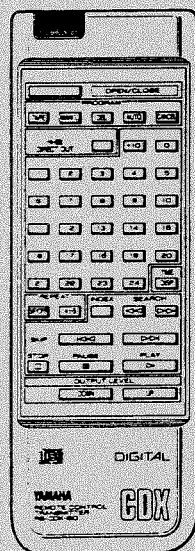
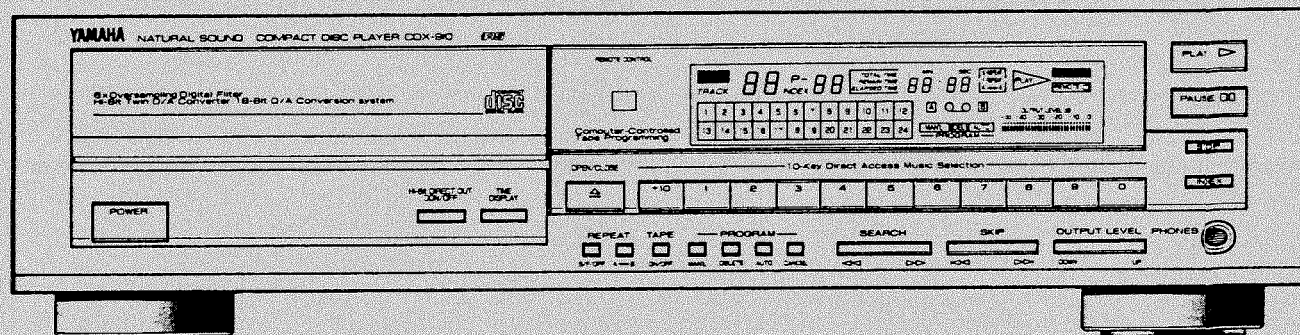


COMPACT DISC PLAYER CDX-910/U

SERVICE MANUAL



IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

CONTENTS

TO SERVICE PERSONNEL	1/2
INTERLOCK OPERATION	3
FRONT PANELS	3
REAR PANELS	4
SPECIFICATIONS	5
INTERNAL VIEW	5
BLOCK DIAGRAM	6
DISASSEMBLY PROCEDURES	7/8

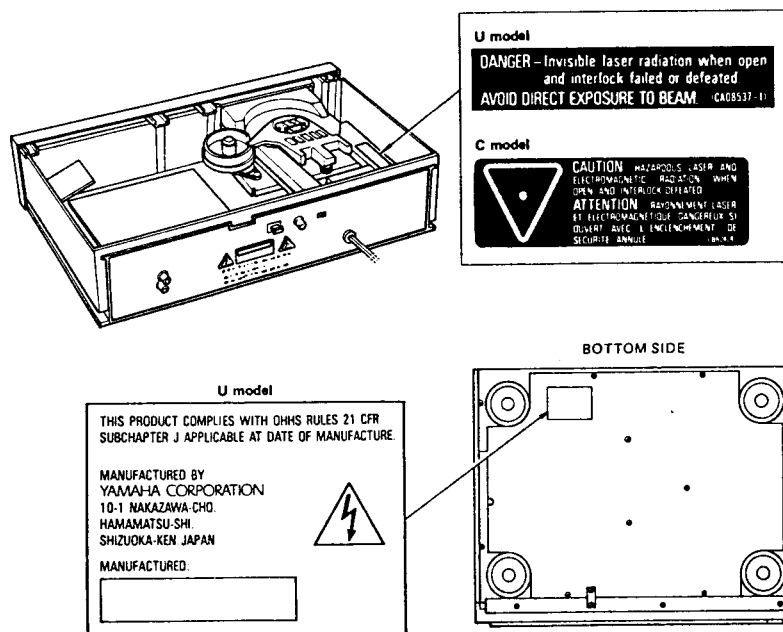
ADJUSTMENTS	9 ~ 19
IC DATA	20 ~ 26
DISPLAY DATA	27
PRINTED CIRCUIT BOARD	28 ~ 33
SCHEMATIC DIAGRAM	34/35
WIRING	36
PARTS LIST	37 ~ 48

■ TO SERVICE PERSONNEL

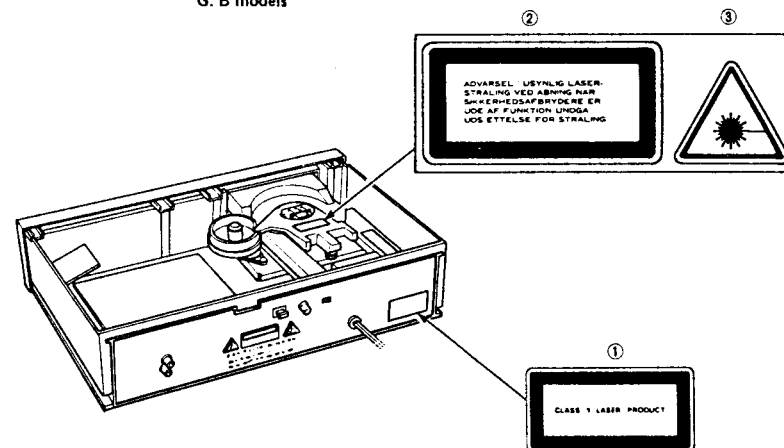
- Critical Components Information.**
Components having special characteristics are marked and must be replaced with parts having specifications equal to those originally installed.
- Leakage Current Measurement (For 120V Model Only).**
When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.
 - Meter impedance should be equivalent to 1500 ohm shunted by 0.15 μ F.
 - Leakage current must not exceed 0.5mA.
 - Be sure to test for leakage with the AC plug in both polarities.
- POLARIZATION (U.C. models)**
This CD player product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature.

CAUTION — USE OF CONTROLS, ADJUSTMENTS, OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN, MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.



G. B models



English

- THIS LABEL IS ATTACHED AT THE PLACE ILLUSTRATED TO INFORM THAT THE APPARATUS CONTAINS A LASER COMPONENT.
 - THIS LABEL IS ATTACHED IN THE POSITION SHOWN IN THE ILLUSTRATION TO WARN THAT ANY FURTHER PROCEDURE WILL BRING THE USER INTO EXPOSURE WITH THE LASER BEAM.
 - THE WARNING LABEL INFORMING OF RADIATION IS PLACED INSIDE THE UNIT AS SHOWN IN THE ILLUSTRATION, TO WARN AGAINST FURTHER MEASURES ON THE UNIT. THE EQUIPMENT CONTAINS A LASER COMPONENT RADIATING LASER RAYS EXCEEDING THE LIMIT OF LASER PRODUCTS OF CLASS 1.
- CAUTION—USE OF CONTROLS, ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN, MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

Swedish

- PÅSKRIFTEN SITTER PÅ APPARATEM SOM VISAS SOM EN UPPMANING OM ATT APPARATEN OMFATTAR EN INBYGGD LASERKOMPONENT.
 - TEXTSKYLTEN FÖR LASERN ÄR PLACERAD PÅ APPARATEN SOM EN UPPMANING OM ATT APPARATEN INNEHÅLLER EN LASERKOMPONENT.
 - VARNINGSSKYLTEN FÖR STRÅLNING HAR PLACERATS I APPARATEN, SOM BILDEN VISAR, SOM EN VARNING OM YTTRELLIGARE INGREPP I APPARATEN. MATERIELEN INNEHÅLLER EN LASERKOMPONENT SOM AVGER LASERSTRÅLNING ÖVERSTIGANDE GRÄNSEN FÖR LASERKLASS 1.
- VARNING—INGREPP I APPARATEN BÖR ENDAST FÖRETAGAS AV FACKMAN MED KUNSKAP OM ATT RISK FÖRELIGGER FÖR RADIOAKTIV ÅTRÅLNING.

Danish

- DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.
 - DETTE MÆRKAT OM LASEREN ER ANBRAGT PÅ APPARATET SOM EN OPLYSNING OM AT APPARATET INDEHOLDER ET LASERKOMPONENT.
 - ADVARSELSKILTET OM STRÅLING ER PLACERET INDENI APPARATET, SOM VIST I ILLUSTRATIONEN, SOM EN ADVARSEL OM YDERLIGERE INDGEB I APPARATET. APPARATET INDEHOLDER ET LASERKOMPONENT SOM AVGIVER LASESTRÅLING DER OVERSTIGER GÆNSEVERDIEN FOR LASERKLASSE 1.
- ADVARSEL! INDGEB BØR KUN FORETAGES AF EN FAGMAND DA DER ER RISIKO FOR RADIOAKTIV STRÅLING.

Finnish

- "VAROITUS! LAITE SISÄLTÄÄ LASERDIODIN, JOKA LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE VAARALLISTA LASERSÄTEILYÄ."

INTERLOCK OPERATION

The Digital Compact Disc Player reads the disc signals by laser beam detection. It must be avoided for the human body to be directly exposed to the laser beam. Human eyes are especially badly affected by the laser beam. This unit is therefore equipped with an interlock to prevent unnecessary laser output.

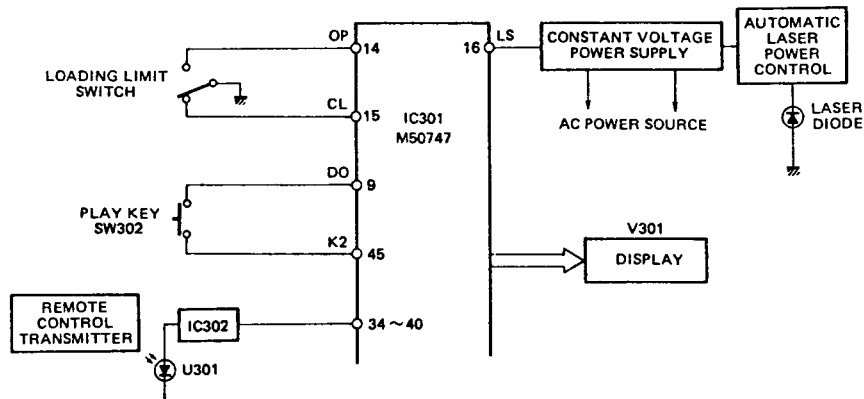
Laser output is controlled by the injection or cutoff of the constant voltage source to the laser diode at Pin 16 (LS) of IC301 (MS0747), and also by Automatic Laser Power Control Circuit. When Pin 16 is in "H" (High) level, the laser emits the beam. When Pin 16 is in "L" (Low) level, the laser does not emit the beam.

Pin 16 is set in "H" level when the unit is loaded with the disc and it reads the index signals or when the unit is set in the play mode after that. When the unit reads the index signals and the following two conditions are met, the laser emits the beam.

- 1) When the Loading Limit Switch is set in "CL" side. (The disc tray is closed.)
- 2) The pickup is located at the area of minimum internal circumference.

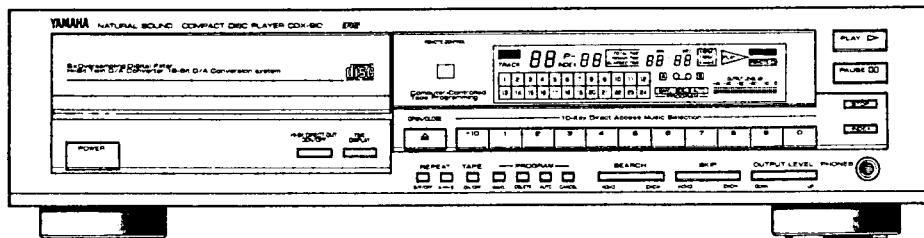
After the above conditions are met and the index signals have been read, the laser emits the beam when the following two conditions are met.

- 1) when the PLAY key (SW302) or that of Remote Control Transmitter is pressed.
- 2) when the **PLAY** display is ON.

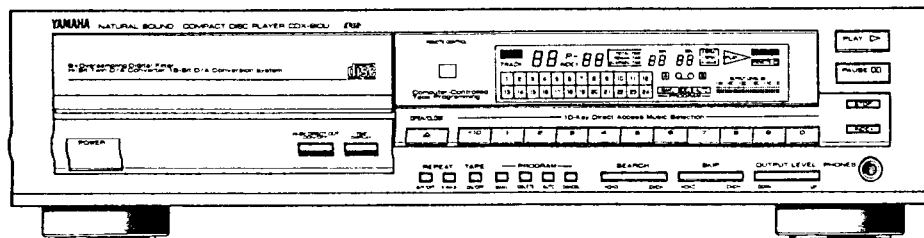


FRONT PANELS

• CDX-910

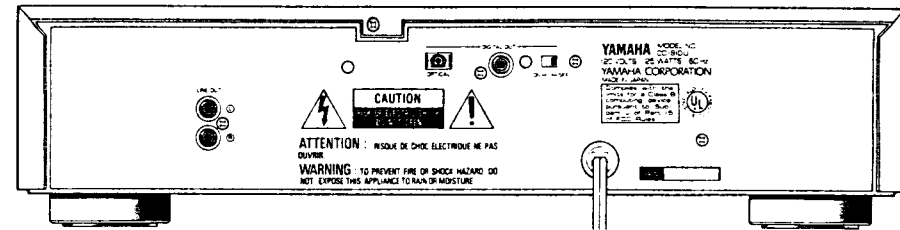


• CDX-910U

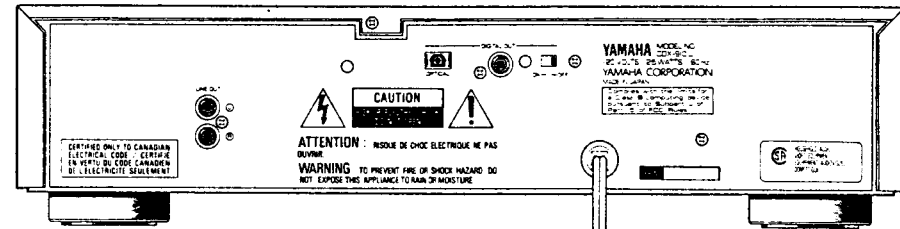


REAR PANELS

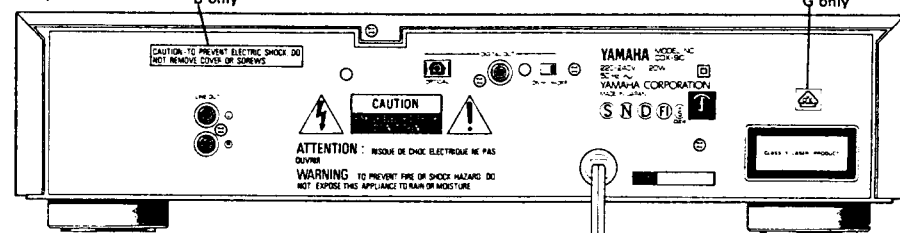
▼ U model



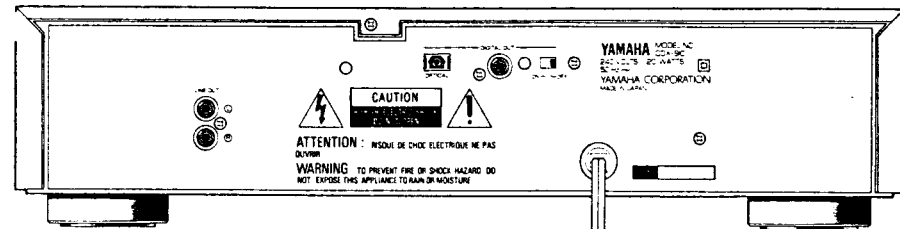
▼ C model



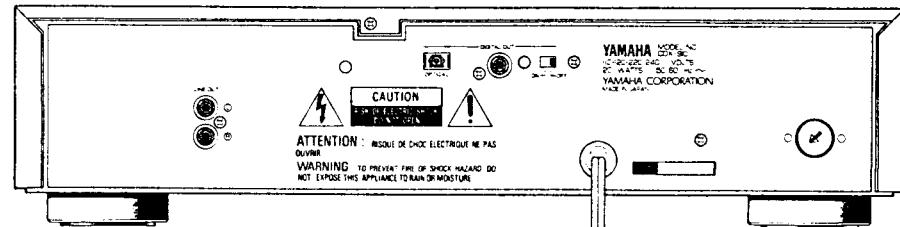
▼ G, B models



▼ A model



▼ R model



SPECIFICATIONS

AUDIO SECTION

Frequency Response	2Hz ~ 20kHz ± 0.3 dB
De-Emphasis Equalization	± 0.3 dB (EIAJ)
Harmonic Distortion + Noise	Less than 0.003%, 1kHz (EIAJ)
S/N Ratio	118dB (EIAJ)
Dynamic Range	More than 100dB (EIAJ)
Wow & Flutter	Unmeasurable
Channel Separation	More than 100dB, 1kHz (EIAJ)
Output Voltage	2V (EIAJ)
Output Impedance	2.2k Ω
Headphone Output	450mV/150 Ω (–20dB)

INTERNAL SYSTEMS

Optical Pick-up	3-beam laser
Error Correction System	CIRC, dual error correction system
D/A Conversion	18 bit floating (L, R twin)
Filter	Digital filter and 3rd order new active filter

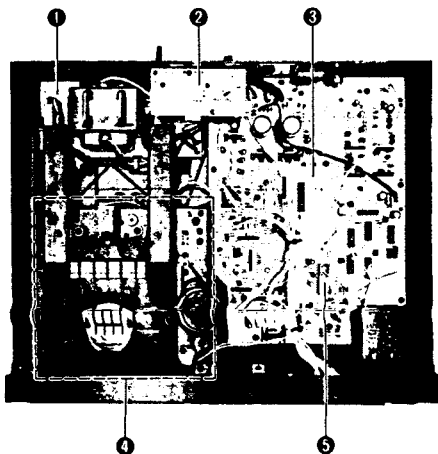
GENERAL

Power Requirements	
U, C models	120V AC, 60Hz
G, B models	220–240V AC, 50Hz
A model	240V AC, 50Hz
R model	110–120/220–240V AC, 50/60Hz
Power Consumption	
U, C models	25W
G, B, A, R models	20W
Dimensions (W x H x D)	435 x 107 x 348 mm (17-1/8" x 4-3/16" x 13-11/16")
Weight	7.5kg (16 lbs 8 oz.)
Accessories	Pin plug cord Remote control transmitter (RS-CDX910) Dry-cell: X2 (Size "AA", "R06")

* Specification subject to change without notice.

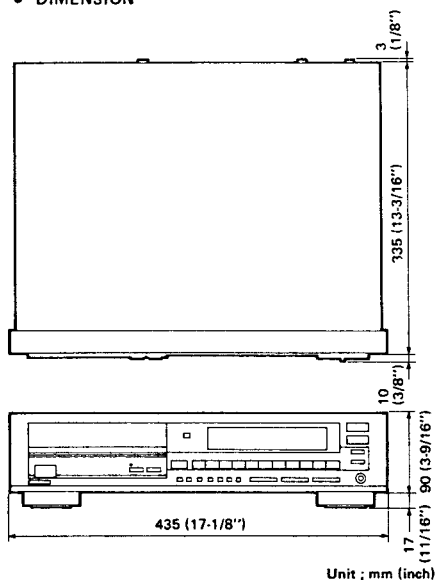
U	 U. S. A model
C	 Canadian model
B	 British model
A	 Australian model
G	 European model
R	 General model

INTERNAL VIEW

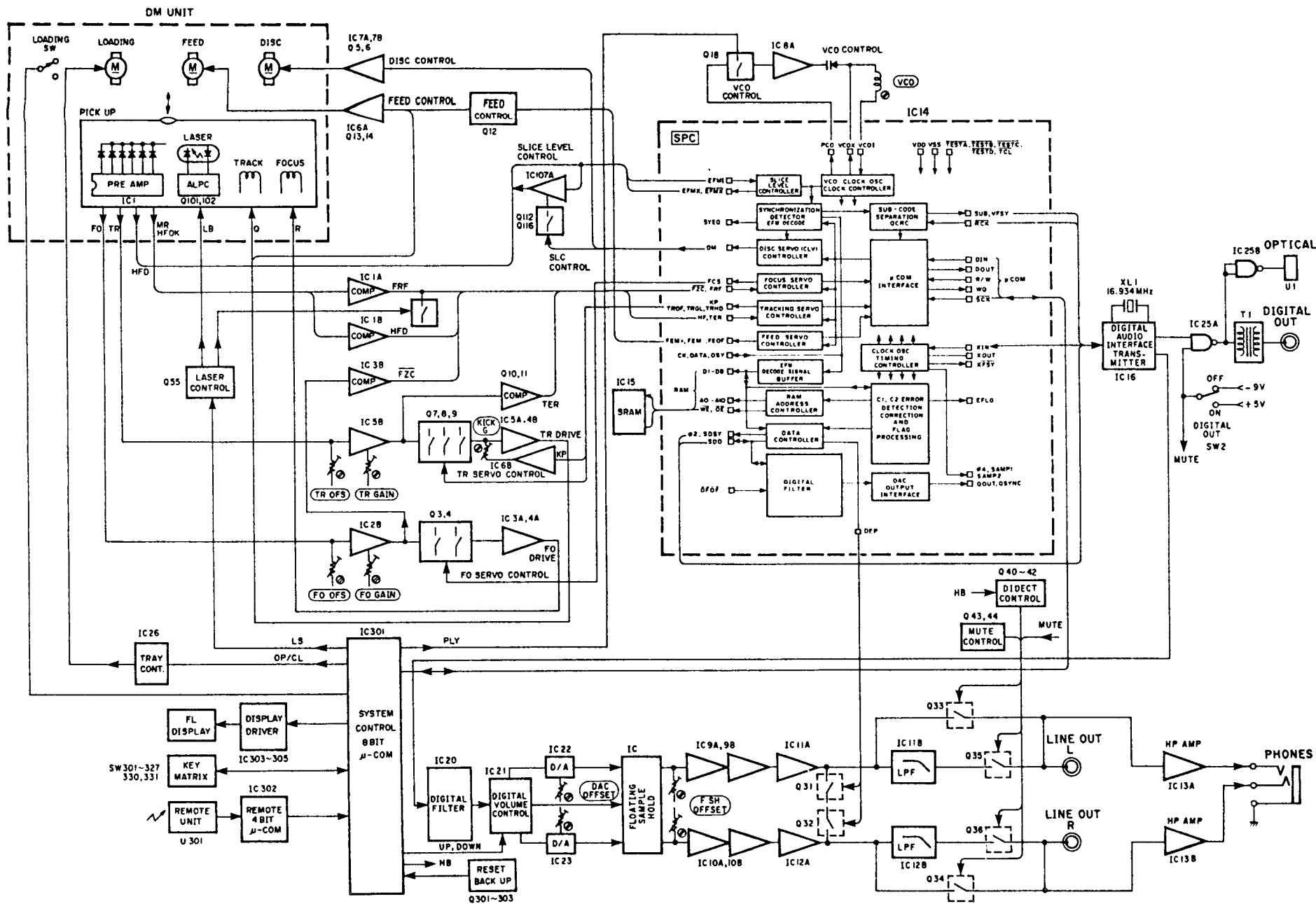


- ① POWER SUPPLY UNIT
- ② MAIN CIRCUIT BOARD (2)
- ③ MAIN CIRCUIT BOARD (1)
- ④ DISC MECHANISM UNIT
- ⑤ IC16 : YM3613B
(Digital Audio Interface Transmitter)

DIMENSION



■ BLOCK DIAGRAM



CDX-910/u

u/O16-Xq3

DISASSEMBLY PROCEDURES

(Remove parts in disassembly order as numbered.)

1. Removal of Top Cover

- a. Remove 5 screws (①) in Fig. 1, and slide the Top Cover to the back side.

2. Removal of Front Panel

- a. Remove 9 screws (②) in Fig. 1, and pull the Front Panel forward.

3. Removal of Bottom Cover

- a. Remove 12 screws (③) in Fig. 1.

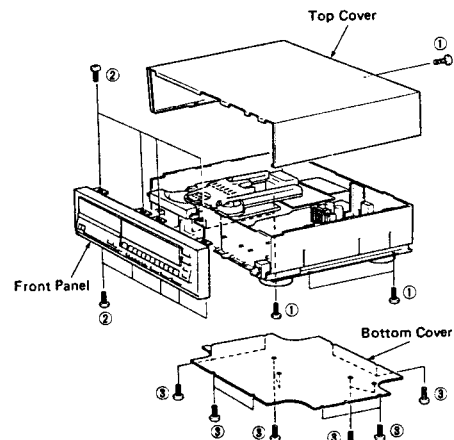


Fig. 1

4. Removal of Disc Tray Ass'y

- a. Pull out the Disc Tray Ass'y by turning the loading cam and remove it by pressing the hook.

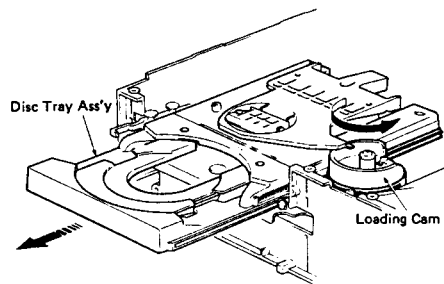


Fig. 2

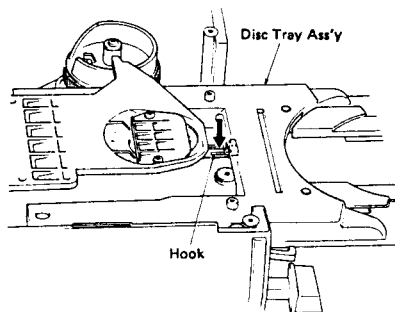


Fig. 3

5. Removal of Disc Mechanism Unit

- a. Remove 4 screws (④) in Fig. 4.

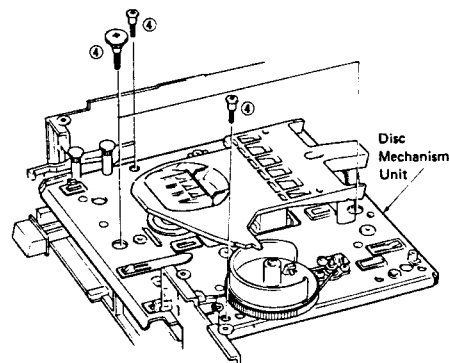


Fig. 4

6. Removal of Disc Motor

- a. Remove 2 screws (⑤) fixing Flapper in Fig. 5 and then remove the flapper.

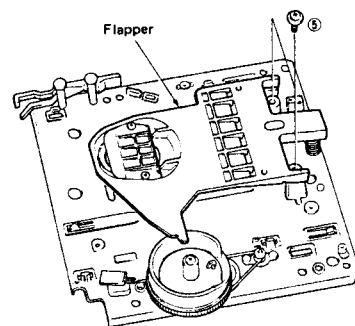


Fig. 5

- b. Pull off the disc table and remove 2 screws (⑥) in Fig. 6.

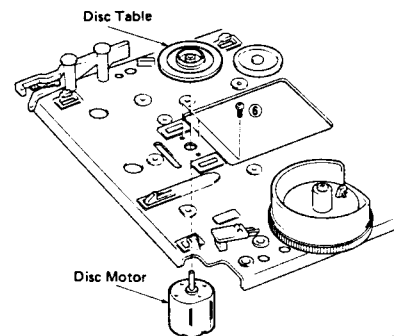
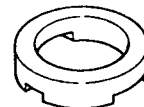


Fig. 6

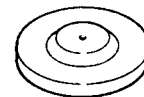
• Installation of disc table

※ The following tools are necessary for installation.

Height adjustment gauge (TX913130)



Disc table installer (TX913140)



- a. Install the height adjustment gauge as shown in Fig. 7.

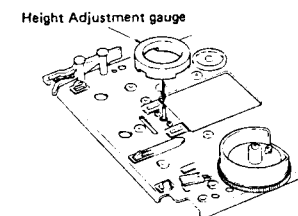


Fig. 7

- b. Carefully apply a small amount of anaerobic glue to motor shaft (Loc-Tite # 638).
c. Install turntable onto motor shaft with disc table installer as shown in Fig. 8.
d. Clean excess glue from top of turntable.
e. Allow 5 minutes for glue to cure before removing disc table installer and height gauge.

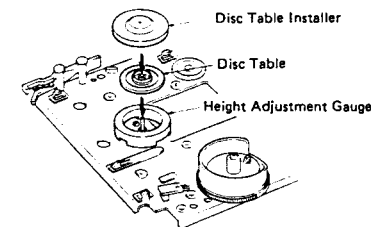


Fig. 8

- f. Check that the disc table height is as specified below.

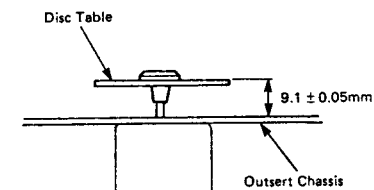


Fig. 9

■ ADJUSTMENTS

- **Necessary items**

Measuring instruments

Measuring instruments : x 2
(At least one shall have a bandwidth of 50 MHz or more)
Audio frequency oscillator (A.F. OSC) : x 1
Laser power meter : x 1
(LEADER LPM-8000 (P/N TX915140) or equivalent)
AC voltmeter (ACVM) : x 2
(One dual channel or two single channel meters)
DC voltmeter (DCVM) : x 1
Frequency counter (FC) : x 1

Jigs

Test disc : x 1
(YEDS-18 P/N TX911730, YEDS-7 P/N TX911320
or Philips test sample disc)
Filter (See Fig. A) : x 1
Shorting cord : x 1

Tools

Tools

Screwdriver	: x 1
(For Pre-Set Potentiometer adjustment)	
Core screwdriver	: x 1

- Adjustment jig (with internal filter)

Connect the filter in Fig. A before measurement.

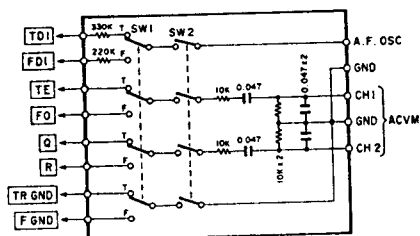


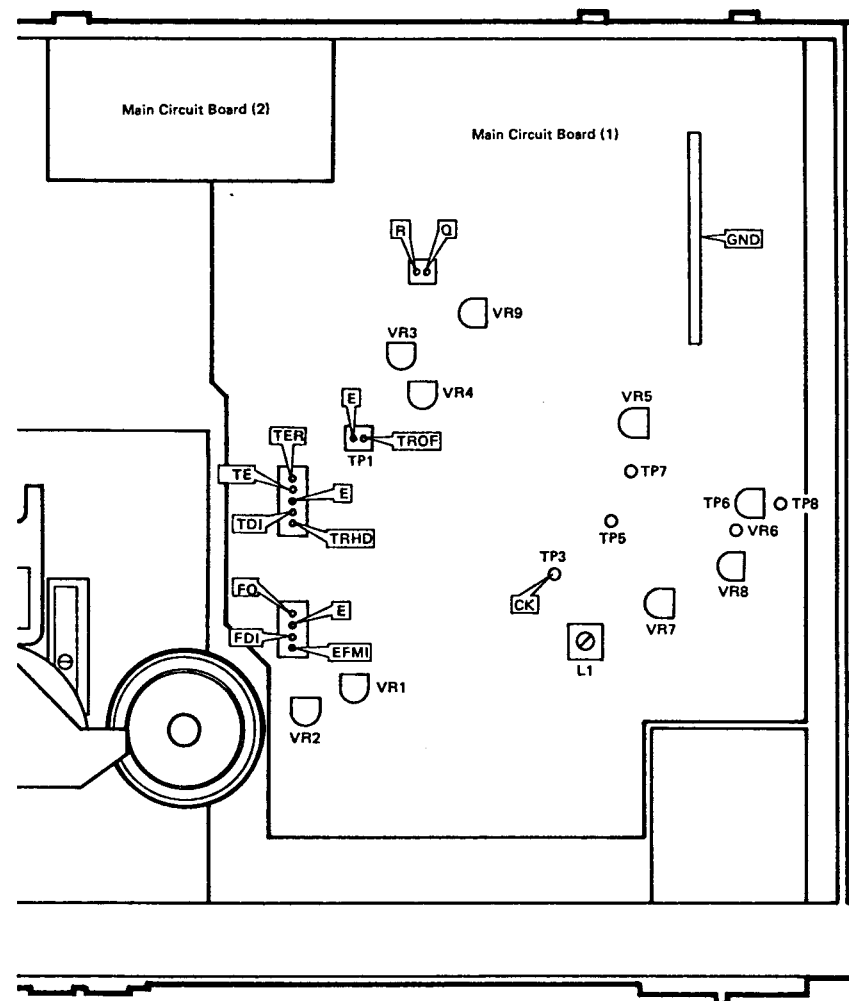
Fig. A

SW1 : FOCUS gain and TRACKING gain switching
SW2 : Filter ON/OFF switch

- **Precautions or Special Notes**

- **Precautions of Special notes**
- 1. Measure the output level at the output terminal of the AF oscillator.
- 2. When disc tray has been removed from the mechanism, make sure the position of the loading cam and the leaf switch are correct.
- 3. The unit should always be in a horizontal position while performing adjustments.

- **Test Point**



★ Carry out following adjustments in order as numbered.

- Step 1. Confirmation of Laser Output.
- Step 2. Confirmation of Focus Actuator Operation.
- Step 3. Adjustment of VCO.
- Step 4. Adjustment of Tracking Gain
- Step 5. Adjustment of Focus Gain
- Step 6. Adjustment of Tracking Offset

Confirmation of Laser Output (Step 1)

- ① Do not load the disc.
- ② Remove the disc tray.
- ③ Remove the flapper.
- ④ Apply the laser power meter's sensor to the pick-up head as shown in Fig. B.

- Step 7. Adjustment of Focus Offset
- Step 8. Adjustment of Kick Gain
- Step 9. Confirmation of Jitter
- Step 10. Confirmation of Skip Search Operation
- Step 11. Adjustment of DAC Offset
- Step 12. Adjustment of FSH Offset

- ⑤ Press POWER key. (POWER ON)
- ⑥ Measure the laser output during the 5 seconds of FOCUS search mode.

Rating: Laser output = 0.1mW to 0.5mW

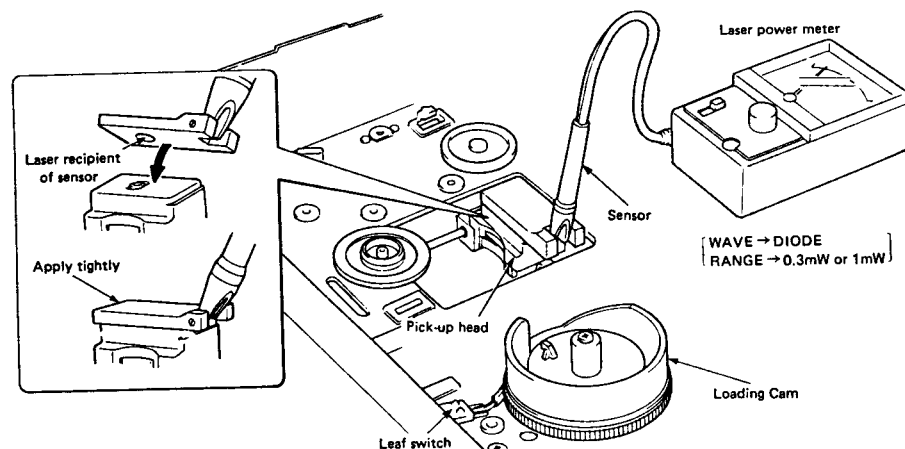


Fig. B

Precautions in handling pick-up head

- (1) No soldering necessary for the unit.
- (2) Since laser light is near-infrared, visual confirmation is difficult. While light is emitted, for safety make sure your eyes are at least 30 cm away from the objective lens.
- (3) Do not disassemble it.
- (4) Do not drop or apply shock to it.
- (5) Do not leave it under high temperature or humidity.
- (6) Do not touch the objective lens. Should there be dirt on the lens, clean using a blower for cameras.

Confirmation of Focus Actuator Operation (Step 2)

Approx. 5 sec

Oscilloscope (1) setting

- DC coupling
- 1V/div range (Vertical)
(0.1/div when 10:1 probe is used)
- 0.5 sec/div time (Horizontal)

- ① Do not load a disc.
- ② Connect the oscilloscope (1) to [R] and [E] terminals.
- ③ Press POWER key. (POWER ON)
- ④ After confirming that loading cam position is correct press OPEN/CLOSE key for CLOSE operation.

- ⑤ During 5 seconds of FOCUS search, confirm that the waveform is as shown in Fig. C.
- ⑥ Confirm that the pick-up head's objective lens moves smoothly between the lowest and highest points.

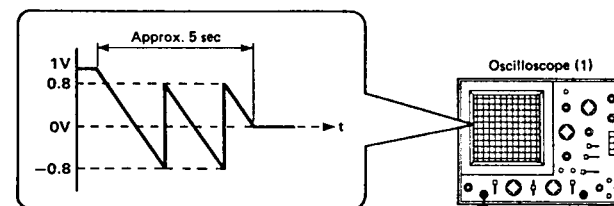
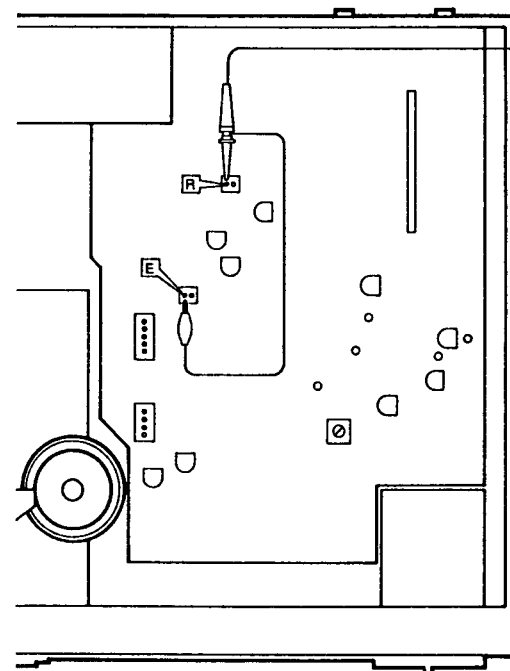


Fig. C



Adjustment of VCO (Step 3)

- ① Connect the shorting cord and measuring instruments, as shown in Fig. D.
- ② Do not load a disc.
- ③ Press POWER key. (POWER ON)

- ④ While observing the frequency counter indication (F_{VCO}), adjust L1 so that it satisfies the rating.
Rating: $F_{VCO} = 4.3218 \text{ MHz} \pm 10 \text{ kHz}$

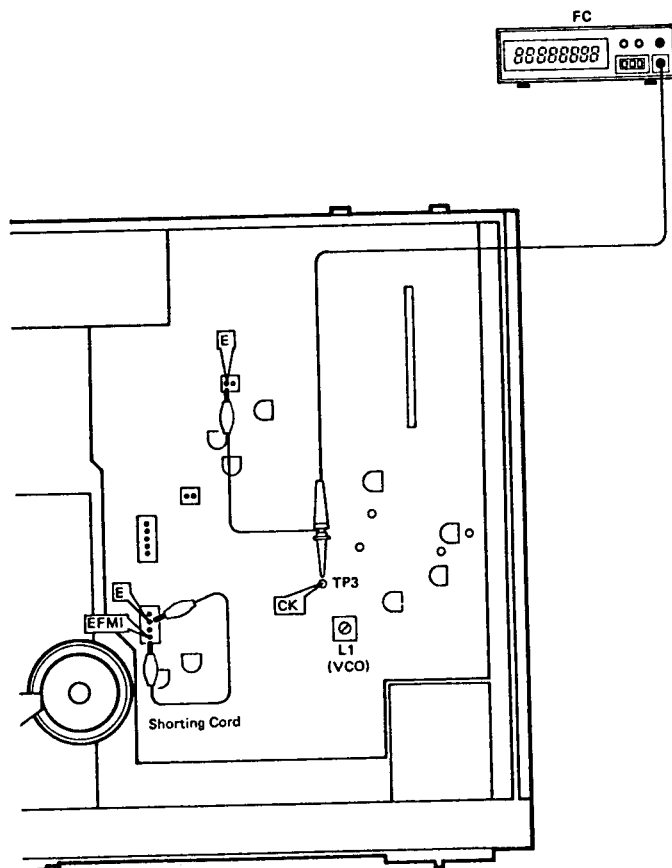


Fig. D

Adjustment of Tracking Gain (Step 4)

* This adjustment requires use of two single channel AC voltmeters or one dual channel AC voltmeter.

- ① Connect the filter and measuring instruments, as shown in Fig. E.
Apply a 800 Hz, 100 mVrms signal from the AF oscillator to [TDI] terminal via the resistor (330 kilohms) in the filter.
- ② Set SW2 to OFF.
- ③ Set SW1 to T (TRACKING).
- ④ Press POWER key. (POWER ON)
- ⑤ Load the test disc.
- ⑥ Press PLAY key.

- ⑦ Set SW2 to ON.
- ⑧ While observing the indications of the AC voltmeters (CH1: E_{TE} , CH2: E_Q), adjust VR3 (TRACKING GAIN) so that they satisfy the rating.
Rating: $E_{TE} - E_Q = 17 \text{ dB}$

Example [0dBV = 1V]
 $E_Q = -30 \text{ dBV (30mV)}$
 $E_{TE} = -13 \text{ V (223mV)}$

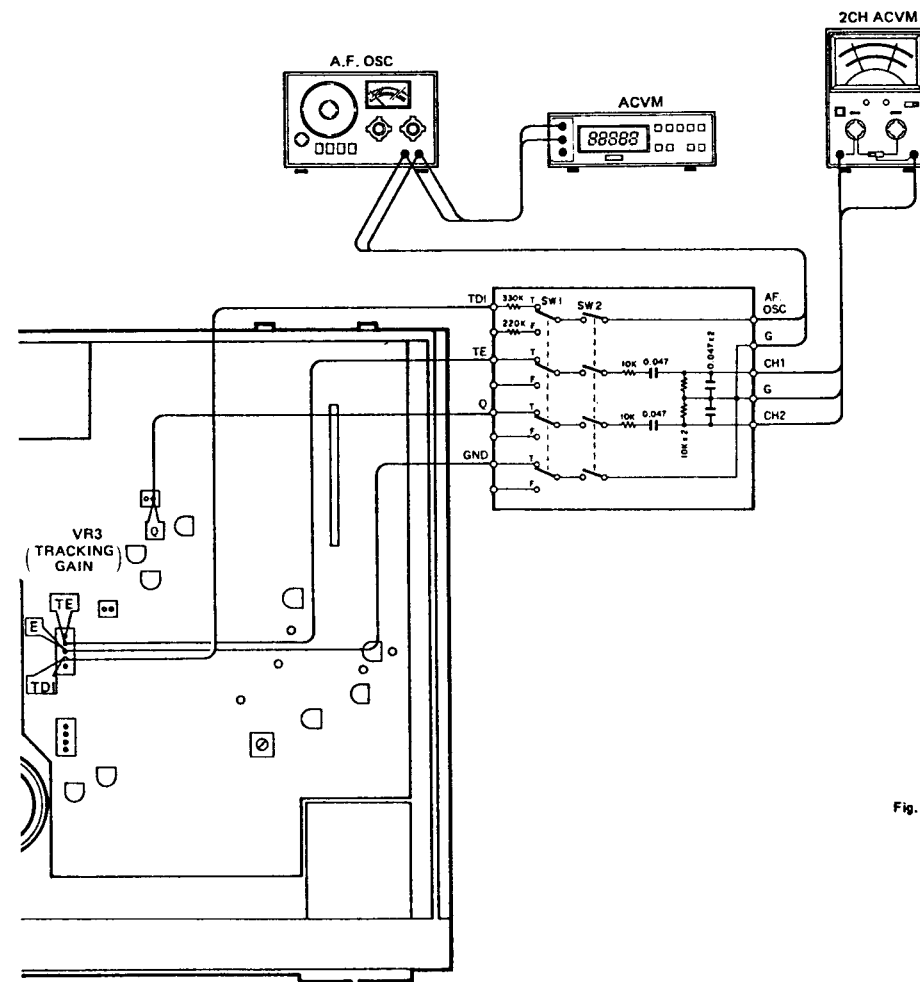


Fig. E

Adjustment of Focus Gain (Step 5)

* This adjustment requires use of two single channel voltmeter or one dual channel AC voltmeter.

- ① Connect the filter and measuring instruments, as shown in Fig. F.

Apply an 800 Hz, 4.5 Vrms signal from the AF oscillator to [FDI] terminal via the resistor (220 kilohms) in the filter.

- ② Set SW2 to OFF.
- ③ Set SW1 to F (FOCUS).
- ④ Press POWER key. (POWER ON)
- ⑤ Load the test disc.

- ⑥ Press PLAY Key.
- ⑦ Set SW2 to ON.
- ⑧ Read the indications of the AC voltmeters (CH1: E_{FO} , CH2: E_R), adjust VR2 (FOCUS GAIN) so that they satisfy the rating.

$$\text{Rating: } E_{FO} - E_R = 8\text{dB}$$

Example [0dBV = 1V]
 $E_{FO} = -16\text{dBV}$ (160mV)
 $E_R = -24\text{dBV}$ (63mV)

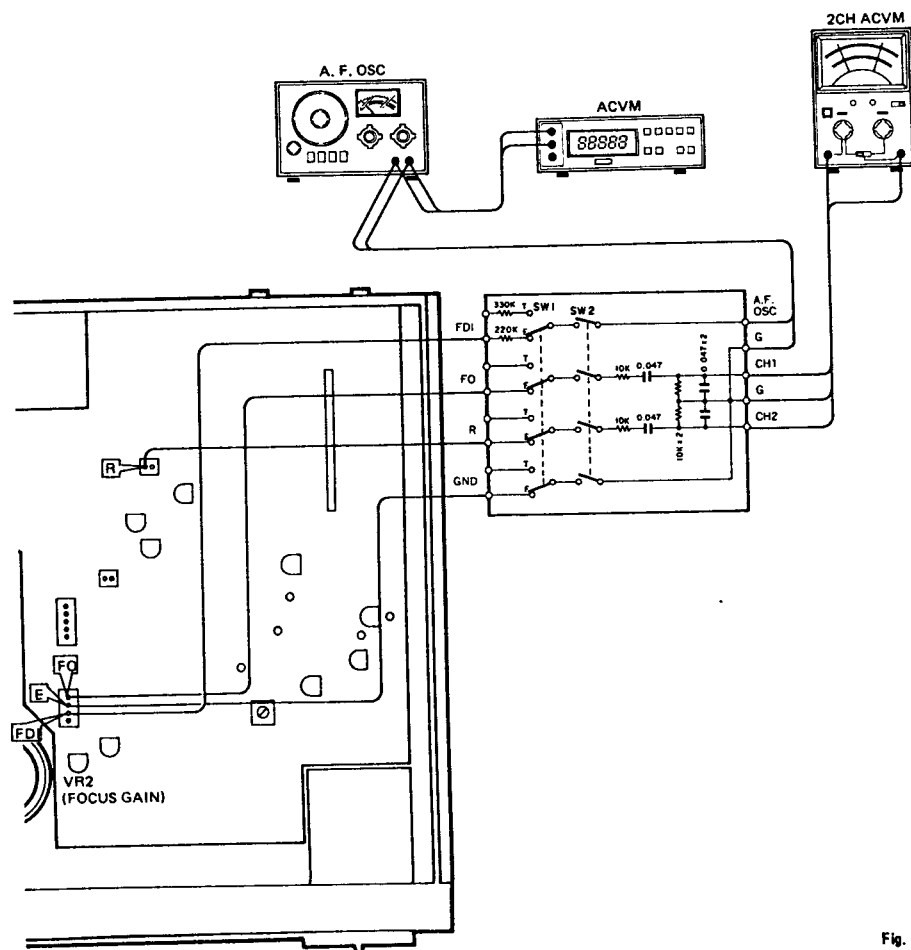


Fig. F

Adjustment of Tracking Offset (Step 6)

- ① Connect a DC voltmeter to [Q] and [E] terminals.
- ② Press POWER key. (POWER ON)
- ③ Press STOP key.
- ④ Short between the [TROF] and [E] terminals. (Laser OFF)

- ⑤ While observing the indication (E_Q) of the DC voltmeter, adjust VR4 (TRACKING OFFSET) so that it satisfies the rating.

$$\text{Rating: } E_Q = 0\text{ V DC} \pm 25\text{mV DC}$$

Adjustment of Focus Offset (Step 7)

- ① Connect a DC voltmeter to [R] and [E] terminals.
- ② Press POWER key. (POWER ON)
- ③ Press STOP key.
- ④ Short between the [TROF] and [E] terminals. (Laser OFF)

- ⑤ While observing the indication (E_R) of the DC voltmeter, adjust VR1 (FOCUS OFFSET) so that it satisfies the rating.

$$\text{Rating: } E_R = 0\text{ V DC} \pm 25\text{mV DC}$$

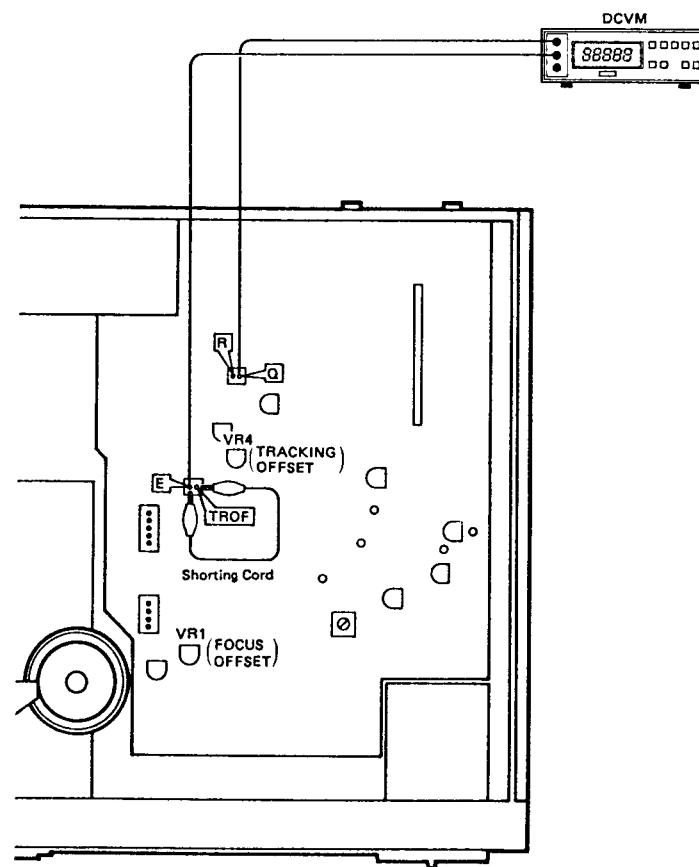


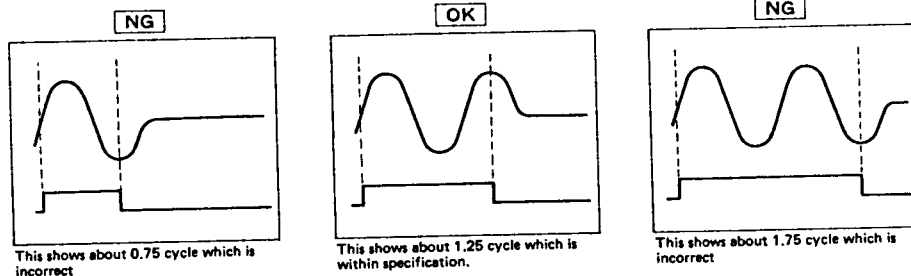
Fig. G

Adjustment of Kick Gain (Step 8)

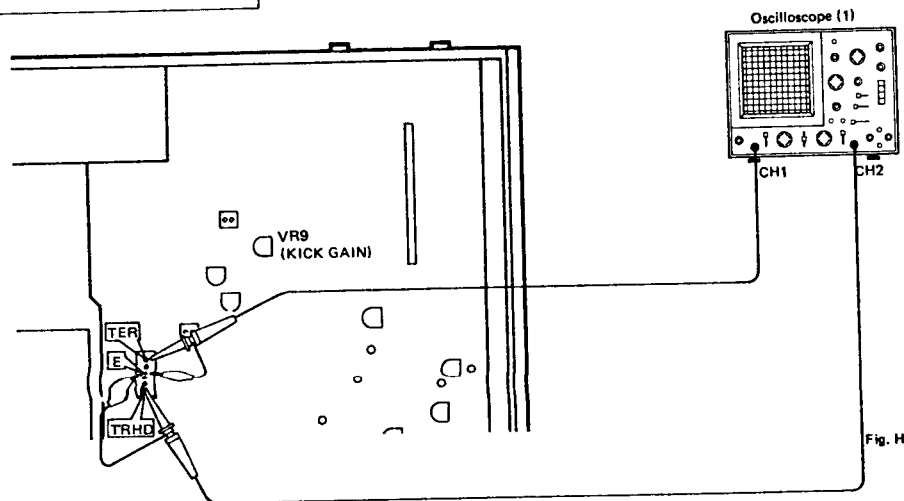
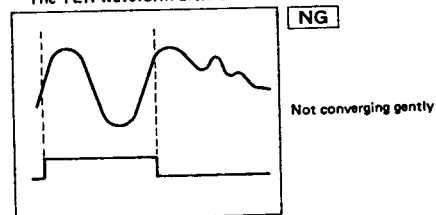
Oscilloscope (1) (2-ch oscilloscope) Settings

- DC coupling
- CH1 → **TER** terminal: 0.1V/div (Vertical)
(10 mV/div when 10 : 1 probe is used)
- CH2 → **TRHD** terminal: 5V/div (Vertical)
(0.5V/div when 10 : 1 probe is used)
- TRIGGER MODE: 2 CH
- 0.2msec/div time (Horizontal)

- ① Connect the measuring instruments, as shown in Fig. H.
- ② Press POWER key. (POWER ON)
- ③ Load the test disc.
- ④ Press PLAY key.
- ⑤ Observe waveform while pressing Fast Forward mode key (▶▶) for 3 seconds.
- ⑥ Adjust VR9 (KICK GAIN) so that the **TER** signal cycle is 1.0 when **TRHD** signal level is High.
* Adjust at the inner circumference of the disc.
- ⑦ Press Reverse mode key (◀◀) for 3 seconds and confirm that **TER** signal cycle is within the above specification but in reverse phase.



* The TER waveform after the TRHD rise should converge gently.



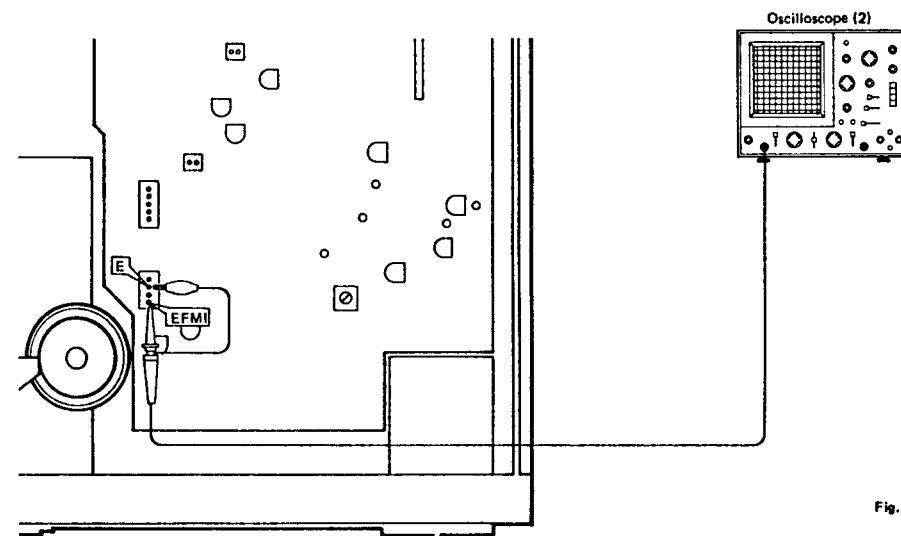
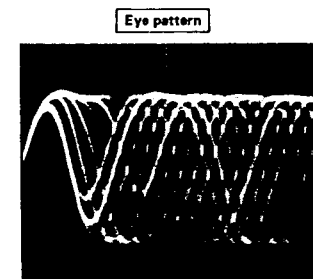
Confirmation of Jitter (Step 9)

Oscilloscope (2) Settings

- AC coupling
- 0.2 V/div range (Vertical)
(50 mV/div when 10 : 1 probe is used)
- 0.2 ~ 0.5 μsec/div time (Horizontal)

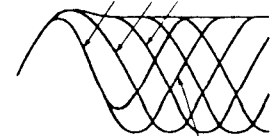
- ① Connect oscilloscope (2) to **EFMI** terminal, as shown in Fig. F.
- ② Press POWER key. (POWER ON)
- ③ Load the test disc.
- ④ Press PLAY key.
- ⑤ Confirm that the **EFMI** signal (eye-pattern) waveform is distinct and clear.
* Confirm at the center of the disc.

Oscilloscope (2)



Waveforms 3T - 11T.

3T, 4T, 5T, 6T, ..., 11T



The abnormal eye pattern has less distinct lines and smaller amplitude than that of the good waveform.

Good waveform

Abnormal waveform



Confirmation of Skip Search Operation (Step 10)

- ① Load the disc.
- ② Press the PLAY key.
- ③ Press the skip key () or 10 key to start searching.
- ④ Confirm that the skip is searched properly.

Adjustment of DAC Offset (Step 11)

- ① Connect the DC voltmeter between TP5 and ground (L ch).
- ② Connect the DC voltmeter between TP6 and ground (R ch).
- ③ Press the STOP key.
- ④ Adjust VR7 (L ch) and VR8 (R ch) so that the specified rating is obtained.

Rating: 0V DC ± 1mV DC

Adjustment of FSH Offset (Step 12)

- ① Connect the DC voltmeter between TP5 and ground and between TP7 and ground (L ch).
- ② Connect the DC voltmeter between TP6 and ground and between TP8 and ground (R ch).
- ③ Press the STOP key.
- ④ Adjust VR5 (L ch) and VR6 (R ch) so that the DC voltage difference satisfies its specified rating.

Rating: 0V DC ± 1mV DC

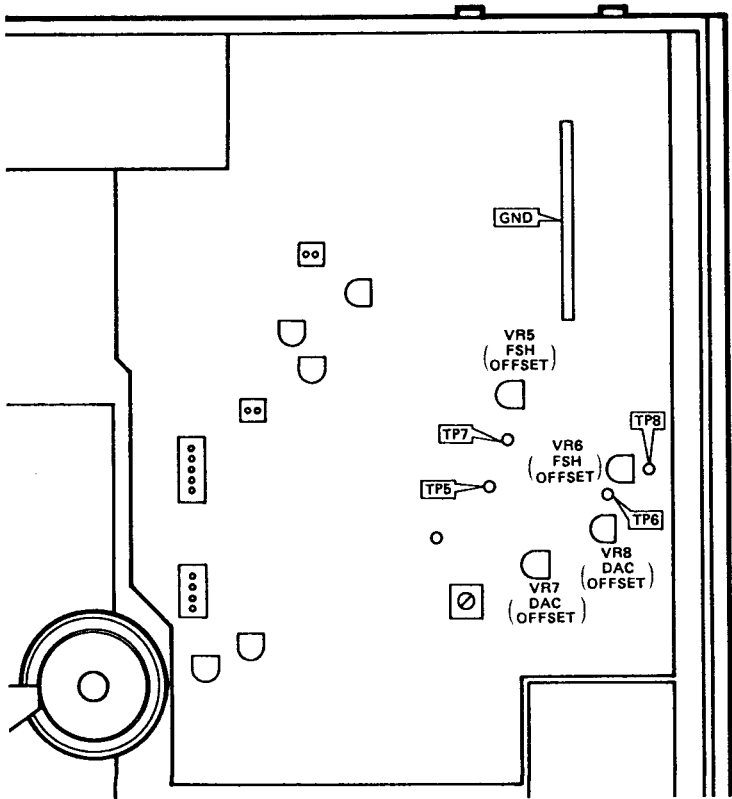
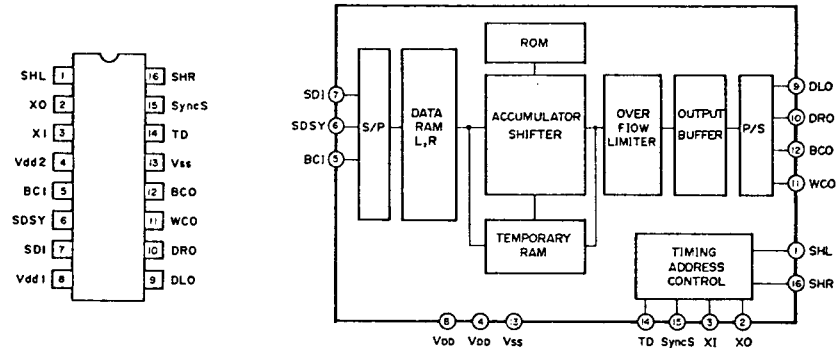


Fig. J

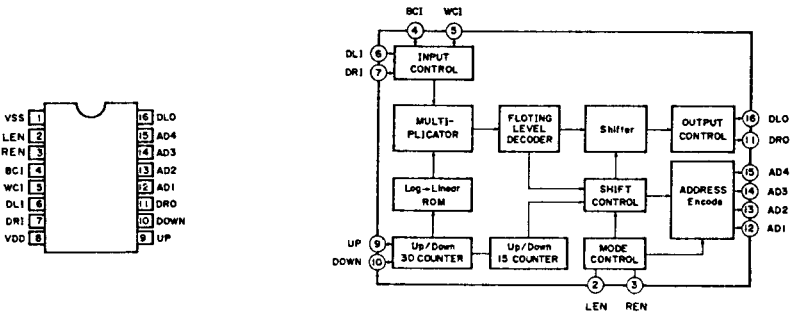
IC DATA

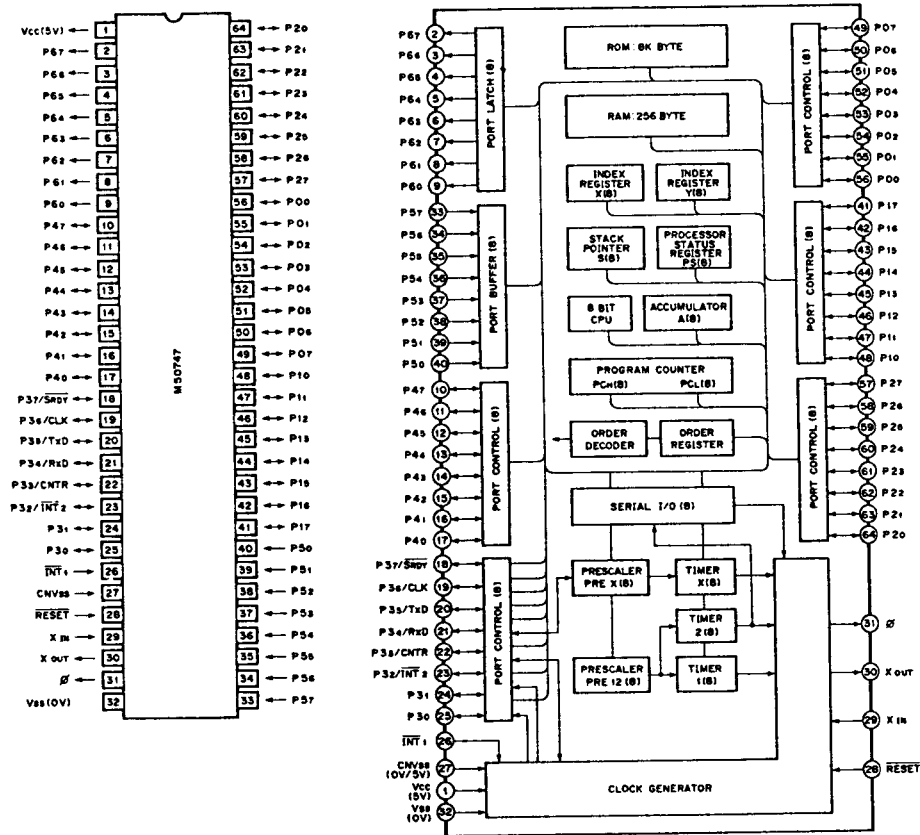
IC20: YM3414
Digital Filter



Pin Name	Pin No.	I/O	Description of function
SHL	1	O	At 1DAC (TD = 'L') : Deglitcher signal of Lch (when four-fold) At 2DAC (TD = 'H') : Deglitcher signal of L/Rch (when eight-fold)
X 0	2	O	Generates quarts oscillation between XI and XO.
X 1	3	I	16.934MHz (Direct input into XI from the external source is also possible.)
Vdd 2	4		+5V power source for quarts oscillation and deglitcher signal
BCI	5	I	Input terminal for bit clock of input data
SDSY	6	I	Clock to indicate L/Rch distinction of input data and input timing
SDI	7	I	Data input terminal
Vdd 1	8		+5V power source for digital signal system
DLO	9	O	At 1DAC (TD = 'L') : L and R ch data output terminal (when four-fold) At 2DAC (TD = 'H') : L ch data output terminal (when eight-fold)
DRO	10	O	R ch data output terminal
WCO	12	O	Word clock of output data DLO, DRO
BCO	12	O	Bit clock of output data
Vss	13		GND terminal
TD	14	I	1DAC/2DAC select terminal 1DAC (four-fold) = 'L' 2DAC (eight-fold) = 'H'
Sync S	15	I	Synchronous signal to absorb jitter in unsynchronous input (Syncs = 'H' : fully synchronous input = 'L' : SDSY prohibited)
SHR	16	O	R ch deglitcher signal at 1DAC

IC21 : YM6013
Digital Volume Controller

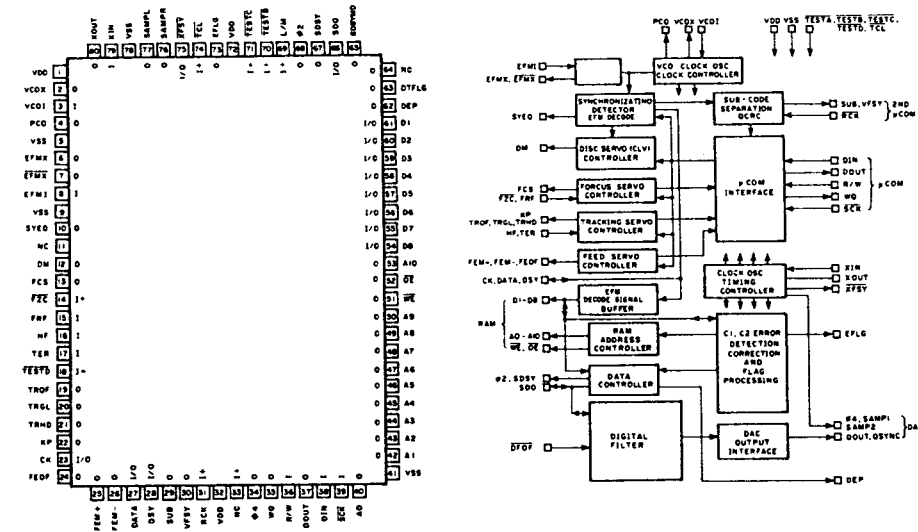


IC301 : M50747
8 bit μ COM


Pin No.	Pin Name	Description	I/O	Active	Function
1	Vcc				5V
2	P67 (O)				N. C.
3	P66 (O)	Sg	O	H	FLT segment n
4	P65 (O)	Sf	O	H	" m
5	P64 (O)	Se	O	H	" l
6	P63 (O)	Sd	O	H	" k
7	P62 (O)	Sc	O	H	" j
8	P61 (O)	Sb	O	H	" i
9	P60 (O)	Sa	O	H	" h
10	P47	D2	O	H	Digit line D2
11	P46	D1	O	H	" D1
12	P45	D0	O	H	" D0
13	P44	BAK	O	H	Back-up DET
14	P43	OPEN	O	H	Open switch
15	P42	CLOSE	O	H	Close switch
16	P41	LASER	O	H	Laser switch
17	P40	PLAY	O	H	PLAY mode output
18	P37/SRDY				N. C.
19	P36/CLK		I/O		
20	P35/TXD	SOUT	O		
21	P34/RXD	SIN	I		
22	P33/CNTR	RW	O		
23	P32/INT2	MODE	I	H/L	Mode switch
24	P30	WQ	I		
25	P31	CLK	O		
26	INT1				N. C.
27	CNVSS				GND
28	RESET		I		Reset
29	XIN		I		
30	XOUT		O		
31	ϕ		O		Timing output
32	VSS				GND
33	P57 (I)	CD STOP	I	L	
34	P56 (I)	CD PLAY	I	L	
35	P55 (I)	QUICKRV	I	H	
36	P54 (I)	RM4	I		
37	P53 (I)	RM3	I		
38	P52 (I)	RM2	I		
39	P51 (I)	RM1	I		
40	P50 (I)	RM0	I		
41	P17	K7	I		
42	P18	K6	I		
43	P15	K5	I		
44	P14	K4	I		
45	P13	K3	I		
46	P12	K2	I		
47	P11	K1	I		
48	P10	K0	I		
49	P07	CLOSESW	O	L	END switch (close)
50	P06	OPENS	O	L	END switch (open)
51	P05	Su	O	H	FLT segment u
52	P04	St	O	H	" t
53	P03	Se	O	H	" s
54	P02	Sr	O	H	" r
55	P01	Sg	O	H	" g
56	P00	Sp	O	H	" p
57	P27	So	O	H	" o
58	P26	Sn	O	H	" n
59	P25	Sm	O	H	" m
60	P24	Sl	O	H	" l
61	P23	Sk	O	H	" k
62	P22	Sj	O	H	" j
63	P21	Si	O	H	" i
64	P20	Sh	O	H	" h

IC14 : YM3616
Signal Processor & Controller

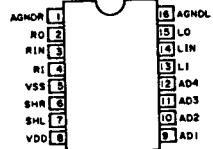
YM3616 is a CMOS LSI for signal processing and servo control of the compact disc player. It executes such signal processing as demodulation of the EFM signal from the optical pick-up, detection and correction of the erroneous signal and digital filtering which helps to improve the sound quality, as well as such intelligent servo controlling as focus, disc, tracking and feeding.



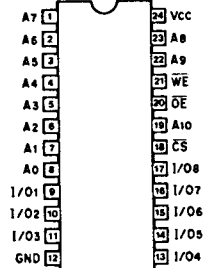
Pin No.	Pin Name	I/O	Function
1	VDD	O	Power Supply
2	VCOX	O	Clock Playback Circuit 4PCO
3	VCOI	I	
4	PCO	O	
5	VSS	O	GND
6	EFMX	O	EFM Signal External Circuit
7	EFMI	I	
8	VSS	O	
9	SYEQ	O	Synchronized Uniform Signal
10	N.C.		Not Use
11	DM	O	Disc Servo { LOW (0V): FORWARD OPEN (2.5V): STOP HIGH (5V): REVERSE
12	FCS	O	Focus Servo System Input
13	FZC	I	
14	FRF	I	
15	HF	I	
16	TER	I	Tracking Servo System Input
17	TROF	O	
18	TRGL	O	
19	TRHD	O	
20	RP	O	
21	CK	I/O	
22	FEOP	O	LOW (0V): REW OPEN (2.5V): STOP HIGH (5V): FF

Pin No.	Pin Name	I/O	Function
23	CK	O	EFM Demodulated Signal Check Output (4.3218MHz, clock)
24	FEOP	O	
25	FEM+	O	Feed Servo System
26	FEM-	O	
27	DATA	I/O	EFM Demodulated Signal Check Output (4.3218MHz clock)
28	DSY	I/O	
29	SUB	O	
30	VFSY	O	Sub-code Output
31	RCK	I	
32	VDD	O	Power Supply
33	NC		Not Use
34	φ4	I	4.3218 MHz Clock
35	WQ	O	
36	DOUT	O	
37	R/W	I	Q Code Output System { Data Output to μCOM Data I/O Control Signal Clock for Data I/O μCOM Command
38	SCR	I	
39	DIN	I	
40	VSS	O	GND
41	A0	O	
42	A1	O	
43	A2	O	
44	A3	O	
45	A4	O	
46	A5	O	
47	A6	O	
48	A7	O	
49	A8	O	
50	A9	O	
51	WE	O	RAM Connections
52	OE	O	
53	A10	O	
54	D8	I/O	
55	D7	I/O	
56	D6	I/O	
57	D5	I/O	
58	D4	I/O	
59	D3	I/O	
60	D2	I/O	
61	D1	I/O	
62	DEP	O	Deemphasis Signal
63	DTFLG	O	
64	NC		
65	SDSYM	O	Data Error Signal
66	SDO	O	Digital Data Output
67	SDSY	O	LSB first/MSB first
68	φ2	O	2.1659MHz Clock
69	L/M	I	SB first (H)/MSB first (L) Switch for SDO
70	TESTC	I	Test Terminal
71	NC		
72	SDSYM	O	Not Use
73	SAMPR	O	BB Word Clock for DAC
74	SAMPL	O	Digirch Signal
75	φ4	O	4.3218MHz Clock
76	TESTD	I	
77	TESTB	I	
78	TCL	I	Test Terminal
79	VDD	O	Power Supply
80	EFLG	O	C1, C2 Error Correction Check Signal

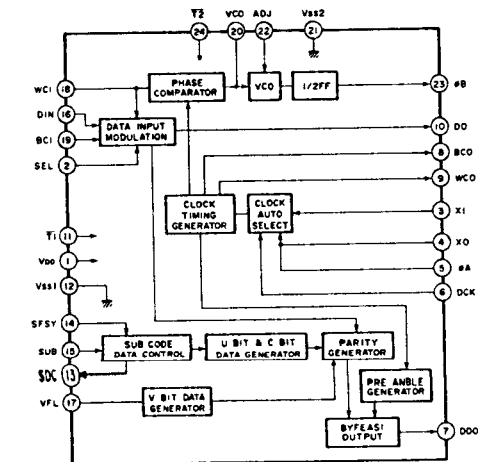
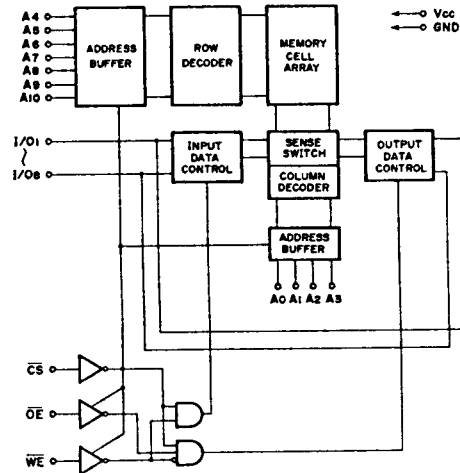
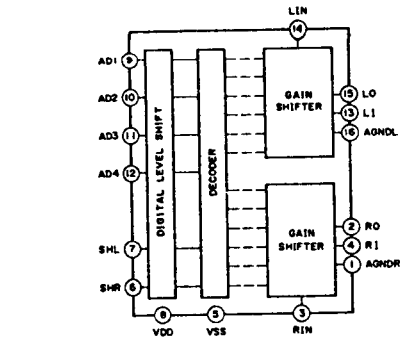
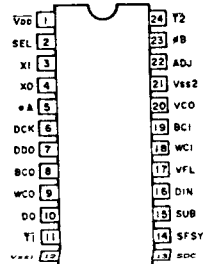
IC24: YM3023
Floating Sample Hold



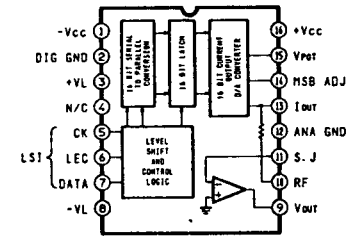
IC15: μ PD4016-CX, LC3517A-15, TMM2015BP,
TMM2016BP, CXK5816SP, CXK5816PS or
CXK5816PN
2048-Word x 8 bit Static RAM



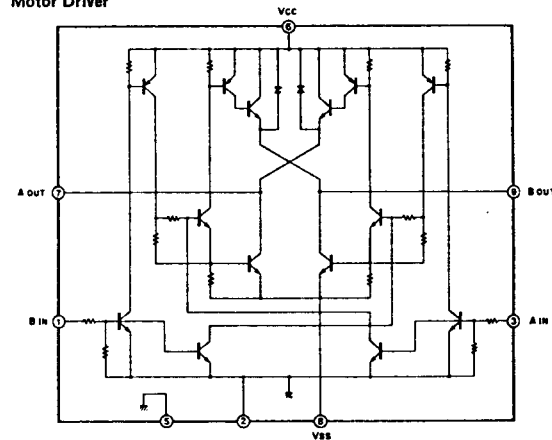
IC16: YM3613B
Digital Audio Interface Transmitter (DIT)



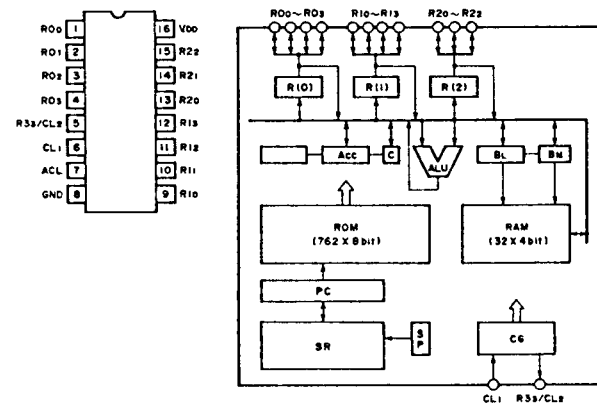
IC22, 23: PCM56J
D/A Converter



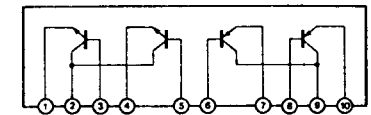
IC26: BA6218
Motor Driver



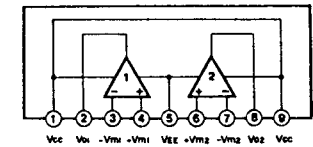
IC302: LU59521
4 bit μ -COM



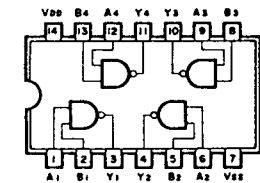
IC4: STA451C
Transistor Array



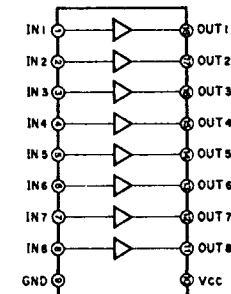
IC1, 8: NJM2043S
IC2, 3, 5 ~ 7: NJM4558S
IC9, 10: NJM2068S
IC11, 12: NJM2068S or μ PC4570HA
IC13: NJM4556S
Dual Ope-amp



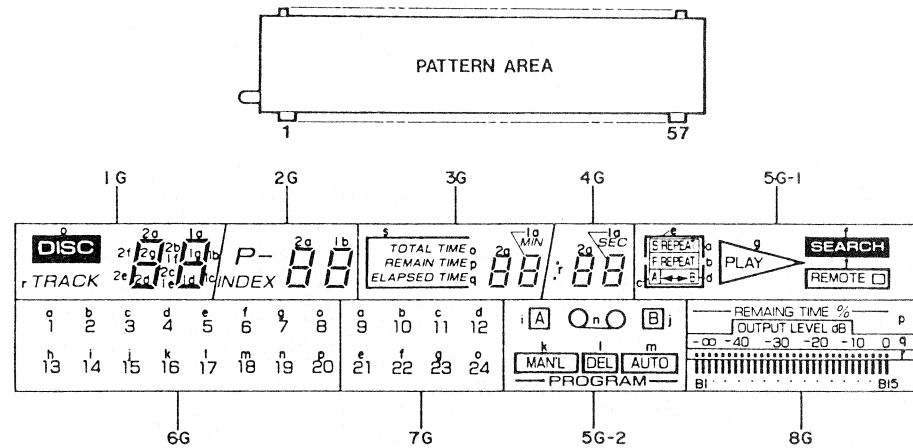
IC25: TC74HC00P
Quad 2-Input NAND Gate



IC303 ~ 305: M54564P
LED Driver



■ DISPLAY DATA (V301:FV210G)



PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
CONNECTION	F	F	N P	7 G	6 N	G C	4 N	G C	3 G	2 G	1 N	N P	a	b	c	d	N P	e	f	g	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P	

PIN NO.	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
CONNECTION	h	N P	i	j	k	5 G	8 m	8 G	n	N P	o	p	N P	q	r	s	t	N P	N P	N P	F	F	

	8G	7G	6G	5G-2	5G-1	4G	3G	2G	1G
a	B7	9	1	—	S REPEAT	1a	1a	1a	1a
b	B6	10	2	—	F REPEAT	1b	1b	1b	1b
c	B3	11	3	—	A	1c	1c	1c	1c
d	B1	12	4	—	↔ B	1d	1d	1d	1d
e	B2	21	5	—	[]	1e	1e	1e	1e
f	B5	22	6	—	SEARCH	1f	1f	1f	1f
g	B4	23	7	—	PLAY	1g	1g	1g	1g
h	B15	—	13	—	[]	2a	2a	2a	2a
i	B14	—	14	[A]	—	2b	2b	2b	2b
j	B11	—	15	[B]	—	2c	2c	2c	2c
k	B9	—	16	MAN'L	—	2d	2d	2d	2d
l	B10	—	17	DEL	—	2e	2e	2e	2e
m	B13	—	18	AUTO	—	2f	2f	2f	2f
n	B12	—	19	Q O	—	2g	2g	2g	2g
o	B8	24	8	—	—	—	TOTAL TIME	P —	DISC
p	p	—	20	—	—	—	REMAIN TIME	INDEX	—
q	q	—	—	—	—	—	ELAPSED TIME	—	—
r	r	—	—	—	—	SEC	MIN	—	TRACK
s	—	—	—	—	—	—	[]	—	—
t	—	—	—	—	REMOTE	—	—	—	—

PRINTED CIRCUIT BOARD (Pattern side)

Note) 文字面 : Component side

TO : OPERATION (1)
TO : DM-710ASS'Y

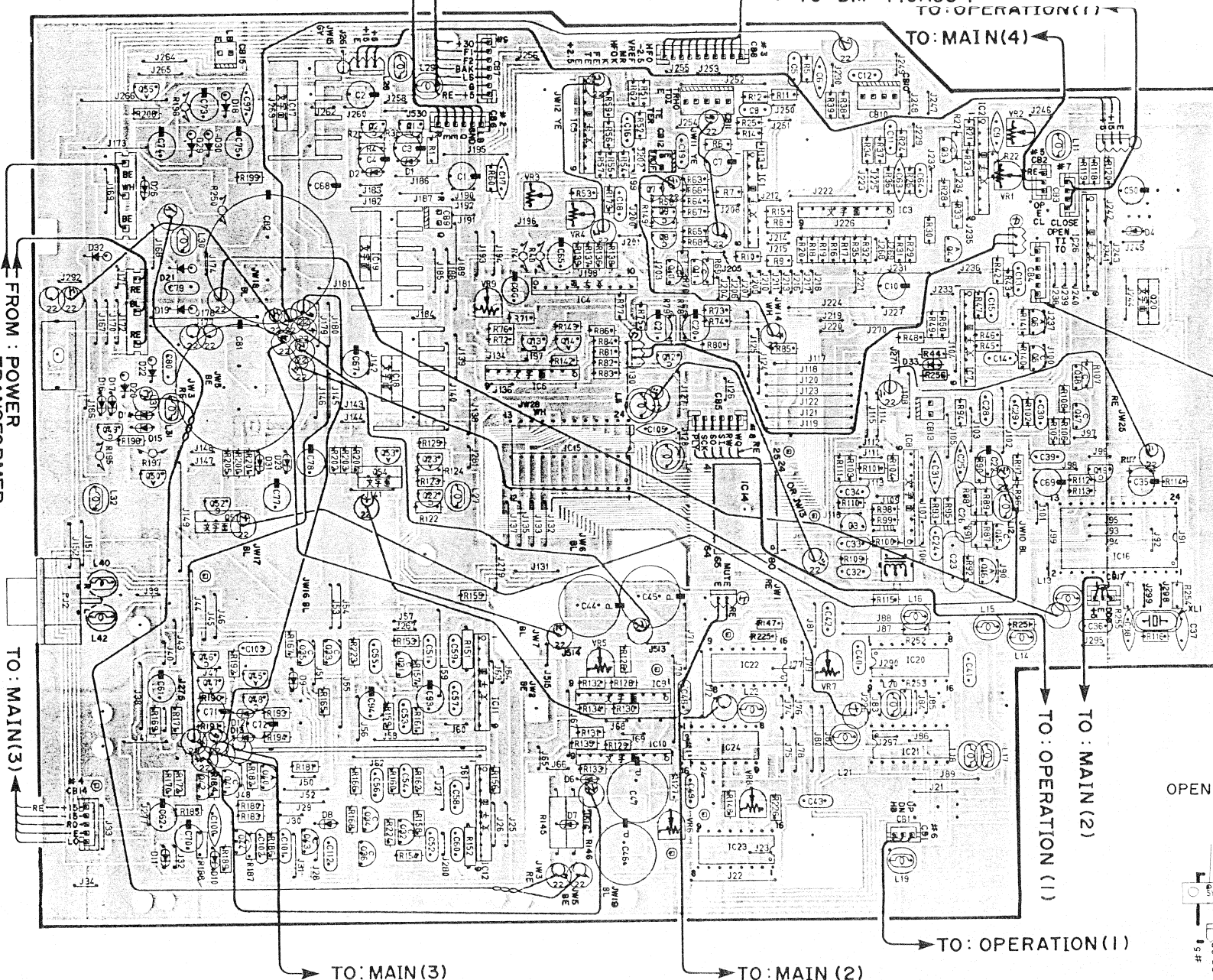
Main Circuit Board (1)

TO : DM-710ASS'Y

TO : OPERATION (1)
TO : MAIN (4)

FROM : POWER
TRANSFORMER

LINE OUT



TO : DM-710ASS'Y

OPEN / CLOSE

Main Circuit Board (4)

TO : OPERATION (1)

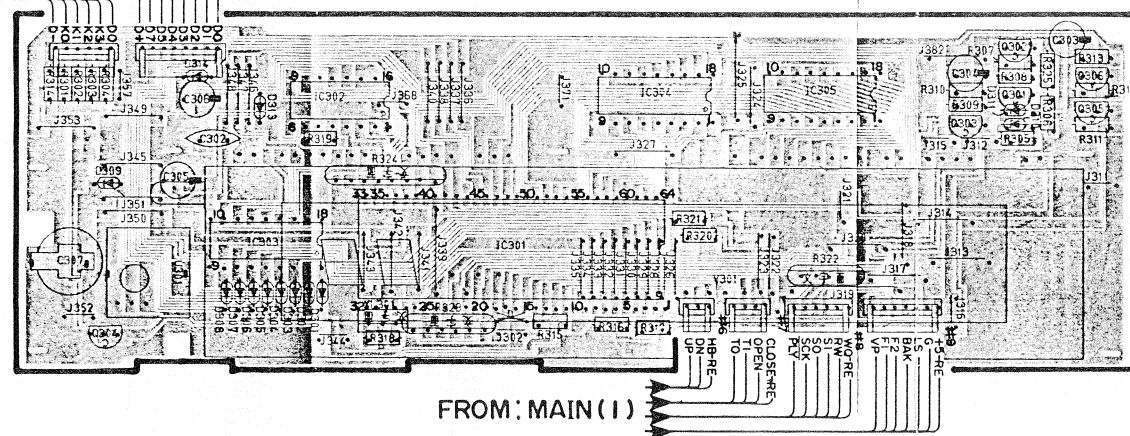
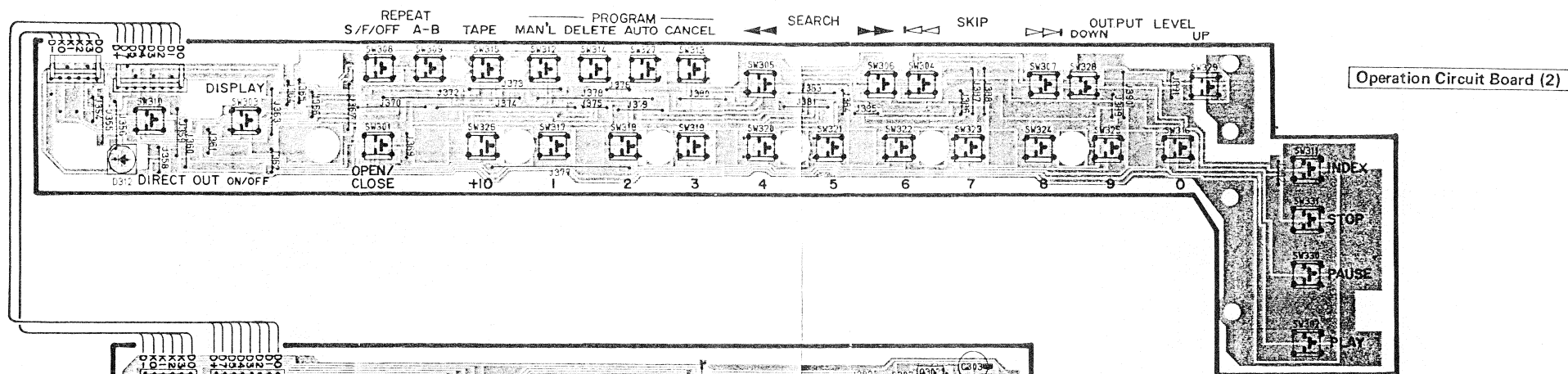
TO : MAIN (2)

TO : MAIN (3)

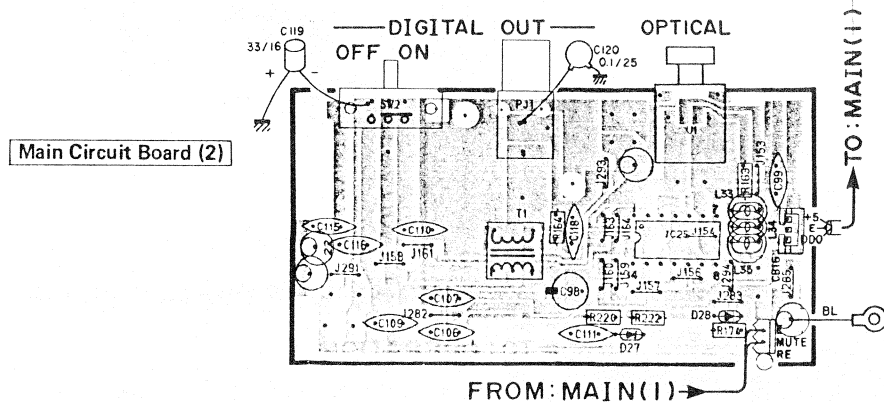
FROM : MAIN (1)

■ PRINTED CIRCUIT BOARD(Pattern side)

Note) 文字面 : Component side

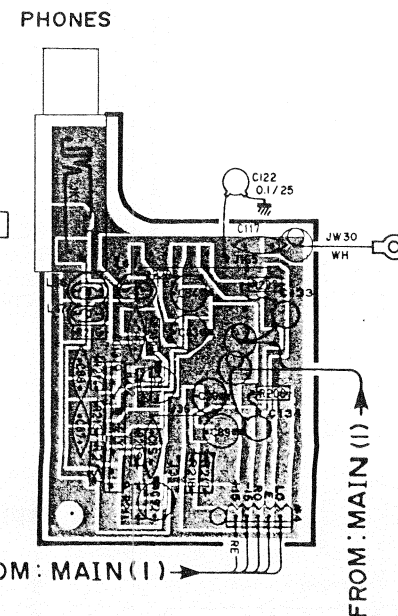


Operation Circuit Board (1)



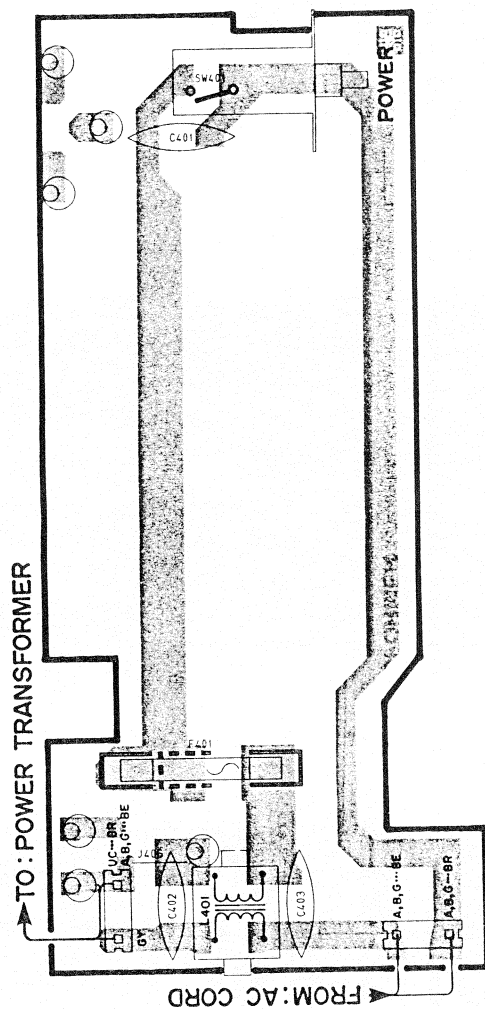
Main Circuit Board (2)

Main Circuit Board (3)



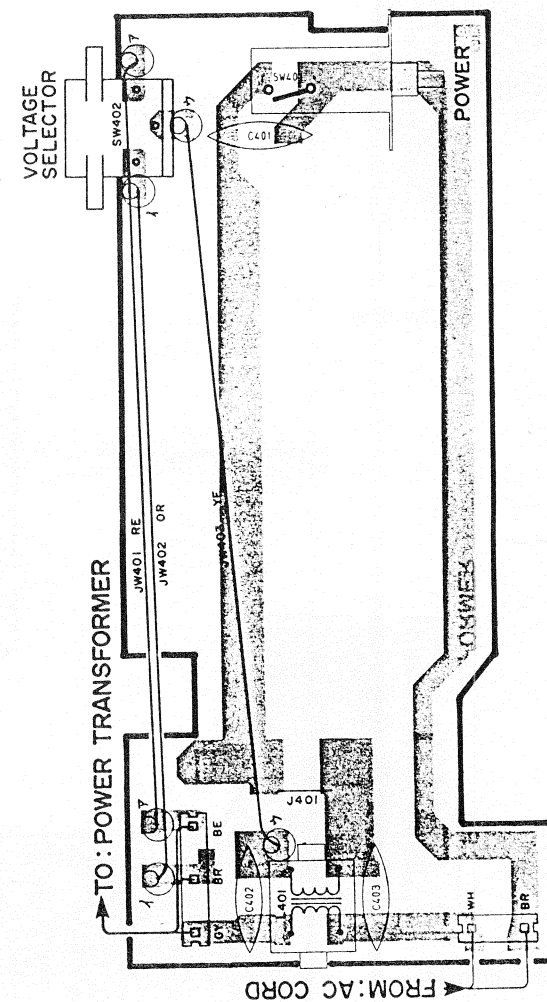
■ PRINTED CIRCUIT BOARD(Pattern side)

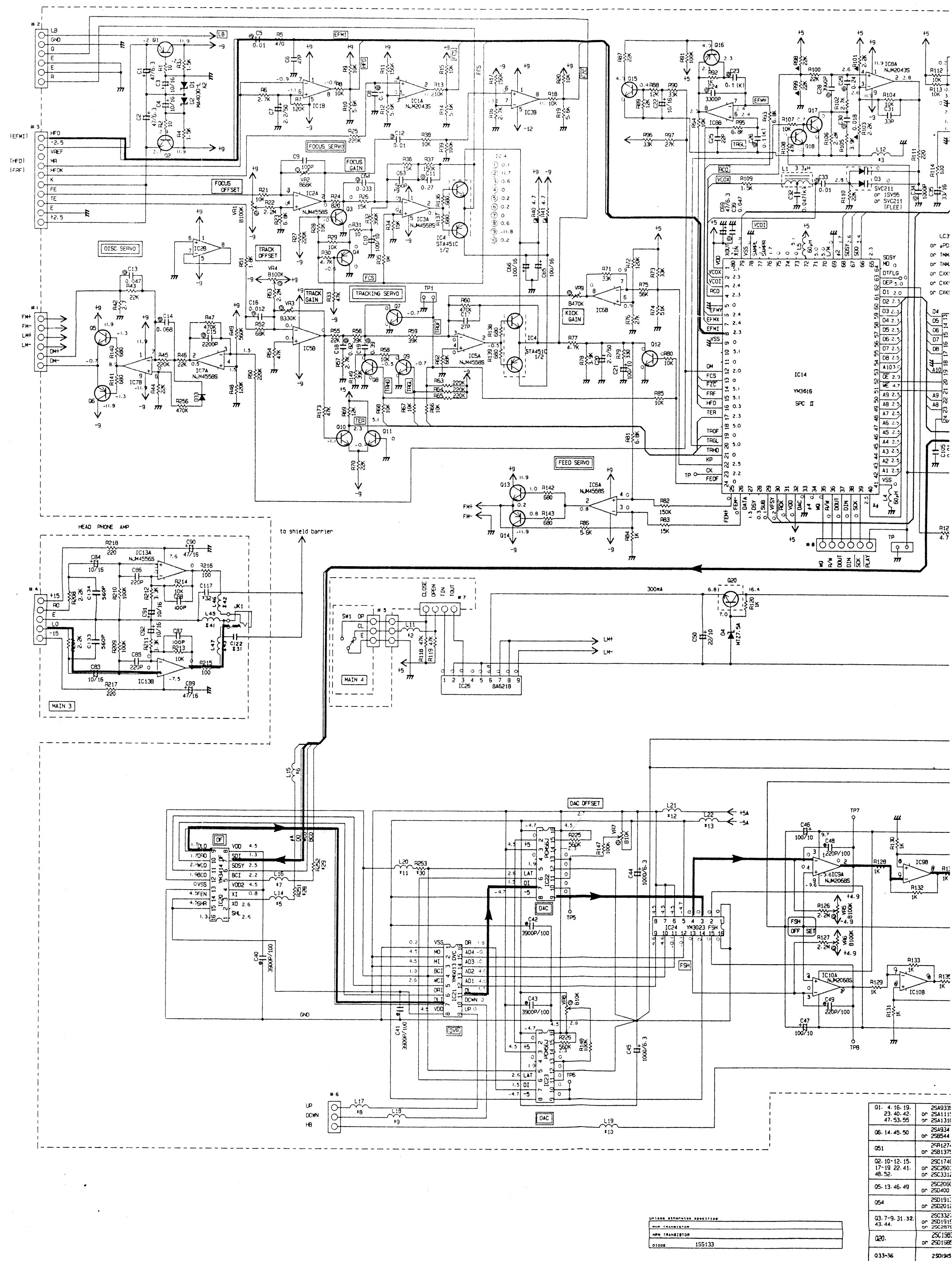
Power Circuit Board U, C, A, B, G models

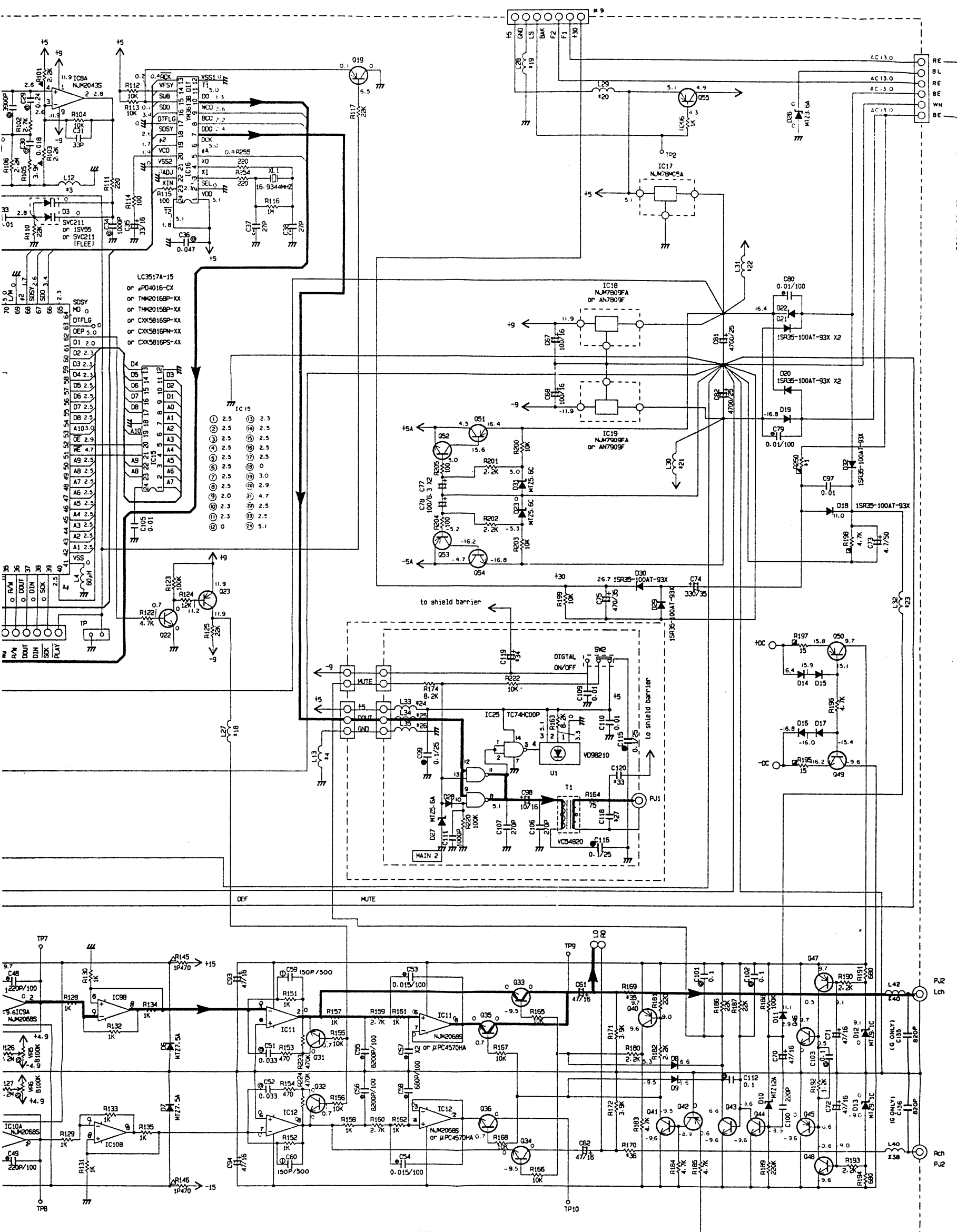


■ PRINTED CIRCUIT BOARD(Pattern side)

Power Circuit Board R model







*印は下表参照

#	J	U.C.R.A.B.G
1	R250	SHORT 2.2
2	L11	SHORT 60μH
3	L12	SHORT 60μH
4	L13	SHORT 60μH
5	L14	SHORT 60μH
6	L15	SHORT 60μH
7	L16	SHORT 40μH
8	L17	SHORT 60μH
9	L18	SHORT 60μH
10	L19	SHORT 60μH
11	L20	SHORT 40μH
12	L21	SHORT 60μH
13	L22	SHORT 60μH
14	L23	SHORT 60μH
15	L24	SHORT 60μH
16	L25	SHORT 60μH
17	L26	SHORT 60μH
18	L27	SHORT 60μH
19	L28	SHORT 60μH
20	L29	SHORT 60μH
21	L30	SHORT 60μH
22	L31	SHORT 60μH
23	L32	SHORT 60μH
24	L33	SHORT 60μH
25	L34	SHORT 60μH
26	L35	SHORT 60μH
27	C118	OPEN 470P
28	R251	SHORT 220
29	R252	SHORT 220
30	R253	SHORT 220
31	C122	OPEN 0.1/25
32	C117	OPEN 0.1/25
33	C120	OPEN 0.1/25
34	C119	OPEN 33/16
35	R169	47 2.2K
36	R170	47 2.2K
37	L40	SHORT 60μH
38	L42	SHORT 60μH
39	L45	SHORT 60μH
40	L46	SHORT 60μH
41	L47	SHORT 60μH

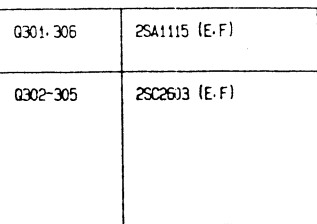
01. 4. 16. 19.	25A933S(I.R.)
23. 40. 42.	or 25A1115(E.F.)
47. 53. 55	or 25A1310(R.S.T.)
06. 14. 45. 50	25A934
	25B544
051	25R1274(I.R.S.)
	25B1375
02. 10-12. 15.	25C1740S(I.S.R.)
17-19 22. 41.	25C2603(I.E.F.)
46. 52.	25C3312(R.S.T.)
05. 13. 46. 49	25C2050
	25D400
054	25D1913(R.S.)
	25D2012
03. 7-9. 31. 32.	25C3327
43. 44.	25D1915
	25C2878(I.A.B.)
020.	25C1983
	25D1985(I.P.O.)
033-36	25D1985(I.T.)

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR
□	CARBON FILM RESISTOR (1/6W)
△	METAL OXIDE FILM RESISTOR
△	METAL FILM RESISTOR
△	METAL PLATE RESISTOR
□	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
□	SEMI VARIABLE RESISTOR

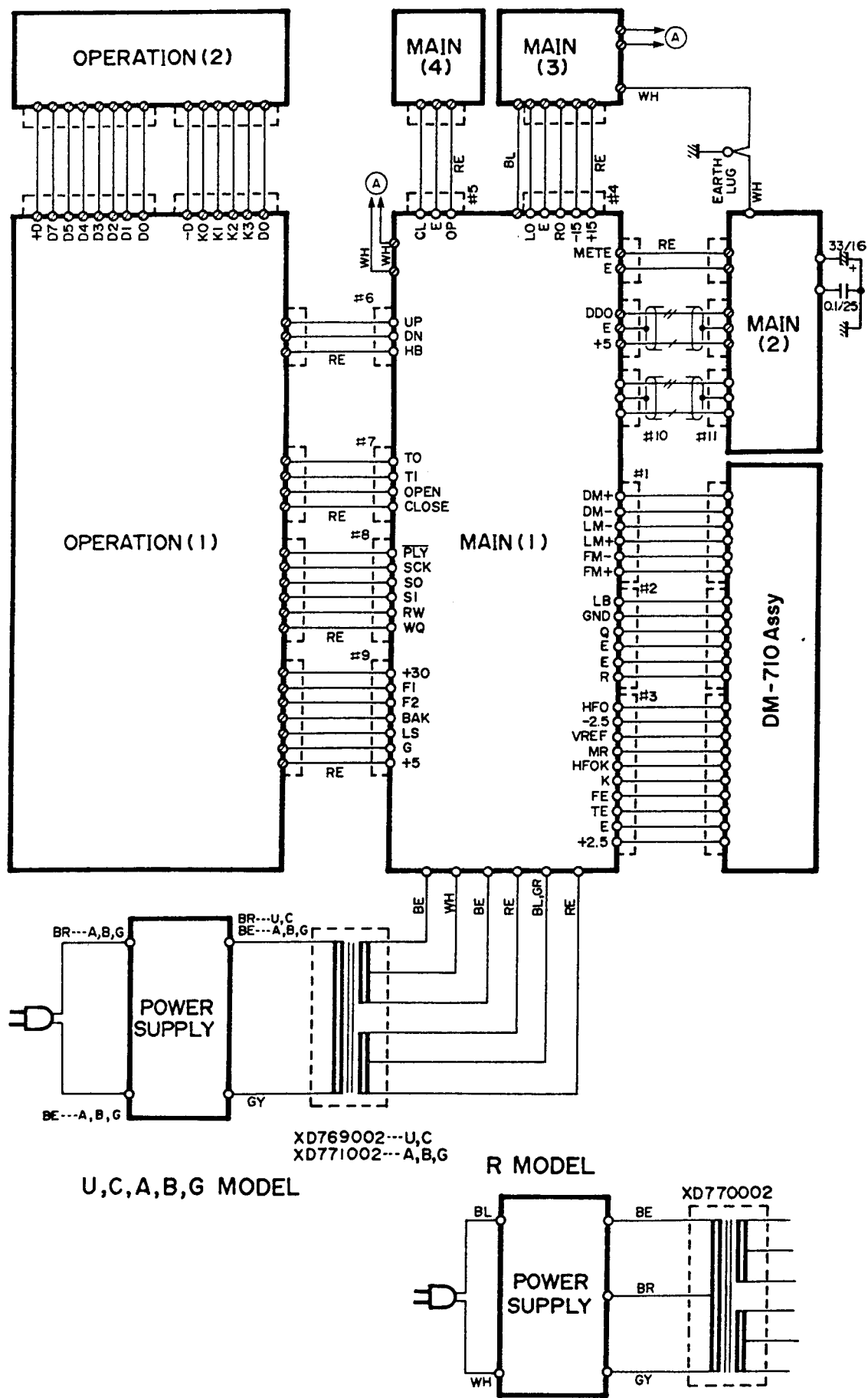
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
NO MARK	CERAMIC CAPACITOR
○	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
○	MICA CAPACITOR
○	POLYPROPYLENE FILM CAPACITOR
○	SEMICONDUCTIVE CERAMIC CAPACITOR

NOTICE
(U)..... U.S.A model
(C)..... Canadian model
(A)..... Australian model
(E)..... European model
(B)..... British model
(G)..... General model

* All voltages are measured with a 10MΩ/DC electric volt meter.
* Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.



■ WIRING



PARTS LIST

ELECTRICAL PARTS

WARNING

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS list. For the parts No. of the carbon resistor, refer to P.48

Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
* NA 09 64 70	Operation Circuit Board	オペレーションシート	Silver, Black				
* NA 09 76 40	"	"	Titan				
FG 24 41 00	Ceramic Cap.	0.01 μ F 50V	セラコン	C302			
VE 63 28 00	Electrolytic Cap.	0.047 F 5.5V	スーパーキャパシタ	C307			
UM 39 72 20	"	22 μ F 16V	ケミコン	C304			
UM 39 73 30	"	33 μ F 16V	"	C306			
UM 21 61 00	"	1 μ F 50V	"	C303			
UM 07 64 70	"	4.7 μ F 50V	"	C305			
VE 47 83 00	Resistor Array	47k Ω ×4	抵抗アレイ	R322			
VE 35 56 00	"	47k Ω ×5	"	R323			
HZ 00 45 40	"	10k Ω ×7	"	R324			
IA 11 15 10	Transistor	2SA1115(E,F)	トランジスタ	Q301,306			
IC 26 03 10	"	2SC2603(E,F)	"	Q302~305			
IF 00 34 50	Diode	1SS133	ダイオード	D301~309,311,313,314			
IF 00 87 30	LED (Red)	SLR-34URC3H3	L E D	D312			
IF 00 88 00	Zener Diode	MTZ3.6A	ツェナーダイオード	D310			
XC 25 00 01	IC	M54564P	I C	IC303~305			
XD 49 00 01	"	LU59521	"	IC302			
XD 55 50 01	"	M50747-428SP	"	IC301			
VE 23 14 00	Display Unit		蛍光表示管	V301			
VE 22 24 00	Ceramic Resonator	8MHz	セラミック発振子	XL301			
KA 90 63 80	Switch	EVQ-QRB-04M	ライトタッチスイッチ	SW301~331			
VD 85 31 00	Receiver Unit	GPIU501	受光ユニット	U301			
YE 31 18 00	Support, FL		サポート F L				
YE 31 19 00	Sheet, Filter		シートフィルター	Titan		J	
YE 85 88 00	"		"	Silver,Black			
NA 09 65 10	Power Circuit Board	電源シート		CDX-810	R		
NA 09 71 00	"	"	"		J		
NA 09 71 10	"	"	"		A,B,G		
NA 09 80 50	"	"	"		U,C		
VE 17 92 00	Ceramic Cap	0.01 μ F 400V	セラコン	C401~403			
VA 77 84 00	Line Filter	1.5mH	ラインフィルター	L401			
LA 00 58 10	Voltage Selector		電圧切換器	SW402	R		
VC 09 79 00	Push Switch	TV-3	プッシュスイッチ	SW401			
KB 00 02 20	Fuse	T1.5A 125V	ヒューズ	F401	J		
KB 00 06 70	"	T630mA 250V	"	"	A,B,G		
KB 00 20 10	"	1.5A 125V	"	"	U,C		
LA 00 21 40	Lapping Terminal	P=10 2P i-Type	1 型ラッピング端子板				
LA 00 21 50	"	P=10 3P i-Type	"		R		
LB 20 18 80	Fuse Holder Pin		ヒューズホルダーピン		J,U,C,A,B,G		

*New Parts (新規部品) NR

Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
* NA 09 64 80	Main Circuit Board	メインシート	Black			J	
* NA 09 64 90	"	"	"			U,C,R,A,B	
* NA 09 65 00	"	"	"			G	
* NA 09 68 80	"	"	Silver			U,C,R,A,B	
* NA 09 68 90	"	"	"			G	
* NA 09 69 30	"	"	Titan			J	
FA 15 31 00	Mylar Cap.	1000pF 50V	マイラーコン	C34			
FA 15 32 20	"	2200pF 50V	"	C15			
FA 15 33 30	"	3300pF 50V	"	C24			
FA 15 33 90	"	3900pF 50V	"	C28			
FA 15 41 00	"	0.01 μ F 50V	"	C5,12,33			
FA 15 41 20	"	0.012 μ F 50V	"	C16			
FA 15 41 80	"	0.018 μ F 50V	"	C30			
FA 15 43 30	"	0.033 μ F 50V	"	C51,52,64			
FA 15 44 70	"	0.047 μ F 50V	"	C13,36,39			
FA 15 46 80	"	0.068 μ F 50V	"	C14			
FA 15 51 00	"	0.1 μ F 50V	"	C8,101~103,112			
FA 15 53 90	"	0.39 μ F 50V	"	C19			
FA 15 52 70	"	0.27 μ F 50V	"	C11			
FA 15 52 40	"	0.24 μ F 50V	"	C29			
FA 15 58 20	"	0.82 μ F 50V	"	C18			
FC 36 51 00	"	0.1 μ F 50V	銅リードマイラーコン	C23,26			
FZ 00 55 80	"	0.047 μ F 50V	"	C32			
FU 35 21 50	Mica Cap.	150pF 500V	マイカコン	C59,60			
FZ 00 41 30	Semiconductive Ceramic Cap.	0.1 μ F 25V	半導体セラコン	C89,115,116			
FZ 00 41 30	"	0.1 μ F 25V	"	C117		U,C,R,A,B,G	
FG 21 12 70	Ceramic Cap.	27pF 50V (CH)	セラコン	C17,37,38			
FG 21 12 20	"	22pF 50V	"	C25			
FG 21 13 30	"	33pF 50V	"	C31			
FG 21 14 70	"	47pF 50V	"	C6			
FG 21 21 00	"	100pF 50V	"	C9,87,88			
FG 21 22 20	"	220pF 50V	"	C85,86,100			
FG 21 24 70	"	470pF 50V	"	C118		U,C,R,A,B,G	
FG 21 25 60	"	560pF 50V	"	C63,133,134		U,C,R,A,B,G	
FG 21 28 20	"	820pF 50V	"	C135,136		G	
FG 21 31 00	"	1000pF 50V	"	C111			
FG 21 22 70	"	270pF 50V	"	C106,107			
FG 24 41 00	"	0.01 μ F 50V	"	C97,105,109,110			
UJ 11 74 70	Electrolytic Cap.	47 μ F 6.3V	ケミコン	C1,2,69			
UJ 13 72 20	"	22 μ F 10V	"	C50			
UJ 12 81 00	"	100 μ F 10V	"	C10,21			
UJ 13 71 00	"	10 μ F 16V	"	C3,4,22,83,84,91,92,98			
UJ 13 73 30	"	33 μ F 16V	"	C35			
UJ 13 74 70	"	47 μ F 16V	"	C70,89,90,93,94			
UJ 13 81 00	"	100 μ F 16V	"	C65~68			
UJ 16 62 20	"	2.2 μ F 50V	"	C7,20			
UJ 16 64 70	"	4.7 μ F 50V	"	C73			
VE 70 88 00	"	47 μ F 16V	ケミコン D U O R E X	C61,62,71,72			
UJ 45 83 30	"	330 μ F 35V	ケミコン	C74			
UJ 15 84 70	"	470 μ F 35V	"	C75			
UJ 11 91 00	"	1000 μ F 6.3V	"	C44,45			
UJ 12 91 00	"	1000 μ F 10V	"	C46,47			
VE 75 93 00	"	4700 μ F 25V	ブロックケミコン	C81,82			
FZ 00 54 10	"	100 μ F 6.3V	ブラックゲートコン	C77,78			
UT 65 38 20	Polypropylene Film Cap.	8200pF 100V	ポリプロコン	C55,56			
UT 45 41 50	"	0.015 μ F 100V	"	C53,54			

*New Parts (新規部品) NR

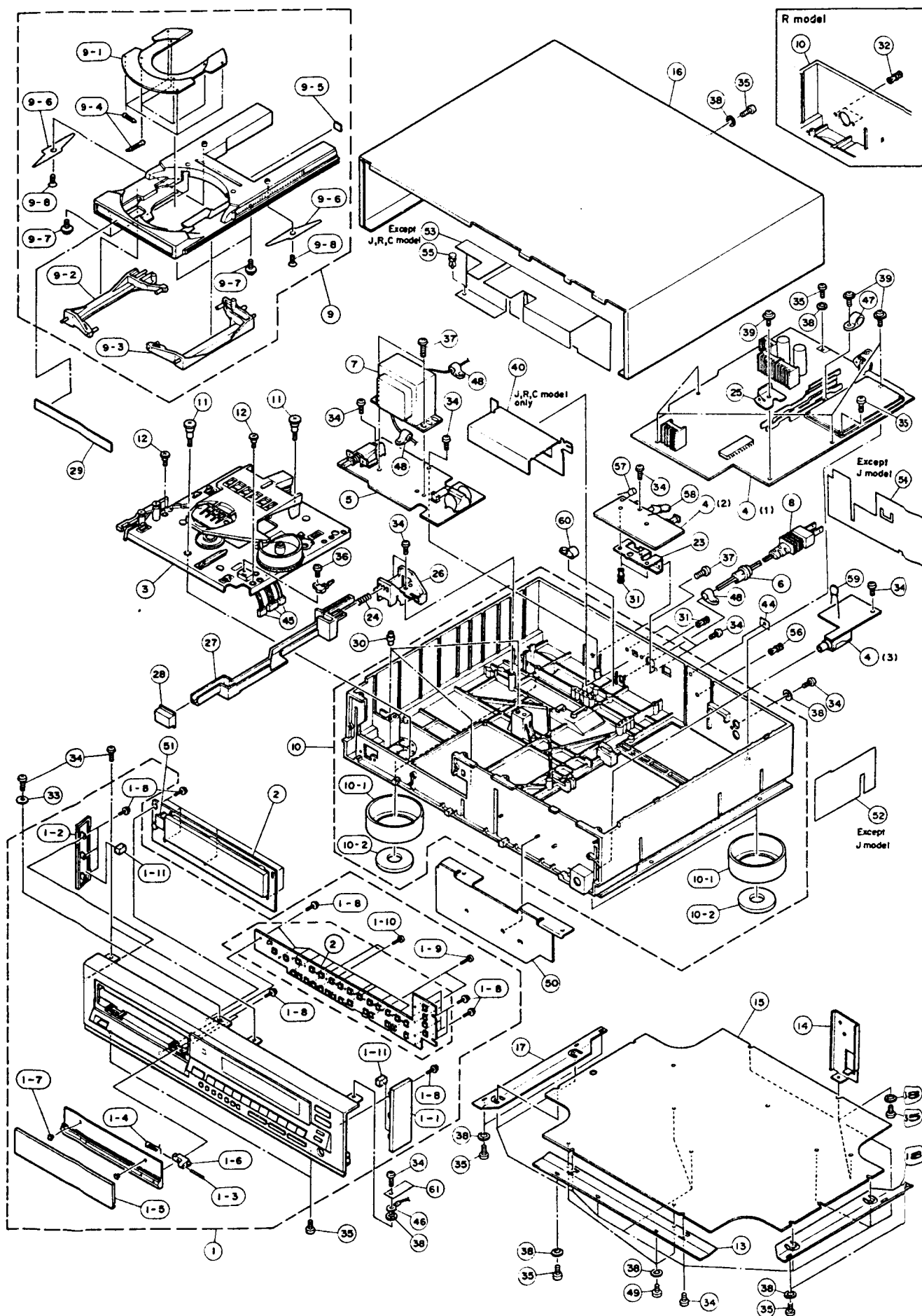
Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
UT	45 22 20	Polypropylene Film Cap.	220pF 100V	ポリプロコン C48,49			
UT	45 26 80	"	680pF 100V	" C57,58			
UT	45 33 90	"	3900pF 100V	" C40~43			
UT	45 41 00	"	0.01μF 100V	" C79,80			
VC	54 82 00	Pulse Trans		パルス トランス T1			
GE	90 20 00	OSC Coil	3.3μH	発 振 コ イ ル L1			
VD	47 37 00	Micro Inductor	60μH	マイクロインダクター L4,5			
VB	81 79 00	"	40μH	" L16,20		U,C,R,A,B,G	
VD	47 37 00	"	60μH	" L11~15,17~19,21,22,27~35,40,42,45~47		U,C,R,A,B,G	
HL	31 54 70	Metal Oxide Film Resistor	470Ω 1W	酸 金 抵 抗 R145,146			
HV	45 41 50	Flame Proof Carbon Resistor	15Ω 1/4W	不燃化カーボン抵抗 R195,197			
HV	45 34 70	"	4.7Ω 1/4W	" R40,41			
HV	45 64 70	"	4.7kΩ 1/4W	" R198			
HV	45 32 20	"	2.2Ω 1/4W	" R250		U,C,R,A,B,G	
HJ	35 61 00	Carbon Resistor	1kΩ 1/4W	カーボン抵抗 R151,152			
VF	45 91 00	Metal Film Resistor	2.2kΩ 1/6W	金属被膜抵抗 R101,103			
VF	45 92 00	"	22kΩ 1/6W	" R98,99			
VB	86 15 00	Pre-Set Potentiometer	B10KΩ	半 固 定 抵 抗 VR7,8			
VB	86 19 00	"	B100KΩ	" VR1,4~6			
VB	86 22 00	"	B470KΩ	" VR9			
VB	86 21 00	"	B330KΩ	" VR3			
VC	61 25 00	"	B68KΩ	" VR2			
IA	09 33 70	Transistor	2SA933S(Q,R)	ト ラ ン ジ ス タ Q1,4,16,23,40,42,47,53,55	Inter-changeable		
IA	11 15 10	"	2SA1115(E,F)	" "			
IX	60 31 70	"	2SA1310(R,S,T)	" "			
IA	09 34 00	"	2SA934	" Q6,14,45,50	Inter-changeable		
IB	05 44 10	"	2SB544	" "			
VC	61 40 00	"	2SB1274(Q,R,S)	" Q51			
IC	17 40 70	"	2SC1740S(S,R)	" Q2,10~12,15,17~19,22,41,48,52	Inter-changeable		
IC	26 03 10	"	2SC2603(E,F)	" "			
IX	60 31 80	"	2SC3312(R,S,T)	" "			
IC	20 60 00	"	2SC2060	" Q5,13,45,49	Inter-changeable		
ID	04 00 00	"	2SD400	" "			
VC	40 79 00	"	2SD1913(R,S)	" Q54			
IX	60 42 00	"	2SC2878(A,B)	" Q3,7~9,31,32,43,44	Inter-changeable		
IC	33 27 00	"	2SC3327	" "			
VC	50 21 00	"	2SD1915	" "			
IC	19 83 00	"	2SC1983	" Q20			
VF	83 51 00	"	2SD1915(T)	" Q33~36			
IF	00 34 50	Diode	1SS133	ダイ オ ード D8,9,11,14~17,28,33			
IF	00 84 80	"	1SR35-100AT	" D18~22,29,30,32			
IF	00 88 50	Zener Diode	MTZ12A	ツェナーダイオード D10			
IF	01 07 90	"	MTZ7.5A	" D4,6,7			
IF	01 08 70	"	MTZ9.1C	" D12,13			
IF	01 07 20	"	MTZ5.6G	" D23,31			
VE	50 71 00	"	MA4030-L	" D1,2			
IF	00 88 00	"	MTZ3.6A	" D26			
IF	00 49 10	Varactor Diode	1SV55	F Mパラクタダイオード D3	Inter-changeable		
IF	00 49 20	"	SVC211	" "			

*New Parts (新規部品) NR

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
XB	69 80 01	IC	YM3616	I C			IC14
XC	85 30 01	"	YM3613B	"			IC16
XB	70 30 01	"	YM3023	"			IC24
XD	71 10 01	"	YM6013	"			IC21
XD	71 20 01	"	YM3414	"			IC20
XD	70 60 01	"	NJM7809FA	"			IC18
IG	07 68 00	"	NJM4558S	"			IC2,3,5~7
IG	07 74 00	"	NJM4556S	"			IC13
IG	08 02 00	"	NJM2043S	"			IC1,8
IG	11 94 00	"	STA451C	"			IC4
IG	15 35 00	"	BA6218	"			IC26
IG	07 56 00	"	NJM78M05A	"			IC17
XD	70 70 01	"	NJM7909FA	"			IC19
IR	00 00 00	"	TC74HC00P	"			IC25
XD	89 70 01	"	PCM56P-J	"			IC22,23
IG	11 92 00	"	μPD4016-CX	"			IC15
XA	95 60 01	"	NJM2068S	"			IC9~12
VC	39 88 00	Crystal Resonator	16.9344MHz	水 晶 振 動 子 XL1			
VD	98 21 00	Optical Module	TOTX172	光 伝 送 モ ジ ュ ール U1			
LB	30 24 20	Phone Jack	Gray	ホ ー ン ジャ ッ ク JK1 Silver		U,C,R,A,B,G	
LB	30 24 30	"	Black	" " Black			
VA	31 63 00	"	"	" " Titan		J	
LB	20 26 10	Pin Jack	2P	ピ ン ジャ ッ ク PJ2		J	
VF	09 65 00	"	2P	" "		U,C,R,A,B,G	
VD	76 02 00	"	1P	" PJ1			
KA	90 63 70	Switch	MSW-1485	エ ン ド ス イ ッ チ SW1			
KA	40 14 30	Slide Switch		ス ラ イ ド ス イ ッ チ SW2			
LB	20 13 90	Base Pin	TEB2P-SHF	2, 5 ピ ッ チ ベ ース ピ ン CB9,12,13,15			
LB	40 05 70	"	TEB4P-SHF	" CB10			
LB	50 02 50	"	TEB5P-SHF	" CB11			
VD	00 46 00	"	3P i-Type	P H ベ ース ピ ン CB1,2,16,17			
VD	00 47 00	"	4P i-Type	" CB3			
VD	00 49 00	"	6P i-Type	" CB4~6			
VD	00 50 00	"	7P i-Type	" CB7			
VD	00 53 00	"	10P i-Type	" CB8			
VD	00 48 00	"	5P i-Type	" CB14			
LA	00 23 20	Lapping Terminal	P=7.5 3P i-Type	i 型 ラ ッ ピ ン 端子 板			
LA	00 25 70	"	P=7.5 3P i-Type	"			
LA	00 41 20	Test Point Pin	1P	テ ス ト ポ イ ン ト ピ ン			
BB	06 95 10	Ground Plate		ラ ン ド 金 具			
BB	07 04 10	Bus Bar	55mm	バ ス バ ー			
VE	19 16 00	Shield Case		シ ー ル ド ケ ース			
VE	10 18 00	Support		サ ポ ー ト			
BA	09 29 70	Heat Sink		放 熱 板			
CB	06 88 80	Plastic Rivet		プ ラ ス チ ャ ッ ク リ ヱ ッ ト			
EI	33 01 06	Binding Head Tapping Screw	3×10 ZMC2-BI	バ イ ン ド タ ッ ピ ン グ ネ ジ			PACK
ED	33 00 86	Binding Head Screw	3×8 FCRM3-BI	バ イ ン ド 小 ネ ジ			PACK
VD	78 28 00	Ferrite Core	ESD-R-16	フ ェ ラ イ ト コ ア			
VF	37 64 00	"	ESDR19D	"			

*New Parts (新規部品) NR

EXPLODED VIEW



MECHANISM PARTS Note: φ : Diameter

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
* 1	VE : 56 : 09 : 00	Front Panel Ass'y	フ ロ ント パ ネ ル Ass'y	Black		R,A,B,G	
* //	VE : 56 : 07 : 00	//	//	//		U,C	
* //	VE : 56 : 10 : 00	//	//	Silver		R,A,B,G	
* //	VE : 56 : 08 : 00	//	//	//		U,C	
* //	VE : 56 : 06 : 00	//	//	Titan		J	
* //	VE : 56 : 04 : 00	//	//	Black		J	
* 1-1	VE : 02 : 46 : 00	Panel, Side L	パ ネ ル サ イ ド L	Black			
* //	VE : 31 : 07 : 00	//	//	Silver		U,C,R,A,B,G	
* //	VE : 43 : 39 : 00	//	//	Titan		J	
* 1-2	VE : 22 : 71 : 00	Panel, Side R	パ ネ ル サ イ ド R	Black			
* //	VE : 31 : 08 : 00	//	//	Silver		U,C,R,A,B,G	
* //	VE : 43 : 41 : 00	//	//	Titan		J	
* 1-3	VC : 50 : 52 : 00	Shaft, Lid	シャフト / リッド				
* 1-4	VE : 02 : 60 : 00	Spring, Lid	スプリング / リッド				
* 1-5	NX : 60 : 12 : 00	Lid Ass'y	リ ッ ド Ass'y	Black			
* //	NX : 60 : 12 : 10	//	//	Silver			
* //	NX : 60 : 12 : 20	//	//	Titan		J	
* 1-6	VE : 02 : 57 : 00	Fulcrum, Lid	リ ッ ド 変 点				
* 1-7	VE : 02 : 58 : 00	Cushion, Lid	クッションリッド				
* 1-8	EX : 60 : 08 : 40	BW Head Tapping Screw	2×6(φ5.5)FORM3-BI	BWヘッドタッピングネジ			
* 1-9	EI : 02 : 00 : 66	Binding Head Tapping Screw	2×6 ZMC2-Y	バインドタッピングネジ	PACK		
* 1-10	EJ : 02 : 00 : 66	Pan Head Tapping Screw	2×6 ZMC2-Y	ナベタッピングネジ	PACK		
* 1-11	VE : 97 : 64 : 00	Damper	ダンパー / サイド				
* 2	NA : 09 : 64 : 70	Operation Circuit Board	オペレーションシート	Silver, Black			
* //	NA : 09 : 76 : 40	//	//	Titan		J	
* 3	VE : 30 : 59 : 00	Disc Mechanism Unit	DM-710	D M ユ ニ ッ ト			
* 4	NA : 09 : 64 : 80	Main Circuit Board	メ イン シ ー ト	Black		J	
* //	NA : 09 : 64 : 90	//	//	//		U,C,R,A,B	
* //	NA : 09 : 65 : 00	//	//	//		G	
* //	NA : 09 : 68 : 80	//	//	Silver		U,C,R,A,B	
* //	NA : 09 : 68 : 90	//	//	//		G	
* //	NA : 09 : 69 : 30	//	//	Titan		J	
* 5	NA : 09 : 65 : 10	Power Circuit Board	電 源 シ ー ト			R	
* //	NA : 09 : 71 : 00	//	//			J	
* //	NA : 09 : 71 : 10	//	//			A,B,G	
* //	NA : 09 : 80 : 50	//	//			U,C	
* 6	CB : 62 : 01 : 90	Cord Stopper	CM-22B	コードストッパー		R,A,B,G	
* //	CB : 62 : 02 : 00	//	CM-22C	//		J,U,C	
* 7	XD : 76 : 80 : 02	Power Transformer		電 源 ト ラ ン ス		J	
* //	XD : 76 : 90 : 02	//		//		U,C	
* //	XD : 77 : 00 : 02	//		//		R	
* //	XD : 77 : 10 : 02	//		//		A,B,G	
* 8	MG : 00 : 12 : 10	Power Cord	15A	電 源 コ ー ド		J	
* //	MG : 00 : 22 : 20	//	10A 125V	//		U,C	
* //	MG : 00 : 16 : 30	//	6A 250V	//		R	
* //	MG : 00 : 23 : 10	//	7.5A 250V	//		A	
* //	MG : 00 : 23 : 30	//	300/300V	//		B	
* //	MG : 00 : 23 : 20	//	2.5A 250V	//		G	
* 9	VE : 26 : 97 : 00	Tray Ass'y	ト レ イ Ass'y	Black			
* //	VE : 30 : 61 : 00	//	//	Silver		U,C,R,A,B,G	
* //	VE : 45 : 37 : 00	//	//	Titan		J	
* 9-1	VE : 04 : 12 : 00	Tray, Disc	ト レ イ / ディスク	Black			
* //	VE : 30 : 63 : 00	//	//	Silver		U,C,R,A,B,G	

* New Parts (新規部品) NR

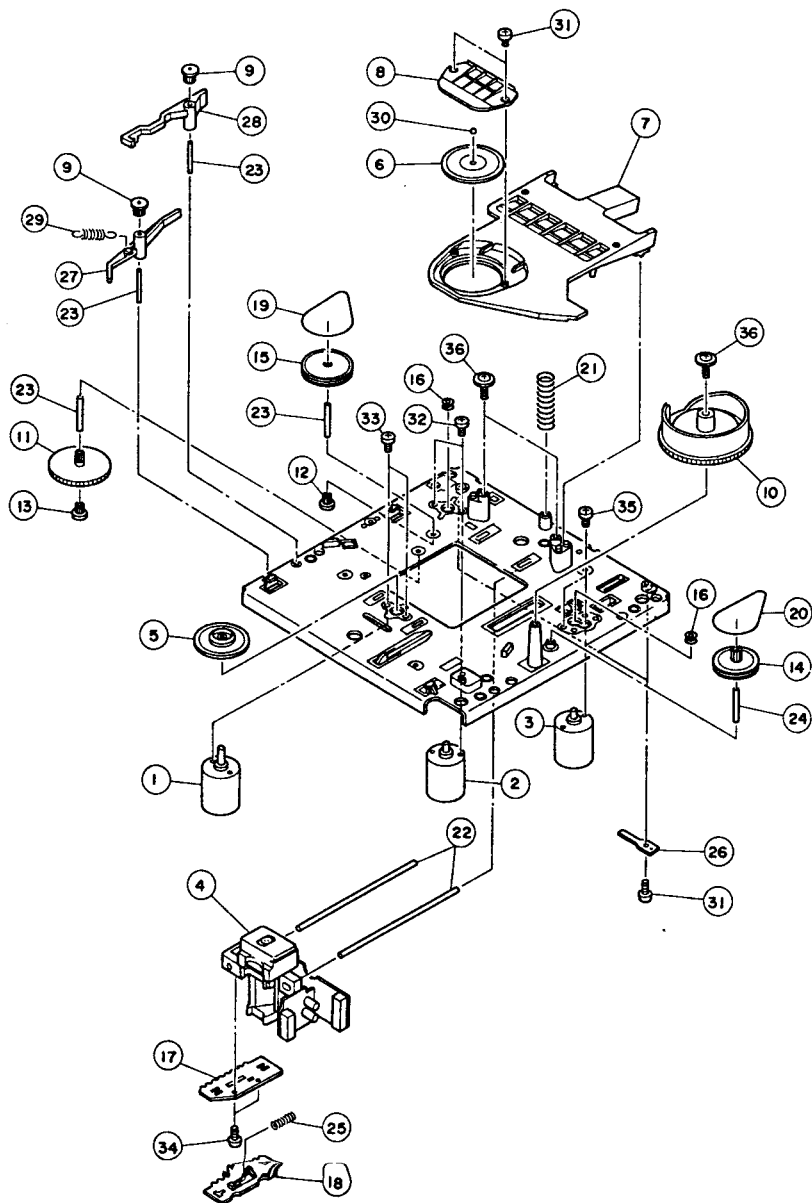
Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
* 9-1	VE 45:34:00	Tray, Disc	トレイ / ディスク	Titan		J	
* 9-2	VE 26:98:00	Lifter Ass'y (L)	リフタ Ass'y (L)	Black		U,C,R,A,B,G	
* //	VE 65:86:00	"	"	Silver		J	
* //	VE 65:87:00	"	"	Titan		J	
* 9-3	VE 26:99:00	Lifter Ass'y (R)	リフタ Ass'y (R)	Black		U,C,R,A,B,G	
* //	VE 65:88:00	"	"	Silver		J	
* //	VE 65:89:00	"	"	Titan		J	
* 9-4	VE 04:16:00	Pad, Disc	パッド / ディスク				
* 9-5	CB 62:79:60	Cushion Rubber	クッションゴム				
* 9-6	VE 04:18:00	Spring	スプリング				
* 9-7	EX 60:02:40	BW Head Tapping Screw	3×8(φ10) FCRM3-BI	BWヘッドタッピングネジ			
* 9-8	EO 33:00:86	Flat Head Tapping Screw	3×8 FCRM3-BI	皿タッピングネジ	PACK		
* 10	VE 48:36:00	Main Chassis Ass'y	メインシャーシ Ass'y			J	
* //	VF 70:28:00	"	"			U,C	
* //	VF 51:58:00	"	"			G	
* //	VE 48:37:00	"	"			A,B	
* //	VE 48:38:00	"	"			R	
* 10-1	VD 49:11:00	Leg Cap.	レッグキャップ			J	
* 10-2	VC 96:54:00	Pad	パッド				
* 11	NB 63:83:90	Special Screw Ass'y	段付ネジ Ass'y				
* 12	VC 32:03:00	Special Screw	段付ネジ				
* 13	VE 85:72:00	Ground Plate F	アースプレート F				
* 14	AA 63:12:30	"	アース金具				
* 15	VE 48:88:00	Bottom Cover	ボトムカバー			J	
* //	AA 63:12:10	"	"			U,C,R,A,B,G	
* 16	VE 43:58:00	Top Cover	トップカバー	Silver		U,C,R,A,B,G	
* //	VD 48:92:00	"	"	Black		U,C,R,A,B,G	
* 17	VE 83:11:00	Ground Plate L	アースプレート L				
* //	VE 83:12:00	" R	" R				
* 18	VE 48:78:00	Side Cover (L)	サイドカバー (L)	Black		J	
* //	VE 48:80:00	"	"	Titan		J	
* 20	VE 48:81:00	Side Cover (R)	サイドカバー (R)	Black		J	
* //	VE 48:83:00	"	"	Titan		J	
* 21	VE 48:84:00	Top Cover	トップカバー	Black		J	
* //	VE 48:86:00	"	"	Titan		J	
* 22	ED 33:00:46	Binding Head Screw	3×4 FCRM3-BI	バインド小ネジ	PACK		
* 23	VD 49:08:00	Support	サポート				
* 24	VB 95:81:00	Spring	スプリング		CLV-1		
* 25	VE 76:46:00	Support	サポート				
* 26	CB 65:91:50	Holder	ホルダー				
* 27	VE 02:52:00	Rod	ロッド				
* 28	VE 02:37:00	Button	ボタン	POWER Black			
* //	VE 30:93:00	"	"	" Silver		U,C,R,A,B,G	
* //	VE 43:30:00	"	"	" Titan		J	
* 29	VE 30:60:00	Plate	プレート	Black			
* //	VE 30:61:00	"	"	Silver		U,C,R,A,B,G	
* //	VE 45:36:00	"	"	Titan		J	
* 30	VE 30:92:00	Damper	ダンパー				
* 31	CB 06:88:80	Plastic Rivet	プラスチックリベット				
* 32	CB 65:77:50	"	"			R	
* 33	VE 66:47:00	Washer	ワッシャ			J	
* 34	Ei 33:01:06	Binding Head Tapping Screw	3×10 ZMC2-BI	バインドタッピングネジ	PACK		
* 35	Ei 33:01:26	"	3×12 FCRM3-BI	"	PACK		

* New Parts (新規部品) NR

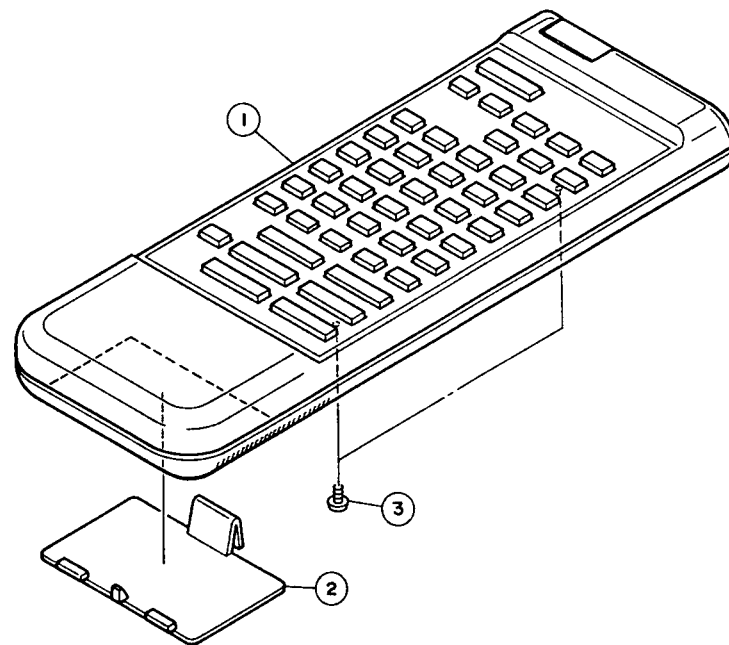
Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
36	Ei 32:61:06	Binding Head Tapping Screw	2.6×10 FCRM3-BI	バインドタッピングネジ	PACK		
37	Ei 34:01:46	"	4×14 FCRM3-BI	"	PACK		
38	EY 41:30:36	Toothed Lock Washer	φ3 FCRM3-BI	歯付座金	PACK		
39	EK 33:00:30	BW Head Tapping Screw	3×10 FCRM3-BI	BWヘッドタッピングネジ			
* 40	VE 85:73:00	Shield Plate		シールドプレート		J,R,C	
* 41	VE 48:87:00	Plate (Top)		プレート		J	
* 42	VE 64:71:00	Plate L (Top)		プレート L		J	
* 43	VE 64:72:00	Plate R (Top)		プレート R		J	
* 44	VF 01:30:00	Spacer		スペーサ		J	
* 45	VE 31:96:00	DM-710 Board In Kit		DM-710ボードインキット			
46	LA 00:02:80	Ground Lug		アースラグ			
* 47	VE 85:42:00	Ferrite Core	ESD-R25DB	フェライトコア		U,C,R,A,B,G	
48	BD 55:00:50	"	ESD-R-12	"			
49	Ei 33:00:66	Binding Head Tapping Screw	3×6 FCRM3-BI	バインドタッピングネジ	PACK		
* 50	VF 16:84:00	Shield Plate Ass'y		シールドプレート Ass'y			
51	VD 94:08:00	Lens		レンズ			
* 52	VF 27:54:00	Shield Plate		シールドプレート (H R)		U,C,R,A,B,G	
* 53	VF 27:55:00	"		" (R)		U,R,A,B,G	
54	VD 54:50:00	"		"		U,C,R,A,B	
* //	VF 83:18:00	"		"		G	
55	CB 09:96:00	Plastic Rivet		プラスチックリベット		U,A,B,G	
56	CB 60:32:40	"		"		J,R,A,B	
57	UJ 13:73:30	Electrolytic Cap.	33μF 16V	ケミコン C119		U,C,R,A,B,G	
58	FZ 00:41:30	Semi-Conductive Ceramic Cap.	0.1μF 25V	セラコン C120		U,C,R,A,B,G	
59	FZ 00:37:90	"	0.1μF 25V	" C122		U,C,R,A,B,G	
* 60	VF 37:65:00	Ferrite Core	FSDR25D	フェライトコア		U,C,R,A,B,G	
61	BB 07:11:70	Ground Plate		アースプレート		U	
CB 06:92:51	Binding Tie	BK-1		インシュロックタイ	PACK		
Accessories				付属品			
VD 29:53:00	Pin Cord			ピンコード		J	
VD 77:99:00	"	IP		"		U,C,R,A,B,G	
* VE 62:74:00	Remote Control Transmitter	RS-CDX910		リモートコントロールトランスミッター	Black	U,C,R,A,B,G	
* VE 23:55:00	"	RS-CDX1000		"	"	J	
* VE 33:15:00	"	RS-CDX910		"	Silver	U,C,R,A,B,G	
* VE 46:11:00	"	RS-CDX1000		"	Titan	J	
	Dry Cell	AA,R6		単 3 乾電池			

* New Parts (新規部品) NR

EXPLODED VIEW (DM-710)



EXPLODED VIEW (RS-CDX910)



Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	VE : 23 : 55 : 00	Remote Control Transmitter	RS-CDX1000	リモートコントロールトランスミッター	Black	J	
※	VE : 46 : 11 : 00	"	"	"	Titan	J	
※	VE : 62 : 74 : 00	"	RS-CDX910	"	Black	U.C.R.A.B.G	
※	VE : 33 : 15 : 00	"	"	"	Silver	U.C.R.A.B.G	
※	I CX : 60 : 20 : 90	Case Ass'y	ケース Ass'y	Black	J		
※	" CX : 60 : 21 : 00	"	"	Titan	J		
※	" CX : 60 : 20 : 60	"	"	Black	U.C.R.A.B.G		
※	" CX : 60 : 20 : 70	"	"	Silver	U.C.R.A.B.G		
2	CX : 60 : 19 : 50	Battery Case	電池 蓋	Titan	J		
"	CX : 60 : 19 : 60	"	"	Black			
※	" CX : 60 : 20 : 80	"	"	Silver	U.C.R.A.B.G		
3	EX : 60 : 02 : 60	Tapping Screw	2×4 B1 ネジ				

※ New Parts (新規部品) NR

MECHANISM PARTS(DM-710) Note) ϕ : Diameter

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
* 1	VE 30:59:00	Disc Mechanism Unit	DM-710	D M ユ ニ ッ ト			
* 2	VE 35:62:00	Motor		モ ー タ	DISC		
* 3	VE 35:63:00	"		"	FEED		
* 4	VE 18:84:00	Optical Pick Up Head		光ピックアップヘッド	LOADING		
* 5	NB 62:99:70	Turntable Unit		ターンテーブルユニット			
* 6	CB 64:24:00	Stabilizer		スタビライザー			
* 7	CB 65:55:20	Flapper		フ ラ ッ パ ー			
* 8	CB 65:55:40	Thrust Bearing		スラストベアリング			
* 9	CB 65:55:50	Pinion Gear		ピニオンギア			
* 10	VE 88:79:00	Loading Cam		ローディングカム			
* 11	VE 02:29:00	Gear, Drive		ギヤードライブ			
* 12	VE 02:28:00	Gear, Pulley		ギヤードプーリー			
* 13	VE 49:12:00	Ring Stopper		リングストッパー			
* 14	VE 98:00:00	Idle Pulley		アイドルプーリー			
* 15	VE 02:30:00	Pulley, Feed		プーリー/フィード			
* 16	CB 65:55:10	P. Pulley		P プ ー リ ー			
* 17	VE 02:25:00	Rack, GearA		ラック/ギヤ A			
* 18	VE 02:26:00	Rack, GearB		ラック/ギヤ B			
* 19	VE 02:34:00	Belt, Feed		ベルト/フィード			
* 20	VE 80:18:00	Belt, Loading		ベルト/ローディング			
* 21	VE 64:78:00	Spring		スプリングフラッパ			
* 22	VE 02:31:00	Shaft, PU710		シャフト/PU710			
* 23	VE 02:33:00	Shaft, Drive Gear		シャフト/ドライブギヤ			
* 24	AA 61:93:30	Shaft (S)		シャフト(S)			
* 25	VE 17:93:00	Spring		スプリング/ラック710			
* 26	VD 73:24:00	"		スプリング/B E			
* 27	VE 27:00:00	Lever (A)		レバ ー (A)			
* 28	VE 27:01:00	" (B)		" (B)			
* 29	VE 27:02:00	Spring		スプリング/T E			
* 30	VD 93:87:00	Roler, SP	$\phi 2.5$	ローラー S P			
* 31	EI 32:60:56	Binding Head Tapping Screw	2.6×5 FCRM3-BI	バインドタッピングネジ	PACK		
* 32	ED 32:00:56	Binding Head Screw	2×5 ZMC2-BI	バインド小ネジ	PACK		
* 33	ED 32:00:46	"	2×4 ZMC2-BI	"	PACK		
* 34	ED 32:60:66	"	2.6×6 FCRM3-BI	"	PACK		
* 35	ED 33:00:66	"	3×6 FCRM3-BI	"	PACK		
* 36	EK 33:00:10	BW Head Tapping Screw	3×12 FCRM3-BI	BWヘッドタッピングネジ			

* New Parts (新規部品) NR

Parts List for Carbon Resistor

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ353100	HF853100	12K Ω	HJ357120	HF857120
1.8 "	HJ353180	*	15 "	HJ357150	HF857150
2.2 "	HJ353220	HF853220	18 "	HJ357180	HF857180
3.3 "	HJ353330	HF853330	22 "	HJ357220	HF857220
4.7 "	HJ353470	HF853470	27 "	HJ357270	HF857270
5.6 "	HJ353560	HF853560	33 "	HJ357330	HF857330
10 "	HJ354100	HF854100	39 "	HJ357390	HF857390
15 "	HJ354150	HF854150	47 "	HJ357470	HF857470
22 "	HJ354220	HF854220	56 "	HJ357560	HF857560
27 "	HJ354270	HF854270	68 "	HJ357680	HF857680
33 "	HJ354330	HF854330	82 "	HJ357820	HF857820
39 "	HJ354390	HF854390	91 "	HJ357910	HF857910
47 "	HJ354470	HF854470	100 "	HJ358100	HF858100
56 "	HJ354560	HF854560	120 "	HJ358120	HF858120
68 "	HJ354680	HF854680	150 "	HJ358150	HF858150
82 "	HJ354820	HF854820	180 "	HJ358180	HF858180
100 "	HJ355100	HF855100	220 "	HJ358220	HF858220
110 "	HJ355110	HF855110	270 "	HJ358270	HF858270
120 "	HJ355120	HF855120	330 "	HJ358330	HF858330
150 "	HJ355150	HF855150	390 "	HJ358390	HF858390
160 "	HJ355160	*	470 "	HJ358470	HF858470
180 "	HJ355180	HF855180	560 "	HJ358560	HF858560
220 "	HJ355220	HF855220	680 "	HJ358680	HF858680
270 "	HJ355270	HF855270	820 "	HJ358820	HF858820
330 "	HJ355330	HF855330	1.0M Ω	HJ359100	HF859100
390 "	HJ355390	HF855390	1.2 "	HJ359120	*
470 "	HJ355470	HF855470	1.5 "	HJ359150	HF859150
510 "	*	HF855510	1.8 "	HJ359180	HF859180
560 "	HJ355560	HF855560	2.2 "	HJ359220	HF859220
680 "	HJ355680	HF855680	3.3 "	HJ359330	HF859330
820 "	HJ355820	HF855820	3.9 "	HJ359390	*
910 "	HJ355910	HF855910	4.7 "	HJ359470	HF859470
1.0K Ω	HJ356100	HF856100			
1.2 "	HJ356120	HF856120			
1.5 "	HJ356150	HF856150			
1.8 "	HJ356180	HF856180			
2.0 "	HJ356200	HF856200			
2.2 "	HJ356220	HF856220			
2.4 "	HJ356240	HF856240			
2.7 "	HJ356270	HF856270			
3.0 "	HJ356300	HF856300			
3.3 "	HJ356330	HF856330			
3.6 "	HJ356360	HF856360			
3.9 "	HJ356390	HF856390			
4.7 "	HJ356470	HF856470			
5.1 "	HJ356510	HF856510			
5.6 "	HJ356560	HF856560			
6.8 "	HJ356680	HF856680			
8.2 "	HJ356820	HF856820			
9.1 "	HJ356910	HF856910			
10 "	HJ357100	HF857100			

