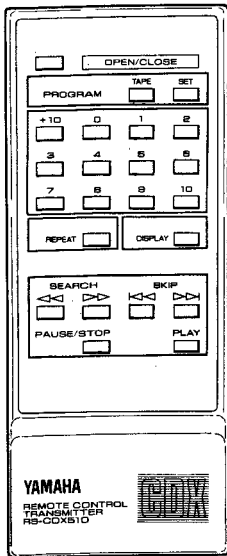
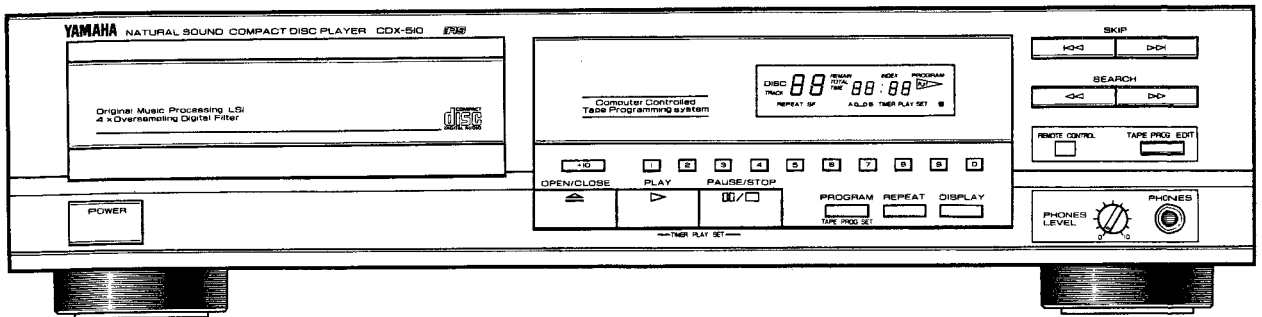


COMPACT DISC PLAYER CDX-510/U

SERVICE MANUAL



IMPORTANT NOTICE

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

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

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

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

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

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

CONTENTS

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

ADJUSTMENTS	9 ~ 19
IC DATA	19 ~ 25
DISPLAY DATA	26
WIRING	27
PRINTED CIRCUIT BOARD	28 ~ 31
SCHEMATIC DIAGRAM	32
PARTS LIST	33 ~ 41
RS-CDX510	43/43

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.

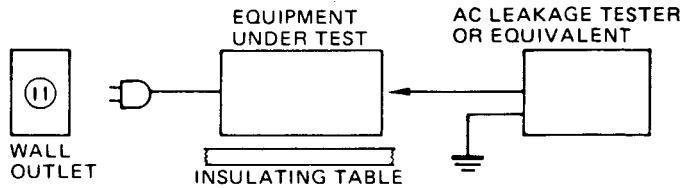
2. Leakage Current Measurement (For 120V Model Only).

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

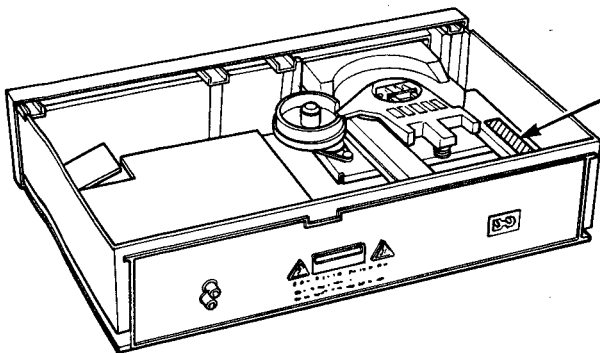
• POLARIZATION (U. C models)

This CD player product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature.



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

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



U model

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

C model

CAUTION HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED
ATTENTION RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ENCLICHEMENT DE SECURITE ANNULE 90.428

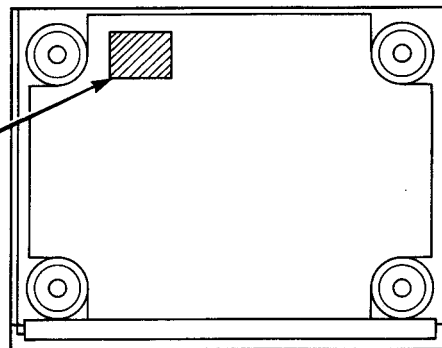
BOTTOM SIDE

U model

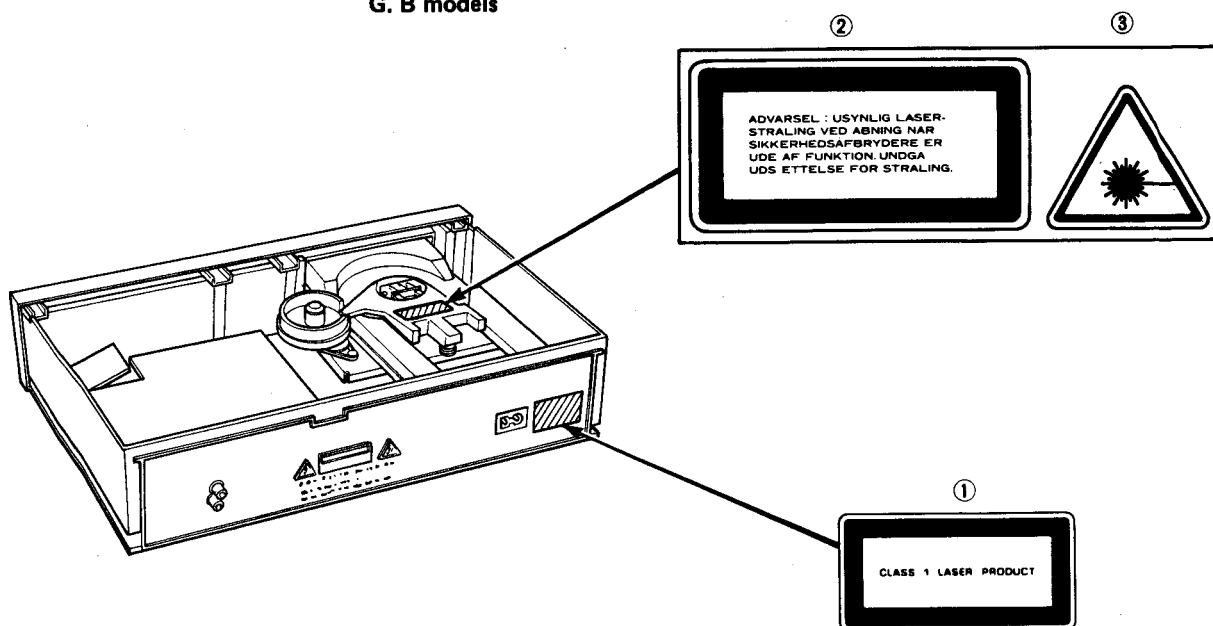
THIS PRODUCT COMPLIES WITH OHHS RULES 21 CFR SUBCHAPTER J APPLICABLE AT DATE OF MANUFACTURE.

MANUFACTURED BY
 YAMAHA CORPORATION.
 10-1 NAKAZAWA-CHO.
 HAMAMATSU-SHI.
 SHIZUOKA-KEN JAPAN

MANUFACTURED:



G. B models

*English*

- ① THIS LABEL IS ATTACHED AT THE PLACE ILLUSTRATED TO INFORM THAT THE APPARATUS CONTAINS A LASER COMPONENT.
- ② THIS LABEL IS ATTACHED IN THE POSITION SHOWN IN THE ILLUSTRATION TO WARN THAT ANY FURTHER PROCEDURE WILL BRING THE USER INTO EXPOSURE WITH THE LASER BEAM.
- ③ THE WARNING LABEL INFORMING OF RADIATION IS PLACED INSIDE THE UNIT AS SHOWN IN THE ILLUSTRATION, TO WARN AGAINST FURTHER MEASURES ON THE UNIT. THE EQUIPMENT CONTAINS A LASER COMPONENT RADIATING LASER RAYS EXCEEDING THE LIMIT OF LASER PRODUCTS OF CLASS 1.

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

Swedish

- ① PÅSKRIFTEN SITTE PÅ APPARATEM SOM VISAS SOM EN UPPMANING OM ATT APPARATEN OMFATTAR EN INBYGGD LASERKOMPONENT.
- ② TEXTSKYLTEN FÖR LASERN ÄR PLACERAD PÅ APPARATEN SOM EN UPPMANING OM ATT APPARATEN INNE HÅLLER EN LASERKOMPONENT.
- ③ VARNINGSSKYLTEN FÖR STRÅLNING HAR PLACERATS I APPARATEN, SOM BILDEN VISAR, SOM EN VARNING OM YTTRELLIGARE INGREPP I APPARATEN. MATERIELEN INNEHÅLLER EN LASERKOMPONENT SOM AVGER LASERSTRÅLNING ÖVERSTIGANDE GRÄNSEN FÖR LASERKLASS 1.

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

Danish

- ① DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.
- ② DETTE MÆRKAT OM LASEREN ER ANBRAGT PÅ APPARATET SOM EN OPLYSNING OM AT APPARATET INDEHOLDER ET LASERKOMPONENT.
- ③ ADVARSELSKILTET OM STRÅLING ER PLACERET INDEN I APPARATET, SOM VIST I ILLUSTRATIONEN, SOM EN ADVARSEL OM YDERLIGERE INDGÆB I APPARATET. APPARATET INDEHOLDER ET LASERKOMPONENT SOM AVGIVER LASESTRÅLING DER OVERSTIGER GÆNSEVERDIEN FOR LASERKLASSE 1.

ADVARSEL! INDGÆB 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."

INTERLOCK OPERATION


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

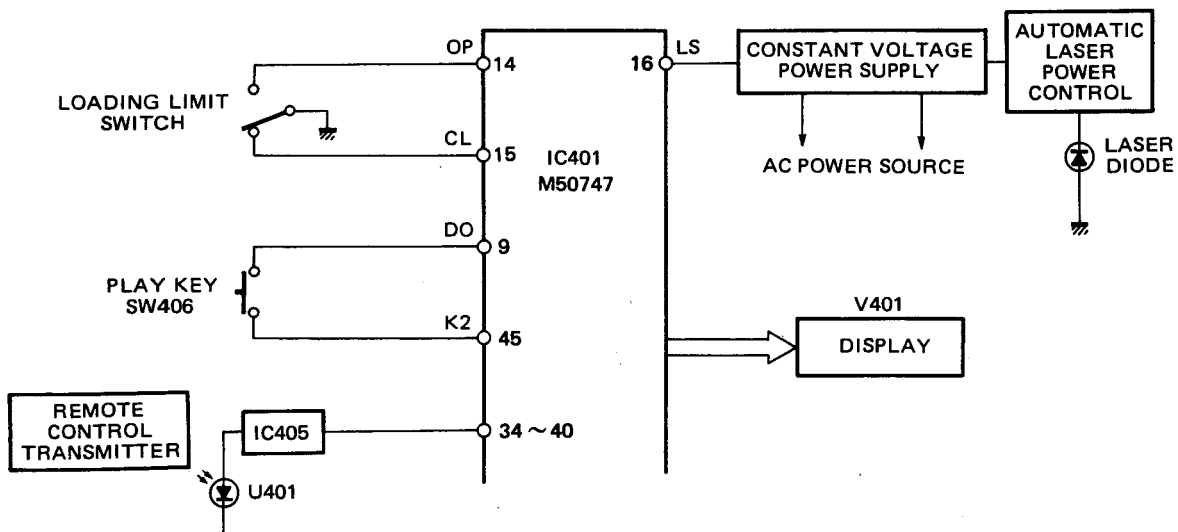
Laser output is controlled by the injection or cutoff of the constant voltage source to the laser diode at Pin 16 (LS) of IC401 (M50747), and also by Automatic Laser Power Control Circuit. When Pin 16 is in "H" (High) level, the laser emits the beam. When Pin 16 is in "L" (Low) level, the laser does not emit the beam.

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

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

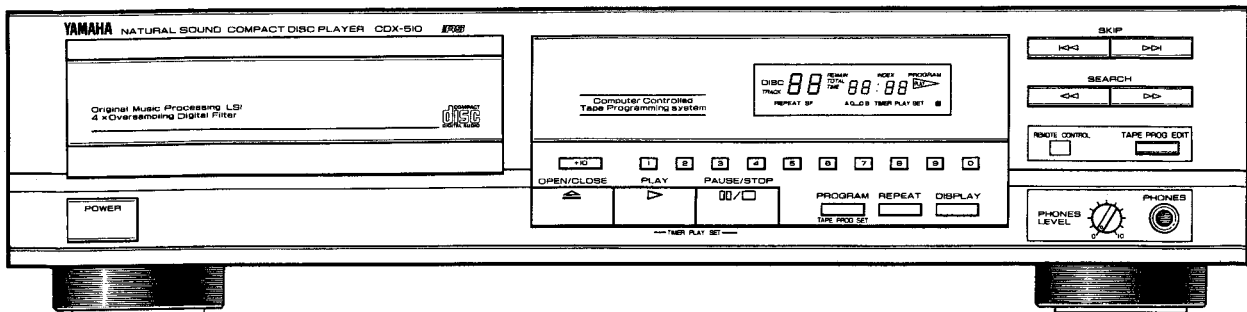
After the above conditions are met and the index signals have been read, the laser emits the beam when the following two conditions are met.

- 1) when the PLAY key (SW406) or that of Remote Control Transmitter is pressed.
- 2) when the  display is ON.

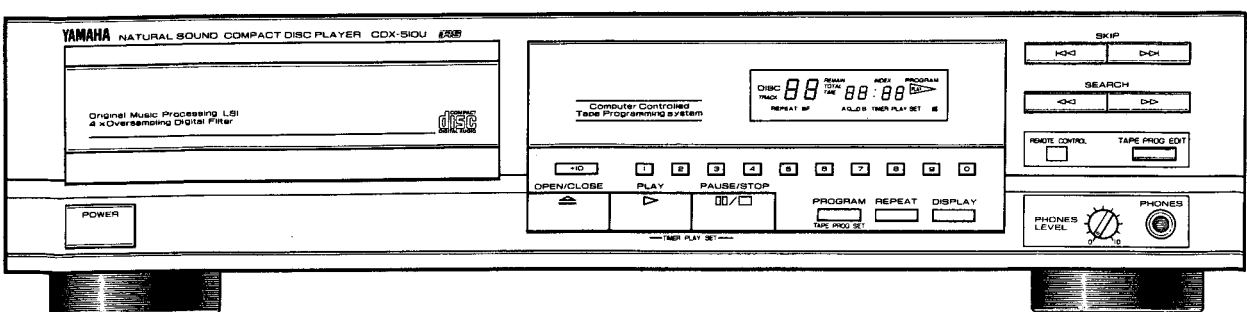


FRONT PANELS

• CDX-510

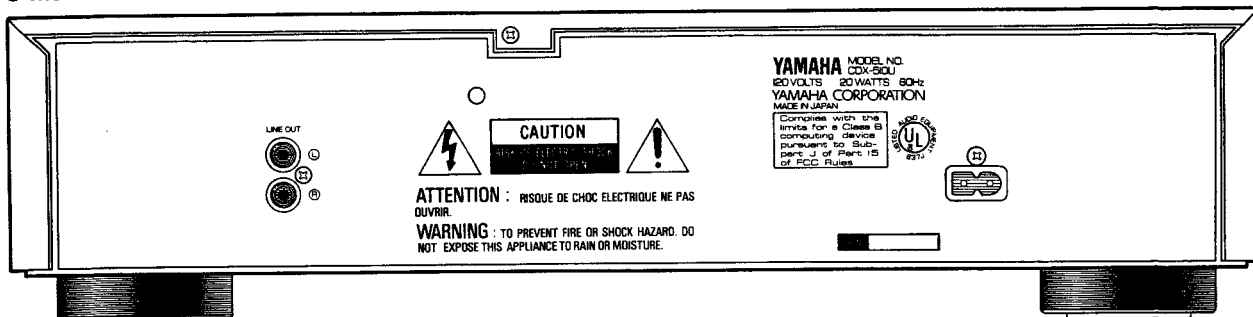


• CDX-510U

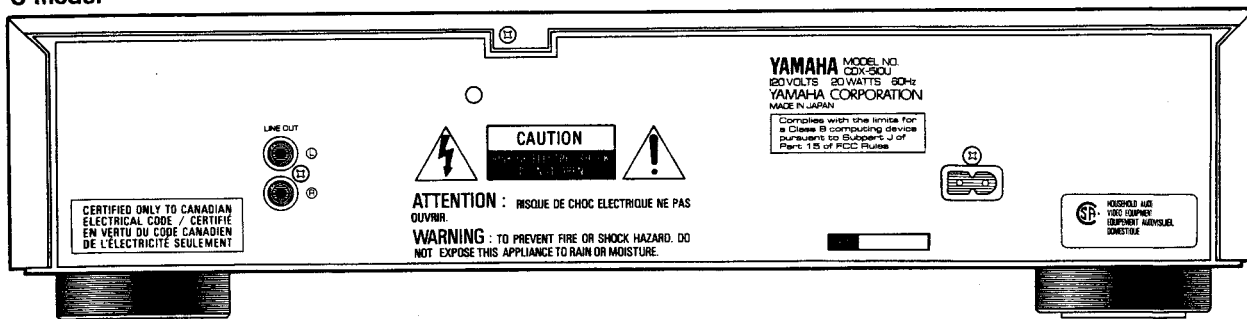


REAR PANELS

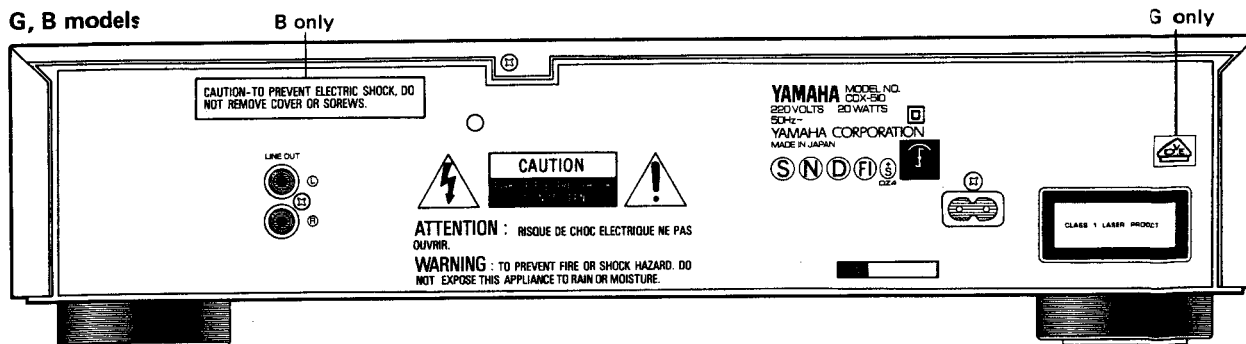
U model



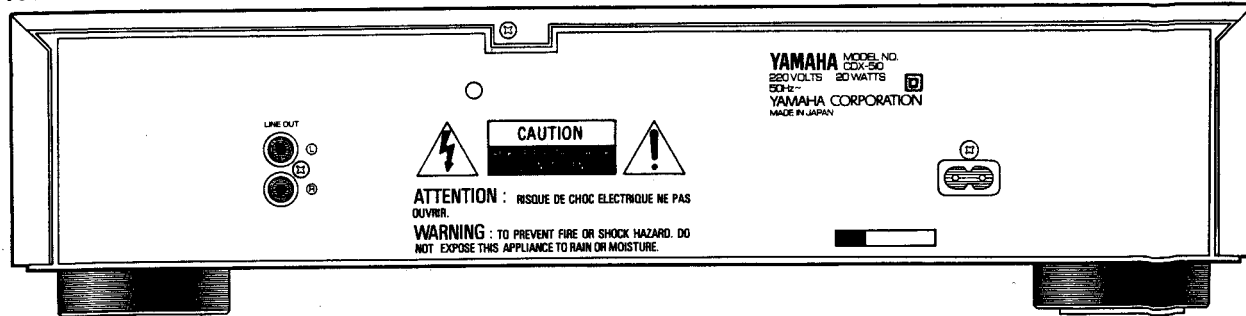
C model



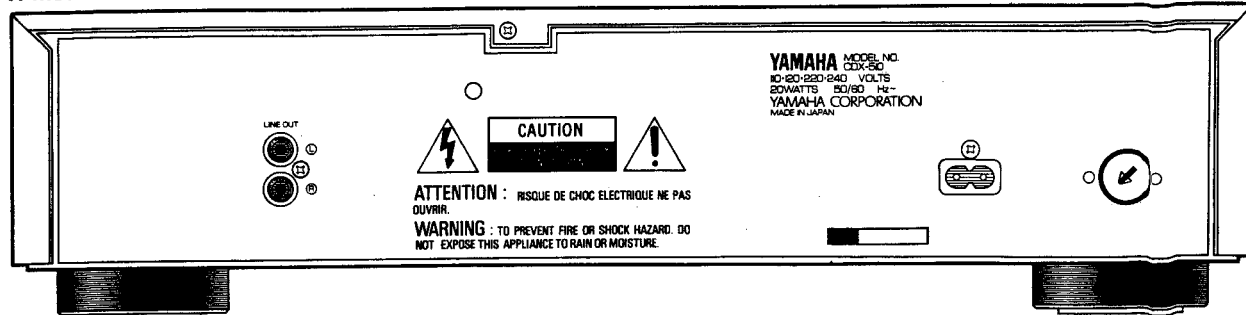
G, B models



A model



R model



CDX-510/U

■ SPECIFICATIONS

■ AUDIO SECTION

Frequency Response	5Hz ~ 20kHz ± 0.5dB
De-Emphasis Equalization	± 0.5dB (EIAJ)
Harmonic Distortion + Noise	Less than 0.008%, 1kHz (EIAJ)
S/N Ratio	100dB (EIAJ)
Dynamic Range	More than 100dB (EIAJ)
Wow & Flutter	Unmeasurable
Channel Separation	More than 80dB, 1kHz (EIAJ)
Output Voltage	2V (EIAJ)
Output Impedance	2.2kΩ
Headphone Output	770mV/150Ω

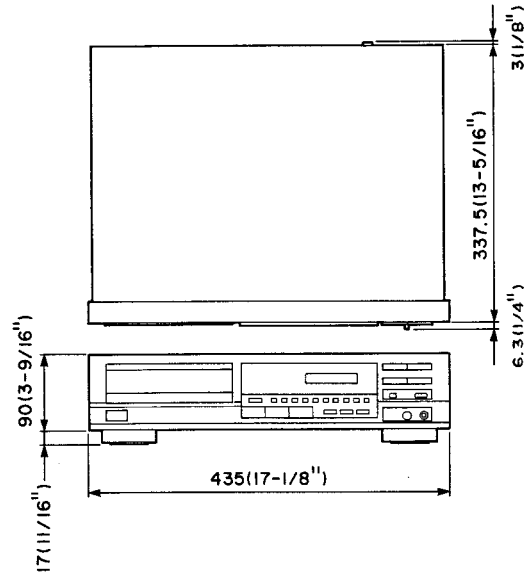
■ INTERNAL SYSTEMS

Optical Pick-up	3-beam laser
Error Correction System	CIRC, dual error correction system
D/A Conversion	16-bit linear
Filter	Digital filter and 3rd order active filter

■ GENERAL

Power Requirements	
U, C models	120V AC, 60Hz
G, B models	220-240V AC, 50Hz
A model	240V AC, 50Hz
R model	110-120/220-240V AC, 50/60Hz
Power Consumption	20W
Dimensions (W x H x D)	435 x 107 x 346.8 (17-1/8" x 4-3/16" x 13-5/8")
Weight	4.8kg (10 lbs 9 oz.)
Accessories	Pin plug cord Remote control transmitter (RS-CDX510) Dry-cell: X2 (Size "AA", "R06")

● DIMENSION

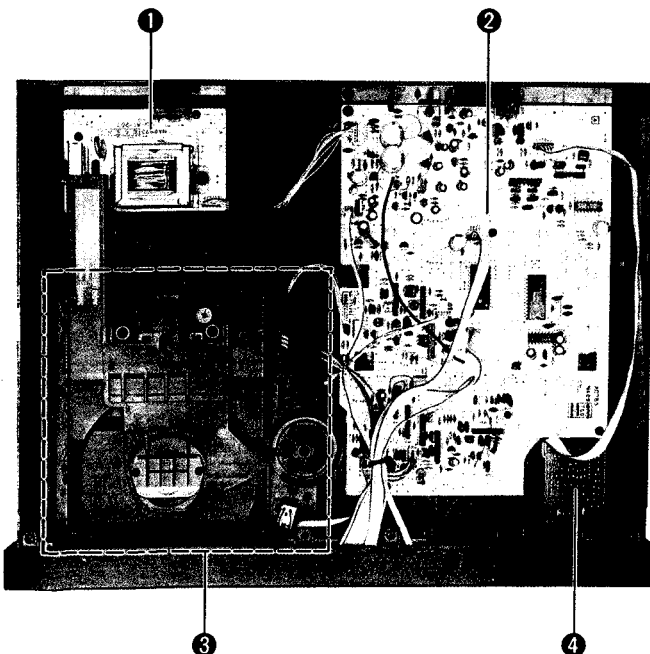


Unit : mm (inch)

*Specification subject to change without notice.

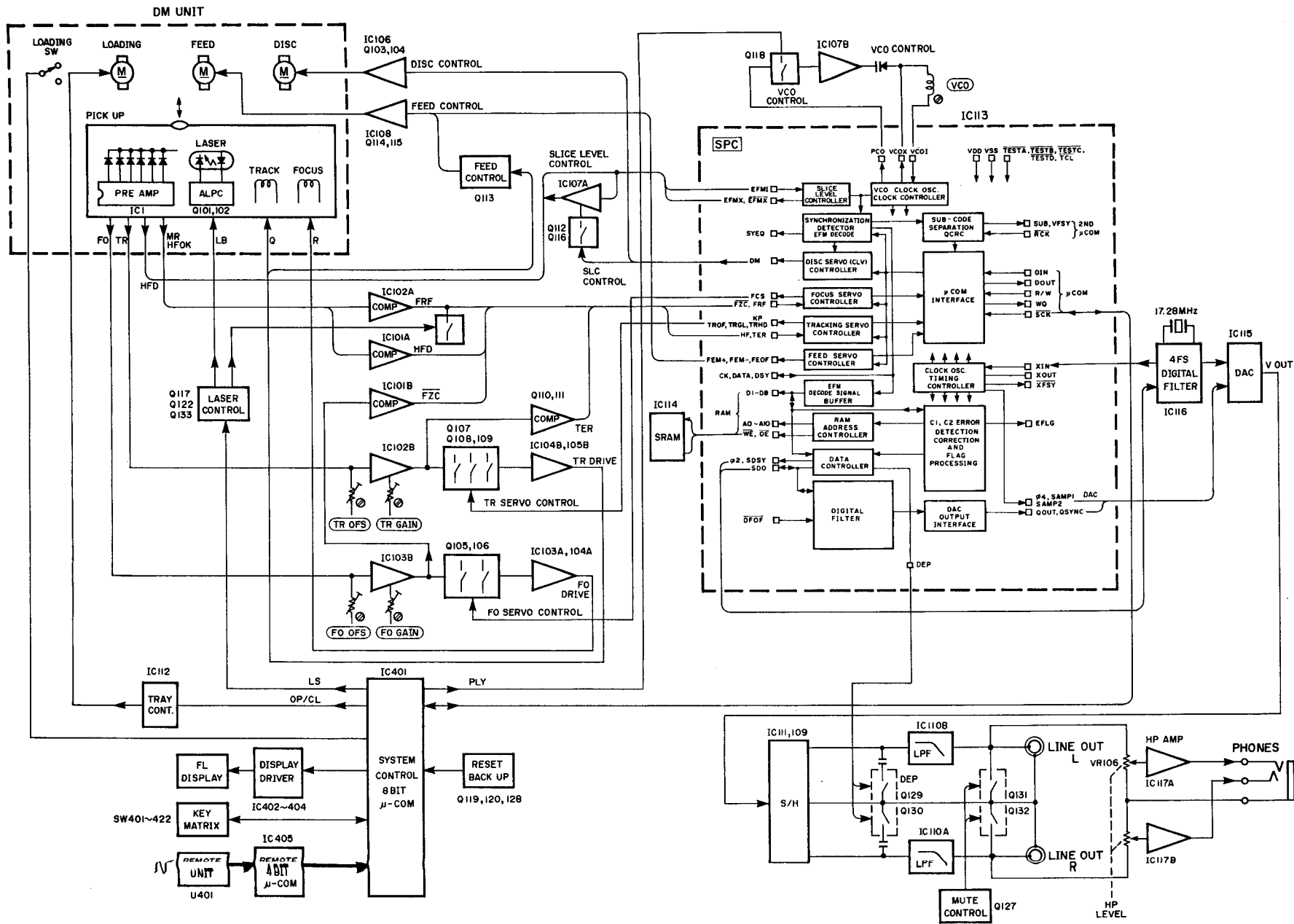
- U U. S. A. model
- C Canadian model
- B British model
- A Australian model
- G European model
- R General model

■ INTERNAL VIEW



- ① POWER SUPPLY UNIT
- ② MAIN CIRCUIT BOARD (2)
- ③ DISC MECHANISM UNIT
- ④ OPERATION CIRCUIT BOARD (2)

BLOCK DIAGRAM



CDX-510/U

DISASSEMBLY PROCEDURES

(Remove parts in disassembly order as numbered.)

1. Removal of Top Cover

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

2. Removal of Front Panel

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

3. Removal of Bottom Cover

- a. Remove 6 screws (③) in Fig. 1.

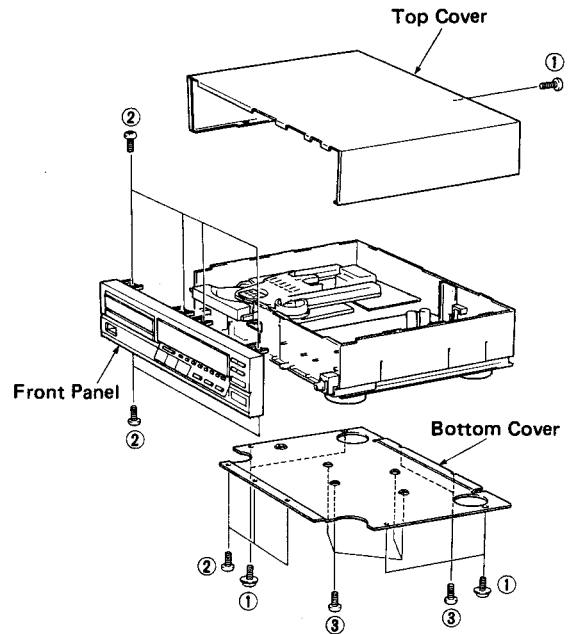


Fig. 1

4. Removal of Disc Tray Ass'y

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

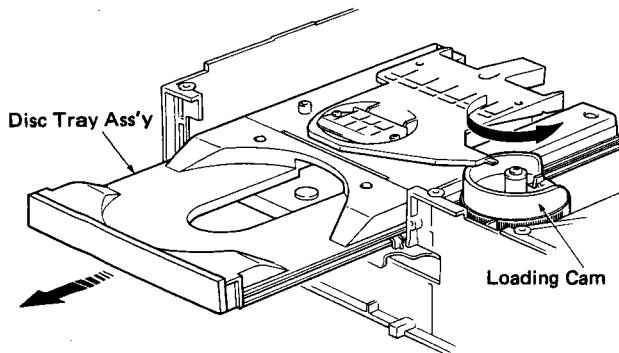


Fig. 2

5. Removal of Disc Mechanism Unit

- a. Remove 4 screws (④) in Fig. 4.

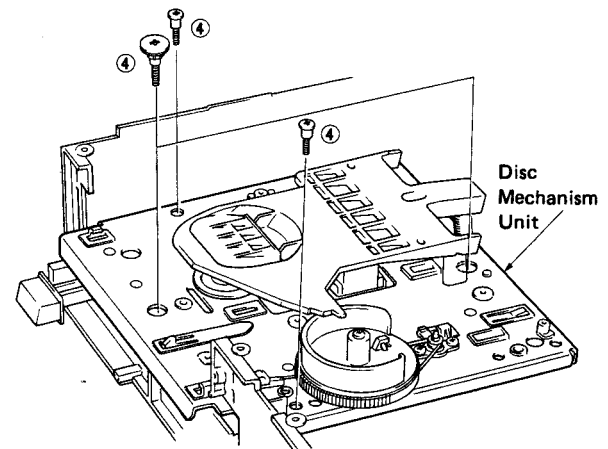


Fig. 4

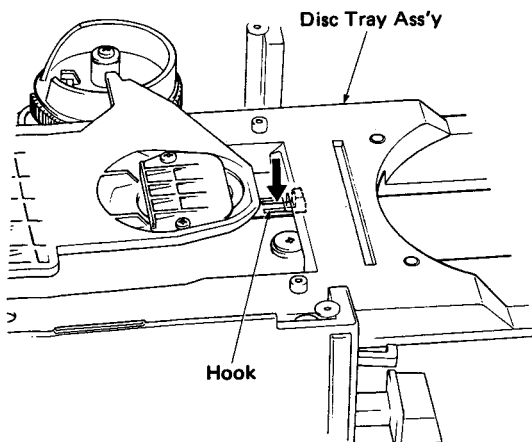


Fig. 3

6. Removal of Disc Motor

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

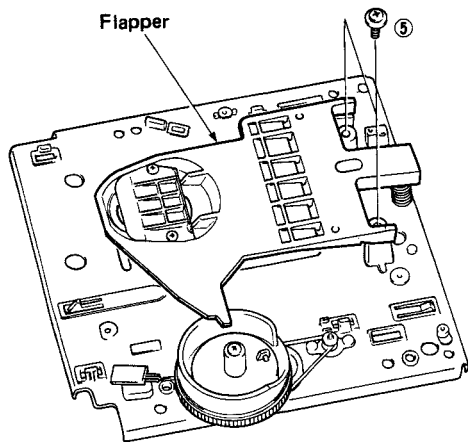


Fig. 5

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

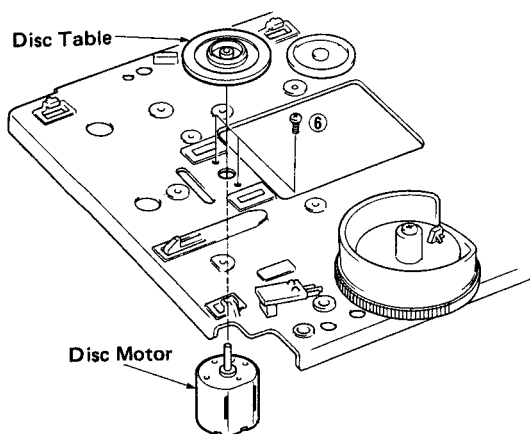
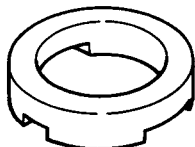


Fig. 6

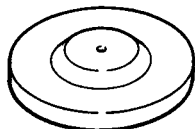
● **Installation of disc table**

※ The following tools are necessary for installation.

Height adjustment gauge (TX913130)



Disc table installer (TX913140)



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

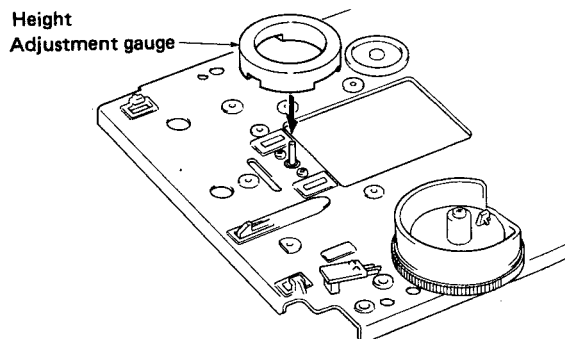


Fig. 7

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

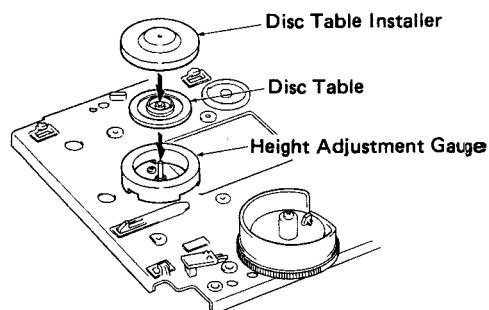


Fig. 8

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

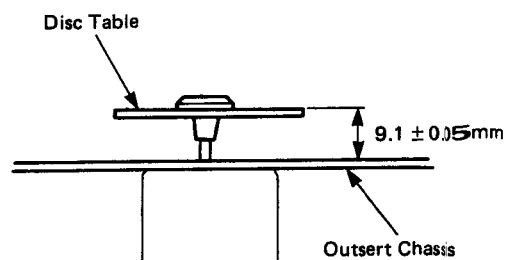


Fig. 9

CDX-510/U

■ 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/N TX915140) or equivalent)
- AC voltmeter (ACVM) : x 2
(One dual channel or two single channel meters)
- DC voltmeter (DCVM) : x 1
- Frequency counter (FC) : x 1

Jigs

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

Tools

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

● Precautions or Special Notes

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

● Adjustment jig (with internal filter)

Connect the filter in Fig. A before measurement.

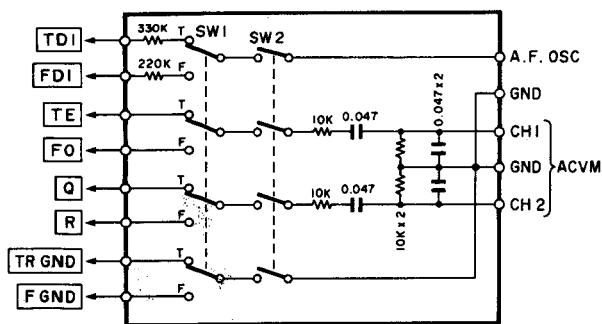
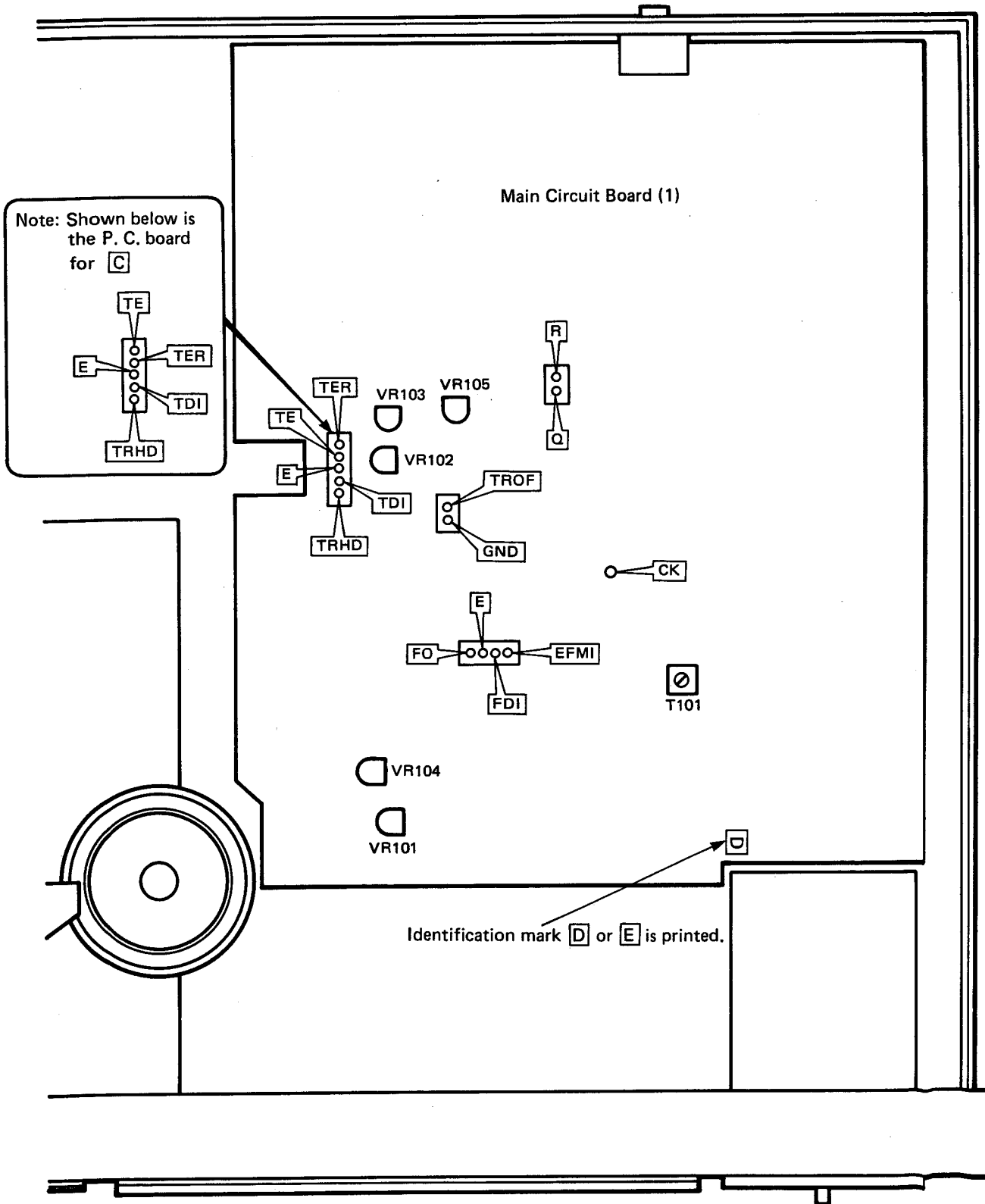


Fig. A

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

• Test Points



C/AT&V/CD

★ Carry out following adjustments in order as numbered.

Step 1. Confirmation of Laser Output.

Step 2. Confirmation of Focus Actuator Operation.

Step 3. Adjustment of VCO.

Step 4. Adjustment of Tracking Gain

Step 5. Adjustment of Focus Gain

Step 6. Adjustment of Tracking Offset

Step 7. Adjustment of Focus Offset

Step 8. Adjustment of Kick Gain

Step 9. Confirmation of Jitter

Step 10. Confirmation of Skip Search Operation

Confirmation of Laser Output (Step 1)

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

- ⑤ Press POWER key. (POWER ON)
 - ⑥ Measure the laser output during the 5 seconds of FOCUS search mode.
- Rating: Laser output = 0.1mW to 0.5mW

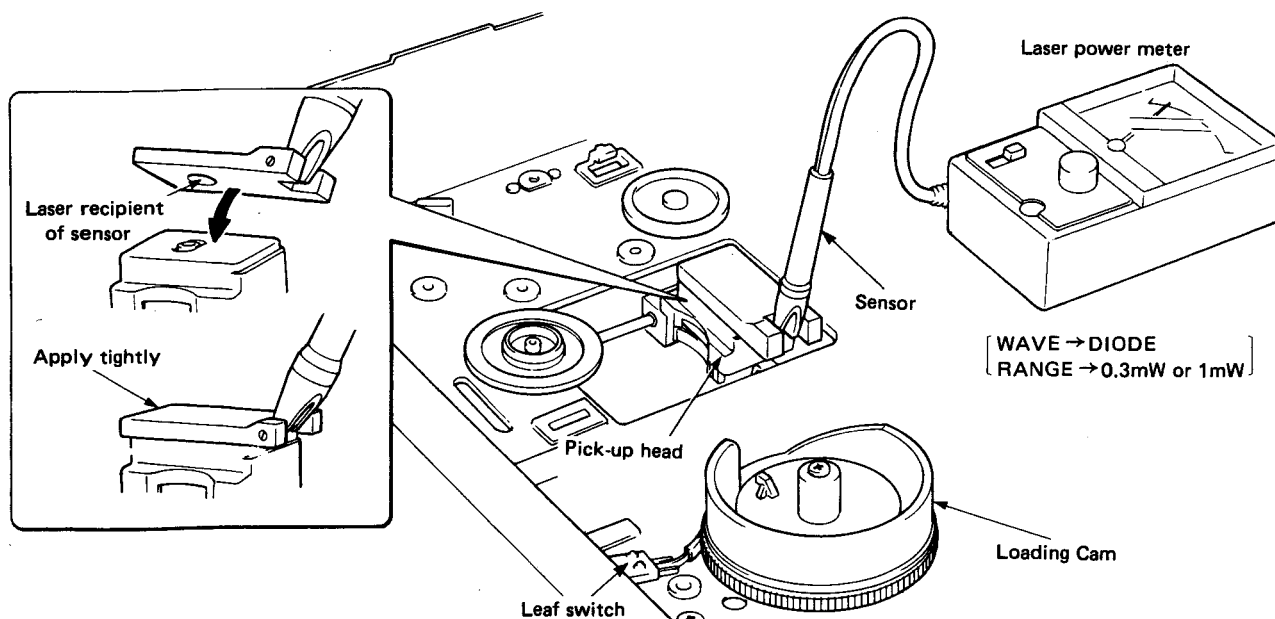


Fig. B

Precautions in handling pick-up head

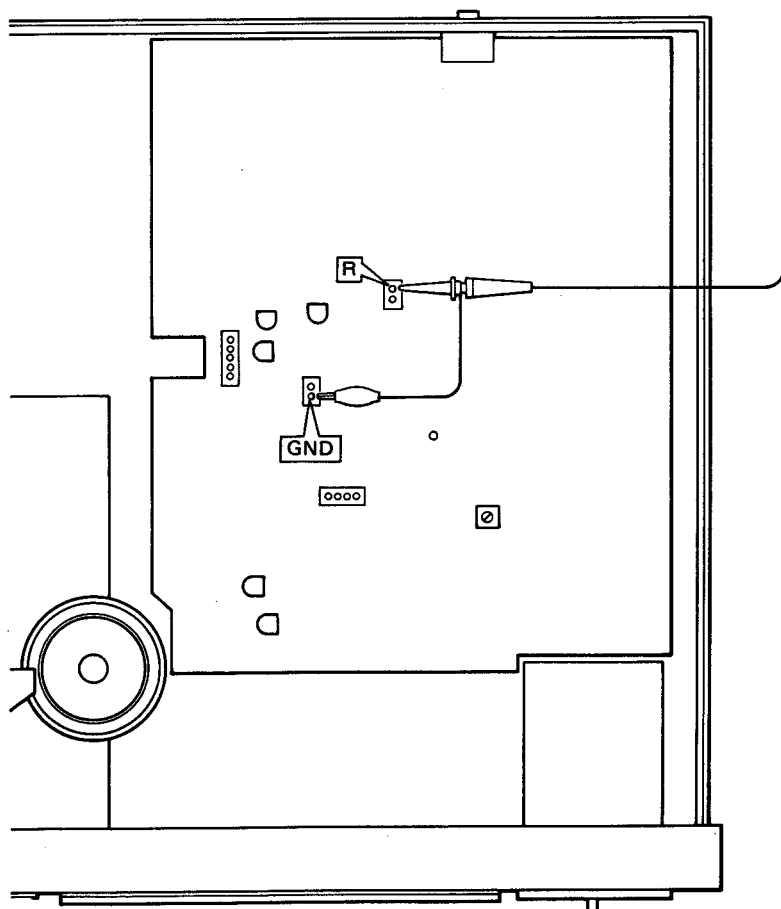
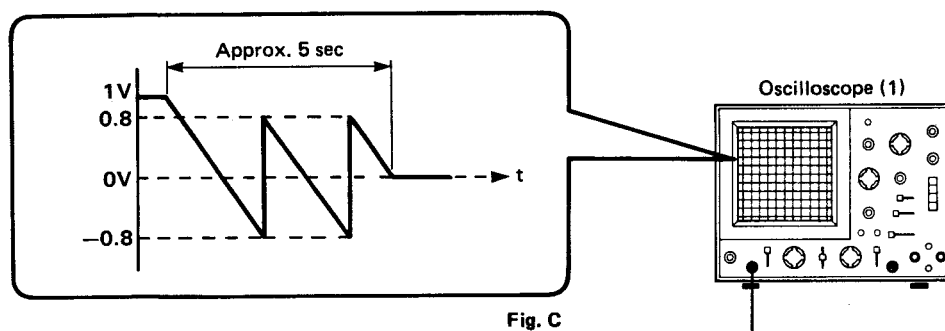
- (1) No soldering necessary for the unit.
- (2) Since laser light is near-infrared, visual confirmation is difficult. While light is emitted, for safety make sure your eyes are at least 30 cm away from the objective lens.
- (3) Do not disassemble it.
- (4) Do not drop or apply shock to it.
- (5) Do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

Confirmation of Focus Actuator Operation (Step 2)

Oscilloscope (1) setting

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

- ① Do not load a disc.
- ② Connect the oscilloscope (1) to **R** and **GND** terminals.
- ③ Press POWER key. (POWER ON)
- ④ After confirming that loading cam position is correct press OPEN/CLOSE key for CLOSE operation.
- ⑤ During 5 seconds of FOCUS search, confirm that the waveform is as shown in Fig. C.
- ⑥ Confirm that the pick-up head's objective lens moves smoothly between the lowest and highest points.



CDX-510/U

Adjustment of VCO (Step 3)

- ① Connect the shorting cord and measuring instruments, as shown in Fig. D.
- ② Do not load a disc.
- ③ Press POWER key. (POWER ON)
- ④ While observing the frequency counter indication (FVCO), adjust T101 so that it satisfies the rating.
Rating: $F_{VCO} = 4.3218 \text{ MHz} \pm 10 \text{ kHz}$

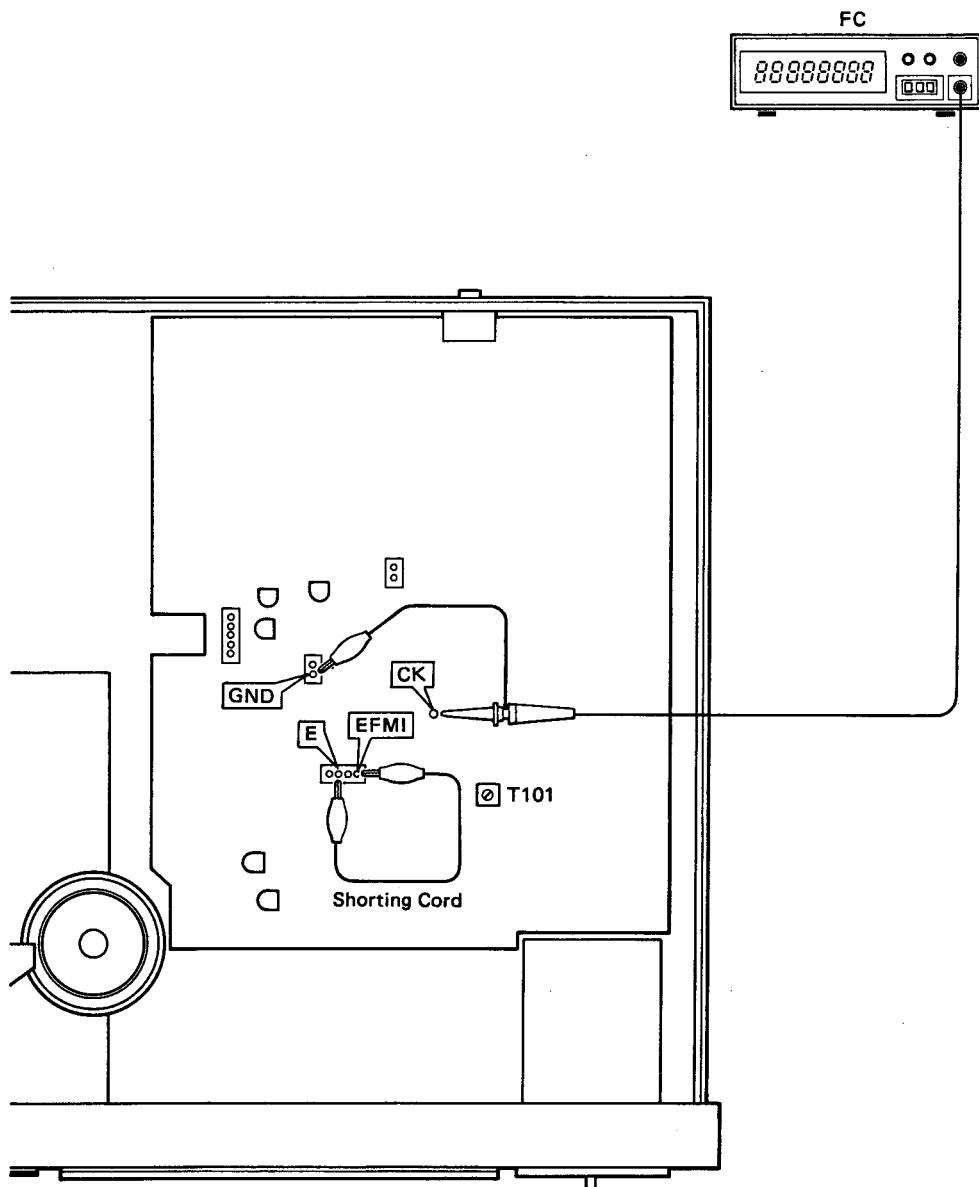


Fig. D

Adjutment of Tracking Gain (Step 4)

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

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

Apply a 800 Hz, 100 mVrms signal from the AF oscillator to TDI terminal via the resistor (330 kilohms) in the filter.

- ② Set SW2 to OFF.
- ③ Set SW1 to T (TRACKING).
- ④ Press POWER key. (POWER ON)
- ⑤ Load Philops test disc.
- ⑥ Press PLAY key.

- ⑦ Set SW2 to ON.

- ⑧ While observing the indications of the AC voltmeters (CH1: E_{TE} , CH2: E_Q), adjust VR103 (TRACKING GAIN) so that they satisfy the rating.

Rating: $E_{TE} - E_Q = 17\text{dB}$

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

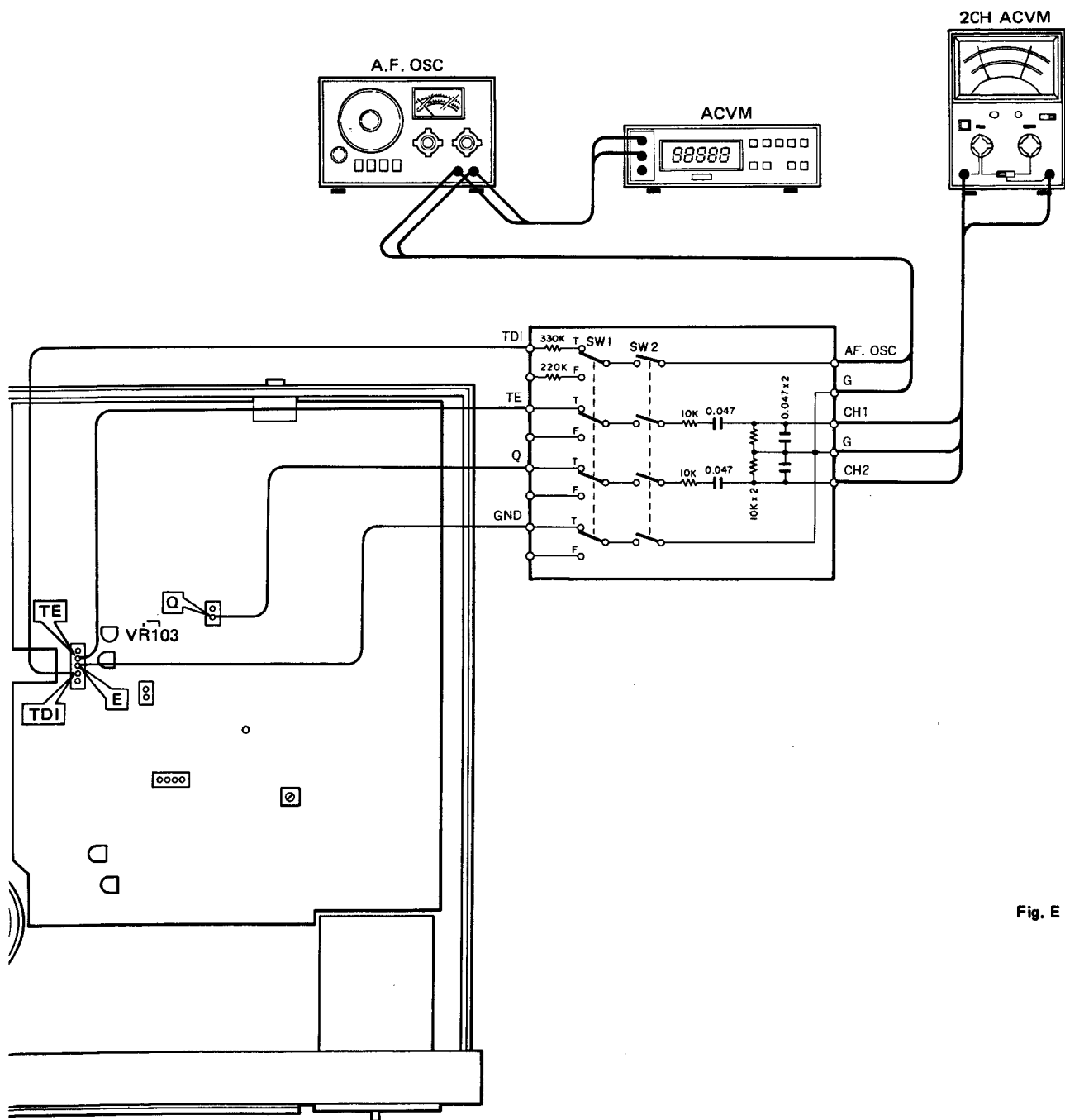


Fig. E

Adjustment of Focus Gain (Step 5)

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

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

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

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

- ⑥ Press PLAY Key.
- ⑦ Set SW2 to ON.
- ⑧ Read the indications of the AC voltmeters (CH1: E_{FO} , CH2: E_R), adjust VR104 (FOCUS GAIN) so that they satisfy the rating.

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

Example	[0dBV = 1V]
$E_{FO} = -16dBV$	(160mV)
$E_R = -25dBV$	(63mV)

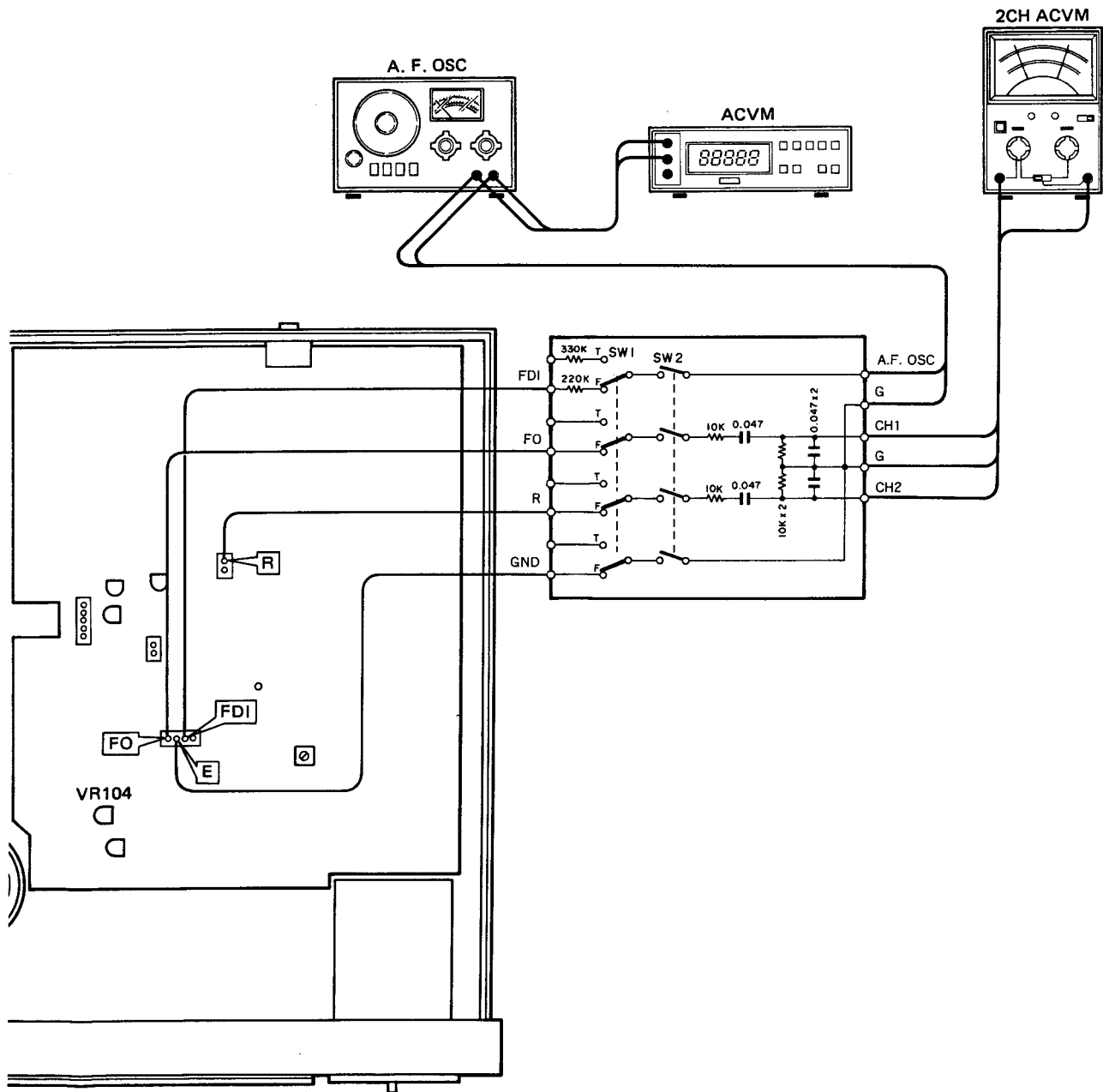


Fig. F

Adjustment of Tracking Offset (Step 6)

- ① Connect a DC voltmeter to **Q** and **E** terminals.
- ② Press POWER key. (POWER ON)
- ③ Press STOP key.
- ④ Short between the **TROF** and **GND** terminals. (Tracking Servo ON).
- ⑤ While observing the indication (E_Q) of the DC voltmeter, adjust VR102 (TRACKING OFFSET) so that it satisfies the rating.

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

Adjustment of Focus Offset (Step 7)

- ① Connect a DC voltmeter to **R** and **GND** terminals.
- ② Press POWER key. (POWER ON)
- ③ Press STOP key.
- ④ While observing the indication (E_R) of the DC voltmeter, adjust VR101 (FOCUS OFFSET) so that it satisfies the rating.

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

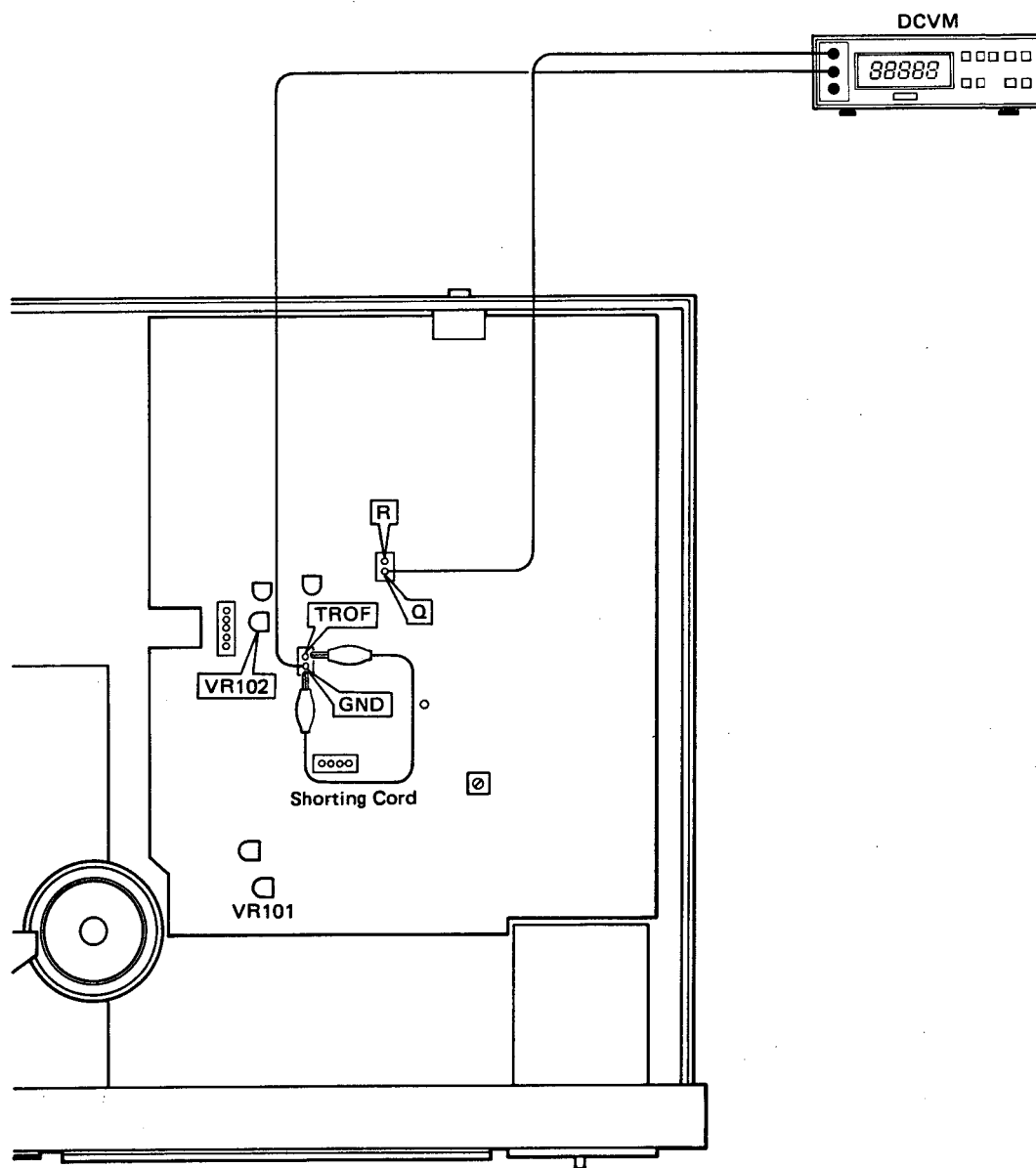


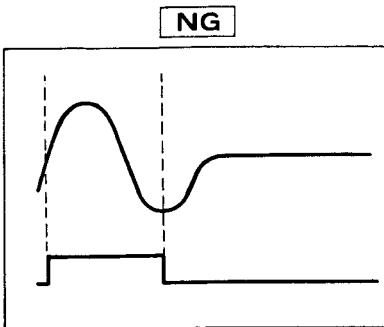
Fig. G

Adjustment of Kick Gain (Step 8)

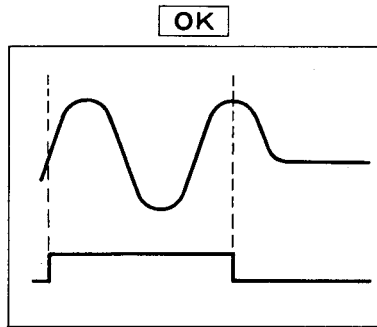
Oscilloscope (1) (2-ch oscilloscope) Settings

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

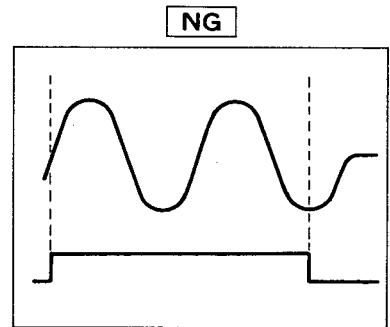
- ① Connect the measuring instruments, as shown in Fig. H.
- ② Press POWER key. (POWER ON)
- ③ Load Philips test disc.
- ④ Press PLAY key.
- ⑤ Observe waveform while pressing Fast Forward mode key (▶) for 3 seconds.
- ⑥ Adjust VR105 (KICK GAIN) so that the **TER** signal cycle is 1.0 when **TRHD** signal level is High.
* Adjust at the inner circumference of the disc.
- ⑦ Press Reverse mode key (◀) for 3 seconds and confirm that **TER** signal cycle is within the above specification but in reverse phase.



This shows about 0.75 cycle which is incorrect

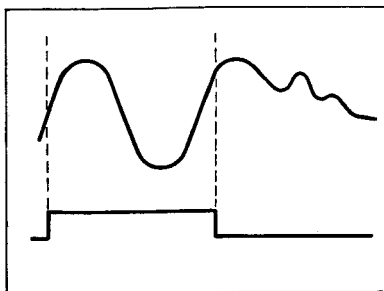


This shows about 1.25 cycle which is within specification.



This shows about 1.75 cycle which is incorrect

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



NG

Not converging gently

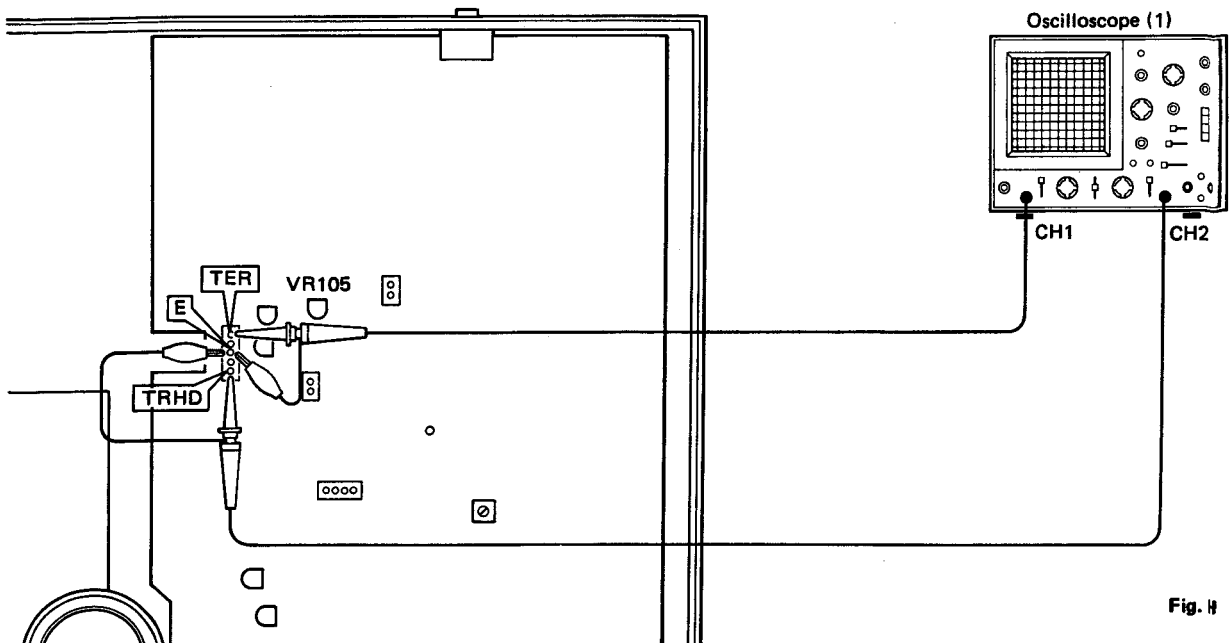


Fig. H

A Confirmation of Jitter (Step 9)

Oscilloscope (2) Settings

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

- ① Connect oscilloscope (2) to **EFMI** terminal, as shown in Fig. F.
 - ② Press POWER key. (POWER ON)
 - ③ Load the specified disc (YEDS-18 or Philips test disc).
 - ④ Press PLAY key.
 - ⑤ Confirm that the **EFMI** signal (eye-pattern) waveform is distinct and clear.
- * Confirm at the center of the disc.

Oscilloscope (2)

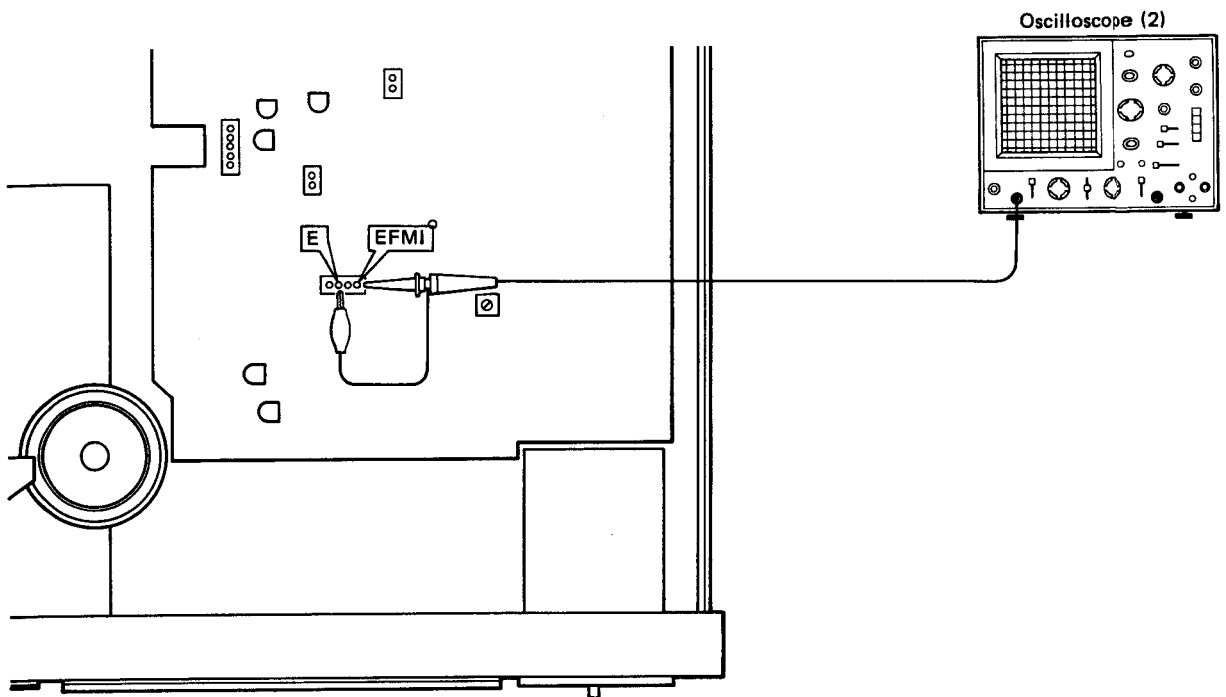
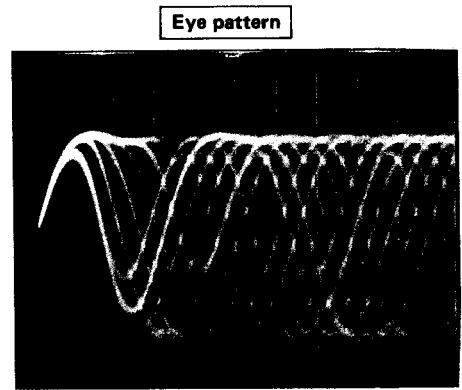
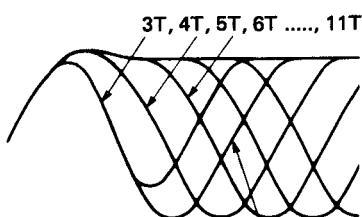


Fig. I

Waveforms 3T – 11T.

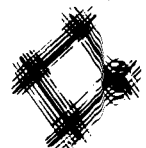


The abnormal eye pattern has less distinct lines and smaller amplitude than that of the good waveform.

Good waveform



Abnormal waveform

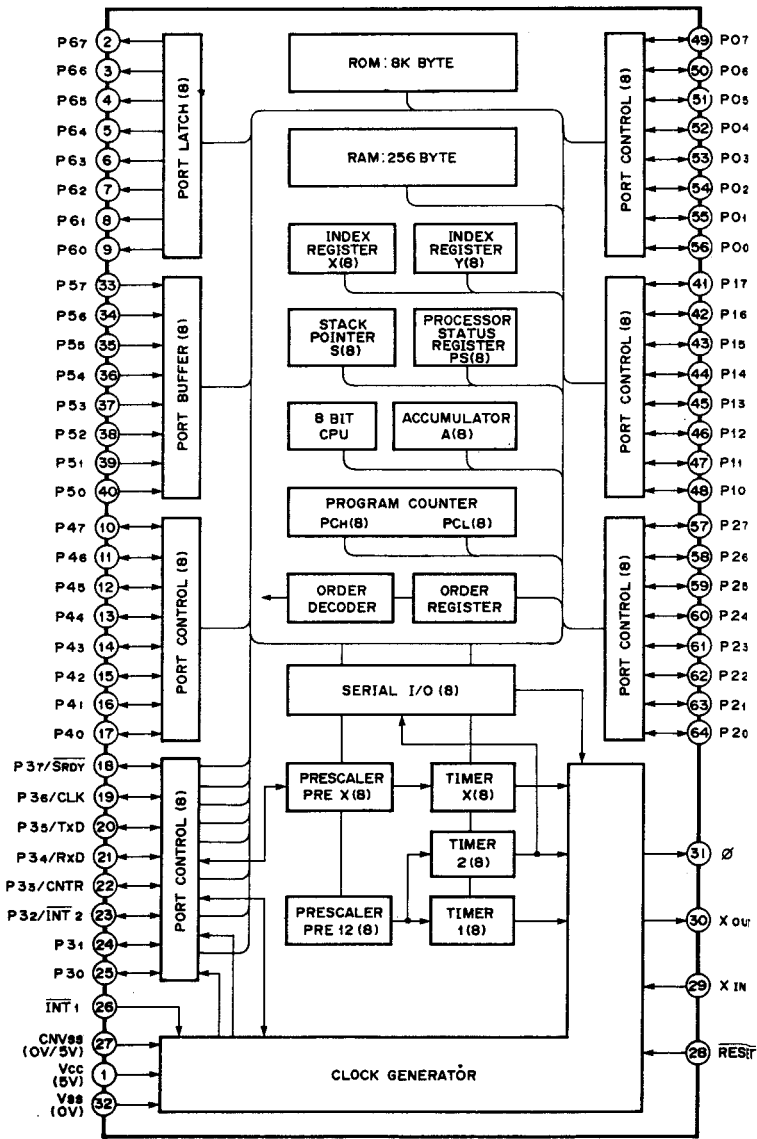
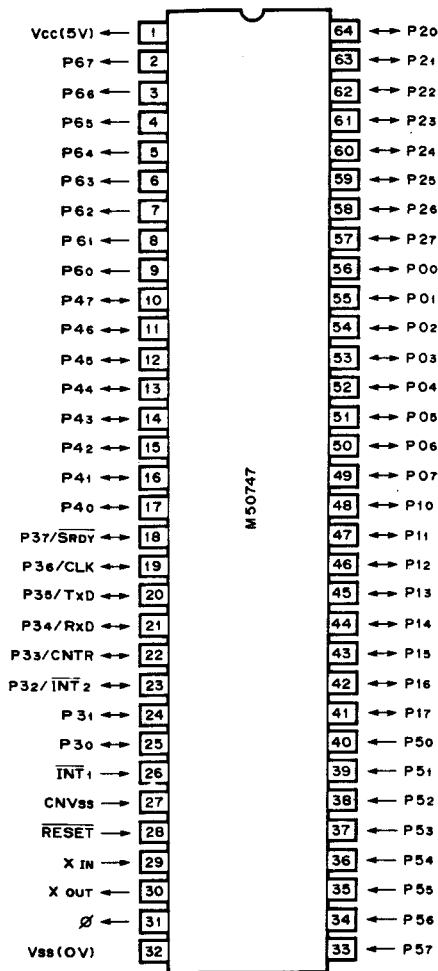


Confirmation of Skip Search Operation (Step 10)

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

IC DATA

IC401 : M50747
8 bit μ -COM

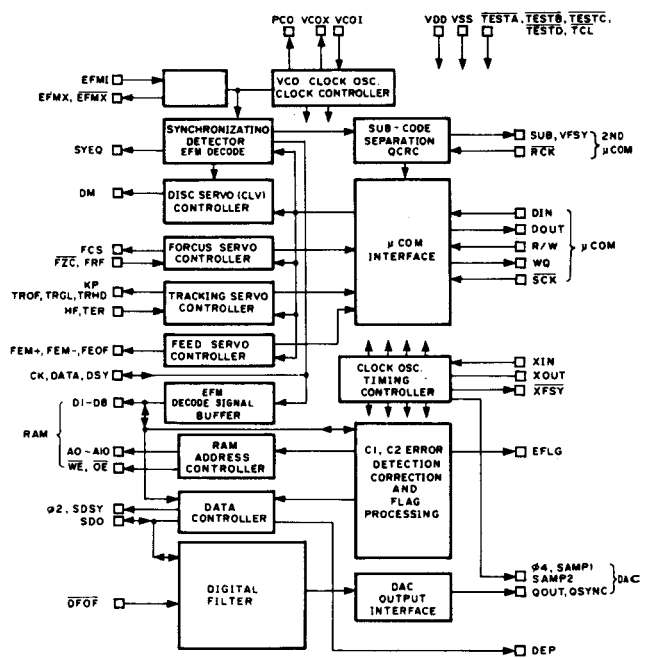
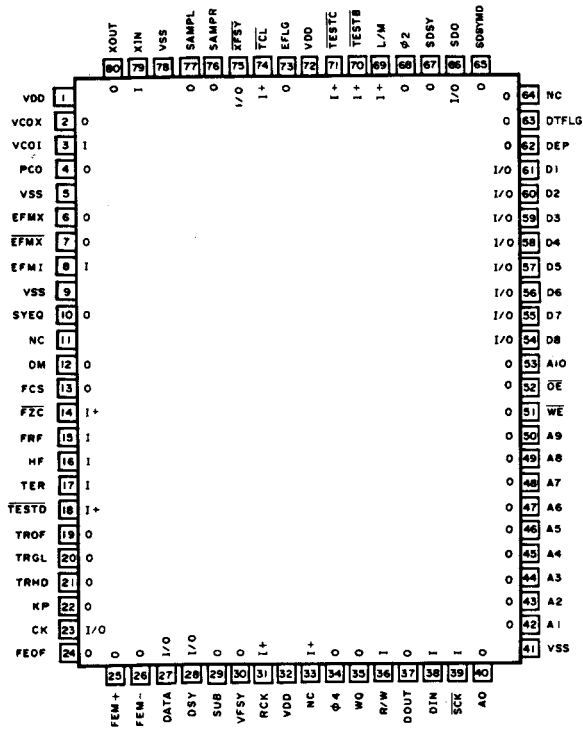


Pin No.	Pin Name	Description	I/O	Active	Function
1	Vcc				5V
2	P67 (O)				N. C.
3	P66 (O)	Sg	O	H	FLT segment n
4	P65 (O)	Sf	O	H	" m
5	P64 (O)	Se	O	H	" l
6	P63 (O)	Sd	O	H	" k
7	P62 (O)	Sc	O	H	" j
8	P61 (O)	Sb	O	H	" i
9	P60 (O)	Sa	O	H	" h
10	P47	D2	O	H	Digit line D2
11	P46	D1	O	H	" D1
12	P45	D0	O	H	" D0
13	P44	BAK	O	H	Back-up DET
14	P43	OPEN	O	H	Open switch
15	P42	CLOSE	O	H	Close switch
16	P41	LASER	O	H	Laser switch
17	P40	PLAY	O	H	PLAY mode output
18	P37/SRDY				N. C.
19	P36/CLK		I/O		
20	P35/TXD	SOUT	O		} SPC Interface
21	P34/RXD	SIN	I		
22	P33/CNTR	R_W	O		
23	P32/INT2	MODE	I	H/L	
24	P30	WQ	I		} SPC Interface
25	P31	CLK	O		
26	INT1				N. C.
27	CNVSS				GND
28	RESET		I		Reset
29	XIN		I		} 8 MHz Clock
30	XOUT		O		
31	φ		O		Timing output
32	VSS				GND
33	P57 (I)	CD_STOP	I	L	} System input
34	P56 (I)	CD_PLAY	I	L	
35	P55 (I)	QUICKRV	I	H	
36	P54 (I)	RM4	I		} Remote control interface
37	P53 (I)	RM3	I		
38	P52 (I)	RM2	I		
39	P51 (I)	RM1	I		
40	P50 (I)	RM0	I		
41	P17	K7	I		} Key input line
42	P16	K6	I		
43	P15	K5	I		
44	P14	K4	I		
45	P13	K3	I		
46	P12	K2	I		
47	P11	K1	I		
48	P10	K0	I		
49	P07	CLOSESW	O	L	END switch (close)
50	P06	OPENSW	O	L	END switch (open)
51	P05	Su	O	H	FLT segment u
52	P04	St	O	H	" t
53	P03	Ss	O	H	" s
54	P02	Sr	O	H	" r
55	P01	Sg	O	H	" g
56	P00	Sp	O	H	" p
57	P27	So	O	H	" o
58	P26	Sn	O	H	" n
59	P25	Sm	O	H	" m
60	P24	Sl	O	H	" l
61	P23	Sk	O	H	" k
62	P22	Sj	O	H	" j
63	P21	Si	O	H	" i
64	P20	Sh	O	H	" h

CDX-510/U

IC113 : YM3616 Signal Processor & Controller

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	
3	VCOI	I	
4	PCO	O	Clock Playback Circuit 4PCO
5	VSS		
6	EFMX	O	EFM Signal External Circuit
7	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	
14	FZC	I	
15	FRF	I	Focus Servo System Input
16	HF	I	
17	TER	I	Tracking Servo System Input
19	TRGF	O	
20	TRGL	O	
21	TRHD	O	
22	KP	O	
			{ LOW (0V): REW OPEN (2.5V): STOP HIGH (5V): FF

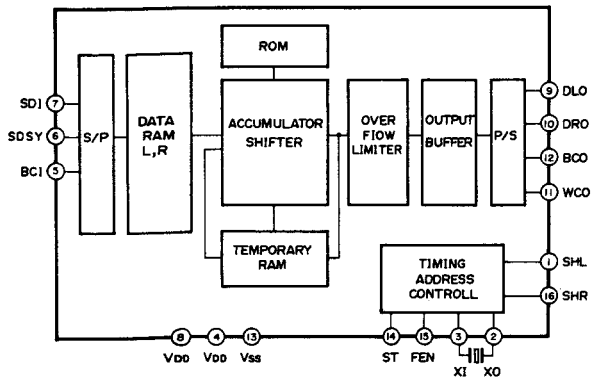
Pin No.	Pin Name	I/O	Function	
23	CK		EFM Demodulated Signal Check Output (4.3218MHz, clock)	
24	FEOF	O	Feed Servo System	
25	FEM+	O		
26	FEM-	O		
23	CK	I/O		
27	DATA	I/O	EFM Demodulated Signal Check Output (4.3218MHz clock)	
28	DSY	I/O	Sub-code Output	
29	SUB	O		
30	VFSY	O		
31	RCK	I		
32	VDD			
33	NC	I	Power Supply	
34	φ4		Not Use	
35	WQ	O	4.3218 MHz Clock	
37	DOUT	O	Q Code Output System	
36	R/W	I		Data Output to μCOM
39	SCK	I		Data I/O Control Signal
38	DIN	I		Clock for Data I/O
41	VSS			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	WE	O		
52	OE	O		
53	A10	O		
54	D8	I O		
55	D7	I O		
56	D6	I O		
57	D5	I O		
58	D4	I O		
59	D3	I O		
60	D2	I O		
61	D1	I O		
62	DEP	O	Deemphasis Signal	
63	DTFLG	O	Data Error Signal	
66	SDO	O	Digital Data Output	
67	SDSY	O	LSB first/MSB first	
68	φ2	O	Data Control Circuit Board Serial Signal Output	
69	L/M	I		2.1659MHz Clock
71	TESTC	I		SB first (H)/MSB first (L) Switch for SDO
71	TESTC	I		Test Terminal
64	NC	O	DAC Interface	
65	SDSYMD	O		Not Use
76	SAMPR	O		BB Word Clock for DAC
77	SAMPL	O		Digrich Signal
34	φ4	O		4.3218MHz Clock
18	TESTD	I	Test Terminal	
70	TESTB	I		
74	TCL	I		
72	VDD		Power Supply	
73	EFLG	O	C1, C2 Error Correction Check Signal	
75	XFSY	I/O	Synchronized Clock Signal	
78	VSS		GND	
79	XIN	I	Clock Oscillation	
80	XOUT	O		

0/AIC-V00

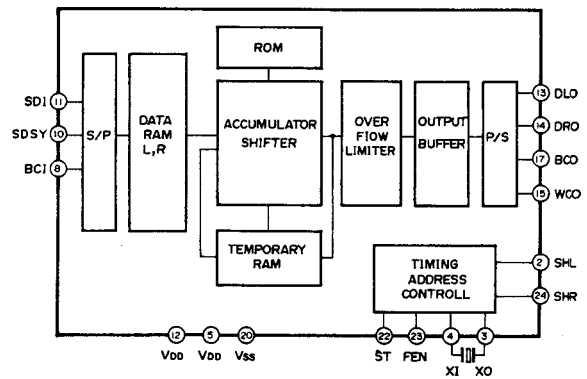
CDX-510/U

IC116 : YM3619 or YM3404 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

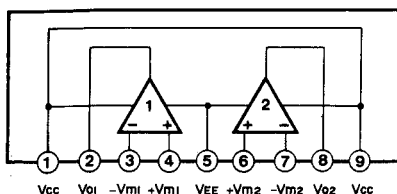
IC102, 103, 105, 106, 108, 110 : AN6551, NJM4558S, TA7558S or BA715

IC101, 107 : NJM2043S

IC109 : NJM2068S or μ PC4570HA

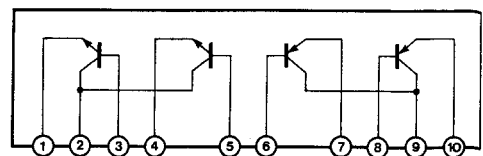
IC117 : NJM4556S

Dual Op-amp.

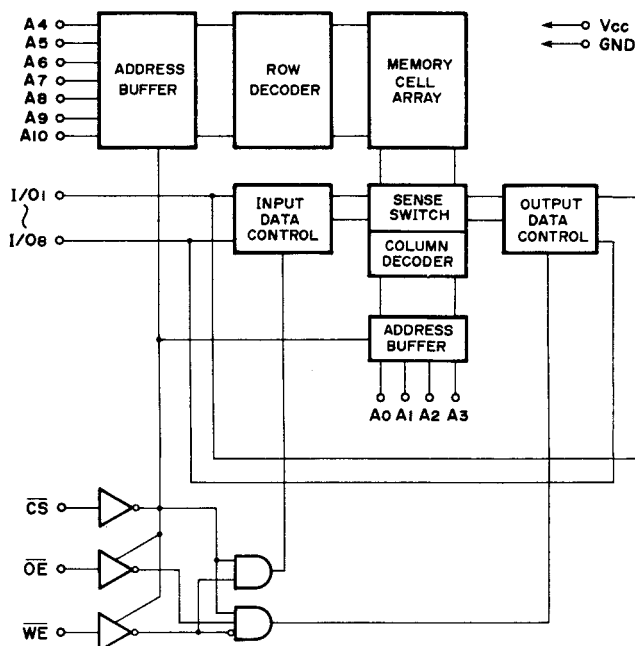
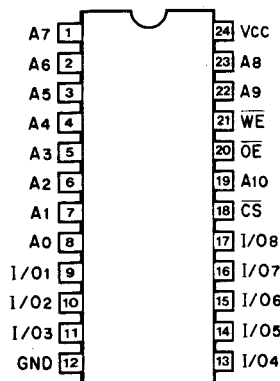


IC104 : STA341M

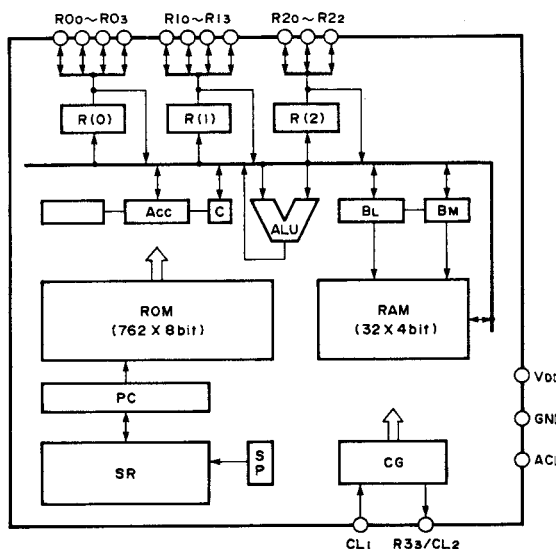
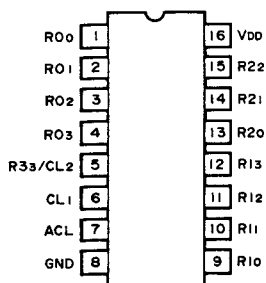
Transistor Array



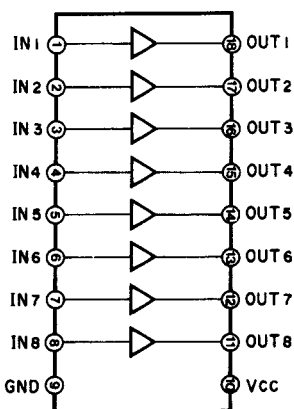
IC114: CXK5816PS, TMM2016BP, TMM2015BP, CXK5816SP, CKX5816PN, LC3517A-15 or μ PD4016-CX
2048-Word x 8 bit Static RAM



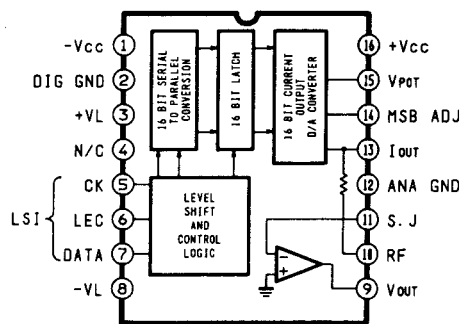
IC405: LU59521
4 bit μ -COM



IC402 ~ 404: M54564P
LED Driver

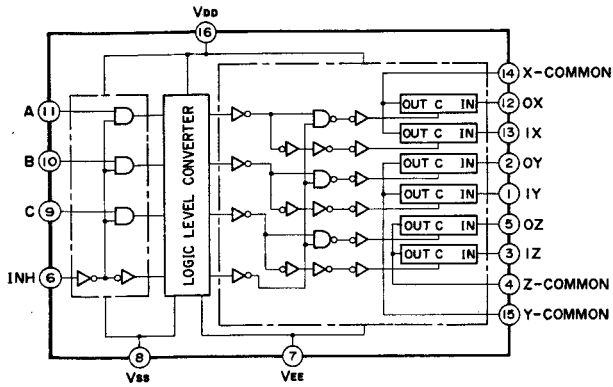


IC115: PCM56L
D/A Converter



CDX-510/U

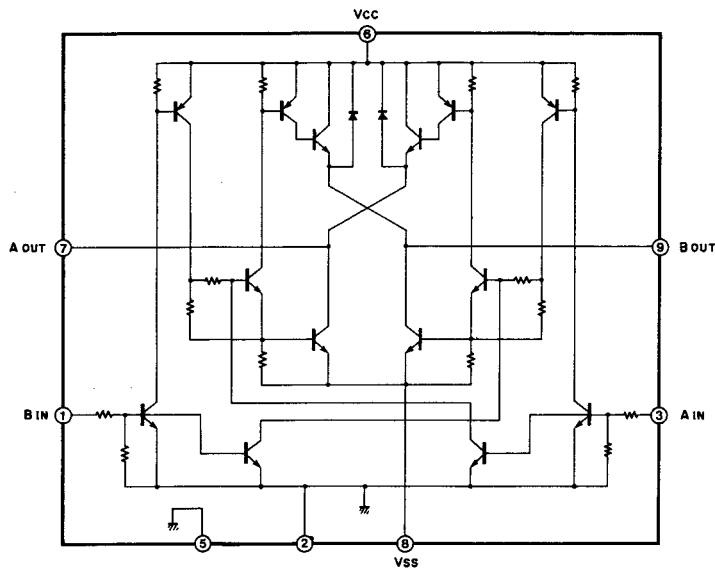
IC111 : TC4053BP or μ PD4053BC
Triple-2 channel Multiplexer/Demultiplexer



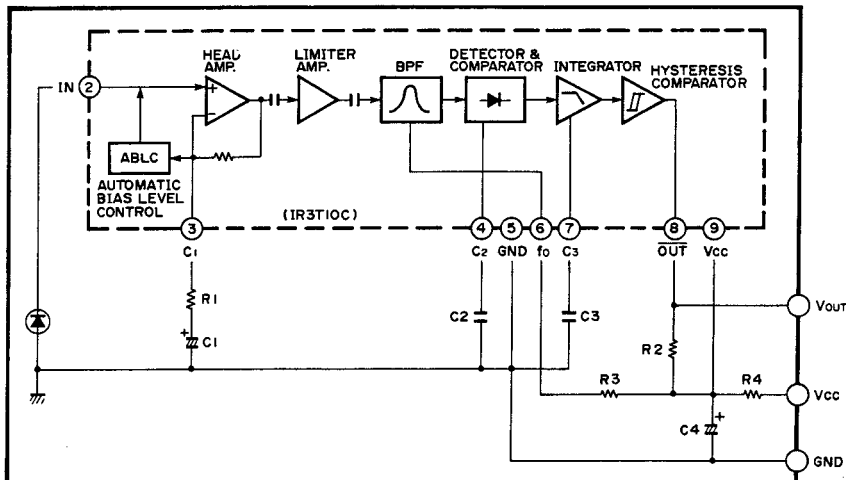
CONTROL INPUTS				"ON" CHANNEL	
INHIBIT (Pin 6)	C (Pin 9)	B (Pin 10)	A (Pin 11)	OX (Pin 12), OY (Pin 2), OZ (Pin 5)	IX (Pin 13), IY (Pin 1), IZ (Pin 3)
L	L	L	L	OX, OY, OZ	
L	L	L	H	IX, OY, OZ	
L	L	H	L	OX, IY, OZ	
L	L	H	H	IX, IY, OZ	
L	H	L	L	OX, OY, IZ	
L	H	L	H	IX, OY, IZ	
L	H	H	L	OX, IY, IZ	
L	H	H	H	IX, IY, IZ	
H	*	*	*	NOTE	

* Don't Care

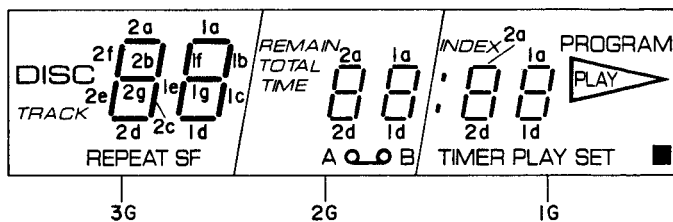
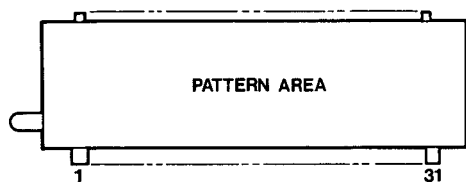
IC112 : BA6218
Motor Driver



U401 : GP1U501
Receiver Unit



■ DISPLAY DATA (V401:FV230)



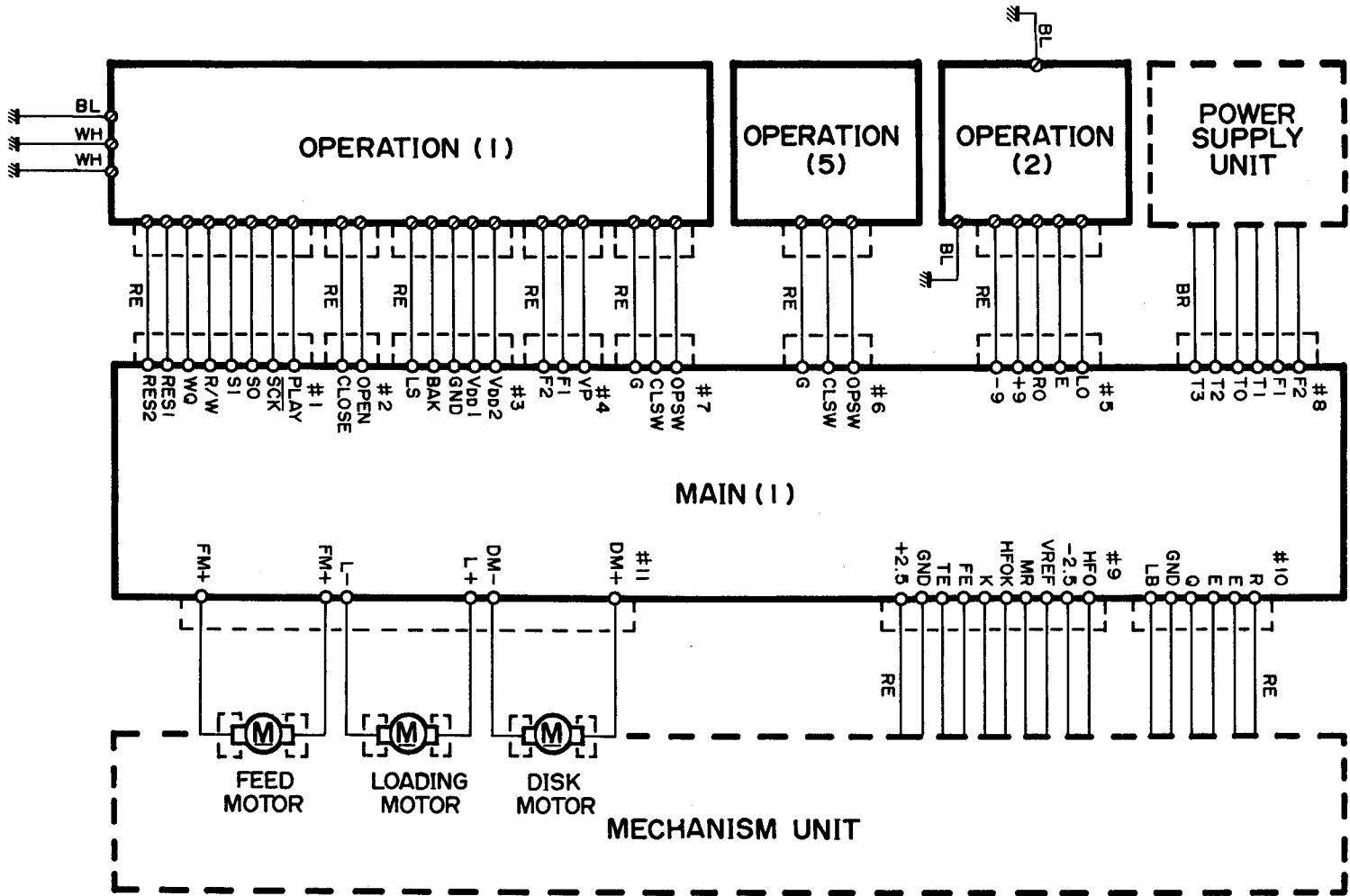
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
CONNECTION	F	F	N P	o	p	q	h	3 G	i	m	n	j	l	k	r	2 G	v	s	t	u	d	e	c	1 G	g	f	b	a	N P	F	F

● ANODE CONNECTION

	3 G	2 G	1 G
a	1a	1a	1a
b	1b	1b	1b
c	1c	1c	1c
d	1d	1d	1d
e	1e	1e	1e
f	1f	1f	1f
g	1g	1g	1g
h	2a	2a	2a
i	2b	2b	2b
j	2c	2c	2c
k	2d	2d	2d
l	2e	2e	2e
m	2f	2f	2f
n	2g	2g	2g
o	CHAPTER	REMAIN	PROGRAM
p	DISC	TOTAL	INDEX
q	TRACK	TIME	col.
r	ANT	B	■
s	F	A↔B	▶ PLAY
t	S	A	RANDOM
u	REPEAT	○ ○	TIMER PLAY SET
v	V	—	—

CDX-510/U

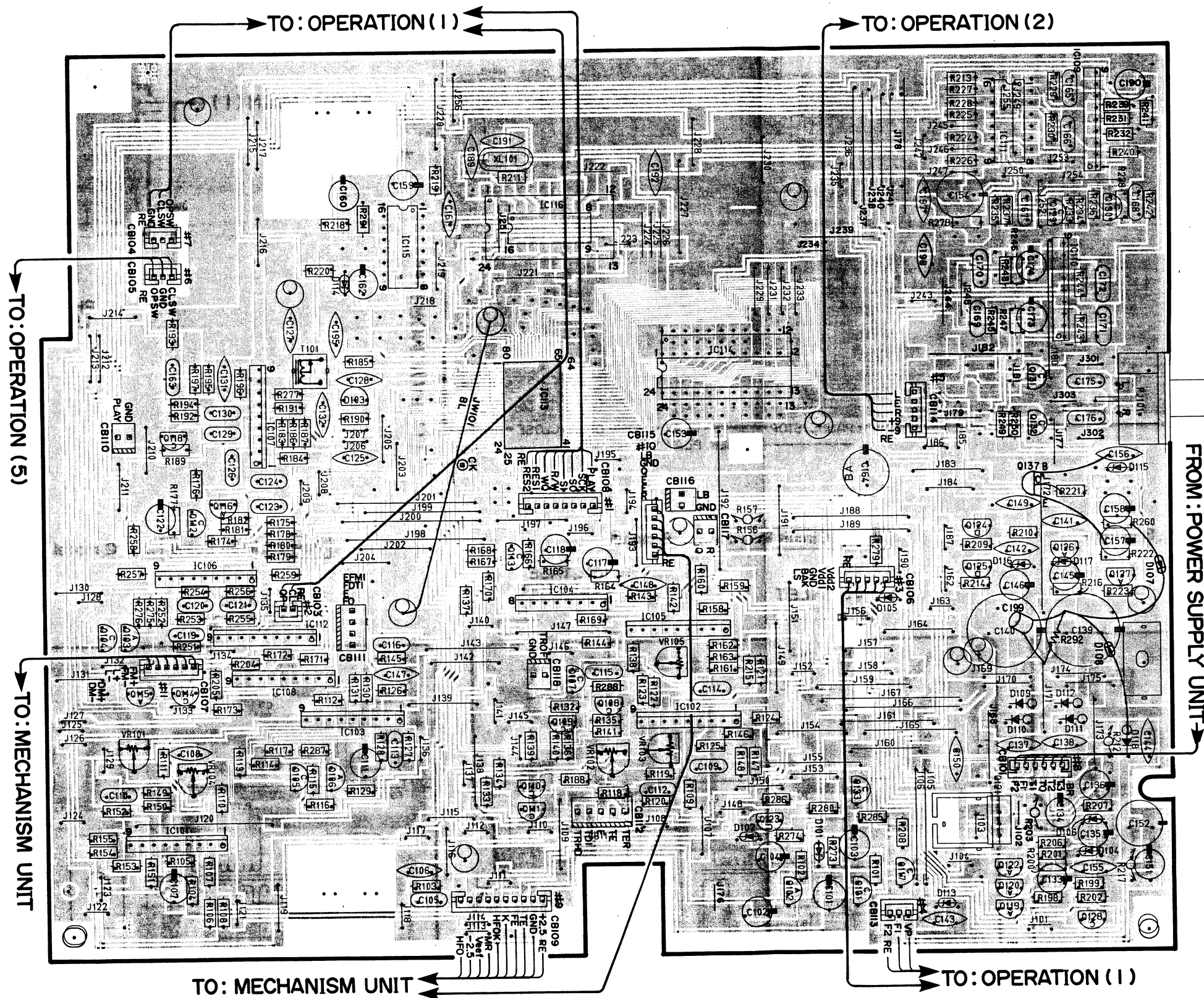
■ WIRING



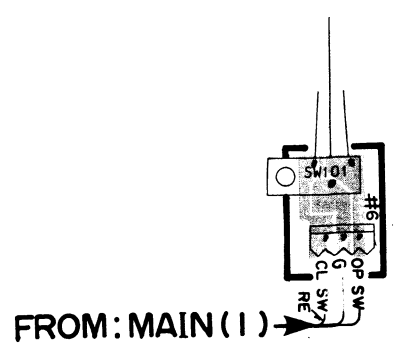
PRINTED CIRCUIT BOARD(Pattern side)

Note) 文字面 : Component side

Main Circuit Board (1)



Operation Circuit Board (5)

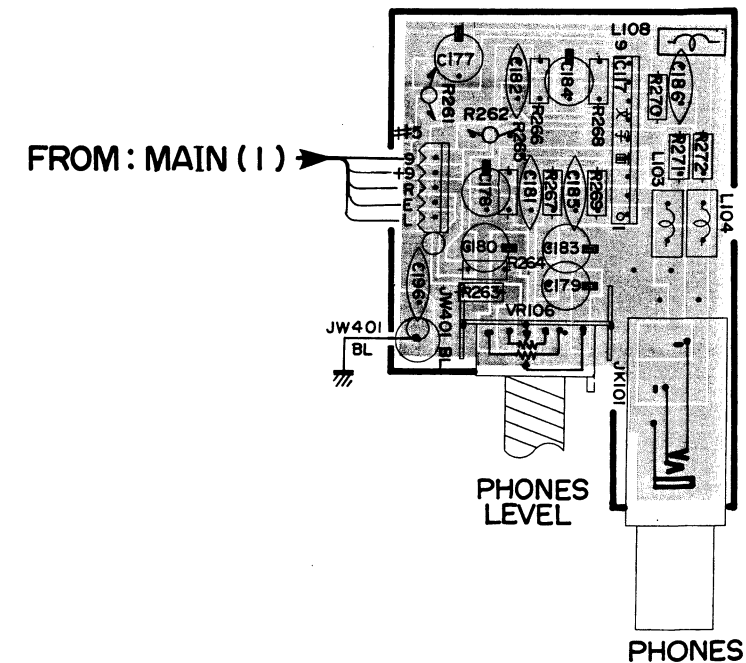
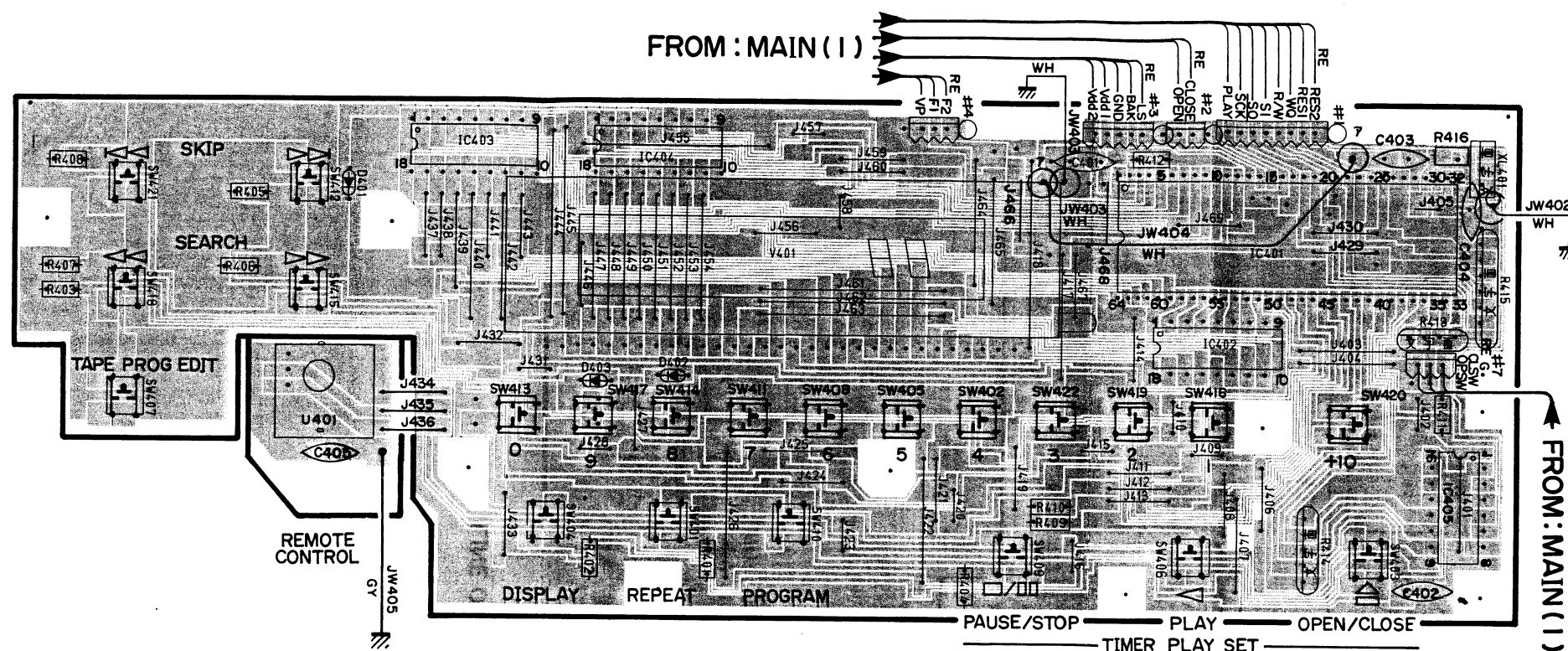


■ PRINTED CIRCUIT BOARD(Pattern side)

Note) 文字面 : Component side

Operation Circuit Board (1)

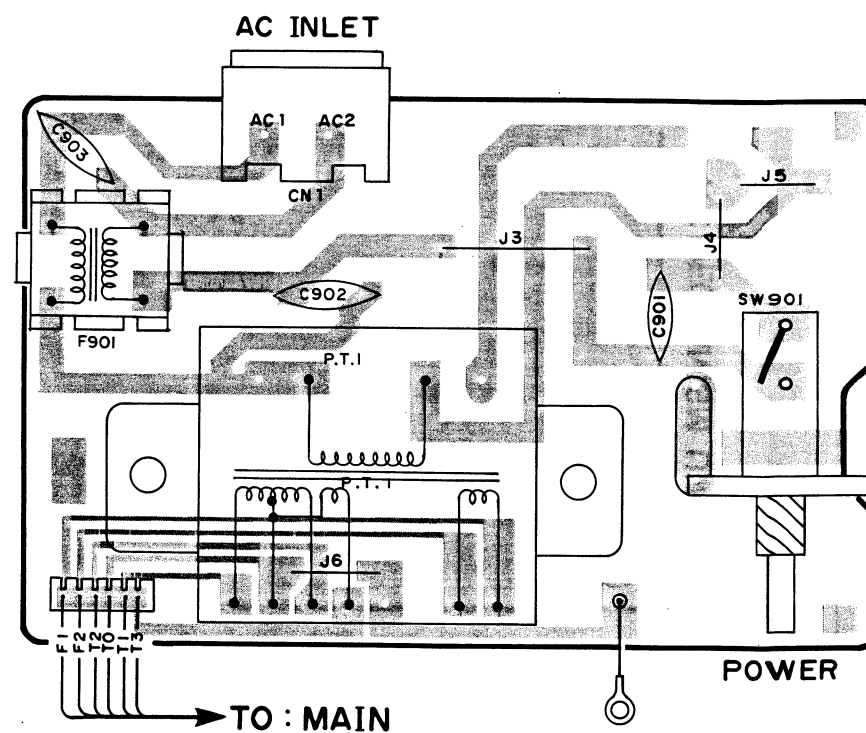
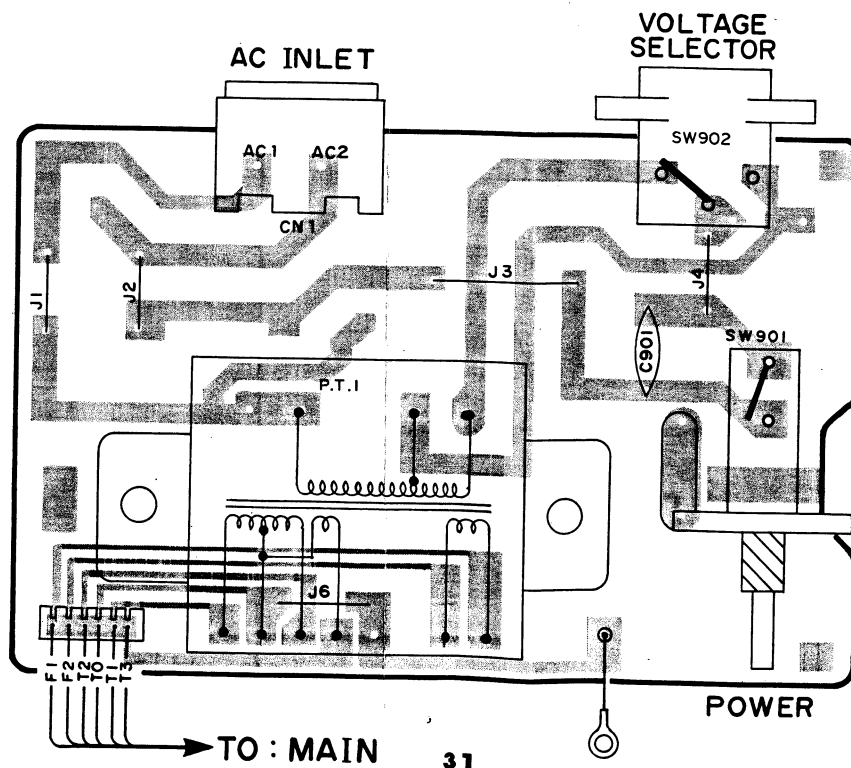
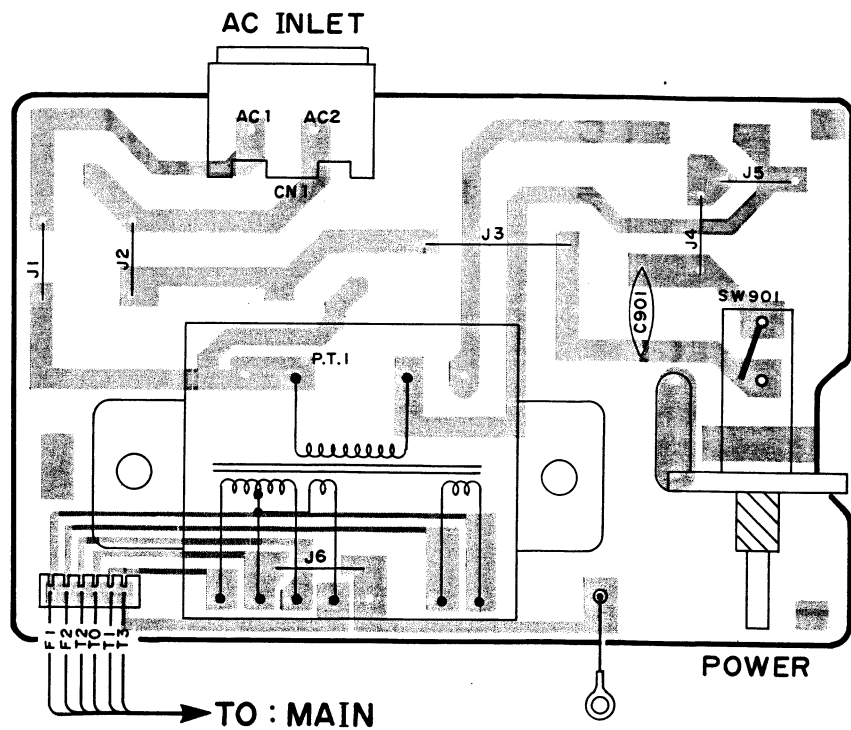
Operation Circuit Board (2)



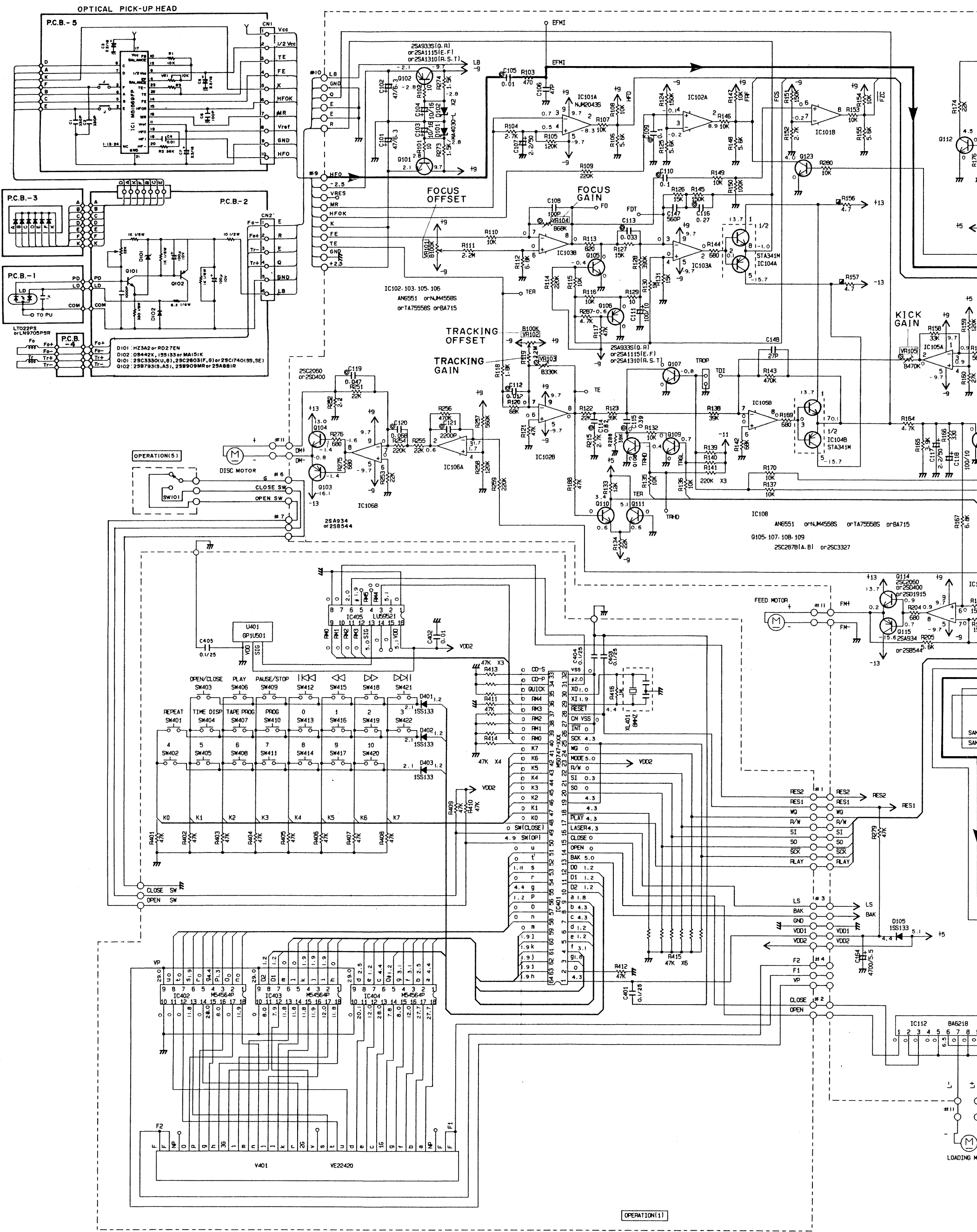
Power Circuit Board U, C, A, B models

Power Circuit Board R model

Power Circuit Board G model

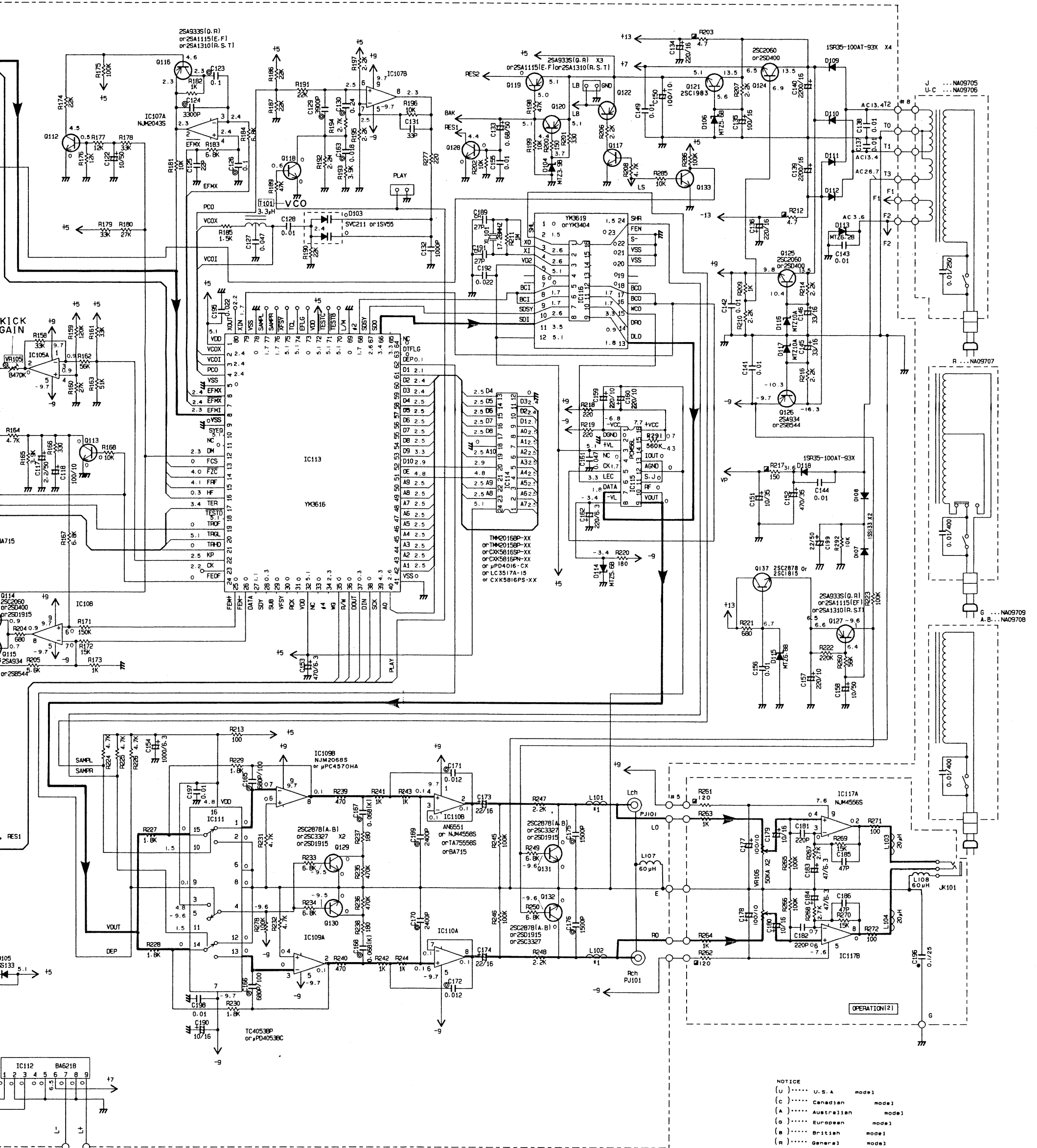


SCHEMATIC DIAGRAM



PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.

<p>2SA933S (Q, R) 2SA1115 (E, F) 2SA1310 (R, S, T) 2SA934 2SB544 2SC1740S (S, R) 2SC2603 (E, F) 2SC3312 (R, S, T) 2SC2060 2SD400</p>	<p>2SC2878 (A, B) 2SC3327 2SD1915</p>	<p>1SS133 1SR35-100AT-93X MTZ5.6B MTZ10A MTZ6.8B MTZ6.2B MTZ3.9B MA4030-L</p>	<p>1SV55 SVC211</p>	<p>AN6551 NJM4558S TA75558S BA715 NJM2043S NJM2068S μPC4570HA NJM4556S</p>	<p>BA6218</p>	<p>STA341M</p>	<p>TC4053BP μPD4053BC PCM56L YM3404 LU59521</p>	<p>M54564P</p>	<p>CXK5816PS TMM2016BP TMM2015BP CXK5816SP CXK5816PN LC3517A-15 LPD4016CX YM3619</p>	<p>M50747</p>
--	---	---	-------------------------	--	---------------	----------------	---	----------------	--	---------------



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

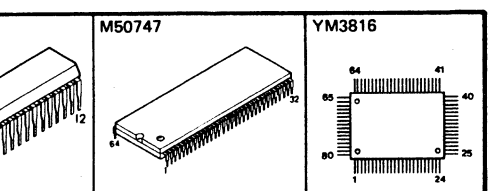
#1	L101 L102	J SHORT	U.C.R.A.B.G. 20µH
----	--------------	------------	----------------------

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

Unless otherwise specified

PNP TRANSISTOR	
NPN TRANSISTOR	2SC1740(S.R.) or 2SC2603(E.F.) or 2SC3312(R.S.T.)
DIODE	

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



• All voltages are measured with a 10MΩ/V 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.

PARTS LIST

CDX-510/U

■WARNING

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

●Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS list. For the parts No. of the carbon resistor, refer to p. 44.

■ELECTRICAL PARTS

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	NA 09 69 90	Main Circuit Board	メ イ ン シ ー ト			J	
※	NA 09 70 00	〃	〃			U,C,R,A,B,G	
	FG 21 12 20	Ceramic Cap.	セ ラ コ ン	C125			
	FG 21 12 70	〃	〃	C148, 189, 191			
	FG 21 13 30	〃	〃	C131			
	FG 21 14 70	〃	〃	C106			
	FG 21 21 00	〃	〃	C108			
	FG 11 25 60	〃	〃	C147			
	FG 21 31 00	〃	〃	C132			
	FG 24 41 00	〃	〃	C128, 137, 138, 141~144, 149, 155, 156, 197, 198			
	FG 24 42 20	〃	〃	C192, 195			
	FG 24 44 70	〃	〃	C127, 161			
	FA 15 31 50	Mylar Cap.	マ イ ラ ー コ ン	C175, 176			
	FA 15 32 20	〃	〃	C121			
	FA 15 32 40	〃	〃	C169, 170			
	FA 15 33 30	〃	〃	C124			
	FA 15 33 90	〃	〃	C129			
	FA 15 41 00	〃	〃	C105			
	FA 15 41 20	〃	〃	C112, 171, 172			
	FA 15 41 80	〃	〃	C163			
	FA 15 43 30	〃	〃	C113			
	FA 15 44 70	〃	〃	C119			
	FA 15 46 80	〃	〃	C120, 167, 168			
	FA 15 51 00	〃	〃	C109, 110, 123, 126			
	FA 15 52 40	〃	〃	C130			
	FA 15 52 70	〃	〃	C116			
	FA 15 53 90	〃	〃	C115			
	FA 15 58 20	〃	〃	C114			
	UT 45 26 80	Polypropylene Film Cap.	ポ リ プ ロ コ ン	C165, 166			
	UJ 11 74 70	Electrolytic Cap.	ケ ミ コ ン	C101, 102			
	UJ 11 82 20	〃	〃	C162			
	UJ 11 84 70	〃	〃	C153			
	UJ 12 81 00	〃	〃	C111, 118, 150			
	UJ 12 82 20	〃	〃	C157, 159, 160			
	UJ 13 71 00	〃	〃	C103, 104, 190			
	UJ 13 72 20	〃	〃	C173, 174			
	UJ 13 73 30	〃	〃	C145, 146			
	UJ 13 81 00	〃	〃	C135			
	UJ 13 82 20	〃	〃	C134, 136			
	UJ 15 71 00	〃	〃	C151			
	Ui 36 56 80	〃	〃	C133			
	UJ 16 62 20	〃	〃	C107, 117, 119			
	UJ 16 71 00	〃	〃	C122, 158			
	UJ 15 84 70	〃	〃	C152			
	UJ 11 91 00	〃	〃	C154			
	UJ 14 92 20	〃	〃	C139, 140			
	VB 17 01 00	〃	バックアップケミコン	C164			
	HV 45 34 70	Flame Proof Carbon Resistor	不燃化カーボン抵抗	R156, 157, 203, 212			
	HV 45 51 50	〃	〃	R217			
	VB 86 21 00	Pre-Set Potentiometer	半 固 定 抵 抗	VR103			
	VC 61 25 00	〃	〃	VR104			

※New Parts (新規部品) NR

01010-V00

CDX-510/U

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	VB 86 19 00	Pre-Set Potentiometer	B100KΩ	半 固 定 抵 抗	VR101,102		
	VB 86 22 00	//	B470KΩ	//	VR105		
	iA 09 33 00	Transistor	2SA933S(Q,R)	ト ラ ン ジ ス タ	Q102,106,116,119,120,122,127	} Inter-changeable	
	iA 11 15 10	//	2SA1115(E,F)	//	//		
	iX 60 31 70	//	2SA1310(R,S,T)	//	//		
	iA 09 34 00	//	2SA934	//	Q103,115,126	} Inter-changeable	
	iB 05 44 10	//	2SB544	//	//		
	iC 17 40 00	//	2SC1740S(S,R)	//	Q101,110~113,117,118,123,128,133	} Inter-changeable	
	iC 26 03 10	//	2SC2603(E,F)	//	//		
	iX 60 31 80	//	2SC3312(R,S,T)	//	//		
	iC 20 60 00	//	2SC2060	//	Q104,114,124,125	} Inter-changeable	
	iD 04 00 00	//	2SD400	//	//		
	iX 60 42 00	//	2SC2878(A,B)	//	Q105,107~109,129~132	} Inter-changeable	
	iC 33 27 00	//	2SC3327	//	//		
	VC 50 21 00	//	2SD1915	//	//		
	iC 19 83 00	//	2SC1983	//	Q121		
	iC 28 78 00	//	2SC2878	//	Q137		
	iF 00 34 50	Diode	ISS133	ダ イ オ ー ド	D105,107,108		
	iH 00 14 30	//	ISR35-100A	//	D109~112,118		
	iF 00 62 90	Zener Diode	MTZ5.6B	ツェナーダイオード	D106,114		
	iF 01 08 80	//	MTZ10A	//	D116,117		
	iF 00 89 10	//	MTZ6.8B	//	D115		
	iF 01 07 40	//	MTZ6.2B	//	D113		
	iF 01 06 00	//	MTZ3.9B	//	D104		
*	VE 50 71 00	//	MA4030-L	//	D101,102		
	iG 03 47 00	IC	AN6551	I C	IC102,103,105,106,108,110	} Inter-changeable	
	iG 07 68 00	//	NJM4558S	//	//		
	iG 13 22 00	//	BA715	//	//		
	iG 08 02 00	//	NJM2043S	//	IC101,107		
	XA 95 60 01	//	NJM2068S	//	IC109		
	iG 05 51 00	//	TC4053BP	//	IC111	} Inter-changeable	
	iG 10 59 00	//	μPD4053BC	//	//		
	VC 16 07 00	//	STA341M	//	IC104		
	iG 15 35 00	//	BA6218	//	IC112		
	iG 11 92 00	//	μPD4016-CX	//	IC114		
*	XD 89 80 01	//	PCM56L	//	IC115		
	XB 69 80 01	//	YM3616	//	IC113		
	XB 70 00 01	//	YM3619	//	IC116		
	iF 00 49 10	Varator Diode	1SV55	F Mバラクタダイオード	D103	} Inter-changeable	
	iF 00 49 20	//	SVC211	//	//		
	GE 90 20 00	OSC Coil	3.3μH	発 振 コ イ ル	T101		
	VB 97 11 00	Coil	20μH	コ イ ル	L101,102		U,C,R,A,B,G
	VD 47 37 00	SB Coil	60μH	S B コ イ ル	L107		U,C,R,A,B,G
	VC 39 87 00	Crystal Resonator	17.28MHz	水 晶 振 動 子	XL101		
*	VF 09 65 00	Pin Jack	2P	ピ ン ジャ ッ ク	PJ101		

*New Parts (新規部品) NR

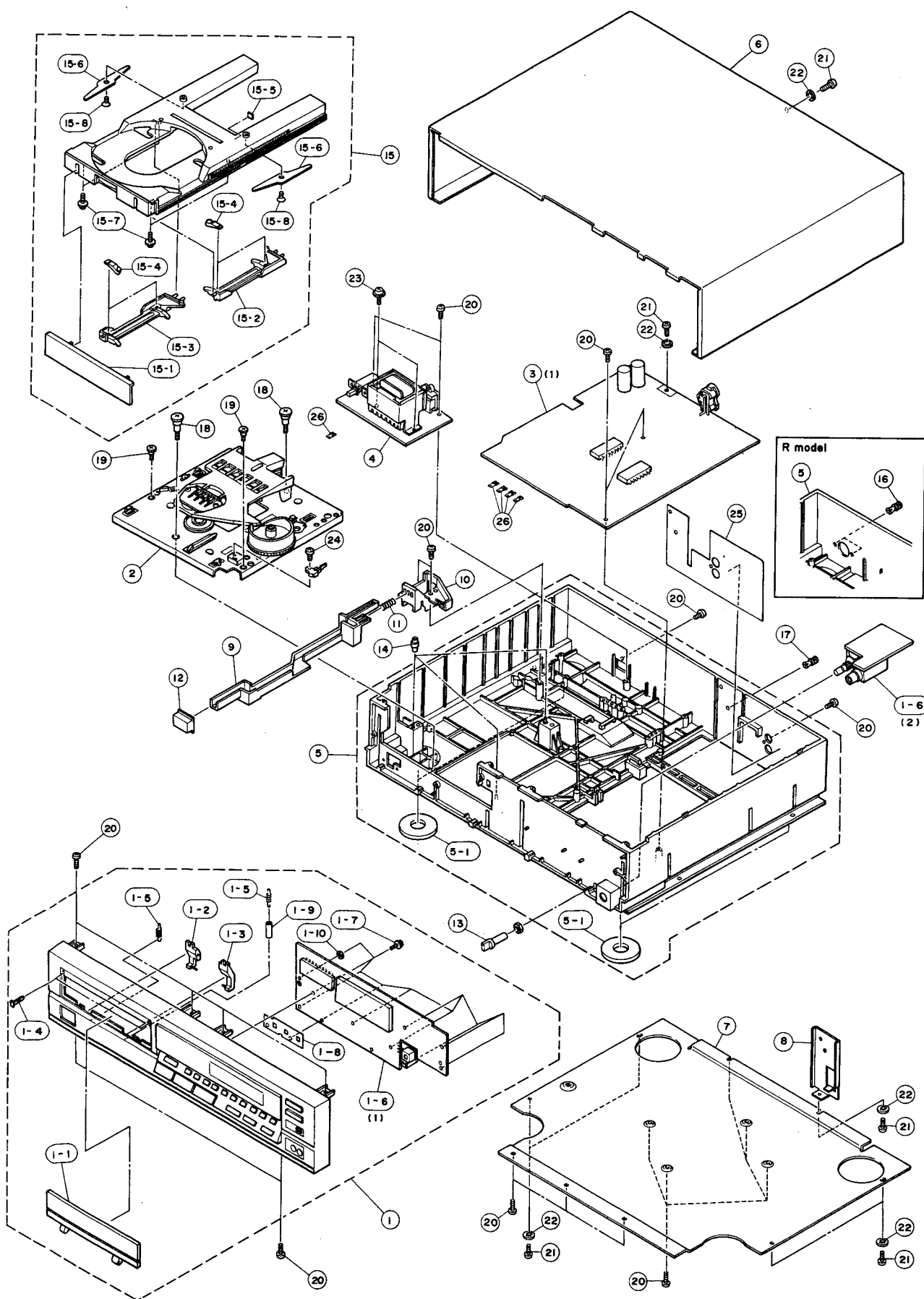
Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
	VD 00 45 00	Base Pin	2P i-Type P H ベースピン	CB103			
	VD 00 46 00	//	3P i-Type //	CB104,105,113			
	VD 00 48 00	//	5P i-Type //	CB106,114			
	VD 00 49 00	//	6P i-Type //	CB107,115			
	VD 00 51 00	//	8P i-Type //	CB108			
	VD 00 53 00	//	10P i-Type //	CB109			
	LB 20 13 90	//	TEB2P-SHF 2.5ピッチベースピン	CB110,116~118			
	LB 40 05 70	//	TEB4P-SHF //	CB111			
	LB 50 02 50	//	TEB5P-SHF //	CB112			
	LB 92 50 60	Short Plug	6P i-Type i型ショートプラグ	CB101			
	LA 00 41 20	Test Point Pin	IP テストポイントピン				
	BB 06 95 10	Ground Plate	ランド金具				
	BA 08 40 00	Heat Sinck	放熱器				
	Ei 33 00 86	Binding Head Tapping Screw	3×8 FCRM3-BI バインドタッピングネジ	PACK			
※	NA 09 70 50	Power Supply Unit	電源ユニット			J	
※	NA 09 70 60	//	//			U,C	
※	NA 09 70 70	//	//			R	
※	NA 09 70 80	//	//			A,B	
※	NA 09 70 90	//	//			G	
※	XD 84 60 01	Power Transformer	電源トランス	PT1		J	△
※	XD 84 70 01	//	//	//		U,C	△
※	XD 84 80 01	//	//	//		R	△
※	XD 84 90 01	//	//	//		A,B,G	△
	VC 09 79 00	Power Switch	ESB-82102V-F 電源スイッチ	SW901			△
	LA 00 58 10	Voltage Selector	HXW0206-01-010 電圧切換器	SW902		R	△
	Fi 41 41 00	Ceramic Cap.	0.01μF セラコン	C901			△
	Fi 41 41 00	//	0.01μF //	C902,903		G	△
	VA 77 84 00	Line Filter	ELF18D 290V ラインフィルタ	F901		G	△
※	VE 15 80 00	AC Inlet	M1770-B ACインレット			J,U,C	△
※	VE 36 74 00	//	M1779-B //			R,A,B,G	△

※New Parts (新規部品) NR

Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
※	NA 09 69 50	Operation Circuit Board	オペレーションシート	Black			
※	NA 09 75 40	//	//	Silver			
	FG 24 41 00	Ceramic Cap.	0.01μF 50V セラコン	C402			
	FG 21 14 70	//	47pF 50V //	C185,186			
	FG 21 22 20	//	220pF 50V //	C181,182			
	FZ 00 41 30	Semiconductive Ceramic Cap.	0.1μF 25V 半導体セラコン	C196,401,403~405			
	UJ 13 71 00	Electrolytic Cap.	10μF 16V ケミコン	C179,180			
	UJ 11 74 70	//	47μF 6.3V //	C183,184			
	UJ 12 81 00	//	100μF 10V //	C177,178			
	HV 45 51 20	Flame Proof Carbon Resistor	120Ω 1/4W 不燃化カーボン抵抗	R261,262			
※	VE 47 83 00	Resistor Array	47kΩ×4 抵抗アレイ	R414			
※	VE 47 84 00	//	47kΩ×6 //	R415			
※	VE 49 05 00	//	47kΩ×3 //	R413			
	VC 50 93 00	Rotary Volume	50kA×2 ロータリーボリューム	VR106			
	iF 00 34 50	Diode	ISS133 ダイオード	D401~403			
	XC 25 00 01	IC	M54564P I C	IC402~404			
	iG 07 74 00	//	NJM4556S //	IC117			
	XD 49 10 01	//	M50747 //	IC401			
	XD 49 00 01	//	LU59521 //	IC405			
	KA 90 63 80	Switch	EVQ-QRB-04M ライトタッチスイッチ	SW401~422			
	VB 97 11 00	Coil	20μH コイル	L103,104			
	VB 47 37 00	SB Coil	60μH S B コイル	L108			
	KA 90 63 70	END Switch	MSW-1485 エンドスイッチ	SW101			
	VD 85 31 00	Receiver Unit	GPIU501 受光ユニット	U401			
	LB 30 24 30	Phone Jack	ホーンジャック	JK101 Black			
	LB 30 24 20	//	//	// Silver			
※	VE 22 42 00	Display Unit	FV230 蛍光表示管	V401			
	VE 22 24 00	Ceramic Resonator	8MHz セラミック振動子	XL401			
	VE 82 88 00	Sheet	シート				
	VF 17 78 00	Sheet, Filter	シートフィルター				
※	VF 26 13 00	Sheet	シートダブルフェイス				

※New Parts (新規部品) NR

EXPLODED VIEW

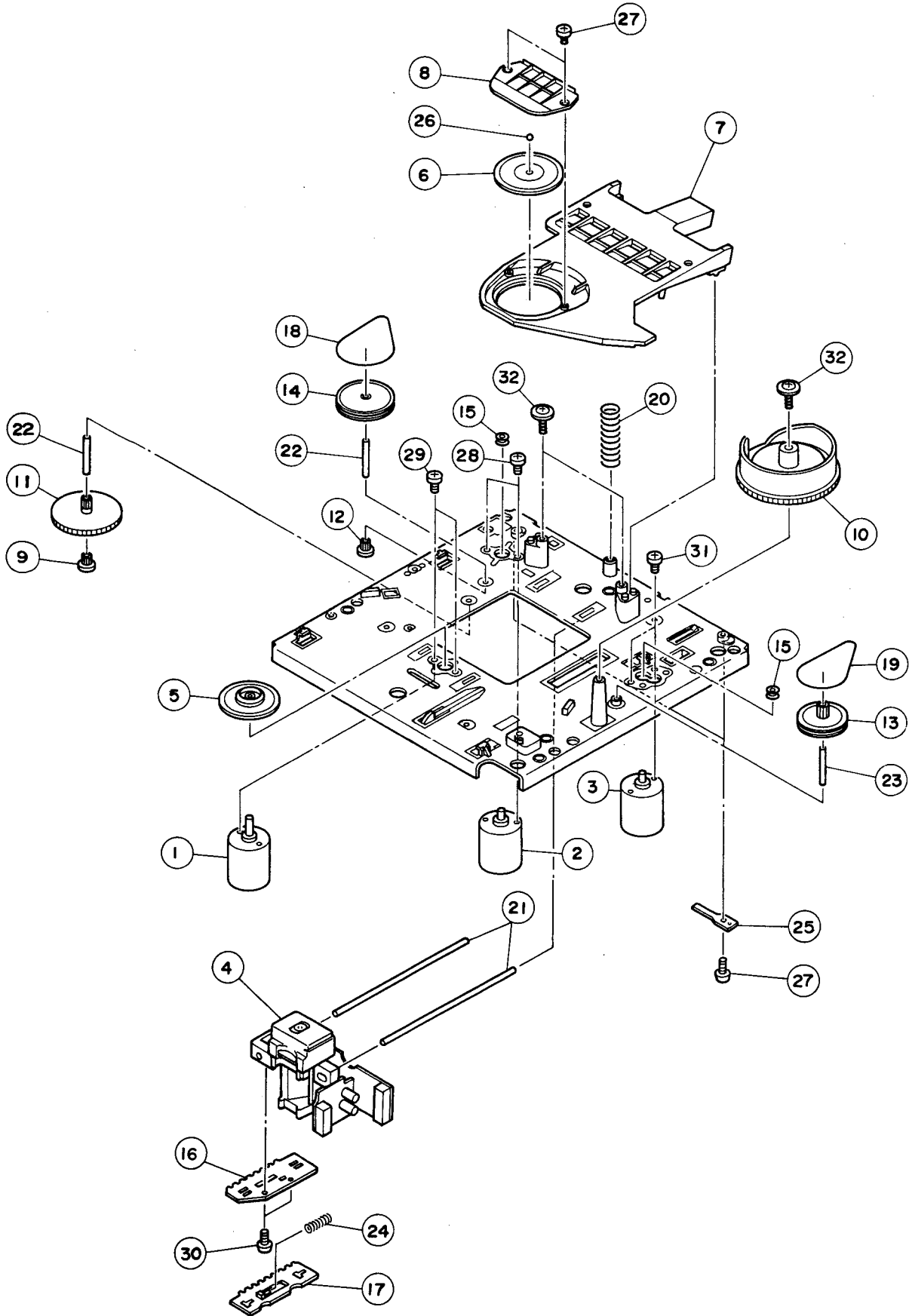


MECHANISM PARTS Note) φ : Diameter

Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
※ 1	VE 53 46 00	Panel Unit	パネルユニット	Black		J,R,A,B,G	
※ //	VE 53 47 00	//	//	//		U,C	
※ //	VE 53 48 00	//	//	Silver		J,R,A,B,G	
※ //	VE 53 49 00	//	//	//		U,C	
※ 1-1	NX 60 16 20	Lid Ass'y	リッド Ass'y	Black			
※ //	NX 60 16 30	//	//	Silver			
1-2	VC 50 57 00	Holder, Lid (L)	ホルダー/リッド (L)		CLV-1		
1-3	VC 50 58 00	// (R)	// (R)		//		
1-4	VE 04 16 00	Pad, Disc	パッド/ディスク				
1-5	VB 95 80 00	Spring	スプリング/TE				
※ 1-6	NA 09 75 40	Operation Circuit Board	オペレーションシート	Silver			
※ //	NA 09 69 50	//	//	Black			
1-7	EX 60 08 40	BW Head Tapping Screw	2×6(φ5.5)FCRM3-BI	BWヘッドタッピングネジ			
1-8	VF 10 34 00	Sheet	シート				
1-9	VC 72 50 00	Tube	チューブ				
1-10	VF 42 10 00	Washer	φ10	ワッシャー			
※ 2	VE 53 56 00	Disc Mechanism Unit	DM-710A	D M ユニット			
※ 3	NA 09 69 90	Main Circuit Board		メインシート		J	
※ //	NA 09 70 00	//		//		U,C,R,A,B,G	
※ 4	NA 09 70 50	Power Unit		電源ユニット		J	
※ //	NA 09 70 60	//		//		U,C	
※ //	NA 09 70 70	//		//		R	
※ //	NA 09 70 80	//		//		A,B	
※ //	NA 09 70 90	//		//		G	
※ 5	VE 51 81 00	Main Chassis Ass'y		メインシャーシ Ass'y		J,U,C,A,B,G	
※ //	VE 51 82 00	//		//		R	
※ 5-1	VC 96 54 00	Pad		パッド			
6	AA 63 12 00	Top Cover		トップカバー	Black	CDX-500	
//	VC 51 68 00	//		//	Silver	//	
※ 7	VE 95 55 00	Bottom Cover		ボトムカバー			
8	AA 63 12 30	Ground Plate		アース金具		CDX-500	
9	CB 65 91 40	Rod		ロッド/SW		//	
10	CB 65 91 50	Holder		ホルダー/SW			
11	VB 95 81 00	Spring		スプリング/CO			
※ 12	VE 79 23 00	Button		ボタン	POWER Black		
※ //	VE 79 24 00	//		//	// Silver		
13	CB 65 91 00	Knob		ツマミ	PHONES Black	CDX-500	
//	VC 51 70 00	//		//	// Silver	//	
14	VE 30 92 00	Damper		ダンパー			
15	VE 20 00 00	Tray Ass'y		トレイ Ass'y		CD-M555	
15-1	VE 30 08 00	Panel		パネル			
15-2	CB 65 60 10	Lifter, R2		リフター R2			
15-3	CB 65 60 00	// , L2		// L2			
15-4	CB 65 60 20	Disc Pad 2		ディスクパッド 2			
15-5	CB 62 79 60	Cushion Rubber		クッションゴム			
15-6	AA 63 08 30	Spring, Lifter		スプリングリフター			
15-7	EX 60 02 40	BW Head Tapping Screw	3×8(φ10)FCRM3-BI	BWヘッドタッピングネジ			
15-8	EO 33 00 86	Flat Head Tapping Screw	3×8 FCRM3-BI	皿タッピングネジ	PACK		
16	CB 65 77 50	Plastic Rivet		プラスチックリベット		R	
17	CB 06 88 80	//		//			
18	NB 63 83 90	Special Screw Ass'y		段付ネジ Ass'y			
19	VC 32 03 00	Special Screw		段付ネジ			
20	Ei 33 01 06	Binding Head Tapping Screw	3×10 FCRM3-BI	バインドタッピングネジ	PACK		

※New Parts (新規部品) NR

■EXPLODED VIEW (DM-710A)



MECHANISM PARTS (DM-710A)

Note) φ : Diameter

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	VE 53 56 00	Disc Mechanism Unit	DM-710A	D M ユ ニ ッ ト			
※	1	VE 35 62 00	Motor	モ ー タ ー	DISC	DM-710	
※	2	VE 35 61 00	//	//	FEED	//	
※	3	VE 35 63 00	//	//	LOADING	//	
※	4	VE 18 84 00	Optical Pick Up Head	光ピックアップヘッド		//	
	5	NB 62 99 70	Turntable Unit	ターンテーブルユニット2			
	6	CB 64 24 00	Stabilizer	スタビライザー2			
※	7	VF 19 39 00	Flapper	フ ラ ッ パ ー			
	8	CB 65 55 40	Thrust Bearing	スラストベアリング2			
	9	CB 65 55 50	Pinion Gear	ピニオンギア2			
	10	CB 65 55 60	Loading Cam	ローディングカム2			
※	11	VE 02 29 00	Gear, Drive	ギヤー/ドライブ		DM-710	
※	12	VE 02 28 00	Gear, Pulley	ギヤー/プーリー		//	
※	13	VE 98 00 00	Idle, Pulley	アイドルプーリー			
※	14	VE 02 30 00	Pulley, Feed	プーリー/フィード		DM-710	
	15	CB 65 85 10	P. Pulley	P プ ー リ ー			
※	16	VE 02 25 00	Rack, Gear A	ラック/ギヤーA		DM-710	
※	17	VE 02 26 00	Rack, Gear B	ラック/ギヤーB		//	
※	18	VE 02 34 00	Belt, Feed	ベルト/フィード		//	
※	19	VE 80 18 00	Belt, Loading	ベルト/ローディング		//	
※	20	VE 64 78 00	Spring	スプリング/フラッパ			
※	21	VE 02 31 00	Shaft, PU710	シャフト/PU710		DM-710	
※	22	VE 02 33 00	Shaft, Drive Gear	シャフト/ドライブギヤー		//	
	23	AA 61 93 30	Shaft (S)	シャフト(S)			
※	24	VE 17 93 00	Spring	スプリング/ラック710			
	25	VD 73 24 00	//	スプリング/BE			
	26	VD 93 87 00	Roler, SP	φ2.5 ロ ー ラ ー S P			
	27	Ei 32 60 56	Binding Head Tapping Screw	2.6×5 FCRM3-BI バインドタッピングネジ	PACK		
	28	ED 32 00 56	Bindind Head Screw	2×5 ZMC2-BI バインド小ネジ	PACK		
	29	ED 32 00 46	//	2×4 ZMC2-BI //	PACK		
	30	ED 32 60 66	//	2.6×6 FCRM3-BI //	PACK		
	31	ED 33 00 66	//	3×6 FCRM3-BI //	PACK		
	32	EK 33 00 10	BW Head Tapping Screw	3×12 FCRM3-BI BWヘッドタッピングネジ			

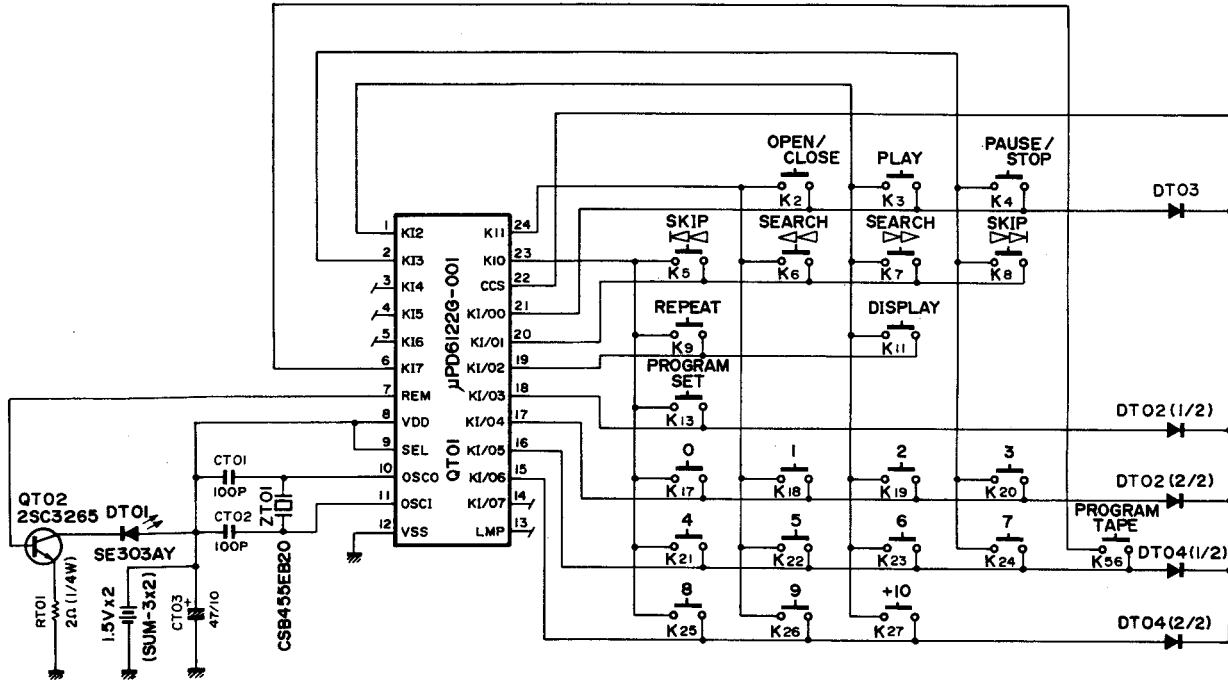
※New Parts (新規部品) NR

CDX-510/U

CDX-510/U

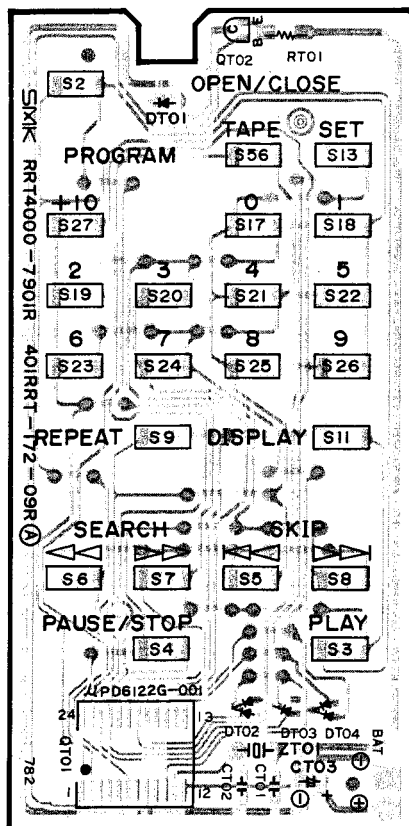
RS-CDX510 REMOTE CONTROL TRANSMITTER

SCHEMATIC DIAGRAM



DT02~04: ISS184

PRINTED CIRCUIT BOARD

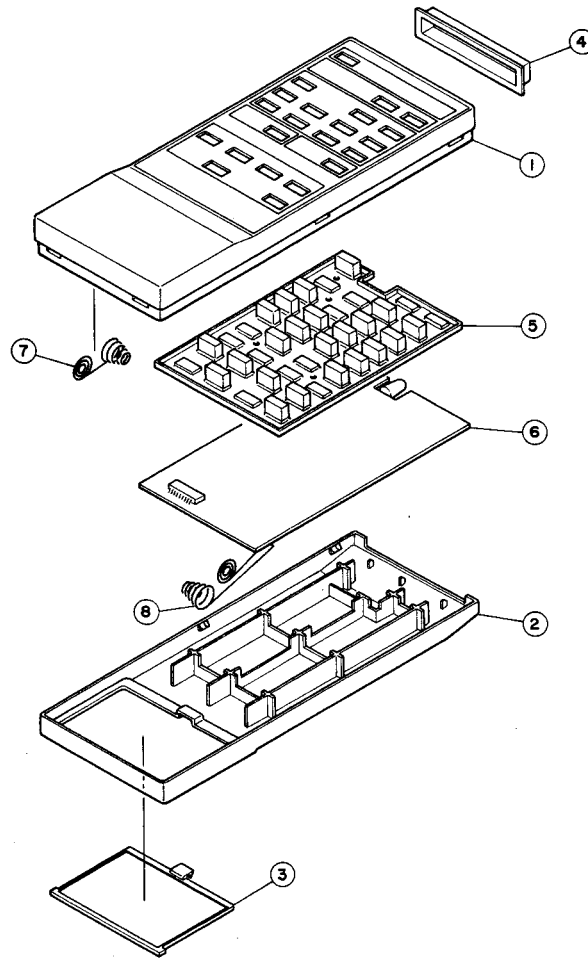


1 EXPLODED VIEW (RS-CDX510)

2

3

4



Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
※	VE 54 00 00	Remote Control Transmitter	RS-CDX510	リモートコントロールトランスミッター	Black		
※	VE 54 02 00	"	"	"	Silver		
※	1 CX 60 30 40	Case A		ケース A	Black	I02RRT-120-12R	
※	// CX 60 30 50	"		"	Silver	I02RRT-120-13R	
※	2 CX 60 30 60	Case B		ケース B	Black	I02RRT-121-01R	
※	// CX 60 30 70	"		"	Silver	I02RRT-121-04R	
※	3 CX 60 30 80	Cover		カバー	Black	I03RRT-026-01R	
※	// CX 60 30 90	"		"	Silver	I03RRT-026-23R	
※	4 CX 60 31 00	Filter		フィルター		811RRT-020-01R	
※	5 CX 60 31 10	Rubber, Contact		導電ゴムシート		421RRT-081-32R	
※	6 NX 60 16 40	P.C. Board Ass'y		プリント基板 Ass'y		401RRT-172-09R	
※	7 LX 60 10 80	Terminal A		ターミナル A		411RRT-068-01R	
※	8 LX 60 10 90	Terminal B		ターミナル B		411RRT-069-01R	
		P.C.Board Ass'y		プリント基板 Ass'y			
※	iX 61 16 30	IC	μPD6122G-001	IC	QT01	Z-Y0291-96122#01	
※	iX 61 16 40	Transistor	2SC3265(O)	トランジスタ	QT02	Z-R0310-03265#01	
※	iX 60 34 70	LED	SE303A(Y)	赤外線LED	DT01	Z-S0280-20303	
	FG 21 21 00	Ceramic Cap	100pF 50V	セラコン	CT01,02	Z-V30CJ101JJ-B#01	
	UJ 12 74 70	Electrolytic Cap	47μF 10V	ケミコン	CT03	Z-V27AB470CHW01	
	QX 60 00 20	Ceramic Resonator	CSB455EB20	セラミック発振子	ZT01	E-R20006-001	
	HX 60 14 00	Carbon Resistor	2Ω 1/4W	カーボン抵抗	RT01	Z-W30AA-2R0DJ#01	
	iX 61 16 50	Diode	ISS184	ダイオード	DT02~04	Z-T0300-30184	

※New Parts (新規部品) NR

Parts List for Carbon Resistor

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ353100	HF853100	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	HF859470
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○○○○

10mm

1/6W Type

HF85○○○○

5mm