc play and pause operation. Note that this is only possible when using Technics cassette decks which are equipped with a SYNCHRO REC terminal. (Synchro recording function)
2. The amplifier input source can be automatically switched to aux/CD/video when the play button 6 is pressed. It is also possible to automatically start disc play when the amplifier input source selector is switched to aux/CD/video. (Direct operation function)

14 AC line-voltage selector

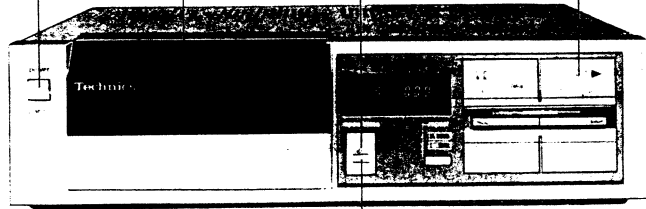
• Optical deck unit (Bottom view)



■ PLAYING A DISC

1. Automatic Play: (To play a disc from the beginning)

1. Press the power switch to the on position. (I →)
3. Insert a disc.
4. Press the disc holder open/close button again.
5. Press the play button.



• To briefly interrupt disc play

- Press the pause/stop button to activate the pause mode (II indicator lights). Be careful not to hold the pause/stop button down more than about two seconds since this will switch the player to the stop mode.
- Press the play button to resume disc play.

• To stop disc play

- Hold the pause/stop button down for about two seconds until the II indicator lights off.
- Turn the power switch off if the player is not going to be used for a while.

2. Direct Access Play

Direct access play can be performed when the player is in the stop or pause mode.

- For example, when the third track is specified.

Procedure	Display
skip Press three times.	
skip	Press to move the pickup backward.
play	Press to start disc play.

3. Index Play

Index play can be performed when the player is in the stop mode.

- Use index play to play a specific index of the disc as listed in index of a Compact Disc's instruction sheet.
- Example: To play the second index of the third track which contains a total of five indexes.

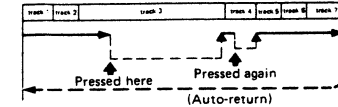
Procedure	Display
skip	While watching the display, enter track no. 3.
	Specify index no. 2.
play	Press to start disc play.

4. Skip Play

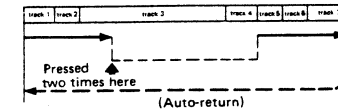
Skip play can be performed when the player is in the play or pause mode.

• Forward skip play

Example 1: When the forward skip button is pressed while listening to the third track to advance to the beginning of the fourth track and the again to advance to the beginning of the fifth track.

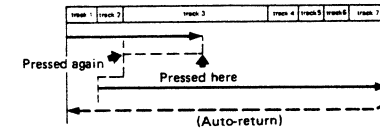


Example 2: To skip directly from the third track to the beginning of the fifth track, press the forward skip button two times in a row. (quick skip)

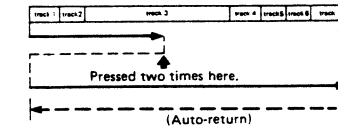


• Backward skip play

Example 1: When the backward skip button is pressed while listening to the third track to return to the beginning of the track and then again to return to the beginning of the second track.



Example 2: To skip directly from the third track to the beginning of the second track, press the backward skip button two times in a row. (quick skip)



Notes:

- In both the forward and backward skip modes, the number of tracks skipped is the same as the number of times either skip button is pressed. Remember that for backward skip, the track currently being played is counted as the first track.
- Press the skip buttons while watching the track number display.
- If skip play is performed while the player is in the pause mode, press the play button to resume disc play after the pickup has moved to the desired point.

5. Manual player is

Manual player is

- To move the pickup
- Press the move the



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- When the pickup moves the play watching present v
- During the desired

Note:

- When the pickup moves that

■ HAN

- Handling Only correct mark can

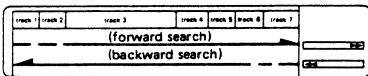
- Hold correct surface is

- Be careful other than removing
- Do not be
- Do not use
- prevention
- Do not use solvent. Damp water

5. Manual Search Play

Manual search play can be performed when the player is in the play or pause mode.

- To move the pickup to a specific point
- Press the forward or reverse search/index button to move the pickup to the desired point.



- The pickup will move slowly at first and then switch to rapid movement if the button is held down for more than about three seconds.
- When manual search is performed while the player is in the play mode, the desired point can be located by watching the display. (at a level of about -12 dB of the present volume setting).
- During the pause mode, watch the display to locate the desired point on the disc.

Note:

- When the player is in the single track repeat mode, the pickup can only be moved to locations within that track.

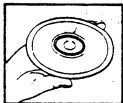
■ HANDLING COMPACT DISCS

● Handling precautions

Only compact discs identified with this mark can be used with this player.



- Hold compact discs by the edges so the surface is not soiled with fingerprints.



- Be careful not to scratch the surface with fingernails or other sharp objects, particularly when inserting and removing discs in their cases.
- Do not bend the disc.
- Do not use record cleaning sprays or static electricity prevention liquids.
- Do not wipe with benzene, thinner or any other solvent. If the surface is soiled, wipe gently with a soft damp (water only) cloth.

8

6. Repeat Play

- To repeatedly play an entire side:**
Press the repeat button until the [REPEAT] indicator lights.
- To repeatedly play one track:**
Press the repeat button until the [TRACK] indicator lights.
 - The repeat play mode can be activated while a disc is being played.
 - Follow directions in the direct access section, if you want to specify the track to be played repeatedly.

3. To cancel the repeat mode:

To stop repeat play, press the repeat button until all repeat indicators are out or press the pause/stop button to stop disc play.

Note:

Repeat play can only be done for an entire disc side or an entire track. It can not be set by index numbers. Therefore, on discs having only one track, the entire side and single track repeat modes will both play the entire side repeatedly.

7. Timer Play

- Turn on the power switches of all components in the timer play chain.
- Set the amplifier input selector to the position for this player.
- Insert a disc in the holder.
- Confirm the present time and set the audio timer to the desired start and stop times.
- Turn the audio timer on. The audio timer will now turn power off to all components in the timer play chain.
- The disc will now be played from track one at the preset time.

- If the disc is brought from a cold environment into a warm room, dew may form on the disc. Wipe this off with a soft, dry cloth before using the disc.
- Do not write on the label with a ball-point pen, hard pencil or other hard writing utensil.
- Always remove the disc from the disc compartment when you have finished listening to it.

● Storage precautions

- Be sure to store discs in their cases to protect them from dust, scratches and warping.
- Do not place or store discs in the following places:
 - 1) Locations exposed to direct sunlight.
 - 2) Locations with high humidity or a lot of dust.
 - 3) Locations directly exposed to a heat outlet or heating appliance.
 - 4) In the glove compartment or rear ledge of an automobile.

■ DISASSEMBLY INSTRUCTIONS

● How to remove the cabinet

- Remove the 4 setscrews [Fig. 1 ; ① ~ ④] to remove the cabinet in the direction of the arrow.

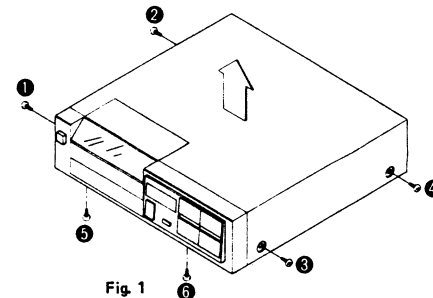


Fig. 1

● How to remove the front panel

- Remove the cabinet. [Refer to "How to remove the cabinet".]
- Remove the 2 setscrews [Fig. 1 ; ⑤ , ⑥] of the front panel.
- Remove the 2 setscrews [Fig. 2 ; ⑦ , ⑧] of the front panel fitting, and release the 2 claws.
- Pull out the lead wires from the connectors of the digital P.C.B. and remove the front panel in the direction of the arrow.

Note:

When installing the front panel, remove the power switch rod and install the front panel from the disc holder side. (Take care not to scratch the disc holder.)

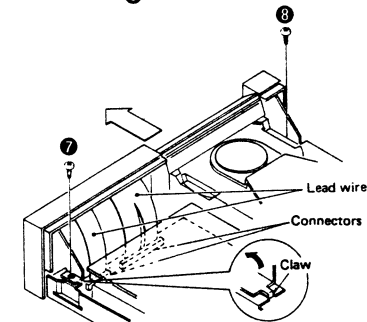


Fig. 2

● How to remove the fluorescent display tube P.C.B.

- Remove the front panel. [Refer to "How to remove the front panel".]
 - Remove the 3 setscrews [Fig. 3 ; ⑨ ~ ⑪] of the fluorescent display tube P.C.B. and release the 9 claws, then the fluorescent display tube P.C.B. can be removed.
- *Open/close, repeat button and search/index button can be removed by removing the fluorescent display tube P.C.B.

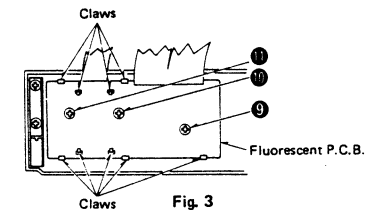


Fig. 3

● How to remove the servo P.C.B.

- Remove the cabinet. [Refer to "How to remove the cabinet".]
- Release the 2 claws [Fig. 4] in the direction of the arrow and then lift the servo P.C.B.
- Push the 3 claws [one by one] in the direction of the arrow (A) in Fig. 5, and remove the servo P.C.B. by pulling it in the direction of the arrow (B) [Fig. 4].
- To remove the audio P.C.B., remove the setscrew ⑫ [Fig. 4].

*When checking the circuit, do the job as in paragraph 2.

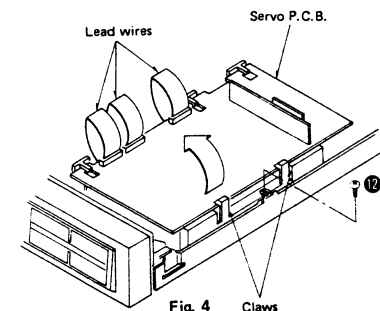


Fig. 4

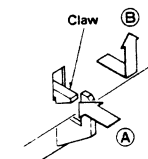


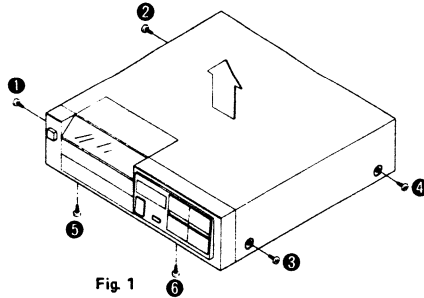
Fig. 5

9

DISASSEMBLY INSTRUCTIONS

How to remove the cabinet

1. Remove the 4 setscrews [Fig. 1 ; ① ~ ④] to remove the cabinet in the direction of the arrow.

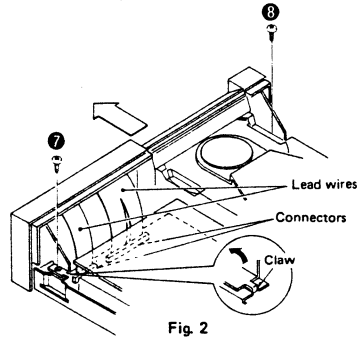


How to remove the front panel

1. Remove the cabinet. [Refer to "How to remove the cabinet".]
2. Remove the 2 setscrews [Fig. 1 : ⑤, ⑥] of the front panel.
3. Remove the 2 setscrews [Fig. 2 ; ⑦, ⑧] of the front panel fitting, and release the 2 claws.
4. Pull out the lead wires from the connectors of the digital P.C.B. and remove the front panel in the direction of the arrow.

Note:

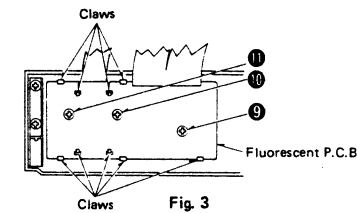
When installing the front panel, remove the power switch rod and install the front panel from the disc holder side. (Take care not to scratch the disc holder.)



How to remove the fluorescent display tube P.C.B.

1. Remove the front panel. [Refer to "How to remove the front panel".]
2. Remove the 3 setscrews [Fig. 3 ; ⑨ ~ ⑪] of the fluorescent display tube P.C.B. and release the 9 claws, then the fluorescent display tube P.C.B. can be removed.

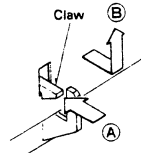
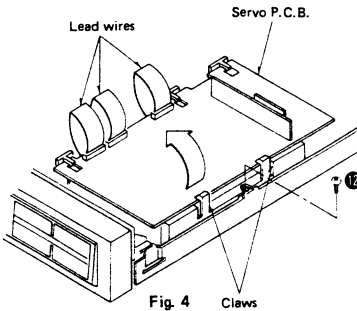
*Open/close, repeat button and search/index button can be removed by removing the fluorescent display tube P.C.B.



How to remove the servo P.C.B.

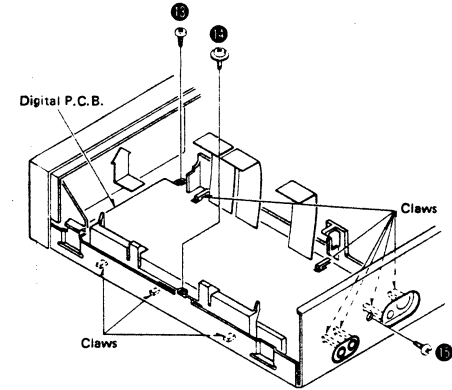
1. Remove the cabinet. [Refer to "How to remove the cabinet".]
2. Release the 2 claws [Fig. 4] in the direction of the arrow and then lift the servo P.C.B.
3. Push the 3 claws [one by one] in the direction of the arrow (A) in Fig. 5, and remove the servo P.C.B. by pulling it in the direction of the arrow (B).
4. To remove the audio P.C.B., remove the setscrew ⑫. [Fig. 4]

*When checking the circuit, do the job as in paragraph 2.



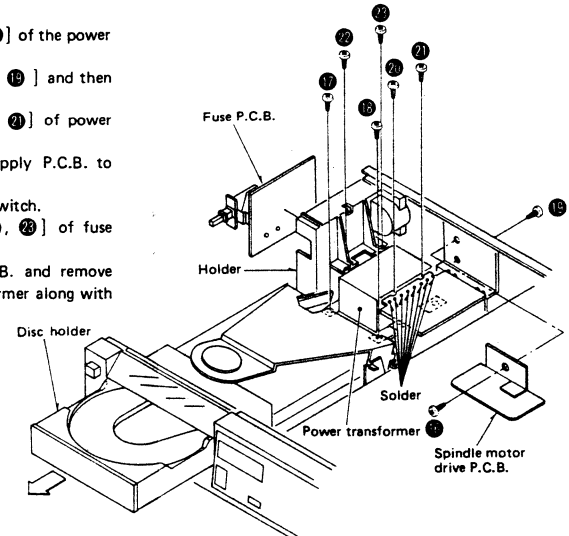
How to remove the digital P.C.B.

1. Remove the servo P.C.B. [Refer to "How to remove the servo P.C.B."]
2. Remove the 2 setscrews [Fig. 6 : ⑬, ⑭] of P.C.B. holder.
3. Remove the setscrew [Fig. 6 ; ⑮] of the output jack holder.
4. Remove the P.C.B. (with holder) in the direction of the arrow. [Fig. 6]
5. To remove the digital P.C.B., release the 9 claws of each holder.



How to remove the power transformer

1. Remove the cabinet. [Refer to "How to remove the cabinet".]
2. Pull out the disc holder in the direction of the arrow [Fig. 7].
3. Remove the setscrew [Fig. 7 : ⑯] of the spindle motor drive P.C.B.
4. Remove the 2 setscrews [Fig. 7 : ⑰ ~ ⑱] of the power transformer.
5. Remove the radiator setscrew [Fig. 7 : ⑲] and then remove the transformer block.
6. Remove the 2 setscrews [Fig. 7 : ⑳, ㉑] of power supply P.C.B.
7. Unsolder the 8 portions of power supply P.C.B. to remove the P.C.B.
8. Remove the switch rod from the power switch.
9. Remove the 2 setscrews [Fig. 7 : ㉒, ㉓] of fuse P.C.B. holder.
10. Unsolder the 5 portions of fuse P.C.B. and remove the fuse P.C.B. from the power transformer along with the holder.

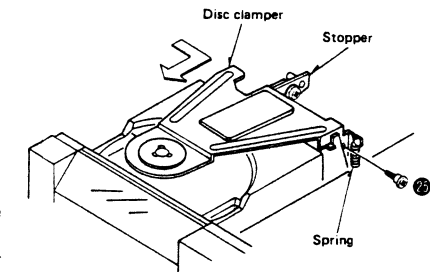


How to remove disc clammer

1. Remove the cabinet. [Refer to "How to remove the cabinet".]
2. Pull out the disc holder.
3. Remove the disc clammer setscrew [Fig. 8 ; ㉔] and remove the spring.
4. Remove the disc clammer in the direction of the arrow [Fig. 8].

Notes:

1. Be sure to pull out the disc holder and remove the disc clammer.
2. Do not remove the stopper. If it is removed, re-adjustment will be needed.



● How to remove the disc holder

1. Remove the front panel. [Refer to "How to remove the front panel".]
2. Remove the disc clamber. [Refer to "How to remove the disc clamber".]
3. Remove the disc holder setscrews [Fig. 9 ; 20, 21].
4. Disconnect the lead wire from the lead wire holder. [Take care not to break the lead wire.]
5. Push the disc holder in the direction of arrow (A) and release the 2 claws from the bottom, then remove the disc holder by lifting it in the direction of arrow (B).

*Fit the disc holder with the drive rack pressed in the direction of arrow (C).

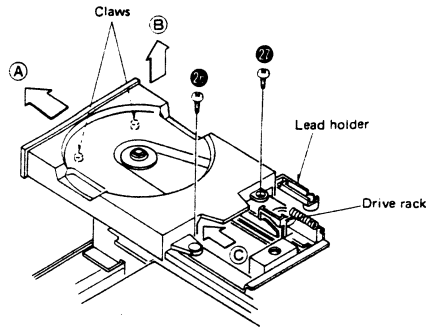


Fig. 9

● How to remove and set the disc tray

1. Remove the disc holder. [Refer to "How to remove the disc holder".]
2. Release the 2 claws from the bottom of disc holder and then remove the disc tray. [In this case, be careful not to lose the 3 ball bearings.]
3. When setting the disc tray, accurately fit the lever onto the boss as illustrated.

*It can be easily set by pushing the lever in the direction of the arrow.

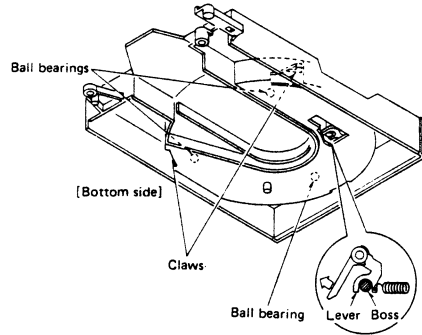


Fig. 10

● How to remove the loading guide

1. Remove the disc holder. [Refer to "How to remove the disc holder".]
2. Release the 2 claws of close switch cover to release the switch. (Fig. 11)
3. Remove the 6 setscrews [Fig. 11 ; 26 ~ 31] on the right and left sides of loading guide holder. Then the loading guide can be removed.

*When fitting the close switch and return gear again, push the drive rack in the direction of the arrow and set them so that the return gear spring is set on the left side. [See Fig. 12.] (The — marked gear of return gear is engaged between the 2nd and 3rd from top of the drive rack gears.)

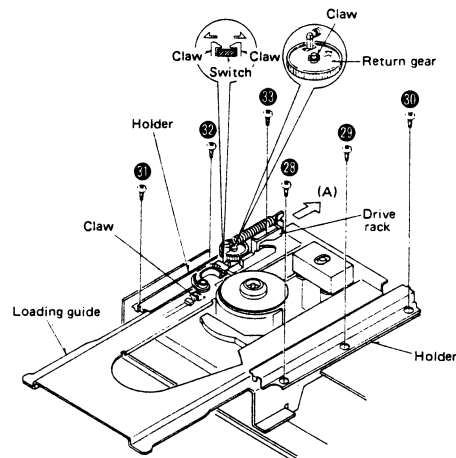


Fig. 11

● How to remove the drive rack

1. Remove the loading guide. [Refer to "How to remove the loading guide".]
2. Release the return gear claw to remove the return gear. [Fig. 11]
3. Push the drive rack in the direction of arrow (A), and release the drive rack claw, then the drive rack can be removed downward. [Fig. 11]

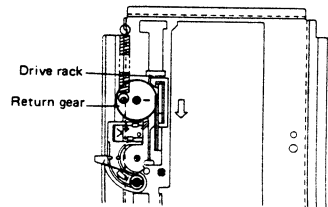


Fig. 12

● How to remove the traverse unit [Optical deck unit]

1. Remove the front panel. [Refer to "How to remove the front panel".]
2. Remove the 4 setscrews [Fig. 13 ; 34 ~ 37] of traverse unit. Then the traverse unit can be removed.
3. Pull out the traverse unit connector (attached to the servo P.C.B.). [CN552, CN101~CN106, CN109, earth wire.]
4. Turn over the traverse unit and remove the 4 nuts [Fig. 14 ; A ~ D]. Then the travers unit ass'y.

Replacement parts are included in the traverse unit ass'y (optical deck unit) supplied. So, do not remove the limit switch, motor, turntable and pickup.

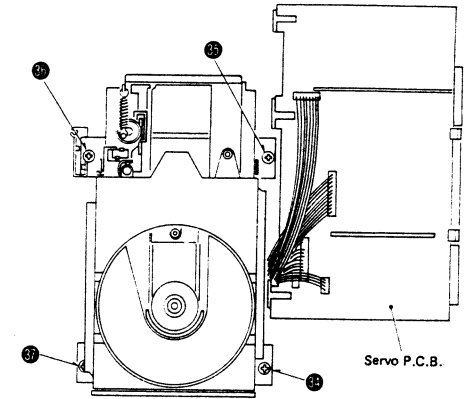


Fig. 13

● How to remove the head amplifier P.C.B. and spindle motor drive coil P.C.B.

1. Remove the 4 setscrews [Fig. 13 ; 34 ~ 37] of traverse unit.
2. Turn over the traverse unit and remove the head amplifier setscrew [Fig. 14 : 38].
3. Disconnect the lead wire from the lead wire holder.
4. Release the claw from the head amplifier P.C.B. Then the head amplifier P.C.B. can be removed.
5. Remove the 2 setscrews [Fig. 14 ; 39, 40] of spindle motor P.C.B. Then the spindle motor drive coil P.C.B. can be removed.

● How to remove the limit switch [Rest and end detecting switch]

1. Remove the head amplifier P.C.B. [Refer to "How to remove the head amplifier P.C.B. and spindle motor P.C.B.".]
2. Remove the 2 setscrews [Fig. 14 : 41, 42] of limit switch, and unsolder the limit switch.

*After fitting the limit switch [rest : disc's innermost position detection] again, it is necessary to re-adjust the position.

● How to remove the loading motor

1. Remove the head amplifier P.C.B. [Refer to "How to remove the head amplifier P.C.B. and spindle motor P.C.B.".]
 2. Remove the belt from the loading motor pulley. [Fig. 14]
 3. Remove the 2 setscrews [Fig. 14 : 43, 44] of loading motor, and unsolder the motor leads.
- * Connect the brown lead to the (+) terminal of motor, and red lead to (-) terminal. (The (-) terminal is indicated by arrow on the motor.)

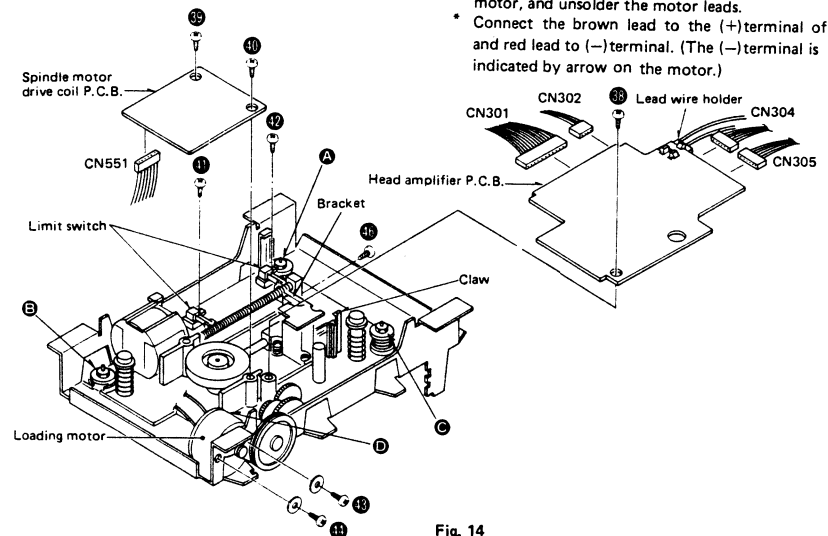


Fig. 14

● How to remove the turntable

1. Remove the spindle motor drive coil P.C.B. [Refer to "How to remove the head amplifier P.C.B. and spindle motor drive coil P.C.B."]
 2. Remove the C ring from the shaft of spindle motor. [Fig. 15]
 3. Remove the screw [Fig. 15 : ⑬] by use of a hexagonal wrench. Then the capstan shaft can be removed.
- *If the turntable is removed, it is necessary to re-adjust the height of turntable.

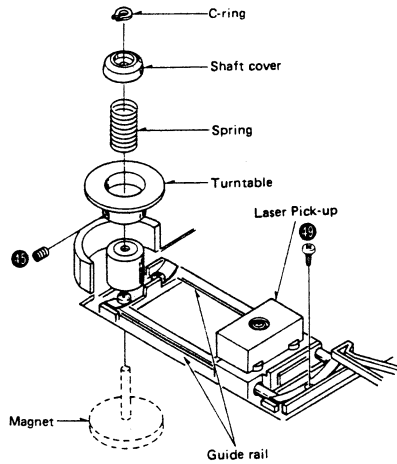


Fig. 15

● How to remove the laser pickup

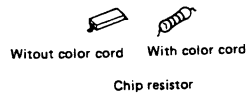
1. Remove the head amplifier P.C.B. [Refer to "How to remove the head amplifier P.C.B."]
 2. Remove the bracket setscrew [Fig. 14 : ⑭] of pickup.
 3. Remove the loading guide holder setscrews [Fig. 11 : ⑯ ~ ⑰], (Disc holder is fitted to loading guide.)
 4. Remove the guide rail retainer setscrew [Fig. 15 : ⑱], and pull the laser pickup out of the two guide rails.
 5. Pull out the 2 connectors [CN304, CN305] of head amplifier P.C.B. [Fig. 14]
- *After replacing the pickup or fitting it again, it must be re-adjusted.

■ HOW TO REPLACE CHIPS

(Resistor, capacitor and jumper)

● Removing procedure

1. Completely remove the solder from both ends of the chip by use of solder sucker.
2. Touch the soldering iron to the end of the chip as shown in Fig. 16, then turn the tweezers in the direction of the arrow.



Do not re-use chip resistor or capacitor without color cord.

● Replacing procedure

1. Place solder on the foil where the chip is fitted. Then solder the chip by holding the soldering iron as shown in Fig. 17.

Note:

1. If the chip jumper is removed, connect a coated lead wire to the part. (See Fig. 18).
Chip jumper is marked with "J" on the printed circuit board.

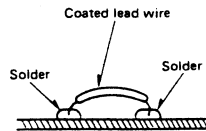


Fig. 18

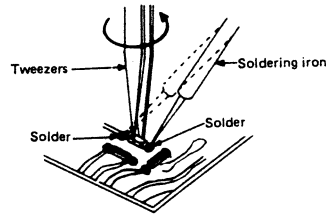


Fig. 16

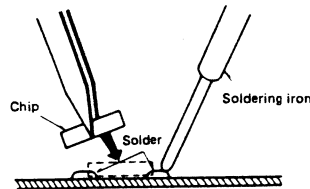


Fig. 17

● Note for replacing chips

1. Do not heat the chip more than 3 seconds.
2. Do not rub the electrode against the chip.
3. Use the tweezers with care not to damage the surface of the chip.
4. It is desirable to use a pencil type soldering iron. And use soldering iron less than 60W.

■ HOW TO REPLACE IC'S (Small outline type)

Replacing procedure		Cautions	
1	Reduce the amount of solder on each pin of the integrated circuit by use of a solder sucker.		<ul style="list-style-type: none"> ● Recommended tool Special soldering iron (with spare chip) HM-354 ● Do not touch the soldering iron to the area for a long time. It may otherwise cause removal of the print foil. ● When shifting the pin upward, do the job quickly while the solder is melting. If the solder is hard, it may cause removal or breakage of the print foil. ● When using a pencil type soldering iron. <ol style="list-style-type: none"> 1. Completely remove the solder from each IC pin by use of solder sucker. 2. Raise each pin by means of an eyeleteer, hold the pliers then remove IC package from P.C.B.
2	Melt the solder on the pin (one electrode) with the soldering iron.		
3	While the solder is melting, shift the pin upward by the soldering iron to remove it from the foil.		
4	Remove each pin from the foil according to the above-mentioned procedure.		

■ RESISTOR AND CAPACITORS

- Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
 2. Important safety notice:
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
 3. This "S" mark is service standard parts and may differ from production parts.
 4. Unless otherwise specified.
All resistors are in OHMS (Ω) K = 1000 Ω , M = 1000K Ω
All capacitors are in MICROFARADS (μ F) P = 10⁻⁷ μ F.

Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value

ERG	1	AN	J	2R2
Type	Wattage	Shape	Tolerance	Value

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity

ECEA	50	M	R47	R
Type	Voltage	Peculiarity use	Value	Special use

Resistor Type	Wattage	Tolerance
ERD : Carbon	25 : 1/4W	F : \pm 1%
ERG : Metal Oxide	1 : 1W	J : \pm 5%
ERX : Metal Film		G : \pm 2%

- ERD10TLJ □□□ → Chip type carbon (1/8W)
- ECUV1H □□□ → Chip type ceramic
- ERDS2TJ □□□ → Small type carbon (1/4W)
- EROS2TKF □□□ → Small type metal film (1/4W)

Capacitor Type	Voltage		Tolerance
	ECEA Type	Others	
ECEA : Electrolytic	1A : 10V	1H : 50V DC	J : \pm 5%
ECKD : Ceramic	1C : 16V	2H : 500V DC	K : \pm 10%
ECQM : Polyester	1E : 25V	1 : 100V	Z : +80%, -20%
ECCD : Ceramic	1V : 35V	KC : 400V AC	P : +100%, -0%
ECKF : Ceramic	1H : 50V	HS : 400V AC	M : \pm 20%
	1J : 63V		
	50 : 50V		

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
RESISTORS											
R1.2	ERD25F100	10	R238	ERD2STJ123	12K	R552	ERD2STJ392	39K	C27.28	ECKD1H223PF	0.022
R81	ERD2STJ222	2.2K	R239	ERD2STJ562	5.6K	R553	ERD2STJ153	15K	C29.30	ECKD1H223PF	0.022
R82.83	ERD2STJ472	4.7K	R240	ERD2STJ822	8.2K	R554	ERD2STJ824	820K			
R84	ERD25F100	10	R241	ERD2STJ103	10K	R555	ERD2STJ333	33K	C81.82	ECKD1H103MD	0.01
R84.9	ERD2STJ152	1.5K	R242	ERD2STJ472	4.7K	R556	ERD2STJ392	3.9K	C83.84	ECEA1U102	1000
R85	ERD2STJ561	560	R243	ERD2STJ823	82K				C85.86	ECEA50Z1	1
R101	ERD2STJ103	10K	R244	ERD2STJ473	4.7K	R557	ERD2STJ104	150K	C87.88	ECEA1E101	100
R102	ERD2STJ680	6.8K				R558.559	ERD2STJ154	150K	C89	ECEA1U470	47
R103	ERD2STJ472	4.7K	R245	ERD2STJ101	10K	R560.561	ERD2STJ104	100K	C90.91	ECEA1U470	47
R104	ERD2STJ103	10K	R246	ERD2STJ102	10K	R562	ERD2STJ104	100K	C92.93	ECKD1H1042F	0.1
R105	ERD2STJ102	1K	R247	ERD2STJ104	100K	R563	ERD2STJ103	10K	C100	ECKD1H4732F	0.047
			R248	ERD2STJ103	10K	R564	ERD2STJ332	3.3K	C103	ECEA1H103K	10
R106	ERD2STJ220	22	R249.250	ERD2STJ273	27K	R565	ERD2STJ333	33K	C111	ECKD1H681KB	680P
R107	ERD2STJ474	470K	R251	ERD2STJ823	82K	R566.567	ERD2STJ103	10K	C112	ECKD1H331KB	330P
R108	ERD2STJ220	22	R252	ERD2STJ822	8.2K	R568	ERD2STK1002	10K			
R109.110	ERD2STJ473	47K	R253	ERD2STJ154	150K	R569	ERD2STJ334	330K	C113.114	ECEA1H2K2R	2.2
R111	ERD2STJ271	27K	R254	ERD2STJ103	10K	R570	ERD2STJ394	390K	C115	ECEA1CN100S	10
R112	ERD2STJ101	100K	R255	ERD25FJ2R2	2.2	R571	ERD2STJ153	15K	C116	ECKD1H1032F	0.01
R113	ERD2STJ104	100K				R572	ERD2STJ124	120K	C117	ECEA50Z3R3	3.3
R114	ERD2STJ682	6.8K	R256	ERD2STJ124	120K	R573	ERD2STJ561	560	C118	ECKD1H102KB	0.001
R115.116	ERD2STJ471	47K	R257	ERD2STJ473	47K	R574	ERD2STJ332	33K	C119	ECKD1H472KB	0.0047
R117	ERD2STJ682	6.8K	R258.259	ERD2STJ333	33K	R575	ERD2STJ333	33K	C120	ECEA1K220	22
			R260	ERD2STJ103	10K	R576	ERD2STJ333	33K	C121	ECKD1H223KV	0.022
R118	ERD2STJ473	4.7K	R261	ERD2STJ333	33K	R576	ERD2STJ101	100K	C123.124	ECKD1H102KB	0.001
R119	ERD2STJ392	3.9K	R262	ERD2STJ103	10K	R577	ERD2STJ563	56K	C125	ECKD1H101KB	100P
R120	ERD2STJ102	1K	R263	ERD2STJ473	4.7K	R578	ERD2STJ103	10K			
R121	ERD2STJ472	4.7K	R264	ERD2STJ472	4.7K	R579	ERD2STJ101	100K	C126	ECKD1H152KB	0.0015
R122	ERD2STJ334	330K	R265	ERD2STJ124	120K	R580	ERD2STJ104	100K	C127	ECKD1H103KV	0.01
R123	ERD2STJ102	1K	R266	ERD2STJ473	4.7K	R581	ERD2STJ101	100K	C129	ECEA1K330	33
R124.125	ERD2STJ183	18K	R267.268	ERD2STJ103	10K	R583	ERD25FJ560	56	C130	ECKD1H4732F	0.047
R126	ERD2STJ822	8.2K	R269.270	ERD2STJ472	4.7K	R584	ERD2STJ122	1.2K	C131	ECEA1K330	33
R127	ERD2STJ562	5.6K	R271	ERD2STJ682	6.8K	R585	ERD2STK6901	3.9K	C132	ECKD1H4732F	0.047
R128	ERD2STJ152	1.5K	R272	ERD2STJ224	2.2K	R586	ERD2STK62201	2.2K	C133.134	ECKD1H81KB	680P
			R291	ERD2STJ562	5.6K				C135	ECKD1H4732F	0.047
R129	ERD2STJ101	10K	R301	ERD2STJ223	22K	R587	ERD2STJ684	680K	C201	ECKD1H104KV	0.1
R130.131	ERD2STJ102	1K	R302	ERD2STJ153	15K	R589	ERD2STJ103	10K	C202	ECEA1H010S	1
R132.133	ERD2STJ392	3.9K	R303.304	ERD2STJ472	4.7K	R601	ERD2STJ473	4.7K			
R134	ERD2STJ183	18K	R305	ERD2STJ222	2.2K	R602	ERD2STJ103	10K	C203	ECKD1H221K	220P
R135	ERD2STJ152	1.5K	R306	ERD2STJ392	3.9K	R609.610	ERD2STJ333	33K	C204	ECKD1H103MD	0.01
R136	ERD2STJ183	18K	R307	ERD2STJ823	82K	R611	ERD2STJ222	2.2K	C205	ECEA1H010S	1
R137	ERD2STJ102	1K	R308	ERD2STJ123	12K				C206	ECKD1H104KV	0.1
R138.139	ERD2STJ102	1K	R309	ERD2STJ472	4.7K	R612	ERD2STJ302	1K	C207	ECEA1H010S	1
R140	ERD2STJ472	4.7K	R310.311	ERD2STJ103	10K	R613	ERD25FJ3R3	3.3	C208	ECKD1H103MD	0.01
R141.142	ERD2STJ102	1K	R312	ERD2STJ104	100K	R614	ERD2STJ223	22K	C209	ECKD1H823KV	0.082
R143	ERD2STJ562	5.6K	R313	ERD2STJ332	3.3K	R615	ERD2STJ223	22K	C210	ECKD1H223PF	0.022
			R314	ERD2STJ682	6.8K	R616	ERD2STJ333	33K	C211.212	ECKD1H223PF	0.022
R201	ERD2STJ563	56K	R315.316	ERD2STJ472	4.7K	R619	ERD2STJ333	33K	C213	ECKD1H390K	39P
R202	ERD2STJ153	15K				R620	ERD2STJ103	10K	C215	ECKD1H223PF	0.022
R203	ERD2STJ334	330K				R621	ERD2STJ103	10K	C216	ECKD1H153KV	0.015
R204	ERD2STJ183	18K	R317.318	ERD2STJ123	12K	R651.652	ERD2STJ821	82K	C217	ECKD1H103MD	0.01
R205	ERD2STJ393	3.9K	R319	ERD2STJ560	56	R653.654	ERD2STJ152	1.5K	C218	ECKD1H333KV	0.033
R206	ERD2STJ123	12K	R320	ERD2STJ103	10K	R801.802	ERD2STK67501	7.5K	C219	ECKD1H103MD	0.01
R207	ERD2STJ101	1K	R321	ERD2STJ222	2.2K	R803.804	ERD2STK64301	4.3K	C220	ECEA1CN100S	10
R208	ERD2STJ102	1K	R322	ERD2STJ123	12K	R805.806	ERD2STJ474	47K	C221	ECKD1H471KB	470P
R209	ERD2STJ223	22K	R401	ERD2STJ103	10K	R807.808	ERD2STK63300	330K	C222	ECKD1H103MD	0.01
R210	ERD2STJ680	68	R403	ERD2STJ333	33K	R809.810	ERD2STJ473	47K	C223	ECKD1H102KV	0.001
			R404	ERD2STJ102	1K	R811.812	ERD2STJ473	47K	C224	ECKD1H103KV	0.01
R211	ERD25FJ1R0	56	R405.406	ERD2STJ103	10K	R851	ERD2STJ183	18K	C225	ECEA50Z2R2	2.2
R212	ERD2STJ563	56K	R407	ERD2STJ103	10K	R852	ERD25FJ102	1K	C226	ECKD1H222KB	0.0022
R213	ERD2STJ153	15K				R853	ERD25FJ682	6.8K	C227	ECKD1H103MD	0.01
R214	ERD2STJ334	330K	R408	ERD2STJ222	2.2K	R854.855	ERD25FJ472	4.7K	C228.229	ECKD1H223PF	0.022
R215	ERD2STJ183	18K	R409	ERD2STJ223	22K	R856	ERD25FJ682	6.8K	C231	ECKD1H472KV	0.0047
R216	ERD2STJ393	3.9K	R410	ERD2STJ392	3.9K	R857	ERD25FJ102	1K			
R217	ERD2STJ123	12K	R411	ERD25FJ103	10K	R858	ERD25FJ471	4.7K	C232	ECEA1H010S	1
R218	ERD2STJ101	1K	R412	ERD25FJ152	1.5K	R859	ERD25FJ822	8.2K	C233	ECKD1M680K	68P
R219	ERD2STJ102	1K	R413	ERD2STJ273	27K	R862	ERD25TK62401	2.4K	C301	ECEA1CN100S	10
R220	ERD2STJ223	22K	R414	ERD2STJ473	4.7K	R863	ERD25TK64701	4.7K	C302	ECKD1H104KV	0.1
			R415	ERD2STJ123	12K	R864	ERD25TK64701	4.7K	C303	ECKD1H333KV	0.033
R221	ERD2STJ560	56	R416.417	ERD2STJ561	560	R865	ERD25TK64701	4.7K	C304	ECKD1H103KV	0.01
R222	ERD25FJ1R0	1	R418	ERD25FJ560	56	R871	ERD25TK62401	2.4K	C306	ECEA1CN100S	10
R223	ERD2STJ222	2.2K	R419	ERD2STJ222	2.2K	R872	ERD25TK64701	4.7K	C307	ECEA1H100	10
R224	ERD2STJ104	100K							C308	ECKD1H100K	10P
R225	ERD2STJ103	10K	R420	ERD2STJ564	560K						
R226	ERD2STJ473	4.7K	R423	ERD2STJ104	100K						
R227.228	ERD2STJ223	22K	R424	ERD25FJ102	1K						
R229	ERD2STJ223	22K	R425	ERD25FJ103	10K						
R230	ERD2STJ103	10K	R426	ERD25FJ561	560						
R231	ERD2STJ104	100K	R427	ERD25FJ682	6.8K						
R232	ERD2STJ103	10K	R428	ERD25FJ471	4.7K						
			R429	ERD25FJ103	10K						
R233	ERD2STJ273	27K	R430	ERD25FJ221	220						
R234	ERD2STJ473	4.7K	R501	ERX1ANJ1R5	1.5						
R235	ERD2STJ823	82K	R502	ERD2STJ333	33K						
R236	ERD2STJ154	150K	R503.504	ERD25FJ330	33						
R237	ERD2STJ103	10K	R51	ERD2STJ153	15K						
CAPACITORS											
C1	ECKDKC103PF	0.01	C1	ECKDKC103PF	0.01	C401	ECEA25N4R7	4.7	C401	ECEA25N4R7	4.7
C4.5	ECKDKC103PF	0.01	C15	ECEA1CS5472	4700	C402	ECKD1H682KV	0.0068	C402	ECKD1H682KV	0.0068
C15	ECEA1CS5472	4700	C16	ECEA1CU102	1000	C403	ECKD1H272KV	0.0027	C403	ECKD1H272KV	0.0027
C17.18	ECEA1VU102	1000	C17.18	ECEA1VU102	1000	C404	ECKD1H223PF	0.022	C404	ECKD1H223PF	0.022
C19	ECEA50Z4R7	4.7	C19	ECEA50Z4R7	4.7	C405	ECEA1H100	10	C405	ECEA1H100	10
C20.24	ECEA1AU101	100	C20.24	ECEA1AU101	100	C406	ECKD1H223PF	0.022	C406	ECKD1H223PF	0.022
C23.24	ECEA1HU100	10	C25	ECEA1HU100	10	C407	ECKD1H122KV	0.0012	C407	ECKD1H122KV	0.0012
C25	ECEA1HU100	10	C26	ECEA1HU100	10	C408	ECKD1H270K	27P	C408	ECKD1H270K	27P
C26	ECEA1HU100	10				C409	ECKD1H332KV	0.0033	C409	ECKD1H332KV	0.0033
						C410	ECKD1H271KB	270P			

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
CAPACITORS											
C412	ECCD1H29K	22P	C552	ECKM1H333KV	0.033	CAPACITORS					
C413	ECCD1H100K	100P	C553	ECKM1H392KV	0.0039	C571	ECCD1H151K	150P	C704	ECKD1H103MD	0.01
C414	ECEA1U470	47	C554	ECKF1H4732V	0.047	C572.573	ECEA1HU100	10	C705	ECEA1U470	47
C415	ECKD1H223PF	0.022				C574	ECKM1H224KV	0.022	C706	ECKD1H103MD	0.01
C416	ECEA1HU100	100				C575	ECKM1H332KV	0.0033	C707	ECEA1U470	47
C417	ECKM1H224KV	0.022				C576	ECEA1HU100	10	C708	ECKD1H103MD	0.01
C418	ECKM1H104KV	0.1				C577	ECKD1H101KB	100P	C711.712	ECKD1H100	10P
C419	ECKM1H392KV	0.0039				C602	ECEA50Z1	1			
C420	ECKM1H333KV	0.033				C603.604	ECKF1H4732V	0.0047	C801	ECEA1U470	47
C501	ECEA1E101	100				C605	ECKD1H102KB	0.001	C802	ECKD1H103MD	15P
C502	ECEA1HU2R2	2.2									

• Terminal guide of transistors, and IC's

<p>AN7805,AN78M15 AN7915</p>	<table border="1"> <tr><td>AN7677S</td><td>28 Pin</td></tr> <tr><td>AN7679S</td><td>22 Pin</td></tr> <tr><td>AN7678S</td><td>22 Pin</td></tr> <tr><td>AN6556S</td><td>8 Pin</td></tr> <tr><td>AN6552S</td><td>8 Pin</td></tr> <tr><td>AN1358S</td><td>8 Pin</td></tr> <tr><td>AN6554NS</td><td>14 Pin</td></tr> <tr><td>MN4030BS</td><td>14 Pin</td></tr> <tr><td>AN6912S</td><td>14 Pin</td></tr> <tr><td>MN4066BS</td><td>14 Pin</td></tr> <tr><td>DN74LS107S</td><td>14 Pin</td></tr> <tr><td>DN74LS74AS</td><td>14 Pin</td></tr> <tr><td>MN4011BS</td><td>16 Pin</td></tr> <tr><td>MN4053BS</td><td>16 Pin</td></tr> <tr><td>DN74LS123S</td><td>16 Pin</td></tr> </table>	AN7677S	28 Pin	AN7679S	22 Pin	AN7678S	22 Pin	AN6556S	8 Pin	AN6552S	8 Pin	AN1358S	8 Pin	AN6554NS	14 Pin	MN4030BS	14 Pin	AN6912S	14 Pin	MN4066BS	14 Pin	DN74LS107S	14 Pin	DN74LS74AS	14 Pin	MN4011BS	16 Pin	MN4053BS	16 Pin	DN74LS123S	16 Pin	<table border="1"> <tr><td>DN74LS04</td><td>14 Pin</td></tr> <tr><td>SVIM53206P</td><td>14 Pin</td></tr> <tr><td>SVISN74LS628</td><td>14 Pin</td></tr> <tr><td>SVITC40H004</td><td>14 Pin</td></tr> <tr><td>SVITC40H386</td><td>14 Pin</td></tr> <tr><td>SVITL082CP</td><td>8 Pin</td></tr> <tr><td>SVILM833NA</td><td>8 Pin</td></tr> <tr><td>AN6552</td><td>8 Pin</td></tr> <tr><td>MN1544PCH</td><td>40 Pin</td></tr> <tr><td>MN1430PCG</td><td>40 Pin</td></tr> <tr><td>MN6614</td><td>42 Pin</td></tr> <tr><td>MN6616</td><td>42 Pin</td></tr> <tr><td>MN2114-2</td><td>18 Pin</td></tr> <tr><td>MN4216-20</td><td>24 Pin</td></tr> </table>	DN74LS04	14 Pin	SVIM53206P	14 Pin	SVISN74LS628	14 Pin	SVITC40H004	14 Pin	SVITC40H386	14 Pin	SVITL082CP	8 Pin	SVILM833NA	8 Pin	AN6552	8 Pin	MN1544PCH	40 Pin	MN1430PCG	40 Pin	MN6614	42 Pin	MN6616	42 Pin	MN2114-2	18 Pin	MN4216-20	24 Pin	<table border="1"> <tr><td>SVIUPD4053BC</td><td>16 Pin</td></tr> <tr><td>AN6806</td><td>28 Pin</td></tr> <tr><td>MN6615</td><td>64 Pin</td></tr> </table>	SVIUPD4053BC	16 Pin	AN6806	28 Pin	MN6615	64 Pin
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<p>AN78N15 AN79N15 AN79N05</p>	<table border="1"> <tr><td>AN78L05</td><td>3 Pin</td></tr> <tr><td>AN6637</td><td>14 Pin</td></tr> <tr><td>SVIBA6209</td><td>10 Pin</td></tr> <tr><td>2SC828,2SA564 2SC1317,2SC1047</td><td>3 Pin</td></tr> <tr><td>2SD1266, 2SB941</td><td>3 Pin</td></tr> <tr><td>2SD1252,2SB929</td><td>3 Pin</td></tr> </table>	AN78L05	3 Pin	AN6637	14 Pin	SVIBA6209	10 Pin	2SC828,2SA564 2SC1317,2SC1047	3 Pin	2SD1266, 2SB941	3 Pin	2SD1252,2SB929	3 Pin																																																						
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■ REPLACEMENT PARTS LIST (Cabinet and Chassis Parts)

- Notes:**
- Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
 - Important safety notice: Components identified by mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
 - Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
 - The "⊙" mark is service standard parts and may differ from production parts.
 - ⊗-marked parts are used for black only, while ○-marked parts are for silver type only.
 - Parts other than ⊗- and ○-marked are used for both black and silver types.
 - The parenthesized numbers in the columns of description stand for the quantity per set.

Areas

- [E] is available in Switzerland and Scandinavia.
- [EK] is available in United Kingdom.
- [XL] is available in Australia.
- [EG] is available in F.R. Germany.
- [EB] is available in Belgium.
- [EH] is available in Holland.
- [EF] is available in France.
- [EI] is available in Italy.
- [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
- [PA] is available in far East PX.
- [PE] is available in European Military.
- [PC] is available in European Audio Club.

Black type model No. : SL-P7 (K)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CABINET AND CHASSIS PARTS			CABINET AND CHASSIS PARTS			SCREW, NUT AND WASHERS		
1	SRUM007N10	Rod,Power Knob Joint (1)	14	SRDJN24A07PC	Flat Cable(7P) (1)	N1	○ SNE2095-2	Screw(Silver) (4)
2	○ SRAC007N01A	Panel,Front(Silver) (1)	15	SRDJN24A21PC	Flat Cable(21P) (1)	N1	⊗ SNE2095-3	Screw(Black) (4)
2	⊗ SRAC007N51A	Panel,Front(Black) (1)	16	SRDJN23A10PC	Flat Cable(10P) (1)	N2	⊗ XTV3+8BFN	Screw,⊗3X6 (6)
3	SFKTC068N04	Knob,Power (1)	17	SRDJ007N05	Jack,Output(Red) (1)	N3	⊗ XTV3+8BFN	Screw,⊗3X8 (8)
4	SRKK007N01	Ornament Plate (1)	18	SRDJ007N06	Jack,Output(White) (1)	N4	⊗ XWE3	Washer, # 3 (1)
5	SRUP007N11	Guide,Front Panel (1)	19	SRDJ007N03	Jack,Shincho-rec (1)	N6	SFXGV05N03	Screw (1)
6	○ SRKK007N03	Ornament Plate,(Silver) (1)	20	SRDJ007N04	Jack,External Terminal (1)	N7	SRXG007N04	Screw (1)
6	⊗ SRKK007N51	Ornament Plate,(Black) (1)	21	SRUM007N11	Plate,Output Terminal (1)	N8	SRXG007N02	Screw (1)
7	SRKT007N03	Knob,Repeat (1)	22	SRUM007N14	Bracket,P.C.B (1)	N9	XTN3+6F	Screw (3)
8	SRKT007N02	Knob,Search (1)	23	SRUM007N16	Bracket,P.C.B (1)	N10	GTW-3	Washer (1)
9	SRUM007N13	Holder,Power Block (1)	24	○ SRUP007N02	Cabinet(Silver) (1)	N11	SRXG007N07	Screw (1)
10	SRUP007N01E	Panel,Rear (1)	24	⊗ SRUP007N51	Cabinet(Black) (1)	N12	SRXG007N06	Screw (1)
11 [E]	SRNN007S01	Name Plate (1)	25	SRKK007N02	Ornament Plate,Cabinet (1)	N13	⊗ NNG26EBW	Nut, # 2.6 (4)
11 [EK,XL]	SRNN007G01	Name Plate (1)	25	SRFKJHSC0498	AC Socket (1)	N14	⊗ XTN2+6B	Screw,⊗2X6 (2)
11 [XA,XM]	SRNN007X01	Name Plate (1)	25	SRFKJHSC0509	AC Socket (1)	N15	SRXW007N03	Washer (1)
11 [other areas]	SRNN007R01	Name Plate (1)	25	SRFKJHSC0505	AC Socket (1)	N16	XXE2605FZ	Screw (1)
11 [PA,PE]	SRNN007P01	Name Plate (1)						
11 [PC]	SRNN007F02	Name Plate (1)						
12	SRGA007N01	Rubber Foot (4)						
13	SRUM007N21	Holder,L.E.D (4)						

EXPLODED VIEWS

• Cabinet and chassis parts

3BC	16 Pin
	28 Pin
	64 Pin



32.2SB929

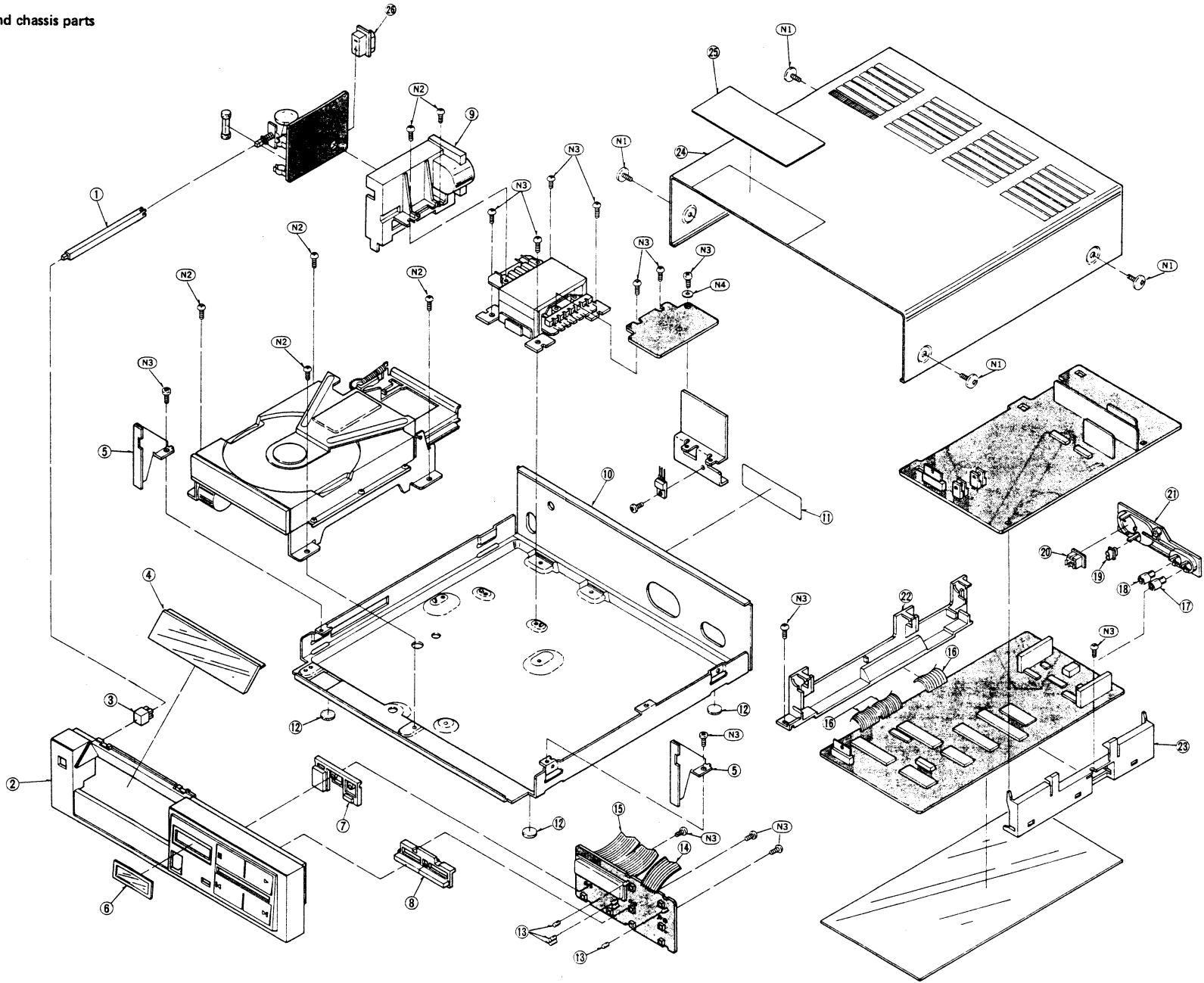


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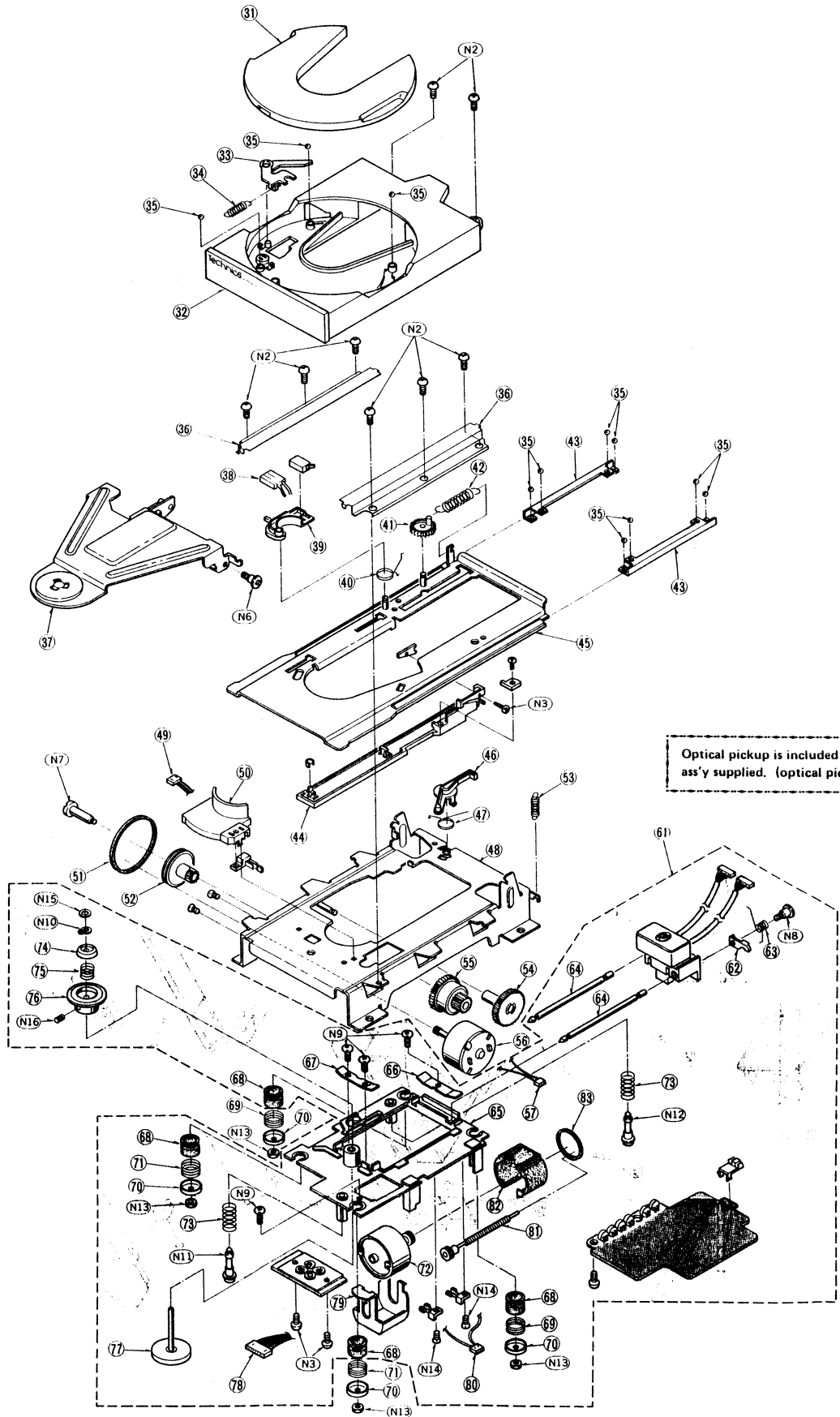
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25	(1)
26	(1)



• Loading drive mechanism and optical deck unit parts



REPLACEMENT PARTS LIST

(Loading drive mechanism, optical deck unit parts)

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 - Important safety notice:
Components identified by Δ mark have special characteristics important for safety.
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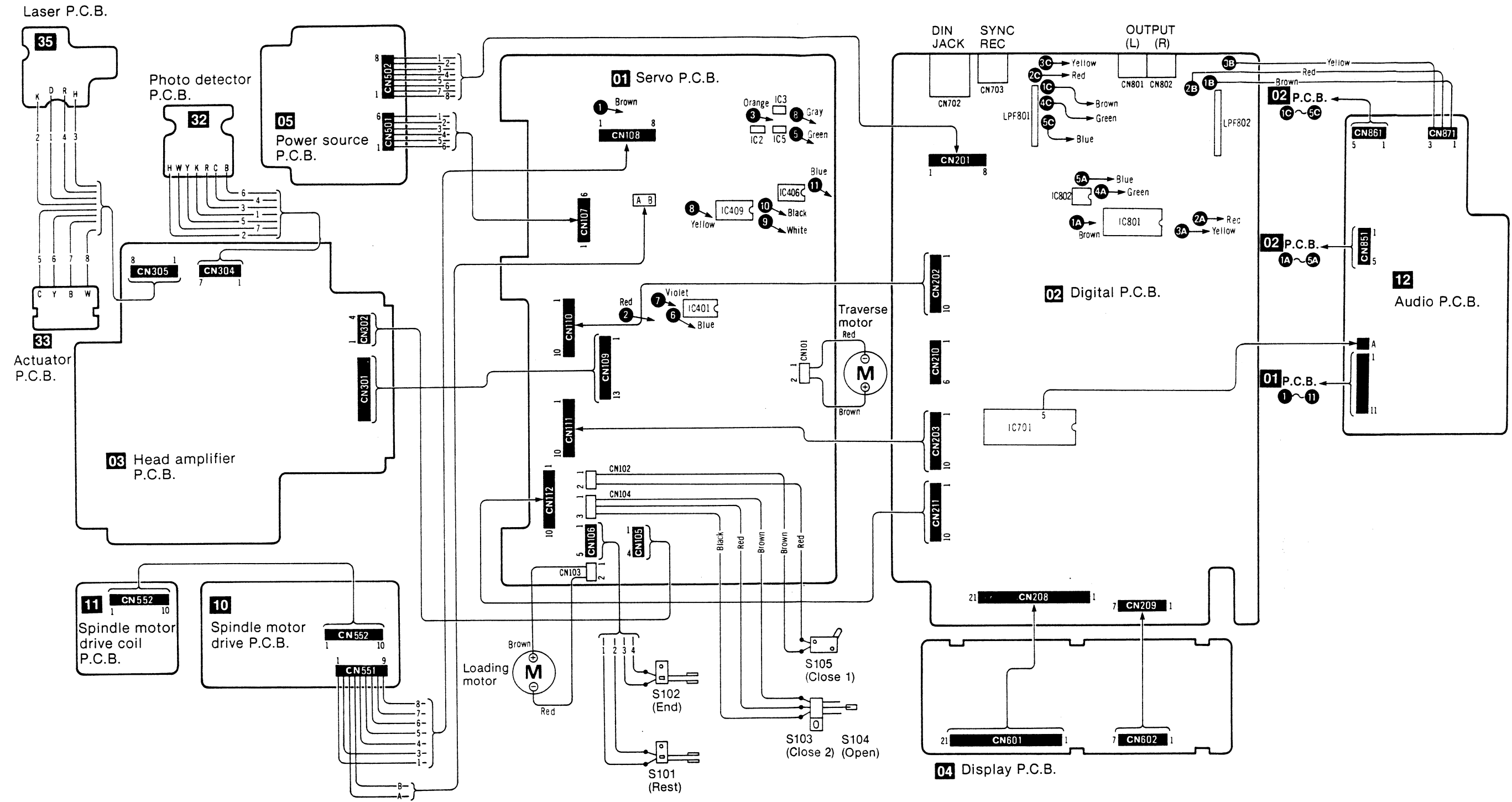
Black type model No. : SL-P7 (K)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
LOADING DRIVE MECHANISM AND OPTICAL PICK-UP DECK UNIT PARTS			OPTICAL PICK-UP DECK UNIT PARTS			SCREW, NUT AND WASHERS		
31	SRUM007N05E	Disc Tray Assy (1)	61	SRUK007N02R	Optical Pick-up Ass'y (1)	N1	\textcircled{O} SNE2095-2	Screw(Silver) (4)
32	\textcircled{O} SRUM007N04R	Disc Holder Assy(Silver) (1)	62	SRUM007N22	Bracket,Optical Pick-up (1)	N1	\textcircled{K} SNE2095-3	Screw(Black) (4)
32	\textcircled{K} SRUM007N51R	Disk Holder Assy(Black) (1)	63	SRQS007N01	Spring,Bracket (1)	N2	\textcircled{S} XTV3+6BFN	Screw, ϕ 3X6 (6)
33	SRUM007N07	Cam,Disk Tray (1)	64	SRXJ007N01	Shaft,Optical Pick-up (2)	N3	\textcircled{S} XTV3+8BFN	Screw, ϕ 3X8 (3)
34	SRQH007N02	Spring,Disk Tray (1)	65	SRUK007N02E	Optical Deck Unit Base (1)	N4	\textcircled{S} XWE3	Washer, ϕ 3 (1)
35	SFYB-5-32	Still Ball (3)	66	SRUP007N09	Bracket, (1)	N6	SFXGV05N03	Screw (1)
36	SRUP007N07	Bracket (2)	67	SRXJ007N01	Bracket, (1)	N7	SRXG007N04	Screw (1)
37	SRUP007N05A	Disk Clamp Plate (1)	68	SRGC007N02	Rubber Cushion (4)	N8	SRXG007N02	Screw (1)
38	SRDJ007N12E	Connector Ass'y 2P (1)	69	SRQA007N02	Spring,Insulator(A) (2)	N9	XTN3+6F	Screw (3)
39	SRUM007N18	Cover,Switch (1)	70	SRUP007N12	Holder,Spring (4)	N10	GTW-3	Washer (1)
40	SRQS007N02	Spring (1)	71	SRQA007N01	Spring,Insulator(B) (2)	N11	SRXG007N07	Screw (1)
41	SRUG007N04	Gear,Return (1)	72	SRMH007N02A	Motor,Optical Pick-up (1)	N12	SRXG007N06	Screw (1)
42	SRQH007N01	Spring,Return (1)	73	SRQA007N03	Spring, (2)	N13	\textcircled{S} XNG26EBW	Nut, ϕ 2.6 (4)
43	SRUM007N15	Guide (2)	74	S RTE007N02	Holder (1)	N14	\textcircled{S} XTN2+6B	Screw, ϕ 2X6 (2)
44	SRUM007N09	Rack,Drive (1)	75	SRQA010N04	Spring (1)	N15	SRXW007N03	Washer (1)
45	SRUP007N10E	Loading Guide Ass'y (1)	76	S RTE007N01	Turntable Platter (1)	N16	XXE26D5FZ	Screw (1)
46	SRUM007N06	Lock Arm (1)	77	SRTM007N01A	Magnet Ass'y (1)			
47	SRQS007N03	Spring,Lock Arm (1)	78	SRDJ007N03E	Connector Ass'y 8P (1)			
48	SRUP007N03R	Loading Base Ass'y (1)	79	SRUM007N19	Holder,Motor (1)			
49	SRDJ007N13E	Connector Ass'y (1)	80	SRDJ007N14E	Connector Ass'y (1)			
50	SRUM007N17	Cover,Switch (1)	81	SRXG007N01E	Pully Screw (1)			
51	SRGB007N02	Belt,Loading Motor (1)	82	SRGC007N01	Rubber Cushion, Motor (1)			
52	SRUG007N01	Pully Gear, (1)	83	SRGB007N03	Belt (1)			
53	SRQH007N03	Spring,clamp plate (1)						
54	SRUG007N02	Gear,Center (1)						
55	SRUG007N03	Gear,Drive (1)						
56	SRMH007N01A	Motor,Loading Mechanism (1)						
57	SRDJ007N10E	Connector Ass'y (1)						

Note: Ref. No. 61 is supplied in the form of optical pickup ass'y.

SL-P7 SL-P7

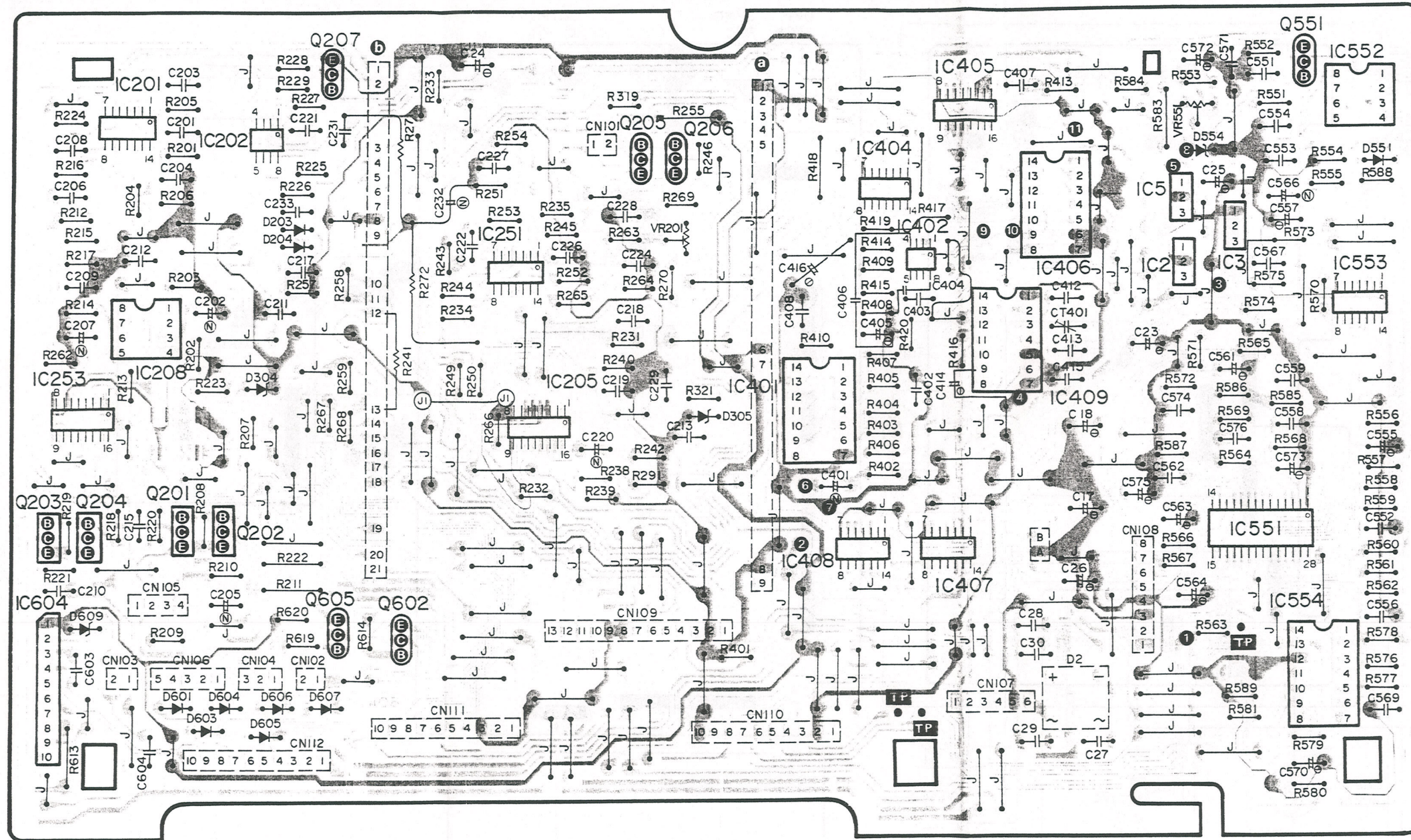
PRINTED CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



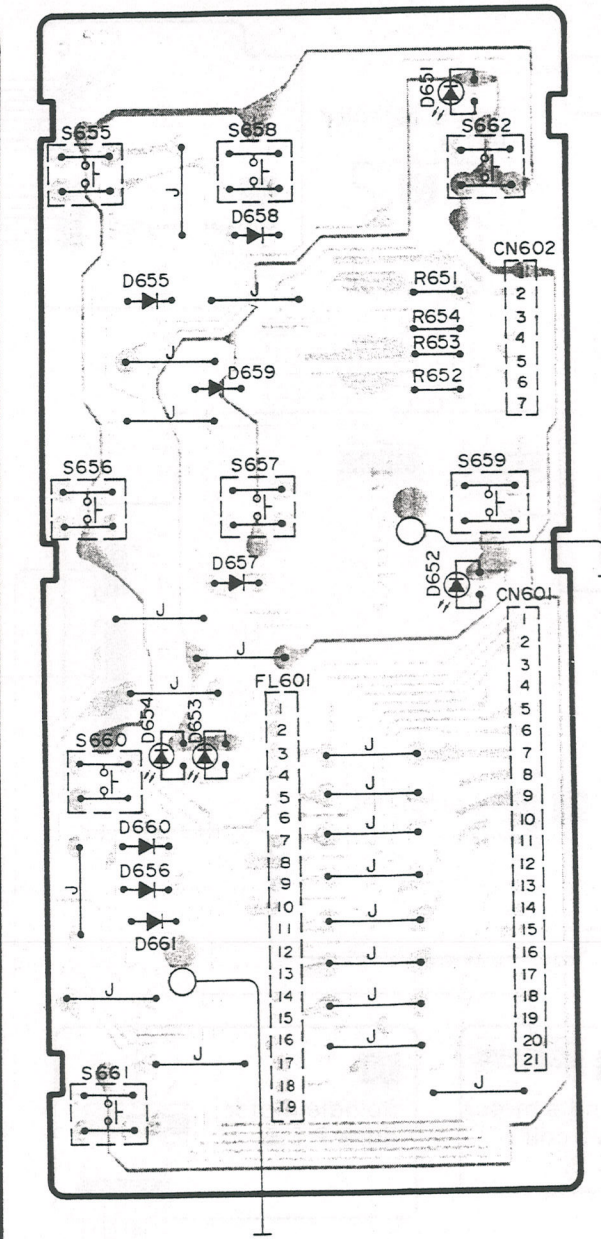
PRINTED CIRCUIT BOARDS

Ground (Earth) lines

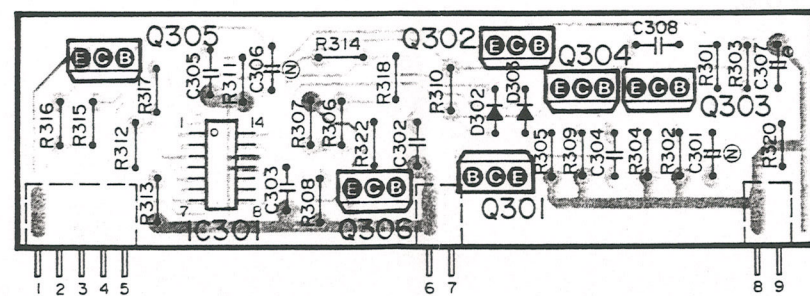
01 (Servo P.C.B.)



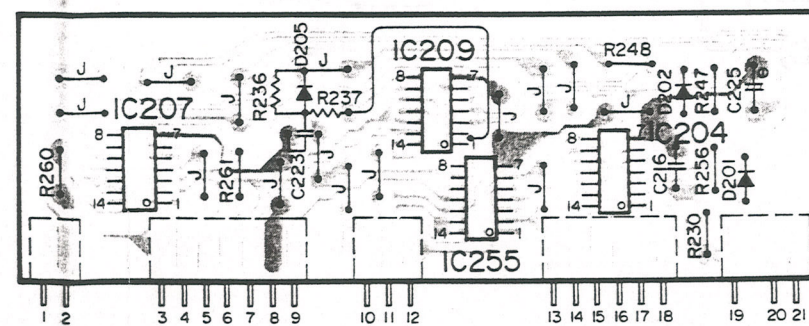
04 (Display P.C.B.)

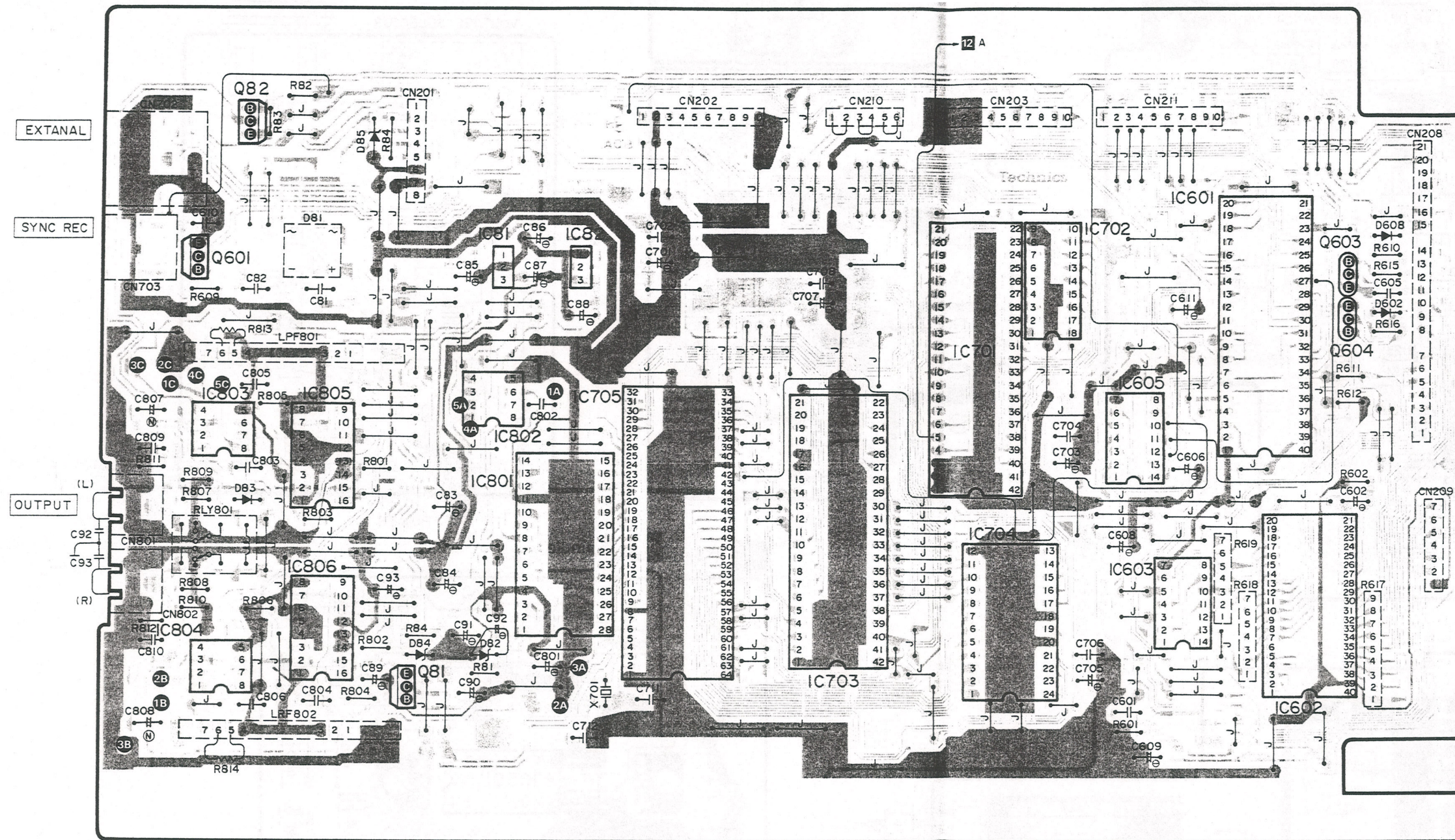


01 a

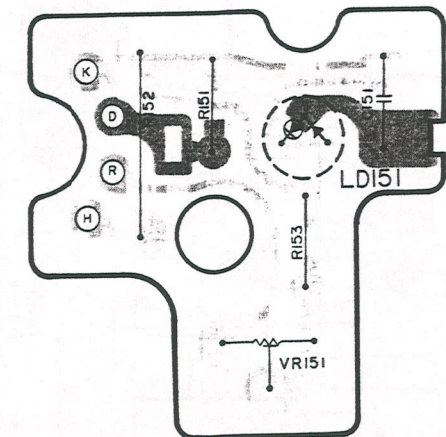


01 b

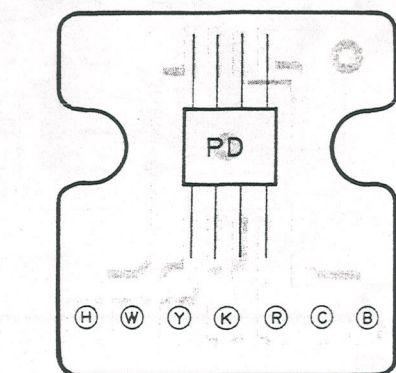




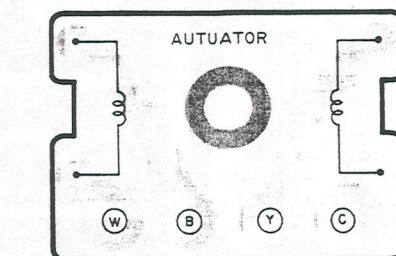
35 (Laser P.C.B.)



32 (Photo detector P.C.B.)

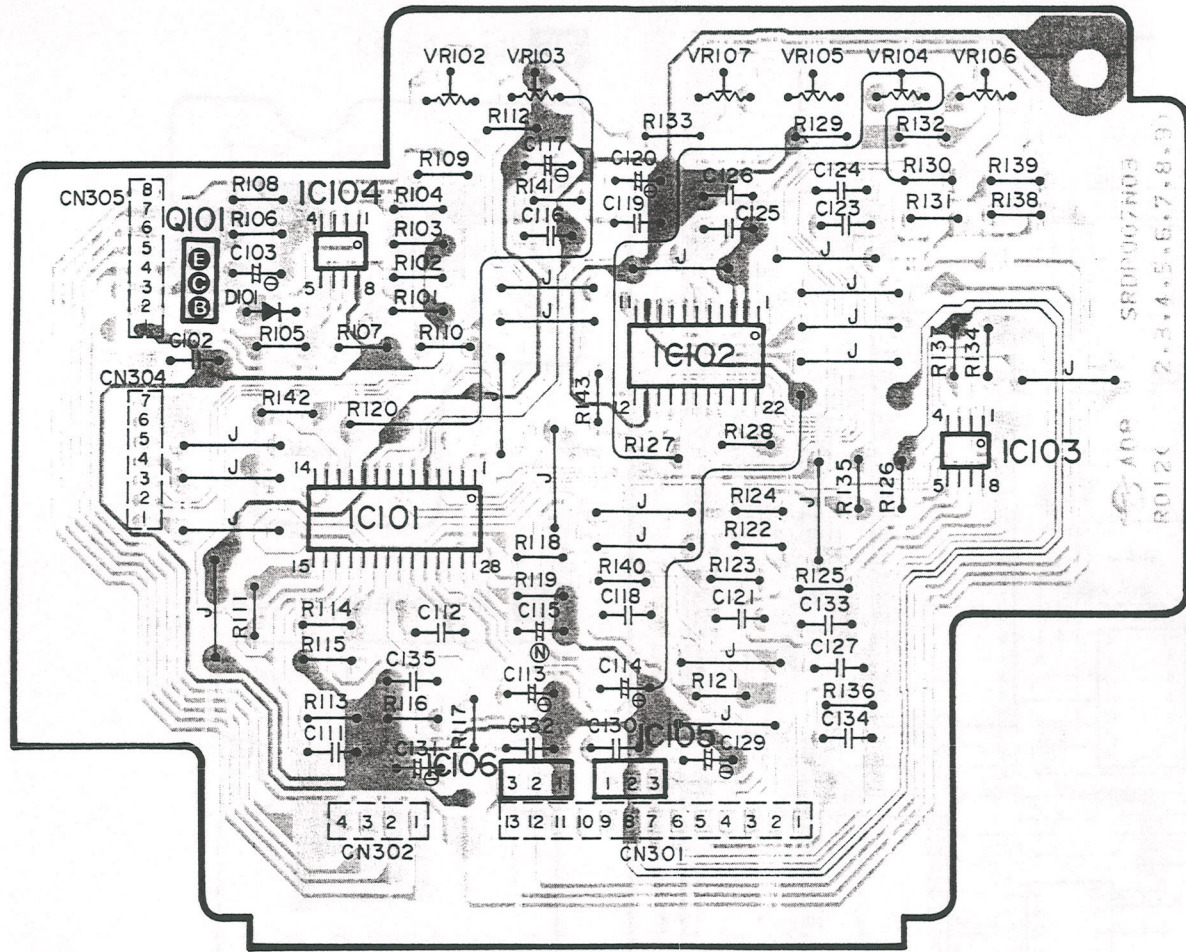


33 (Actuator coil P.C.B.)

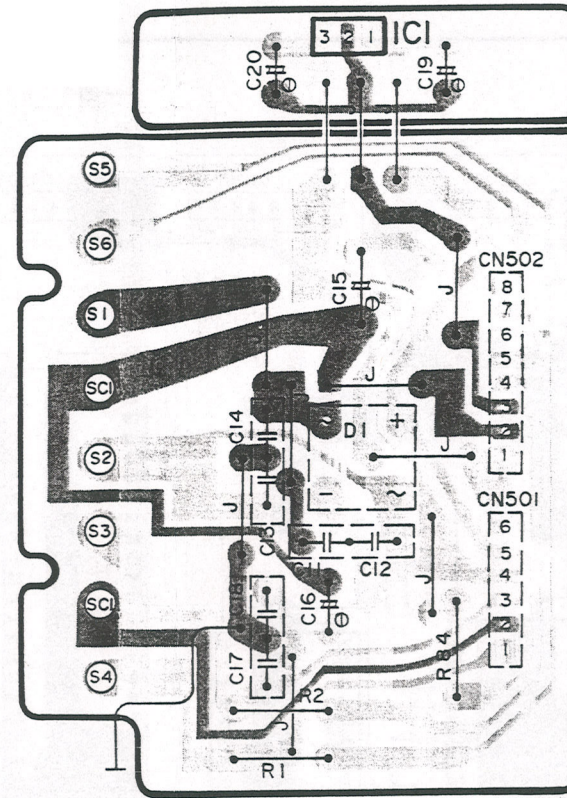


03 (Head amplifier P.C.B.)

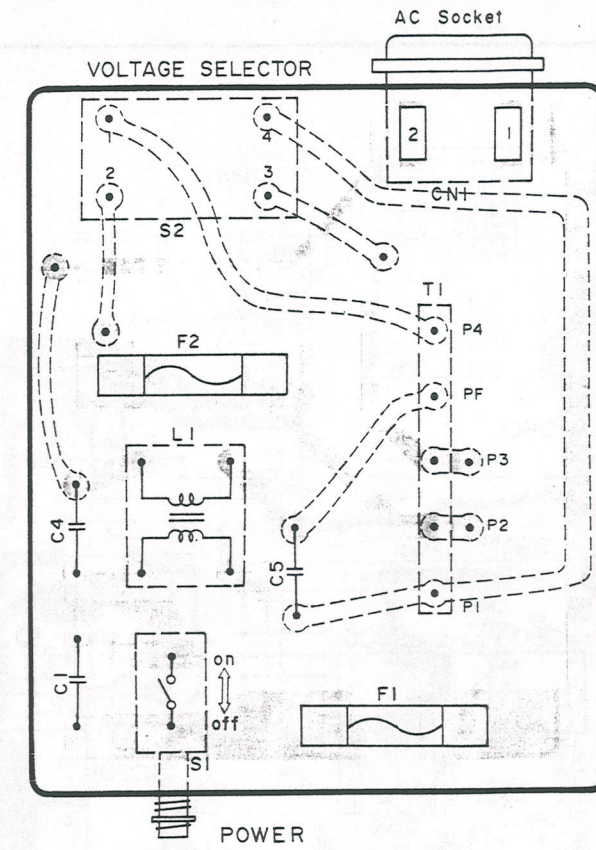
Ground (Earth) lines



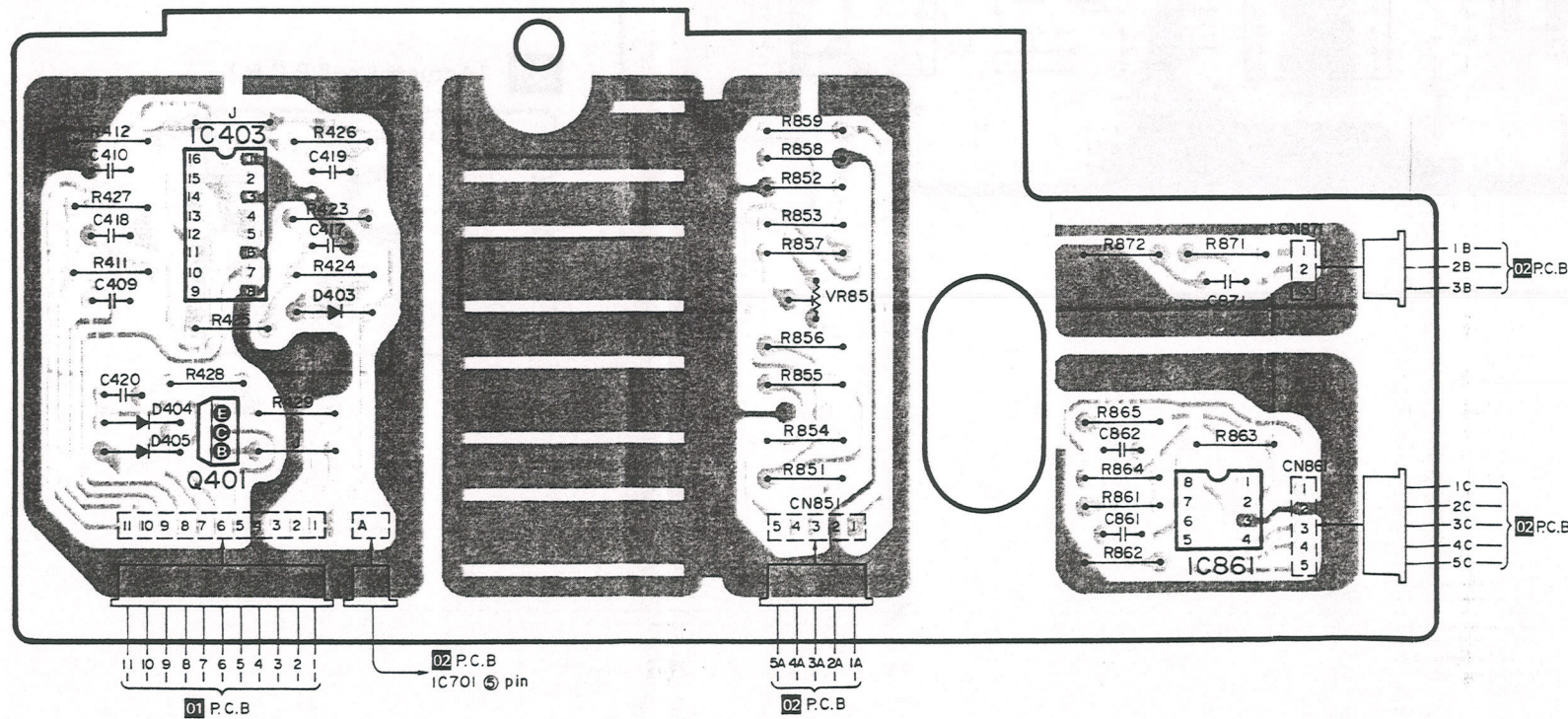
05 (Power supply P.C.B.)



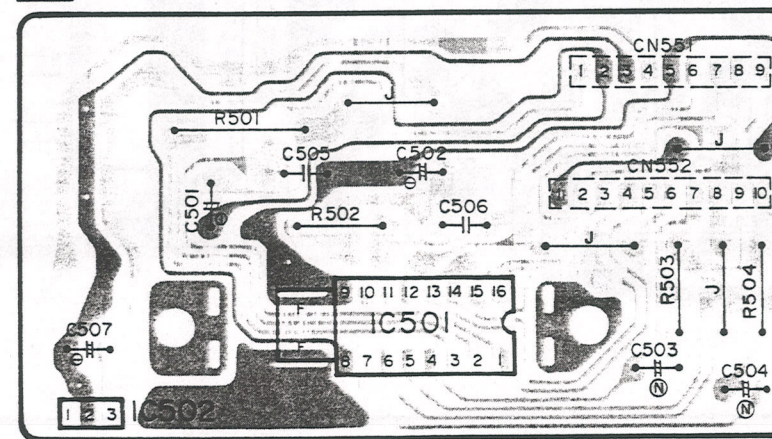
07 (Power fuse P.C.B.) circuit view on top of P.C.B.



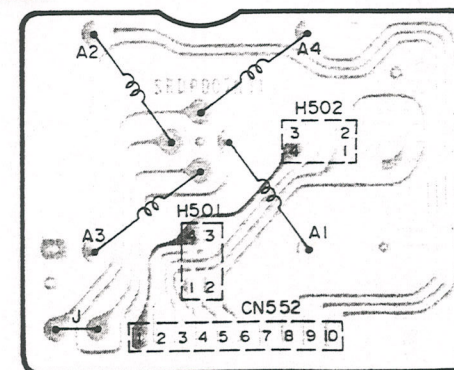
12 (Audio P.C.B.)

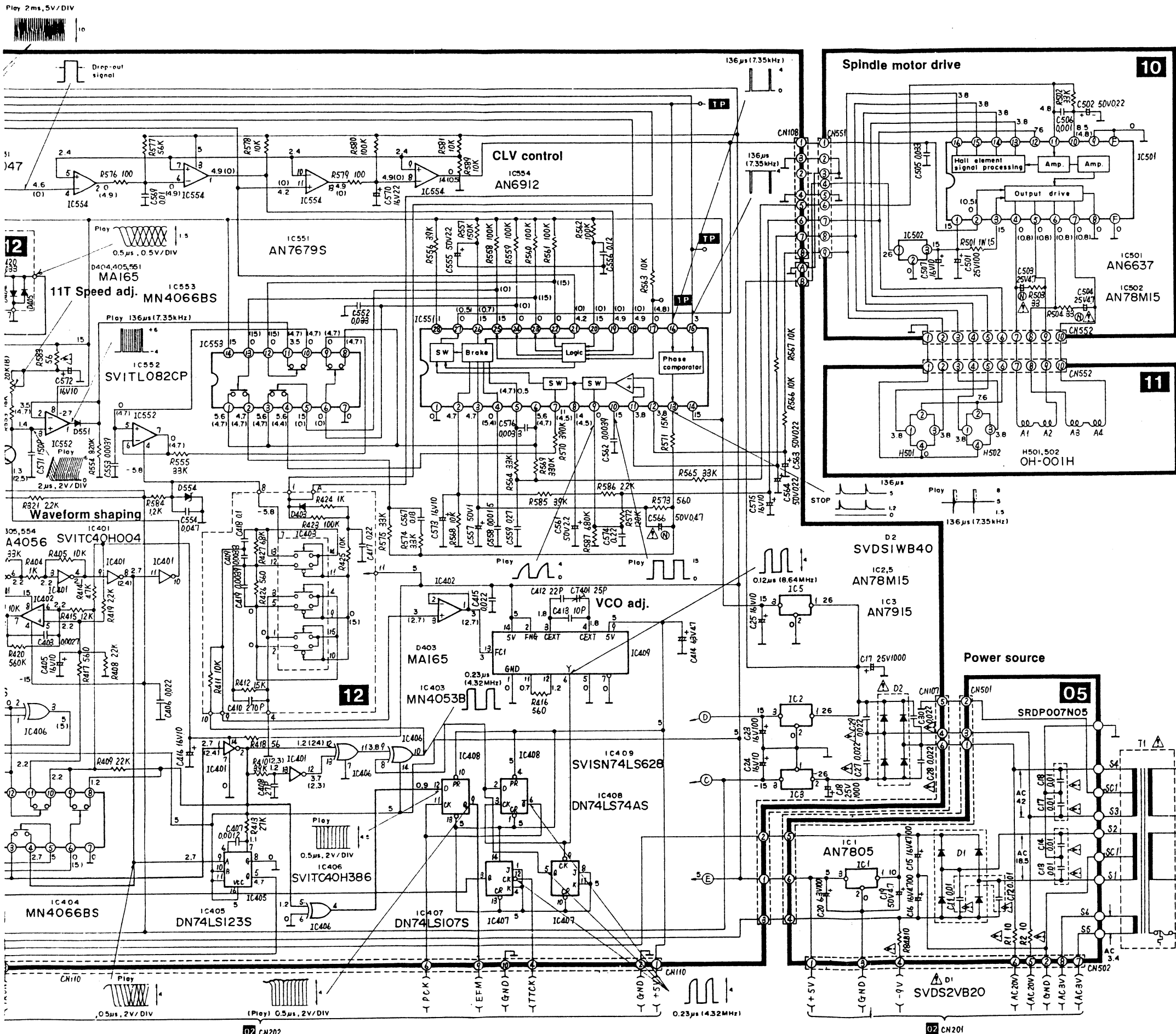


10 (Spindle motor drive P.C.B.)

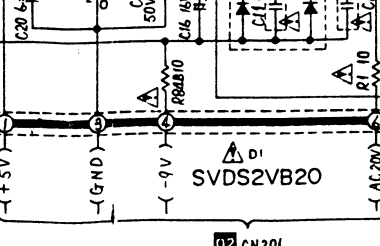
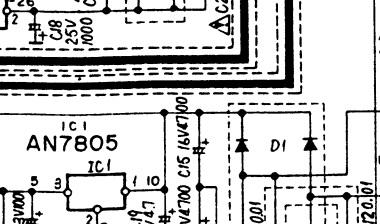
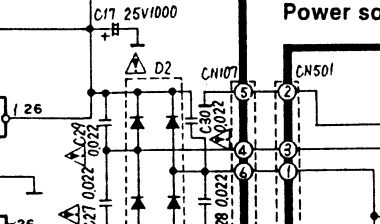
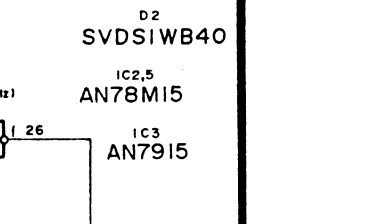
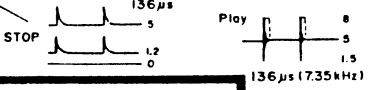
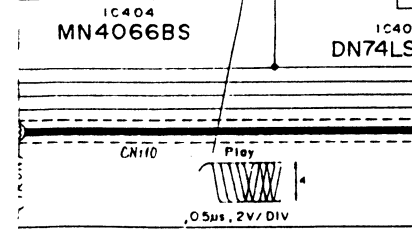
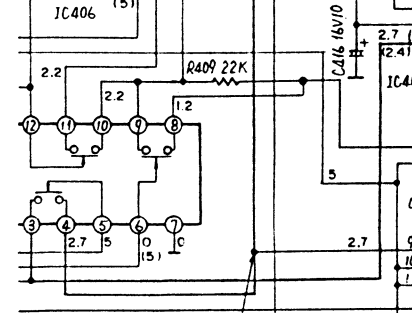
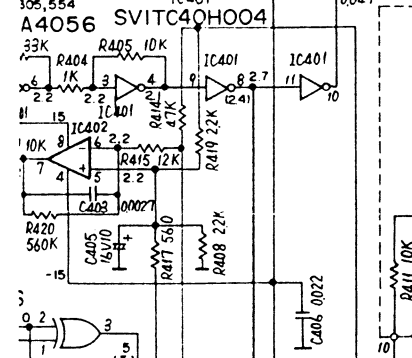
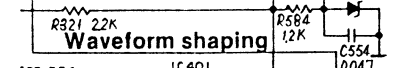
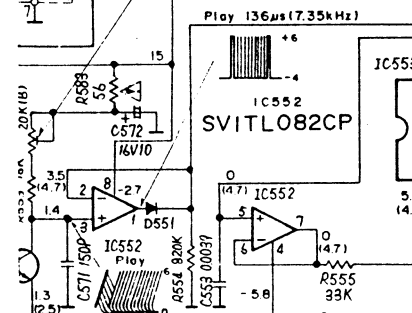
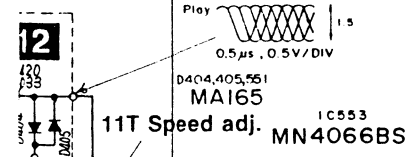
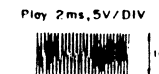


11 (Spindle motor drive coil P.C.B.)



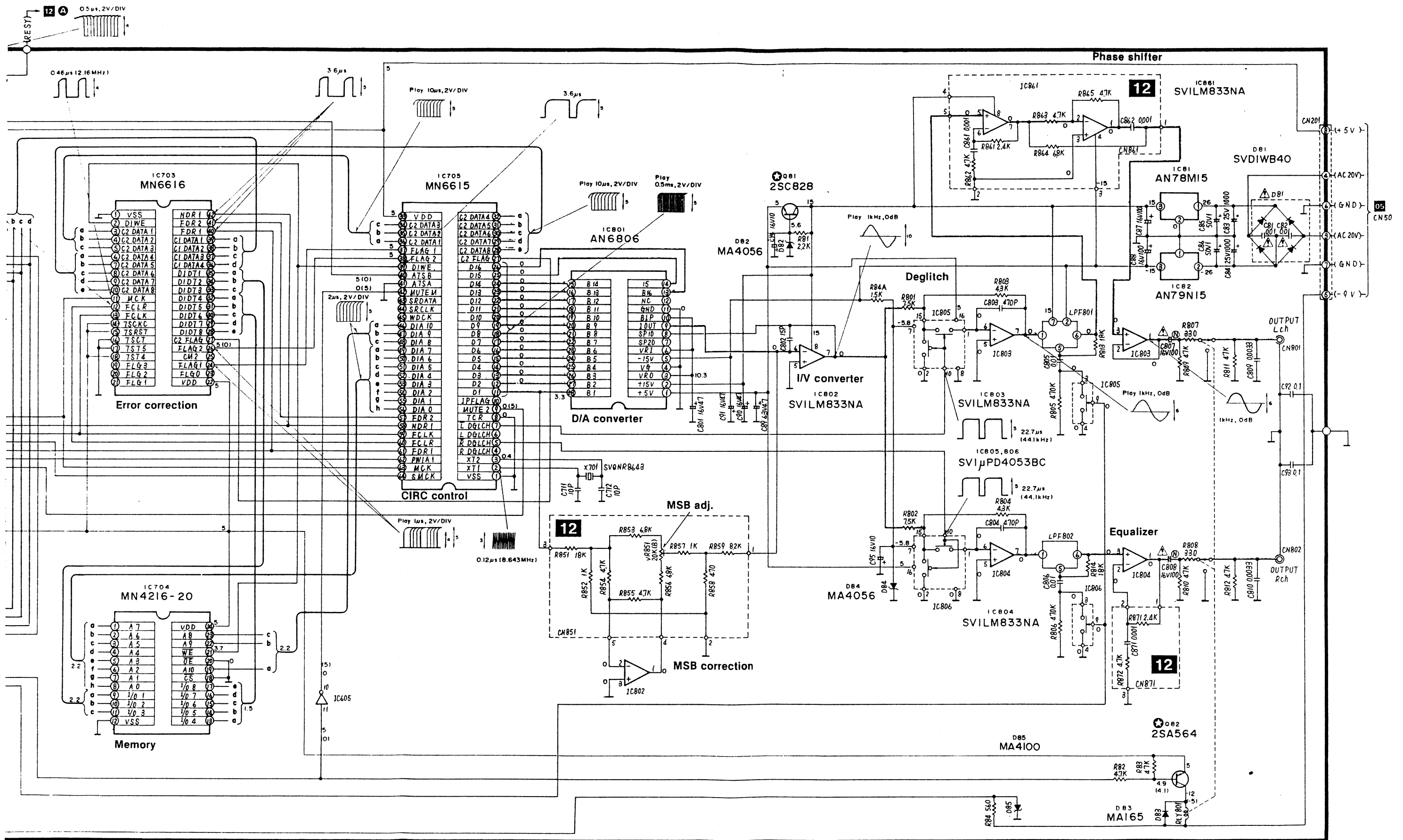


- Notes:**
- S1 : Power switch in "on" position.
 - S2 : Voltage selector switch.
 - S101 : Rest switch. (Disc innermost position detection)
 - S102 : End switch. (Disc outside detection)
 - S103 : Disc holder close detection switch.
 - S104 : Disc holder open detection switch.
 - S105 : Disc holder close detection switch.
 - S655 : Forward skip switch.
 - S656 : Reverse skip switch.
 - S657 : Reverse search switch.
 - S658 : Forward search switch.
 - S659 : Pause/stop switch.
 - S660 : Repeat switch.
 - S661 : Open/close switch.
 - S662 : Play switch.
16. The voltage value, and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in the voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.
- * The parenthesized are the values of voltage generated during playing. Others are the voltage values in stop mode.
17. Part No. with ⚡ mark are not identical between regular part No. and repair part No. supplied. So, when placing an order for repair parts, use the part No. in the replacement part list of repair parts.
18. — : +B voltage lines. — : -B voltage lines. — : Audio signal lines.
19. This schematic diagram may be modified at any time with the development of new technology.
20. Important safety notice:
Components identifier by ⚡ make have special characteristics important for safety.

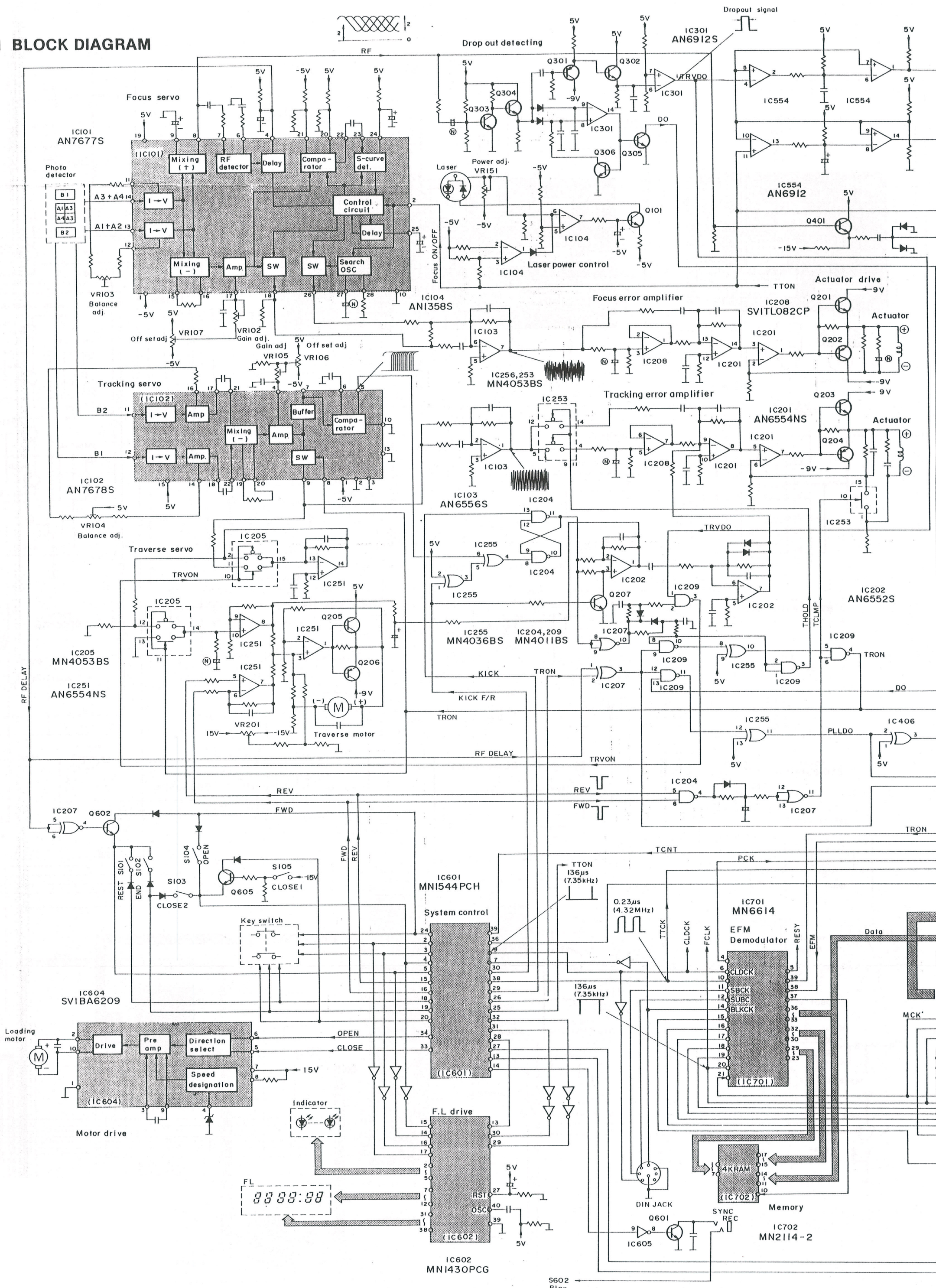


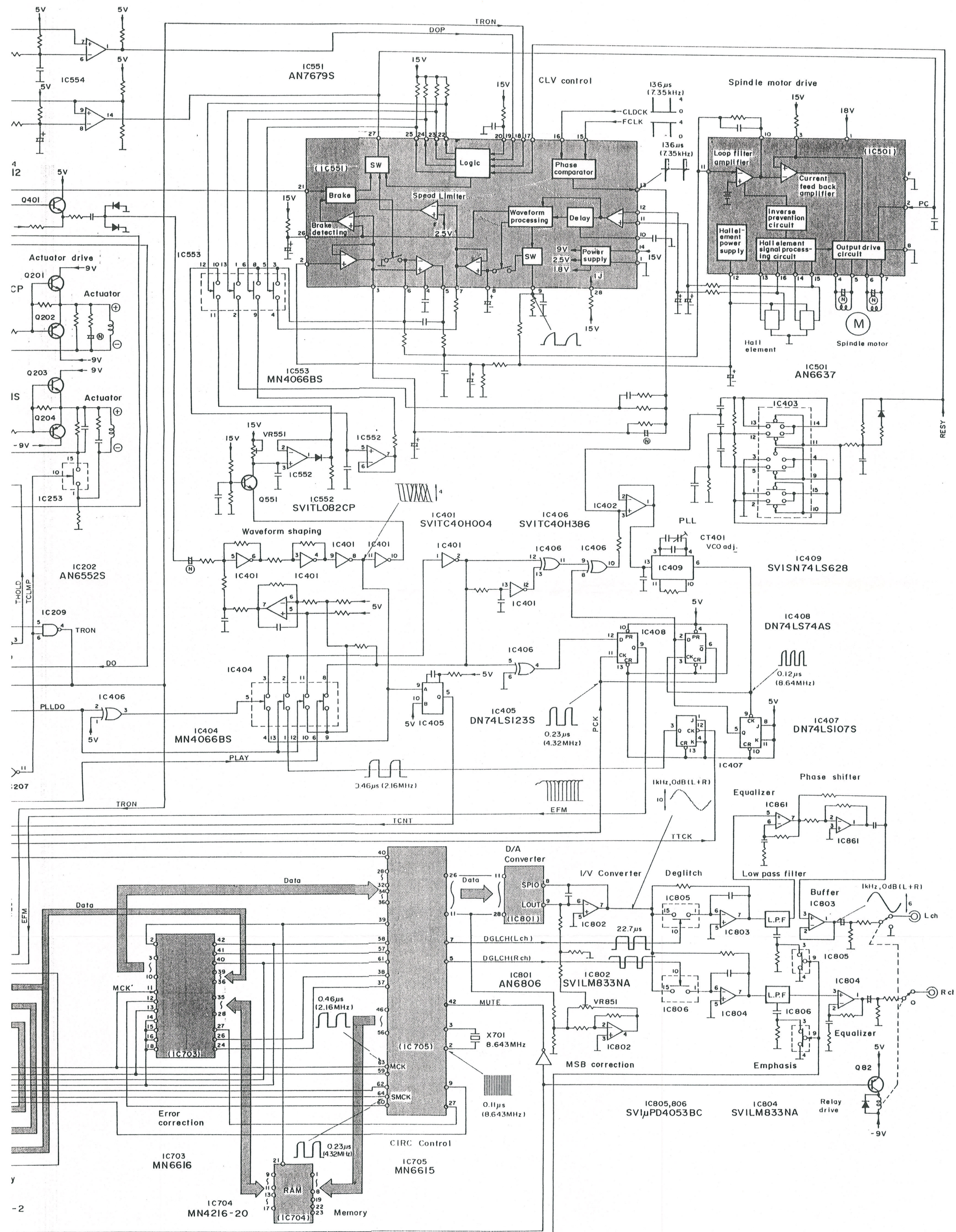
02 CN202

02 CN201



BLOCK DIAGRAM





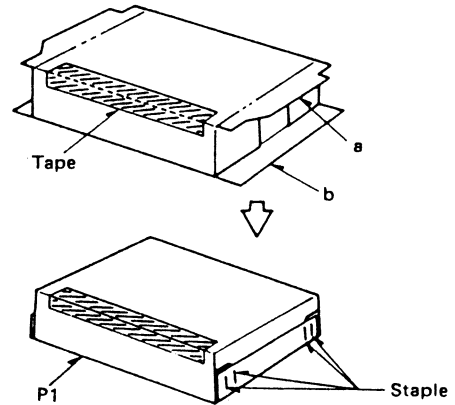
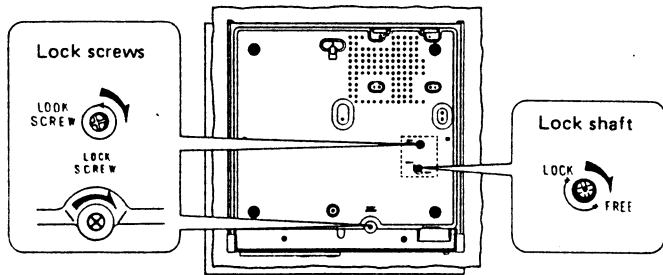
DESCRIPTION OF EACH TERMINALS

Mark	Description
CLDCK	CLV control signal
CLOSE	Loading motor close command signal
DGLCH	Diglitch signal
DO	Drop-out signal
DOP	Drop-out signal
EFM	Eight to fourteen modulation signal
FCLK	Fram's clock signal
FCLV	CLV control signal
FE	Focus error signal
FWD	Forward signal
GND	Ground
KICK	Track jump control signal
KICK F/R	Track jump forward and reverse signal
OPEN	Loading motor open command signal
REV	Reverse signal
RF	RF signal (pick-up output signal)
RF DELAY	RF delay signal

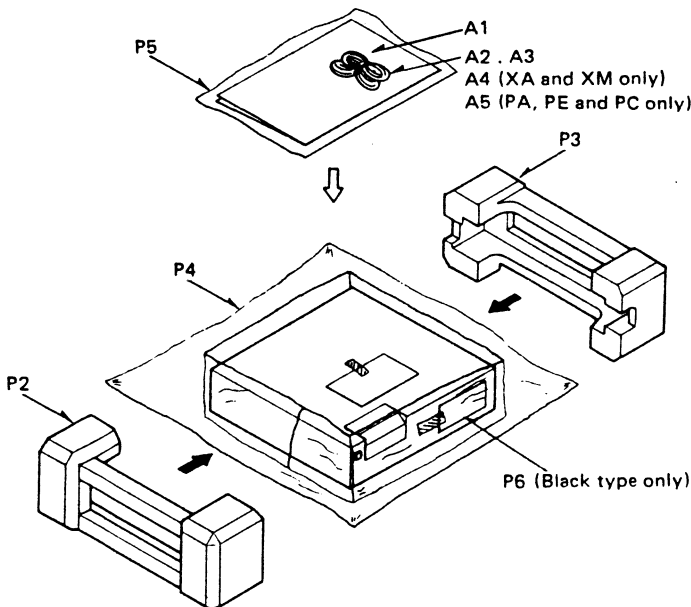
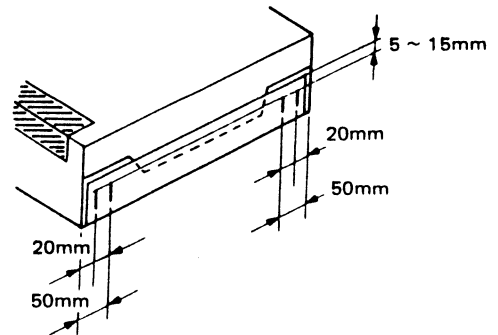
Mark	Description
P02	Microcomputer (MN1544PCH) P port (keyboard and disc holder position detection signal)
P03	
P20	
P21	
P22	
P23	
P50	Microcomputer (MN1544PCH) P port (Loading motor close command signal)
P51	Microcomputer (MN1544PCH) P port (Loading motor open command signal)
PCK	PLL clock signal
TCNT	Traverse control signal
TE	Tracking error signal
TR ON	Tracking servo on command signal
TRV DO	Traverse servo on drop-out signal
TRV ON	Traverse servo on signal
TT ON	Turntable on signal (Spindle motor rotation)

PACKING

- Put a soft cloth under the unit to protect it from scratches.
- Turn the lock shaft 180° clockwise.
- Turn the lock screws (about 5 to 6 times) clockwise.



* Stapling positions are shown below.



- Place the unit (with cushions attached, as illustrated).
- Fold the flaps according to the line marks.
- Seal the top with adhesive tape.
 - * Use gum tape or adhesive cloth tape of 50mm wide at least.
- For the edges, first fold the flap "a" and then flap "b", and staple. Remember to staple only flap "b". (Use 15 or 16mm staple)

Ref. No.	Part No.	Description
ACCESSORIES		
A1 (EK)	SRNU007G01	Instruction Book (1)
A1 (EI)	SRNU007I01	Instruction Book (1)
A1 (EG, EF, XL, XA, XM)	SRNU007X01	Instruction Book (1)
A1 (E, EB, EH, EC)	SRNU007S01	Instruction Book (1)
A1 (PA, PE, PC)	SRNU007P01	Instruction Book (1)
A2 (EK)	SFDAC05G02	AC Cord (1)
A2 (XL)	SFDAC05L01	AC Cord (1)
A2 (XA, XM)	SFDAC05X01	AC Cord (1)
A2 (PA, PE, PC)	SFDAC05N01	AC Cord (1)
A2 (other areas)	SFDAC05E02	AC Cord (1)
A3	SFDHC05N01	Pin Plug Cord (1)
A4 (XA, XM)	SFDKI19118	2Pin Plug (1)
A5 (PA, PE, PC)	QJP0603S	Plug (1)
PACKING PARTS		
P1 (EF)	SRHP007C01	Carton Box (Silver) (1)
P1 (EF)	SRHP007C51	Carton Box (Black) (1)
P1 (other areas)	SRHP007M01	Carton Box (Silver) (1)
P1 (other areas)	SRHP007M51	Carton Box (Black) (1)
P2	SRHH007N01	Pad, Left (1)
P3	SRHH007N02	Pad, Right (1)
P4	SFYH45X50	Polyethylene Bag (1)
P5	SFYH17X16	Polyethylene Bag (1)
P6	SRHZ007N51	Pad (1)

Service Manual

Supplement-3

COMPACT
disc

DIGITAL

Compact Disc Player

SL-P7/(K)

Please use this manual together with the service manual for Model No. SL-P7.

- Notes:**
- ★ The replacement parts for optical pickup have been supplied as traverse unit ass'y (optical pick-up deck unit), but they are individually supplied as optical pick-up since May 21, 1984.
 - ★ This supplement includes the parts list and exploded view of loading drive mechanical and optical pick-up deck.
 - ★ This supplement should be filed with the service manual for Model No. SL-P7.

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
LOADING MECHANICAL PARTS			OPTICAL PICK-UP DECK UNIT PARTS		
41	SRUM007N05E	Tray Ass'y, Disc (1)	71	△ SRLP007N01A	Optical Pick-up (1)
42	SRKK007N04R	Disc Case Ass'y (1)	72	SRUM007N22	Bracket, Optical Pick-up (1)
42-1	SRKK007N04	Ornament Plate, Disc Case (1)	73	SRQS007N01	Spring, Bracket (1)
43	SRUM007N07	Cam, Disc Case (1)	74	SRXJ007N01	Shaft, Optical Pick-up Guide (2)
44	SRQH007N02	Spring (1)	75	SRUK007N02E	Optical Deck Unit Base Ass'y (1)
45	SFYB-5-32-P	Nylon Ball (11)	76	SRUP007N09	Holder (A), Shaft (2)
46	SRUP007N07	Holder (2)	77	SRUP007N08	Holder (B), Shaft (1)
47	SRUP007N05A	Holder, Disc Clamper (1)	78	SRGC007N02	Cushion Rubber (4)
48	SRDJ007N12E	Connector Ass'y (1)	79	SRQA007N02	Spring(A), Cushion Rubber (2)
49	SRUM007N18	Cover, Switch (1)	80	SRUP007N12	Holder, Spring (4)
50	SRQS007N02	Spring (1)	81	SRQA007N01	Spring (B), Cushion Rubber (2)
51	SRUG007N04	Gear, Return (1)	82	SRMH007N02A	Motor, Optical Pick-up Drive (1)
52	SRQH007N01	Spring, Return (1)	83	SRQA007N03	Spring (2)
53	SRUM007N15	Guide Plate (2)	84	SRTE007N03	Holder, Turntable (1)
54	SRUM007N09	Rack Gear, Loading (1)	85	SRQA010N04	Spring (1)
55	SRUP007N10E	Loading Guide Ass'y (1)	86	SRTE007N11E	Turntable (1)
56	SRUM007N06	Lock Arm (1)	87	SRTM007N01A	Rotary Magnet Ass'y (1)
57	SRQS007N03	Spring, Lock Arm (1)	88	SRDJ007N20E	Connector Ass'y (1)
58	SRUP007N03R	Loading Base Ass'y (1)	89	SRUM007N19	Holder, Motor (1)
59	SRDJ007N13E	Connector Ass'y (1)	90	SRDJ007N10E	Connector Ass'y (1)
60	SRUM007N17	Cover, Switch (1)	91	SRXG007N01E	Wrom Gear Ass'y (1)
61	SRGB007N02	Belt, Loading Motor (1)	92	SRGC007N01	Cushion Rubber (1)
62	SRUG007N01	Pulley, Loading Motor (1)	93	SRGB007N03	Belt (1)
63	SRQH007N03	Spring, Disc Clamper (1)	94	SRLH007N08	Clamper, Lead Wires (1)
64	SRUG007N03	Gear, Loading (1)	95	SRLC007N03	Cover, P.C. Board (1)
65	SRUG007N02	Gear, Transmission (1)			
66	SRMH007N01A	Motor, Loading (1)			
67	SRDJ007N16E	Connector Ass'y (1)			
68	SRUP007N15	Spacer (1)			
69	SRUM007N24	Spacer, Disc Clamper (1)			
70	SRGC007N07	Cushion Rubber, Disc Clamper (1)			

Matsushita Electric Trading
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P.O. Box 288, Central Osaka
Japan

Matsushita Engineering and
Service Company
50 Meadowland Parkway
Secaucus, New Jersey 07094

Panasonic Hawaii, Inc.
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P.O. Box 774, Honolulu
Hawaii 96808-0074

Panasonic Sales Company
Division of Matsushita Electric
of Puerto Rico, Inc.
Ave. 65 de Infantería KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

Panasonic Tokyo Matsushita
Electric Industrial Co., Ltd.
1-2, 1-chome, Shibakoen
Minato-ku, Tokyo 105 Japan

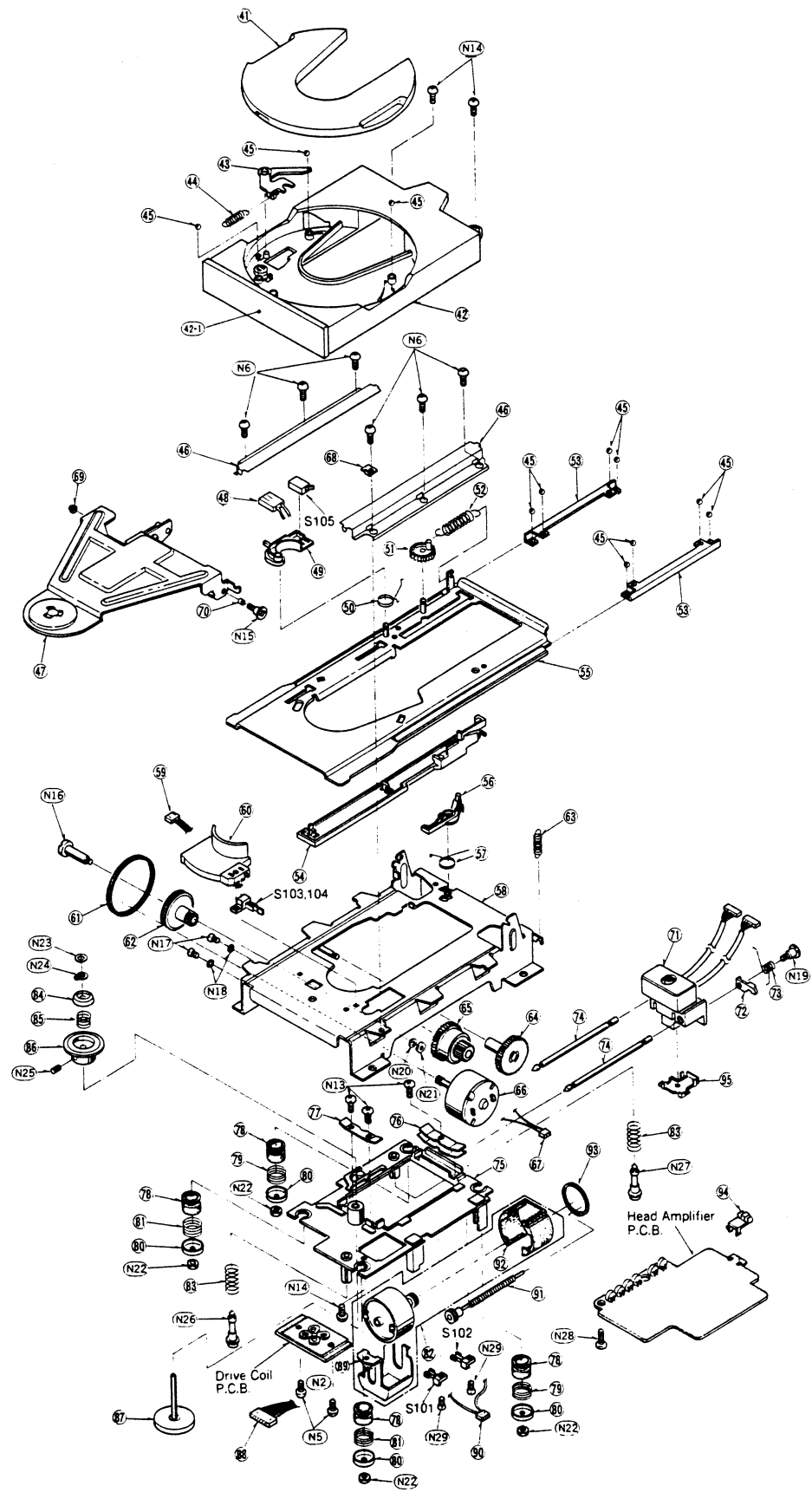
Matsushita Electric of
Canada Limited
5770 Ambler Drive
Mississauga, Ontario, L4W 2T3

Technics

SL-P7

EXPLODED VIEW

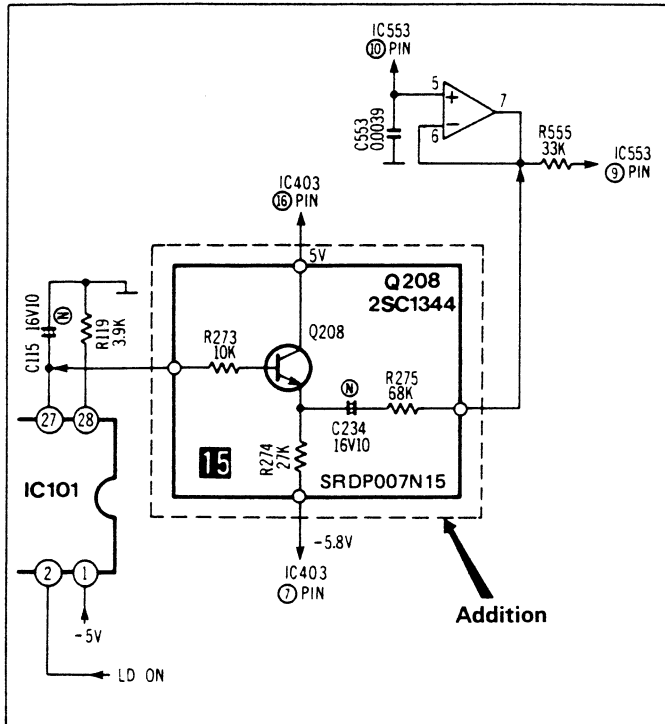
- Loading drive mechanism and optical deck unit parts



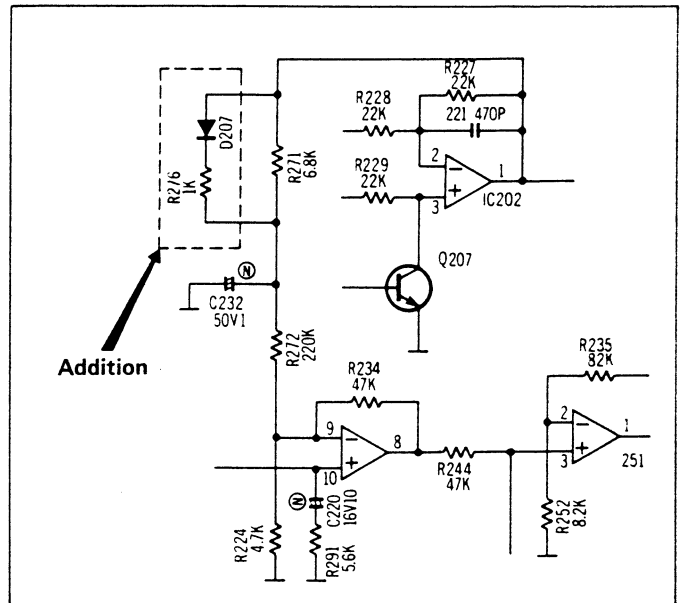
CHANGES

■ SCHEMATIC DIAGRAM

- Addition of P.C.B. (SRDP007N15)



- Addition of diode and resistor



■ REPLACEMENT PARTS LIST

Ref. No.	Change of Part No.		Part Name & Description	Per Set (Pcs.)	Remarks
	OLD	NEW			
TRANSISTOR					
Q208	Addition	2SC1344	Transistor, CLV control	1	
DIODE					
D207	Addition	MA165	Diode, Traverse servo control	1	
RESISTORS					
R141	ERDS2TJ102	ERDS2TJ101	Carbon, 1/4W, 100Ω, ± 5%	1	
R273	Addition	ERD25FJ103	Carbon, 1/4W, 10kΩ, ± 5%	1	
R274	Addition	ERD25TJ273	Carbon, 1/4W, 27kΩ, ± 5%	1	
R275	Addition	ERD25TJ683	Carbon, 1/4W, 68kΩ, ± 5%	1	
R276	Addition	ERDS2TJ102	Carbon, 1/4W, 1kΩ, ± 5%	1	
CAPACITORS					
C119	ECKD1H472KB	ECFF1E104ZF	Ceramic, 25V, 0.1μF, +80% -20%	1	
C126	ECKD1H152KB	ECQM1H562KV	Polyester, 50V, 0.0056μF, ± 10%	1	
C234	Addition	ECEA1CN100S	Electrolytic, 16V, 10μF	1	