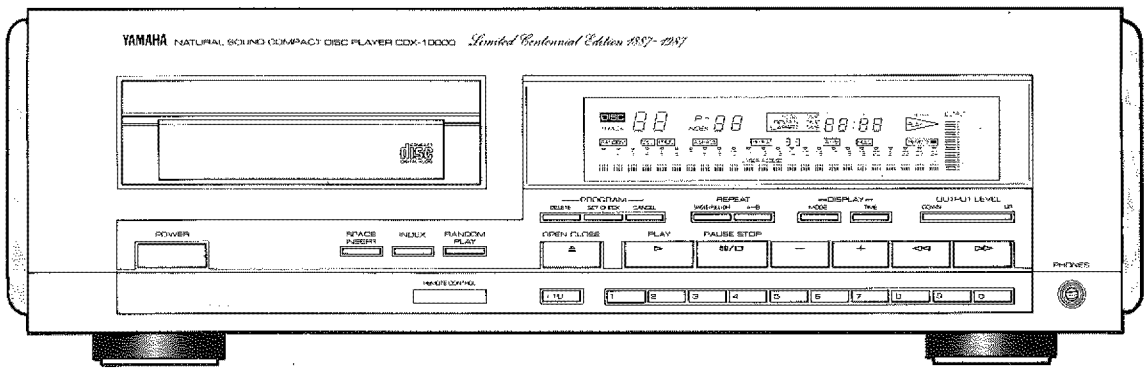
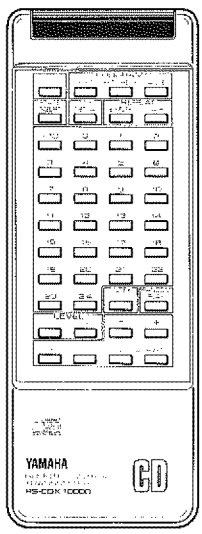
COMPACT DISC PLAYER

CDX-10000

SERVICE MANUAL



- RS-CDX10000



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 inherant to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

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

100123

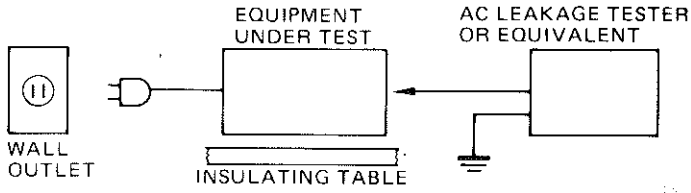
SINCE 1887 YAMAHA
NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN
3.0K-564 Printed in Japan '87.4

TO SERVICE PERSONNEL

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

2. 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 0.15μF
- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.

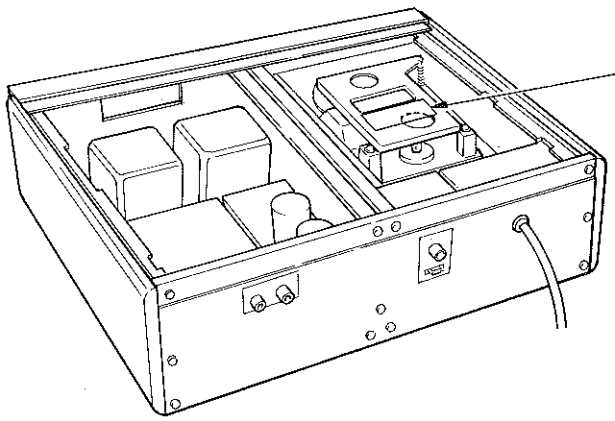


■ POLARIZATION (U model only)

This tuner product is eequipped 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.

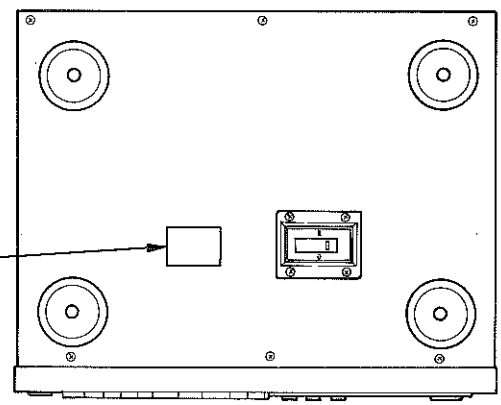
THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.



U.S.A. model

DANGER—Invisible laser radiation when open and interlock failed or defeated.
AVOID DIRECT EXPOSURE TO BEAM. (CA08537-1)

BOTTOM SIDE

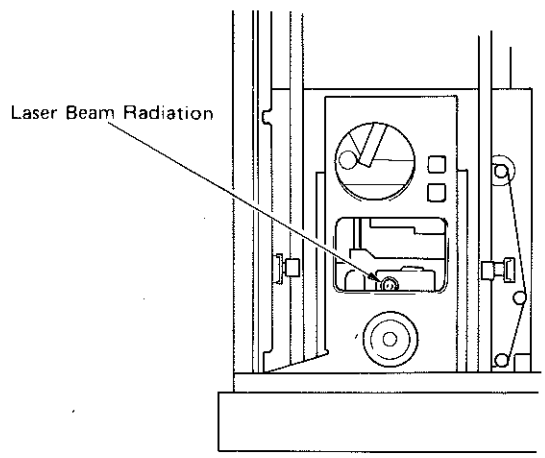


THIS PRODUCT COMPLIES WITH OHHS RULES 21 CFR SUBCHAPTER J APPLICABLE AT DATE OF MANUFACTURE.

MANUFACTURED BY
NIPPON GAKKI CO.,LTD.
10-1 NAKAZAWA-CHO.
HAMAMATSU-SHI.
SHIZUOKA-KEN. JAPAN

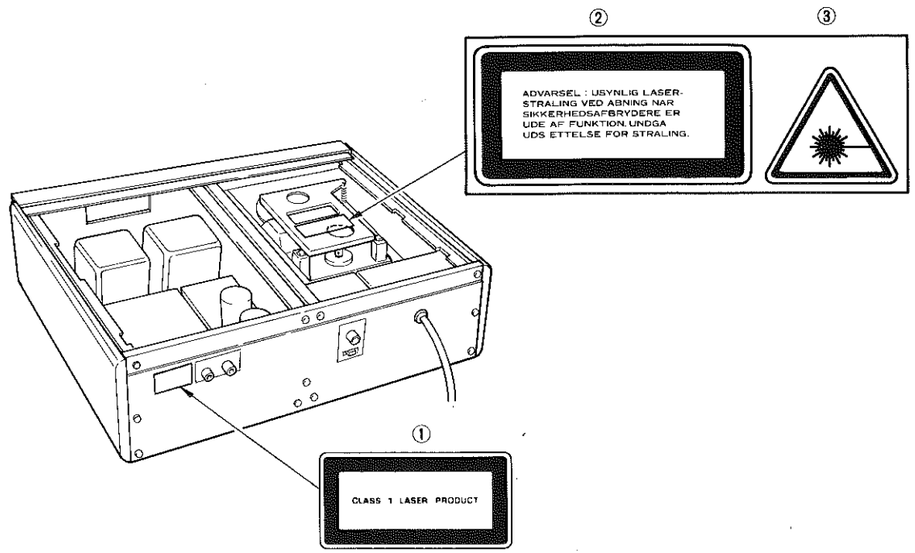
MANUFACTURED:

LASER BEAM RADIATION SPOT



Laser Diode Properties
Material: Ga-Al-As
Wavelength: 755 – 805 nm (25°C)
Laser Output: Continuous Wave max. 5 mW

European model



English

①THIS LABEL IS ATTACHED AT THE PLACE ILLUSTRATED TO INFORM THAT THE APPARATUS CONTAINS A LASER COMPONENT.

②THIS 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.

③THE 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

①PÅSKRIFTEN SITTER PÅ APPARATEM SOM VISAS SOM EN UPPMANING OM ATT APPARATEN OMFATTAR EN INBYGGD LASERKOMPONENT.

②TEXTSKYLTEN FÖR LASERN ÄR PLACERAD PÅ APPARATEN SOM EN UPPMANING OM ATT APPARATEN INNEHÅLLER EN LASERKOMPONENT.

③VARNINGSSKYLTEN FÖR STRÅLNING HAR PLACERATS I APPARATEN, SOM BILDEN VISAR, SOM EN VARNING OM YTTERLIGARE INGREPP I APPARATEN. MATERIELEN INNEHÅLLER EN LASERKOMPONENT SOM AVGER LASER-STRÅLNING ÖVERSTIGANDE GRÄNSEN FÖR LASERKLASS 1.

VARNING–INGREPP I APPARATEN BÖR ENDAST FÖRETAS AV FACKMAN MED KUNSKAP OM ATT RISK FÖRELIGGER FÖR RADIOAKTIV ATRÅLNING.

Danish

①DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.

②DETTE MÆRKAT OM LASEREN ER ANBRAGT PÅ APPARATET SOM EN OPLYSNING OM AT APPARATET INDEHOLDER ET LASERKOMPONENT.

③ADVARSELSKILTET OM STRÅLING ER PLACERET INDENI APPARATET, SOM VIST I ILLUSTRATIONEN, SOM EN ADVARSEL OM YDERLIGERE INDGREB I APPARATET. APPARATET INDEHOLDER ET LASERKOMPONENT SOM AVGIVER LASESTRÅLING DER OVERSTIGER GÆNSEVERDIEN FOR LASERKLASSE 1.

ADVARSEL! INDGREB BØR KUN FORETAGES AF EN FAGMAND DA DER ER RISIKO FOR RADIOAKTIV STRÅLING.

Finnish

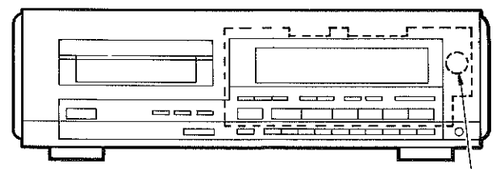
③"VAROITUS! LAITE SISÄLTÄÄ LASERDIODIN, JOKA LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE VAARALLISTA LASERSÄTEILYÄ:"

LITHIUM BATTERY

This product uses a lithium battery for memory back-up.

WARNING: Lithium batteries are dangerous because they can be exploded by improper handling. Observe the following precautions when handling or replacing lithium batteries.

- Leave lithium battery replacement to qualified service personnel.
- Always replace with batteries of the same type.
- When installing on the PC board, solder using the connection terminals provided on the battery cells. Never solder directly to the cells. Perform the soldering as quickly as possible.
- Never reverse the battery polarities when installing.
- Do not short the batteries.
- Do not attempt to recharge these batteries.
- Do not disassemble the batteries.
- Never heat batteries or throw them into fire.



English

WARNING!
Lithium batteries. Explosion danger.
Change of batteries must only be done by qualified personnel and as described in the service manual.

Swedish

LITIUMBATTERI.
Bör endast bytas av servicepersonal.
Explosionsfara vid felaktig hantering.

Danish

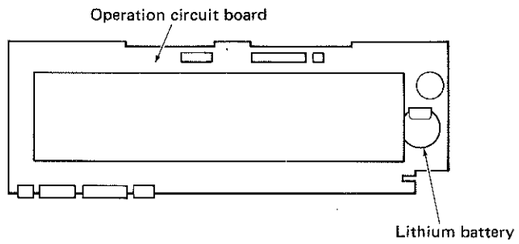
ADVARSEL!
Lithiumbatterier. Eksplosionsfare.
Udskiftning må kun foretages af en sagkyndig og som beskrevet i servicemanualen.

Finnish

VAROITUS!
Lithiumparisto. Räjähdysvaara.
Pariston saa vaihtaa ainoastaan alan ammattimies.

- **LITHIUM BATTERY REPLACEMENT**

1. Remove the top cover ass'y and bottom cover ass'y according to the disassembly procedure (page 6)
2. Remove 6 screws fixing the panel unit.
3. Remove 6 hooks fixing the operation circuit board.
4. Unsolder the lithium battery from the pattern side of the operation circuit board and replace it.



INTERLOCK OPERATION

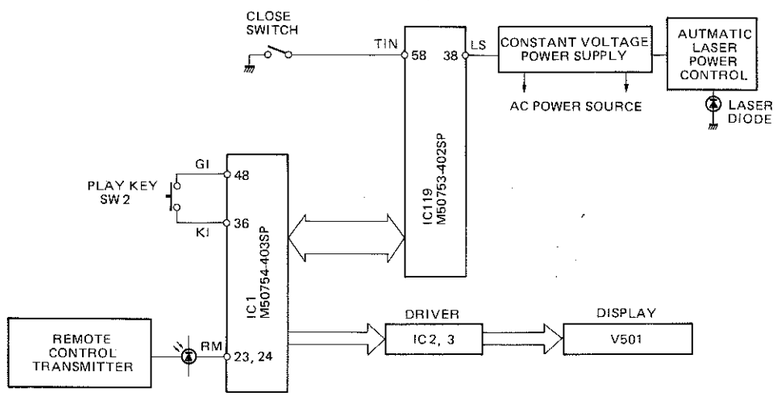
The Digital Compact Disc Player reads the disc signals by laser beam detection. It must be avoided for the human body to be directly exposed to the laser beam. Human eyes are especially badly affected by the laser beam. This unit is therefore equipped with an interlock to prevent unnecessary laser output.

Laser output is controlled by the injection or cutoff of the constant voltage source to the laser diode at Pin 38 (LS) of IC119 (M50753), and also by Automatic Laser Power Control Circuit. When Pin 38 is in "H" (High) level, the laser emits the beam. When Pin 38 is in "L" (Low) level, the laser does not emit the beam.
Pin 38 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.

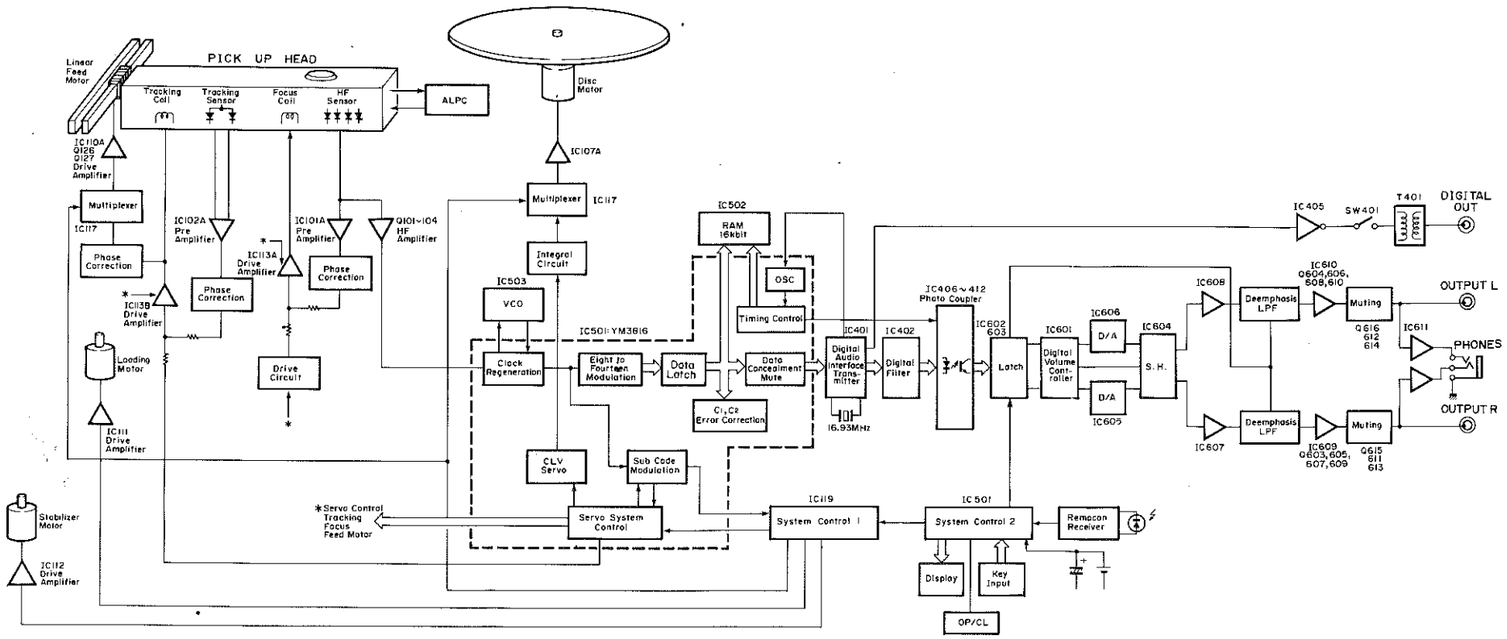
1) When the Close Switch is ON. (The disc tray is closed.)
2) The pickup is located at the area of the minimum internal circumference.

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 (SW502) or that of Remote Control Transmitter is pressed.
2) when the PLAY display is ON.

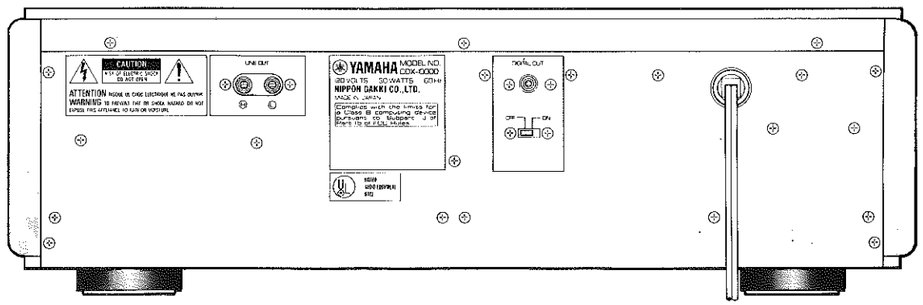


BLOCK DIAGRAM

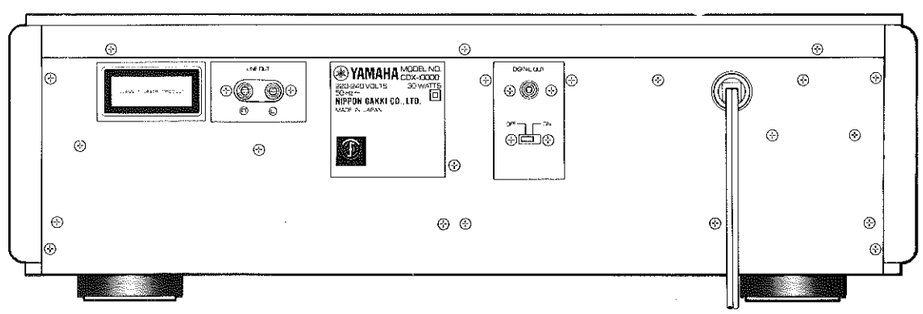


REAR PANELS

- **U model**



- **G model**



SPECIFICATIONS

AUDIO SECTION

Frequency Response	DC –20Hz ± 0.3dB
Harmonic Distortion + Noise	0.002% (1kHz)
S/N Ratio	115dB
Dynamic Range	100dB
Wow & Flutter	Unmeasurable
Output Voltage	2V ± 0.1V
Output Impedance	47Ω
Headphone Output	3V/150Ω

INTERNAL SYSTEMS

Optical Pick-up	3 beam laser
Error Correction System	CIRC
D/A Conversion	18 bit floating (L, R twin)
Filter	High bit digital filter and 5th order new active filter

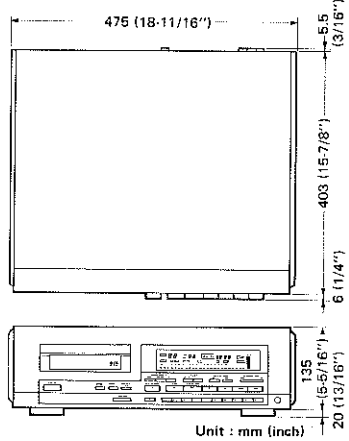
GENERAL

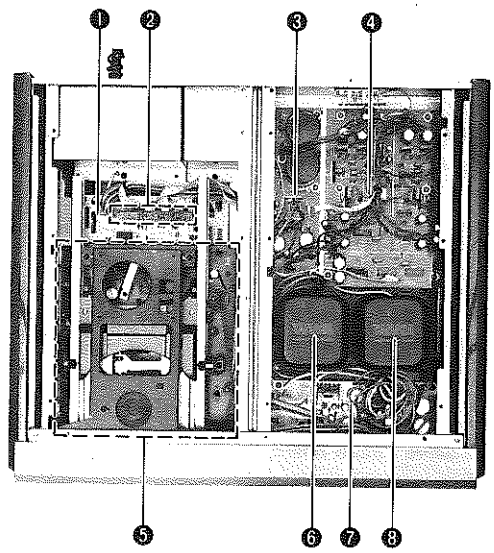
Power Requirements	
U.S.A. model	120V AC, 60Hz
European model	220 – 240V AC, 50Hz
Power Consumption	30W
Dimensions (W x H x D)	475 x 155 x 414.5 mm (18-11/16" x 6-1/8" x 16-5/16")
Weight	25.5 kg (56 lbs 3 oz)
Accessories	Pin plug cord: X2 Remote control transmitter (RS-CD10000) Dry Cell: X2 (Size "AA", "R06")

**Specification subject to change without notice.*
(U) ..... U.S.A. model
(G) ..... European model

■ INTERNAL VIEW

• **DIMENSIONS**





❶ SERVO CIRCUIT BOARD
❷ SPC CIRCUIT BOARD
❸ MAIN CIRCUIT BOARD (2)
❹ MAIN CIRCUIT BOARD (1)
❺ DISC MECHANISM UNIT (DM-1x)
❻ POWER TRANSFORMER
U model : XC015001
G model : XC016001
❼ DIGITAL CIRCUIT BOARD (2)
❽ POWER TRANSFORMER
U model : XC019001
G model : XC020001

■ DISASSEMBLY PROCEDURES (Remove parts in disassembly order as numbered.)

1. **Removal of Top Cover Ass'y**
   Remove 3 screws (①) in Fig. 1, and then slide the Top Cover Ass'y to the back side.

2. **Removal of Bottom Cover Ass'y**
   Remove 6 screws (②) in Fig. 1.

3. **Removal of Top Cover (L), (R) and Bottom Cover (L), (R)**
   a. Remove 6 screws (③) in Fig. 2, and then remove the Top Cover (L).
   b. Remove 6 screws (④) in Fig. 2, and then remove the Top Cover (R).
   c. Remove 6 screws (⑤) in Fig. 2, and then remove the Bottom Cover (L).
   d. Remove 6 screws (⑥) in Fig. 2, and then remove the Bottom Cover (R).

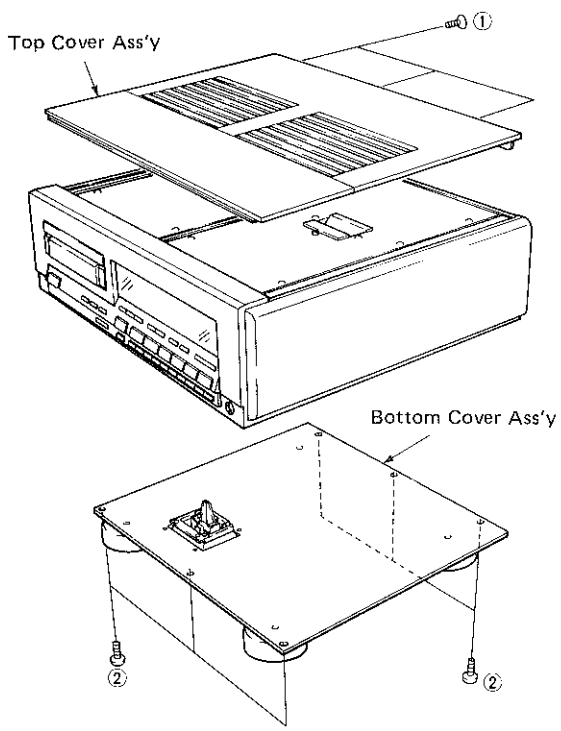


Fig. 1

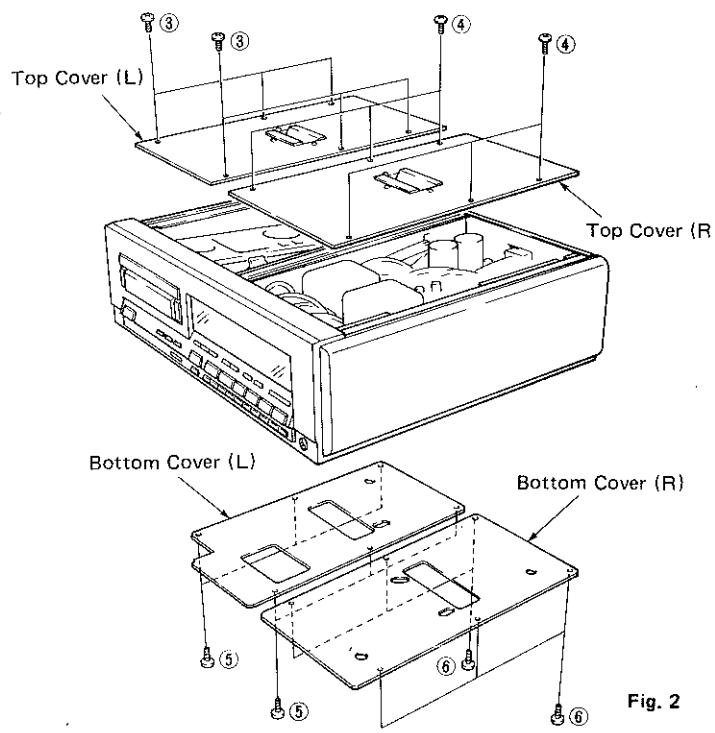


Fig. 2

4. Removal of DM-1x Unit

a. Remove 3 screws (⑦) in Fig. 3, and then remove the Chield Case (P.C.B)
b. Remove 3 screws (⑧) in Fig. 3, and then remove the Chield Case (I/O).
c. Remove 3 connectors (#12, #13, #14) in Fig. 3.
d. Remove 4 screws (⑨) in Fig. 3, and then pull out the DM-1x Unit gradually.

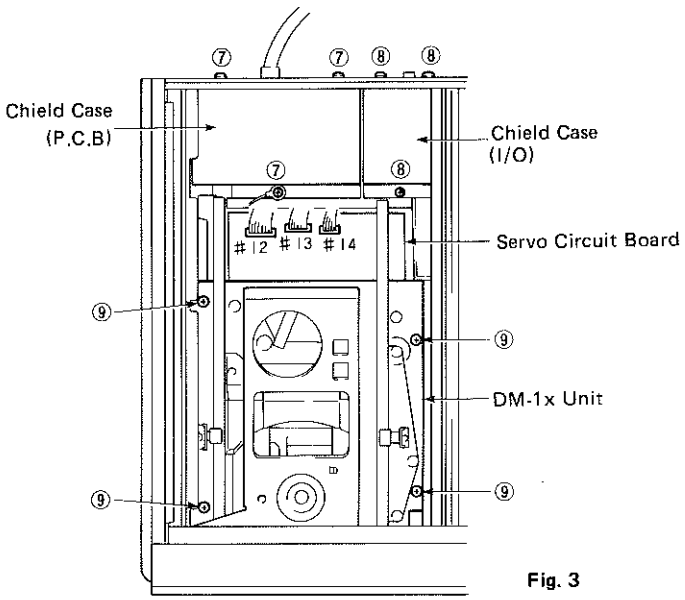


Fig. 3

5. Removal of Tray Unit

a. Rotate the Drive Gear (⑩) in Fig. 4, and the Stabilizer Ass'y is pushed up.
b. Remove plastic rivet (⑪) in Fig. 4, and then remove the Stopper (SW).
c. Turn the lever, SW (⑫) right in front counter-clockwise in Fig. 4, and then take out the Tray Unit.

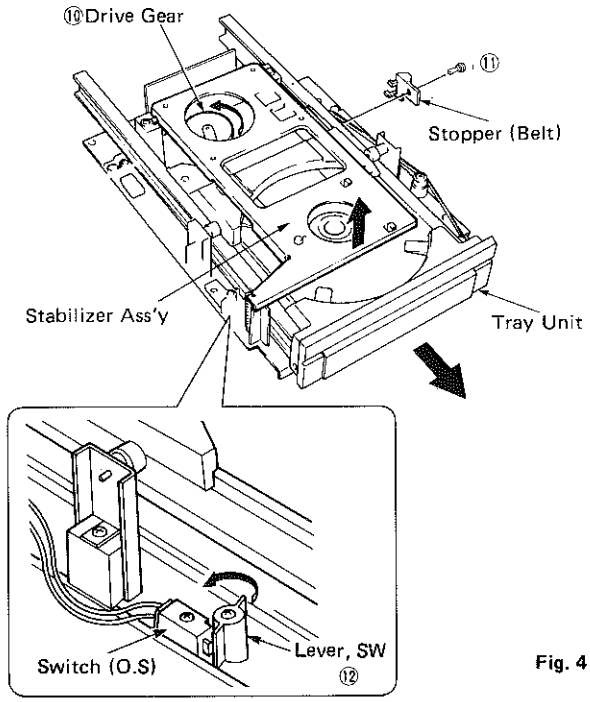
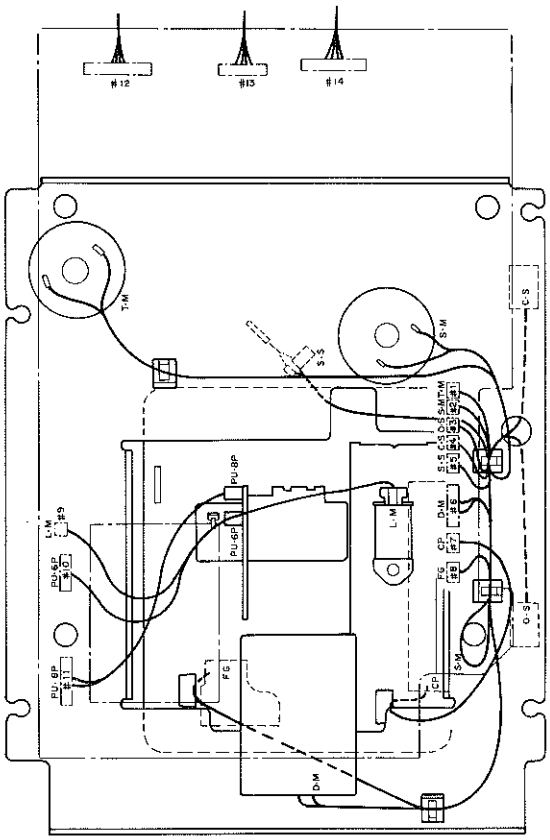


Fig. 4

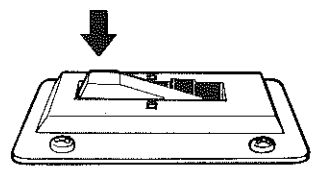
- **DM-1x Wire Connection**



■PROTECTION KNOB FOR TRANSPORTATION

When transporting the unit, take out the disc and lock the pick-up head by pushing the knob in the arrow direction while lifting the rear panel side.

* Unless the pick-up head has been locked in place, it may not operate properly even when it is released. It may also fail to operate properly even when the front panel side is lifted with the lock knob released. In such case, turn OFF the power once and then turn it ON again.



■CHIP COMPONENTS DESCRIPTION

1. KIND OF CHIP DEVICE

We have five kinds of chip devices:

a. Thick film chip resister
b. Multi-layer ceramic chip capacitor
c. Mini-mould (Chip) transistor
d. Mini-mould (Chip) diode
e. Mini-mould (Chip) IC

2. IDENTIFICATION OF FOUR KINDS OF CHIP DEVICES

Since four kinds of chip devices have similar shape and size, it is quite difficult to identify them at a glance, but basically, following identification is available:

a. Resistor/Jumper resister

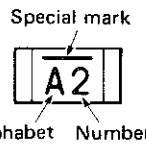
All chip resistors have a 3 digit indication of the value of resistance.
For example, "472" stands for 4.7k ohms and "000" stands for the jumper resistor.

$$47 \times 10^2 = 4700\Omega$$
$$= 4.7k\Omega$$

b. Ceramic capacitor

Some chip capacitors have a 2 digit indication of the valve of capacitance. For example, "$\overline{A2}$" stands for 100pF. Some chip capacitors have no indication.

(Example)



$1.0 \times 10^2 = 100pF$

- **Contents of indication**

Alphabet . . . . . The numerical value of electrastatic capacity.
Number . . . . . The value of the multiplier.
Special mark . . . . . Temperature characteristic.

- **Electrostatic capacity**

〈Alphabet〉

Alphabet	A	B	C	D	E	F	G	H	J	K	L	M
Numerical value	1.0	1.1	1.2	1.3	1.5	1.6	1.8	2.0	2.2	2.4	2.7	3.0

Alphabet	N	P	Q	R	S	T	U	V	W	X	Y	Z
Numerical value	3.3	3.6	3.9	4.3	4.7	5.1	5.6	6.2	6.8	7.5	8.2	9.1

Alphabet	a	b	d	e	f	m	n	t	y
Numerical value	2.5	3.5	4.0	4.5	5.0	6.6	7.6	8.0	9.0

〈Number〉

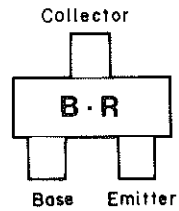
Number	0	1	2	3	4	5	6	7	8	9
figures value	10^0	10^1	10^2	10^3	10^4	10^5	10^6	10^7	10^8	10^9

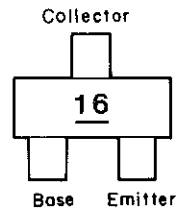
c. Transistor

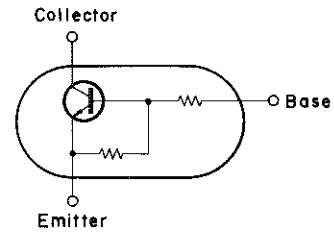
The transistors can be identified by their identification codes of 2 to 4 alphabet letters assigned to each of them. Given below is a cross reference table of identification codes and transistors.
Use it to identify each transistor from its code.

Indication	Parts No.	Description	HFE rank
FQ	iA103700	Transistor 2SA1037K	Q-rank
FR	"	"	R-rank
FS	"	"	S-rank
BQ	iC241200	" 2SC2412	Q-rank
BR	"	"	R-rank
BS	"	"	S-rank
DAQY	VB494100	" 2SD1664	R-rank
ID-R	iD132800	" 2SD1328	R-rank
ID-S	"	"	S-rank
ID-T	"	"	T-rank
13	VC123900	Digital Transistor DTA143EK	
16	VC124000	Digital Transistor DTA144EK	
26	VC124100	Digital Transistor DTC144EK	

Ex. Transistor: 2SC2412(R) **Ex. Digital Transistor DTA144EK**

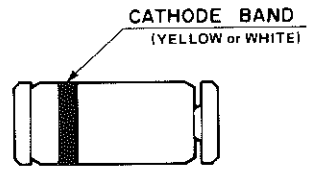




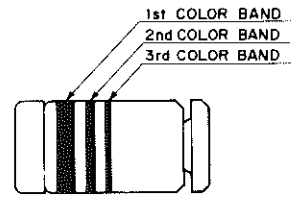


d. Diode and Zener Diode

Each diode has a yellow or white band (cathode band) on its cathode side as shown below.



The zener diode has three color bands as shown below.



The 1st and 2nd color bands indicate the model as a number is assigned to each color as listed in Table 1. Referring to Table 1, read the code number by converting the colors of bands into the corresponding numbers and then find the model code in Table 2. The number in the model code indicates the zener voltage. The 3rd color band on the zener diode indicates the subdivision of the zener voltage.

COLOR	1st color band 1st number in code	2nd color band 2nd number in code	3rd color band Zener voltage Subdivision
Black	0	0	–
Brown	1	1	–
Red	2	2	–
Orange	3	3	–
Yellow	4	4	A
Green	5	5	B
Blue	6	6	C
Purple	7	7	–
Gray	8	8	–
white	9	9	D

Table 1

RLZ Series Zener Code No. and Model Code Cross Reference Table

Zener Code No.	Model Code
07	RLZ3.6
08	RLZ3.9
09	RLZ4.3
10	RLZ4.7
11	RLZ5.1
12	RLZ5.6
13	RLZ6.2
14	RLZ6.8
15	RLZ7.5
16	RLZ8.2
17	RLZ9.1
18	RLZ10
19	RLZ11
20	RLZ12
21	RLZ13
22	RLZ15
23	RLZ16
24	RLZ18
25	RLZ20
26	RLZ22
27	RLZ24
28	RLZ27
29	RLZ30
30	RLZ33
31	RLZ36
32	RLZ39

Table 2

As explained above you can identify chip devices tentatively, but actual identification should be made by referring to the parts layout drawing in the service manual.

3. SPECIAL NOTICE FOR HANDLING CHIP DEVICES

Chip devices are not heatproof and shockproof. Use caution when handling them.

a. For shock

Chip devices are made of ceramic or plastic moulding, please do not subject them to direct shock.

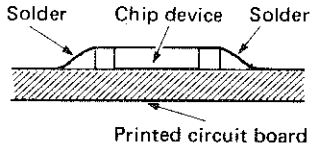
- Set chip device flat onto printed circuit board.
- Do not apply unnecessary stress to the chip device. When soldering two terminals of chip device, soldering is done one by one. Sometimes, when one terminal is soldered, the other unsoldered terminal is slightly lift. In such case, do not try to push down the lifted terminal using the tip of the soldering iron. In such a case, you may crack the chip device or may break the terminals.

b. For heat

Do not apply high temperature to chip devices for long periods. Soldering should be done quickly.

c. Soldering

- Chip devices can not withstand rapid heating or cooling. Do not heat the chip itself, heat the terminals of chip devices.
- Solder quickly, excessive soldering time will cause damage to chip device.
- Try to reduce amount of solder when soldering. Amount of solder will effect the strength of the chip bending against the printed circuit board. Refer to amount of solder as shown below.



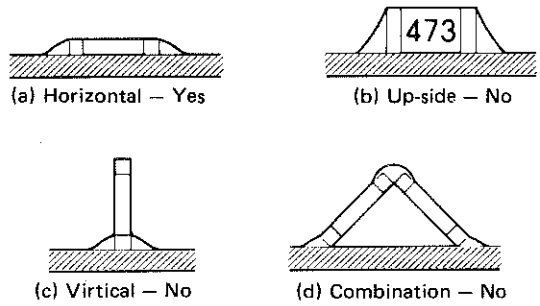
d. Soldering iron

When soldering chip devices, use the right soldering iron.

- Soldering iron
  Power of soldering iron should be less than 30 watts.
  Diameter of iron chip should be about 2 mm.
- Temperature of iron tip.
  Temperature of soldering iron tip should be less than 536°F. (280°C.)

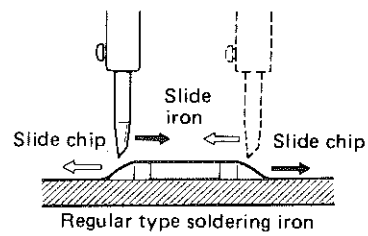
e. Mounting chip device onto printed circuit board

- Set chip devices as close as possible onto the surface of printed circuit board.
  Do not apply unnecessary pressure to chip devices in order to make it close to the surface of printed circuit board.
  Try to keep distance between chip device and surface of printed circuit board less than 0.5mm.
- Do not connect (solder) wire or terminal of other-parts to terminal of chip device.
- Do not mount chip devices incorrectly, such as (b), (c) and (d).



f. Removal of defective device for repair

When removing chip devices with a forked tip iron, heat the chip device with the fork tip and slide.
When you are going to remove chip devices using regular tip iron, heat two terminals of chip device repeatedly about 2 or 3 times and slide the chip device.
Slide chip device only in the direction specified as shown below.



■ ADJUSTMENTS

• Necessary items

Measuring instruments

Oscilloscope : 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/No. 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/No. TX911730,
or YEDS-7 P/No. TX911320)
Filter (See Fig. A) : x 1
Shorting cord : x 1 (Step 3)

Tools

⊕ Screwdriver : x 1
(For-Pre-Set Potentiometer adjustment)
Core screwdriver : x 1 (Step 3)
⊖ Screwdriver : x 1 (Step 5)

• Adjustment jig (with internal filter)

Connect the filter in Fig. A before measurement.

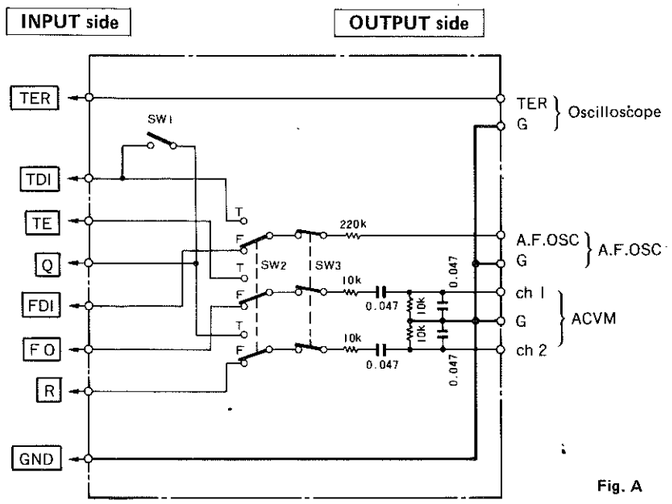
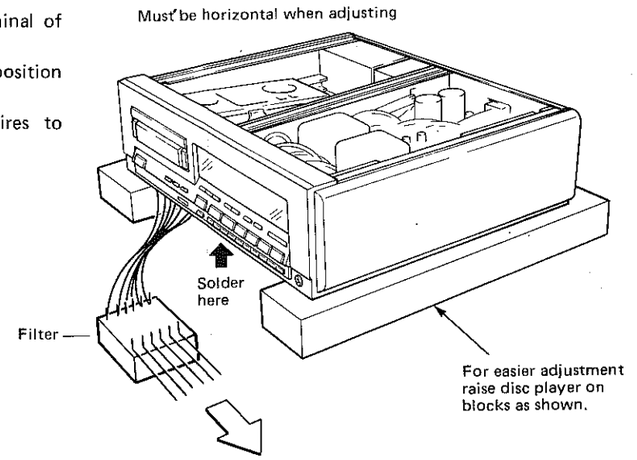


Fig. A

SW1: For diffraction grating and EF balance adjustments
SW2: FOCUS gain and TRACKING gain switching
SW3: Filter ON/OFF switch

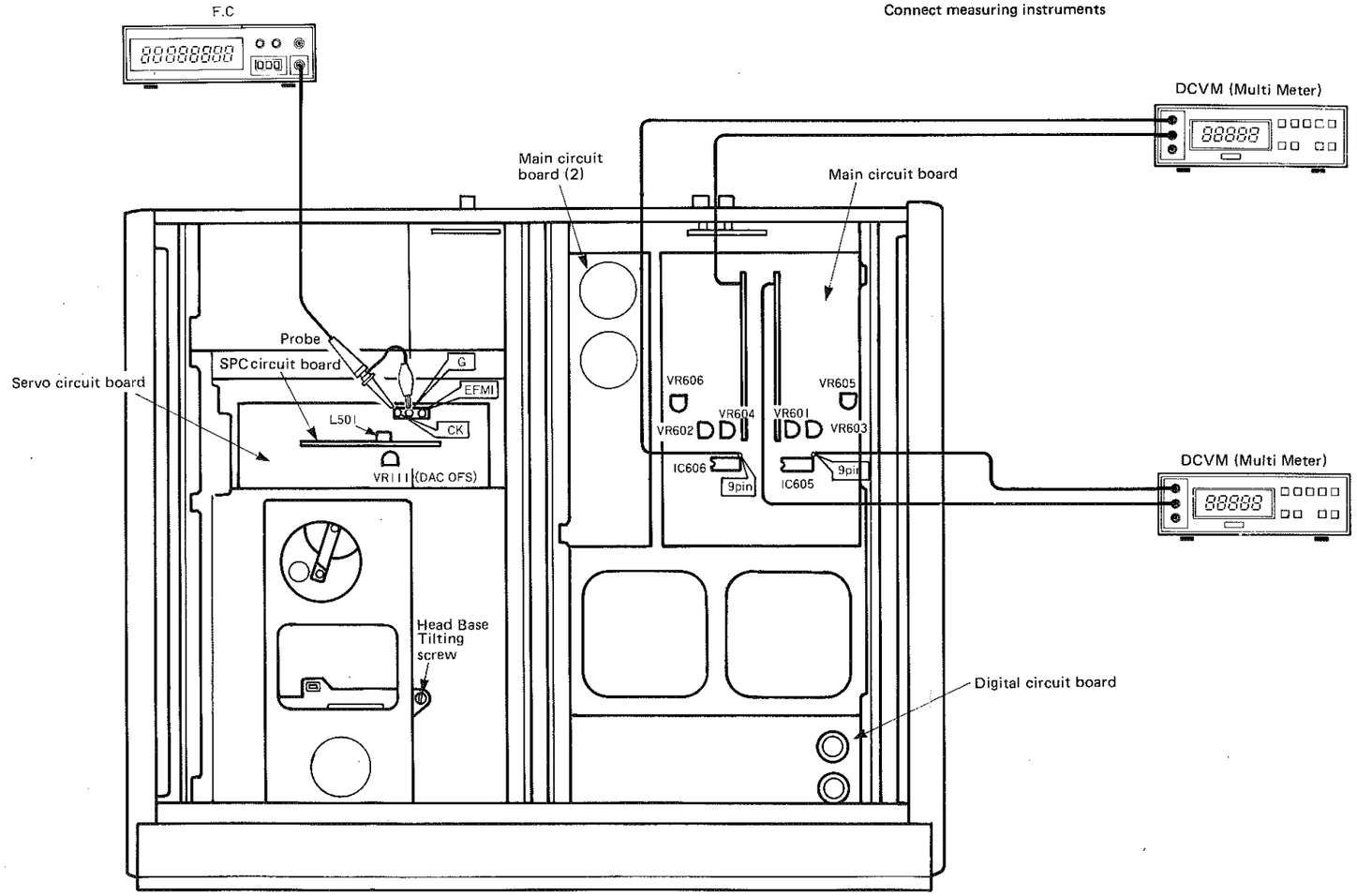
• Precautions or Special Notes

1. Measure the output level at the output terminal of the AF oscillator.
2. The unit should always be in a horizontal position while performing adjustments.
3. Solder the servo circuit board-to-filter wires to facilitate adjustments.



Connect measuring instruments

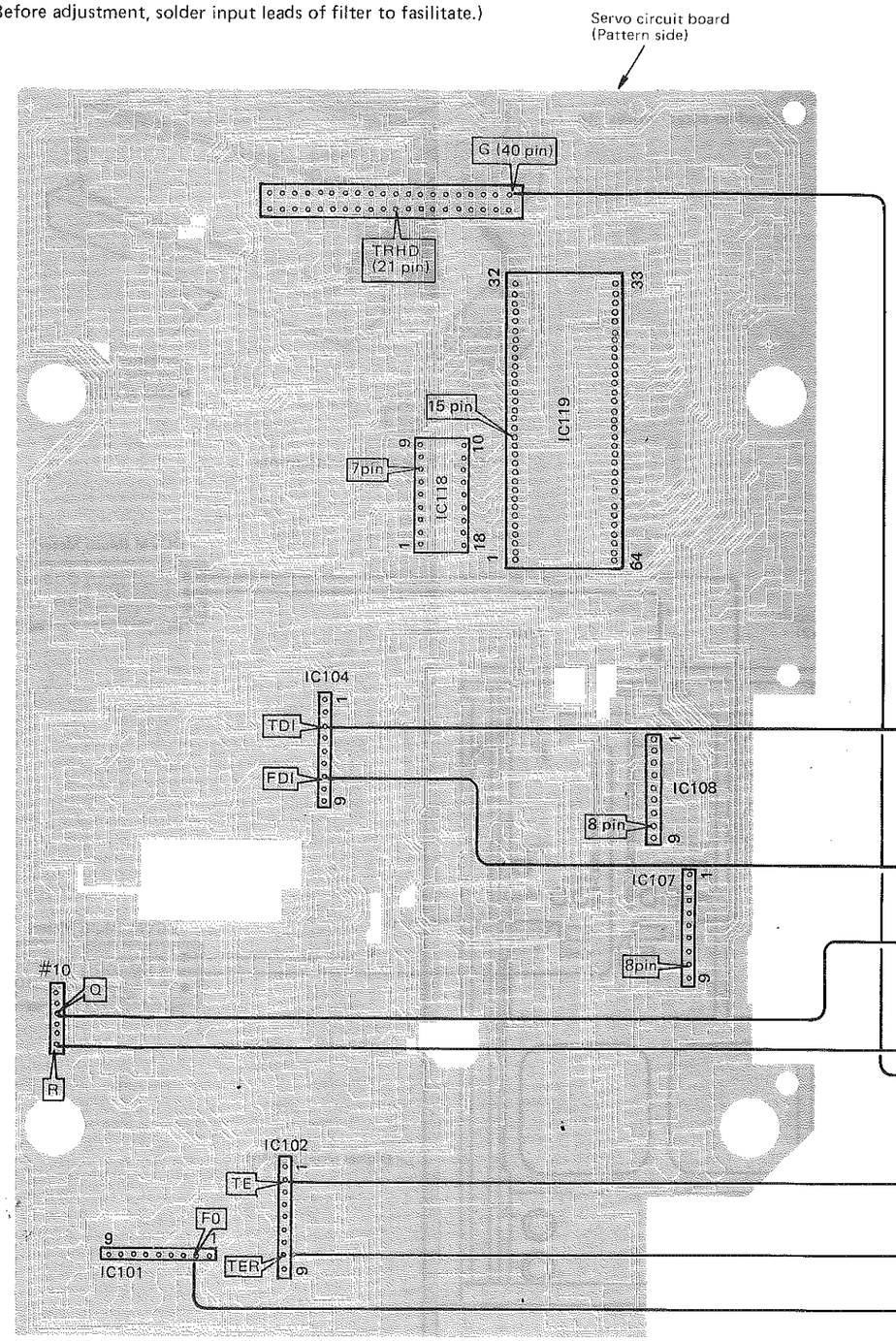
• Test point (1)

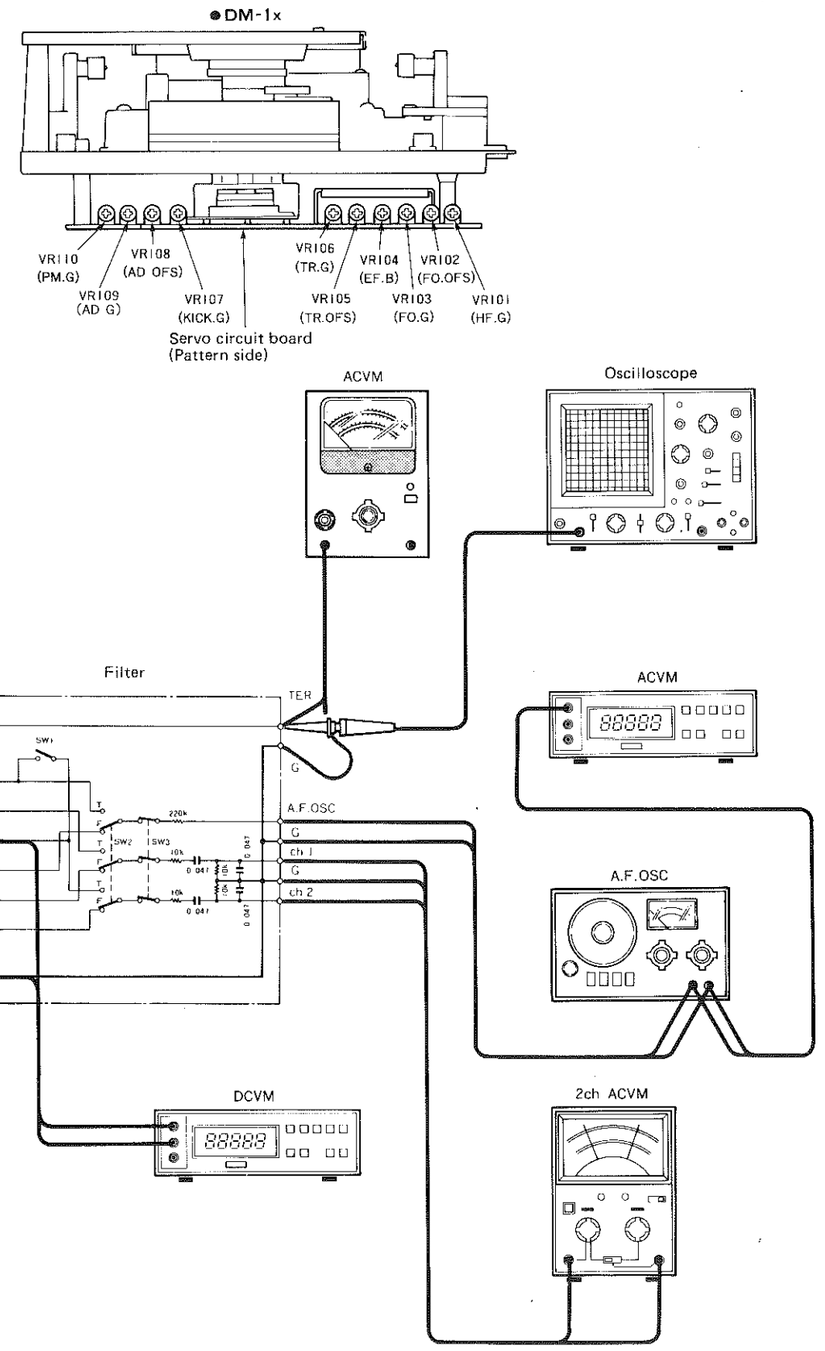


Sown with tray unit removed

• Adjustment wiring diagram/test points (2)

(Before adjustment, solder input leads of filter to fasilitate.)





★ BEFORE ADJUSTMENTS

1 Setting to TEST mode

Before adjustments, set to the TEST mode by turning.
On the power switch while pressing the CANCEL key.

* Each adjustment should be made in this state.

● **Discription of test mode keys**

OPEN/CLOSE	: Focus start
PLAY	: Play
STOP	: Stop, Focus OFF
"–"	: –10 Kick
"+"	: +10 Kick
◁◁	: –1 Kick
▷▷	: +1 Kick
REPEAT	: Feed foward
A ⟷ B	: Feed return
"2"	: Tracking servo OFF (Fixed toward inner circumference at the feed center)
"0"	: DAC output for feed (00H)
"1"	: DAC output for feed (FFH)

2 Adjustments

Carry out following adjustments in the order as numbered.

1. **Confirmation of laser outptut**
2. **Confirmation of focus actuator operation**
3. **Adjustment of VCO**
4. **Adjustment of diffraction grating**
5. **Adjustment of jitter and focus offset**
6. **Adjustment of EF balance**
7. **Adjustment of HF level**
8. **Adjustment of focus gain**
9. **Adjustment of tracking gain**
10. **Adjustment of kick gain**
11. **Adjustment of tracking offset**
12. **Confirmation of jitter**
13. **Confirmation of search mode**
14. **Adjustment of AD offset**
15. **Adjustment of DAC offset (digital circuit board)**
16. **Adjustment of PM gain**
17. **Adjustment of AD gain**
18. **Confirmation of FG pulse**
19. **Adjustment of DAC offset (main circuit board)**
20. **Adjustment of DAC distortion**
21. **Adjustment of output offset**

Confirmation of Laser Output (Step 1)

① Do not load the disc.
② Remove the tray unit.
③ Apply the laser power meter's sensor to the pick-up head as shown in Fig. B.
④ Set to the TEST mode.
⑤ Press OPEN/CLOSE key. (Focus search mode)
⑥ Measure the laser output during the 5 seconds of FOCUS search mode.
Rating: Laser output = 0.1mW to 0.5mW

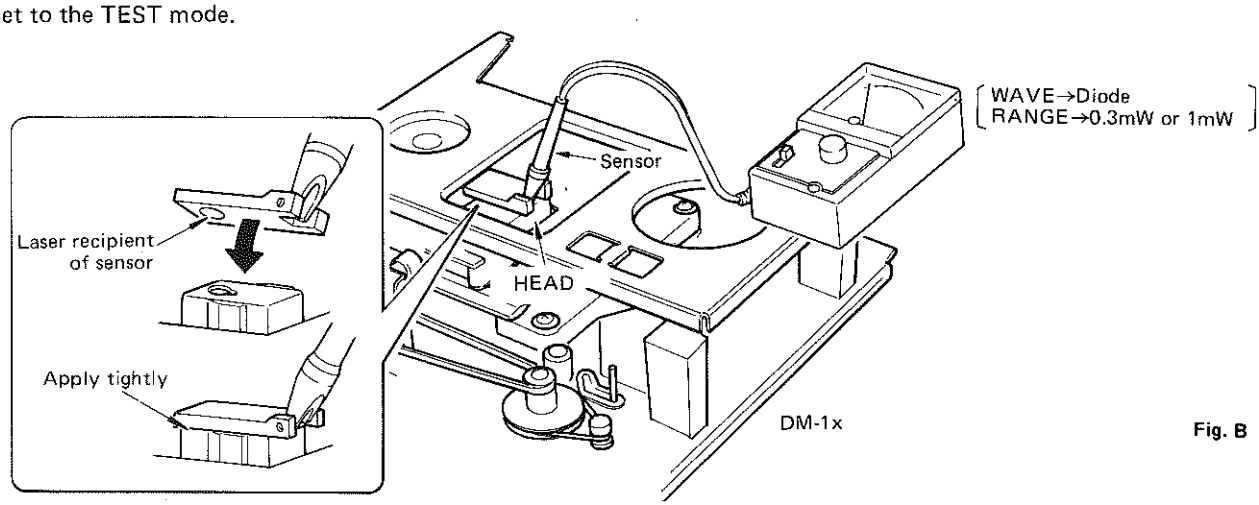


Fig. B

Precautions in handling pick-up head

(1) No soldering necessary for 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)

Oscilloscope (1) setting

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

① Do not load the disc.
② Connect the oscilloscope (1) to R terminal.
③ Set to the TEST mode.
④ Press OPEN/CLOSE key. (Focus search mode)
⑤ During 5 seconds of FOCUS search mode, confirm that the waveform is as shown in Fig. C.
⑥ Confirm that the pick-up head's objective lens moves smoothly from the lowest point to the highest point.

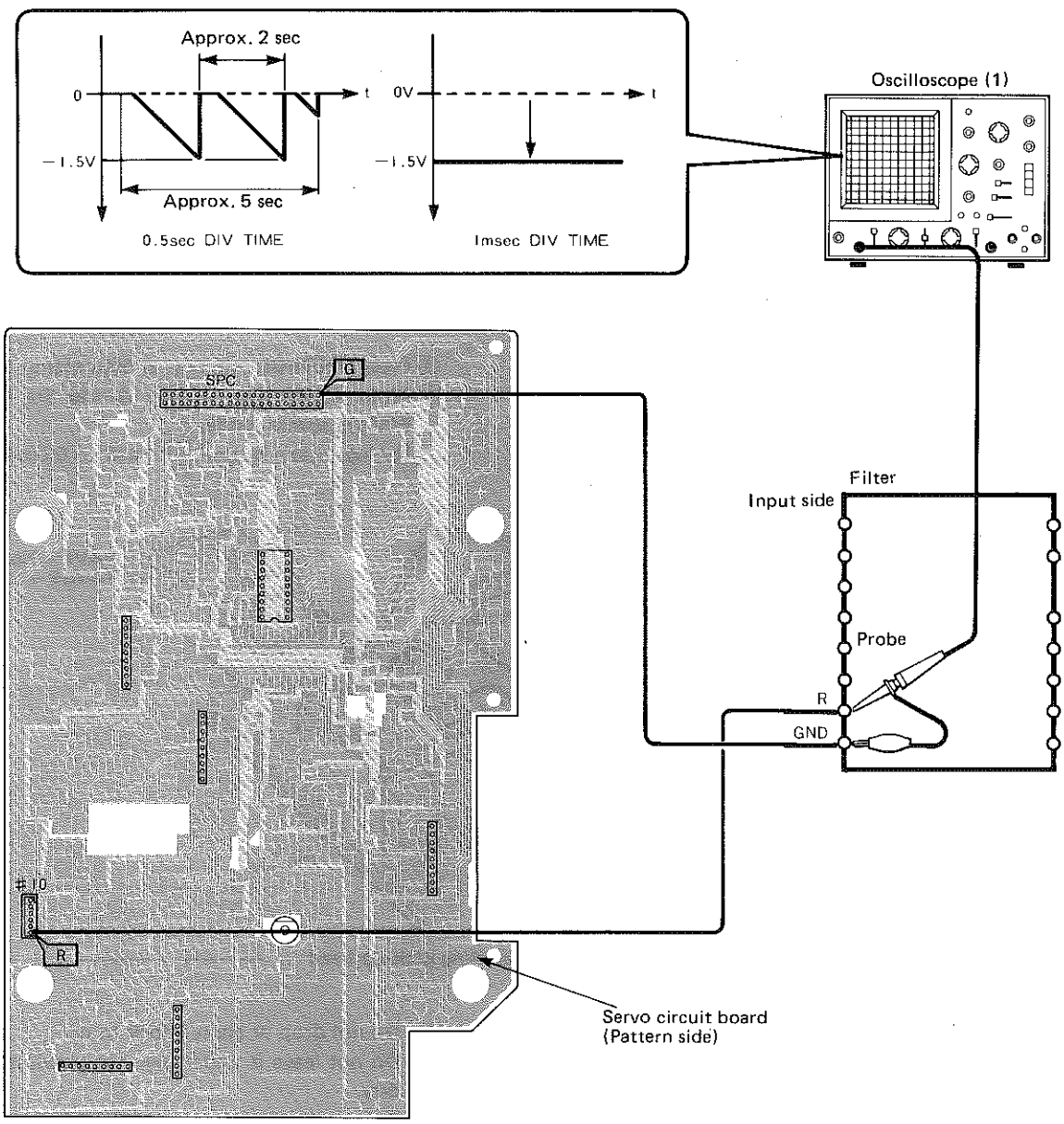


Fig. C

Adjustment of VCO (Step 3)

① Connect the shorting cord and frequency counter as shown in Fig. D. (Short-circuit between EFMI and GND.)
* Be sure to use the probe (10:1 for oscilloscope) for input to the frequency counter.
② Do not load the disc.
③ Set to the TEST mode.
④ Press the STOP key.
⑤ Wait for longer than a minute after the POWER switch is turned ON and while observing the frequency counter indication, adjust L501 core so that it satisfies the rating.
Rating: F_{VCO} = 4.3218 MHz ± 10 kHz

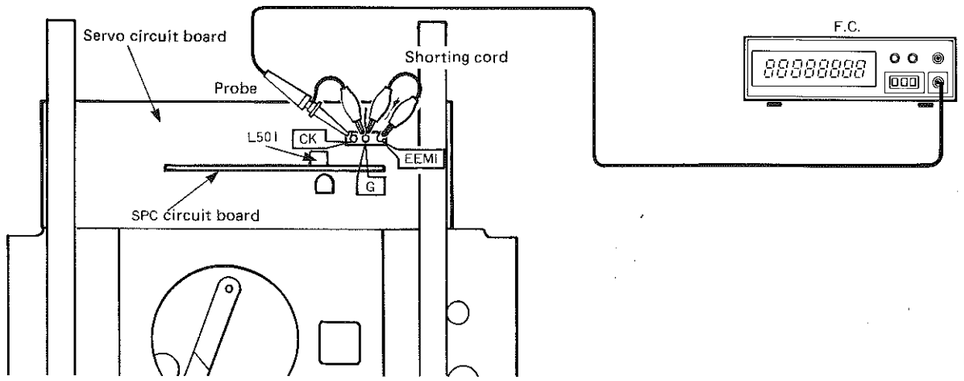


Fig. D

Adjustment of Diffraction Grating (Step 4)

* This adjustment requires use of 2 oscilloscopes.

Oscilloscope (1) setting conditions

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

Oscilloscope (2) setting conditions

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

* Oscilloscope (2), should have frequency response of 50MHz or greater.

① Connect the filter and measuring instruments as shown in Fig. E.
1) Connect the oscilloscope (1) to [TER] terminal.
2) Connect the oscilloscope (2) to [EFMI] terminal.
② Set to the TEST mode.
③ Load the disc.
④ Press the OPEN/CLOSE key.
⑤ Wait for 2 seconds before pressing the PLAY key.
⑥ Press the "2" key.
⑦ Set SW1 in the filter to ON.
(Short-circuit between [TDI] terminal and [Q] terminal. TRACKING SERVO → OFF)
⑧ Observe the waveform on the oscilloscope (1).
⑨ Adjust the diffraction grating screw so that the [TER] signal amplitude becomes maximum and satisfies the rating.
Rating: E_{TER} = 200mVp-p
* When the disc has stopped rotating, press PLAY key again and make adjustment.
* Adjust at the inner circumference of the disc.
⑩ Set SW1 in the filter to OFF.
(TRACKING SERVO → ON)
⑪ Confirm that the [EFMI] signal (eye-pattern) appears on the oscilloscope (2).
* Set to the point where [TER] signal amplitude is maximum and [EFMI] signal waveform can be observed finely and clearly.

Oscilloscope (1)

[TER] signal amplitude in this state is 400mVp-p.

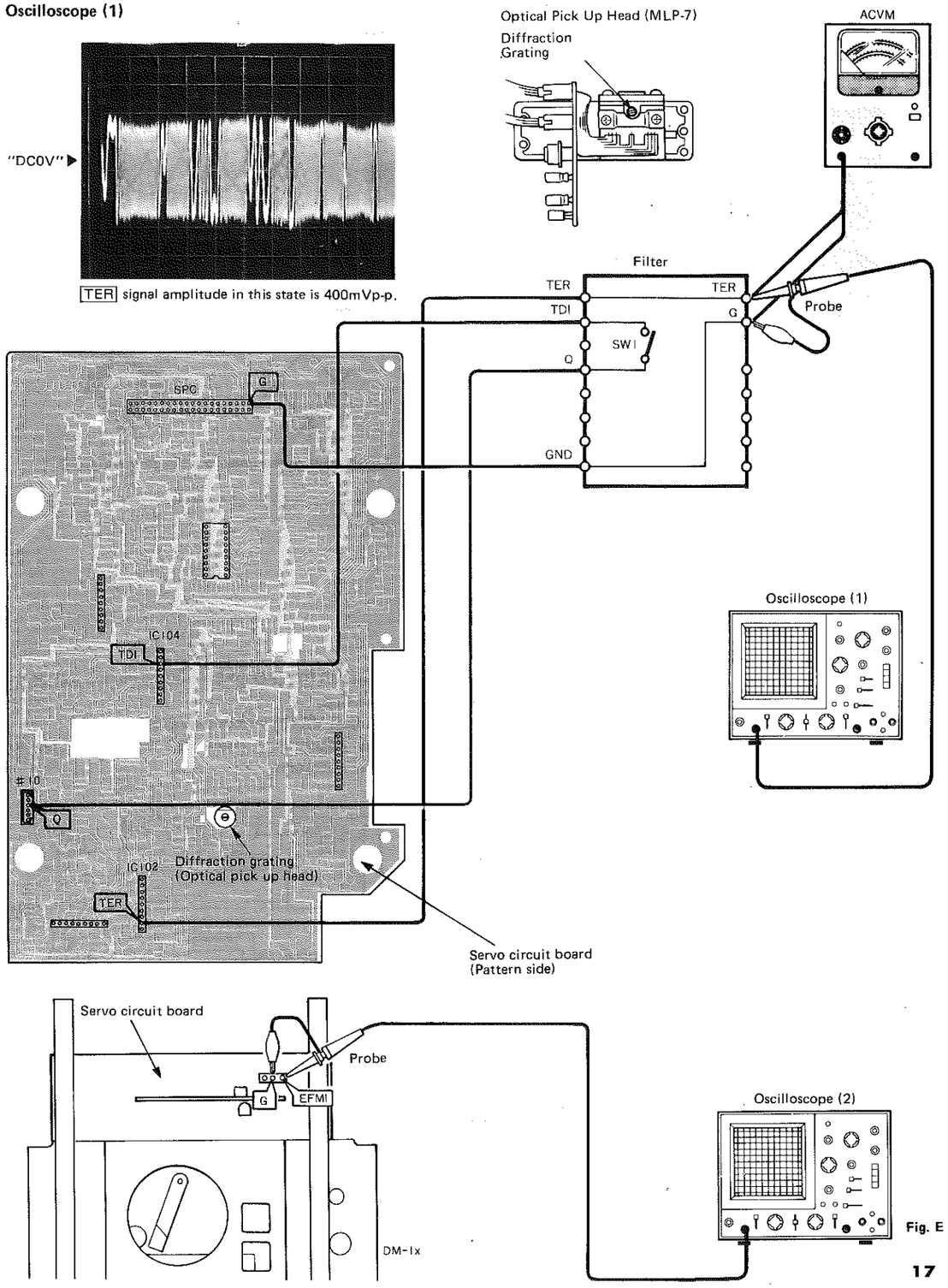
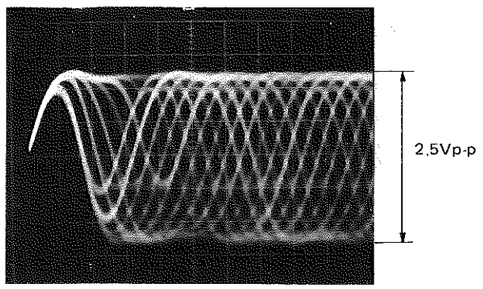


Fig. E

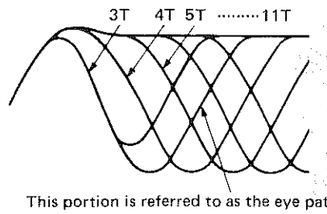
Oscilloscope (2)

Eye pattern



0.5μsec/div time (Horizontal)
0.5V/div (Vertical)

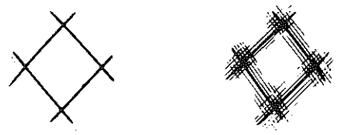
Waveforms 3T – 11T.



This portion is referred to as the eye pattern.

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

Good waveform **Abnormal waveform**



Adjust so that the good waveform is obtained.

Adjustment of Jitter and Focus Offset (Step 5)

Oscilloscope (2) Settings

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

① Remove the disc unit.
② Connect the oscilloscope (2) to EFMI terminal.
③ Set to the TEST mode.
④ Load the specified disc YEDS-18.
⑤ Press the PLAY key.
⑥ Adjust the head base tilting screw so that the EFMI signal (eye-pattern) becomes distinct and clear.
* Adjust at the center of the disc.

⑦ Adjust VR102 (FO OFS) in the same manner as the above step.
* Adjust VR102 within the range of ±45°.
⑧ After adjustment, check the FOCUS search for proper operation.

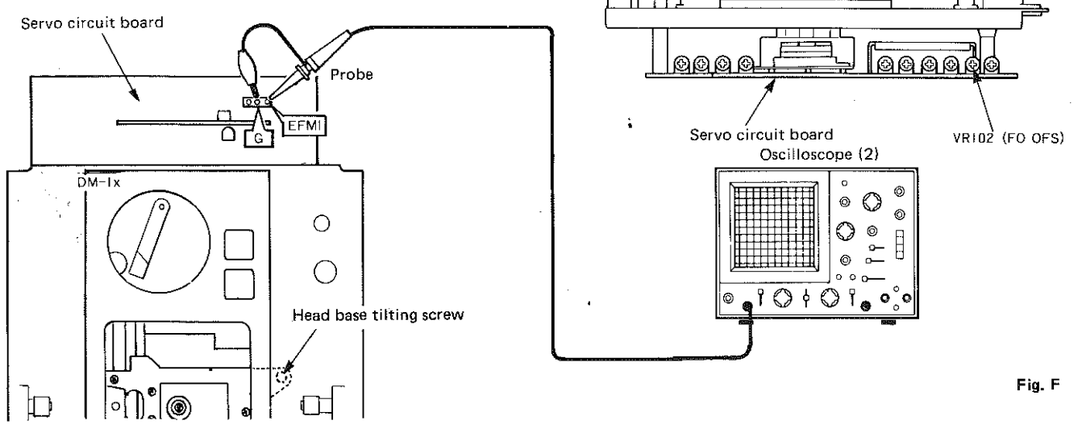


Fig. F

Adjustment of EF Balance (Step 6)

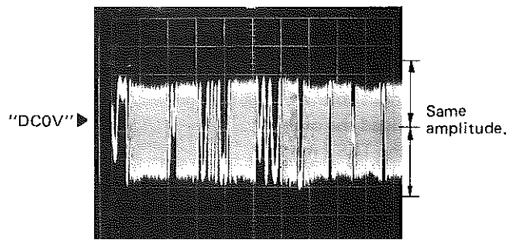
Oscilloscope (1) settings

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

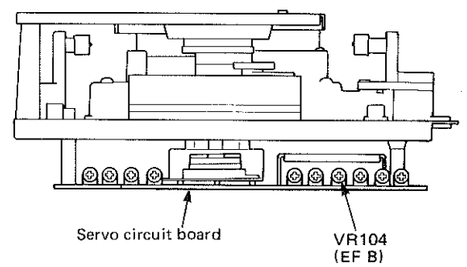
① Connect the filter and measuring instruments as in Step 4.
② Set to the TEST mode.
③ Load the disc.
④ Press the OPEN/CLOSE key.
⑤ PRESS the PLAY key.
⑥ Press the "2" key.
⑦ Set SW1 in the filter to ON.
(Short-circuit TDI terminal and Q terminal.
TRACKING SERVO → OFF)
⑧ Observe the waveform on the oscilloscope (1).
⑨ Adjust VR104 (EF B) so that the amplitude of the TER signal becomes equal above and below DC 0V position.

Good

Rating DC offset → Less than ±10mV.



This shows DC 0V state.

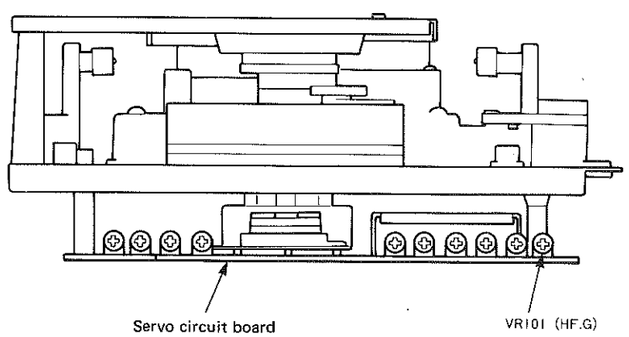


Adjustment of HF Level (Step 7)

Oscilloscope (2) setting

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

① Connect the oscilloscope (2) to the EFMI terminal as in Step 5.
② Set to the TEST mode.
③ Load the specified disc YEDS-18.
④ Press the OPEN/CLOSE key.
⑤ Press the PLAY key.
⑥ Adjust VR101 (HF G) so that the EFMI level becomes 2.5 Vp-p.
* Adjust at the center of the disc.



Adjustment of Focus Gain (Step 8)

* 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. G.
Apply an 800 Hz, 4.5 Vrms signal from the AF oscillator to the [FDI] terminal via the resistor (220 kΩ).
② Set SW3 in the filter to OFF.
③ Set SW2 in the filter to F (FOCUS).
④ Set to the TEST mode.
⑤ Load the disc.
⑥ Press the OPEN/CLOSE key.
⑦ Press the PLAY key.
⑧ Set SW3 to ON.
⑨ Read the indications of the AC voltmeters (CH1: E_{FO}, CH2: E_R).
⑩ Adjust VR103 (FO G) so that AC voltmeter indications satisfy the rating.
Rating: $E_{FO} - E_R = 10dB$ 0dBV = 1V

Reference	E_{FO}	−16 dBV (160mV)
	E_R	−26 dBV (50mV)

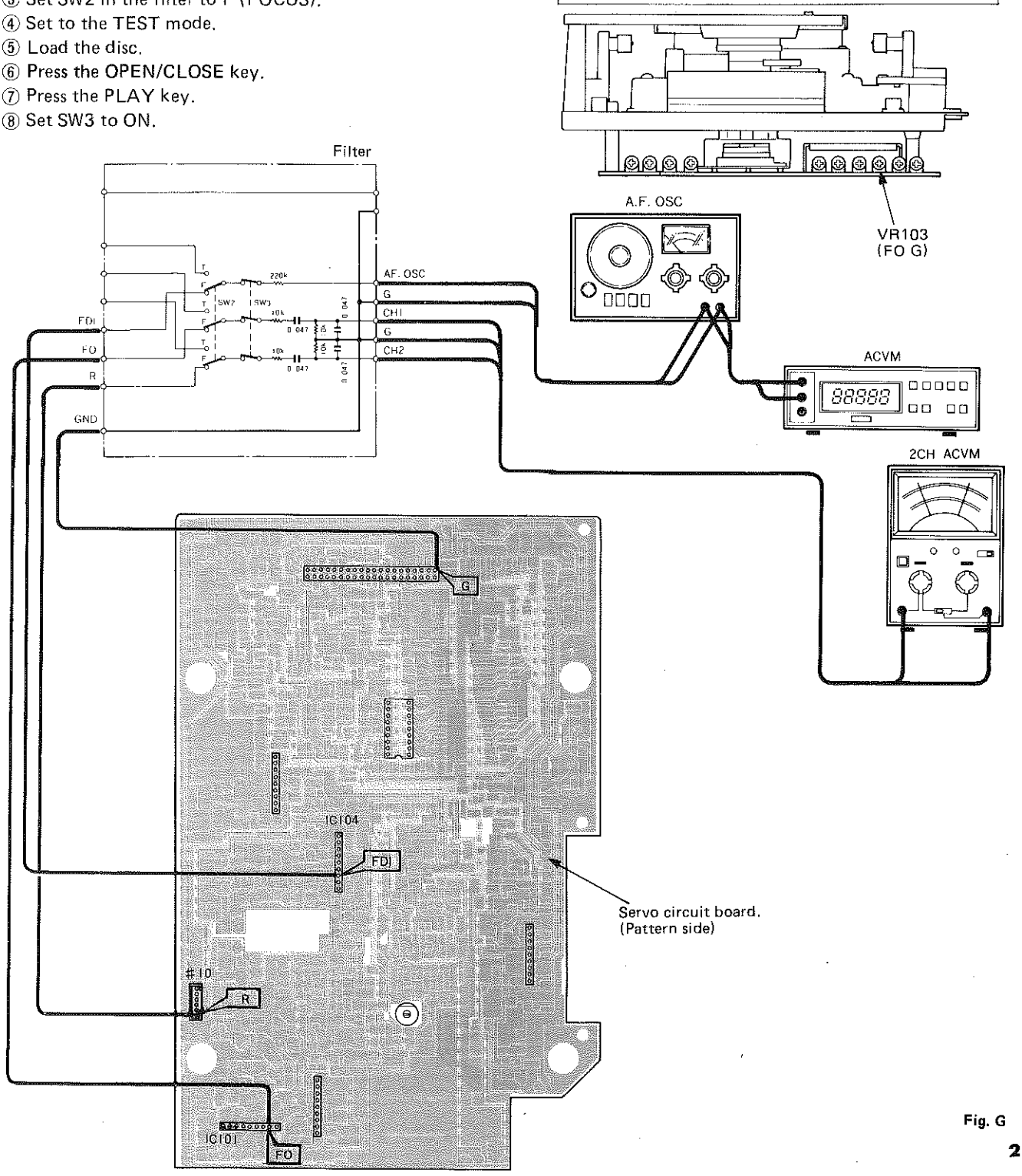
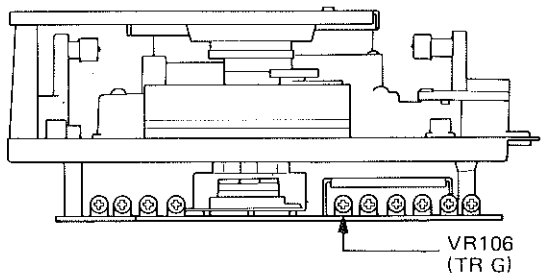


Fig. G

Adjustment of Tracking Gain (Step 9)

* 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. H.
Apply an 800 Hz, 100 mVrms signal from the AF oscillator to the TDI terminal via the resistor (220 kΩ).
② Set SW3 in the filter to OFF.
③ Set SW2 in the filter to T (TRACKING).
④ Set to the TEST mode.
⑤ Load the disc.
⑥ Press the OPEN/CLOSE key.
⑦ Press the PLAY key.
⑧ Set SW3 to ON.
⑨ Read the indications of the AC voltmeters (CH1: E_{TE}, CH2: E_Q).



⑩ Adjust VR106 (TR G) so that AC voltmeter indications satisfy the rating.
Rating: $E_{TE} - E_Q = 15dB$ 0dBV = 1V

Reference E_Q	−30 dBV (30mV)
E_{TE}	−15 dBV (131mV)

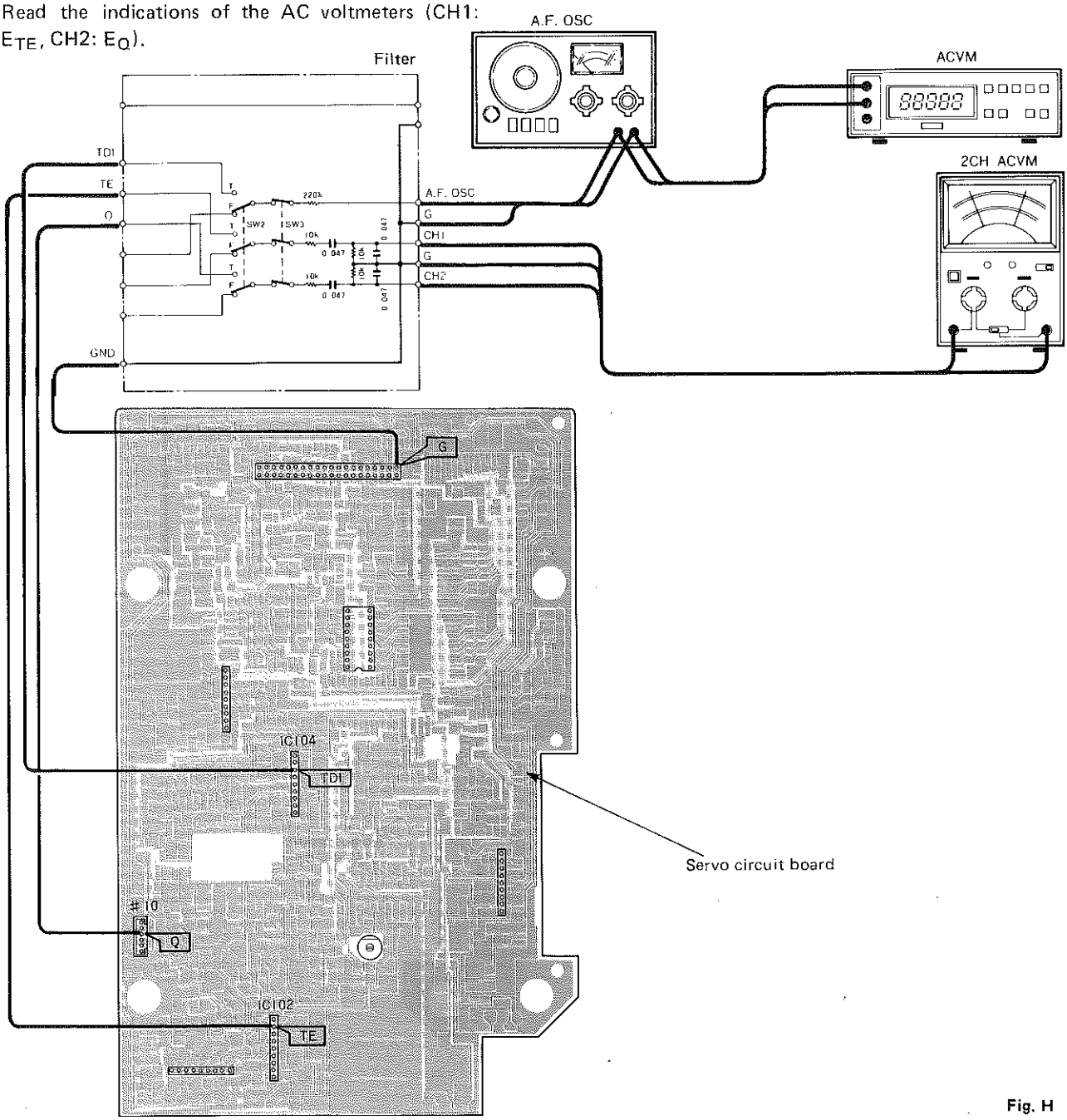


Fig. H

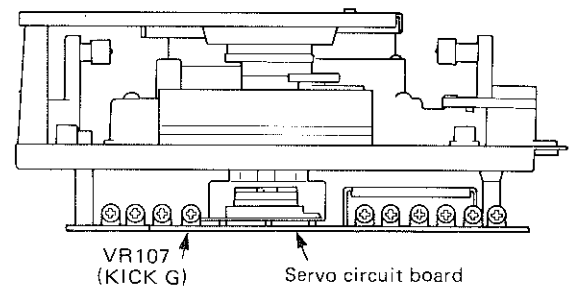
CDX-10000

Adjustment of Kick Gain (Step 10)

Oscilloscope (1) (2-ch oscilloscope) Settings

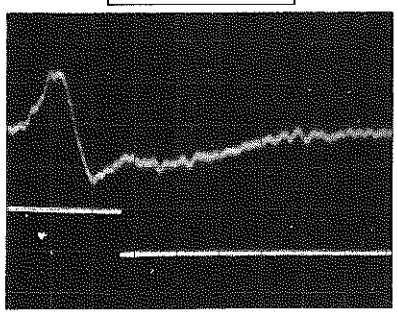
- DC coupling
- CH1 → TER terminal: 0.1 V/div (Vertical)
  (10 mV/div when 10:1 probe is used)
- CH2 → TRHD terminal: 5 V/div (Vertical)
  (0.5 V/div when 10:1 probe is used)
- TRIGGER MODE: 2 CH
- 0.2 msec/div time (Horizontal)

① Connect the filter and measuring instruments as shown in Fig. I.
② Set to the TEST mode.
③ Load the disc.
④ Press the OPEN//CLOSE key.
⑤ Press the PLAY key.



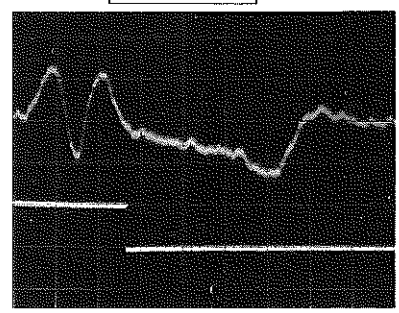
⑥ Press the FF mode key (▶▶) and check the waveform.
⑦ Adjust VR107 (KICK G) so that the TER signal cycle becomes 1.5 ± 0.5 while the TRHD signal level is high.
* Adjust at the inner circumference of the disc.
⑧ Confirm that in the Reverse mode, the TER signal cycle satisfies the rating given in ⑦ but in the reverse phase.

Incorrect



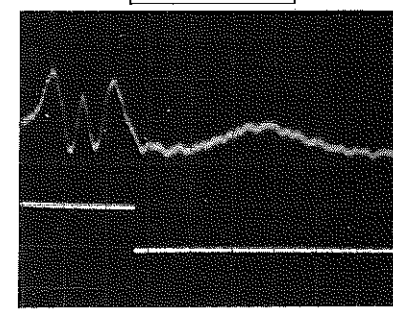
This shows about 0.9 cycle which is incorrect.

Good



This shows about 1.7 cycle which is within specification.

Incorrect



This shows about 2.5 cycle which is incorrect.

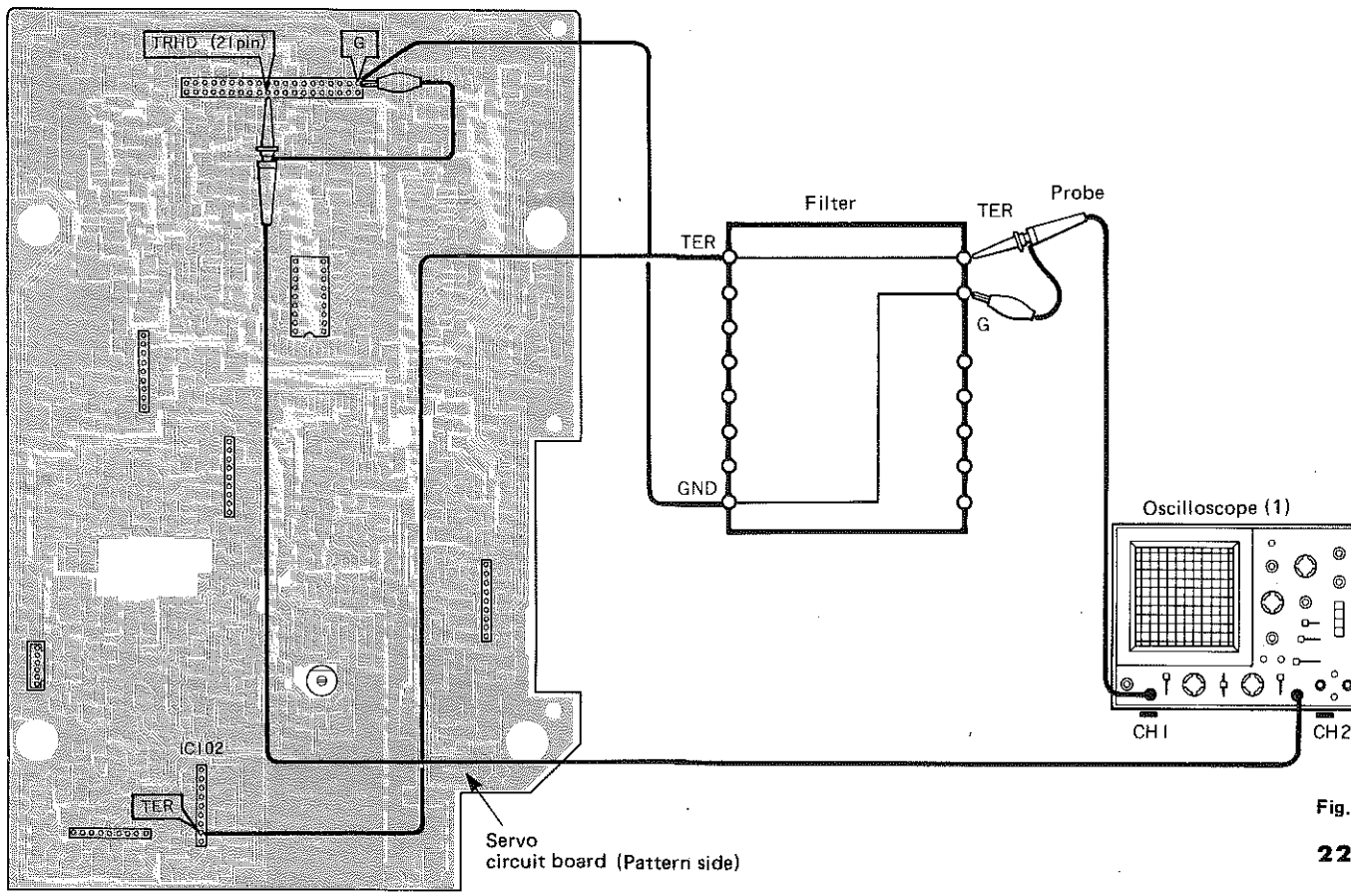


Fig. I

Adjustment of Tracking Offset (Step 11)

① Connect the DC voltmeter to the [Q] terminal.
② Set to the TEST mode.
③ Press the STOP key.
④ Adjust VR105 (TR OFS) so that the DC voltmeter indication satisfies the rating.
Rating: E_Q = 0V ± 25mV

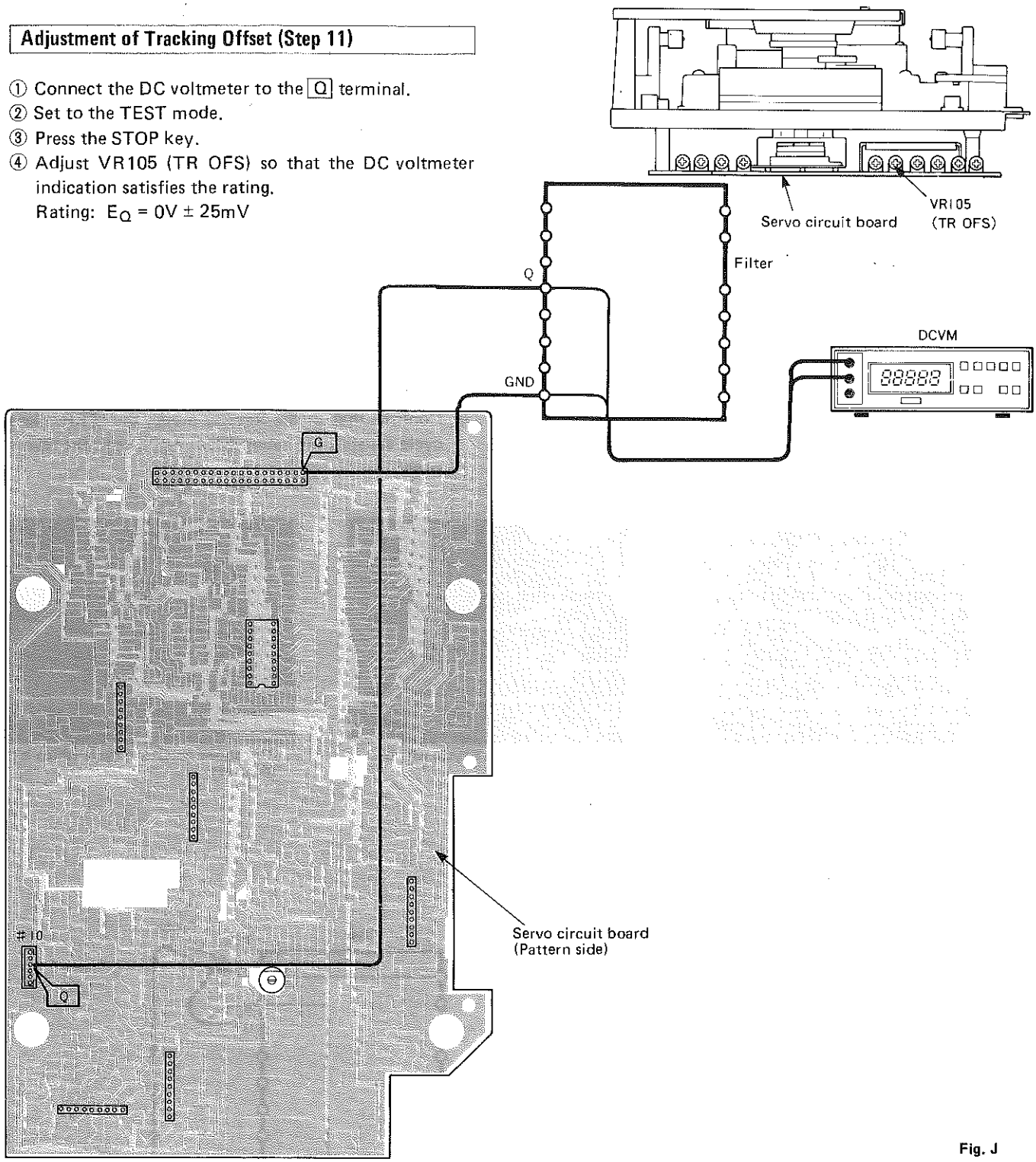


Fig. J

Confirmation of Jitter (Step 12)

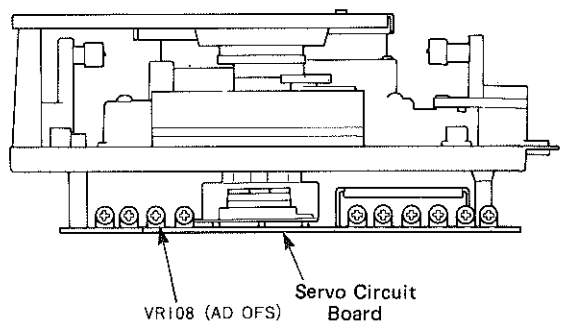
① Confirm the jitter rating as in ⑥ of Step. 5.
② When the tilting screw has been readjusted, go back to Step 5 and carry out adjustments all over from there.

Confirmation of Search Mode (Step 13)

① Load the disc.
② Press the PLAY key.
③ Press the Fast Forward mode key (▶▶) and confirm that the displayed time advances smoothly.
④ The displayed time should advance accurately and smoothly in both Fast Forward (▶▶) and Reverse (◀◀) modes.

Adjustment of AD Offset (Step 14)

① Connect the DC voltmeter to the 8 pin of IC107.
② Set to the Test mode.
③ Press the "1" key.
④ Force the Feed to move all the way to the outer circumference and fix it there.
⑤ Adjust VR108 (AD OFS) so that the specified rating is obtained.
Rating: E = 0V ± 100mV



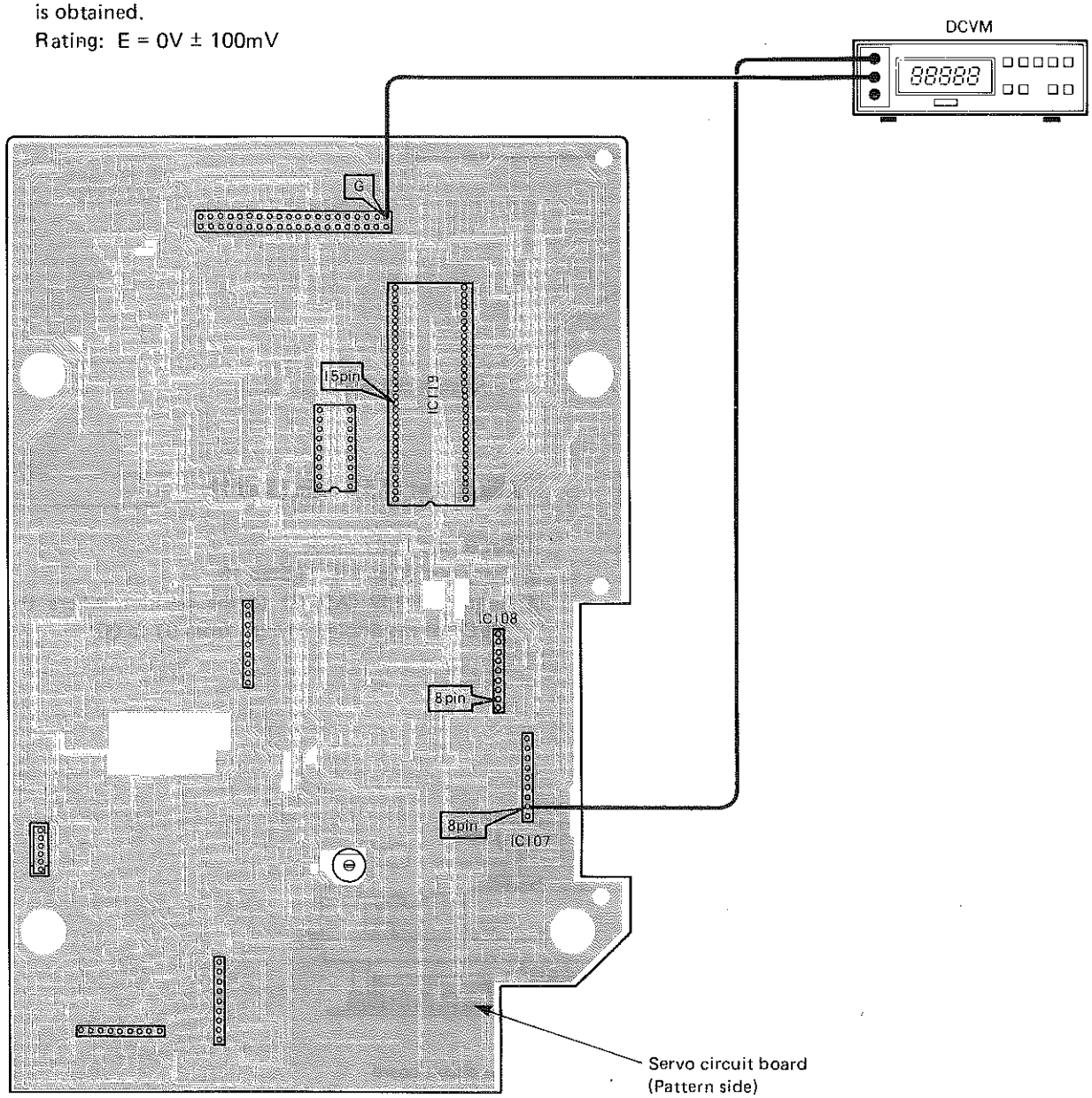
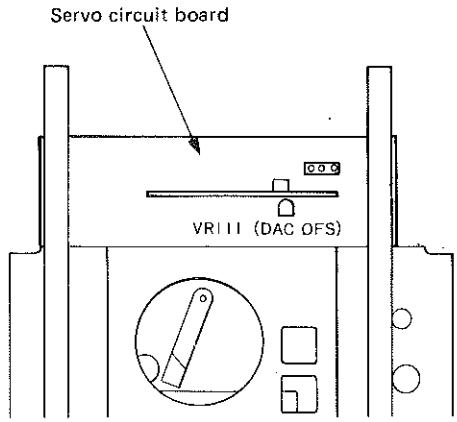


Fig. K

Adjustment of DAC Offset (Step 15)

① Do not load the disc.
② Connect the DC voltmeter to the 7 pin of IC118.
③ Set to the TEST mode.
④ Carry out ③ and ④ of Step 14.
⑤ Adjust VR111 (DAC OFS) so that the specified rating is obtained.
Rating: E = 0V ± 10mV
⑥ Confirm AD offset as described in Step 14. If the disc play "SEC" indicates FE or more (hexadecimal), set it to FF by adjusting VR108.
If less than FF, move back to Step 14 and readjust.



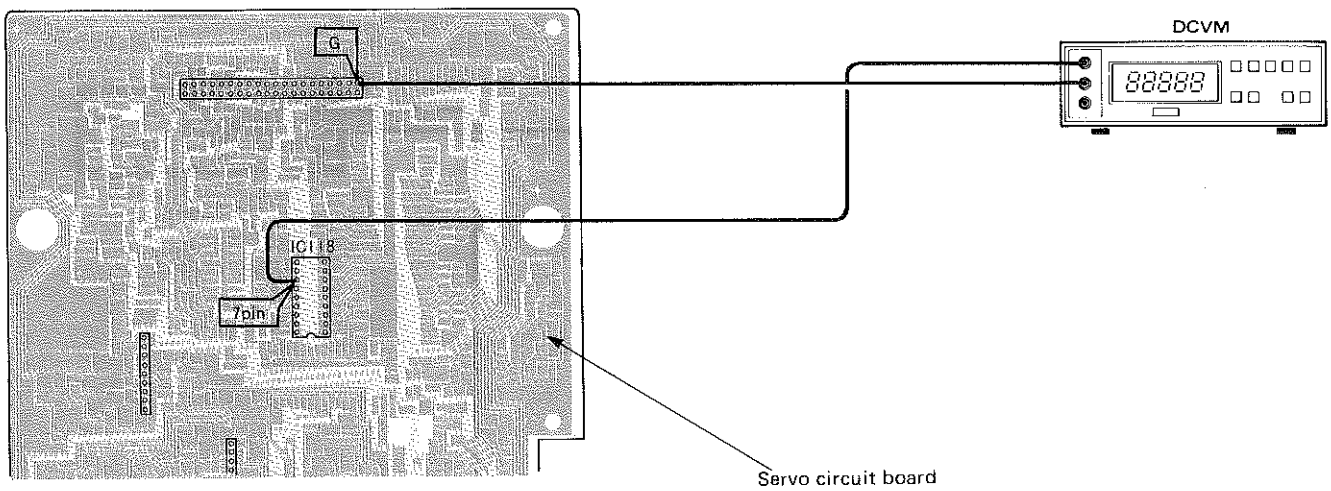


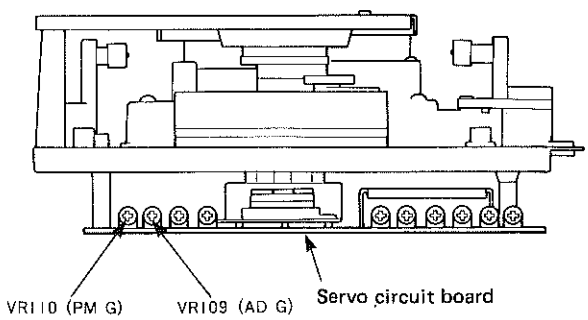
Fig. L

Adjustment of PM Gain (Step 16)

① Connect the DC voltmeter to the 8 pin of IC108 as shown in Fig. K.
② Set to the TEST mode.
③ Press the "0" key.
④ Force the Feed to move all the way to the inner circumference and fix it there.
⑤ Adjust VR110 (PM G) so that the specified rating is obtained.
Rating: E = 0 ± 100mV

Adjustment of AD Gain (Step 17)

① Set to the TEST mode.
② Carry out ③ and ④ of Step 16.
③ Adjust VR109 (AD G) to the position where the "SEC" of the display changes from 01 to 00.



Confirmation of FG pulse (Step 18)

① Connect the oscilloscope and frequency counter to 15 pin of IC119. (See Fig. K.)
② Set to the test mode.
③ Load the disc.
④ Press the OPEN/CLOSE key.
⑤ Press the PLAY key.
⑥ Check to ensure that the pulse (square wave) is generated. (varies depending on disc position)

Adjustment of DAC Offset (Step 19)

① Connect the DC voltmeters to the 9 pin of IC606 (L ch) and IC605 (R ch) respectively.
② Set to the TEST mode.
③ Press the STOP key.
④ Adjust VR602 (L ch) and VR601 (R ch) so that the specified rating is obtained. This adjustment should be made in the STOP mode.
Rating: E = 0^{+0}_{-1} mV

Adjustment of DAC Distortion (Step 20)

① Connect the distortion meter to the LINE OUT terminal.
② Set to the TEST mode.
③ Load the disc.
④ Press the OPEN/CLOSE key.
⑤ Press the PLAY key.
⑥ Maximum the OUTPUT LEVEL.
⑦ Adjust VR604 (L ch) and VR603 (R ch) so that the distortion of 1kHz, 0dB output becomes minimum (less than 0.003%).

Adjustment of Output Offset (Step 21)

① Connect the DC voltmeter to the LINE OUT terminal.
② Set to the TEST mode.
③ Press the STOP key.
④ Maximize the OUTPUT LEVEL.
⑤ Adjust VR606 (L ch) and VR605 (R ch) so that the specified rating is obtained.
Rating: E = 0 ± 1mV

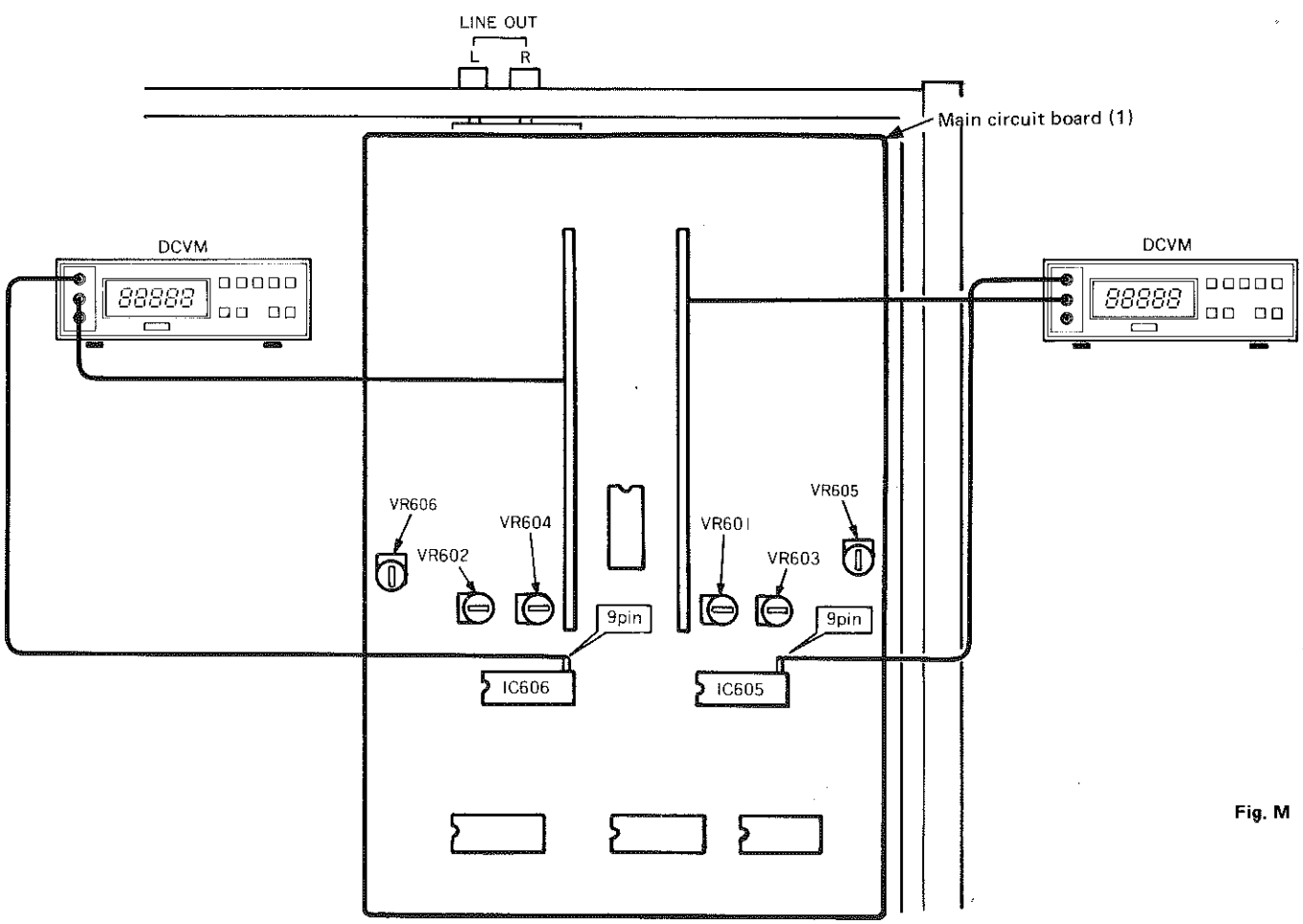
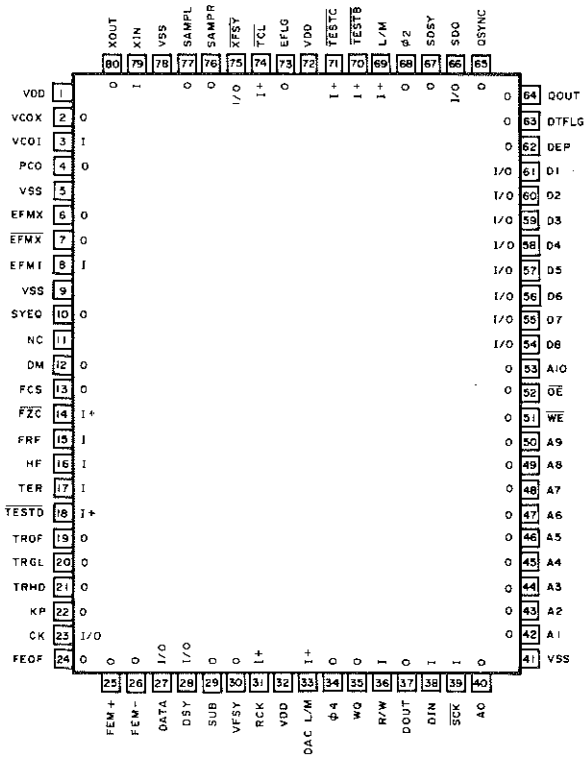


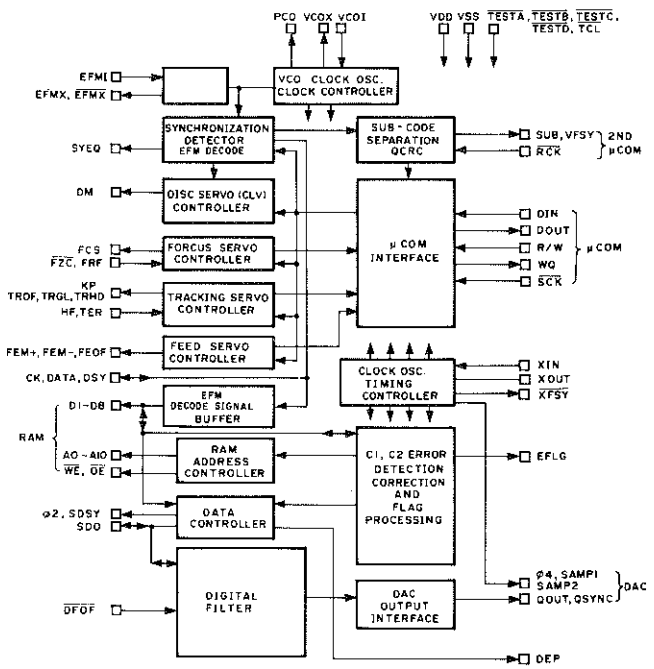
Fig. M

LSI DATA

IC501: YM3816 Signal Processor & Controller for Compact Disc Player (SPC)

YM-3816 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.

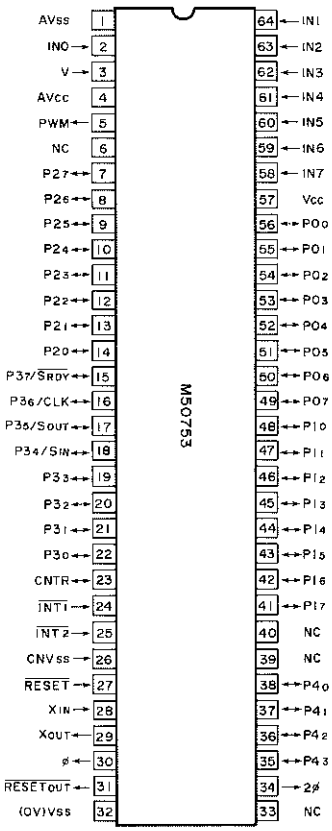


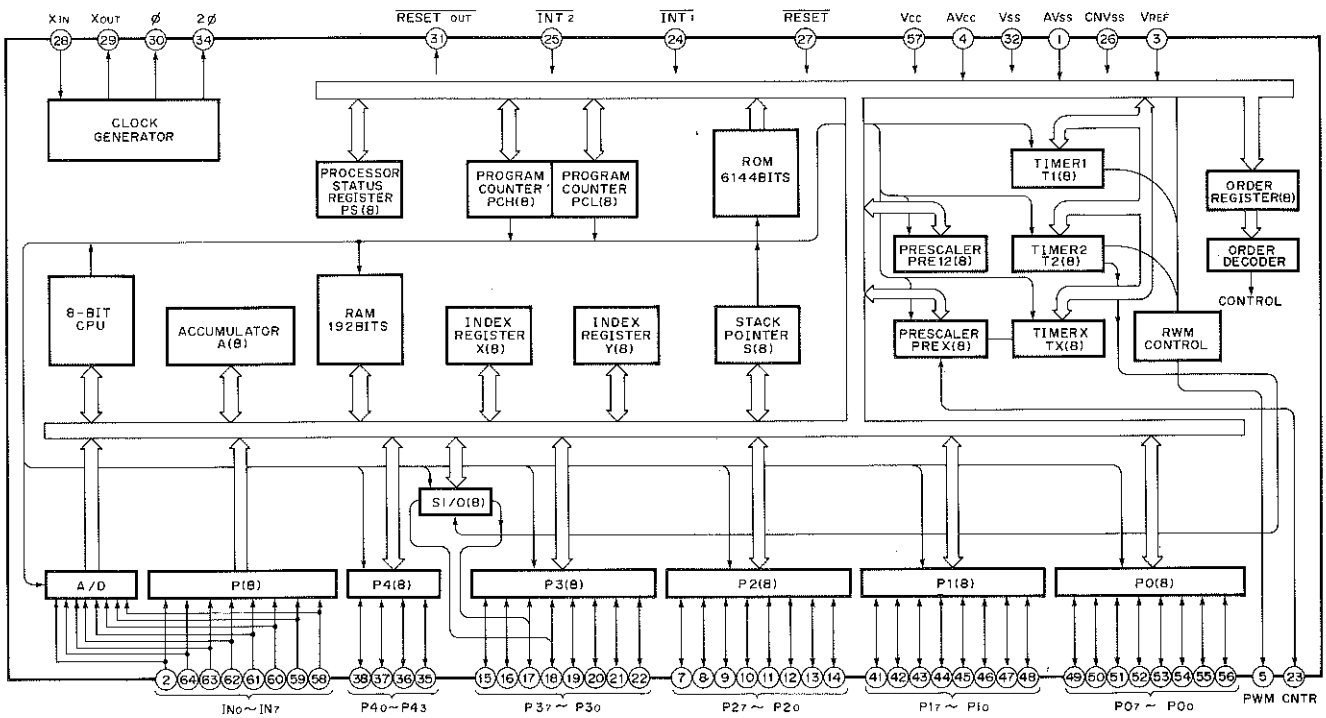


Pin No.	Pin Name	I/O	Function
1	VDD		Power Supply
2	VCOX	O	Clock Playback Circuit 4PCO
3	VCOI	I	
4	PCO	O	
5	VSS		GND
6	EFMX	O	EFM Signal External Circuit
7	$\overline{\text{EFMX}}$	O	
8	EFMI	I	
9	VSS		GND
10	SYEQ	O	Synchronized Uniform Signal
11	N.C.		Not Use
12	DM	O	Disc Servo { LOW (0V): FORWARD OPEN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

Pin No.	Pin Name	I/O	Function
23	CK		EFM Demodulated Signal Check Output (4.3218MHz, clock)
24	FEOF	O	Feed Servo System
25	FEM+	O	
26	FEM–	O	
23	CK	I/O	EFM Demodulated Signal Check Output (4.3218MHz clock)
27	DATA	I/O	
28	DSY	I/O	
29	SUB	O	Sub-code Output
30	VFSY	O	
31	RCK	I	
32	VDD		Power Supply
33	NC	I	Not Use
34	ϕ4		4.3218 MHz Clock
35	WQ	O	Q Code Output System → Q code Output μCOM Command
37	DOUT	O	Data Output to μCOM
36	R/W	I	Data I/O Control Signal
39	$\overline{SCK}$	I	Clock for Data I/O
38	DIN	I	Data I/O from μCOM
41	VSS		GND
40	A0	O	RAM Connections
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	$\overline{WE}$	O	
52	$\overline{OE}$	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	Data Error Signal → Data Control Circuit Board Serial Signal Output
66	SDO	O	Digital Data Output LSB first/MSB first
67	SDSY	O	
68	ϕ2	O	2.1659MHz Clock
69	L M	I	SB first (H)/MSB first (L) Switch for SDO
71	$\overline{TESTC}$	I	Test Terminal
64	NC	O	Not Use → DAC Interface
65	SDSYMD	O	BB Word Clock for DAC
76	SAMPR	O	Deglitch Signal
77	SAMPL	O	
34	ϕ4	O	4.3218MHz Clock
18	$\overline{TESTD}$	I	Test Terminal
70	$\overline{TESTB}$	I	
74	TCL	I	
72	VDD		Power Supply
73	EFLG	O	C1, C2 Error Correction Check Signal
75	$\overline{XFSY}$	I/O	Synchronized Clock Signal
78	VSS		GND
79	XIN	I	Clock Oscillation
80	XOUT	O	

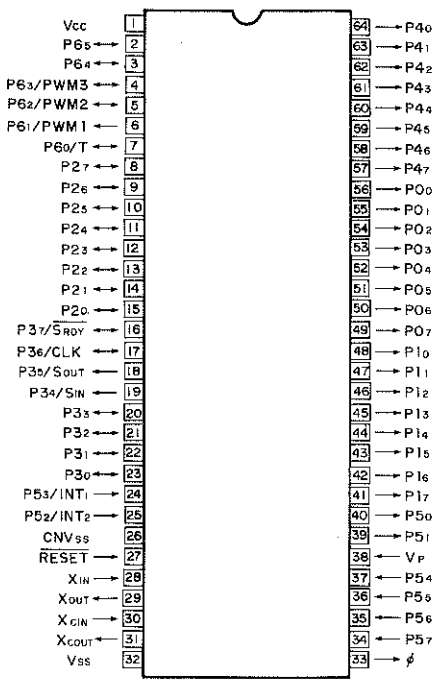
IC119 : M50753-402SP (8 bit μ-COM)

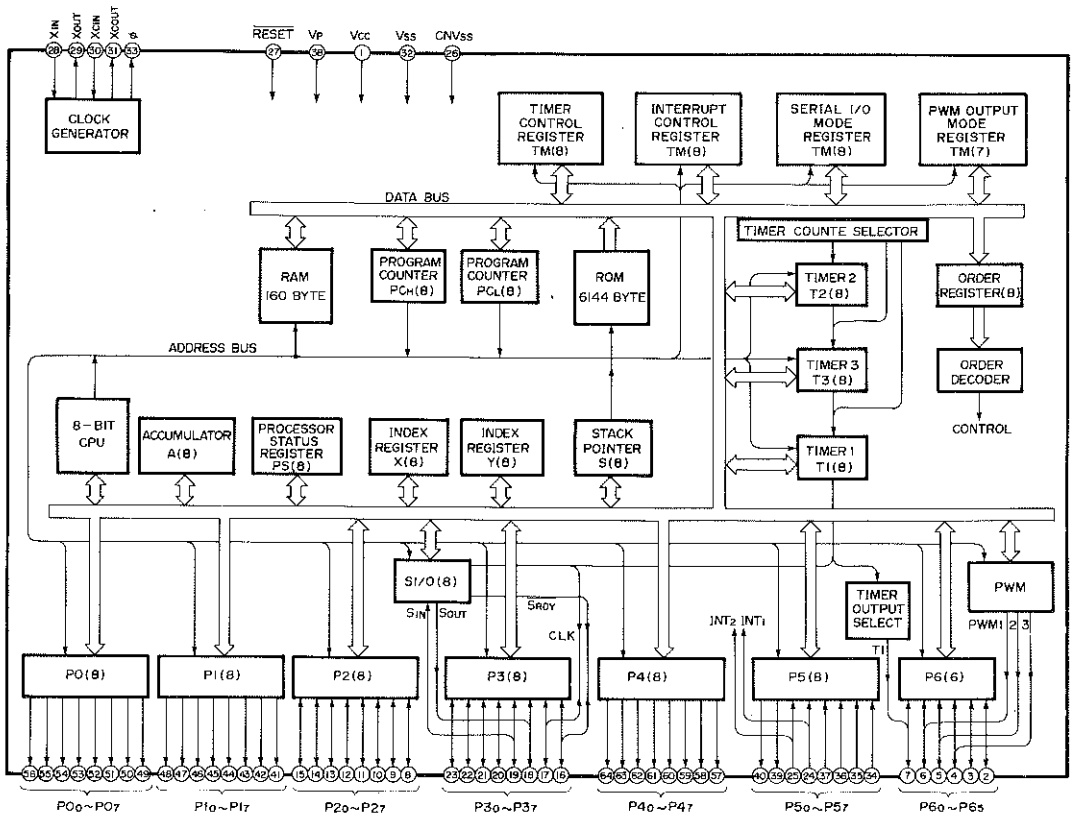




Pin No.	Pin Name	I/O	Function
1	AV_{SS}	—	A/D GND
2	INO	I	A/D
3	V		A/D Vref 5V
4	AVcc	—	A/D V_{CC} 5V
5	PWM	O	—
6	NC	—	
7	$P2_7$	I/O	Linear Motor Drive
8	$P2_6$		
9	$P2_5$		
10	$P2_4$		
11	$P2_3$		
12	$P2_2$		
13	$P2_1$		
14	$P2_0$		
15	$P3_7/\overline{SRDY}$		DM FG Pulse
16	$P3_6$/CLK		Serial I/O CLK
17	$P3_5$/SOUT		Serial OUT (TO SPC)
18	$P3_4$/SIN		Serial IN (from SPC)
19	$P3_3$		R/W
20	$P3_2$		WQ
21	$P3_1$		DM Servo select
22	$P3_0$		TR Servo select
23	CNTR		Track Count
24	$\overline{INT_1}$	I	—
25	$\overline{INT_2}$		—
26	CNV_{SS}		—
27	$\overline{RESET}$		RESET
28	X_{IN}		Clock Input
29	X_{OUT}	O	—
30	ϕ		—
31	$\overline{RESET_{OUT}}$		—
32	$(OV)V_{SS}$	—	GND
33	NC	—	—
34	2ϕ	O	—
35	$P4_3$	I/O	TRACK Servo Gain Control
36	$P4_2$		LOADING OUT SW
37	$P4_1$		MUTING Output
38	$P4_0$		LASER Output
39 40	NC	—	—
41	PI_7	I/O	FLAPPER IN SW Input
42	PI_6		FLAPPER OUT SW Input
43	PI_5		DISPLAY DATA CLK Output
44	PI_4		DISPLAY DATA START Signal output
45	PI_3		
46	PI_2		
47	PI_1		
48	PI_0		
49	PO_7		DM — Output
50	PO_6		DM + Output
51	PO_5		KP — Output
52	PO_4		KP + Output
53	PO_3		FLAPPER IN Output
54	PO_2		FLAPPER OUT Output
55	PO_1		LOADING IN Output
56	PO_0		LOADING OUT Output
57	V_{CC}	—	—
58	IN_7	I	LOADING IN SW Input
59	IN_6		K5
60	IN_5		K4
61	IN_4		K3
62	IN_3		K2
63	IN_2		K1
64	IN_1		K0 — KEY Input

IC1: M50754-403SP (8 bit μ-COM)

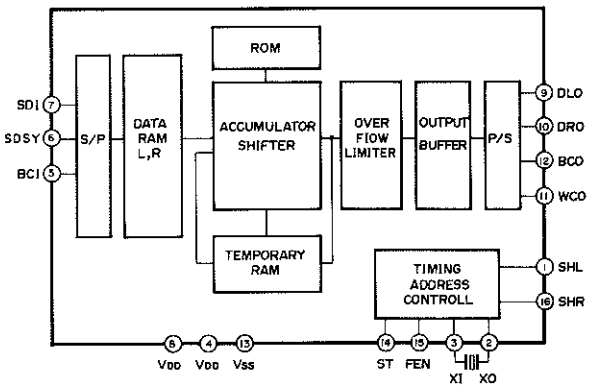




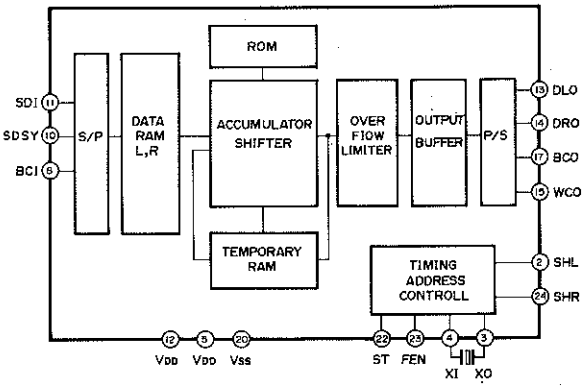
Pin No.	Pin Name	I/O	Function
1	V_{CC}		V_{CC}
2	$P6_5$	I/O	U, T } DISPLAY SEGMENT
3	$P6_4$		
4	$P6_3$/PWM3		VOLUME UP
5	$P6_2$/PWM2		VOLUME DOWN
6	$P6_1$/PWM1	O	S, V } DISPLAY SEGMENT
7	$P6_0$/T	I/O	
8	$P2_7$		DISPLAY DATA INPUT
9	$P2_6$		
10	$P2_5$		
11	$P2_4$		
12	$P2_3$		DISPLAY DATA START Signal output
13	$P2_2$		DISPLAY DATA CLK Signal output
14	$P2_1$		DISPLAY SEGMENT (K,W)
15	$P2_0$		POWER OFF detect
16	$P3_7$/$\overline{SRDY}$		KEY CODE OUTPUT
17	$P3_6$/CLK		
18	$P3_5$/SOUT	O	
19	$P3_4$/SIN	O	
20	$P3_3$	I/O	
21	$P3_2$		
22	$P3_1$		DISPLAY MODE BACKUP ON/OFF
23	$P3_0$		REMOCON INPUT
24	$P5_3$/INT_1	I	
25	$P5_3$/INT_2		
26	CNV_{SS}		GND
27	$\overline{RESET}$	I	RESET
28	X_{IN}		CLOCK INPUT
29	X_{OUT}	O	
30	X_{CIN}	I	
31	X_{COUT}	O	
32	X_{SS}		GND
33	ϕ	O	
34	$P5_7$	I	K3, K2, K1, K0 } KEY INPUT
35	$P5_6$		
36	$P5_5$		
37	$P5_4$		
38	V_P		FL DRIVE −30V : VP
39	$P5_1$	O	DISPLAY SEGMENT : R
40	$P5_0$		G8, G9, G7, G6, G5, G4, G3, G2, G1 } DIGIT SIGNAL
41	PI_7		
42	PI_6		
43	PI_5		
44	PI_4		
45	PI_3		
46	PI_2		
47	PI_1		
48	PI_0		
49	PO_7		Q, P } DISPLAY SEGMENT
50	PO_6		
51	PO_5		O, N, M, L, J, I, H, G, F, E, D, C, B, A } DISPLAY SEGMENT
52	PO_4		
53	PO_3		
54	PO_2		
55	PO_1		
56	PO_0		
57	$P4_7$		
58	$P4_6$		
59	$P4_5$		
60	$P4_4$		
61	$P4_3$		
62	$P4_2$		
63	$P4_1$		
64	$P4_0$		

IC402: YM3404DF or YM3619DF (16 bit over sampling digital filter)

- YM3404DF



- YM3619DF

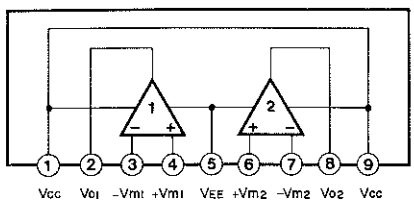


YM3619 Pin No.	YM3404 Pin No.	Pin Name	I/O	Function
11	7	SDI	I	Encoded digital signal serial input
10	6	SDSY	I	Distinction between Lch and Rch, Data input timing
8	5	BCI	I	Bit clock input for input data
4	3	XI	I	Clock OSC. 196 fs = 17.2872MHz or 192 fs = 16.9344 MHz
3	2	XO	O	
22	14	ST	I	1DAC = "L" 2DAC = "H" Switch input
23	15	FEN	I	System clock switch input 196 fs = "L" 192 fs = "H"
13	9	DLO	O	1DAC: L, Rch Data input 2DAC: Lch Data input
14	10	DRO	O	Rch Data output
15	11	WCO	O	Word clock for output data (DLO, DRO)
17	12	BCO	O	Bit clock for output data and system clock output for SPC II 98 fs = 8.6436MHz or 96 fs = 8.4672MHz
2	1	SHL	O	1DAC: Lch deglitch signal output 2DAC: L, Rch deglitch signal output
24	16	SHR	O	1 DAC: Rch deglitch signal output
12	8	VDD_1		Power supply +5V for digital signal
5	4	VDD_2		Power supply for clock and deglitch signal
20	13	Vss		GND

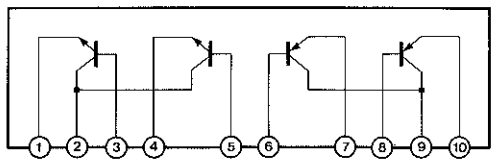
IC BLOCK

IC101, 103 ~ 110: AN6551, NJM4558S, TA75558S or BA715
IC102: NJM2043S
IC607 ~ 610: NJM5532S
IC611: NJM4556S

(Dual Ope-Amp)

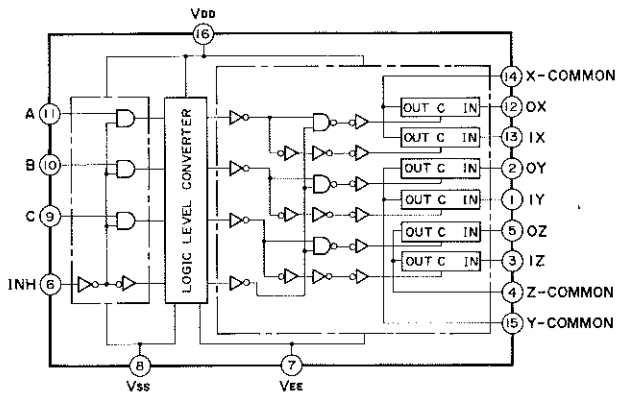


IC113: STA451C (Transistor Array)



IC117: TC4053BP, μPD4053, HD14053 or MN4053BP

(Triple-2 channel Multiplexer/Demultiplexer)

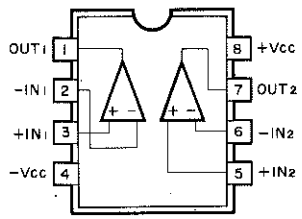


CONTROL INPUTS				"ON" CHANNEL
INHIBIT (Pin 6)	C (Pin 9)	B (Pin 10)	A (Pin 11)	0X (Pin 12), 0Y (Pin 2), 0Z (Pin 5) 1X (Pin 13), 1Y (Pin 1), 1Z (Pin 3)
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y, 0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE

* Don't Care

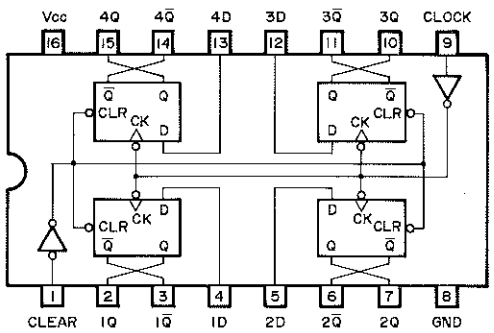
IC503: NJM2043M (T1) or AN6558S

(Dual Ope-Amp)



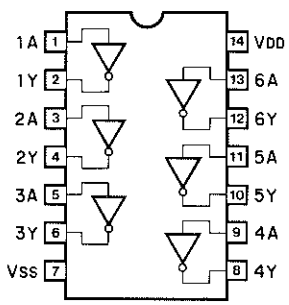
IC602: TC74HC175P or MC74HC175N

(Quad D-Type Flip-Flop with Clear)



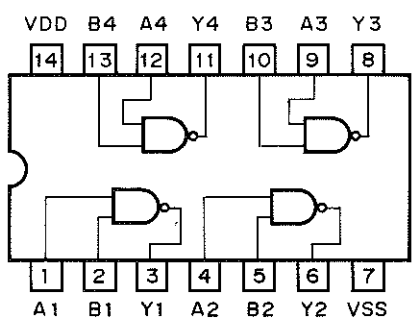
IC603: TC74HC04P or MC74HC04N
IC116: TC4069B
IC403 ~ 405: TC74HC04P

(Hex Inverter)

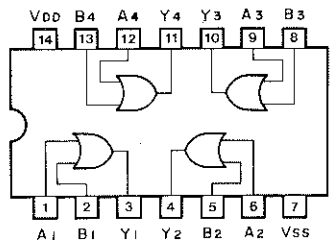


IC405: TC74HC00P

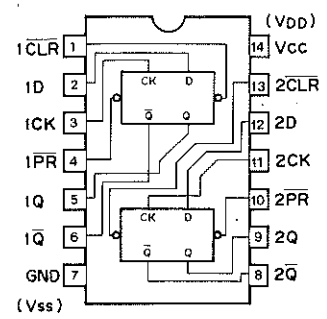
(Quad 2 Input NAND)



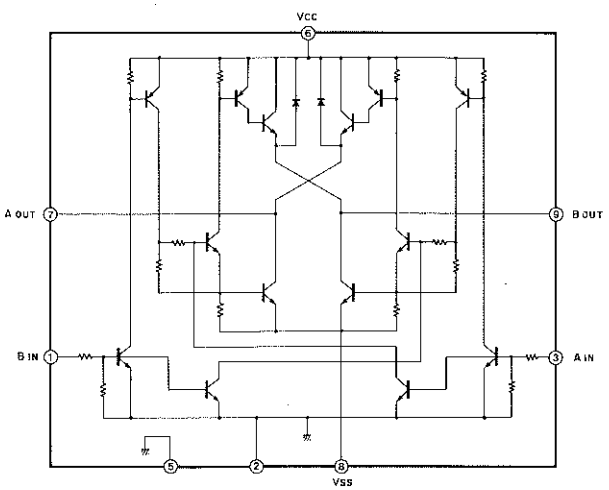
IC115: TC4071BP
(Quadruple 2-Input OR Gate)



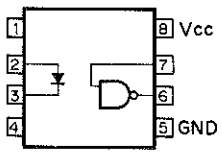
IC114: TC74HC74P
(Dual D Flip-Flop with Preset and Clear)



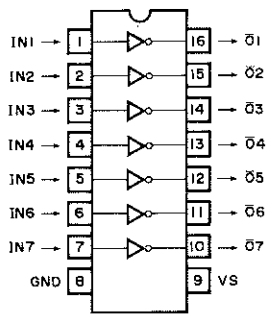
IC111, 112: BA6218 (Motor Driver)



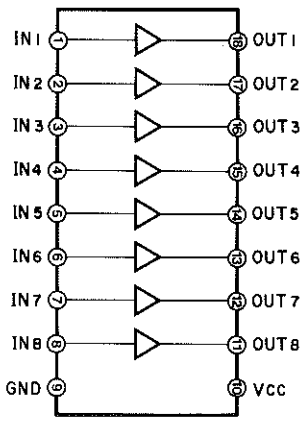
IC406 ~ 409: PC910J
IC410 ~ 412: TLP552
(Photo Coupler)



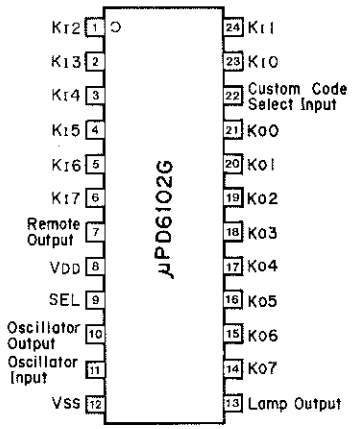
IC3: M54580P (LED Driver)

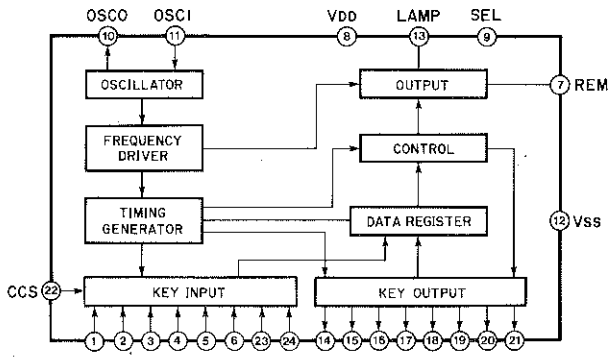


IC2: M54564P (LED Driver)

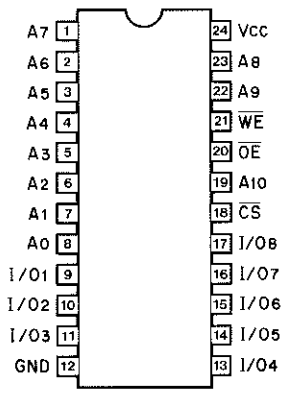


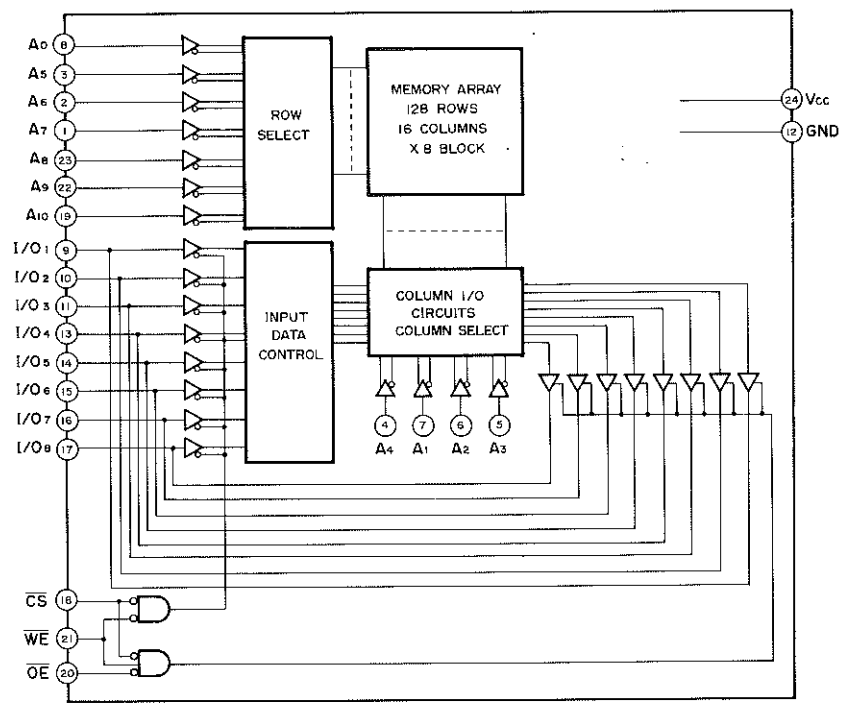
IC01: μPD6102G
(64 Function Remote Control Transmitter)



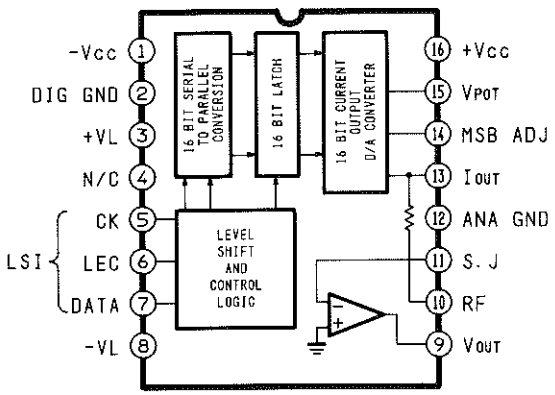


IC502: MSM5128-20GS, HM6116FP-4 or CXK5816M (RAM)

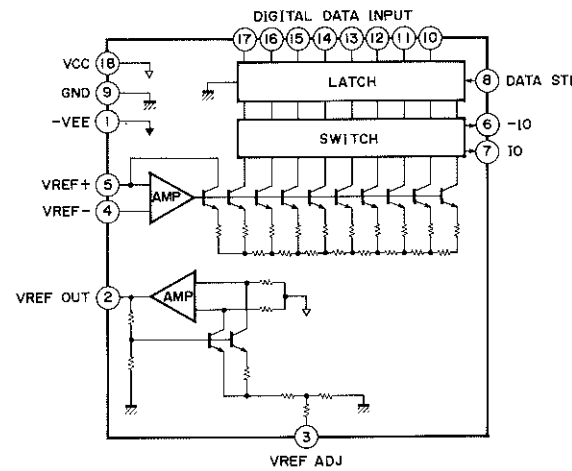




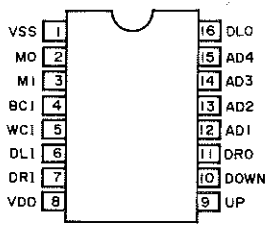
IC605, 606: PCM56P-K (D/A Converter)

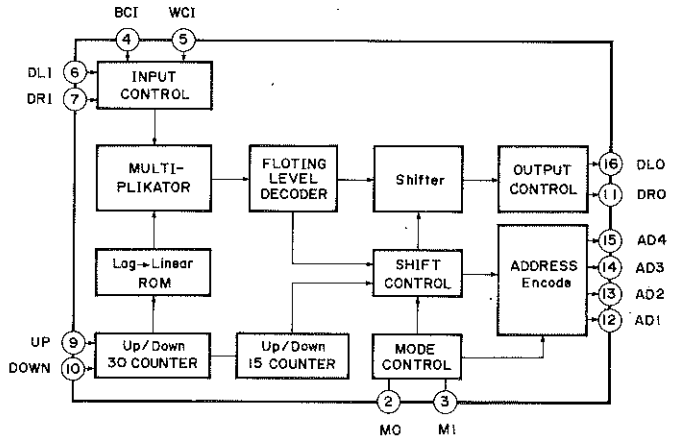


IC118: BA9201 (8 bit D/A Converter)

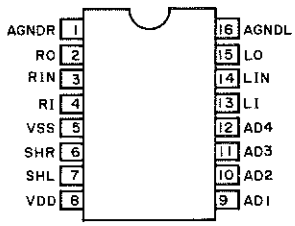


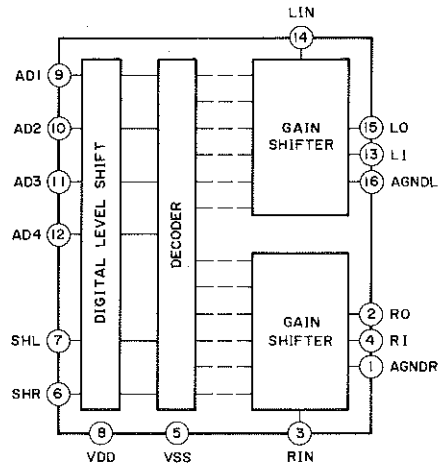
IC601: YM3615 (Digital Volume Controller)





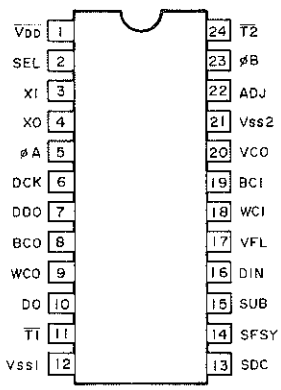
IC604: YM3023 (Gain Shifter)

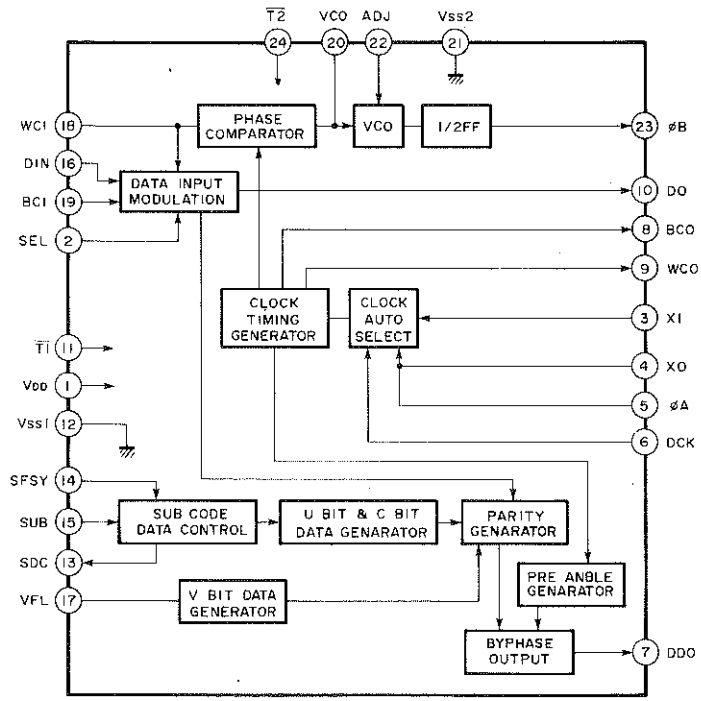




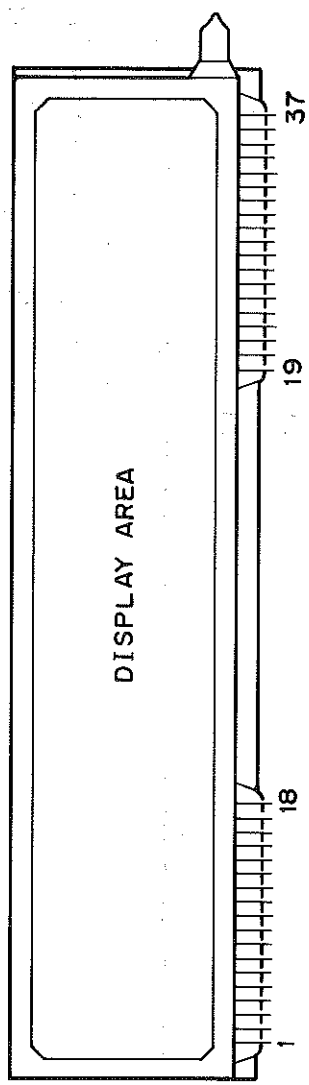
IC401: YM3613

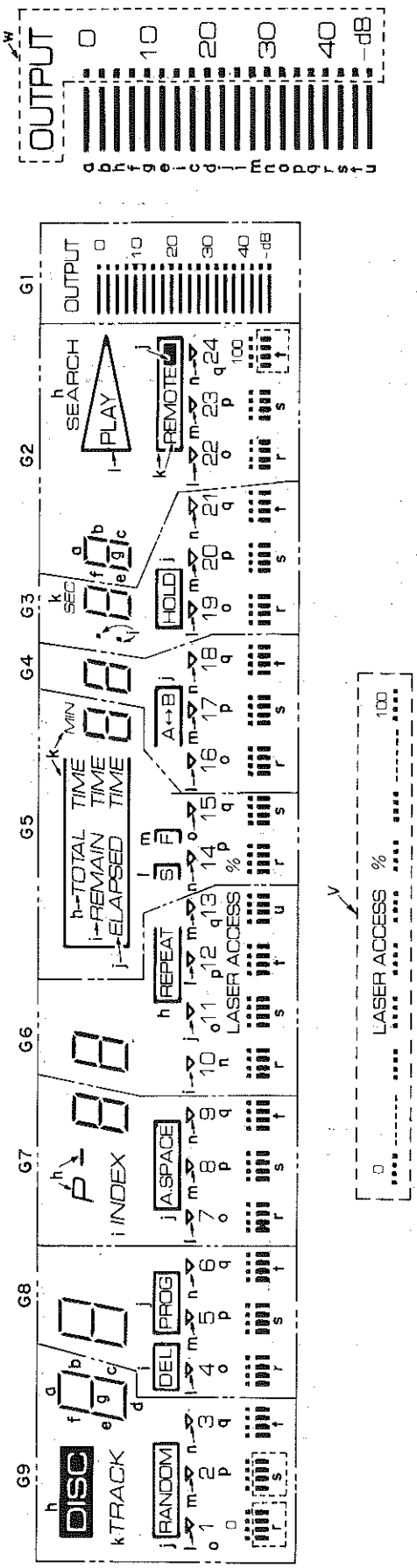
(Digital Audio Interface Transmitter)





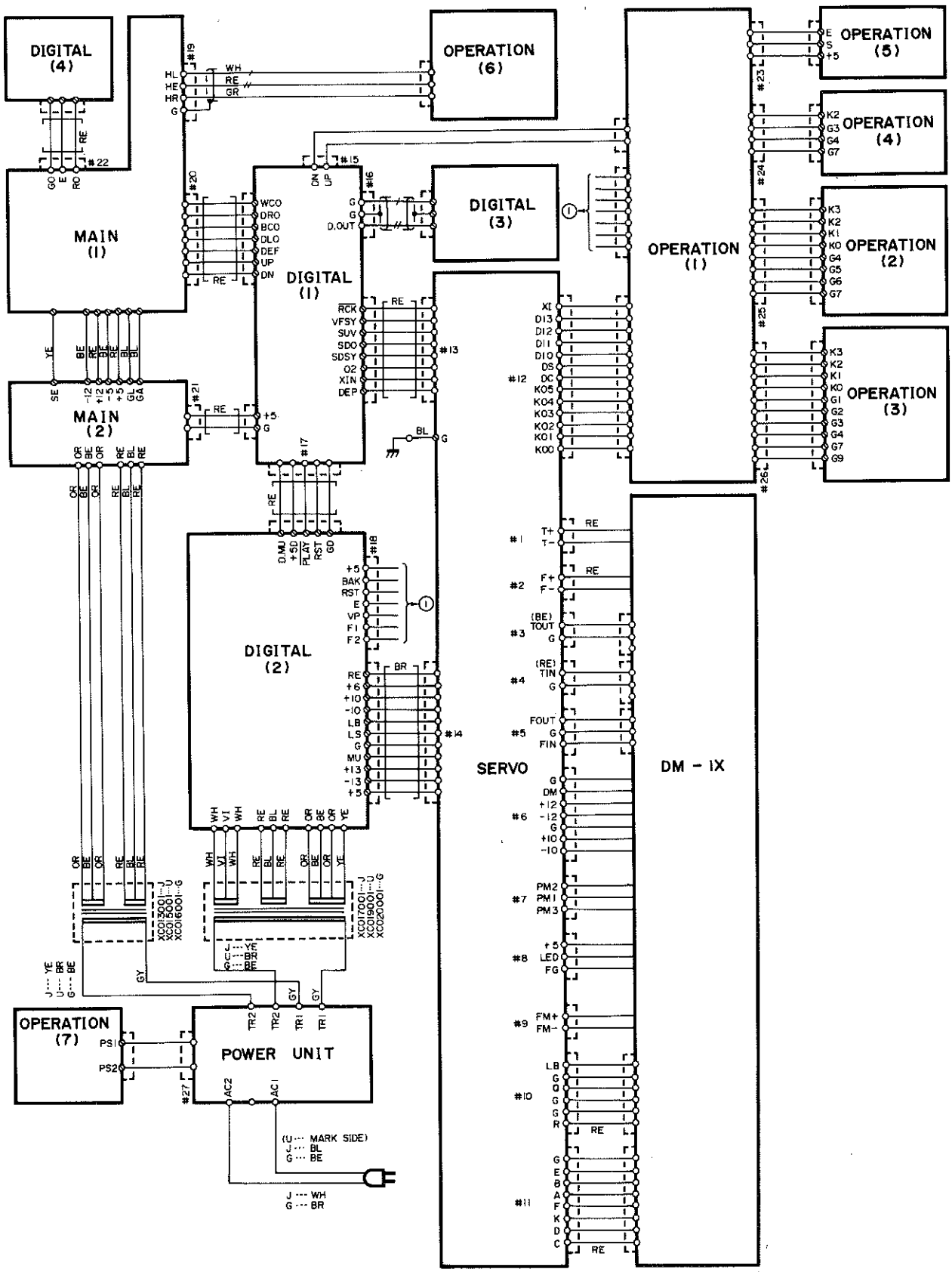
FL DATA





Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assignment	F	F	Pk	Ph	Pl	Pm	Pn	Po	Pp	Pq	Pv	Pr	Ps	G9	G8	Pt	G7	G6	G5	G4
Pin No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37			
Assignment	G3	Pu	G2	Pj	Gl	Pk	Pd	Pc	Pi	Pw	Pe	Pg	Pf	Pb	Pa	F	F			

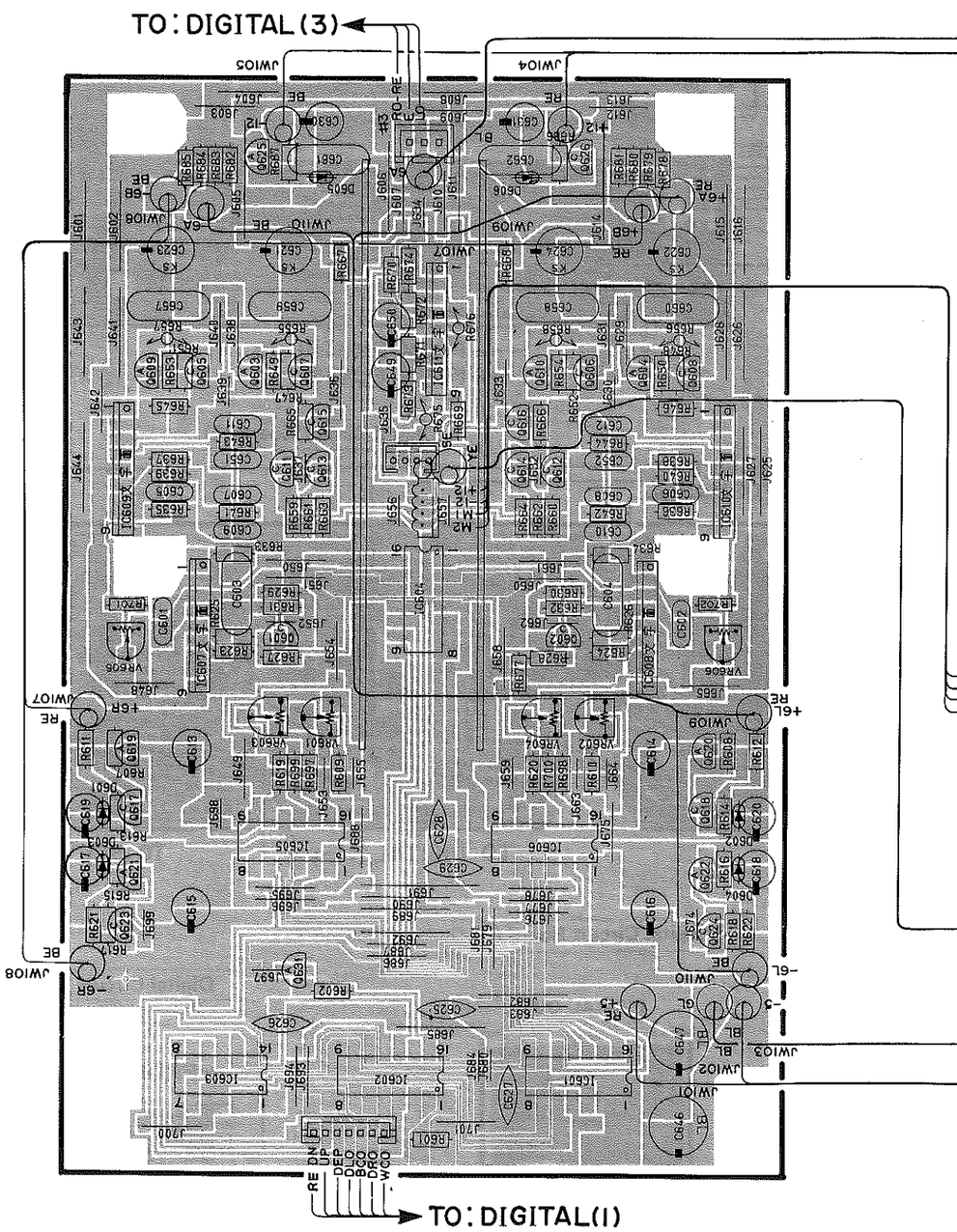
WIRING


DIGITAL (4)
MAIN (1)
MAIN (2)
DIGITAL (1)
DIGITAL (2)
DIGITAL (3)
OPERATION (6)
OPERATION (1)
OPERATION (2)
OPERATION (3)
OPERATION (4)
OPERATION (5)
OPERATION (7)
SERVO
DM - IX
POWER UNIT
#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

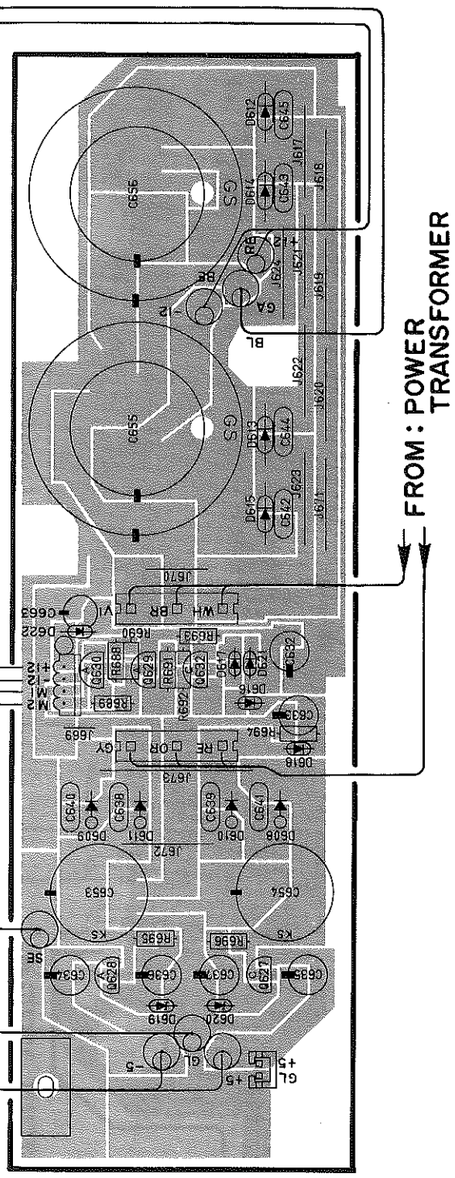
■ PRINTED CIRCUIT BOARD (Pattern side)

Note) 文字面 : Component side

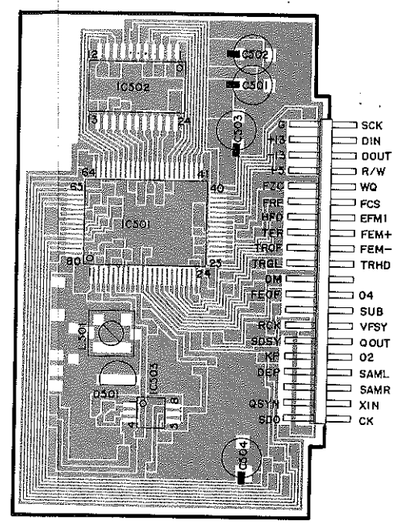
Main Circuit Board (1)



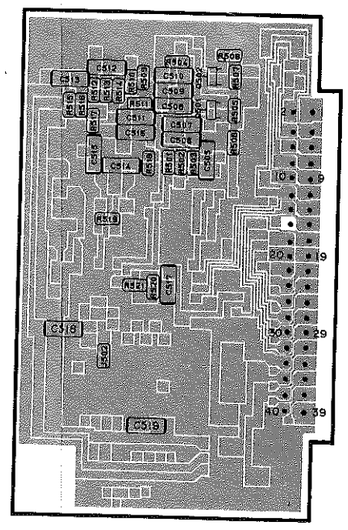
Main Circuit Board (2)



SPC Circuit Board ····· Parts



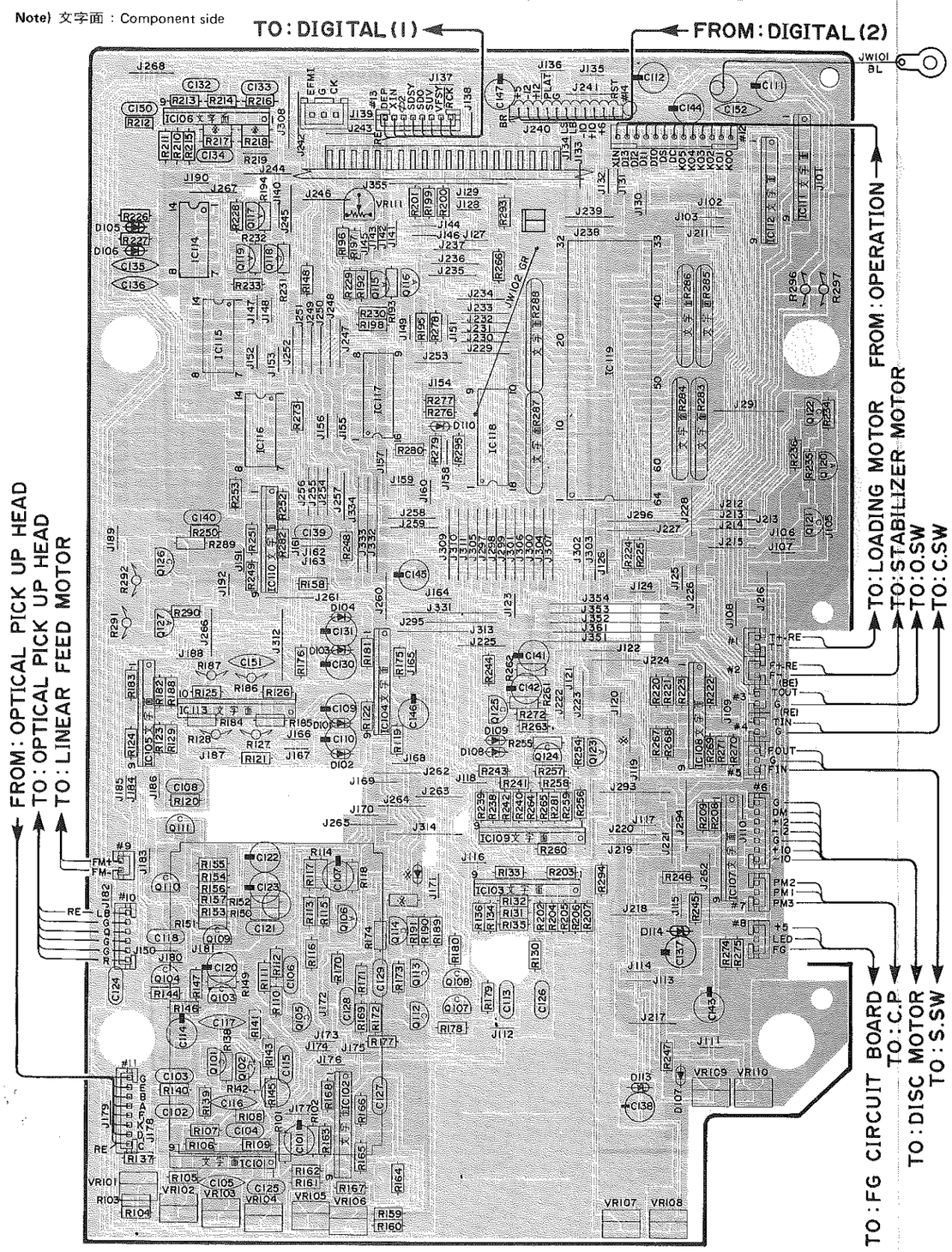
SPC Circuit Board ····· Chip



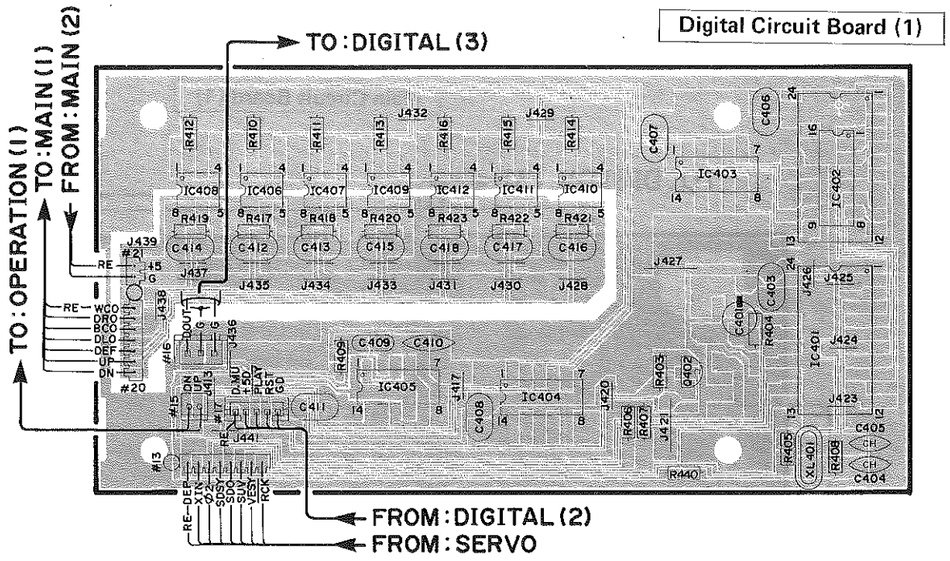
■ PRINTED CIRCUIT BOARD(Pattern side)

Servo Circuit Board

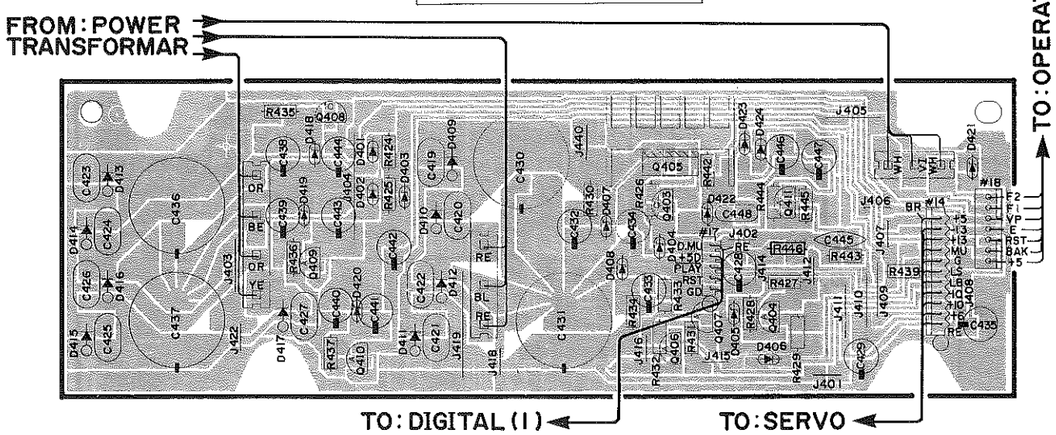
Note) 文字面 : Component side



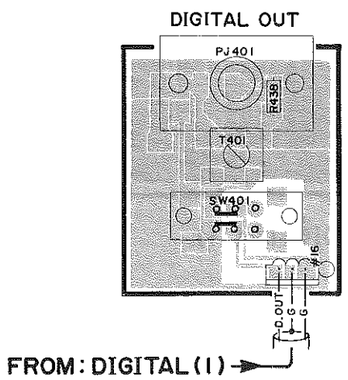
Digital Circuit Board (1)



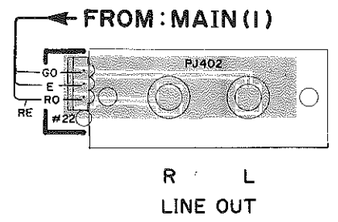
Digital Circuit Board (2)



Digital Circuit Board (3)



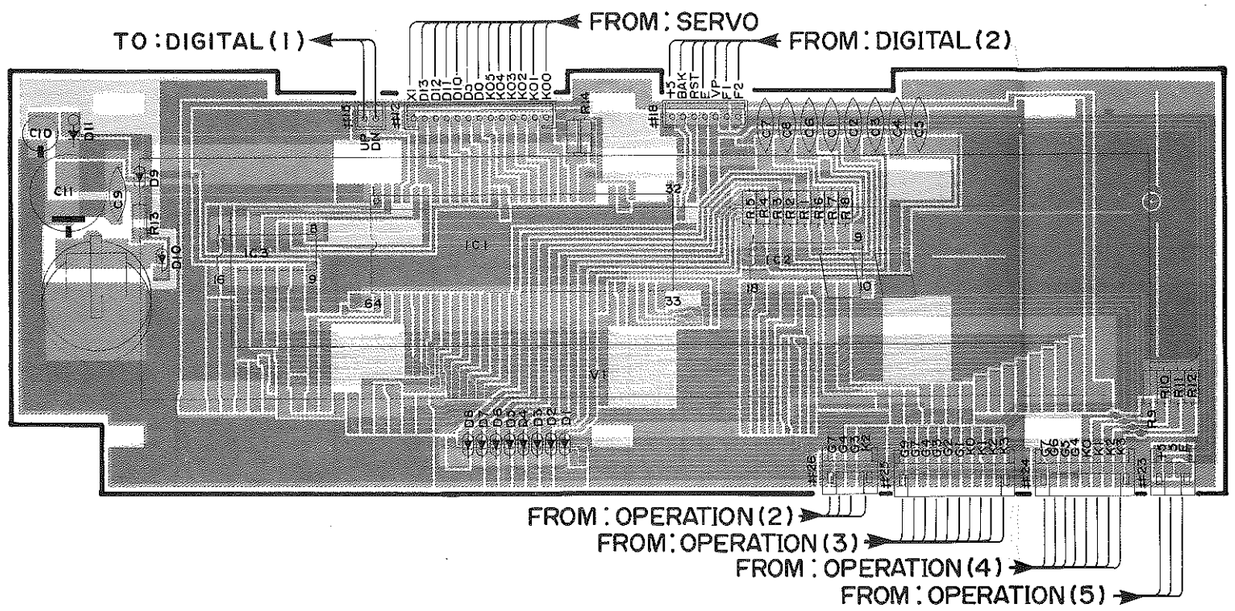
Digital Circuit Board (4)



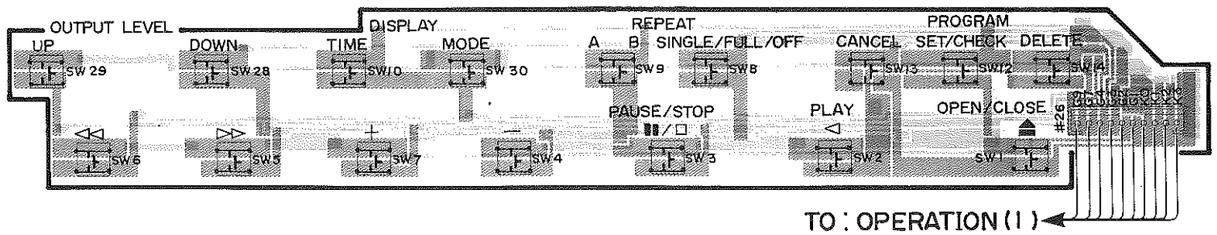
■ PRINTED CIRCUIT BOARD(Pattern side)

Note) 文字面 : Component side

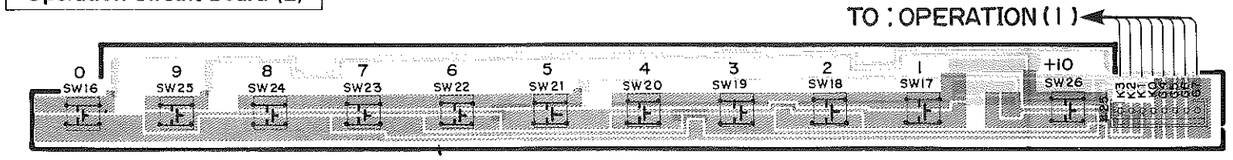
Operation Circuit Board (1)



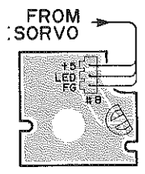
Operation Circuit Board (3)



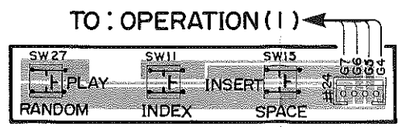
Operation Circuit Board (2)



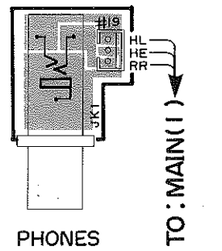
FG Circuit Board



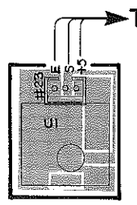
Operation Circuit Board (4)



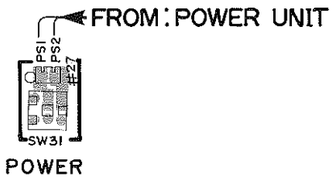
Operation Circuit Board (6)



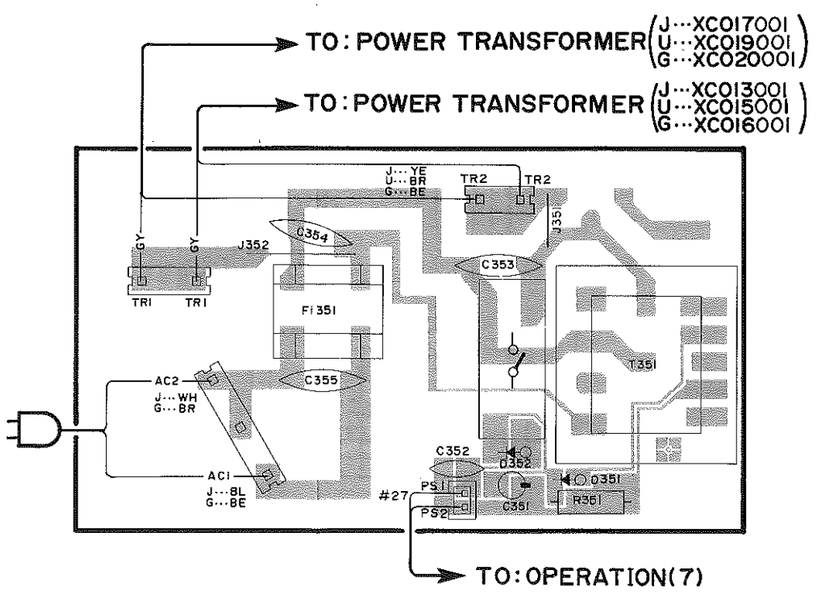
Operation Circuit Board (5)



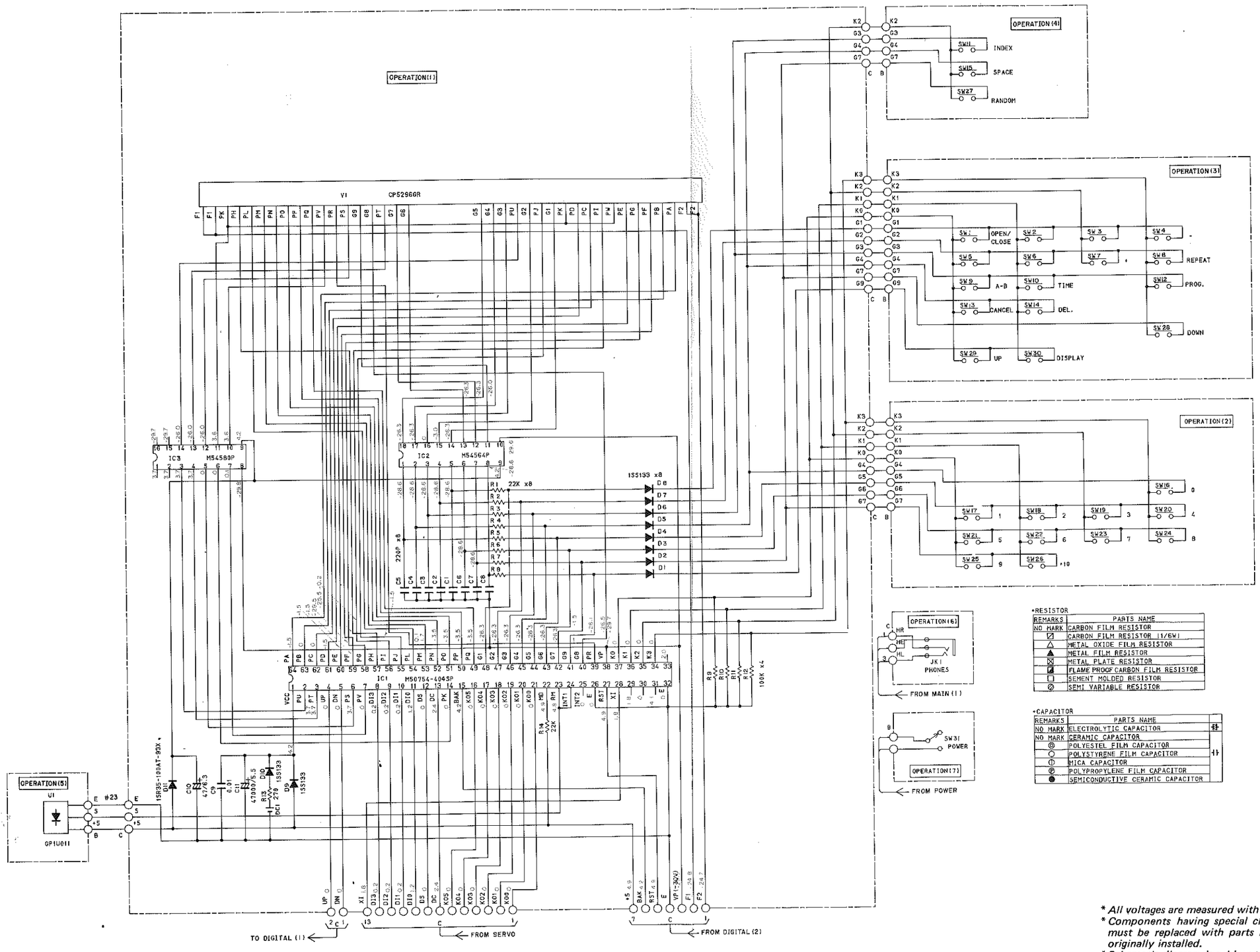
Operation Circuit Board (7)



Power Circuit Board



SCHEMATIC DIAGRAM (1/4)



*RESISTOR

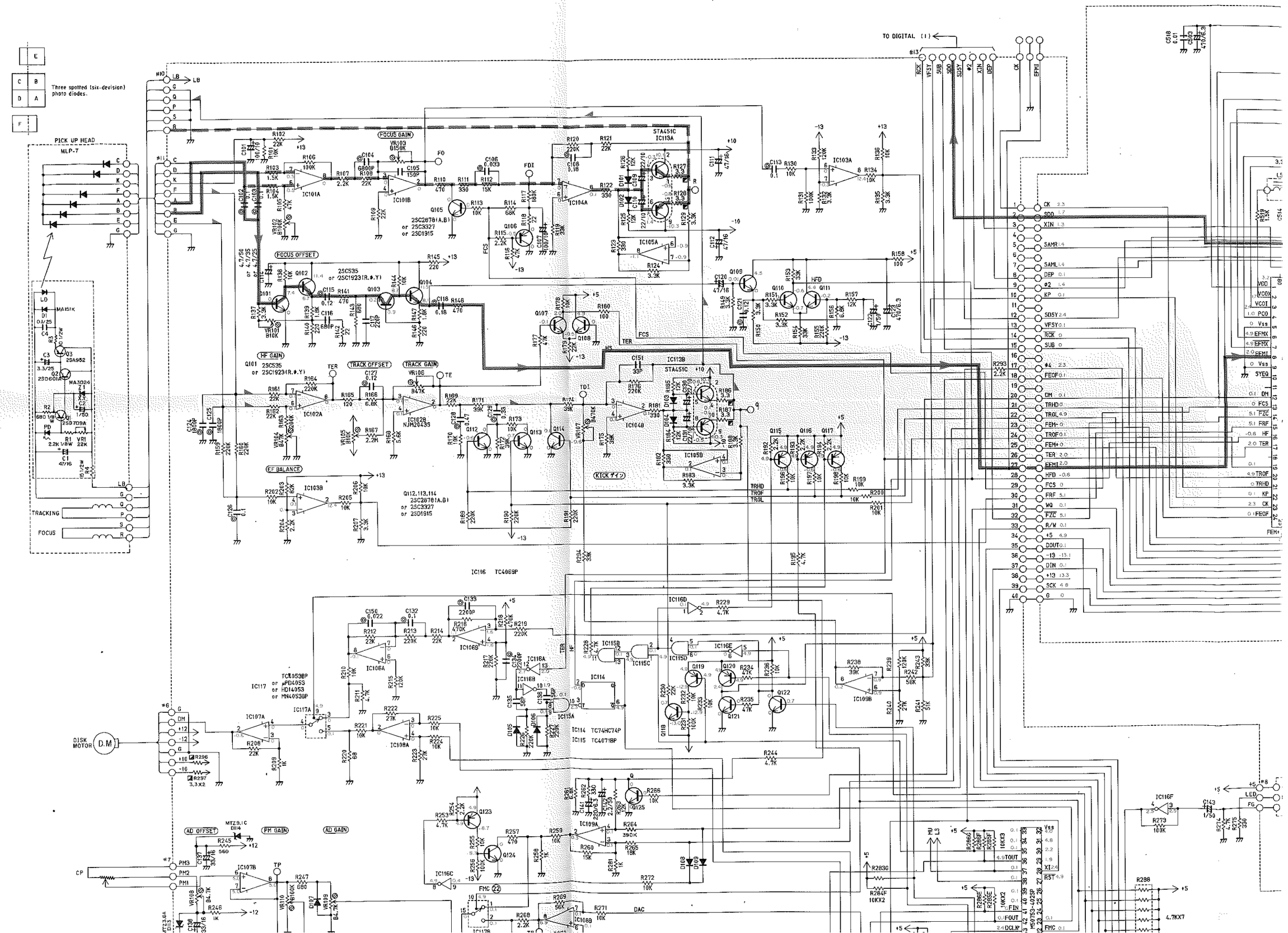
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR
☑	CARBON FILM RESISTOR (1/6W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
☒	METAL PLATE RESISTOR
◪	FLAME PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR

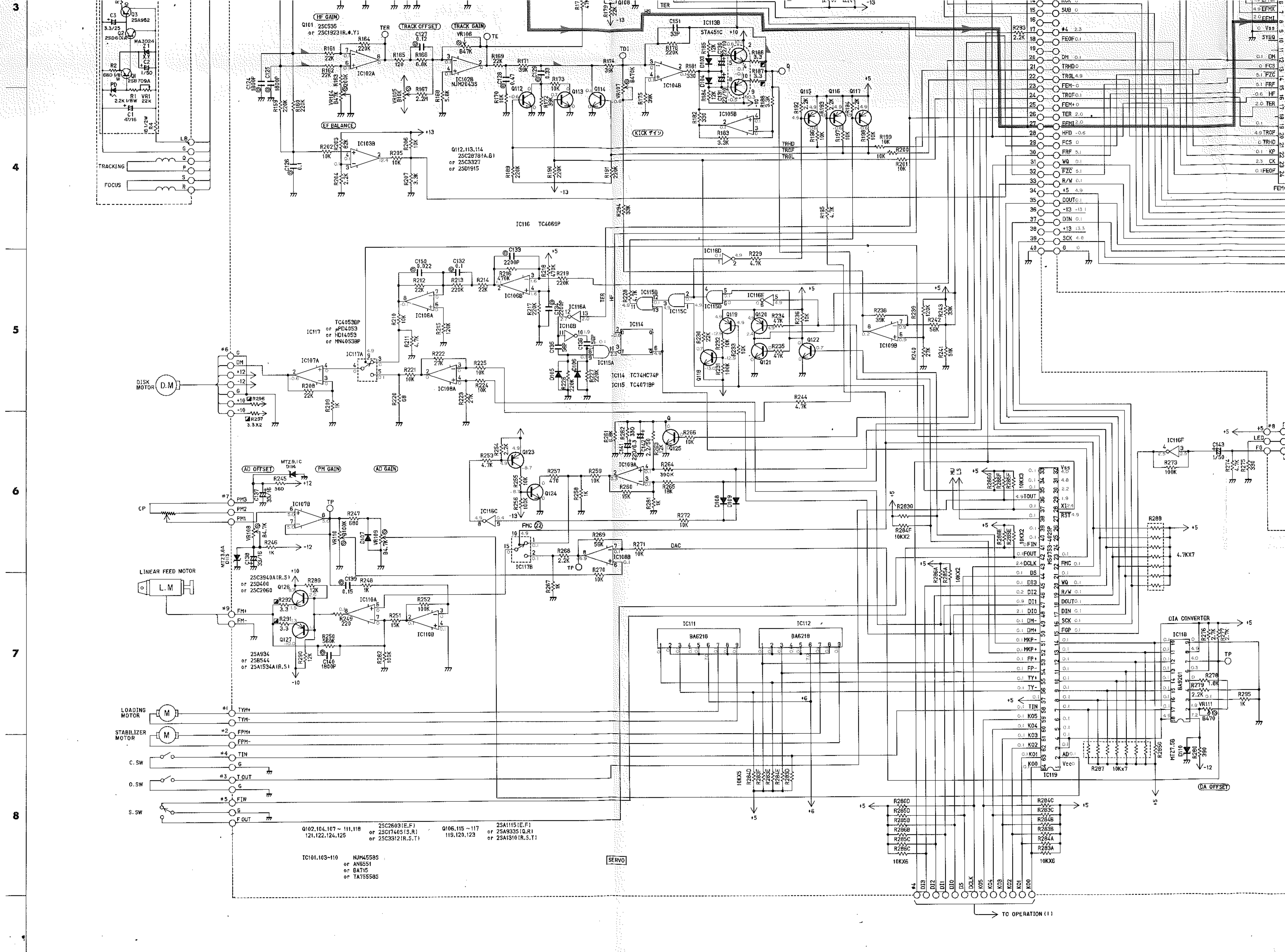
*CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
NO MARK	CERAMIC CAPACITOR
ⓟ	POLYESTEL FILM CAPACITOR
◯	POLYSTYRENE FILM CAPACITOR
Ⓘ	MICA CAPACITOR
Ⓟ	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

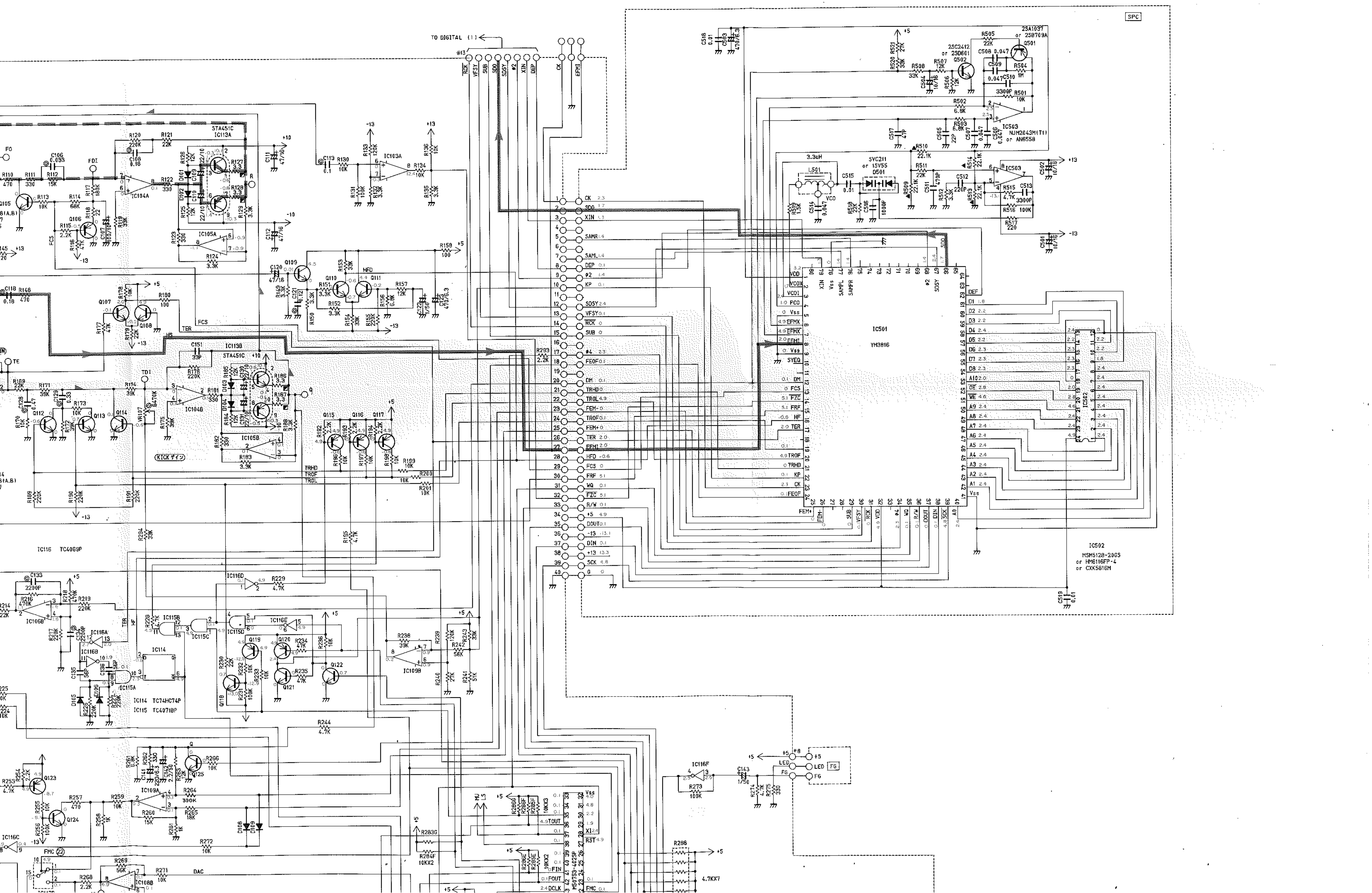
All voltages are measured with a 10MΩ/DC electric volt meter.
Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
Schematic diagram is subject to change without notice.

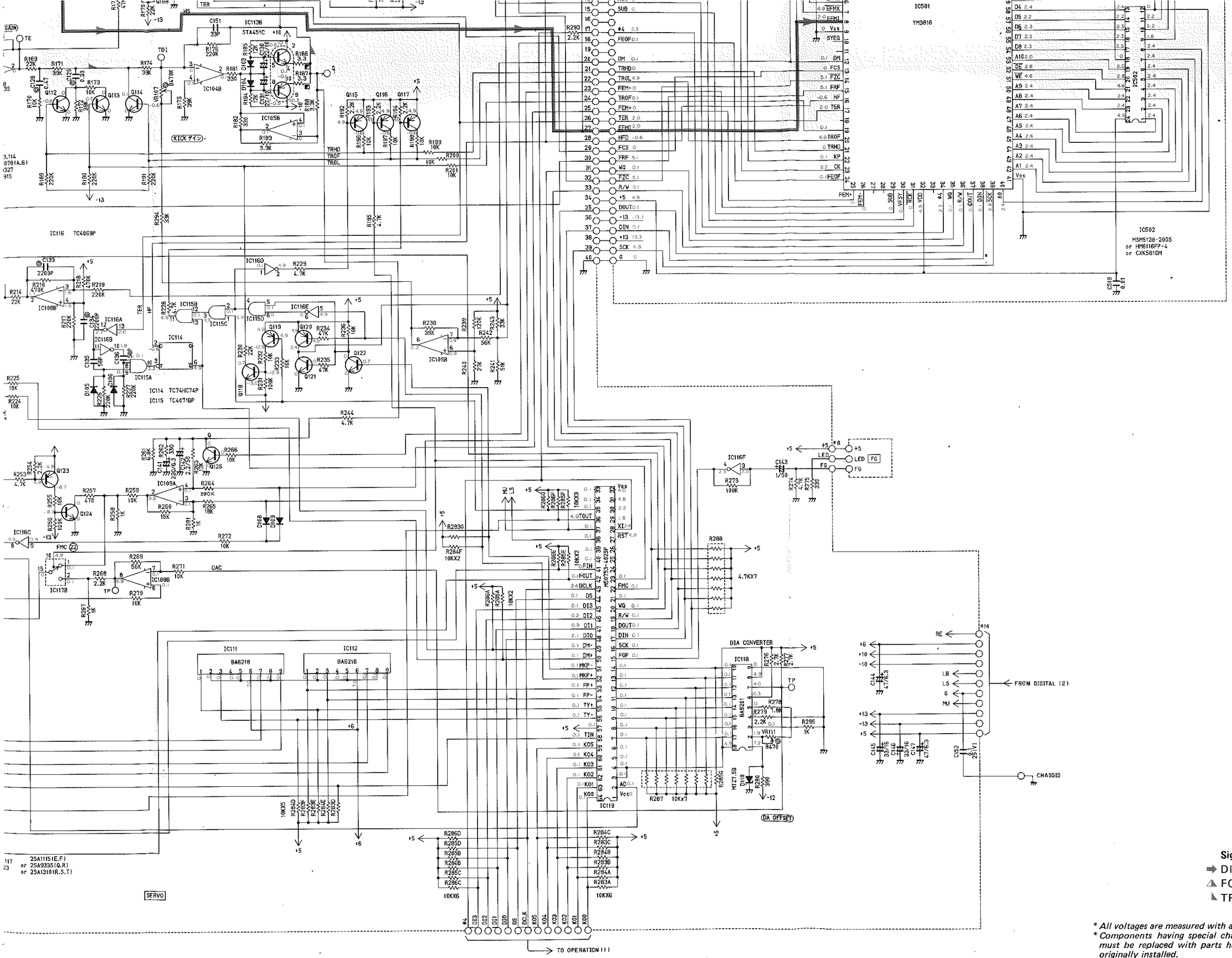
■ SCHEMATIC DIAGRAM (2/4)





SERVO
HF GAIN
TRACK OFFSET
TRACK GAIN
EF BALANCE
KICK ゲイン
Q101 2SC535 or 2SC1923(R,O,Y)
Q112,113,114 2SC2878(A,B) or 2SC3327 or 2SD1915
IC102A
IC102B NJM2043S
IC103B
IC104B
IC105B
IC113B STA451C
IC116 TC4069P
IC117 TC4053BP or μPD4053 or HD14053 or MN4053BP
IC114 TC74HC74P
IC115 TC4071BP
IC106A
IC106B
IC107A
IC108A
IC107B
IC108B
IC109A
IC109B
IC110A
IC110B
IC111 BA6218
IC112 BA6218
IC118 BA9201
IC119 M50753-402SP
D/A CONVERTER
TRACKING
FOCUS
DISK MOTOR
D.M
LINEAR FEED MOTOR
L.M
LOADING MOTOR
STABILIZER MOTOR
C.SW
O.SW
S.SW
CP
AD OFFSET
PM GAIN
AD GAIN
DA OFFSET
FMC
DAC
TP
TER
TE
TDI
LED
FG
2SC3940A(R,S) or 2SD400 or 2SC2060
2SA934 or 2SB544 or 2SA1534A(R,S)
Q102,104,107~111,118 121,122,124,125 2SC2603(E,F) or 2SC1740S(S,R) or 2SC3312(R,S,T)
Q106,115~117 119,120,123 2SA1115(E,F) or 2SA933S(Q,R) or 2SA1310(R,S,T)
IC101,103~110 NJM4558S or AN6551 or BA715 or TA75558S
TO OPERATION (1)


SPC
TO DIGITAL (1)
IC501
YM3816
IC502
MSM5128-20GS
or HM6116FP-4
or CXK5816M
IC503
NJM2043M(T1)
or AN6558
SVC211
or 1SV55
D501
2SA1037
or 2SB709A
Q501
2SC2412
or 2SD601
Q502
STA451C
IC113A
IC113B
IC116 TC4069P
IC114 TC74HC74P
IC115 TC4071BP
KICKゲイン
FMC
DAC
4.7KX7
FG
LED



*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.

■ SCHEMATIC DIAGRAM (3/4)

•RESISTOR

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

•CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⫫
NO MARK	CERAMIC CAPACITOR	
◎	POLYESTEL FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	⫪
Ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

•Unless otheerwise specifled

PNP TRANSISTOR	2SA934 or 2SB544 or 2SA1534A(R,S)
NPN TRANSISTOR	2SC2060 or 2SD400 or 2SC3940A(R,S)
DIODE	1SS133

Q621,622,628~631	2SA933S(Q,R) or 2SA1115(E,F) or 2SA1310(R,S,T)
Q603,604,609,610	2SA1015(Y)
Q605~608	2SC1815(Y)
Q617,618,632	2SC1740S(S,R) or 2SC2603(E,F) or 2SC3312(R,S,T)
Q601,602,611~616	2SC2878(A,B) or 2SC3327 or 2SD1915

MAIN(2)

MAIN(1)

TO DIGITAL (1)

DA OFF SET VR602 B10K

VR601 DA OFF SET B10K

THD VR603 B100K

LINE OFF SET

PCM56P-K DAC

TC74HC175P or MC74HC175N

YM3615 DVR

YM3023 FSH

NJM5532S

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	₦
NO MARK	CERAMIC CAPACITOR	
Ⓠ	POLYESTEL FILM CAPACITOR	
Ⓢ	POLYSTYRENE FILM CAPACITOR	‖
Ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

*Unless otheerwise specified

PNP TRANSISTOR	2SA934 or 2SB544 or 2SA1534A(R,S)
NPN TRANSISTOR	2SC2060 or 2SD400 or 2SC3940A(R,S)
DIODE	1SS133

Q621,622,629~631	2SA933S(Q,R) or 2SA1115(E,F) or 2SA1310(R,S,T)
Q603,604,609,610	2SA1015(Y)
Q605~608	2SC1815(Y)
Q617,618,632	2SC1740S(S,R) or 2SC2603(E,F) or 2SC3312(R,S,T)
Q601,602,611~616	2SC2878(A,B) or 2SC3327 or 2SD1915

MAIN(1)

DA OFF SET VR602 B10K

THD VR604 B100K

PCM56P-K DAC

LINE OFF SET VR606 B10K

VR601 DA OFF SET B10K

THD VR603 B100K

PCM56P-K DAC

LINE OFF SET VR605 B10K

NJM5532S

YM3615 DYR

YM3023 FSH

TC74HC175P or MC74HC175N

TC74HC04P or MC74HC04N

FROM DIGITAL(1)

D E F G H I J K L

MAIN(2)

ITAL (1) #21 +5 GL

GL -5 +5

1000/6.3 C627 GL

C645 0.01 D612 V11J
C644 0.01 D613 V11J
C643 0.01 D614 V11J
C642 0.01 D615 V11J
C656 3300/35
C655 3300/35
+12A -12A GA
OR BE OR RE BL RE
XC01300I···J XC01500I···U XC01600I···G
TR1 GY TR2 YE···J BR···U BE···G
FROM POWER

D618 R694 1K C633 1000/16
C641 0.01 D608 C640 0.01 D609 15R35-100AT-93X x2
C639 0.01 D610 C638 0.01 D611 15R35-100AT-93X x2
Q627 Q628 MT25.6B C635 100/16 D629 C637 100/16 C654 2200/16
D619 C634 100/16 C636 100/16 C653 2200/16
R696 470 R695 470

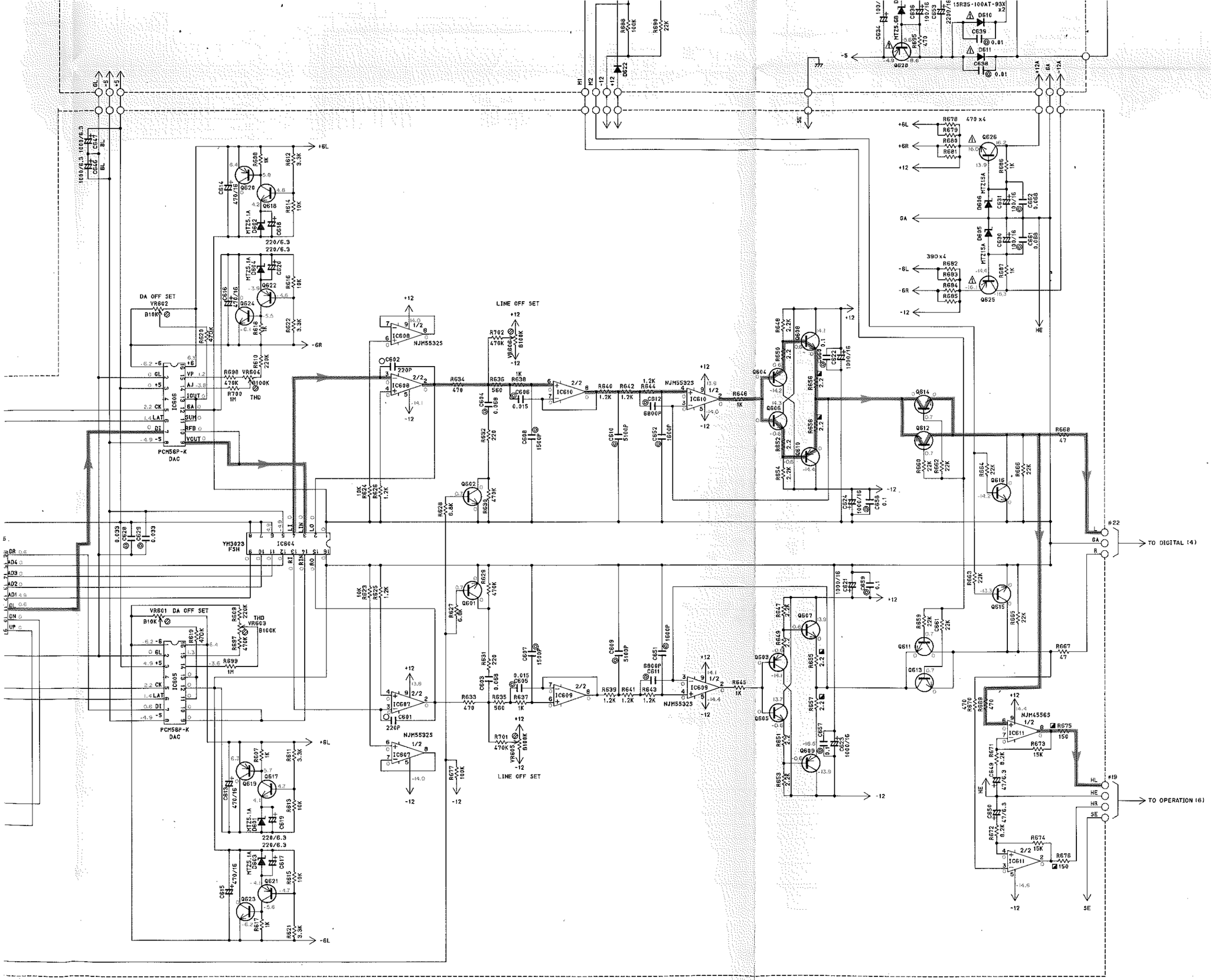
C603 2200/16 Q629 R692 4.7K R691 10K Q632 D617 D621 D616 R693 680K C632 47/16
R689 68K R688 100K R690 22K D622
M1 M2 -12 +12 SE

+6L +6R +12 R678 470 x4 R679 R680 R681 Q626 R686 1K D606 MTZ15A C631 100/16 C632 0.068
GA D605 MTZ15A C630 100/16 C631 0.068
-6L -6R -12 390 x4 R682 R683 R684 R685 R687 1K Q625 HE

1000/6.3 C617 GL C618 220/6.3 C619 220/6.3 C620
D602 MT25.1A C614 470/16 Q620 Q618 R608 1K R614 10K R612 3.3K
D604 MT25.1A C616 470/16 Q622 Q624 R616 1K R616 10K R622 3.3K
DA OFF SET VR602 B10K R620 470K R610 220K -6R
GL +5 CK LAT DI -5 IC606 PCM56P-K DAC VP AJ IOUT GA SUM RFB VOUT +B
R698 470K VR604 B100K R700 1M THD
C626 0.033 C629 0.033 YM3023 F3H IC604 LI RI LIN RIN LD RI RO
VR601 DA OFF SET B10K R699 220K VR603 B100K THD

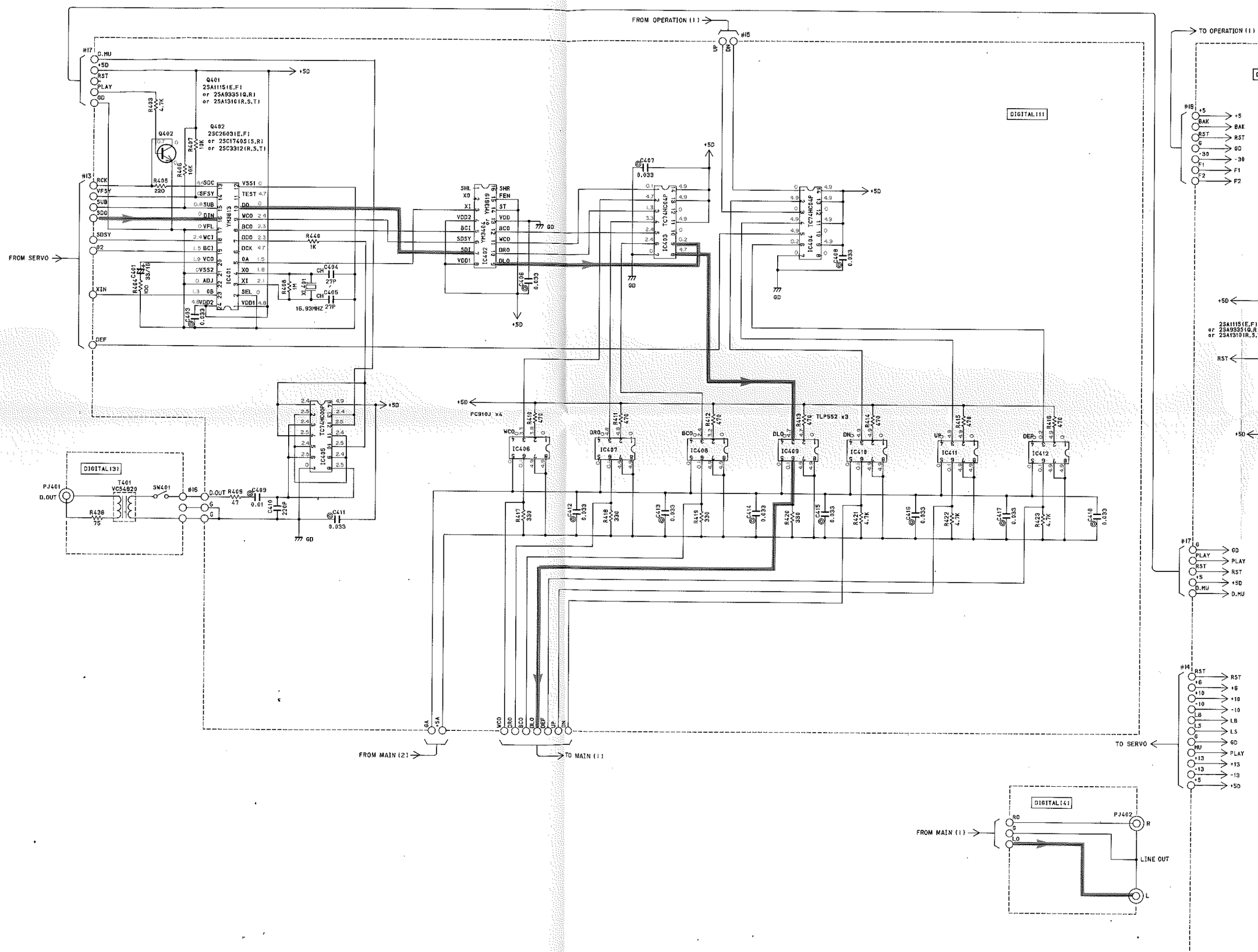
+12 IC608 NJM5532S C602 220P
LINE OFF SET +12 R702 470K VR605 B100K -12
R634 470 R636 560 R638 1K C606 0.015 IC610 NJM5532S R640 1.2K R642 1.2K R644 1.2K C612 6800P R646 1K
C604 0.068 C608 1500P C610 5100P C552 1500P R632 220
10K R624 R626 1.2K Q602 R628 6.8K R630 470K
10K R623 R625 1.2K Q601 R627 6.8K R629 470K

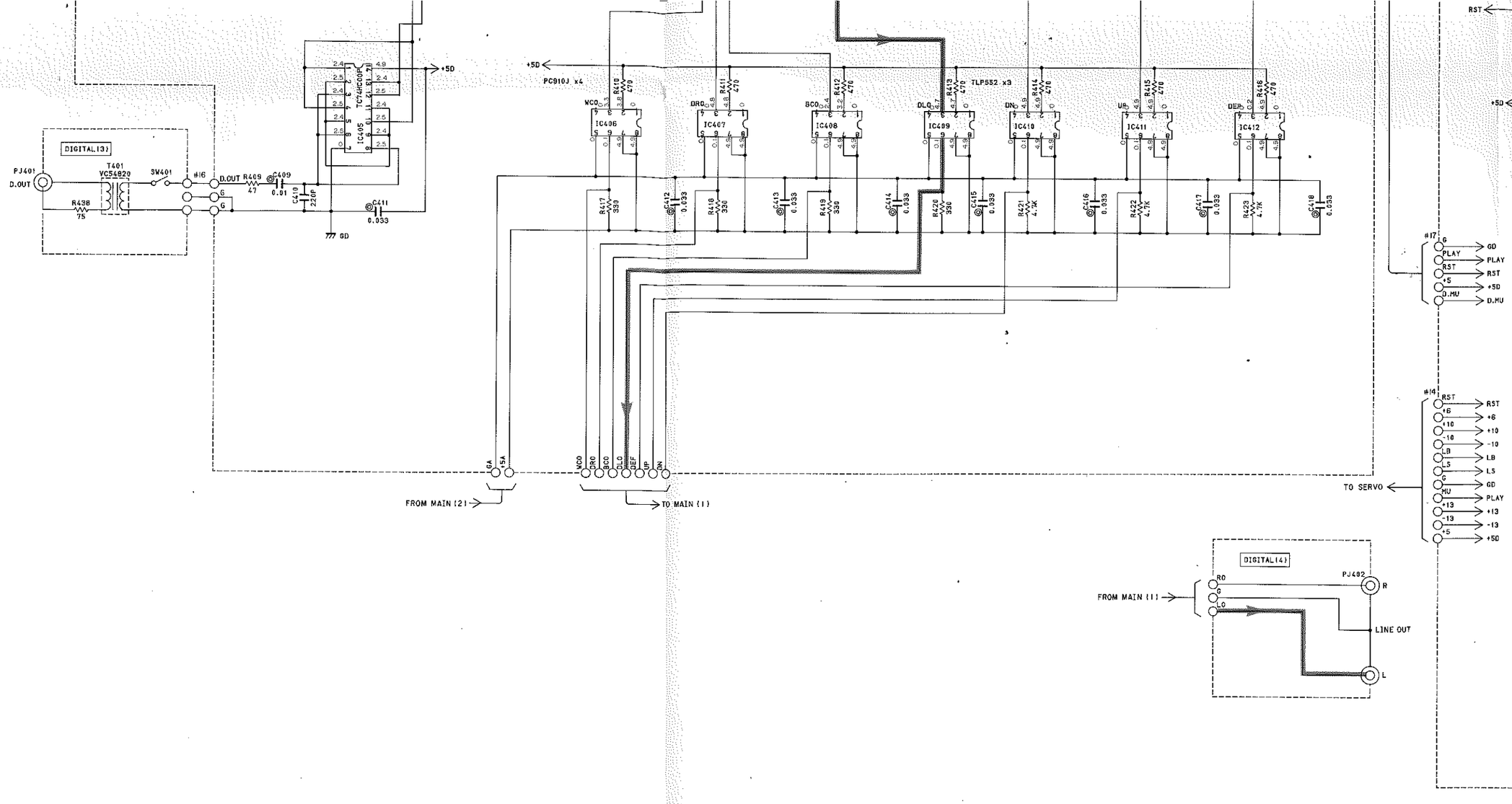
Q604 Q606 R648 2.2K R650 2.2K R652 2.2K R654 2.2K R656 2.2 R658 2.2 C616 C618 0.1 C622 1000/16 C624 1000/16 C656 0.1
Q614 Q612 R660 22K R662 22K Q616 R664 22K R666 22K R660 47
#22 GA R TO DIGITAL (4)
Q607 R647 2.2K C621 1000/16 C659 0.1 +12 Q615 R663 22K R665 22K R659 22K R661 22K



** 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.*

■ SCHEMATIC DIAGRAM (4/4)





PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

2SA1037 2SB709A 2SC2412 2SD601 L-5	2SC1983 2SD880 (O, Y) 2SD1505	1SS133 MTZ7.5B V11J 1SR35-100AT-93X MTZ5.6B MTZ15A MTZ5.1A MTZ30C MTZ4.3B MA2051-A	NJM4558S AN6551 BA715 TA75558S NJM2043S NJM5532S NJM4556S	STA451C	BA9201 M54564P	TC4069P TC4071BP TC74HC74P TC74HC04P MC74HC04N TC74HC00P	YM3613 YM3619	M50753-402SP M50754-403SP
2SA1115 (E, F) 2SA933S (Q, R) 2SA1310 (R, S, T) 2SA934 2SB544 2SA1534A (R, S) 2SC2603 (E, F) 2SC1740S (S, R) 2SC3312 (R, S, T) 2SC2878 (A, B)	2SC3327 2SD1915 2SC2060 2SD400 2SC3940A (R, S) 2SC535 2SC1923 (R, O, Y) ASA1015 (Y) 2SC1815 (Y)	1SV55 SVC211	BA6218	PC910J TLP55Z	TC4053BP µPD4053 HD14053 MN4053BP PCM56P-K TC74HC175P MC74HC175N YM3023 YM3615 M54580P YM3404	NJM2043M (T)	HM6116FP-4	YM3616

DIGITAL(1)

FROM OPERATION (1)

TO OPERATION (1)

DIGITAL(2)

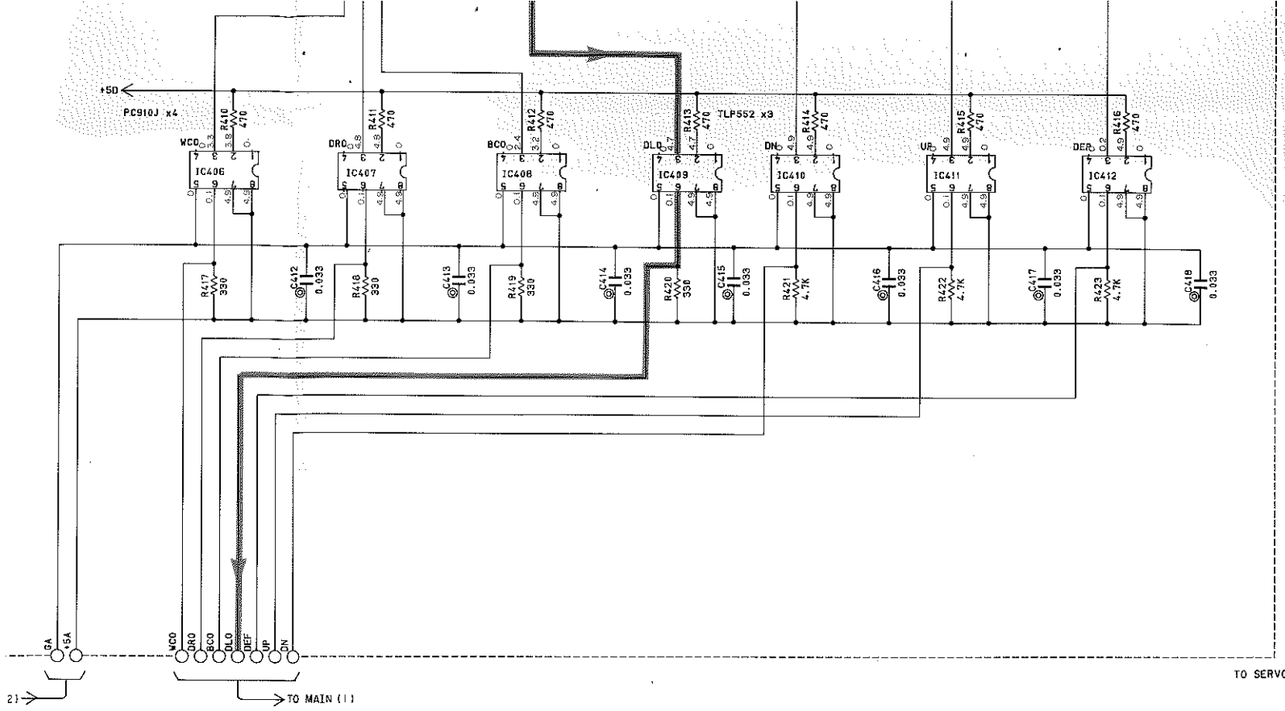
TO MAIN (1)

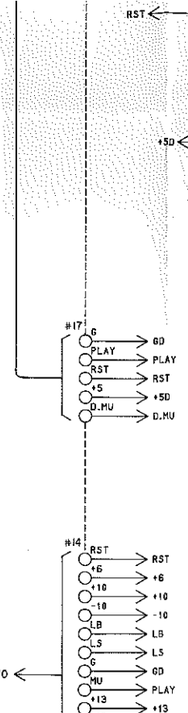
TO SERVO

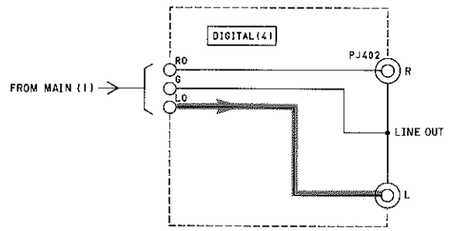
DIGITAL(4)

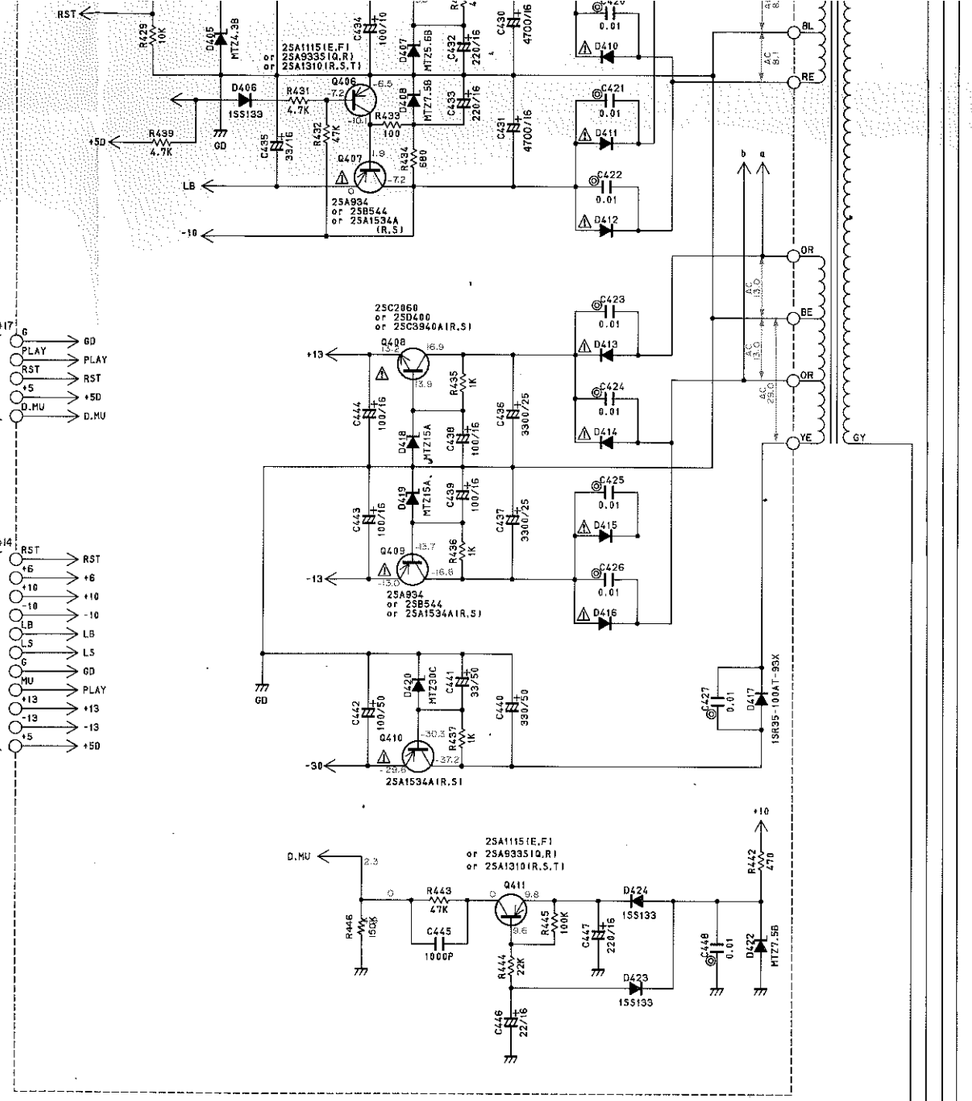
FROM MAIN (1)

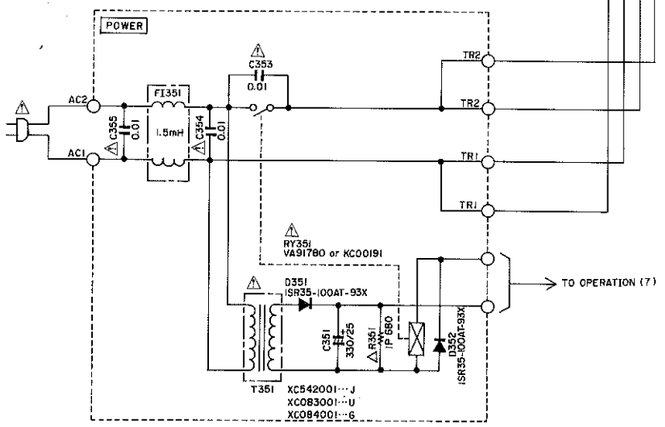
LINE OUT









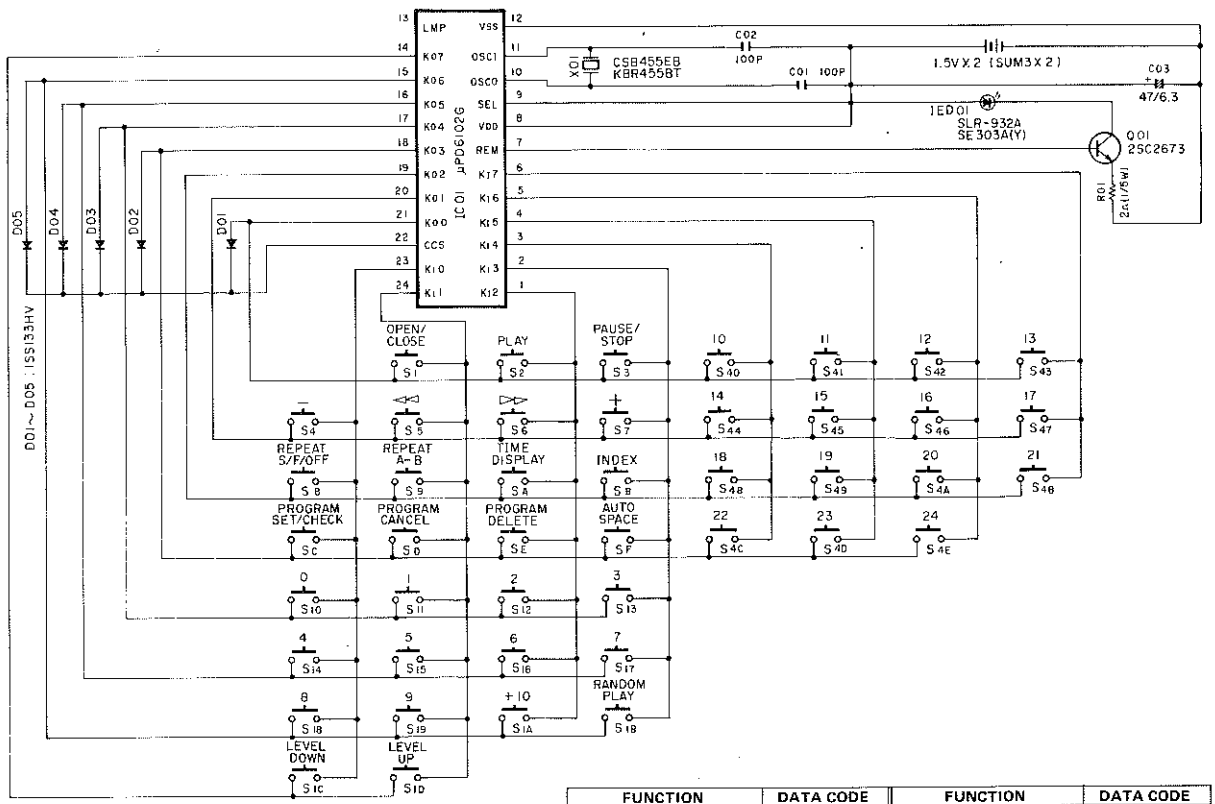


C4053BP PD4053 HD14053 MN4053BP CM56P-K C74HC175P MC74HC175N M3023 M3615	M54580P YM3404	NJM2043M (T)	HM6116FP-4	YM3616
BA9201 M54564P		TC4069P TC4071BP TC74HC74P TC74HC04P MC74HC04N TC74HC00P	YM3613 YM3619	M50753-402SP M50754-403SP

** 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.*

RS-CDX10000
REMOTE CONTROL TRANSMITTER

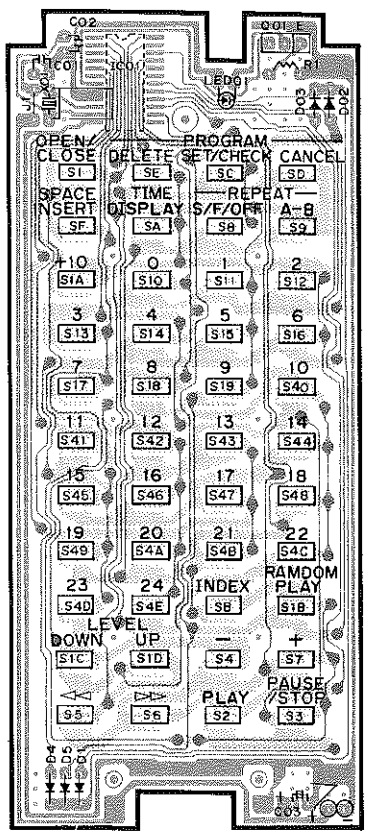
■ SCHEMATIC DIAGRAM



FUNCTION	DATA CODE	FUNCTION	DATA CODE
OPEN/CLOSE	01	7	17
PLAY	02	8	18
PAUSE/STOP	03	9	19
–	04	+10	1A
◁◁	05	RANDOM PLAY	1B
▷▷	06	LEVEL DOWN	1C
+	07	LEVEL UP	1D
REPET S/F/OFF	08	10	40
REPET A ↔ B	09	11	41
TIME DISPLAY	0A	12	42
INDEX	0B	13	43
PROGRAM SET/CHECK	0C	14	44
PROGRAM CANCEL	0D	15	45
PROGRAM DELETE	0E	16	46
SPACE INSERT	0F	17	47
0	10	18	48
1	11	19	49
2	12	20	4A
3	13	21	4B
4	14	22	4C
5	15	23	4D
6	16	24	4E

CASTAM CODE
79

■ PRINTED CIRCUIT BOARD
(Pattern side)



PARTS LIST

■ELECTRICAL PARTS

■WARNING

Components having special characteristics are marked ⚠ 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. 69.

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		***NA 09 42 40***	***Main Circuit Board***		メインシート				
		FC 44 41 00	Mylar Cap.	0.01μF 50V	マイラーコン	C638～645			
		FC 36 46 80	〃	0.068μF 50V	〃	C661,662			
		FF 09 22 20	Polystyrene Film Cap.	220pF	銅ハクスチコン	C601,602			
		FC 36 51 00	Mylar Cap.	0.1μF 50V	マイラーコン	C657～660			
		FC 34 43 30	〃	0.033μF 50V	〃	C625～629			
※		VD 03 27 00	〃	1500pF 50V	銅リードマイラーコン	C607,608			
		VB 05 70 00	〃	1600pF 50V	〃	C651,652			
※		VD 03 28 00	〃	5100pF 50V	〃	C609,610			
		VD 03 29 00	〃	6800pF 50V	〃	C611,612			
		VD 03 30 00	〃	0.015μF 50V	〃	C605,606			
		VD 03 31 00	〃	0.068μF 50V	〃	C603,604			
		UJ 13 71 00	Electrolytic Cap.	10μF 16V	ケミコン	C633			
		UI 93 82 20	〃	220μF 16V	〃	C663			
		UM 04 92 20	〃	2200μF 16V	オーディオケミコン	C653,654			
		UH 23 74 70	〃	47μF 16V	ケミコン	C632			
※		VD 03 24 00	〃	3300μF 35V	〃	C655,656			
		UM 16 74 70	〃	47μF 6.3V	オーディオケミコン	C649,650			
		UM 02 82 20	〃	220μF 6.3V	〃	C617～620			
		UM 04 81 00	〃	100μF 16V	〃	C630,631,634～637			
		UM 04 84 70	〃	470μF 16V	〃	C613～616			
		UJ 13 91 00	〃	1000μF 16V	〃	C621～624			
		FZ 00 62 70	〃	1000μF 6.3V	ブラックゲートコン	C646,647			
		HV 45 32 20	Flame Proof Carbon Resistor	2.2Ω 1/4W	不燃化カーボン抵抗	R655～658			
		HV 45 51 50	〃	150Ω 1/4W	〃	R675,676			
		VB 86 15 00	Pre-Set Potentiometer	B10kΩ	半固定抵抗	VR601,602			
		VB 86 19 00	〃	B100kΩ	〃	VR603～606			
		iA 09 33 00	Transistor	2SA933S(Q,R)	トランジスタ	Q621,622,629～631			
		iA 11 15 10	〃	2SA1115(E,F)	〃	〃	inter-changeable		
		iX 60 31 70	〃	2SA1310(R,S,T)	〃	〃			
		iA 09 34 00	〃	2SA934	〃	Q619,620,625,628			
		iB 05 44 10	〃	2SB544	〃	〃	inter-changeable		
		iA 10 15 21	〃	2SA1015(Y)	〃	Q603,604,609,610			
		iC 17 40 70	〃	2SC1740S(S,R)	〃	Q617,618,632			
		iC 26 03 10	〃	2SC2603(E,F)	〃	〃	inter-changeable		
		iX 60 31 80	〃	2SC3312(R,S,T)	〃	〃			
		iC 18 15 20	〃	2SC1815(Y)	〃	Q605～608			
		iC 20 60 00	〃	2SC2060	〃	Q623,624,626,627			
		iD 04 00 10	〃	2SD400	〃	〃	inter-changeable		
		iX 60 42 00	〃	2SC2878(A,B)	〃	Q601,602,611～616			
		iC 33 27 00	〃	2SC3327	〃	〃	inter-changeable		
		iF 00 96 20	Diode	V11J	ダイオード	D612～615			
		iF 00 34 50	〃	1SS133	〃	D616～618,621,622			
		iH 00 14 30	〃	1SR35-100A	〃	D608～611			
		iF 00 64 60	Zener Diode	MTZ5.6B	ツェナーダイオード	D619,620			
		iF 00 63 10	〃	MTZ15A	〃	D605,606			
		iF 01 06 80	〃	MTZ5.1A	〃	D601～604			
※		XB 69 60 01	IC	YM3615	IC	IC601			

※New Parts（新規部品）

	Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
※		XB 70 30 01	IC	YM3023	I C	IC604			
		XA 42 60 01	〃	NJM5532S	〃	IC607～610			
		iG 07 74 00	〃	NJM4556S	〃	IC611			
		iR 00 04 00	〃	TC74HC04P	〃	IC603			
		iR 01 75 00	〃	TC74HC175P	〃	IC602			
		XB 63 80 01	〃	PCM56P-K	〃	IC605,606			
		LA 00 23 20	Lapping Terminal	P=7.5 3P i-Type	i型ラッピング端子板				
		LB 91 80 30	Base Pin	3P i-Type	XH ベースピン				
		VB 21 94 00	〃	7P	PH ベースピン				
		VB 21 89 00	〃	2P	〃				
		BB 06 95 10	Ground Plate		ランド金具				
		BB 07 04 20	Bus Bar		バスバー				
※		***NA 09 42 30***	***Operation Circuit Board***		オペレーションシート				
		FG 21 22 20	Ceramic Cap.	220pF 50V	セラコン	C1～8			
		FG 44 41 00	〃	0.01μF 50V	〃	C9			
		FZ 00 64 00	Electrolytic Cap.	47000μF 5.5V	スーパーキャパシタ	C11			
		UJ 11 74 70	〃	47μF 6.3V	ケミコン	C10			
		iF 00 34 50	Diode	ISS133	ダイオード	D1～10			
		iH 00 14 30	〃	ISR35-100A	〃	D11			
※		VC 24 57 00	Display Unit	CP5296GR	蛍光表示管	V1			
※		XC 25 00 01	IC	M54564P	I C	IC2			
※		XC 25 10 01	〃	M54580P	〃	IC3			
※		XC 48 90 02	〃	M50754-404SP	〃	IC1			
		KA 90 63 80	Switch	EVQ-QRB-04M	ライトタッチスイッチ	SW1～30			
※		VD 02 42 00	Push Switch		プッシュスイッチ	SW31			
※		VD 09 17 00	Phone Jack		ホーンジャック	JK1			
		VB 96 96 00	Receiver Unit	GP1U011	受光ユニット	U1			
※		VD 00 55 00	Base Pin	3P L-Type	PH ベースピン				
※		VD 00 56 00	〃	4P L-Type	〃				
※		VD 00 60 00	〃	8P L-Type	〃				
※		VD 00 62 00	〃	10P L-Type	〃				
		VB 75 00 00	Lithium Battery		リチウム電池				
※		VD 07 19 00	Support, FL		サポート, FL				
※		VD 09 31 00	Sheet		シート, フィルター				

※New Parts（新規部品）

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		NA 09 29 40	*Digital Circuit Board*		デジタルシート				
		FG 21 12 70	Ceramic Cap.	27pF 50V	セラコン	C404, 405			
		FG 21 22 20	〃	220pF 50V	〃	C410			
		FG 21 31 00	〃	1000pF 50V	〃	C445			
		FC 44 41 00	Mylar Cap.	0.01μF 50V	マイラーコン	C419～427			
		FA 15 43 30	〃	0.033μF 50V	〃	C403,406～408,411～418			
		UW 63 94 70	Electrolytic Cap.	4700μF 16V	ケミコン	C430,431			
		FZ 00 65 00	〃	3300μF 25V	〃	C436,437			
		FA 15 41 00	Mylar Cap.	0.01μF 50V	マイラーコン	C409,448			
		UJ 12 81 00	Electrolytic Cap.	100μF 10V	ケミコン	C429,434			
		UJ 13 72 20	〃	22μF 16V	〃	C446			
		UJ 13 73 30	〃	33μF 16V	〃	C401,428,435			
		UJ 13 81 00	〃	100μF 16V	〃	C438,439,443,444			
		UJ 13 82 20	〃	220μF 16V	〃	C432,433,447			
		UJ 16 73 30	〃	33μF 50V	〃	C441			
		UJ 16 81 00	〃	100μF 50V	〃	C442			
		UJ 46 83 30	〃	330μF 50V	〃	C440			
		VC 54 82 00	Coil		コイル	T401			
		iF 00 34 50	Diode	1SS133	ダイオード	D401,402,406,423,424			
		iH 00 14 30	〃	ISR35-100A	〃	D409～417			
		iF 00 64 60	Zener Diode	MTZ5.6B	ツェナーダイオード	D403,407			
		iF 00 63 10	〃	MTZ15A	〃	D418,419			
		iF 00 64 70	〃	MTZ7.5B	〃	D404,408,422			
		iF 00 91 70	〃	MTZ30C	〃	D420			
		iF 01 06 30	〃	MTZ4.3B	〃	D405			
		VC 68 63 00	〃	MA2051-A	〃	D421			
		iA 09 34 00	Transistor	2SA934	トランジスタ	Q407,409 } Inter-changeable			
		iB 05 44 10	〃	2SB544	〃	〃 } Inter-changeable			
		VC 46 67 00	〃	2SA1534A(R,S)	〃	〃 } Inter-changeable			
		VC 46 67 00	〃	2SA1534A(R,S)	〃	Q410			
		iC 20 60 00	〃	2SC2060	〃	Q403,408 } Inter-changeable			
		iD 04 00 10	〃	2SD400	〃	〃 } Inter-changeable			
		iC 19 83 00	〃	2SC1983	〃	Q405 } Inter-changeable			
		iD 08 80 00	〃	2SD880(O,Y)	〃	〃 } Inter-changeable			
		iD 15 05 00	〃	2SD1505	〃	〃 } Inter-changeable			
		iA 11 15 10	〃	2SA1115(E,F)	〃	Q404,406,411 } Inter-changeable			
		iA 09 33 00	〃	2SA933S(Q,R)	〃	〃 } Inter-changeable			
		iX 60 31 70	〃	2SA1310(R,S,T)	〃	〃 } Inter-changeable			
		iC 26 03 10	〃	2SC2603(E,F)	〃	Q402 } Inter-changeable			
		iC 17 40 70	〃	2SC1740S(S,R)	〃	〃 } Inter-changeable			
		iX 60 31 80	〃	2SC3312(R,S,T)	〃	〃 } Inter-changeable			
		XB 70 20 01	IC	YM3613(DIT)	IC	IC401			
		XB 70 10 01	〃	YM3404DF	〃	IC402 } Inter-changeable			
		XB 70 00 01	〃	YM3619DF	〃	〃 } Inter-changeable			
		iR 00 04 00	〃	TC74HC04P	〃	IC403,404			
		iR 00 00 00	〃	TC74HC00P	〃	IC405			
※		VD 02 57 00	Photo Coupler	PC910J	フォトカプラー	IC406～409			
		iK 00 04 70	〃	TLP552	〃	IC410～412			

※New Parts (新規部品)

Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
	VC 39 88 00	Quartz Crystal Unit	16.93MHz	水晶振動子	XL401		
	KA 40 09 40	Slide Switch	SSB-002	スライドスイッチ	SW401		
	VC 52 37 00	Pin Jack	2P	ピンジャック	PJ402		
	VD 02 85 00	〃	1P	〃	PJ401		
※	VD 00 48 00	Base Pin	5P i-Type	PHベースピン			
	LA 00 23 20	Lapping Terminal	P=7.5 3P i-Type	i型ラッピング端子板			
	LA 00 21 20	〃	P=5 3P i-Type	〃			
	LA 00 23 30	〃	P=7.5 4P i-Type	〃			
	LB 91 80 30	Base Pin	3P i-Type	XHベースピン			
	BA 09 29 70	Heat Sink		放熱板			
	VD 17 17 00	Washer		ワッシャー			
	ED 33 00 86	Binding Head Screw	3×8 FCRM3-BI	バインドタッピングネジ	PACK		
※	***NA 09 41 70***	***Power Circuit Board***		電源シート		J	
※	***NA 09 41 80***	〃		〃		U	
※	***NA 09 41 90***	〃		〃		G	
	Fi 51 41 00	Ceramic Cap.	0.01μF	セラコン	C353～355		
	FG 24 41 00	〃	0.01μF 50V	〃	C352		
	FJ 14 83 30	Electrolytic Cap.	330μF 25V	ケミコン	C351		
	VA 77 84 00	Line Filter	1.5mH	ラインフィルタ	Fi351		
※	XC 54 20 01	Power Transformer		電源トランス	T351	J	⚠
	XC 08 30 01	〃		〃	〃	U	⚠
	XC 08 40 01	〃		〃	〃	G	⚠
	HL 71 56 80	Metal Oxide Film Resistor	680Ω 1W	酸金抵抗	R351		
	iH 00 14 30	Diode	ISR35-100A	ダイオード	D351,352		
	KC 00 19 10	Relay	DH12D1-0M	リレー	RY351		
	LA 00 20 00	Lapping Terminal	P=7.5 2P i-Type	i型ラッピング端子板			
	LA 00 21 40	〃	P=10 2P i-Type	〃			
	LA 00 21 50	〃	P=10 3P i-Type	〃			
	VB 21 89 00	Base Pin	2P i-Type	PHベースピン			

※New Parts（新規部品）

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		NA 09 27 00	*SPC Circuit Board*		サーポシート				
		FG 21 15 60	Ceramic Cap.	56pF 50V	セラコン	C135,136			
		FG 21 13 30	〃	33pF 50V	〃	C151			
		FG 21 21 50	〃	150pF 50V	〃	C105			
		FG 21 22 20	〃	220pF 50V	〃	C117			
		FG 21 26 80	〃	680pF 50V	〃	C116			
		FZ 00 41 30	Semiconductive Ceramic Cap.	0.1μF 25V	半導体セラコン	C152			
		FA 15 31 80	Mylar Cap.	1800pF 50V	マイラーコン	C124,125,140			
		FA 15 32 20	〃	2200pF 50V	〃	C133,134			
		FA 15 36 80	〃	6800pF 50V	〃	C104			
		FA 15 43 30	〃	0.033μF 50V	〃	C106			
		FA 15 42 20	〃	0.022μF 50V	〃	C150			
		FA 15 51 00	〃	0.1μF 50V	〃	C102,103,113,126,132			
		FA 15 51 20	〃	0.12μF 50V	〃	C115,121,127			
		FA 15 51 50	〃	0.15μF 50V	〃	C139			
		FA 15 51 80	〃	0.18μF 50V	〃	C108,118			
		FA 15 53 30	〃	0.33μF 50V	〃	C129			
		UA 55 54 70	〃	0.47μF 50V	〃	C128			
		UJ 11 84 70	Electrolytic Cap.	470μF 6.3V	ケミコン	C123			
		UJ 11 74 70	〃	47μF 6.3V	〃	C144,147			
		UJ 13 72 20	〃	22μF 16V	〃	C109,110,130,131			
		UJ 11 82 20	〃	220μF 6.3V	〃	C141			
		UJ 13 73 30	〃	33μF 16V	〃	C137,138,145,146			
		UJ 13 74 70	〃	47μF 16V	〃	C111,112			
		UJ 16 61 00	〃	1μF 50V	〃	C143			
		UJ 16 62 20	〃	2.2μF 50V	〃	C142			
		UJ 12 81 00	〃	100μF 10V	オーディオケミコン	C101,107			
		UM 21 61 00	〃	1μF 50V	〃	C122			
		UM 18 74 70	〃	47μF 16V	〃	C120			
		UM 19 64 70	〃	4.7μF 25V	〃	C114			
		HZ 00 47 40	Resistor Array	4.7kΩ×8	抵抗アレイ	R288			
		HZ 00 45 40	〃	10kΩ×7	〃	R283～287			
		HV 45 33 30	Flame Proof Carbon Resistor	3.3Ω 1/4W	不燃化カーボン抵抗	R127,128,186,187,291,292,296,297			
		VB 85 97 00	Pre-Set Potentiometer	B4.7kΩ	半固定抵抗	VR108,109			
		VB 85 98 00	〃	B10kΩ	〃	VR101,105			
		VB 86 01 00	〃	B47kΩ	〃	VR104,106			
		VB 86 02 00	〃	B100kΩ	〃	VR102,110			
		VC 68 59 00	〃	B150kΩ	〃	VR103			
		VB 86 05 00	〃	B470kΩ	〃	VR107			
		VB 86 10 00	〃	B470Ω	〃	VR111			
		iF 00 34 50	Diode	1SS133	ダイオード	D101～109			
		iF 00 64 70	Zener Diode	MTZ7.5B	ツェナーダイオード	D110			
		iF 00 88 00	〃	MTZ3.6A	〃	D113			
		iF 01 08 70	〃	MTZ9.1C	〃	D114			
		iA 11 15 10	Transistor	2SA1115(E,F)	トランジスタ	Q106,115～117,119,120,123	Inter-changeable		
		iA 09 33 00	〃	2SA933S(Q,R)	〃	〃			
		iX 60 31 70	〃	2SA1310(R,S,T)	〃	〃			
		iA 09 34 00	〃	2SA934	〃	Q127	inter-changeable		
		iB 05 44 10	〃	2SB544	〃	〃			

※New Parts（新規部品）

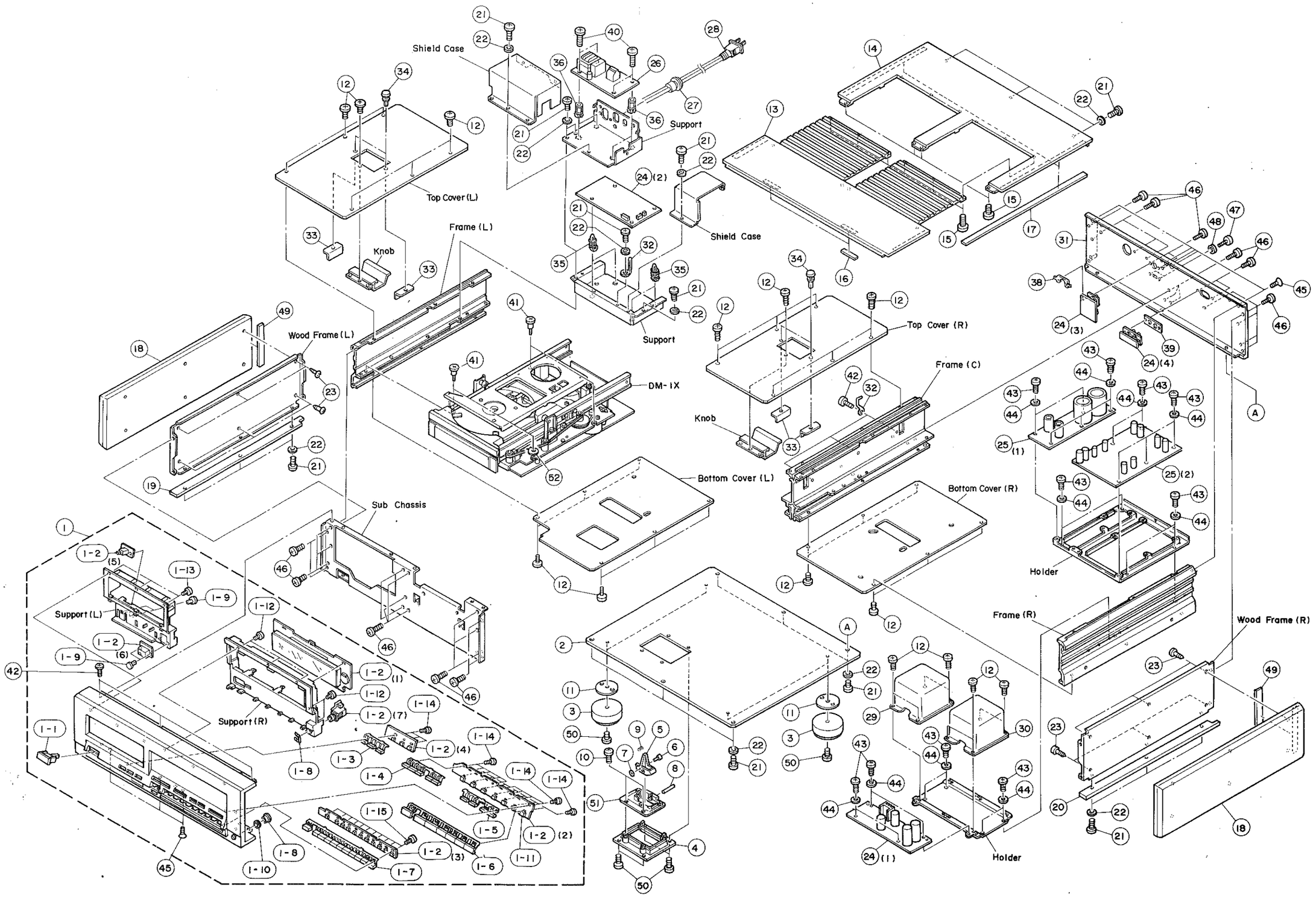
Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
	iC 26 03 10	Transistor	2SC2603(E,F)	トランジスタ	Q102,104,107～111,118,121,122,124,125	Inter-changeable		
	iC 17 40 70	〃	2SC1740SRS	〃	〃			
	iX 60 31 80	〃	2SC3312(R,S,T)	〃	〃			
	iX 60 42 00	〃	2SC2878(A,B)	〃	Q105,112～114	Inter-changeable		
	iC 33 27 00	〃	2SC3327	〃	〃			
	iC 20 60 00	〃	2SC2060	〃	Q126	Inter-changeable		
	iD 04 00 10	〃	2SD400	〃	〃			
	iC 05 35 00	〃	2SC535	〃	Q101,103	Inter-changeable		
	iC 19 23 00	〃	2SC1923(R,O,Y)	〃	〃			
	iG 07 68 00	IC	NJM4558S	I C	IC101,103～110	Inter-changeable		
	iG 03 47 00	〃	AN6551	〃	〃			
	iG 13 22 00	〃	BA715	〃	〃			
	iG 08 02 00	〃	NJM2043S	〃	IC102			
	iG 11 94 00	〃	STA451C	〃	IC113			
	iG 05 51 00	〃	TC4053BP	〃	IC117	Inter-changeable		
	iG 10 59 00	〃	μPD4053BC	〃	〃			
	iG 00 17 20	〃	TC4069UBP	〃	IC116			
	iR 00 74 00	〃	TC74HC74	〃	IC114			
	iG 00 14 40	〃	TC4071BP	〃	IC115			
	XC 02 90 01	〃	M50753-402SP	〃	IC119			
	XB 98 00 01	〃	BA9201	〃	IC118			
	iG 15 35 00	〃	BA6218	〃	IC111,112			
	NA 09 25 70	SPC Circuit Board		SPCシート		CDX-2200		
	LB 30 07 30	Base Pin	3P i-Type	NHベースピン				
	VB 21 89 00	〃	2P i-Type	PHベースピン				
	VB 21 90 00	〃	3P i-Type	〃				
	VB 21 94 00	〃	7P i-Type	〃				
	VB 21 95 00	〃	8P i-Type	〃				
※	AA 63 15 80	Shield Case		シールドケース				
	LB 20 13 80	Base Pin	2P i-Type	NHベースピン				

※New Parts（新規部品）

Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※	NA 09 25 70	SPC Circuit Board		SPCシート		CDX-2200		
	UD 11 33 30	Chip Ceramic Cap.	3300pF 50V	チップセラコン	C510,513			
	UD 11 41 00	〃	0.01μF 50V	〃	C515,518,519			
	UD 11 44 70	〃	0.047μF 50V	〃	C506～509,514			
	VB 37 18 00	〃	22pF 50V	〃	C505			
	VB 37 26 00	〃	47pF 50V	〃	C517			
	VB 37 38 00	〃	220pF 50V	〃	C512			
	VB 37 42 00	〃	470pF 50V	〃	C511			
	VB 37 46 00	〃	1000pF 50V	〃	C516			
	UJ 11 84 70	Electrolytic Cap.	470μF 6.3V	ケミコン	C503			
	UJ 13 71 00	〃	10μF 16V	〃	C501,502,504			
	GE 90 20 00	OSC Coil	3.3μH	発振コイル	L501			
	VB 36 97 00	Chip Jamper		チップジャンパー	J501			
	VB 35 88 00	Chip Resistor	220Ω 1/8W	チップ抵抗	R517			
	VB 36 08 00	〃	1.5kΩ 1/8W	〃	R519			
	VB 36 12 00	〃	2.2kΩ 1/8W	〃	R511			
	VB 36 16 00	〃	3.3kΩ 1/8W	〃	R512			
	VB 36 21 00	〃	4.7kΩ 1/8W	〃	R515			
	VB 36 25 00	〃	6.8kΩ 1/8W	〃	R502,503			
	VB 36 29 00	〃	10kΩ 1/8W	〃	R501			
	VB 36 31 00	〃	12kΩ 1/8W	〃	R506,507			
	VB 36 37 00	〃	22kΩ 1/8W	〃	R505,518			
	VB 36 39 00	〃	27kΩ 1/8W	〃	R521			
	VC 31 66 00	Chip Metal Film Resistor	22.1kΩ 1/8W	チップ金属皮膜抵抗	R509,510,513,514			
	VB 36 41 00	Chip Resistor	33kΩ 1/8W	チップ抵抗	R508,520			
	VB 36 53 00	〃	100kΩ 1/8W	〃	R516			
	VB 40 27 00	〃	1MΩ 1/8W	〃	R504			
	iA 10 37 00	Chip Transistor	2SA1037	チップトランジスタ	Q501	Inter-changeable		
	iB 07 09 10	〃	2SB709A	〃	〃			
	iC 24 12 00	〃	2SC2412VB	〃	Q502	Inter-changeable		
	iD 06 01 00	〃	2SD601	〃	〃			
	iF 00 49 10	Varactor Diode	ISV55	FMバラクタダイオード	D501	Inter-changeable		
	iF 00 49 20	〃	SVC211	〃	〃			
	iG 15 75 00	IC	HM6116FP-4	I C	IC502			
	iG 15 71 10	〃	NJM2043M(TI)	〃	IC503			
	XB 69 80 01	〃	YM3816(SPCII)	〃	IC501			
	VB 97 27 00	Connector	40pin	コネクター				

※New Parts（新規部品）

EXPLODED VIEW



MECHANISM PARTS

Note) ϕ : Diameter

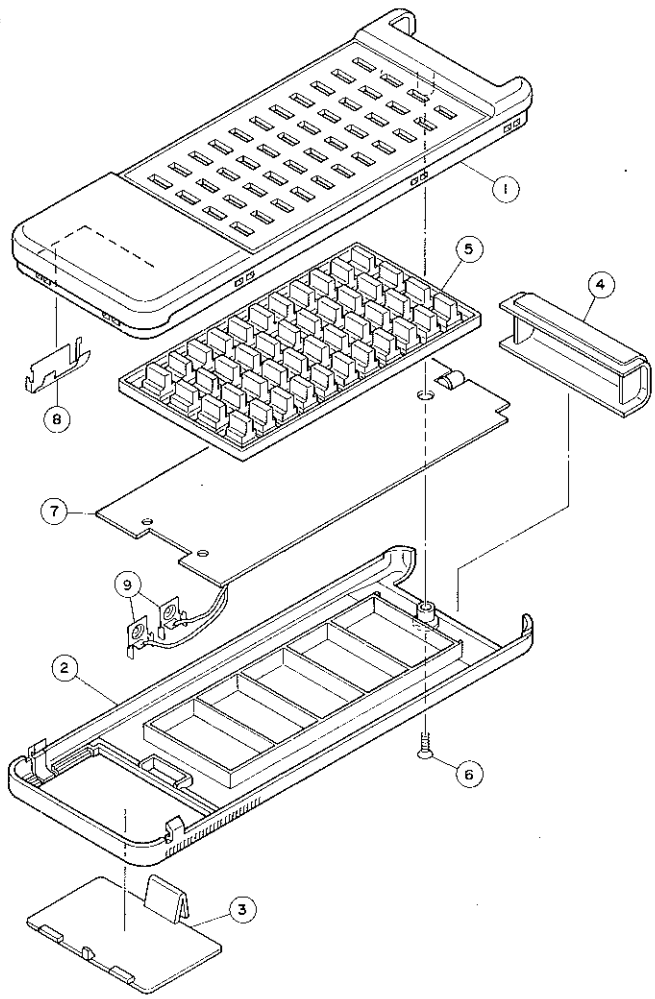
	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※	1	VD 09 86 00	Panel Unit		パネルユニット				
※	1-1	VD 09 06 00	Button Unit		ボタンユニット	POWER			
※	1-2	NA 09 42 30	Operation Circuit Board		オペレーションシート				
※	1-3	VD 09 07 00	Button Unit	3P	ボタンユニット	SPACE,INDEX,RANDAM			
※	1-4	VD 09 08 00	〃		〃	PROGRAM,REPEAT,DISPLAY			
※	1-5	VD 09 09 00	〃		〃	OUTPUT LEVEL			
※	1-6	VD 09 10 00	〃		〃	OPERATION			
※	1-7	VD 09 11 00	〃		〃	10Key			
※	1-8	VD 07 02 00	Ring		リング				
	1-9	CB 06 88 80	Plastic Rivet		プラスチックリベット				
※	1-10	VD 17 19 00	Sheet		シート				
※	1-11	VD 27 65 00	Cap		キャップ				
	1-12	Ei 02 00 46	Binding Head Tapping Screw	2×4 ZMC2-Y	バインドタッピングネジ	PACK			
	1-13	Ei 02 00 66	〃	2×6 ZMC2-Y	〃	PACK			
	1-14	Ei 02 00 86	〃	2×8 ZMC2-Y	〃	PACK			
	1-15	Ei 02 01 06	〃	2×10 ZMC2-Y	〃	PACK			
※	2	VD 03 92 00	Bottom Cover		ボトムカバー				
	3	VC 53 25 00	Isolator Ass'y		アイソレータ Ass'y		CDX-2200		
※	4	VD 10 68 00	Escution		エスカッション				
※	5	CB 66 15 70	Knob		ノブ		CDX-5000		
※	6	CB 66 19 00	Pin		ピン		〃		
※	7	CB 66 20 20	Stopper Ring		ストッパーリング		〃		
※	8	AA 63 19 80	Pin	ϕ3×32	ピン		〃		
※	9	AA 63 19 70	Spring		スプリング		〃		
	10	Ei 33 01 06	Binding Head Tapping Screw	3×10 ZMC2-BI	バインドタッピングネジ	PACK			
※	11	VD 17 18 00	Spacer		スペーサ				
	12	Ei 34 00 86	Binding Head Tapping Screw	4×8 FCRM3-BI	バインドタッピングネジ	PACK			
※	13	VC 98 91 00	Top Panel, A		トップパネル, A				
※	14	VC 98 93 00	〃 , B		〃 , B				
	15	ED 33 00 66	Binding Head Screw	3×6 FCRM3-BI	バインド小ネジ	PACK			
※	16	VD 35 43 00	Spacer,(T)		スペーサ(T)				
※	17	VD 33 29 00	Spacer		スペーサ				
※	18	VD 04 02 00	Side Wood		サイドウッド				
※	19	VD 03 97 00	Bottom Plate, L		ボトムプレート(L)				
※	20	VD 03 98 00	〃 , R		〃 (R)				
	21	Ei 13 01 26	Binding Head Tapping Screw	3×12 FNM3-3g	バインドタッピングネジ	PACK			
	22	EV 41 10 36	Toothed Lock Washer	ϕ3 FNM3-3g	歯付座金	PACK			
	23	EQ 03 51 36	Wood Screw	3.5×13 ZMC2-Y	十字穴付木ネジ				
※	24	NA 09 29 40	Digital Circuit Board		デジタルシート		CDX-5000		
※	25	NA 09 42 40	Main Circuit Board		メインシート				
※	26	NA 09 41 70	Power Circuit Board		電源シート			J	
※	〃	NA 09 41 80	〃		〃			U	
※	〃	NA 09 41 90	〃		〃			G	
	27	CB 62 01 90	Cord Stopper	CM-22B	コードストッパー			G	
	〃	CB 62 02 00	〃	CM-22C	〃			U	
	28	MG 00 21 70	Power Cord	15A 125V 2m	電源コード			J	⚠
	〃	MG 00 16 20	〃	2.5A 250V 2m	〃	Inter-changeable		G	⚠
	〃	MG 00 23 20	〃	2.5A 250V 2m	〃	Inter-changeable		G	⚠
	〃	MG 00 22 20	〃	10A 125V 1.98m	〃			U	⚠
※	29	XC 01 30 01	Power Transformer		電源トランス			J	⚠
※	〃	XC 01 50 01	〃		〃		CDX-5000	U	⚠
※	〃	XC 01 60 01	〃		〃		〃	G	⚠
※	30	XC 01 70 01	〃		〃			J	⚠

※New Parts (新規部品)

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク	
※	30	XC 01 90 01	Power Transformer		電源トランス		CDX-5000	U		⚠
※	//	XC 02 00 01	//		//		//	G		⚠
※	31	VD 04 03 00	Rear Panel		リアパネル			J		
※	//	VD 04 04 00	//		//			U		
※	//	VD 04 05 00	//		//			G		
※	32	VD 39 92 00	Wire Stopper		側線止メ					
	33	CB 66 15 90	Plate		プレート					
	34	CB 60 88 10	Plastic Rivet		プラスチックリベット					
	35	CB 06 94 90	Support, PC		PCサポート					
※	36	CB 61 31 10	Holder, PCB		基板ホルダー					
	37	CB 62 23 80	Clip, Cable		ケーブルクリップ					
	38	VC 55 27 00	Washer		ワッシャー					
	39	CB 66 17 80	Plate		プレート		CDX-5000			
	40	Ei 03 01 86	Binding Head Tapping Screw	3×18 ZMC2-Y	バインドタッピングネジ	PACK				
※	41	VD 53 16 00	Special Screw		段付ネジ					
	42	Ei 33 00 66	Binding Head Tapping Screw	3×6 FCRM3-BI	バインドタッピングネジ	PACK				
	43	Ei 03 00 86	//	3×8 ZMC2-Y	//	PACK				
	44	EV 20 00 36	Plain Washer	φ3 ZMC2-Y	平座金	PACK				
	45	EO 13 00 86	Flat Head Tapping Screw	3×8 FNM3-3g	皿タッピングネジ	PACK				
	46	ED 13 01 06	Binding Head Screw	3×10 FNM3-3g	バインド小ネジ	PACK				
	47	EA 22 60 86	Pan Head Screw	2.6×8 FCRM3-3g	ナベ小ネジ	PACK				
※	48	EV 41 12 26	Toothed Lock Washer	φ2.2 FNM3-3g	歯付座金	PACK				
※	49	VD 48 56 00	Spacer		スペーサ					
	50	Ei 34 01 06	Binding Head Tapping Screw	4×10 FCRM3-BI	バインドタッピングネジ	PACK				
※	51	CB 66 15 60	Case, Knob		ノブケース					
※	52	VD 43 03 00	Ground Plate		アースプレート					
			Accessories		付属品					
※		VD 09 91 00	Remote Control Transmitter	RS-CDX10000	リモートコントロールトランスミッター					
			Dry Cell	AA,R06	単3乾電池					
※		VD 29 51 00	Pin Cord	BR	ピンコード(茶)	AUDIO				
※		VD 29 52 00	//	RE	// (赤)	DIGITAL				

※New Parts (新規部品)

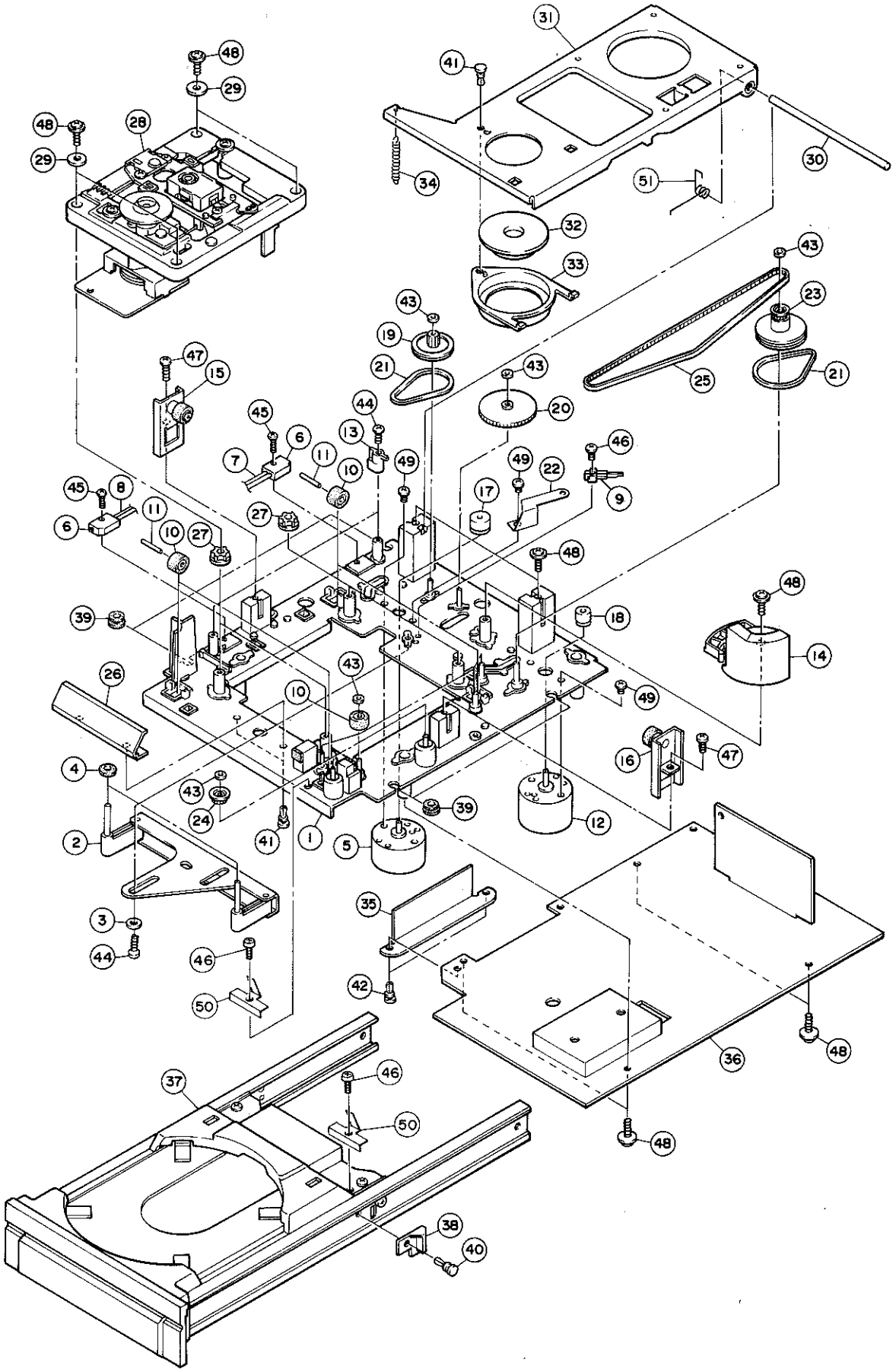
■EXPLODED VIEW (RS-CDX10000)



	Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
※		***VD 09 91 00***	***Remote Control Transmitter*** RS-CDX10000	リモートコントロールトランスミッター				
※	1	CX 60 09 60	Case (A) Ass'y	ケース (A) Ass'y				
	2	XX 67 77 20	Case (B)	ケース (B)				
	3	XX 67 77 30	Case (C)	ケース (C)				
	4	XX 67 16 40	Filter	フィルター				
	5	CX 60 06 20	Rubber, Contact	ゴム接点				
	6	XX 67 16 60	Flat Head Screw	皿小ネジ				
	7	NX 60 04 10	P.C Board Ass'y	プリント基板Ass'y				
	8	XX 67 16 80	Dry Cell Terminal A	電池電極板A				
		NX 60 04 10	***P.C Board Ass'y***	プリント基板Ass'y				
		iX 60 70 40	IC	μPD6102G	I C	IC01		
		QX 60 00 40	Ceramic Resonator	KBR455BT	セラミック振動子	X01		
		FG 21 21 00	Ceramic Cap.	100pF 50V	セラコン	C01,02		
		UJ 11 74 70	Electrolytic Cap.	47μF 6.3V	ケミコン	C03		
		iX 60 36 00	IED	SLR-932A	IED	IED01		
		iC 26 73 00	Transistor	2SC2673	トランジスタ	Q01		
		HX 60 14 00	Carbon Resistor	2Ω 1/4W	カーボン抵抗	R01		
		iF 00 34 50	Diode	1SS133	ダイオード	D01～05		
	9	XX 67 16 90	Dry Cell terminal B		電池電極板B			

※New Parts (新規部品)

EXPLODED VIEW (DM-1x Unit)

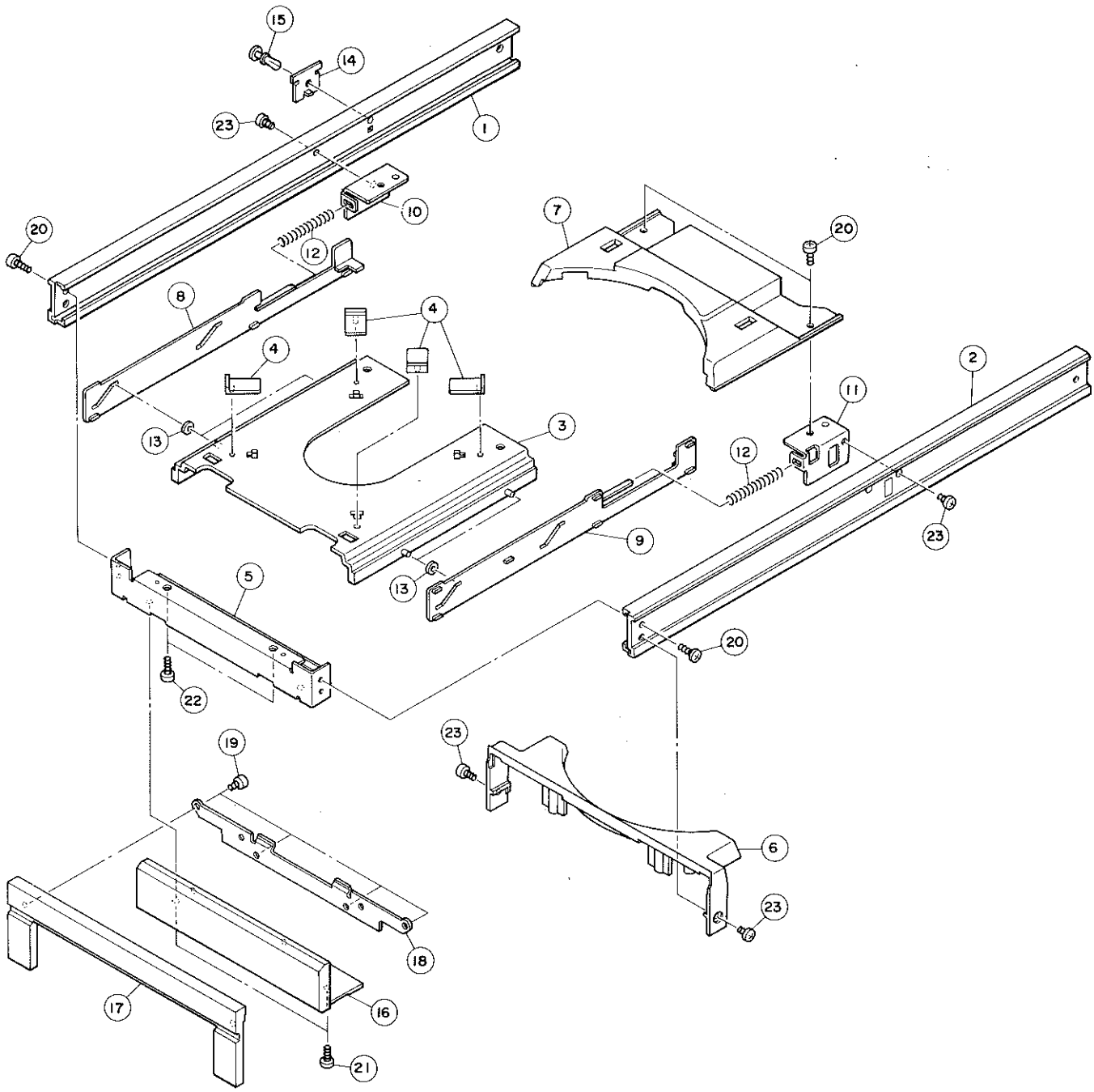


■MECHANISM PARTS (DM-1x Unit)

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
			Disc Mechanism Ass'y	DM-1x	DM-1x総組立				
※	1	NB 63 76 00	Tray Chassis Ass'y		トレイシャーシ Ass'y				
※	2	NB 63 75 00	Connector Ass'y		コネクタ Ass'y				
	3	CB 60 62 10	Washer		ワッシャー				
※	4	CC 01 69 80	Damper		ダンパ				
※	5	VC 40 61 00	Motor	BFT7B	モータ				
※	6	VC 44 37 00	Switch	JPS1220-0101	マイクロスイッチ				
※	7	VC 47 68 00	Up Harnes, (Red)		UPハーネス(赤)				
※	8	VC 47 69 00	// , (Blue)		// (青)				
	9	KA 90 63 70	Switch	MSW-1485	エンドスイッチ				
※	10	CB 65 67 40	Roller		ローラー				
※	11	AA 63 14 60	Pin	φ2×14.5	ピン				
※	12	VC 40 63 00	Motor	VF214B04	モータ				
※	13	CB 65 67 00	Lever,SW		レバー(SW)				
※	14	CB 65 61 60	Cam,Gear		カム(ギヤ)				
※	15	NB 63 74 70	Roller Ass'y, L		ローラー Ass'y, L				
※	16	NB 63 74 80	// , R		// , R				
※	17	BA 09 55 10	Pulley		プーリ(モーターS)				
※	18	BA 09 55 20	//		// (モーターT)				
	19	CB 65 85 20	Idle Pulley		アイドルプーリ		DM-X5		
	20	CB 65 55 80	Drive Gear, 2		ドライブギヤ, 2		//		
	21	CB 64 95 50	Belt		ベルト				
※	22	VD 22 31 00	Support		サポート(シャフト)				
※	23	CB 65 62 00	Pulley Ass'y		プーリ Ass'y				
※	24	CB 65 61 70	Pulley		プーリ(ギア)				
※	25	CB 65 61 90	Belt		ベルト(ギア)				
※	26	BA 09 57 70	Emblem		エンブレム				
※	27	CB 65 70 60	Damper		ダンパ				
※	28	NB 64 01 90	Disc Mechanism Unit		ディスクメカユニット				
※	29	CB 66 09 80	Washer		ワッシャー				
※	30	AA 63 11 50	Shaft	φ4×100	シャフト				
※	31	NB 63 75 10	Stabilizer Ass'y		スタビライザ Ass'y				
※	32	NB 63 74 90	Clumper Ass'y		クランプ Ass'y				
※	33	CB 65 66 90	Holder		ホルダー(クランパ)				
※	34	AA 63 22 30	Spring		スプリング(EXT)				
※	35	CB 66 16 60	Sheet		シート(L)				
※	36	NA 09 27 00	Servo Circuit Board		サーボシート				
※	37	NB 64 02 00	Tray Unit	Gray	トレイユニット	CDX-10000			
※	//	NB 64 02 10	//	Black	//	CDX-5000			
※	38	CB 65 67 70	Stopper		ストッパ(ベルト)				
※	39	CB 65 70 70	Cushion		クッション(DM)				
	40	CB 60 56 20	Plastic Rivet		プラスチックリベット				
	41	CB 60 88 10	//		//				
	42	CB 09 96 00	//		//				
※	43	CB 66 20 20	Stopper Ring		ストッパーリング				
	44	Ei 32 60 86	Binding Head Tapping Screw	2.6×8 FCRM3-BI	バインドタッピングネジ	PACK			
	45	Ei 02 01 06	//	2×10 ZMC2-Y	//	PACK			
	46	Ei 32 60 66	//	2.6×6 ZMC2-BI	//	PACK			
	47	Ei 33 01 06	//	3×10 ZMC2-BI	//	PACK			
	48	EK 33 00 10	BW Head Tapping Screw	3×12 FCRM3-BI	BWヘッドタッピングネジ				
	49	ED 32 60 46	Binding Head Screw	2.6×4 ZMC2-BI	バインド小ネジ	PACK			
※	50	VD 43 02 00	Ground Plate		アースプレート				
※	51	VD 63 09 00	Spring		スプリング(TOR)				
		CB 06 92 50	Binding Tie	BK-1	インシュロックタイ				

※New Parts (新規部品)

EXPLODED VIEW (Tray Unit)

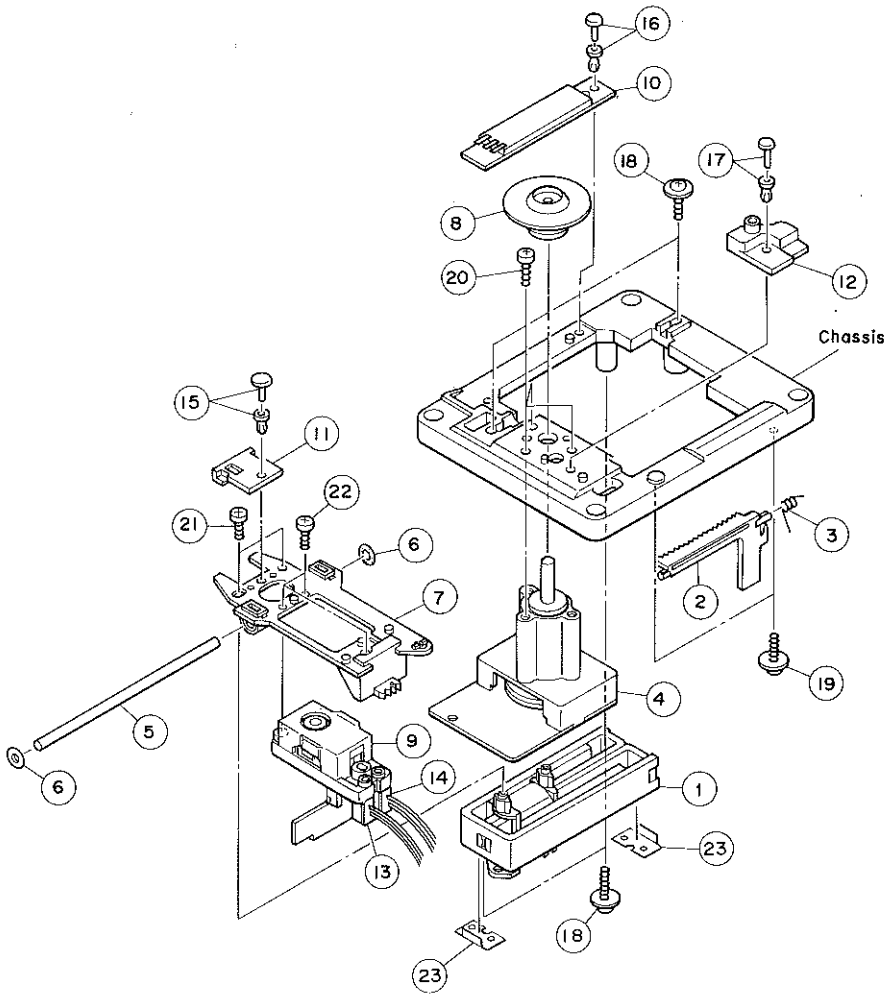


■ MECHANISM PARTS (Tray Unit)

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		***NB 64 02 00***	***Tray Unit***	Gray	トレイユニット	CDX-10000			
※		***NB 64 02 10***	〃	Black	〃	CDX-5000			
※	1	BA 09 50 90	Flam, L	Gray	フレーム L				
※	〃	BA 09 51 00	〃	Black	〃				
※	2	BA 09 51 10	Flam, R	Gray	フレーム R				
※	〃	BA 09 51 20	〃	Black	〃				
※	3	NB 63 77 80	Tray Ass'y	Gray	トレイ Ass'y				
※	〃	NB 63 77 90	〃	Black	〃				
※	4	CB 65 70 80	Pad		パッド				
※	5	AA 63 09 30	Support		サポート				
※	6	CB 65 70 90	Cover, A	Black	カバー A				
	〃	VD 10 63 00	〃	Gray	〃				
※	7	CB 65 71 00	Cover, B	Black	カバー B				
	〃	VD 10 64 00	〃	Gray	〃				
※	8	CB 65 67 50	Lifter, L		リフター L				
※	9	CB 65 67 60	〃 , R		〃 R				
※	10	AA 63 09 10	Holder, L		ホルダー L				
※	11	AA 63 09 20	〃 , R		〃 R				
※	12	AA 63 11 60	Spring		スプリング				
※	13	CB 66 09 70	Spacer		スペーサ				
※	14	AA 63 09 00	Stopper		ストッパ				
	15	CB 60 88 10	Plastic Rivet		プラスチックリベット				
※	16	VD 07 03 00	Panel, Lid A	Gray	パネル／リッド A	CDX-10000			
※	〃	BA 09 57 30	Tray Panel A	Black	トレイパネル A	CDX-5000			
※	17	VD 07 04 00	Panel, Lid B	Gray	パネル／リッド B	CDX-10000			
※	〃	BA 09 57 10	Tray, Panel B	Black	トレイパネル B	CDX-5000			
※	18	AA 63 15 20	Holder		ホルダー				
	19	EA 33 00 46	Pan Head Screw	3×4 FCRM3-BI	ナベ小ネジ	PACK			
	20	ED 02 60 86	Binding Head Screw	2.6×8 ZMC2-Y	バインド小ネジ	PACK Gray			
	〃	ED 32 60 86	〃	2.6×8 ZMC2-BI	〃	PACK Black			
※	21	EX 60 07 30	Truss Head Tapping Screw	3×6 FNM3-3g	トラスタッピングネジ	Gray			
※	〃	EX 60 07 20	〃	3×6 FCRM3-BI	〃	Black			
	22	Ei 32 60 86	Binding Head Tapping Screw	2.6×8 FCRM3-BI	バインドタッピングネジ	PACK			
	23	ED 32 60 46	Binding Head Screw	2.6×4 ZMC2-BI	バインド小ネジ	PACK			

※New Parts (新規部品)

■ MECHANISM PARTS(Disc Mechanism Unit)



	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		***NB 64 01 90***	***Disc Mechanism Unit***		ディスクメカユニット				
※	1	VB 81 76 00	Liner Motor	TDS-LOC-02	リニアモータ				
※	2	CB 65 56 00	Lever		レバー				
※	3	AA 63 17 40	Spring		スプリング				
※	4	VC 34 68 00	Motor	SD04AB	モータ				
※	5	AA 63 11 50	Shaft	φ4×100	シャフト				
※	6	EX 60 05 10	O Ring	φ3.8	Oリング				
※	7	NB 63 72 80	PU Base Ass'y		PUベース Ass'y				
※	8	NB 63 89 80	Disc Table Ass'y		ディスクテーブルAss'y				
※	9	VD 19 03 00	Optical Pick Up Head	MLP-7B2	光ピックアップヘッド				
※	10	MZ 09 48 70	CP Element Ass'y		CPエレメントAss'y				
※	11	VC 47 45 00	CP Brush		CPブラシ				
※	12	NA 09 26 90	FG Circuit Board		FGシート				
※	13	VD 28 94 00	Pi Harnes	6P	Piハーネス				
※	14	VD 28 95 00	〃	8P	〃				
	15	CB 09 96 00	Plastic Rivet		プラスチックリベット				
	16	CB 60 88 10	〃		〃				
※	17	CB 03 27 50	〃		〃				
	18	EK 33 00 10	BW Head Tapping Screw	3×12 FCM3-BI	BWヘッドタッピングネジ				
	19	EK 33 00 30	〃	3×10 FCM3-BI	〃				
	20	Ei 33 01 06	Binding Head Tapping Screw	3×10 ZMC2-BI	バインドタッピングネジ	PACK			
	21	Ei 32 60 86	〃	2.6×8 FCRM3-BI	〃	PACK			
	22	ED 32 60 86	Binding Head Screw	2.6×8 ZMC2-BI	バインド小ネジ	PACK			
※	23	VD 83 17 00	Washer		マグネットワッシャ				

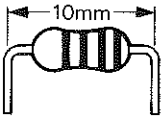
※New Parts（新規部品）

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	※	12KΩ	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	1.0MΩ	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	※
1.0KΩ	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			

1/4W Type

HJ35○○○○



1/6W Type

HF85○○○○