COMPACT DISC PLAYER

CDX-820/CD-3050

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 inherant 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

100250

YAMAHA

YAMAHA CORPORATION
PO Box 1, Hamamatsu, Japan

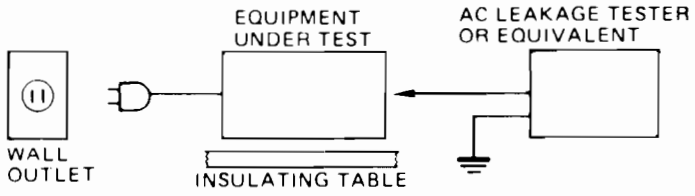
3.6K-914 ©Printed in Japan '89.2

■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.

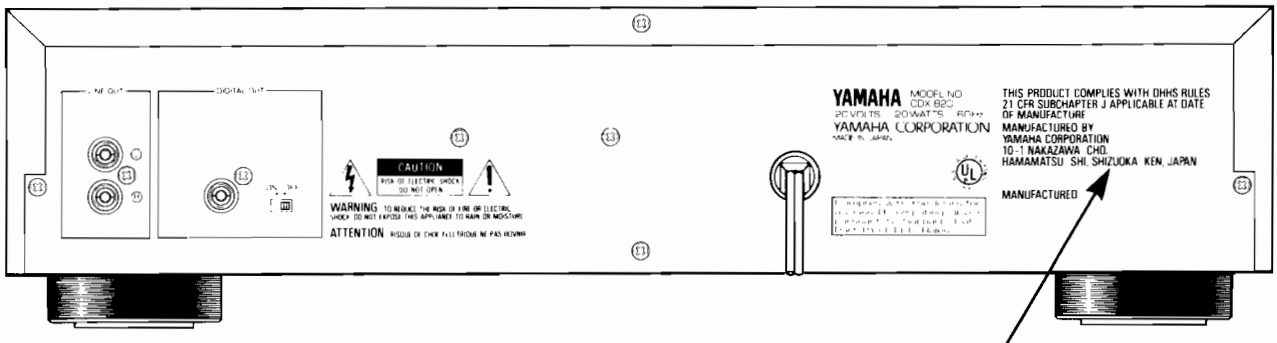
2. Leakage Current Measurement (For 120V Model Only).
   When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.

- 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, 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.

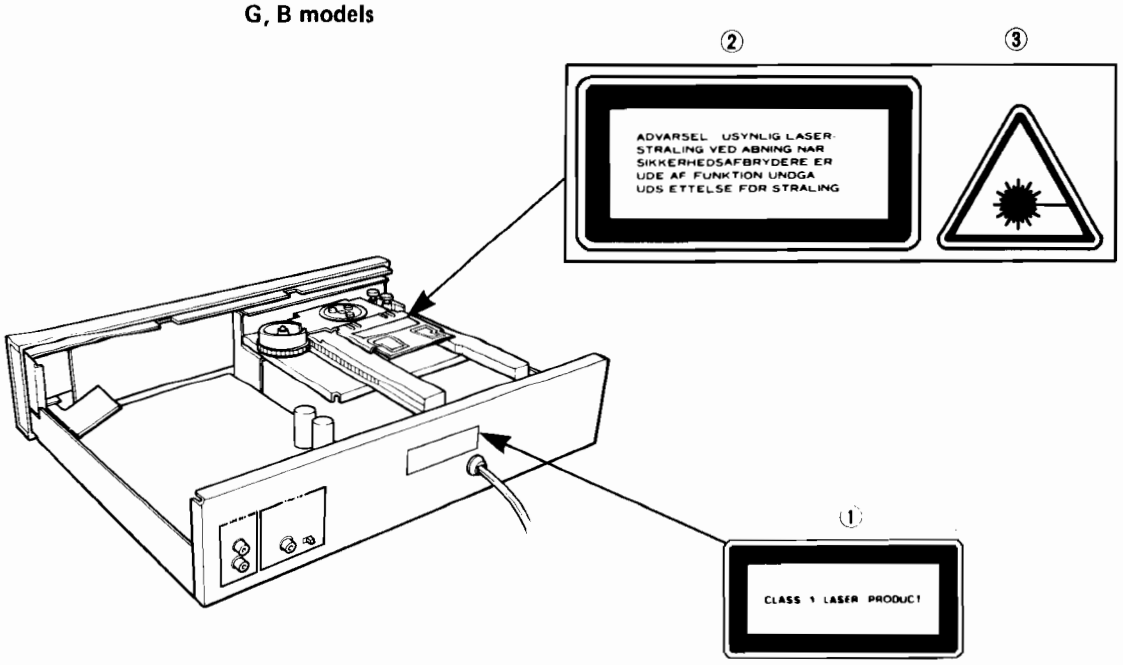
THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.



U model only

THIS PRODUCT COMPLIES WITH DHHS RULES
21 CFR SUBCHAPTER J APPLICABLE AT DATE
OF MANUFACTURE
MANUFACTURED BY
YAMAHA CORPORATION
10-1 NAKAZAWA-CHO,
HAMAMATSU-SHI, SHIZUOKA-KEN, JAPAN

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 RADIATION WARNING LABEL 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 CLASS 1 LASER PRODUCTS.

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:"

■INTERLOCK OPERATION

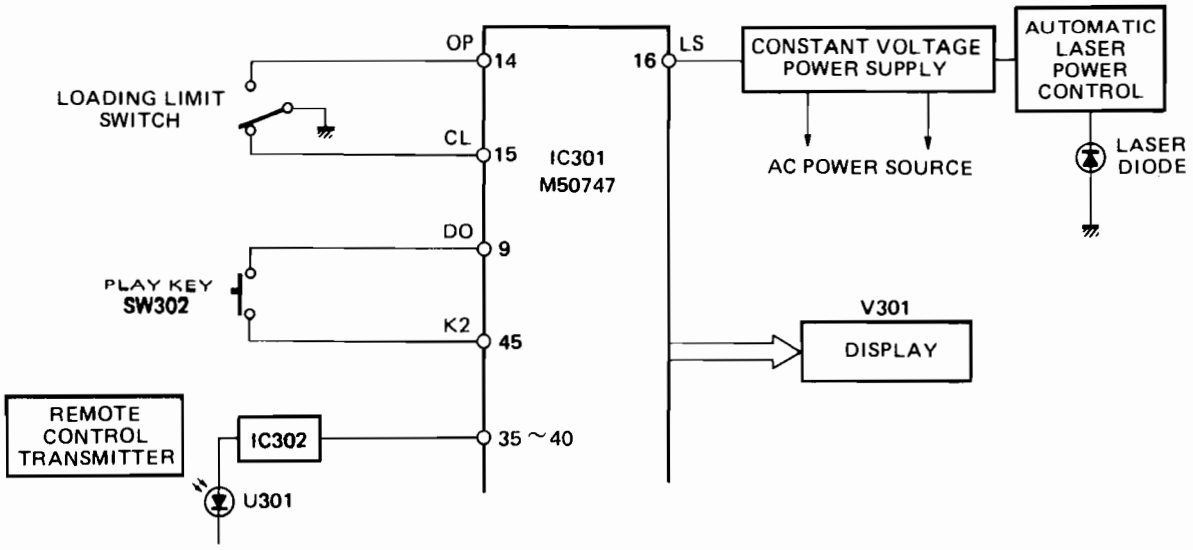
The Digital Compact Disc Player reads the disc signals by laser beam detection. The human body must directly exposed to the laser beam. Human eyes are especially not be damaged by the laser beam. This unit is therefore equipped with an interlock to prevent unnecessary laser output.

Laser output is controlled by the injection or cutoff of the constant voltage source to the laser diode at Pin 16 (LS) of IC1 (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 a disc and reads the index signals or when the unit is set in the play mode. 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) When the pickup is located at the area of minimum internal circumference.

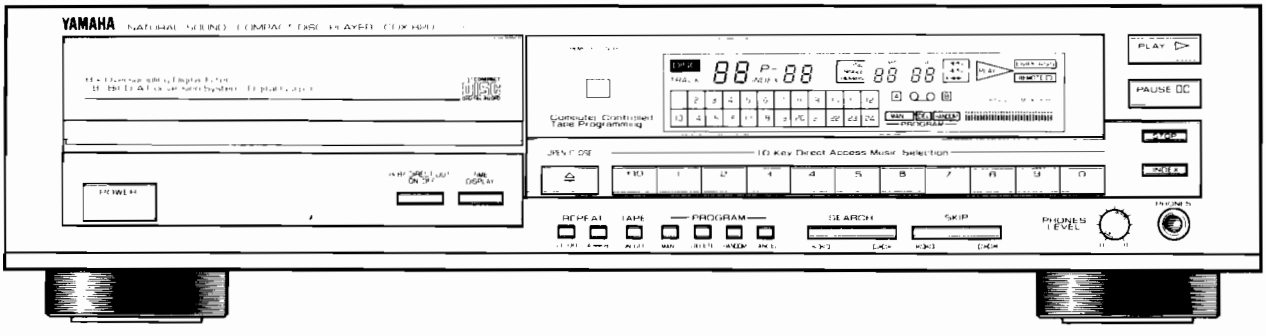
After the above conditions are met and the index signals have been read, the laser emits the beam when the following two conditions are met.

1) When the PLAY key (SW2) or that of Remote Control Transmitter is pressed.
2) When the PLAY display is ON.

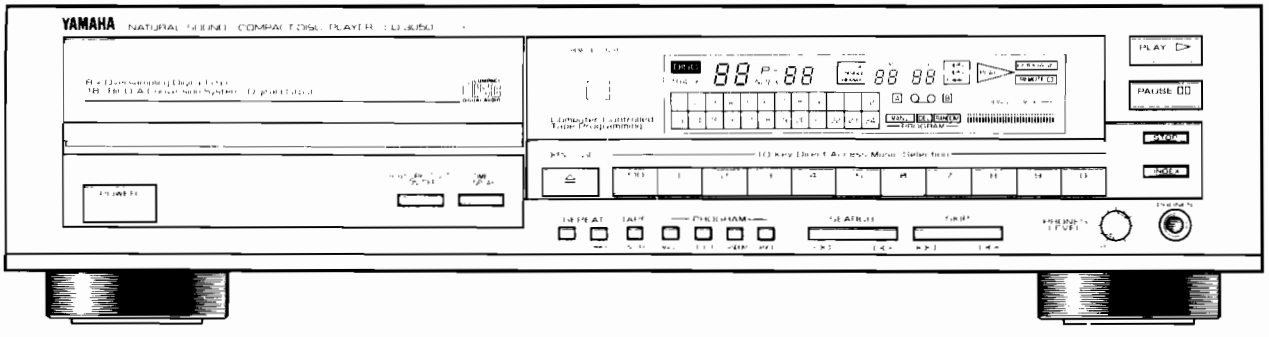


■PANELS & REMOTE CONTROL TRANSMITTER

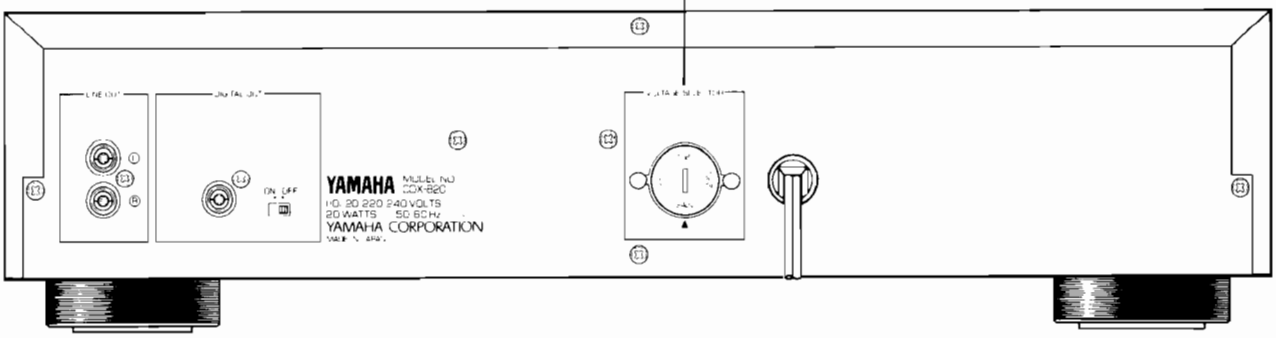
CDX-820

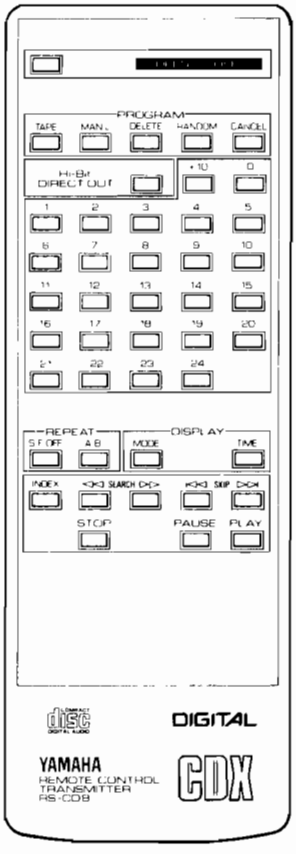


CD-3050



R, P models only





■ SPECIFICATIONS

■ AUDIO SECTION

Frequency Response	2Hz ~ 20kHz ± 0.3dB
De-Emphasis Equaliation	± 0.3dB (EIAJ)
Harmonic Distortion + Noise	Less than 0.003%, 1kHz (EIAJ)
S/N Ratio	106dB (EIAJ)
Dynamic Range	More than 100dB (EIAJ)
Wow & Flutter	Unmeasurable
Channel Separation	More than 96dB, 1kHz (EIAJ)
Output Voltage	2V (EIAJ)
Output Impedance	600Ω
Headphone Output	450mV/150Ω (–20dB)

■ INTERNAL SYSTEMS

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

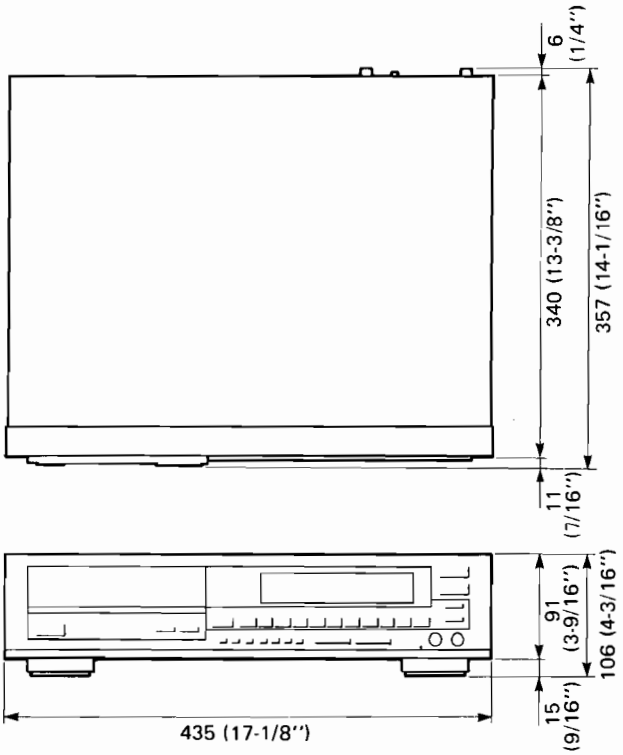
■ GENERAL

Power Requirements	
U, C models	120V AC, 60Hz
G, B models	220–240V AC, 50Hz
A model	240V AC, 50Hz
R, P models	110–120/220–240V AC, 50/60Hz
Power Consumption	20W
Dimensions (W x H x D)	435 x 106 x 357 mm (17-1/8" x 4-3/16" x 14-1/16")
Weight	6.2 kg (13 lbs 10 oz.)
Accessories	Pin plug cord Remote control transmitter (RS-CD8) Dry-cell: X2 (Size "AA", "R06")

**Specifications subject to change without notice.*

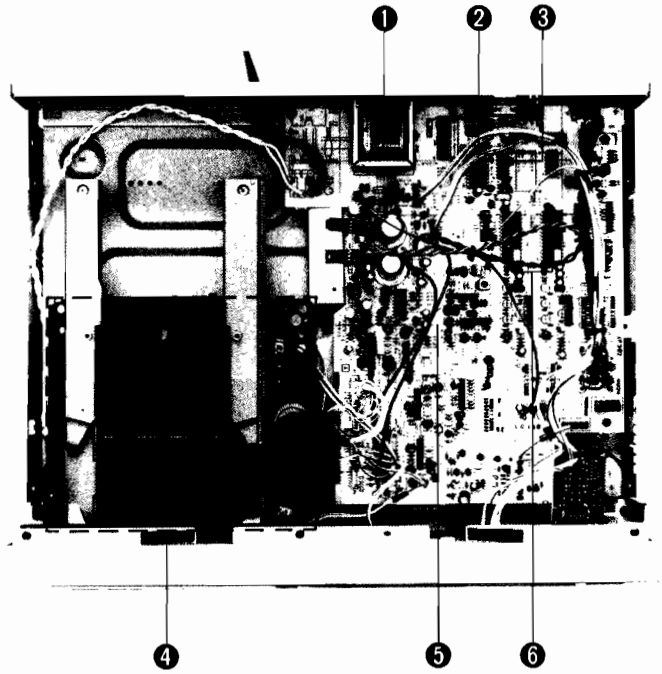
U ..... U. S. A. model
C ..... Canadian model
B ..... British model
A ..... Australian model
G ..... European model
R ..... General model
P ..... PX model

• DIMENSION



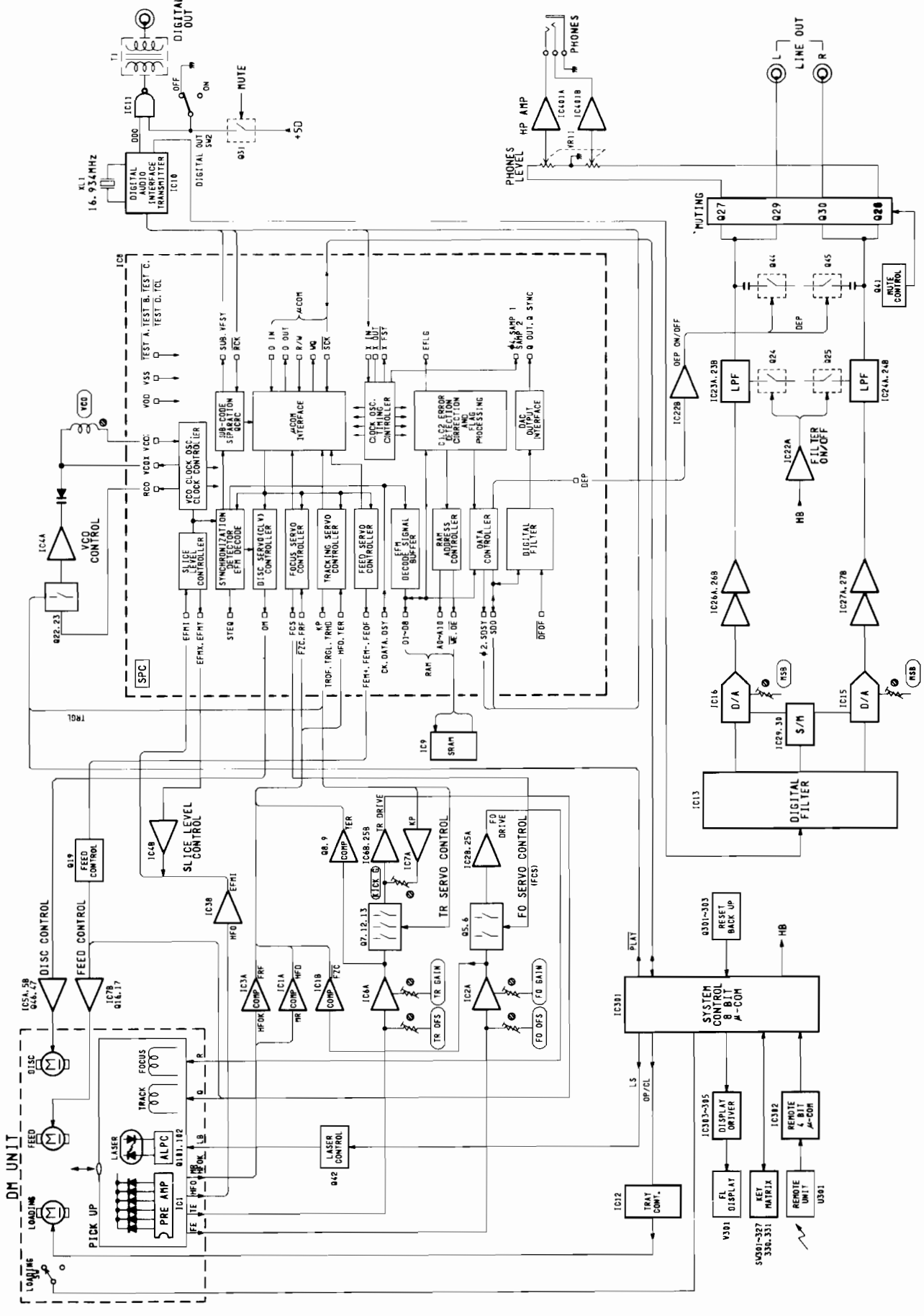
Unit ; mm (inch)

■ INTERNAL VIEW



❶ POWER TRANSFORMER
❷ IC10: YM3613B (DIT)
❸ IC13: YM3414 (DF)
❹ Disc Mechanism UNIT (DM-620)
❺ MAIN CIRCUIT BOARD (1)
❻ IC15, 16: PCM58P-X (DAC)

■ BLOCK DIAGRAM



■ DISASSEMBLY PROCEDURES

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 6 screws (②) in Fig. 1.

b. Press the Lever (B) in Fig. 1, and pull the Front Panel forward.

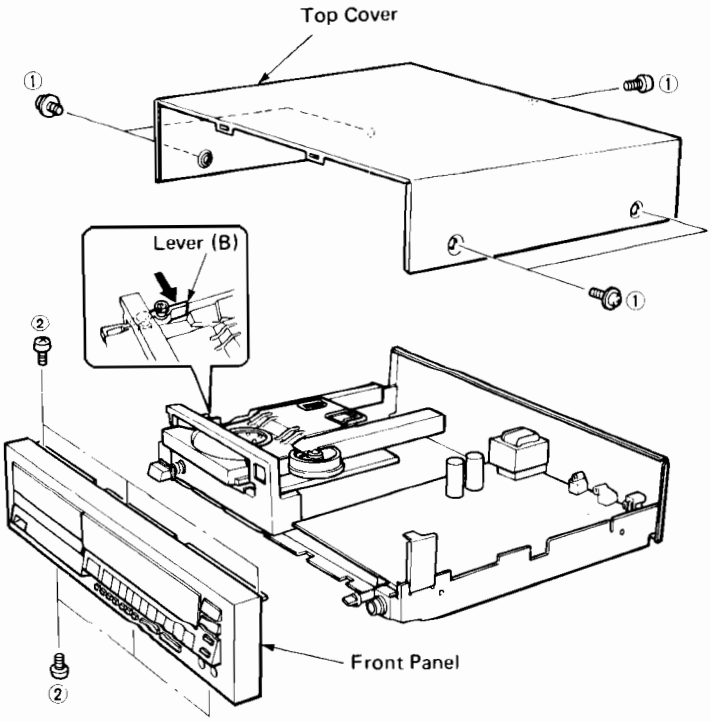


Fig. 1

3. Removal of Disc Tray Ass'y

a. Remove 2 screws (③) in Fig. 2, and then remove the Flapper.

b. Pull out the Disc Tray Ass'y by turning the Loading Cam and remove it by pressing the Hook.

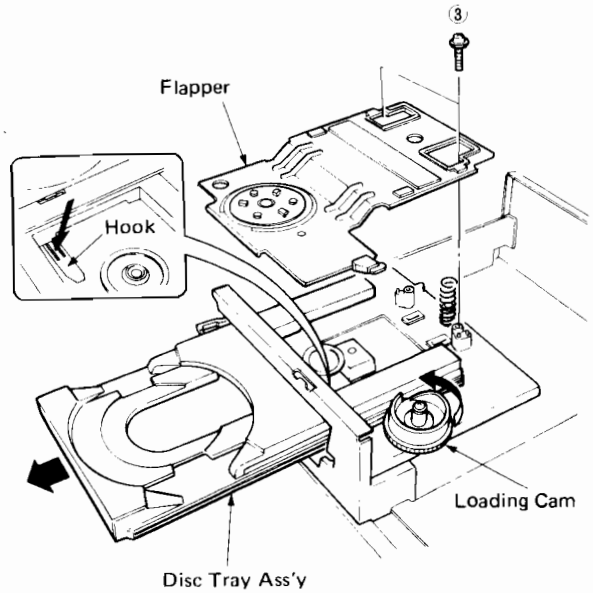


Fig. 2

4. Removal of Disc Mechanism Unit

a. Remove 2 screws (④) in Fig. 3.

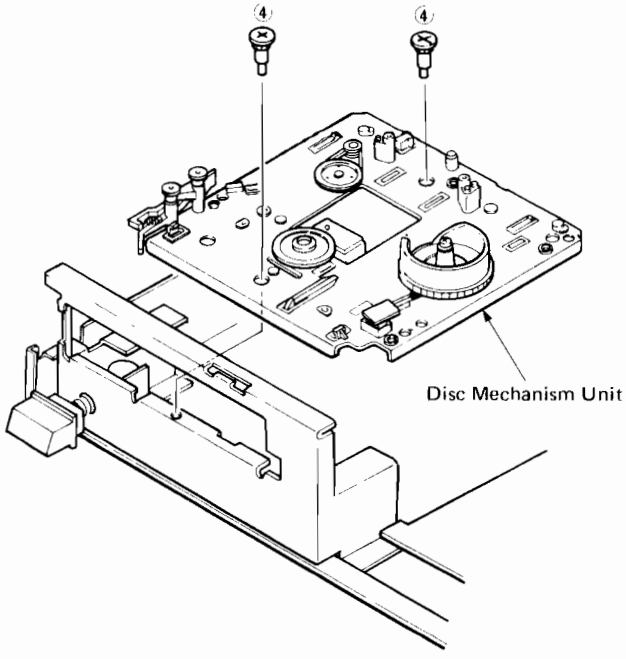


Fig. 3

5. Removal of Disc Motor

a. With the disc table remover (Part No. TX913000) used as shown in Fig. 4, remove the Disc Table.
b. Remove 2 screws (⑤) in Fig. 5 and then remove the Disc Motor.

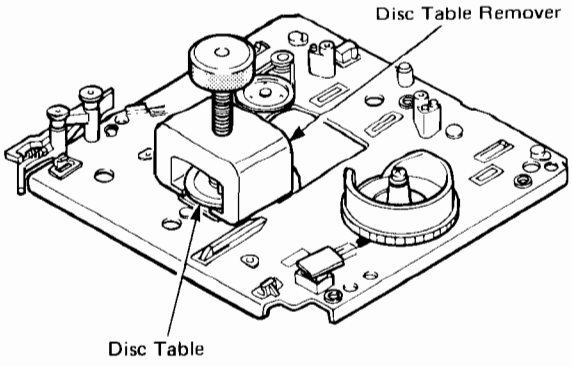


Fig. 4

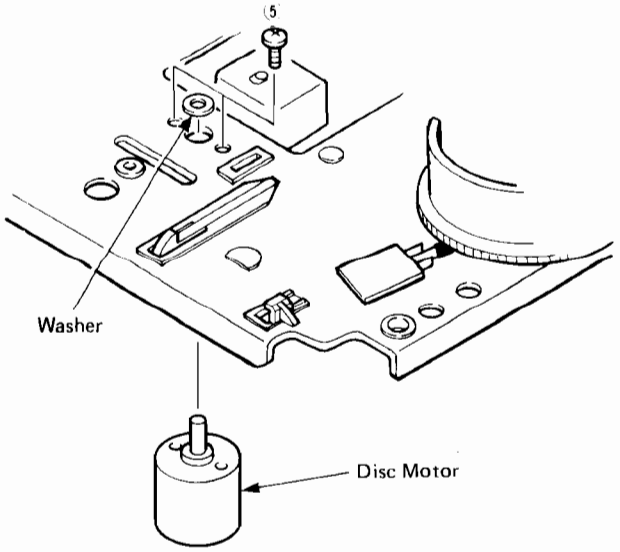
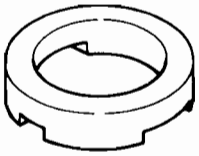


Fig. 5

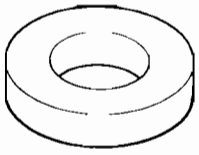
- **Installation of disc table**

※ The following tools are necessary for installation.

Height adjustment gauge (TX913130)



Magnetic Ring (BX600470)



a. Install the height adjustment gauge as shown in Fig. 6.

Height Adjustment gauge

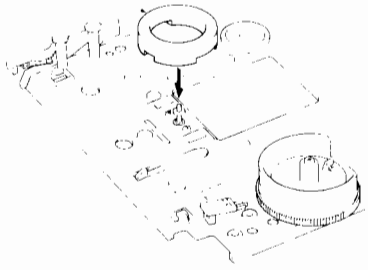


Fig. 6

b. Carefully apply a small amount of anaerobic glue to motor shaft (Loc-Tite # 638).
c. Install turntable onto motor shaft with magnetic ring installer as shown in Fig. 7.
d. Clean excess glue from top of turntable.
e. Allow 5 minites for glue to cure before removing disc table installer and height gauge.

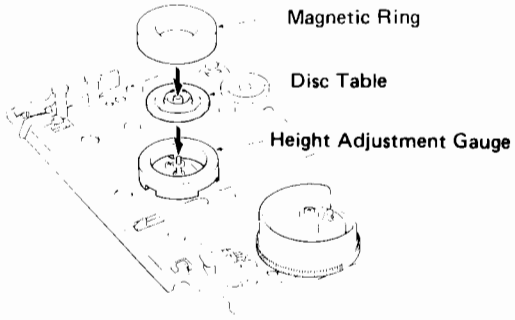


Fig. 7

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

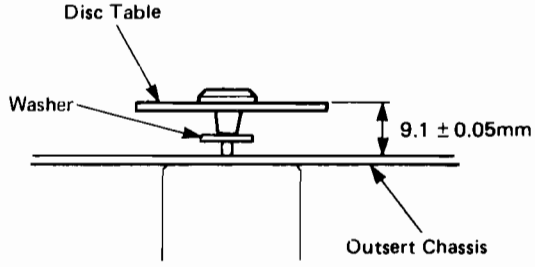


Fig. 8

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

Tools

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

• Adjustment jig (with internal filter)

Connect the filter in Fig. A before measurement.

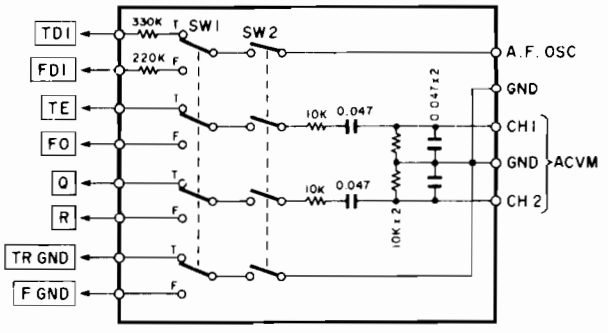


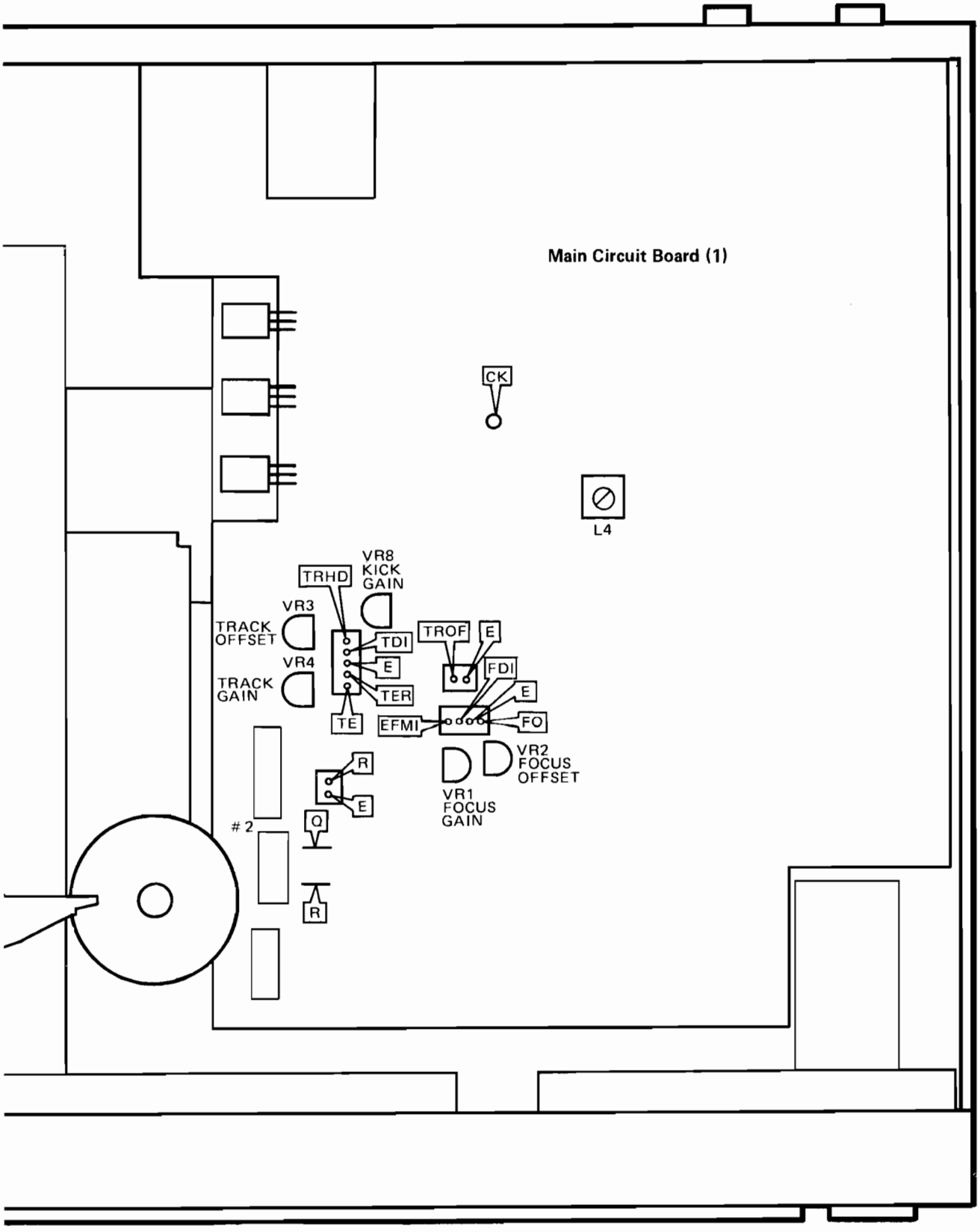
Fig. A

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

• Precautions or Special Notes

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

- Test Points


Main Circuit Board (1)
CK
L4
VR8
KICK
GAIN
TRHD
VR3
TRACK
OFFSET
VR4
TRACK
GAIN
TDI
E
TER
TE
TROF
E
FDI
E
EFMI
FO
VR2
FOCUS
OFFSET
VR1
FOCUS
GAIN
R
E
Q
2
R

★ 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 test 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

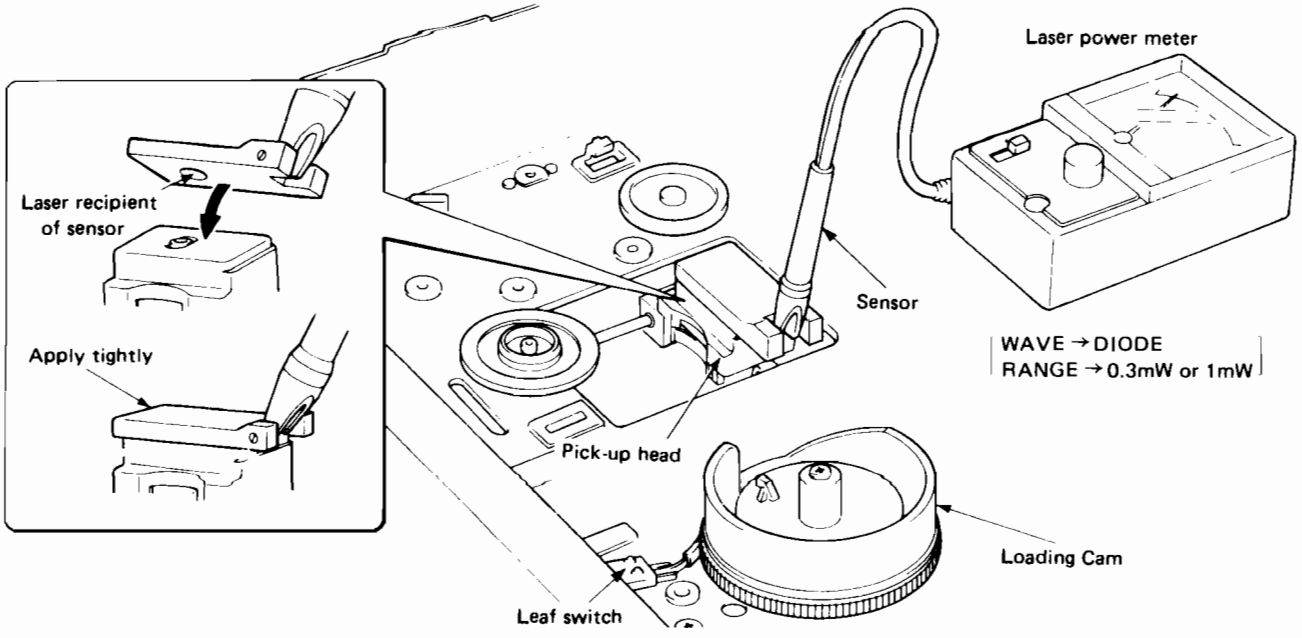


Fig. B

Precautions in handling pick-up head

(1) No soldering is 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 (12 inches) 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 (Verticla)
  (0.1/div when 10:1 probe is used)
- 0.5 sec/div time (Horizontal)

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

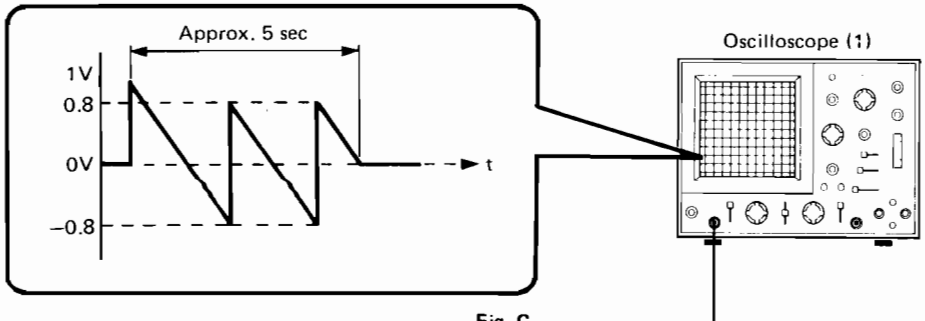
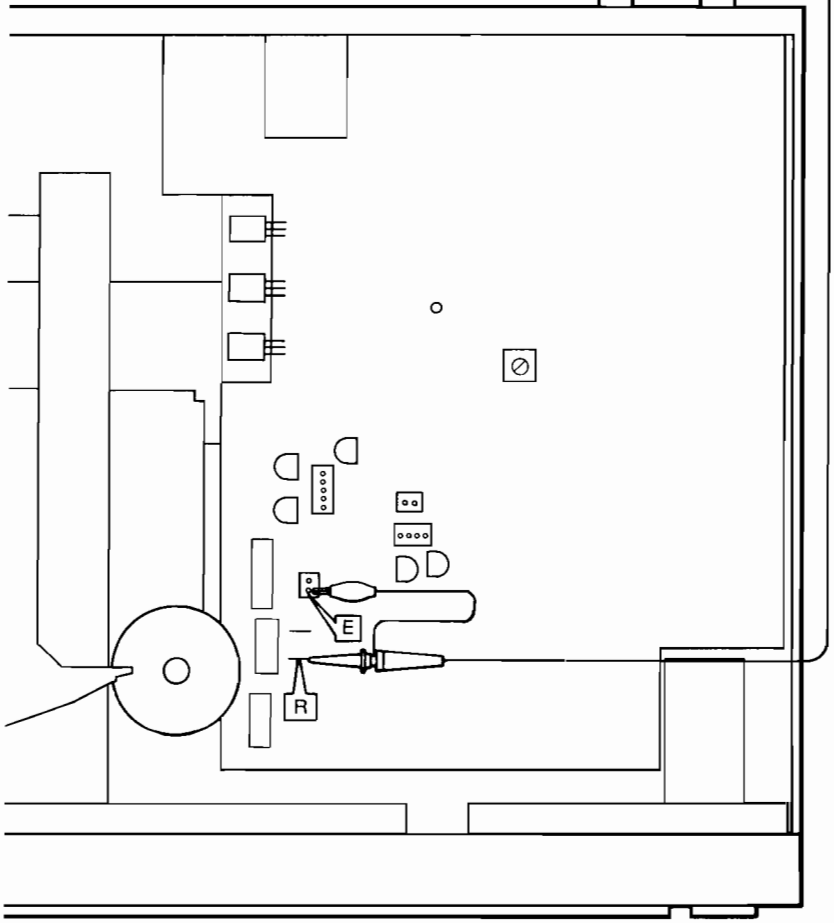


Fig. C



Adjustment of VCO (Step 3)

① Connect the shorting cord and measuring instruments, as shwon in Fig. D.
② Do not load the test disc.
③ Press POWER key. (POWER ON)
④ While observing the frequency counter indication (F_{VCO}), adjust L4 so that it satisfies the rating.

Rating: F_{VCO} = 4.3218 MHz ± 10 kHz

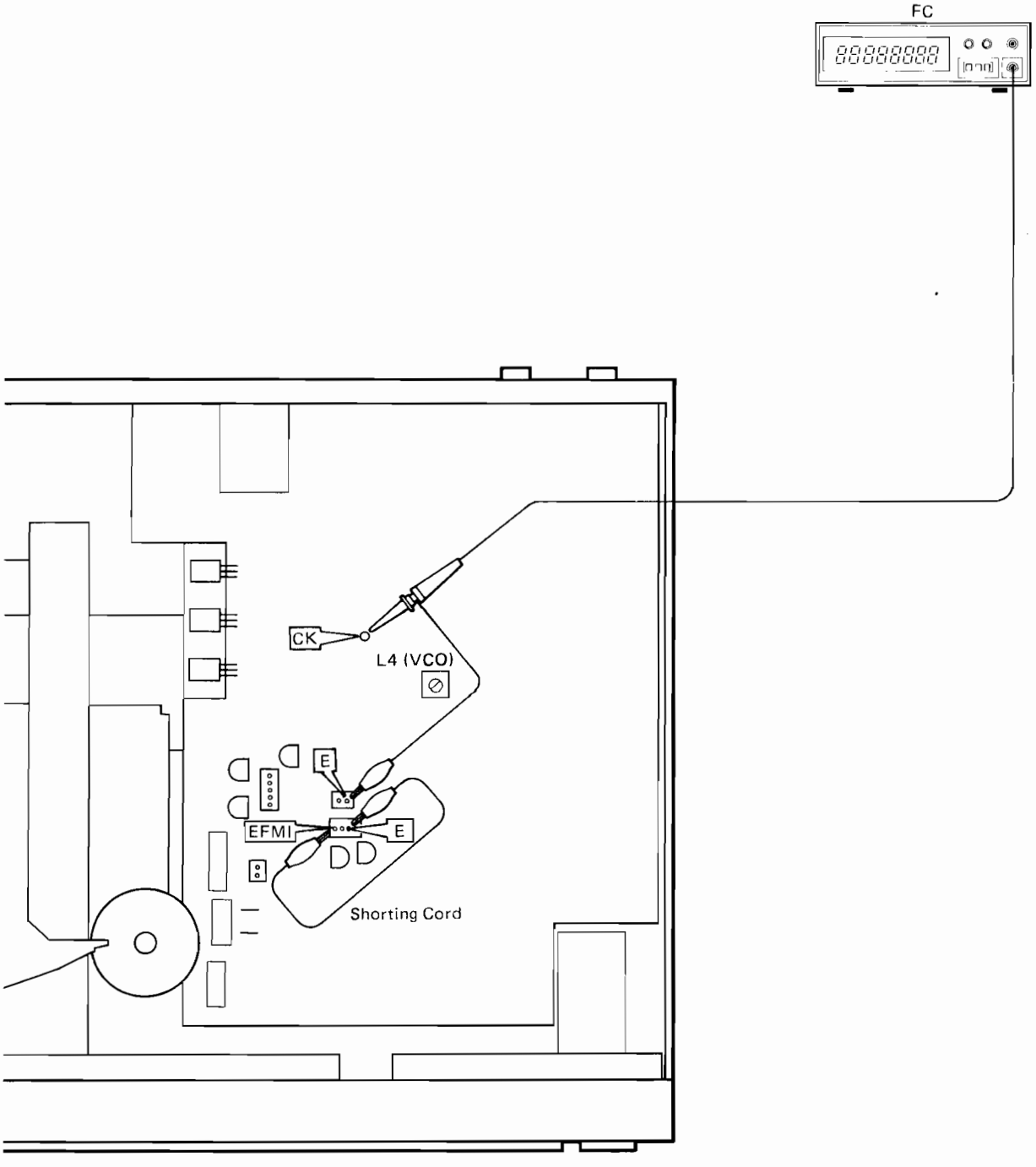


Fig. D

Adjutment of Tracking Gain (Step 4)

* This adjustment requires 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 kiloohms) in the filter.
② Set SW2 to OFF.
③ Set SW1 to T (TRACKING).
④ Press POWER key. (POWER ON)
⑤ Load the test disc.
⑥ Press PLAY key.
⑦ Set SW2 to ON.
⑧ While observing the indications of the AC voltmeters (CH1: E_{TE}, CH2: E_Q), adjust VR4 (TRACKING GAIN) so that they satisfy the rating.

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

Example	[0dBV = 1V]
E_{TE}	= −13dBV (223mV)
E_Q	= −30dBV (30mV)

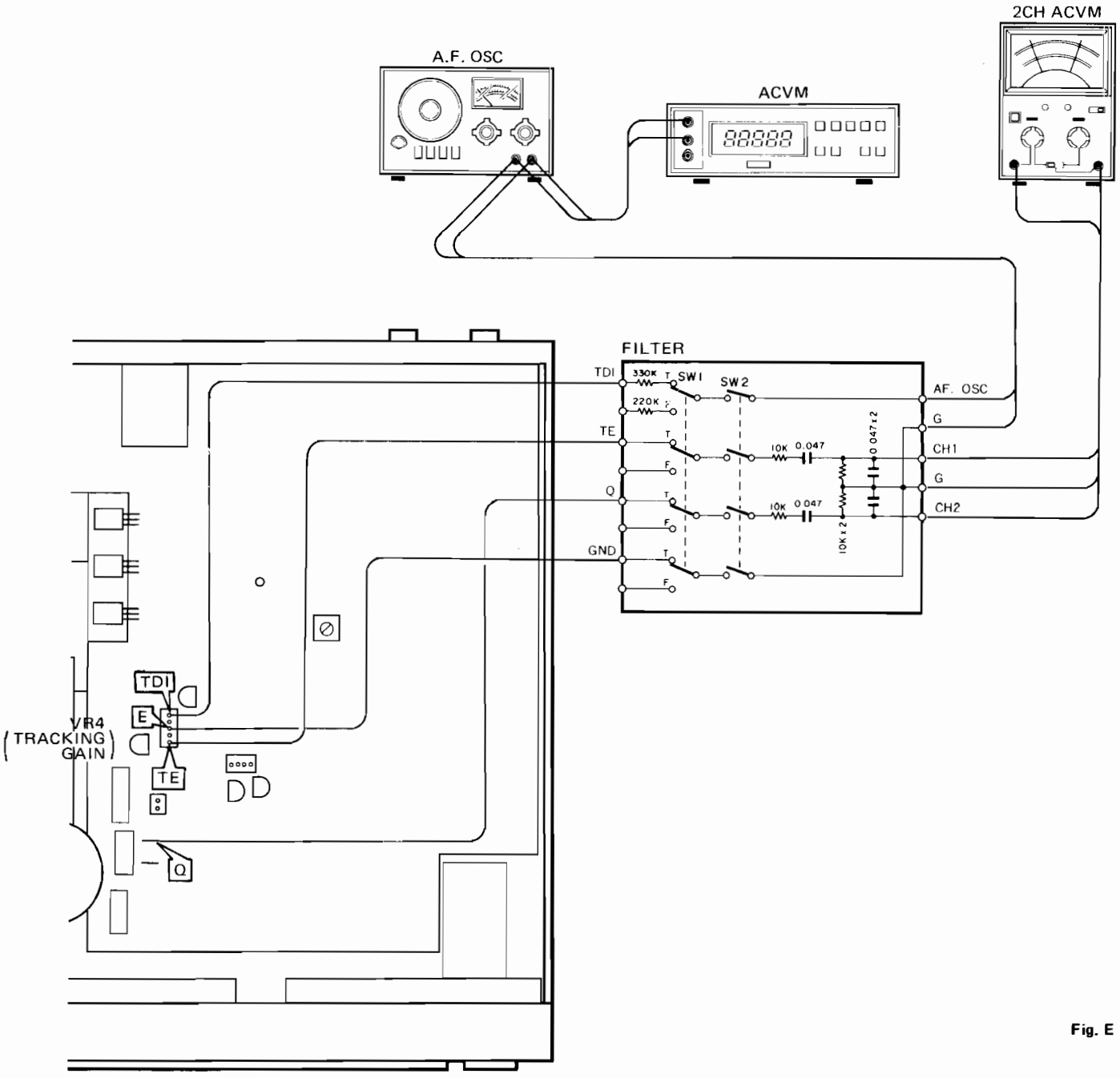


Fig. E

Adjustment of Focus Gain (Step 5)

* This adjustment requires 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 kiloohms) in the filter.
② Set SW2 to OFF.
③ Set SW1 to F (FOCUS).
④ Press POWER key. (POWER ON)
⑤ Load the test disc.
⑥ Press PLAY Key.
⑦ Set SW2 to ON.
⑧ Read the indications of the AC voltmeters (CH1: E_{FO}, CH2: E_R), adjust VR1 (FOCUS GAIN) so that they satisfy the rating.

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

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

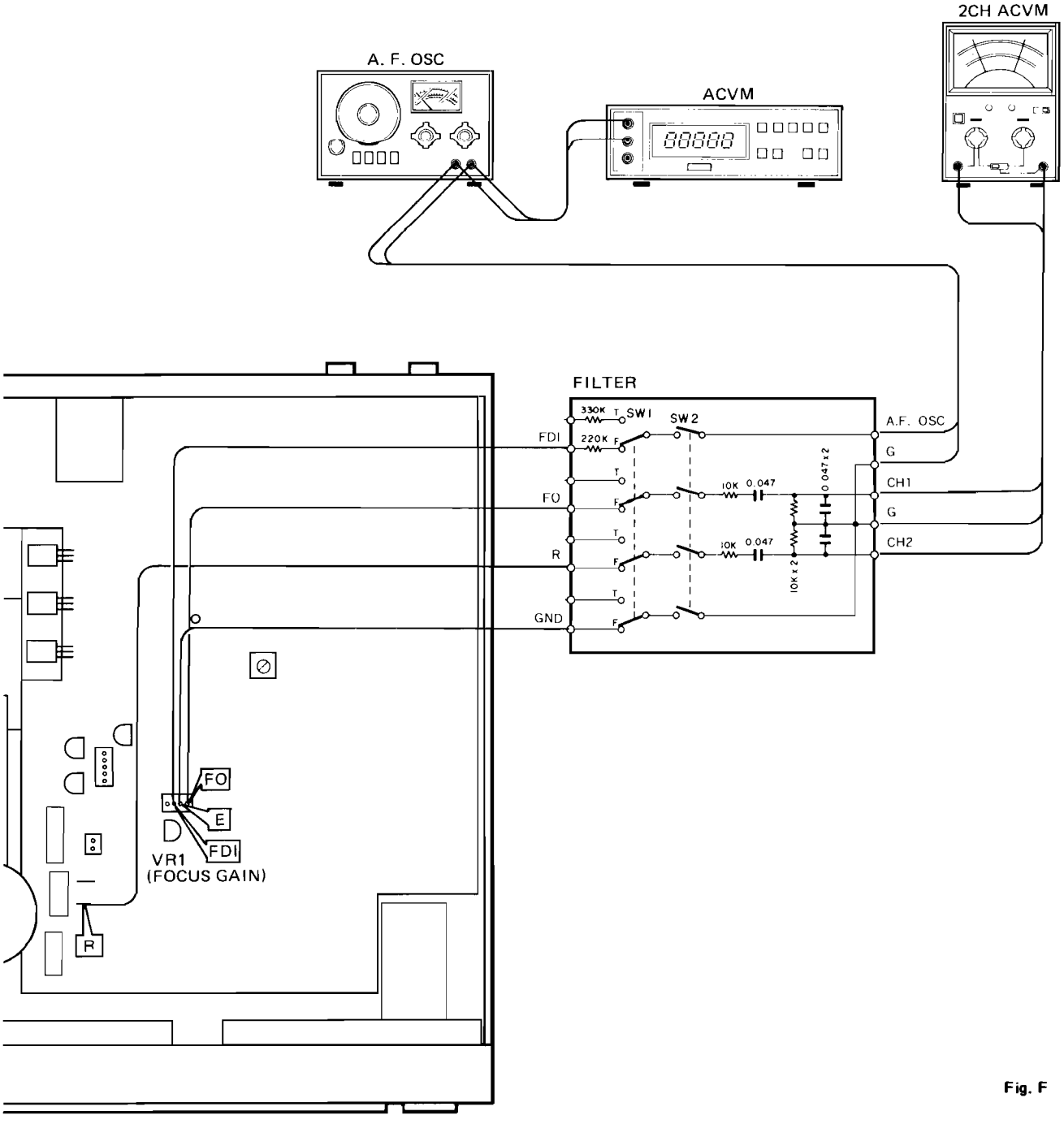


Fig. F

Adjustment of Tracking Offset (Step 6)

① Connect a DC voltmeter to [Q] and [E] terminals.
② Press POWER key. (POWER ON)
③ Press STOP key.
④ Short between the [TROF] and [E] terminals. (Laser OFF)
⑤ While observing the indication (E_Q) of the DC voltmeter, adjust VR3 (TRACKING OFFSET) so that it satisfies the rating.

Rating: E_Q = 0 V DC ± 25mV DC

Adjustment of Focus Offset (Step 7)

① Connect a DC voltmeter to [R] and [E] terminals.
② Press POWER key. (POWER ON)
③ Press STOP key.
④ Short between the [TROF] and [E] terminals. (Laser OFF)
⑤ While observing the indication (E_R) of the DC voltmeter, adjust VR2 (FOCUS OFFSET) so that it satisfies the rating.

Rating: E_R = 0V DC ± 25mV DC

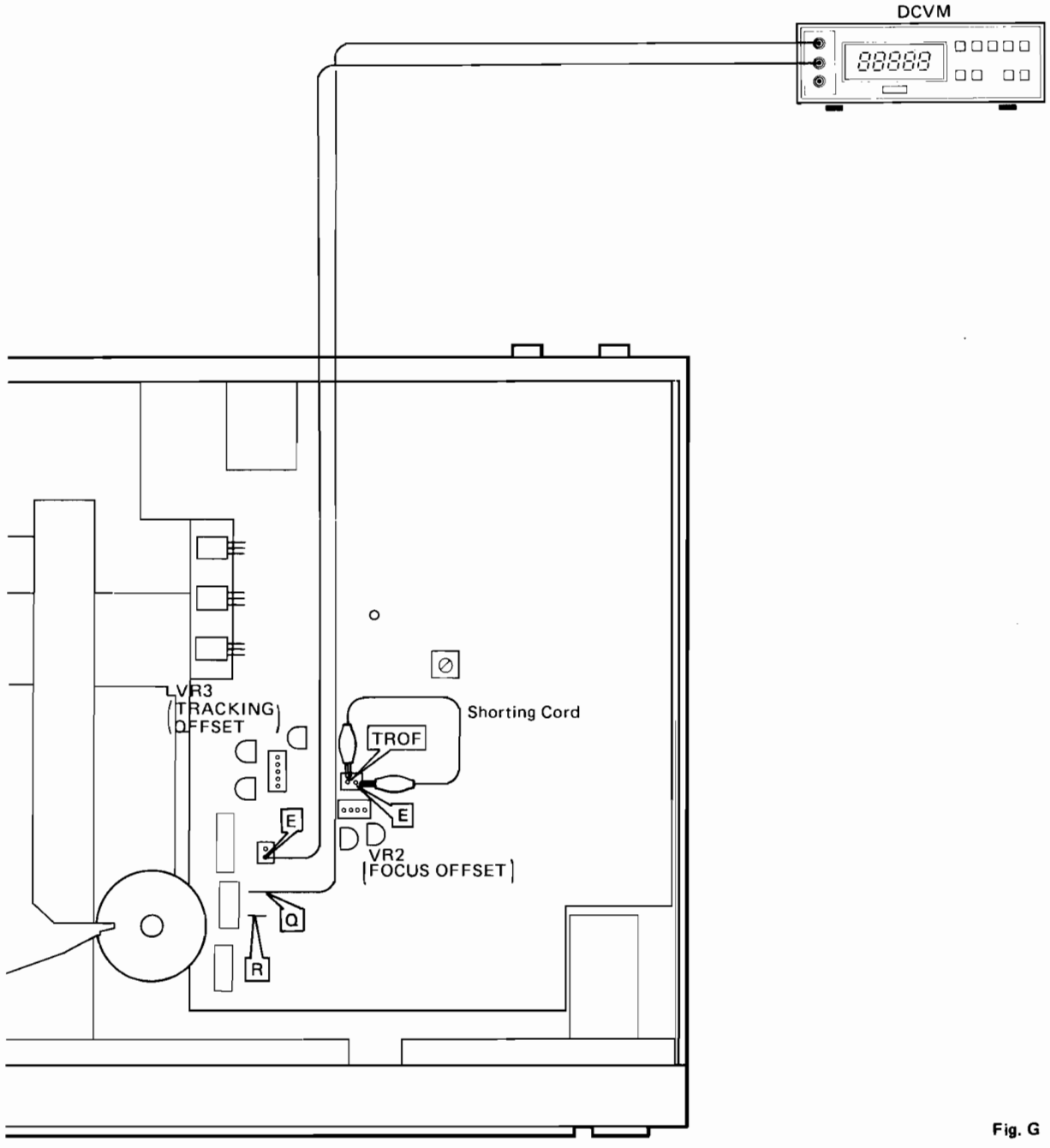


Fig. G

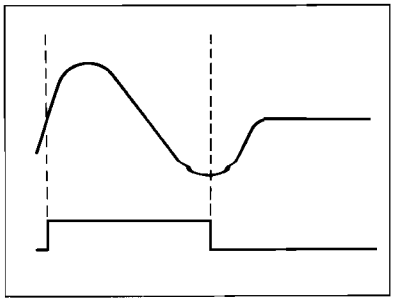
Adjustment of Kick Gain (Step 8)

Oscilloscope (1) (2-ch oscilloscope) Settings

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

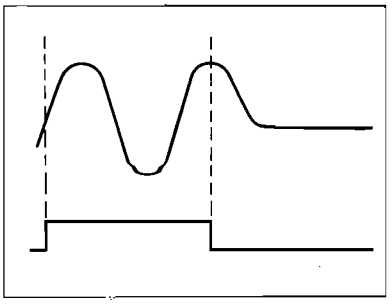
① Connect the measuring instruments, as shown in Fig. H.
② Press POWER key. (POWER ON)
③ Load the test disc.
④ Press PLAY key.
⑤ Observe waveform while pressing Fast Forward mode key (▶▶) for 3 seconds.
⑥ Adjust VR8 (KICK GAIN) so that the TER signal cycle is $1.0^{+0.5}_{-0}$ when TRHD signal level 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.

Incorrect



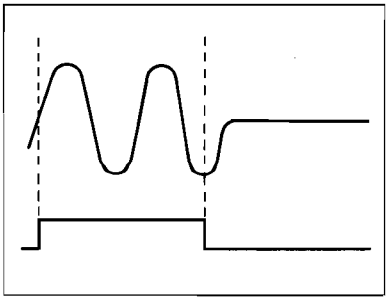
This shows about 0.75 cycle which is incorrect

Correct



This shows about 1.25 cycle which is within specification.

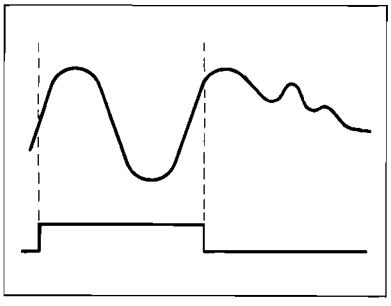
Incorrect



This shows about 1.75 cycle which is incorrect

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

Incorrect



Not converging gently

Fig. H

Confirmation of Jitter (Step 9)

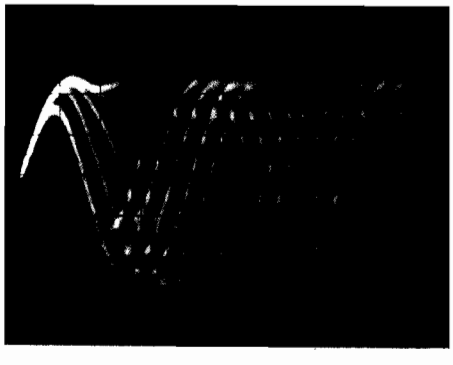
Oscilloscope (2) Settings

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

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

Oscilloscope (2)

Eye pattern



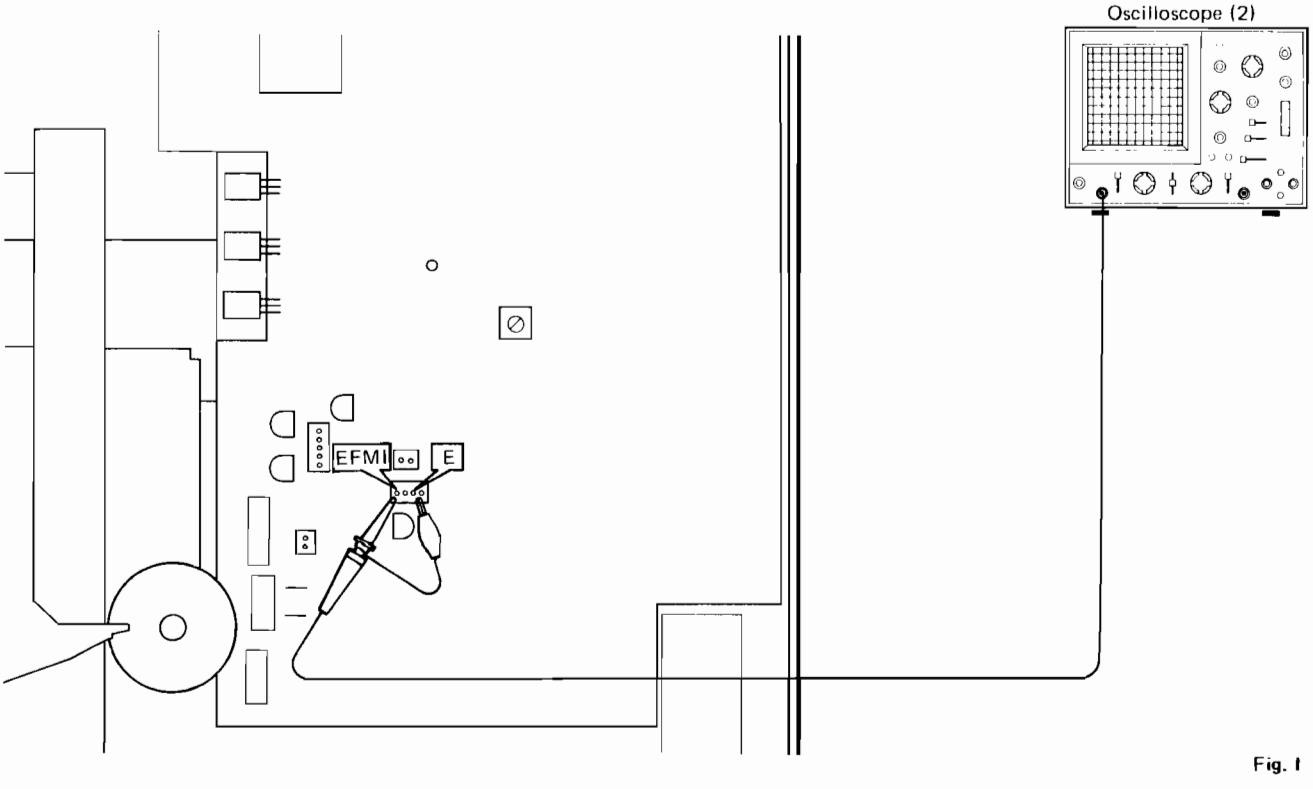
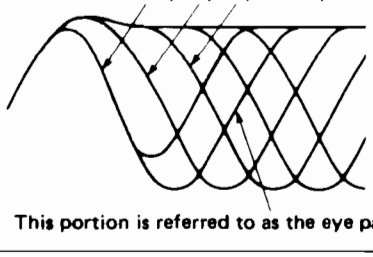


Fig. I

Waveforms 3T – 11T.



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

Good waveform

Abnormal waveform

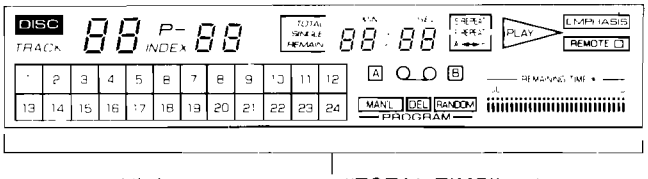
CDX-820/CD-3050

Confirmation of Skip Search Operation (Step 10)

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

■TEST MODE

Turn the power ON while pressing both [4] key and [7] key, and about 3 seconds later, all the segments except "TOTAL TIME" and "ELAPSED TIME" light and then the operation mode is set to TEST MODE.



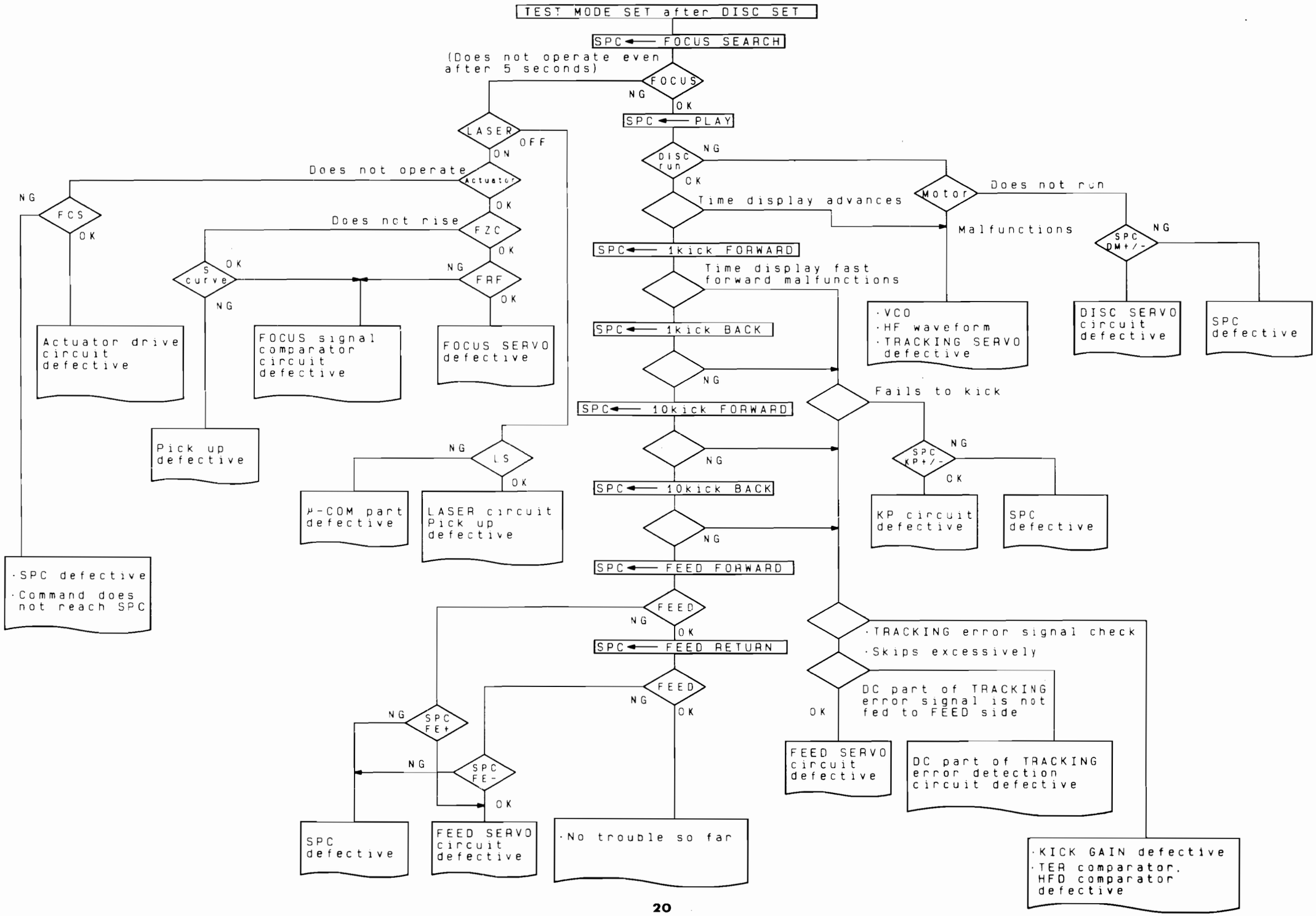
All the segments except "TOTAL TIME" and "ELAPSED TIME" light

In TEST MODE, each key corresponds to each SPC COMMAND as listed below.

KEY	SPC COMMAND	Other
OPEN/CLOSE	FOCUS SEARCH	LASER ON
PLAY	PLAY	–
PAUSE	SEARCH	Set to SEARCH for preset time, i.e., PAUSE
STOP	STOP	LASER OFF
⏮	10 kick BACK	–
◁◁	1 kick BACK	–
⏭	10 kick FORWARD	–
▷▷	1 kick FORWARD	–
REPEAT (S/F/OFF)	FEED FORWARD	–
A ⟷ B	FEED RETURN	–
DISPLAY	–	TRACK TM ⟷ ABS TM display switchover

● Example of how to use TEST MODE for diagnosing a cause when LEAD IN or PLAY fails

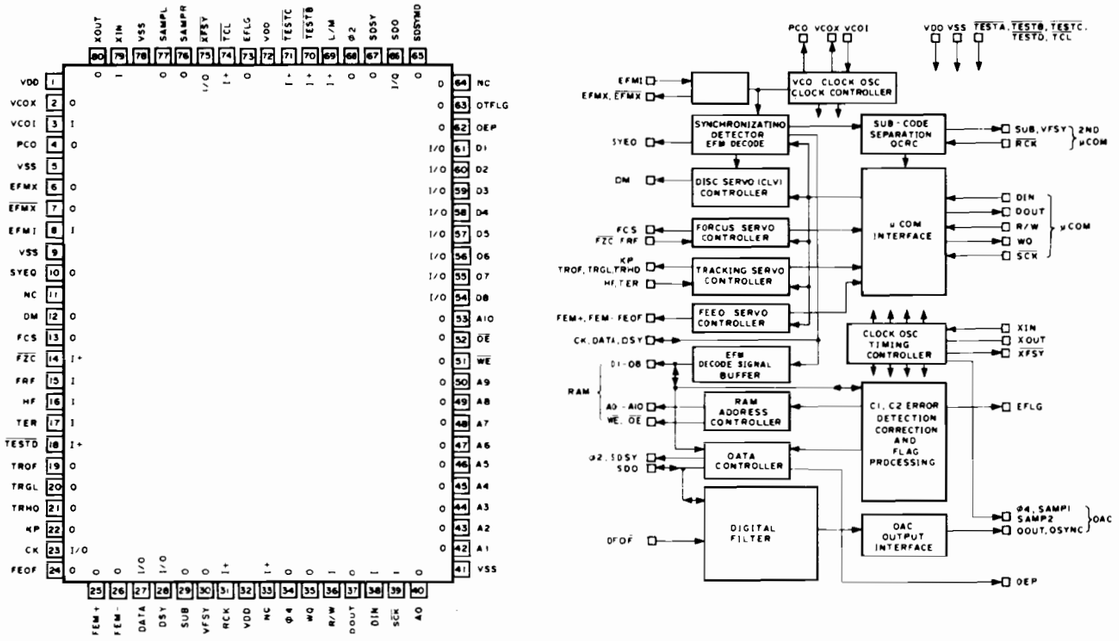
* SPC←X represents that COMMAND X is transferred to SPC by pressing the key corresponding to SPC COMMAND X.



■IC DATA

IC8: YM3616
Signal Processor & Controller

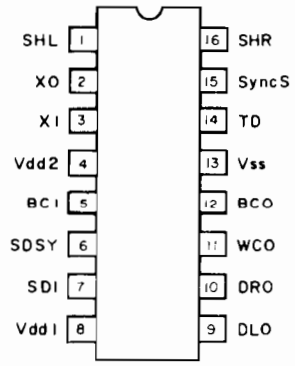
YM3616 is a CMOS LSI for signal processing and servo control of the compact disc player.
It executes such signal processing as demodulation of the EFM signal from the optical pick-up, detection and correction of the erroneous signal and digital filtering which helps to improve the sound quality, as well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

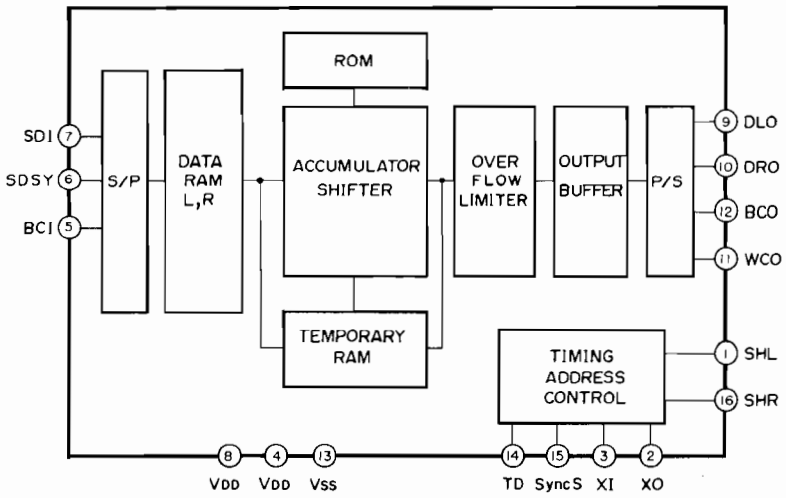


Pin No.	Pin Name	I/O	Function
1	VDD		Power Supply
2	VCOX	O	Clock Playback Circuit 4PCO
3	VCOI	I	
4	PCO	O	
5	VSS		GND
6	EFMX	O	EFM Signal External Circuit
7	$\overline{EFMX}$	O	
8	EFMI	I	
9	VSS		GND
10	SYEQ	O	Synchronized Uniform Signal
11	N.C.		Not Use
12	DM	O	Disc Servo { LOW (0V): FORWARD; OPEN (2.5V): STOP; HIGH (5V): REVERSE
13	$\overline{FCS}$	O	Focus Servo System Input
14	$\overline{FZC}$	I	
15	FRF	I	
16	HF	I	Tracking Servo System Input
17	TER	I	
19	TROF	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	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 { Data Output to μCOM; Data I/O Control Signal; Clock for Data I/O; Data I/O from μCOM } Q code Output μCOM Command
37	DOUT	O	
36	R/W	I	
39	$\overline{SCK}$	I	
38	DIN	I	
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 Control Circuit Board Serial Signal Output { Data Error Signal; Digital Data Output; LSB first/MSB first; 2.1659MHz Clock; SB first (H)/MSB first (L) Switch for SDO; Test Terminal
66	SDO	O	
67	SDSY	O	
68	ϕ2	O	
69	L/M	I	
71	$\overline{TESTC}$	I	
64	NC	O	DAC Interface { Not Use; BB Word Clock for DAC; Digrich Signal; 4.3218MHz Clock
65	SDSYMD	O	
76	SAMPR	O	
77	SAMPL	O	
34	ϕ4	O	
18	$\overline{TESTD}$	I	Test Terminal
70	$\overline{TESTB}$	I	
74	$\overline{TCL}$	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	

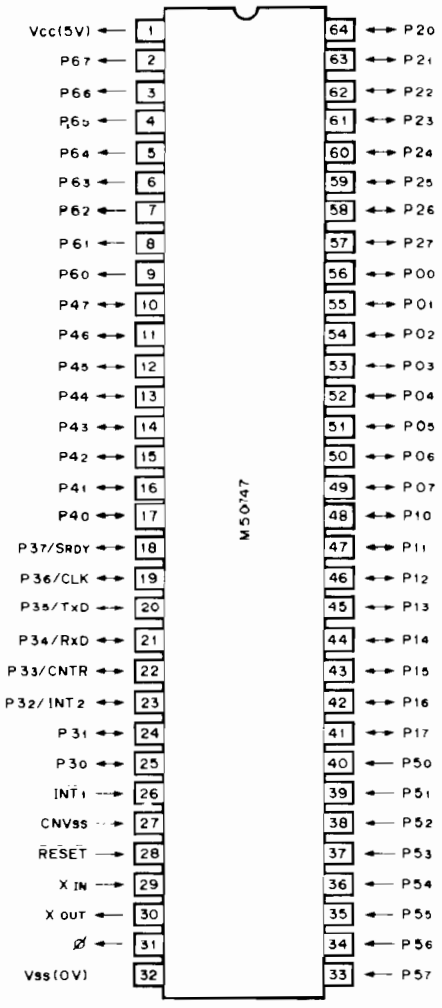
IC13: YM3414
Digital Filter

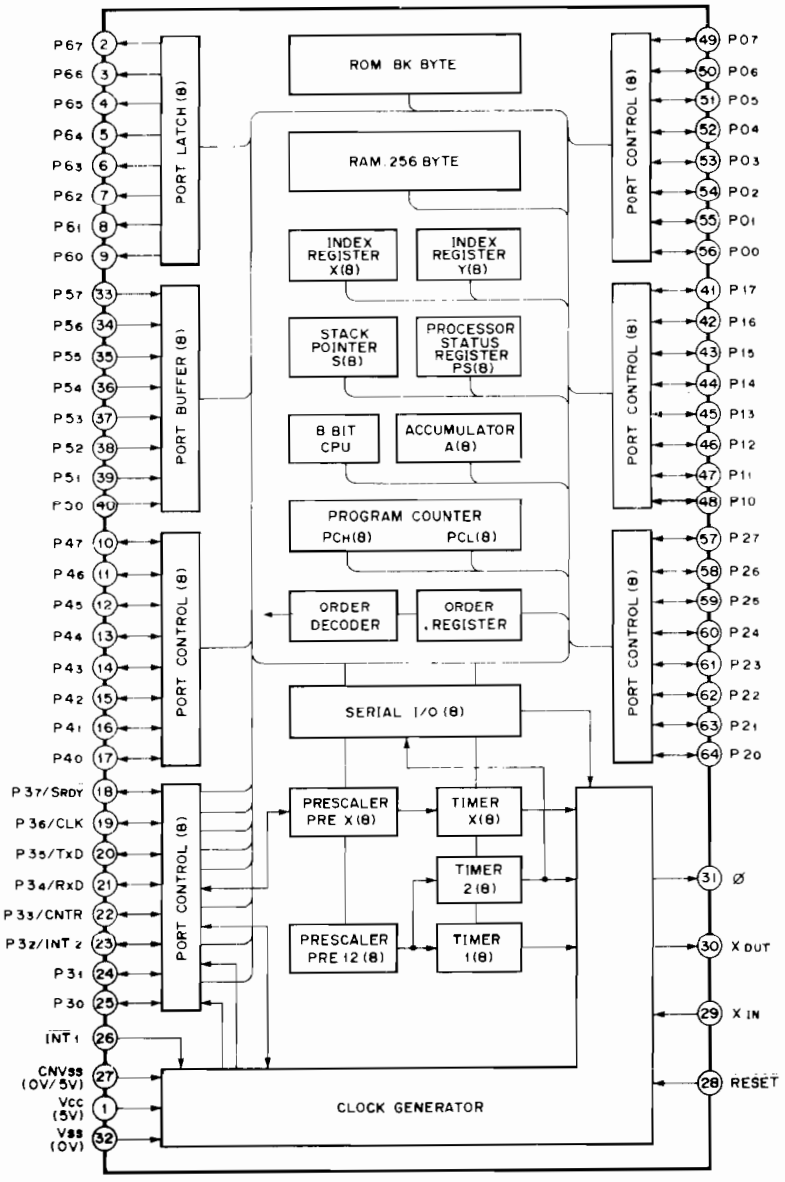




Pin Name	Pin No.	I/O	Description of function
SHL	1	O	At 1DAC (TD = 'L') : Deglitcher signal of Lch (when four-fold) At 2DAC (TD = 'H') : Deglitcher signal of L/Rch (when eight-fold)
X 0 X 1	2 3	O I	Generates quarts oscillation between XI and XO. 16.934MHz (Direct input into XI from the external source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

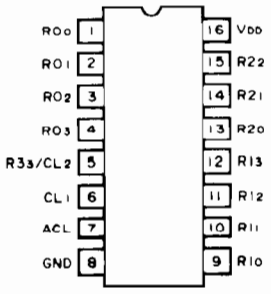
IC301: M50747-165SP
8 bit μ-COM

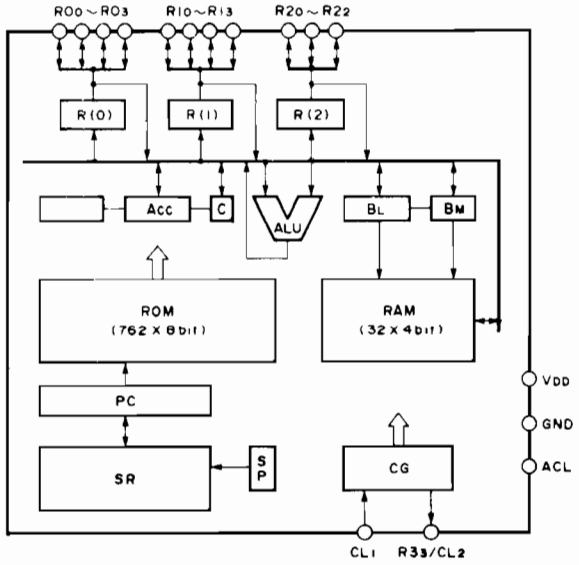




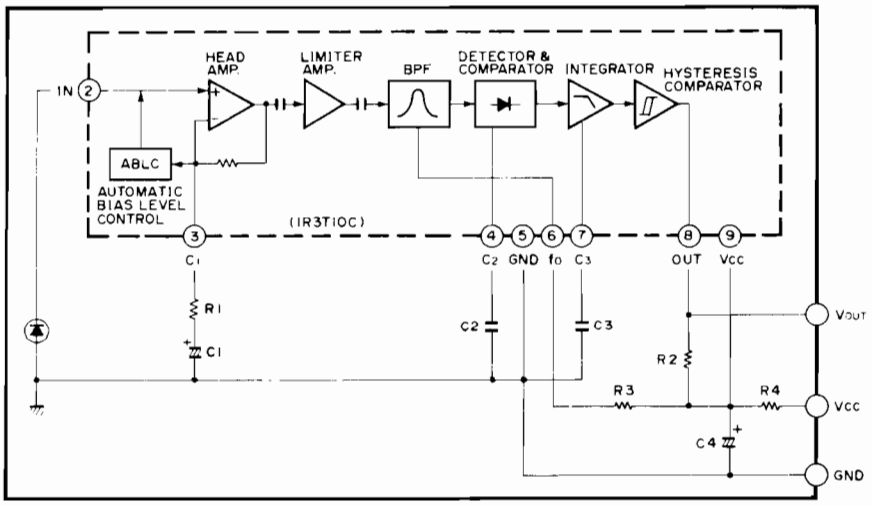
Pin No.	Pin Name	Description	I O	Active	Function
1	Vcc	VDD			+ 5 V
2	P67	D7	O	H	Digitline
3	P66	D6	O	H	
4	P65	D5	O	H	
5	P64	D4	O	H	
6	P63	D3	O	H	
7	P62	D2	O	H	
8	P61	D1	O	H	
9	P60	D0	O	H	
10	P47	UP	O	H	Volume control (Not use) UP
11	P46	DN	O	H	DOWN
12	P45	HB	O	H	Hi−Bit DIRECT OUT Control
13	P44	MODE	I	H/L	Mode switch
14	P43	OPEN	O	H	Loading motor Control TRAY OUT
15	P42	CLOSE	O	H	TRAY IN
16	P41	LASER	O	H	Laser switch
17	P40	$\overline{PLAY}$	O	H	PLAY mode signal
18	P37/$\overline{SRDY}$				N.C.
19	P36/CLK	$\overline{SCK}$	O		SPC Interface
20	P35/TXD	SO	O		
21	P34/RXD	SI	I		
22	P33/CNTR	R/W	O		
23	P32/$\overline{INT2}$				N.C.
24	P31	WQ	I		SPC Interface
25	P30	$\overline{SCK}$	O		
26	$\overline{INT1}$	$\overline{INT}$			
27	CNVSS	CNVSS			GND
28	$\overline{RESET}$		I		Reset
29	×IN	×I	I		Clock (8MHz)
30	×OUT	×O	O		
31	ϕ	CLK	O		Clock
32	Vss	Vss			GND
33	P57	BAK	I	H	Back up DET.
34	P56	ORS	I		
35	P55	R5	I		Remote Control
36	P54	R4	I		
37	P53	R3	I		
38	P52	R2	I		
39	P51	R1	I		
40	P50	R0	I		
41	P17	K	O	H	FLT segment
42	P16	CLSW	I	L	END switch (OPEN/CLOSE)
43	P15	OPSW	I	L	
44	P14	K3	I		KEY input line
45	P13	K2	I		
46	P12	K1	I		
47	P11	K0	I		
48	P10	j	O	H	FLT segment
49	P07	i	O	H	
50	P06	2g	O	H	
51	P05	2f	O	H	
52	P04	2e	O	H	
53	P03	2d	O	H	
54	P02	2c	O	H	
55	P01	2b	O	H	
56	P00	2a	O	H	
57	P27	h	O	H	
58	P26	1g	O	H	
59	P25	1f	O	H	
60	P24	1e	O	H	
61	P23	1d	O	H	
62	P22	1c	O	H	
63	P21	1b	O	H	
64	P20	1a	O	H	

IC302: LU59526
4 bit μ-COM

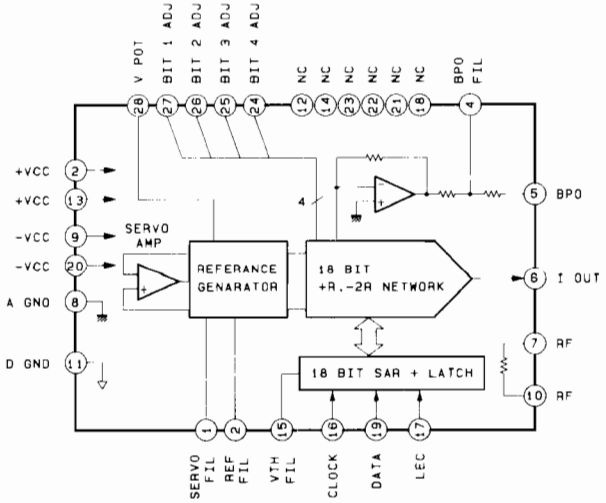




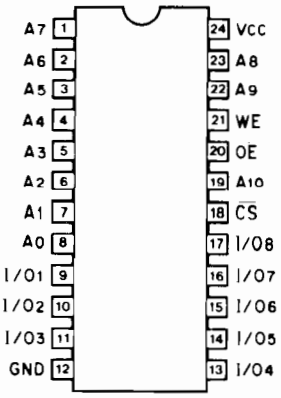
U301: GP1U501X

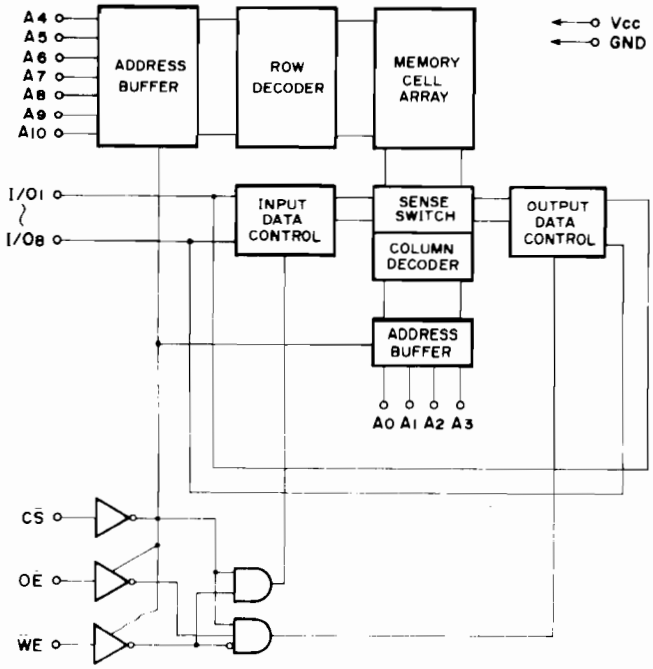


IC15, 16: PCM58P-X
D/A Converter

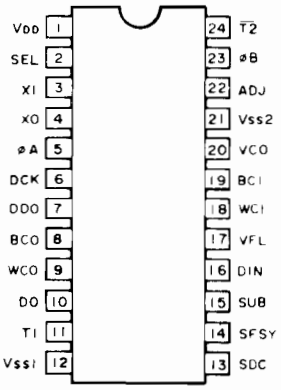


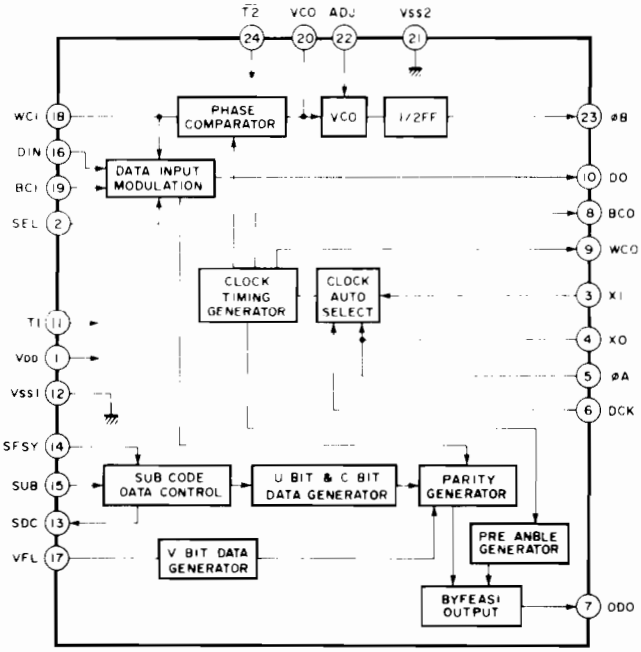
IC9: μPD4016-CX, LC3517B-15, TMM2015BP, TMM2016BP, CXK5816SP, CXK5816PS or CXK5816PN
2048-Word x 8 bit Static RAM



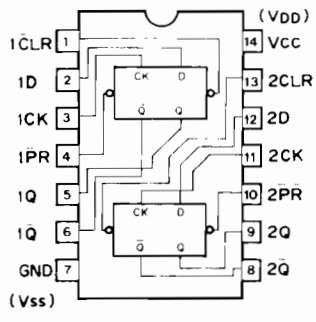


IC10: YM3613B
Digital Audio Interface Transmitter (DIT)



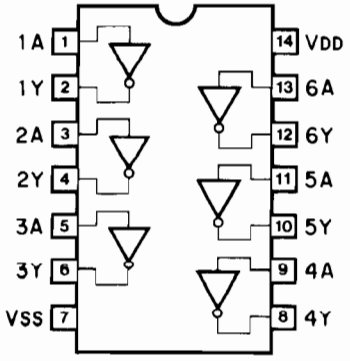


IC30: TC74HC74P, μPD74HC74C, M74HC74P or MN74HC74
Dual D-Type Flip-Flop

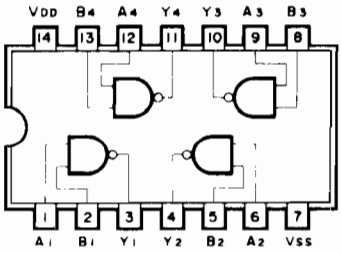


INPUTS				OUTPUTS
PRESET	CLEAR	CLOCK	D	Q — $\bar{Q}$
L	H	X	X	H L
H	L	X	X	L H
L	L	X	X	H° H°
H	H	↑	H	H L
H	H	↑	L	L H
H	H	L	X	Qo $\bar{Q}$o

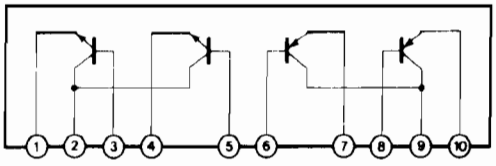
IC29: TC74HC04P, μPD74HC04C, M74HC04P or MN74HC04
Hex Inverter



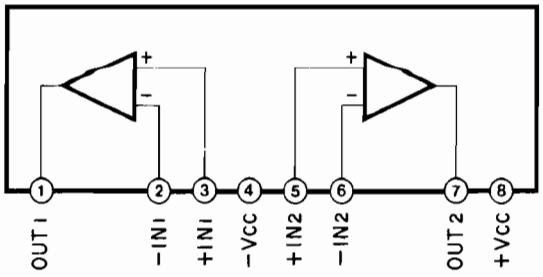
IC11: TC74HC00P
Quad 2-Input NAND Gate



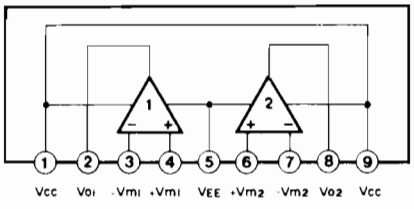
IC25: STA451C
Transistor Array



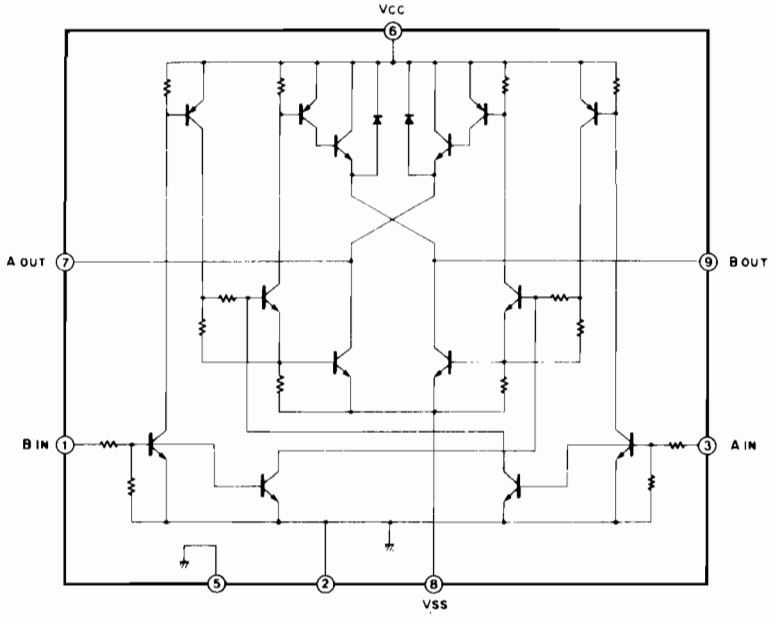
IC401: M5218L
Dual Ope-amp



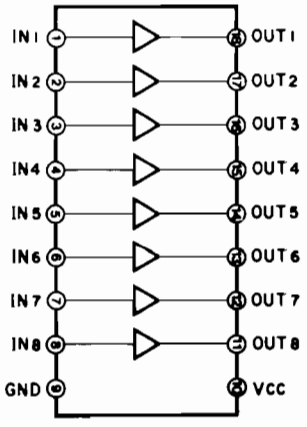
IC1, 2, 5 ~ 7, 22: NJM4558S
IC3, 4: NJM2043S
IC23, 24, 26, 27: μPC4570HA
Dual Ope-amp



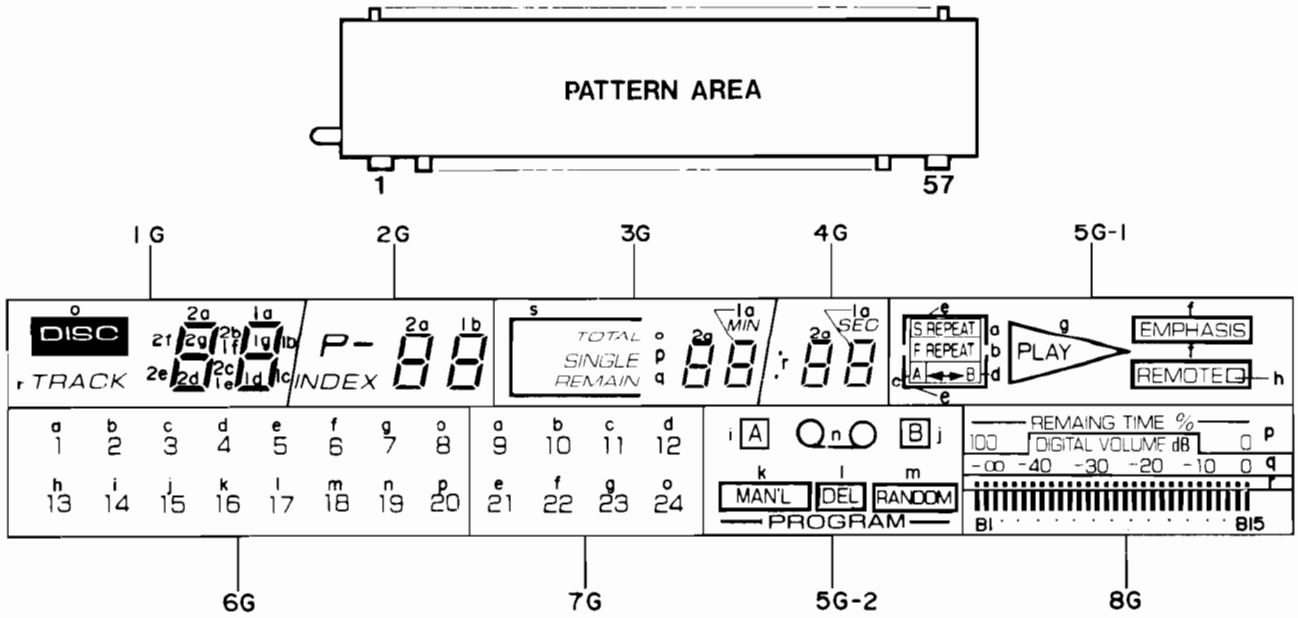
IC12: BA6218
Motor Driver



IC303 ~ 305: M54564P
LED Driver



■DISPLAY DATA

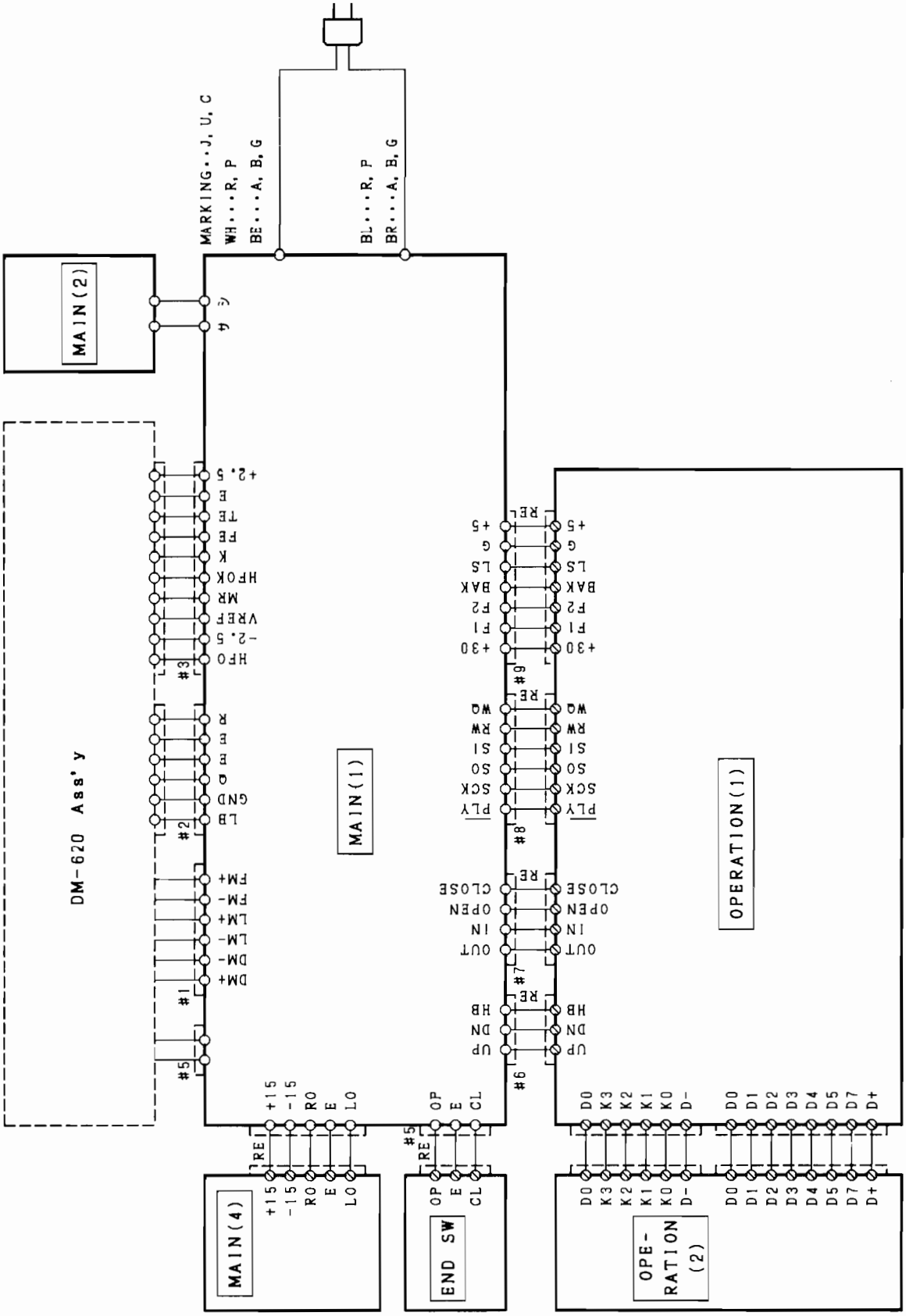


PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
CONNECTION	F 1	F 1	N P	7 G	6 G	N C	4 G	3 G	2 G	1 G	N P	N P	a	b	c	d	N P	e	f	g	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P	N P

PIN NO.	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
CONNECTION	h	N P	i	j	k	5 G	ℓ	m	8 G	n	N P	o	p	N P	q	r	s	t	N P	N P	N P	F 2	F 2

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

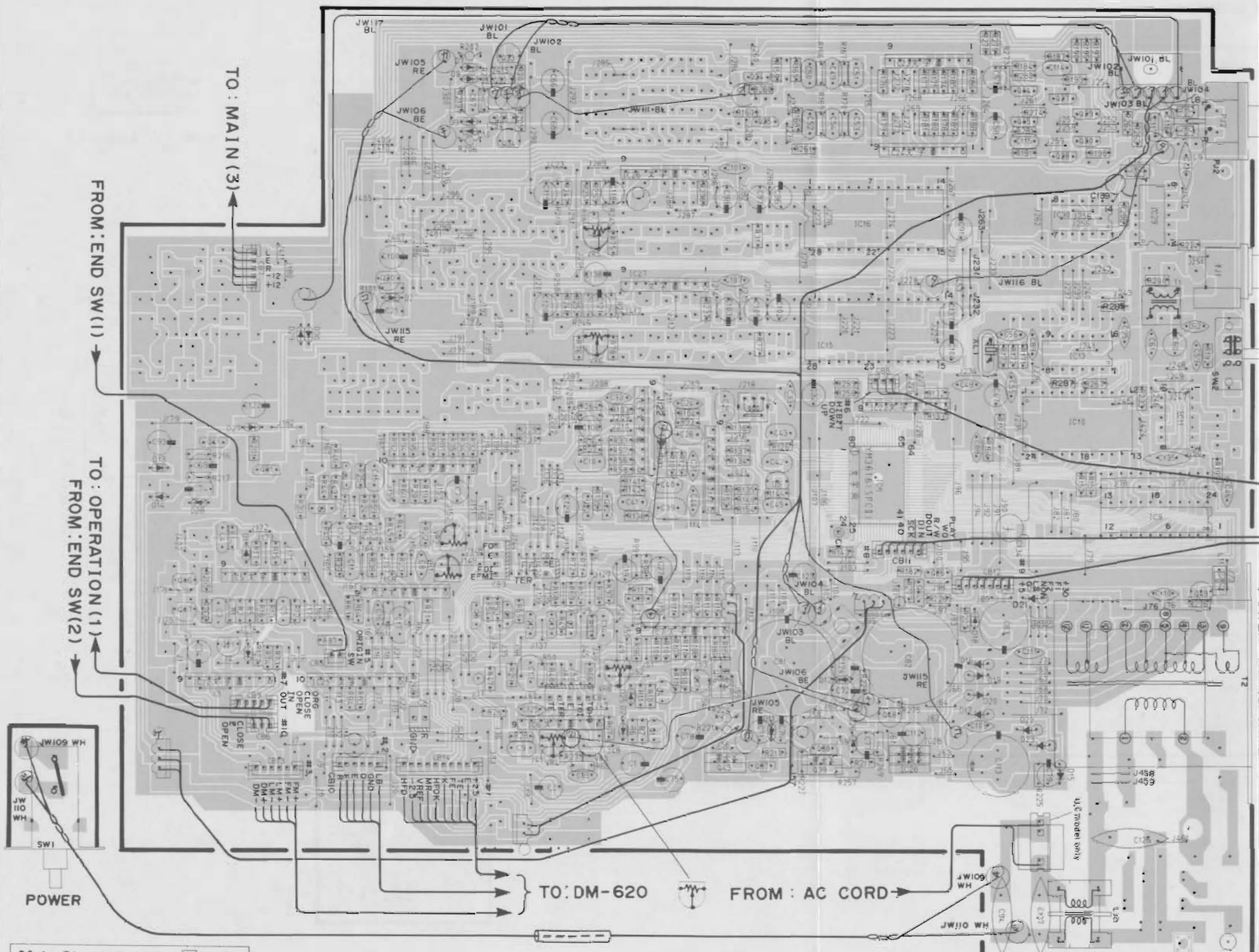
■INTERCONNECT WIRING DIAGRAM



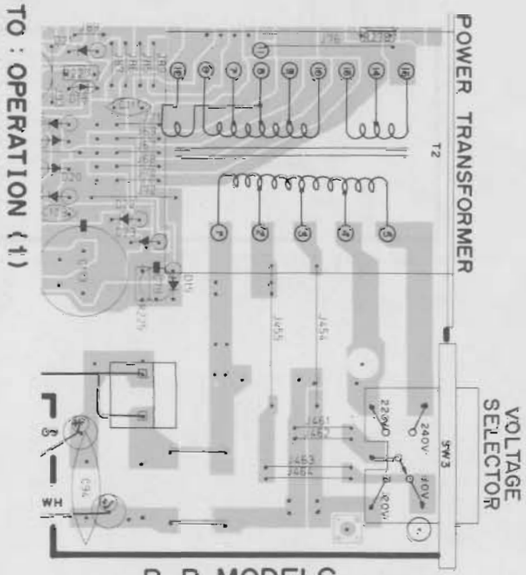
■PRINTED CIRCUIT BOARD(Foil side)

Note) 文字面 : Component side

Main Circuit Board E (1)



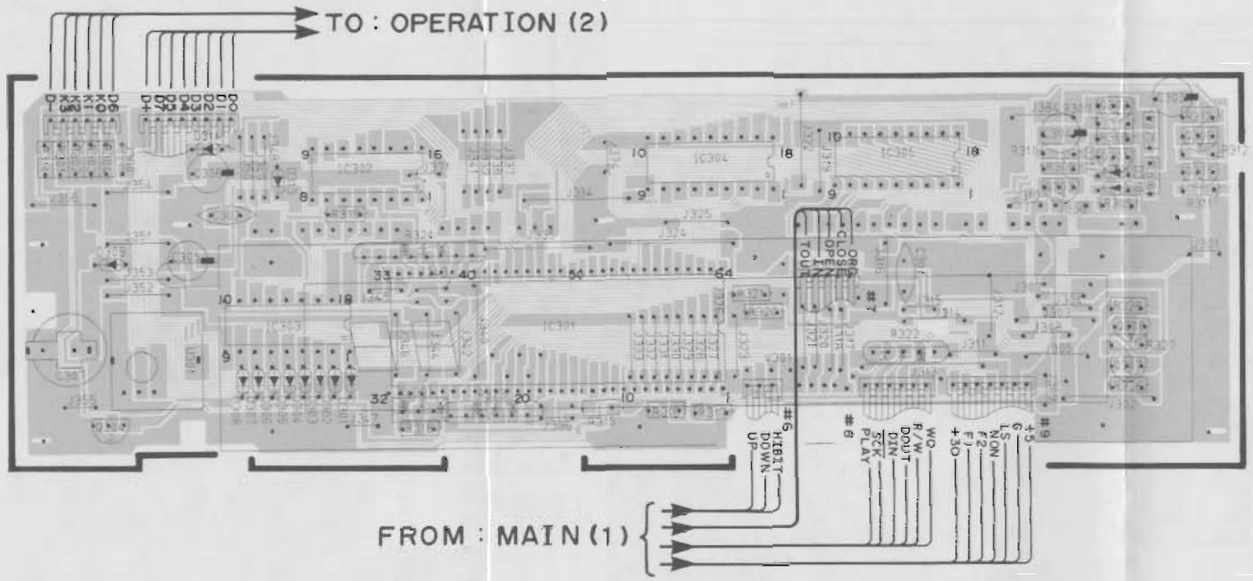
Main Circuit Board E (2)



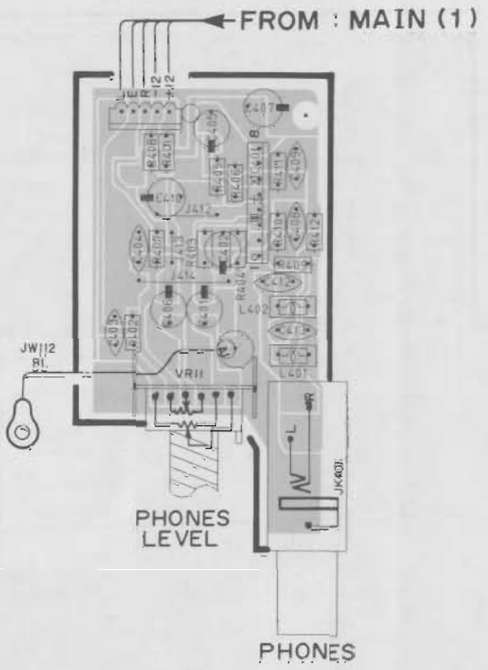
■PRINTED CIRCUIT BOARD(Foil side)

Note) 文字面 : Component side

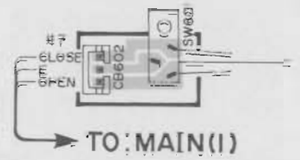
Operation Circuit Board F (1)



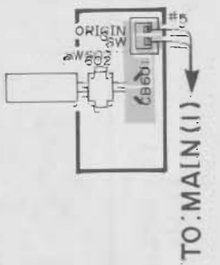
Main Circuit Board E (3)



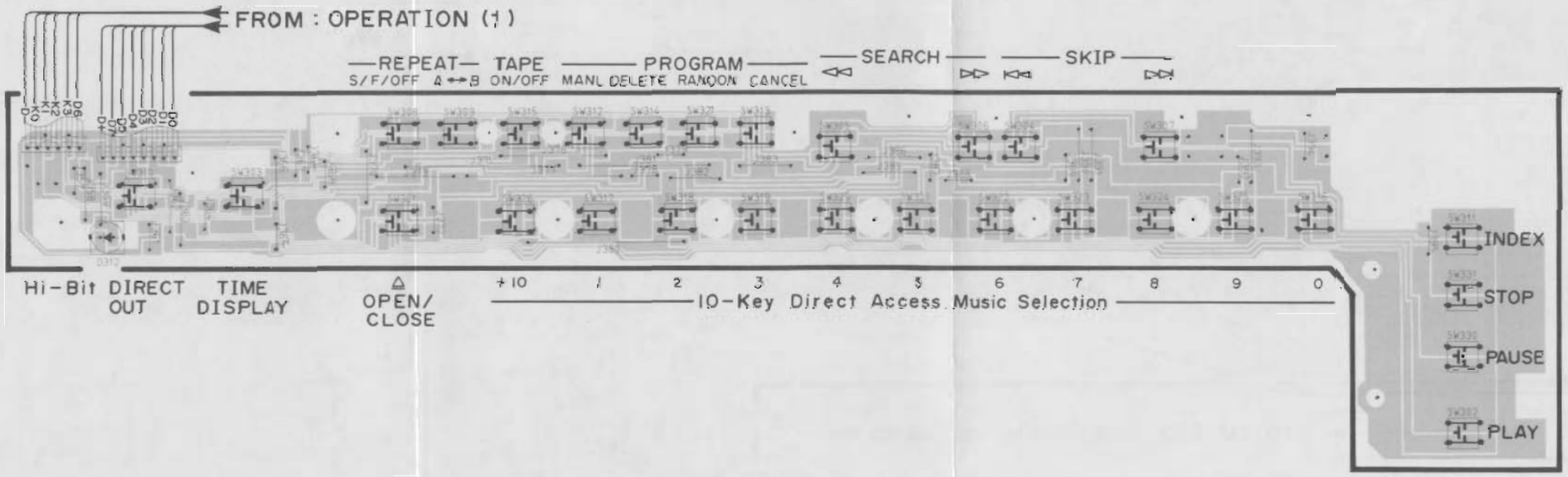
END SW Circuit Board B (2)



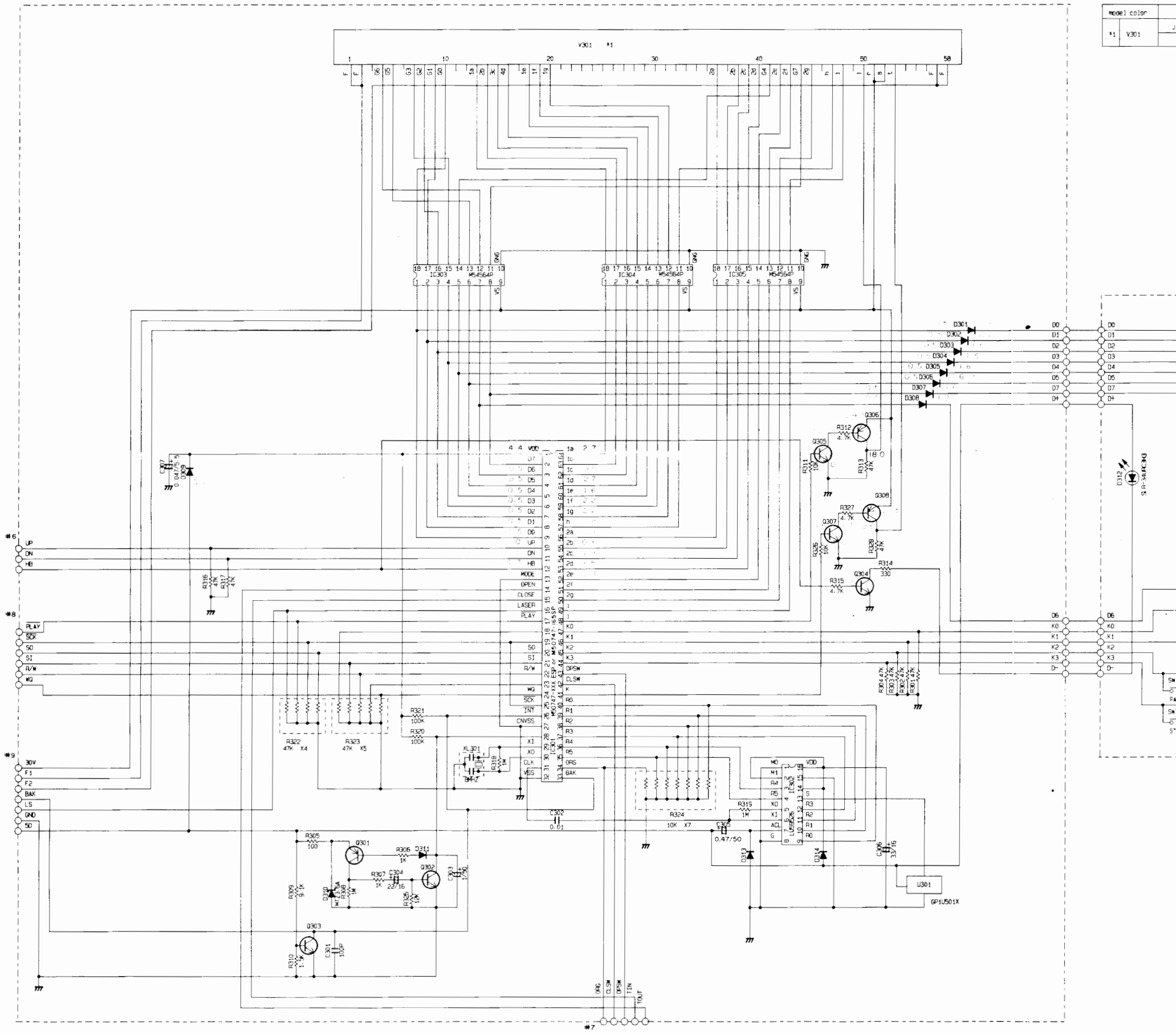
END SW Circuit Board B (1)



Operation Circuit Board F (2)



■SCHEMATIC DIAGRAM

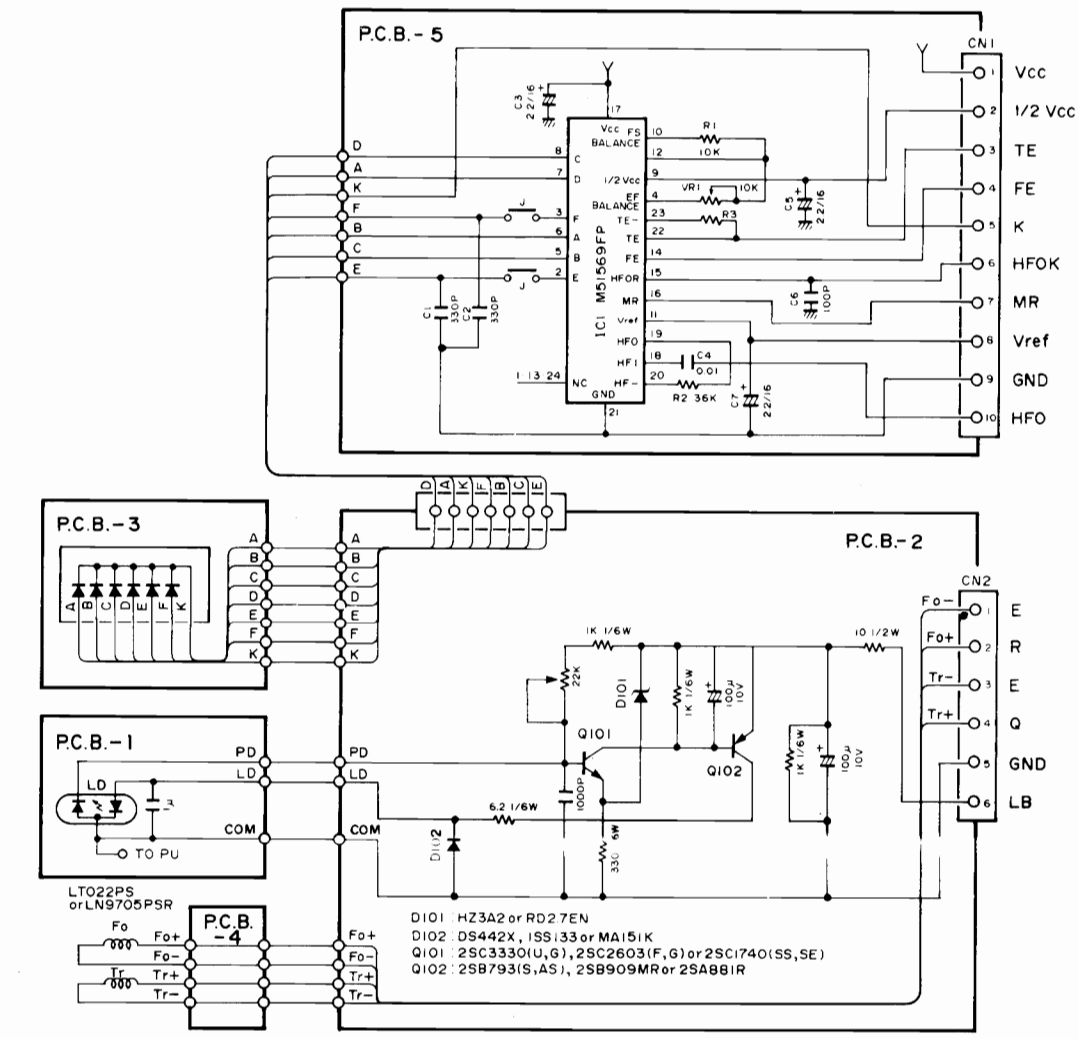


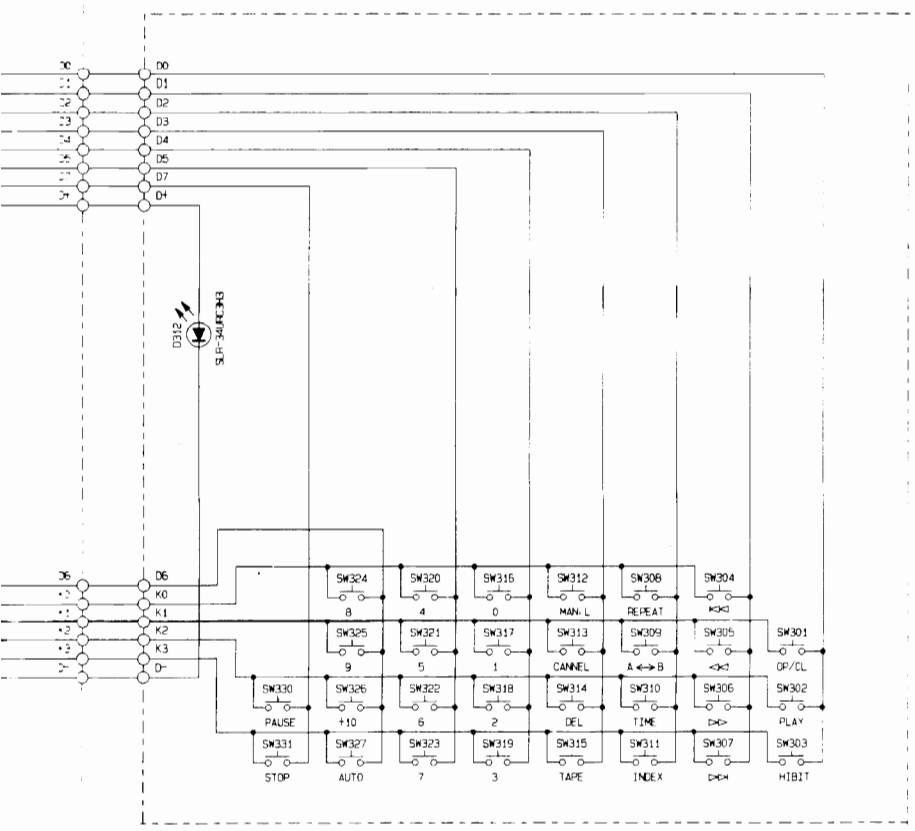
PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

2SA933S (Q, R) 2SA1115 (E, F) 2SA1310 (R, S, T) 2SA934 2SB544 2SC1740S (S, R) 2SC2603 (E, F) 2SC3312 (R, S, T) 2SC2060 2SD400	2SC2878 (A, B) 2SC3327 2SD1915	2SD1913 (R, S)* 2SD2012	ISS133 ISR35-100AT-93X MTZJ3.6A MTZ5.6C MTZ7.5A MTZ12C MTZ11B MTZ11C MTZ3.6A	ISV55 SVC211	M5218L	NJM4558S BA6218 μPC4570HA NJM2043S	STA451C	TC74HC00P TC74HC04P μPD74HC04C M74HC04P MN74HC04 M74HC74P MN74HC74 TC74HC74P μPD74HC74C	μPD4016-CX TMM2015BP TMM2016BP CXK5816SP CXK5816PN CXK5816PS LC3517B-15 YM3613B	L7805ML AN7805F	PCM58P-X	YM

model	color	Y1	S1	BL	BL
*1	V301	J.U.C.R.A.B.G.P	U.C.R.A.B.G.P	U.C.R.A.B.G.P	J
		FV314G	FV352GH	→	FV314S

OPTICAL PICK UP HEAD (TAOHS-JP3)





Q301, 306, 308	2SA1115(E,F)
Q302, 303~305, 307	2SC2603(E,F)

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
▨	CARBON FILM RESISTOR
△	METAL OXIDE FILM RESISTOR
▲	METEL FILM RESISTOR
⊠	METEL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

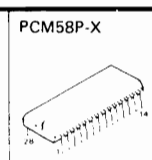
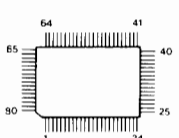
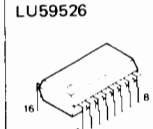
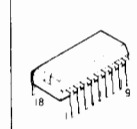
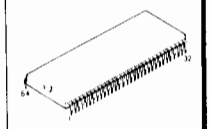
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⫪
NO MARK	CERAMIC CAPACITOR	⫫
ⓔ	POLYESTEL FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
Ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

	LAST NO.	UN LISTED NO.
C	307	
R	328	
Q	308	
D	314	

NOTICE
(U)····· U.S.A model
(C)····· Canadian model
(A)····· Australian model
(G)····· European model
(B)····· British model
(R)····· General model
(P)····· RP model

Unless otherwise specified

PNP TRANSISTOR	
NPN TRANSISTOR	
DIODE	1SS133

	PCM58P-X	YM3616	YM3414 LU59526	M54564P	M50747-165SP
					

* *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

Q16	2SD1913(R.S)or2SD2012
Q6.32.38.42	2SA933S(Q.R)or2SA1115(E.F)or2SA1313(R.S.T)
Q1.17.34.47.48.49	2SA634 or 2SB544
Q8.9.19.22.23.26 Q31.35.37.41	2SC1740S(S.R)or2SC2603(E.F)or2SC3312(F.S.T
Q4.20.21.33.45	2SC2050 or 2SD400
Q5.7.12.13.24.25 Q27.30.44.45	2SC2878(A.B)or2SC3327 or2SD1915
Q39.43	2SD1913(R.S)

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
▨	CARBON FILM RESISTOR
△	METAL OXIDE FILM RESISTOR
▲	METEL FILM RESISTOR
⊠	METEL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP 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	

F G H I J K

DIDITAL..ON/OFF

U, C, A, B, G models

R, P models

DIGITAL MUTE

MAIN 3

HEAD PHONE AMP

	J	U, C, R, A, B, G, P
* 10	SHORT	470
* 11	OPEN	33
* 12	OPEN	68pH
* 13	◎ 0.047	• 0.125
* 14	OPEN	0.125
* 15	OPEN	15
* 16	1000P	• 0.125
* 17	OPEN	0.01
* 18		

	J	U, C	R, P	A, B	G
* 1	SHORT	68μH			
* 2	XL326	XL326	XF302	XF327	XF332
* 3	OPEN		VG38978	OPEN	
* 4	VA77862	VI8007D	OPEN	VA77858	VA2007D
* 5	2SJ380		OPEN	2SJ380	
* 6	2SJ568	2SJ568			
* 7	2SC372	68μH			
* 8	2SJ08F	OPEN			

NOTICE
(U)····· U.S.A model
(C)····· Canadian model
(A)····· Australian model
(G)····· European model
(B)····· British model
(R)····· General model
(P)····· RP model

Unless otherwise specified
PNP TRANSISTOR
NPN TRANSISTOR
DIODE 1SS133

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

PARTS LIST

■ 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 resistors, refer to p. 51.

■ELECTRICAL PARTS

Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※	VG 33 09 00	Main Circuit Board		メインシート	Titan		J	
※	VG 33 10 00	〃		〃	〃		U,C	
※	VG 33 16 00	〃		〃	〃		R,P	
※	VG 33 17 00	〃		〃	〃		A,B	
※	VG 33 18 00	〃		〃	〃		G	
※	VG 25 13 00	〃		〃	Black		J	
※	VG 25 14 00	〃		〃	Black,Silver		U,C	
※	VG 25 15 00	〃		〃	〃		R,P	
※	VG 25 16 00	〃		〃	〃		A,B	
※	VG 25 17 00	〃		〃	〃		G	
	FG 21 11 50	Ceramic Cap.	15pF 50V	セラコン	C24,408,409			
	FG 21 12 20	〃	22pF 50V	〃	C30,318,101,107			
	FG 21 12 70	〃	27pF 50V	〃	C18			
	FG 21 13 30	〃	33pF 50V	〃	C44			
	FG 21 14 70	〃	47pF 50V	〃	C125			
	FG 21 21 00	〃	100pF 50V	〃	C8			
	FG 21 21 80	〃	180pF 50V	〃	C88			
	FG 11 25 60	〃	560pF 50V	〃	C16,61,62,403,404			
	FG 11 25 60	〃	560pF 50V	〃	C65		J	
	FG 21 31 00	〃	1000pF 50V	〃	C59		J	
	FZ 00 41 30	Semiconductive Ceramic Cap	0.1μF 25V	半導体セラコン	〃		U,C,R,A,B,G,P	
⚠	FG 24 41 00	Ceramic Cap	0.01μF 50V	セラコン	C46,48,89,109～111,412,413			
⚠	FG 24 41 00	〃	0.01μF 50V	〃	C139		U,C,R,A,B,G,P	
	FZ 00 41 30	Semiconductive Ceramic Cap	0.1μF 25V	半導体セラコン	C95,134			
	FZ 00 41 30	〃	0.1μF 25V	〃	C135,136		U,C,R,A,B,G,P	
	FZ 00 41 30	〃	0.1μF 25V	〃	C33		U,C,R,A,B,G,P	
	FA 15 44 70	Mylar Cap	0.047μF 50V	マイラーコン	〃		J	
	VA 76 11 00	Ceramic Cap	27pF 50V(CH)	セラコン	C55,56		U,C,R,A,B,G,P	
	FU 35 12 70	Mica Cap.	27pF 500V	マイカコン	〃		J	
⚠	VE 17 92 00	Ceramic Cap.	0.01μF 400V	セラコン	C94			
	VE 17 92 00	〃	0.01μF 400V	〃	C126,127		J,U,C,A,B,G	
	FZ 00 55 80	Mylar Cap.	0.047μF 50V	銅リードマイラーコン	C43			
	FA 15 31 00	〃	1000pF 50V	マイラーコン	C45			
	FA 15 32 20	〃	2200pF 50V	〃	C5			
	FA 15 32 40	〃	2400pF 50V	〃	C51,53			
	FA 15 33 90	〃	3900pF 50V	〃	C40			
	FA 15 41 00	〃	0.01μF 50V	〃	C15,42			
	FA 15 41 20	〃	0.012μF 50V	〃	C9			
	FA 15 41 80	〃	0.018μF 50V	〃	C41			
	FA 15 42 40	〃	0.024μF 50V	〃	C50,52			
	FA 15 43 30	〃	0.033μF 50V	〃	C11			
	FA 15 43 90	〃	0.039μF 50V	〃	C49,54			
	FA 15 44 70	〃	0.047μF 50V	〃	C3			
	FA 15 46 80	〃	0.068μF 50V	〃	C4,25,26			
	FA 15 47 50	〃	0.075μF 50V	〃	C114,115			
	FA 15 51 00	〃	0.1μF 50V	〃	C10,67			
	FA 15 52 40	〃	0.24μF 50V	〃	C39			
	FA 15 52 70	〃	0.27μF 50V	〃	C17			
	FA 15 53 90	〃	0.39μF 50V	〃	C14			
	FA 15 58 20	〃	0.82μF 50V	〃	C13			
	UJ 11 82 20	Electrolytic Cap.	220μF 6.3V	ケミコン	C100			
	UJ 11 81 00	〃	100μF 6.3V	〃	C129			
⚠	UJ 41 83 30	〃	330μF 6.3V	〃	C112			

※New Parts（新規部品）NR

Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
	UJ 12 81 00	Electrolytic Cap.	100μF 10V	ケミコン	C12,27			
	UJ 13 71 00	〃	10μF 16V	〃	C119,120,124,401,406			
	UJ 13 73 30	〃	33μF 16V	〃	C47,60,402,405			
	UJ 13 74 70	〃	47μF 16V	〃	C1,2,21,32,34,66			
	UJ 13 81 00	〃	100μF 16V	〃	C71,72,74			⚠
	UJ 13 82 20	〃	220μF 16V	〃	C122,400,410			
	VG 28 80 00	〃	1000μF 16V	〃	C123			⚠
	VG 28 82 00	〃	3300μF 16V	〃	C113			
	UJ 14 82 20	〃	220μF 25V	〃	C75,78,93			⚠
	UJ 16 61 00	〃	1μF 50V	〃	C69,108			
	UJ 16 62 20	〃	2.2μF 50V	〃	C7,19			
	UJ 46 63 30	〃	3.3μF 50V	〃	C91,96～98,102～105,137,138			
	UJ 16 64 70	〃	4.7μF 50V	〃	C76,77,118,121			
	UJ 16 74 70	〃	47μF 50V	〃	C79			
	VG 29 16 00	〃	470μF 50V	〃	C83			⚠
	VH 28 58 00	〃	4700μF 50V	フロックケミコン	C81,82			⚠
	VE 01 87 00	〃	100μF 25V	ケミコン	C57,58			
	UT 45 24 70	Polypropylene Film Cap.	470pF 100V	ホリフロコン	C116,117			
	GE 90 20 00	OSC Coil	3.3μH	発振コイル	L4			
	VD 47 37 00	SB Coil	60μH	コイル	L401,402			
	VD 47 37 00	〃	60μH	〃	L8,9,11,12		U,C,R,A,B,G,P	
	VA 77 84 00	Line Filter	1.5mH	ラインフィルター	L10		J,A,B	
	VE 80 07 00	〃	ELF18D 290V	〃	〃		U,C,G	
	VC 54 82 00	Coil		ハルストランス	T1			
✣	XF 30 1A 00	Power Transformer		電源トランス	T2		J	⚠
✣	XF 32 6A 00	〃		〃	〃		U,C	⚠
✣	XF 32 8A 00	〃		〃	〃		R,P	⚠
✣	XF 32 7A 00	〃		〃	〃		A,B	⚠
✣	XF 33 2A 00	〃		〃	〃		G	⚠
	VE 59 47 00	Metal Film Resistor	2.2kΩ 1/6W	金属被膜抵抗	R135,140			
	VE 59 48 00	〃	22kΩ 1/6W	〃	R134,137			
	HV 45 34 70	Flame Proof Carbon Resistor	4.7Ω 1/4W	不燃化カーボン抵抗	R221,224			
	HV 45 42 20	〃	22Ω 1/4W	〃	R202,206			
	VC 61 25 00	Pre Set Potentiometer	B68kΩ	半固定抵抗	VR1			
	VB 86 19 00	〃	B100kΩ	〃	VR2,3,5,6			
	VB 86 21 00	〃	B330kΩ	〃	VR4			
	VB 86 22 00	〃	B470kΩ	〃	VR8			
	VC 50 93 00	Potentiometer	50KA×2	ロータリーボリューム	VR11			
	iA 09 33 00	Transistor	2SA933S(Q,R)	トランジスタ	Q6,32,38,42	Inter-changeable		
	iA 11 15 10	〃	2SA1115(E,F)	〃	〃			
	iX 60 31 70	〃	2SA1310(R,S,T)	〃	〃			
	iA 09 34 10	〃	2SA934(P,Q,R)	〃	Q1,17,34,47～49	Inter-changeable		
	iB 05 44 00	〃	2SB544(E,F)	〃	〃			
	iC 17 40 00	〃	2SC1740S(R,S,T)	〃	Q8,9,19,22,23,26,31,35,37,41	Inter-changeable		
	iC 26 03 10	〃	2SC2603(E,F)	〃	〃			
	iX 60 31 80	〃	2SC3312(R,S,T)	〃	〃			
	iC 20 60 00	〃	2SC2060	〃	Q4,20,21,33,46	Inter-changeable		
	iD 04 00 00	〃	2SD400	〃	〃			

✣New Parts（新規部品）NR

Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
	iX 60 42 00	Transistor	2SC2878(A,B)	トランジスタ	Q5,7,12,13,24,25,27～30,44,45	Inter-changeable		
	VC 50 21 00	〃	2SD1915	〃	〃			
	VC 40 79 00	〃	2SD1913(R,S)	〃	Q16,39,43			⚠
	iF 00 34 50	Diode	ISS133	ダイオード	D1,7～10,13,14,27,29～31			⚠
	iH 00 14 30	〃	ISR35-100AT	〃	D15～17,19～23			⚠
	VG 43 62 00	Zener Diode	MTZJ3.6A	ツェナーダイオード	D18,24,25			
	iF 01 07 20	〃	MTZ5.6C	〃	D2			
	iF 01 07 90	〃	MTZ7.5A	〃	D4,26			
	iF 00 88 70	〃	MTZ12C	〃	D12			
	iF 00 88 30	〃	MTZ11B	〃	D11			
	iF 00 84 00	〃	MTZ11C	〃	D28			
	iF 00 49 10	Varactor Diode	ISV55	FMバラクターダイオード	D5	Inter-changeable		
	iF 00 49 20	〃	SVC211	〃	〃	Inter-changeable		
	iG 05 82 10	IC	M5218L	IC	IC401			
	iG 07 68 00	〃	NJM4558S	〃	IC1,2,5～7,22			
	iG 11 94 00	〃	STA451C	〃	IC25			
	iG 53 50 00	〃	BA6218	〃	IC12			
	iR 00 04 00	〃	TC74HC04P	〃	IC29	Inter-changeable		
	iR 00 04 80	〃	M74HC04P	〃	〃	Inter-changeable		
	iR 00 00 00	〃	TC74HC00P	〃	IC11			
	iR 00 74 00	〃	TC74HC74P	〃	IC30	Inter-changeable		
	iR 00 74 80	〃	M74HC74P	〃	〃	Inter-changeable		
	XB 24 70 01	〃	μPC4570HA	〃	IC23,24,26,27			
	iG 08 02 00	〃	NJM2043S	〃	IC3,4			
	iG 11 92 00	〃	μPD4016-CX	〃	IC9	Inter-changeable		
	XD 84 30 01	〃	TMM2016BP	〃	〃	Inter-changeable		
	XD 87 60 01	〃	CXK5816PN	〃	〃	Inter-changeable		
	XE 09 70 01	〃	CXK5816PS	〃	〃	Inter-changeable		
※	XE 82 6A 00	〃	L7805ML	〃	IC28			
※	XF 30 0A 00	〃	PCM58P-X	〃	IC15,16			
	XB 69 80 01	〃	YM3616	〃	IC8			
	XC 85 30 01	〃	YM3613B	〃	IC10			
	XD 71 20 01	〃	YM3414	〃	IC13			
	VC 39 88 00	Quartz Crystal Unit	16.93MHz	水晶振動子	XL1			
	KA 40 14 30	Slide Switch	SSSU12	スライドスイッチ	SW2			
	VC 40 97 00	Switch	TV-4	パワースイッチ	SW1			⚠
※	VG 38 81 00	Voltage Selector		電圧切換器	SW3		R,P	⚠
	LB 30 24 30	Phone Jack	Black	ホーンジャック	JK401 Silver,Black			
	VA 31 63 00	〃	Gold	〃	〃 Titan			
	VG 02 01 00	Pin Jack	1P	ピンジャック	PJ1			
	LB 20 26 10	〃	2P	〃	PJ2		J	
	VF 09 65 00	〃	2P	〃	〃		U,C,R,A,B,G,P	
	VG 06 72 00	Optical Module		光伝送モジュール	U1		J	
	LB 20 13 90	Base Pin	2P TE-Type	2.5ピッチベースピン	CB1,2			
	LB 40 05 70	〃	4P TE-Type	〃	CB3			

※New Parts（新規部品）NR

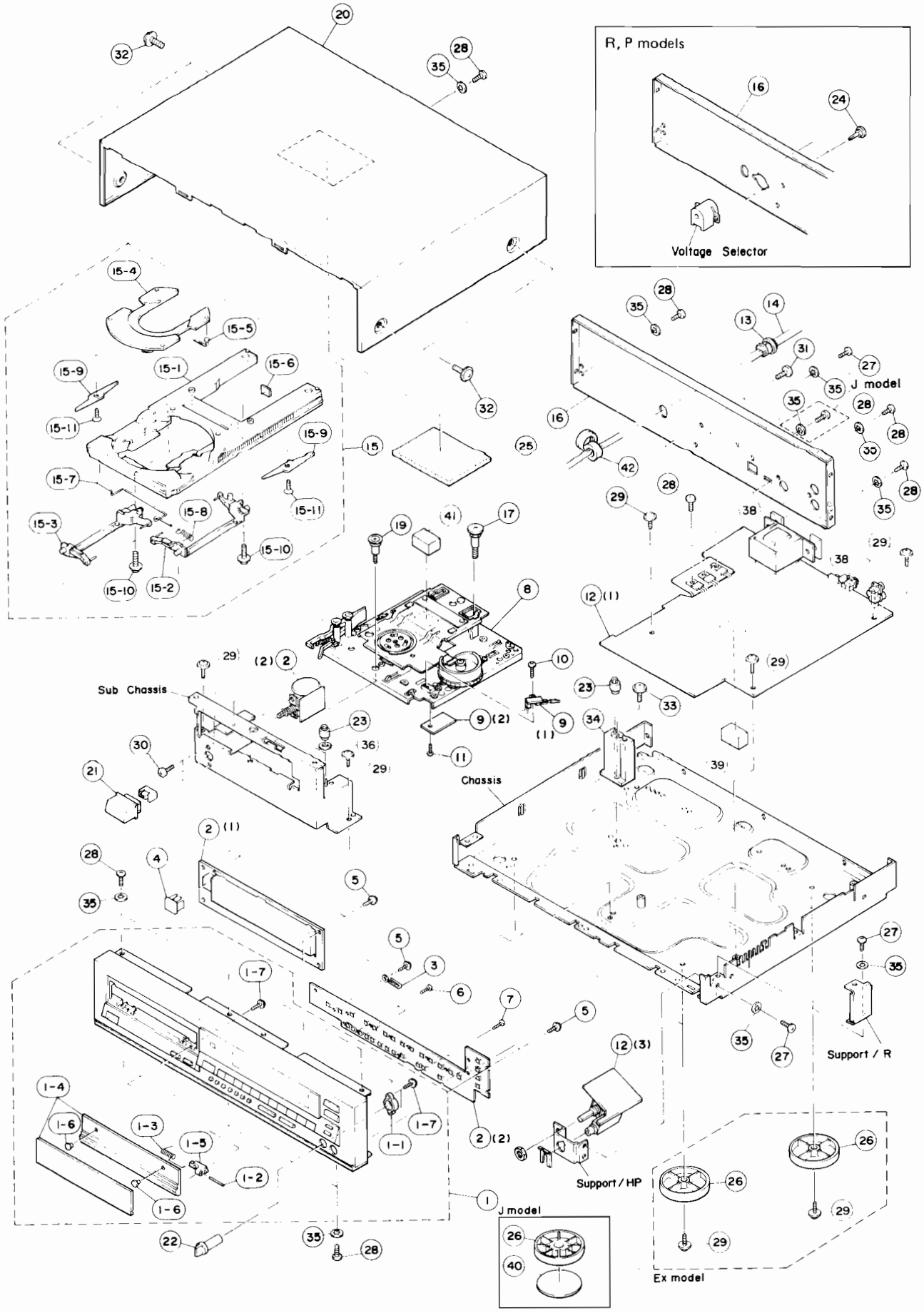
Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
	LB 50 02 50	Base Pin 5P TE-Type	2.5ピッチベースピン	CB4			
	VD 00 45 00	〃 2P i-Type	PHベースピン	CB5			
	VD 00 46 00	〃 3P i Type	〃	CB6,8			
	VD 00 48 00	〃 5P i-Type	〃	CB7,9			
	VD 00 49 00	〃 6P i-Type	〃	CB10,11,13			
	VD 00 50 00	〃 7P i-Type	〃	CB12			
	VD 00 53 00	〃 10P i-Type	〃	CB14			
	VE 80 85 00	Terminal, Screw M4	ネジ端子				
	VE 22 57 00	Base Post 2P P=7.5	ベースポスト			U,C,R,A,B,G,P	
	LA 00 41 20	Test Point Pin 1P	テストポイントピン				
	LA 00 21 40	Lapping Terminal 2P P=10 i-Type	i型ラッピング端子板			J,U,C	
	BB 06 95 10	Ground Plate	ランド金具				
	VG 79 91 00	Radiator	ラジエータ				
	CB 09 96 00	Plastic Rivet	プラスチックリベット				
	EI 33 00 86	Binding Head Tapping Screw 3×8 FCRM3-Bi	バイントタッピングネジ	PACK			
	CB 64 46 70	Cover	コンデンサカバー			G	

※New Parts（新規部品）NR

Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
❊	***VG 25 11 00***	***Operation Circuit Board***		オペレーションシート	Titan			
❊	***VG 25 11 00***	〃		〃	Black		J	
❊	***VG 83 45 00***	〃		〃	Black,Silver		U,C,R,A,B,G,P	
	FG 21 21 00	Ceramic Cap.	100pF 50V	セラコン	C301			
	FG 24 41 00	〃	0.01μF 50V	〃	C302			
	UM 39 72 20	Electrolytic Cap.	22μF 16V	ケミコン	C304			
	UM 39 73 30	〃	33μF 16V	〃	C306			
	UM 21 61 00	〃	1μF 50V	〃	C303			
	UM 41 54 70	〃	0.47μF 50V	〃	C305			
	VE 63 28 00	〃	0.047F 5.5V	スーパーキャパシタ	C307			
	VE 47 83 00	Resistor Array	47kΩ×4	抵抗アレイ	R322			
	VE 35 56 00	〃	47kΩ×5	〃	R323			
	HZ 00 45 40	〃	10kΩ×7	〃	R324			
	iA 11 15 10	Transistor	2SA1115(E,F)	トランジスタ	Q301,306,308			
	iC 26 03 10	〃	2SC2603(E,F)	〃	Q302～305,307			
	iF 00 34 50	Diode	1SS133	ダイオード	D301～309,311,313,314			
	iF 00 87 30	LED(Red)	SLR-34URC3H3	LED	D312			
	iF 00 88 00	Zener Diode	MTZ3.6A	ツェナーダイオード	D310			
	XC 25 00 01	IC	M54564P	IC	IC303～305			
❊	XF 31 1A 00	〃	LU59526	〃	IC302			
❊	XF 79 0A 00	〃	M50747-165SP	〃	IC301			
❊	VG 26 62 00	Display Unit	FV314G	蛍光表示管	V301 Titan			
❊	VG 26 62 00	〃	FV314G	〃	〃 Black		J	
❊	VG 80 58 00	〃	FV352GH	〃	〃 Black,Silver		U,C,R,A,B,G,P	
	VE 22 24 00	Ceramic Oscillator	8MHz	セラミック発振子	XL301			
	VF 32 73 00	Switch	KHH MA901	タクトスイッチ	SW301～327,330,331			
	VF 92 65 00	Receiver Unit	GP1U501X	受光ユニット	U301			
❊	VE 31 18 00	Support		サポート				
❊	VG 17 17 00	Sheet Filter		シートフィルター				
❊	***VG 31 65 00***	***END SW Circuit Board***		ENDSWシート				
	KA 90 63 70	END Switch	MSW-1485	ENDスイッチ	SW601			
❊	VG 21 71 00	Switch	MSW-1539	リーススイッチ	SW602			
	VD 00 45 00	Base Pin	2P I-Type	PHベースピン	CB601			
	VD 00 46 00	〃	3P I-Type	〃	CB602			

❊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	VG 25 02 00	Front Panel Ass'y	フロントパネル Ass'y	Black CDX-620		J	
❊	〃	VG 25 03 00	〃	〃	〃 CDX-820		U,C,G,P	
❊	〃	VG 25 04 00	〃	〃	〃 CD-3050		R,A,B	
❊	〃	VG 25 05 00	〃	〃	Titan CDX-620		J	
❊	〃	VG 25 06 00	〃	〃	〃 CDX-820		U,C,G,P	
❊	〃	VG 25 07 00	〃	〃	〃 CD-3050		R,A,B	
❊	〃	VG 25 08 00	〃	〃	Silver CDX-820		U,C,G,P	
❊	〃	VG 25 09 00	〃	〃	〃 CD-3050		R,A,B	
	1-1	VE 35 65 00	Guide, Knob	ノブカイド		CDX-810		
	1-2	VC 50 52 00	Shaft, Lid	シャフト リッド				
	1-3	VE 02 60 00	Spring, Lid	スプリング リッド		CDX-910		
❊	1-4	NX 60 33 50	Lid Ass'y	リッド Ass'y	Silver		U,C,R,A,B,G,P	
❊	〃	NX 60 33 60	〃	〃	Black		U,C,R,A,B,G,P	
❊	〃	NX 60 33 70	〃	〃	Titan		U,C,R,A,B,G,P	
❊	〃	NX 60 33 80	〃	〃	Black		J	
❊	〃	NX 60 33 90	〃	〃	Titan		J	
	1-5	VE 02 57 00	Fulcrum, Lid	リッド支点		CDX-910		
	1-6	VE 02 58 00	Cushion, Lid	クッションリッド		〃		
	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			
❊	2	VG 25 11 00	Operation Circuit Board	オペレーションシート	Black		J	
❊	〃	VG 25 11 00	〃	〃	Titan			
❊	〃	VG 83 45 00	〃	〃	Silver,Black		U,C,R,A,B,G,P	
	3	CB 09 58 80	Wire Stopper	束線止め				
	4	VD 94 08 00	Lens, Filter	レンズフィルター		KX-800		
	5	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			
	6	EI 02 00 66	Binding Head Tapping Screw	2×6 ZMC2-Y	バインドタッピングネジ	PACK		
	7	EJ 02 00 66	Pan Head Tapping Screw	2×6 ZMC2-Y	ナベタッピングネジ	PACK		
❊	8	VG 23 18 00	Disc Mechanism Unit	DM-620	DMユニット			
❊	9	VG 31 65 00	END SW Circuit Board		ENDSWシート	CDX-920		
	10	EI 32 61 06	Binding Head Tapping Screw	2.6×10 FCRM3-BI	バインドタッピングネジ	PACK		
	11	EI 32 60 56	〃	2.6×5 FCRM3-BI	〃	PACK		
❊	12	VG 25 13 00	Main Circuit Board	メインシート	Black		J	
❊	〃	VG 25 14 00	〃	〃	Silver,Black		U,C	
❊	〃	VG 25 15 00	〃	〃	〃 ,〃		R,P	
❊	〃	VG 25 16 00	〃	〃	〃 ,〃		A,B	
❊	〃	VG 25 17 00	〃	〃	〃 ,〃		G	
❊	〃	VG 33 09 00	〃	〃	Titan		J	
❊	〃	VG 33 10 00	〃	〃	〃		U,C	
❊	〃	VG 33 16 00	〃	〃	〃		R,P	
❊	〃	VG 33 17 00	〃	〃	〃		A,B	
❊	〃	VG 33 18 00	〃	〃	〃		G	
	13	CB 62 01 90	Cord Stopper	CM-22B	コードストッパー		R,A,B,G,P	
	〃	CB 62 02 00	〃	CM-22C	〃		J,U,C	
	14	MG 00 12 10	Power Cord	15A	電源コード		J	⚠
	〃	MG 00 22 20	〃	10A 125V	〃		U,C	⚠
	〃	VE 22 29 00	Power Cord Ass'y	電源コード Ass'y			R,P	⚠
	〃	VE 22 30 00	〃	〃			A	⚠
	〃	VE 22 31 00	〃	〃			B	⚠
	〃	VE 22 32 00	〃	〃			G	⚠
❊	15	VG 23 24 00	Tray Unit	トレイユニット	Black	CDX-920		
❊	〃	VG 23 26 00	〃	〃	Silver,Titan	〃		
❊	15-1	VG 23 33 00	Tray, Disc 2	トレイ ディスク2	Black			
❊	〃	VG 23 35 00	〃	〃	Silver,Titan			

❊New Parts (新規部品) NR

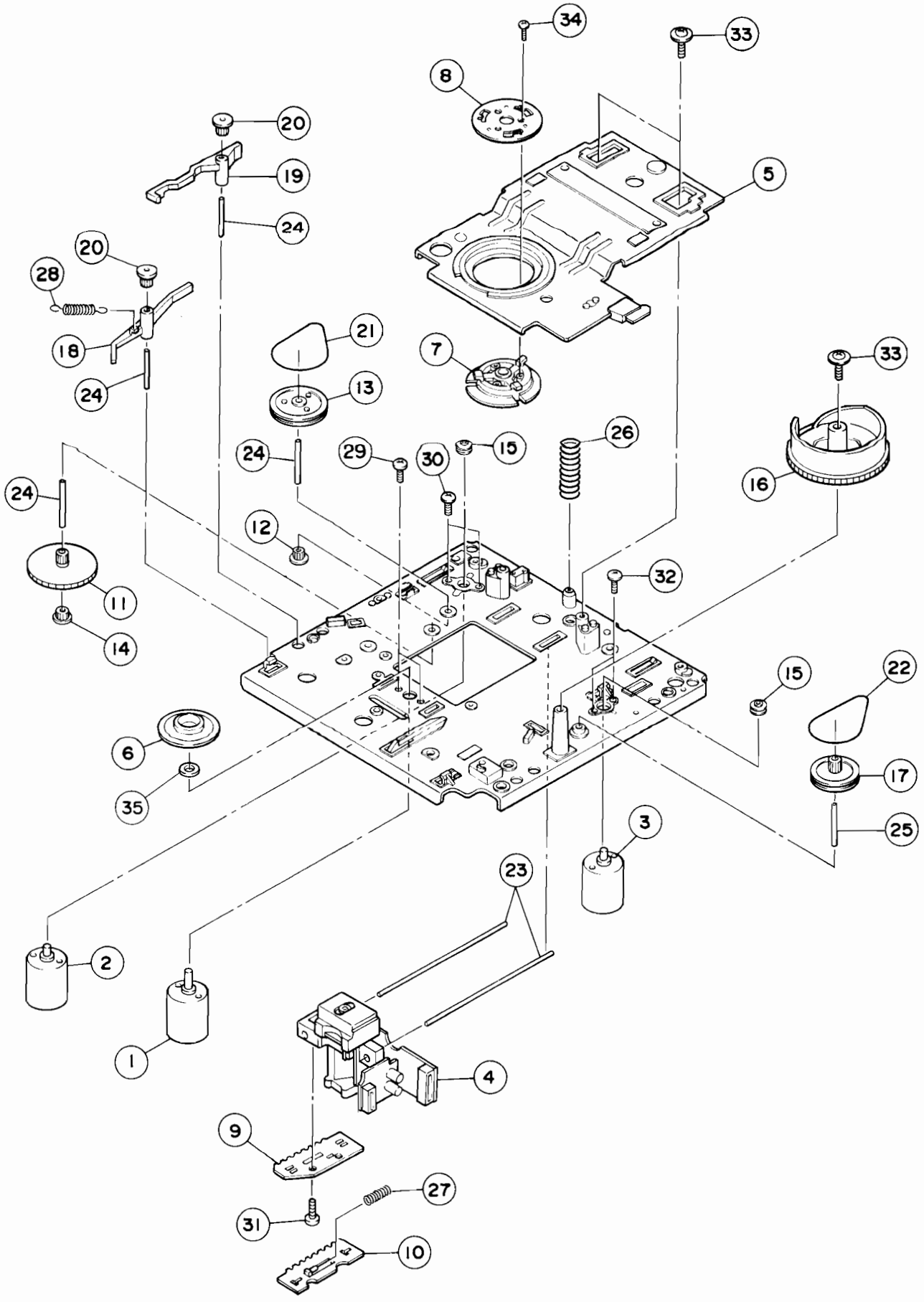
	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※	15-2	VG 23 27 00	Lifter Ass'y (L)		リフタ Ass'y (L)	Black			
※	〃	VG 23 29 00	〃		〃	Silver, Titan			
※	15-3	VG 23 30 00	Lifter Ass'y (R)		リフタ Ass'y (R)	Black			
※	〃	VG 23 32 00	〃		〃	Silver, Titan			
	15-4	VE 30 60 00	Plate		プレート 710	Black	CDX-910		
	〃	VE 45 36 00	〃		〃	Silver, Titan	〃		
	15-5	VE 04 16 00	Pad, Disc		ハッド ディスク		〃		
	15-6	CB 62 79 60	Cushion Rubber		クッションゴム				
※	15-7	VG 23 45 00	Shaft. Crank		シャフトクランク				
※	15-8	VG 23 46 00	Spring, Crank		スプリングクランク				
	15-9	VE 04 18 00	Spring, BE		スプリング BE		CDX-910		
	15-10	EX 60 02 40	BW Head Tapping Screw	3×8(φ10)FCRM3-BI	BWヘットタッピングネジ				
	15-11	EO 33 00 86	Flat Head Tapping Screw	3×8 FCRM3-BI	皿タッピングネジ	PACK			
※	16	VG 06 58 00	Rear Panel		リアパネル			J	
※	〃	VG 06 59 00	〃		〃			U	
※	〃	VG 06 60 00	〃		〃			C	
※	〃	VG 06 61 00	〃		〃			P	
※	〃	VG 80 17 00	〃		〃			A, B	
※	〃	VG 06 63 00	〃		〃			G	
※	〃	VG 80 16 00	〃		〃			R	
	17	NB 63 83 90	Special Screw Ass'y		段付ネジ Ass'y				
	19	VH 29 74 00	〃		〃		CDX-710		
	20	VE 96 96 00	Top Cover		トップカバー	Black	〃		
	〃	VF 46 43 00	〃		〃	Silver	〃		
※	〃	VF 85 34 00	〃		〃	Titan			
※	21	VG 14 97 00	Button		ボタン	Silver POWER		U,C,R,A,B,G,P	
※	〃	VG 14 98 00	〃		〃	Black			
※	〃	VG 14 99 00	〃		〃	Titan			
	22	CB 65 91 00	Knob		ツマミ	Black PH.LEVEL	CDX-500		
	〃	VC 51 70 00	〃		〃	Silver 〃	〃	U,C,R,A,B,G,P	
	〃	VF 07 95 00	〃		〃	Titan	〃		
	23	VE 30 92 00	Damper		ダンパー		CDX-910		
	24	CB 60 92 60	Plastic Rivet		プラスチックリベット			R,P	
	25	VF 22 26 00	Damper		タンパー				
※	26	VG 77 24 00	Leg Ass'y		脚 Ass'y	Black, Titan		J	
	〃	VE 55 68 00	Leg		脚	Titan		U,C,R,A,B,G,P	
	〃	VE 55 69 00	〃		〃	Silver, Black		U,C,R,A,B,G,P	
	27	Ei 33 00 66	Binding Head Tapping Screw	3×6 FCRM3-BI	バイントタッピングネジ	PACK			
	28	Ei 33 00 86	〃	3×8 FCRM3-BI	〃	PACK			
	29	EK 33 60 20	BW Head Tapping Screw	3×6 FCRM3-BI	BWヘットタッピングネジ				
	30	ED 33 00 86	Binding Head Screw	3×8 FCRM3-BI	バインド小ネジ	PACK			
	31	Ei 34 00 86	Binding Head Tapping Screw	4×8 FCRM3-BI	バイントタッピングネジ	PACK			
	32	EK 13 00 20	BW Head Screw	4×8(φ10)FNM3-3g	BWヘット小ネジ	Silver, Titan			
	〃	EK 36 50 40	〃	4×8(φ10)FCRM3-BI	〃	Black			
	33	EK 33 60 10	BW Head Tapping Screw	3×8 FCRM3-BI	BWヘットタッピングネジ				
	34	VF 48 64 00	Support, E		サポート E				
	35	EV 41 30 36	Toothed Lock Washer	φ3 FCRM3-BI	歯付座金	PACK			
	36	VF 36 34 00	Spacer		スペーサー				
※	37	VH 17 32 00	Damper		タンパー				
※	38	VH 15 24 00	〃		〃				
※	39	VH 10 52 00	〃		〃				
	40	VG 77 29 00	Leg		脚	Black, Titan		J	
※	41	VH 11 80 00	Damper		タンパー				

※New Parts (新規部品) NR

Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
42	VF 37 65 00	Ferrite Core	ESD-R-25D フェライトコア			U,C,G	
	CB 06 92 51	Binding Tie	BK-I インシュロックタイ	PACK			
		Accessories	付属品				
	VD 29 53 00	Pin Cord	IP ピンコード			J	
	VD 77 99 00	〃	IP×2 Im 〃			U,C,R,A,B,G,P	
✣	VG 29 64 00	Remote Control Transmitter	RS-CD8 リモートコントロールトランスミッター	Black			
✣	VG 29 65 00	〃	〃 〃	Titan			
✣	VG 29 66 00	〃	〃 〃	Silver		U,C,R,A,B,G,P	
		Dry Cell	SUM-3 単3乾電池				

✣New Parts（新規部品） NR

■EXPLODED VIEW(DM-620)



■MECHANISM PARTS (DM-620)

Note) φ : Diameter

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		***VG 23 18 00***	***Disc Mechanism Unit***	DM-620	DM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	VH 50 39 00	Flapper		フラッパー				
※	6	VG 00 06 00	Disctable	φ2	ディスクテーブル				
※	7	VG 00 03 00	Clamper Magnet		クランパーマグネット				
※	8	VG 00 04 00	Clamper Holder		クランパーホルダー				
	9	VE 02 25 00	Rack, Gear A		ラック ギヤーA		DM-710		
	10	VE 02 26 00	〃 , Gear B		〃 B		〃		
	11	VE 02 29 00	Gear, Drive		キヤー ドライブ		〃		
	12	VE 02 28 00	〃 , Pulley		キヤー プーリー		〃		
	13	VE 02 30 00	Pulley, Feed		プーリー フィード		〃		
	14	VE 49 12 00	Ring Stopper		リングストッパー		〃		
	15	CB 65 85 10	P. Pulley		P プーリー		DM-X5		
※	16	VG 00 02 00	Cam, Loading		カム ローディング				
	17	VE 98 00 00	Idle Pulley		アイドルプーリー		DM-710		
	18	VE 27 00 00	Lever (A)		レバー (A)		〃		
	19	VE 27 01 00	〃 (B)		〃 (B)		〃		
	20	CB 65 55 50	Pinion Gear 2		ピニオンギヤー2		DM-X5		
	21	VE 02 34 00	Belt, Feed		ベルト フィード		DM-710		
	22	VG 94 57 00	〃, Loading		ベルト ローディング		〃		
	23	VE 02 31 00	Shaft, PU 710		シャフト PU710		〃		
	24	VE 02 33 00	Shaft, Drive Gear		シャフト ドライブギヤー		〃		
	25	AA 61 93 30	Shaft (S)	φ2×231	シャフト (S)		DM-I		
	26	VE 64 78 00	Spring, Flapper 3		スプリングフラッパー3		DM-VI		
	27	VE 17 93 00	Spring, Rack 710		スプリング ラック710		DM-710		
	28	VE 27 02 00	Spring, TE		スプリング TE		〃		
	29	ED 32 00 46	Binding Head Screw	2×4 FCRM3-BI	バインド小ネジ	PACK			
	30	ED 32 00 56	〃	2×5 ZMC2-BI	〃	PACK			
	31	ED 32 60 66	〃	2.6×6 FCRM3-BI	〃	PACK			
	32	ED 33 00 66	〃	3×6 FCRM3-BI	〃	PACK			
	33	EK 33 00 10	BW Head Tapping Screw	3×12 FCRM3-BI	BWヘッドタッピングネジ				
	34	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			
※	35	VH 20 58 00	Washer		ワッシャー				

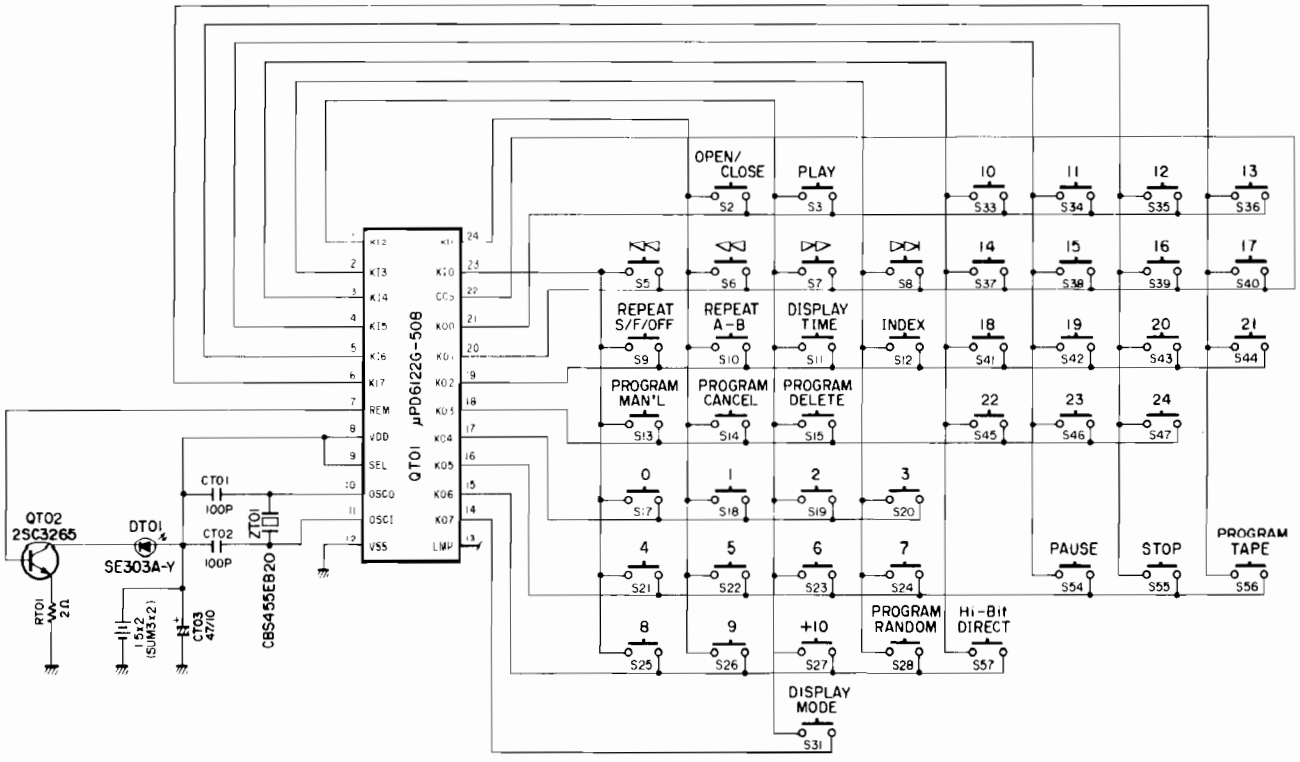
※New Parts (新規部品) NR

CDX-820/CD-3050

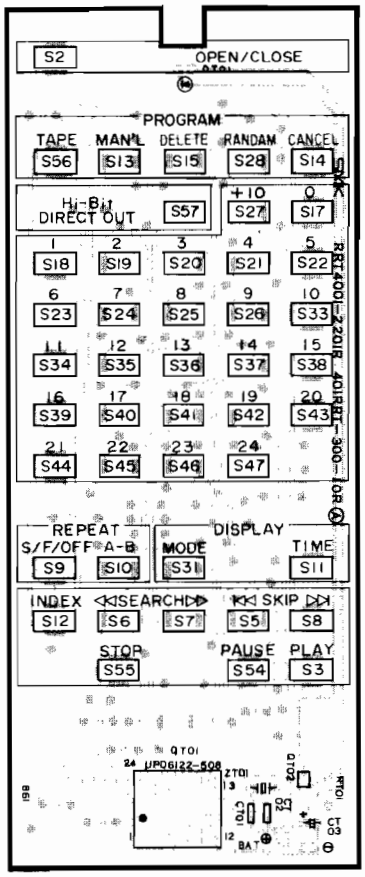
RS-CD8

REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM

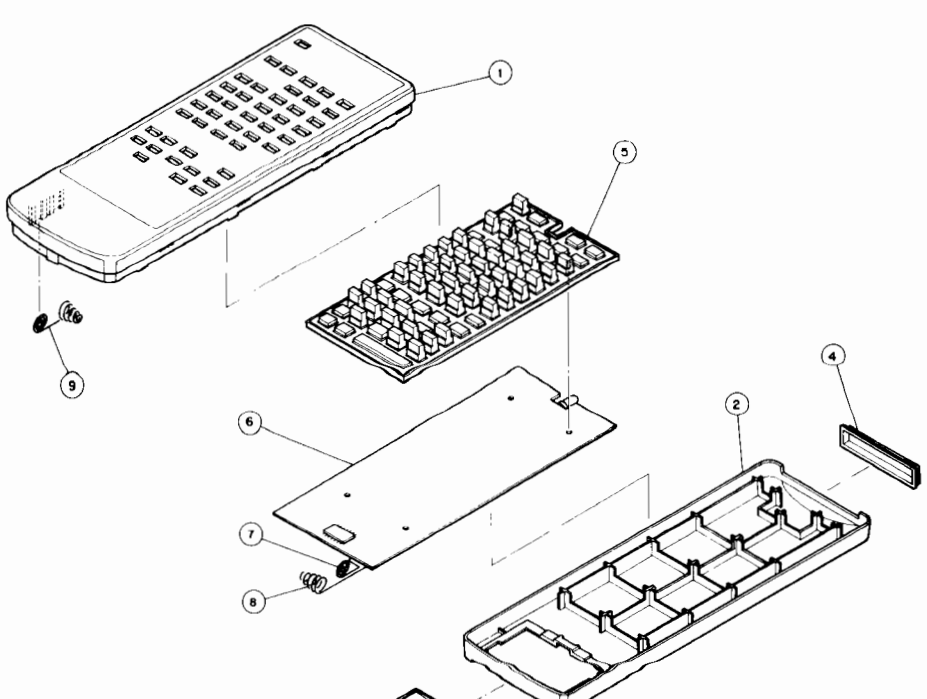


■ PRINTED CIRCUIT BOARD (Foil side)



FUNCTION	CONTROL CODE								FUNCTION	CONTROL CODE							
		0	1	2	3	4	5	6	7		0	1	2	3	4	5	6	7
OPEN/CLOSE	01	1	0	0	0	0	0	0	0	10	40	0	0	0	0	0	1	0
PLAY	02	0	1	0	0	0	0	0	0	11	41	1	0	0	0	0	1	0
⏮	04	0	0	1	0	0	0	0	0	12	42	0	1	0	0	0	1	0
◁◁	05	1	0	1	0	0	0	0	0	13	43	1	1	0	0	0	1	0
▷▷	06	0	1	1	0	0	0	0	0	14	44	0	0	1	0	0	1	0
⏭	07	1	1	1	0	0	0	0	0	15	45	1	0	1	0	0	1	0
REPEAT S/F	08	0	0	0	1	0	0	0	0	16	46	0	1	1	0	0	1	0
REPEAT A–B	09	1	0	0	1	0	0	0	0	17	47	1	1	1	0	0	1	0
DISPLAY TIME	0A	0	1	0	1	0	0	0	0	18	48	0	0	0	1	0	0	1
INDEX	0B	1	1	0	1	0	0	0	0	19	49	1	0	0	1	0	0	1
PROGRAM MAN'L	0C	0	0	1	1	0	0	0	0	20	4A	0	1	0	1	0	0	1
,, CANCEL	0D	1	0	1	1	0	0	0	0	21	4B	1	1	0	1	0	0	1
,, DEL	0E	0	1	1	1	0	0	0	0	22	4C	0	0	1	1	0	0	1
0	10	0	0	0	0	1	0	0	0	23	4D	1	0	1	1	0	0	1
1	11	1	0	0	0	1	0	0	0	24	4E	0	1	1	1	0	0	1
2	12	0	1	0	0	1	0	0	0	PAUSE	55	1	0	1	0	1	0	1
3	13	1	1	0	0	1	0	0	0	STOP	56	0	1	1	0	1	0	1
4	14	0	0	1	0	1	0	0	0	PROGRAM TAPE	57	1	1	1	0	1	0	1
5	15	1	0	1	0	1	0	0	0	Hi-Bit	58	0	0	0	1	1	0	1
6	16	0	1	1	0	1	0	0	0									
7	17	1	1	1	0	1	0	0	0									
8	18	0	0	0	1	1	0	0	0									
9	19	1	0	0	1	1	0	0	0									
+10	1A	0	1	0	1	1	0	0	0									
PROGRAM RANDOM	1B	1	1	0	1	1	0	0	0									
DISPLAY MODE	1E	0	1	1	1	1	0	0	0									

■ EXPLODED VIEW



	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
❊		***VG 29 64 00***	***Remote Control Transmitter***	RS-CD8	リモートコントロールトランスミッター	Black			
❊		***VG 29 65 00***	〃	RS-CD8	〃	Titan			
❊		***VG 29 66 00***	〃	RS-CD8	〃	Silver		U,C,R,A,B,G,P	
❊	1	CX 60 61 30	Case (A) Ass'y		ケース (A) Ass'y	Black			
❊	〃	CX 60 61 40	〃		〃	Titan			
❊	〃	CX 60 61 50	〃		〃	Silver		U,C,R,A,B,G,P	
	2	CX 60 62 20	Case (B)		ケース (B)	Black 102RRT-186-01R			
	〃	CX 60 62 60	〃		〃	Titan 〃 -02R			
	〃	CX 60 62 70	〃		〃	Silver 〃 -03R		U,C,R,A,B,G,P	
	3	CX 60 62 80	Cover		カバー	Black 103RRT-081-01R			
	〃	CX 60 62 90	〃		〃	Titan 〃 -02R			
	〃	CX 60 63 00	〃		〃	Silver 〃 -03R		U,C,R,A,B,G,P	
	4	CX 60 31 00	Filter		フィルター	811RRT-020-01R			
	5	CX 60 61 60	Rubber Contact		導電ゴムシート	Black 421RRT-117-13R			
	〃	CX 60 61 70	〃		〃	Titan 〃 -15R			
	〃	CX 60 61 80	〃		〃	Silver 〃 -17R		U,C,R,A,B,G,P	
	6	NX 60 35 20	P.C. Board Ass'y		プリント基板 Ass'y	401RRT-300-10R			
	7	LX 60 17 80	Dry Cell Terminal (A)		電池電極板 (A)	411RRT-087-01R			
	8	LX 60 17 90	〃 (B)		〃 (B)	411RRT-088-01R			
	9	LX 60 18 00	Spring		接触バネ	413RRT-025-01R			
			P.C. Board Ass'y						
		iX 61 36 60	IC	μPD6122G-508	IC	QT01			
		iX 61 16 40	Transistor	2SC3265	トランジスタ	QT02			
		QX 60 02 50	Ceramic Resonator	CBS455EB20	セラミック発振子	ZT01			
		HX 60 14 00	Carbon Resistor	2Ω 1/4W	カーボン抵抗	RT01			
		FG 21 21 00	Ceramic Cap.	100pF 50V	セラコン	CT01,02			
		UJ 12 74 70	Electrolytic Cap.	47μF 10V	ケミコン	CT03			
		iX 60 34 70	LED	SE303A-Y	赤外LED	DT01			

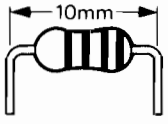
❊New Parts (新規部品) NR

Parts List for Carbon Resistors

Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ353100	HF853100
1.8 〃	HJ353180	※
2.2 〃	HJ353220	HF853220
3.3 〃	HJ353330	HF853330
4.7 〃	HJ353470	HF853470
5.6 〃	HJ353560	HF853560
10 〃	HJ354100	HF854100
15 〃	HJ354150	HF854150
22 〃	HJ354220	HF854220
27 〃	HJ354270	HF854270
33 〃	HJ354330	HF854330
39 〃	HJ354390	HF854390
47 〃	HJ354470	HF854470
56 〃	HJ354560	HF854560
68 〃	HJ354680	HF854680
82 〃	HJ354820	HF854820
100 〃	HJ355100	HF855100
110 〃	HJ355110	HF855110
120 〃	HJ355120	HF855120
150 〃	HJ355150	HF855150
160 〃	HJ355160	※
180 〃	HJ355180	HF855180
220 〃	HJ355220	HF855220
270 〃	HJ355270	HF855270
330 〃	HJ355330	HF855330
390 〃	HJ355390	HF855390
470 〃	HJ355470	HF855470
510 〃	※	HF855510
560 〃	HJ355560	HF855560
680 〃	HJ355680	HF855680
820 〃	HJ355820	HF855820
910 〃	HJ355910	HF855910
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
12KΩ	HJ357120	HF857120
15 〃	HJ357150	HF857150
18 〃	HJ357180	HF857180
22 〃	HJ357220	HF857220
27 〃	HJ357270	HF857270
33 〃	HJ357330	HF857330
39 〃	HJ357390	HF857390
47 〃	HJ357470	HF857470
56 〃	HJ357560	HF857560
68 〃	HJ357680	HF857680
82 〃	HJ357820	HF857820
91 〃	HJ357910	HF857910
100 〃	HJ358100	HF858100
120 〃	HJ358120	HF858120
150 〃	HJ358150	HF858150
180 〃	HJ358180	HF858180
220 〃	HJ358220	HF858220
270 〃	HJ358270	HF858270
330 〃	HJ358330	HF858330
390 〃	HJ358390	HF858390
470 〃	HJ358470	HF858470
560 〃	HJ358560	HF858560
680 〃	HJ358680	HF858680
820 〃	HJ358820	HF858820
1.0MΩ	HJ359100	HF859100
1.2 〃	HJ359120	※
1.5 〃	HJ359150	HF859150
1.8 〃	HJ359180	HF859180
2.2 〃	HJ359220	HF859220
3.3 〃	HJ359330	HF859330
3.9 〃	HJ359390	※
4.7 〃	HJ359470	HF859470

1/4W Type

HJ35



1/6W Type

HF85