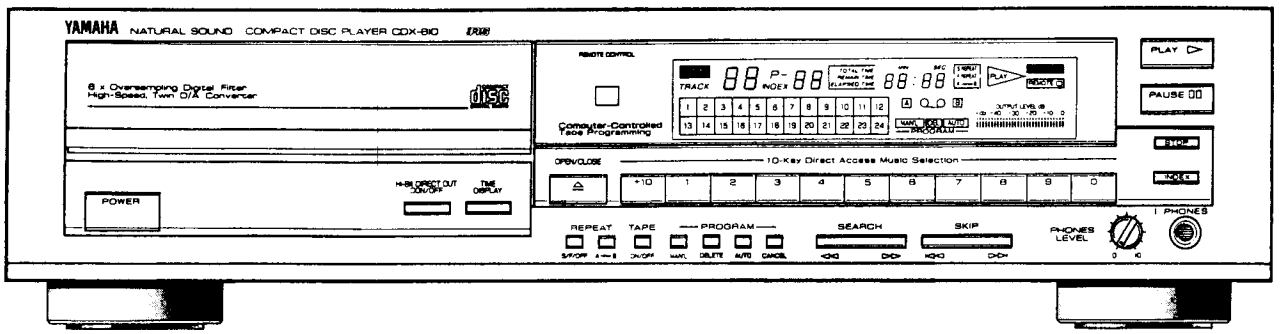
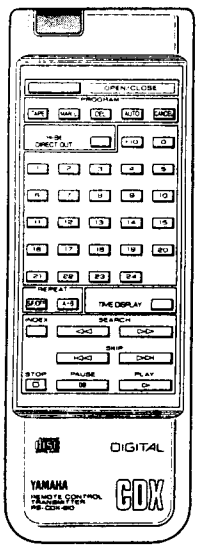
COMPACT DISC PLAYER

CDX-810/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 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

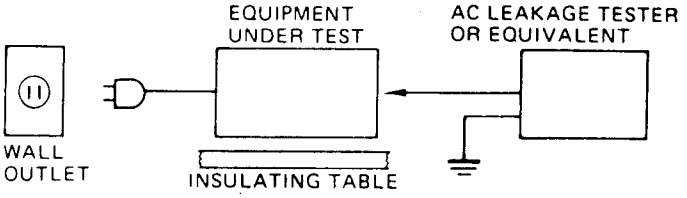
100171

YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan
3.2k-793 Printed in Japan.'88.4

■TO SERVICE PERSONNEL

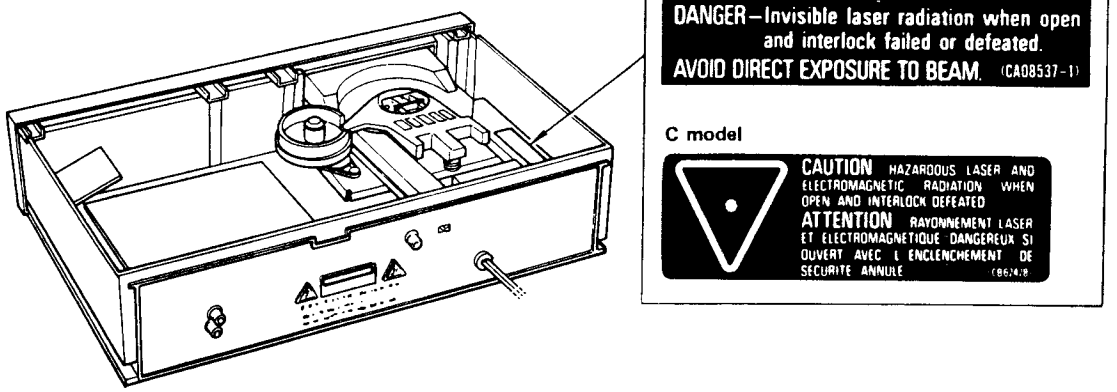
1. Critical Components Information.
   Components having special characteristics are marked and must be replaced with parts having specifications equal to those originally installed.
2. Leakage Current Measurement (For 120V Model Only).
   When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.

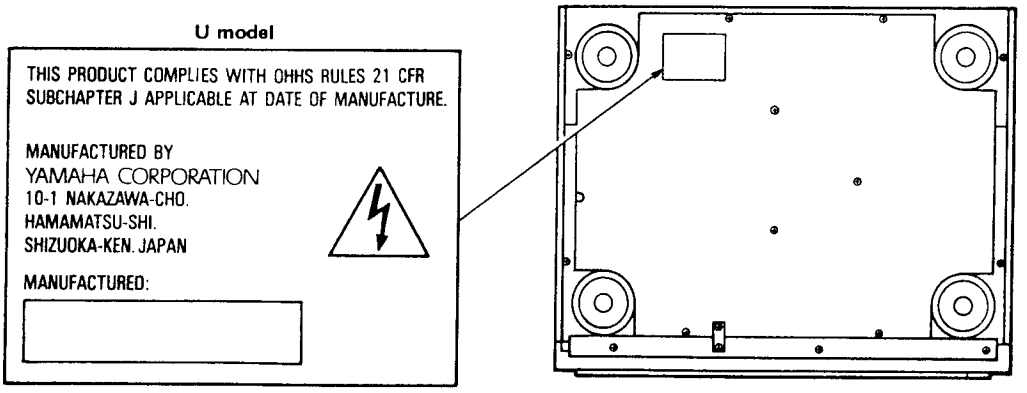
- Meter impedance should be equivalent to 1500 ohm shunted by 0.15μF
- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.
- **POLARIZATION (U. C models)**
  This CD player product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature.



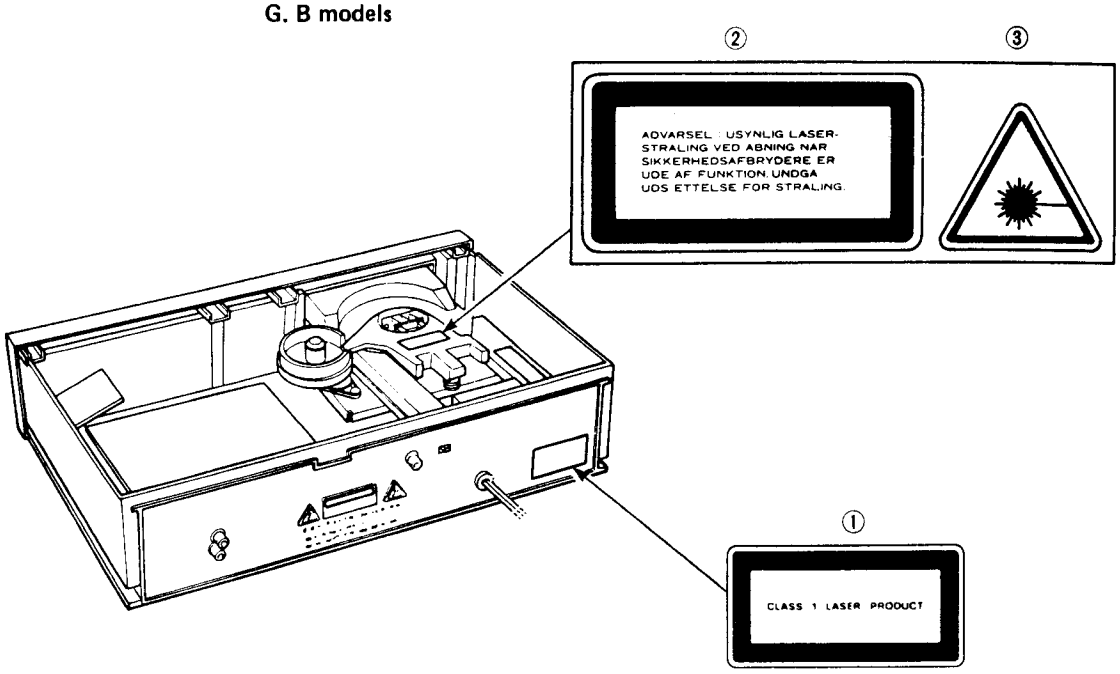
CAUTION – USE OF CONTROLS, ADJUSTMENTS, OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN, MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

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





G. B models



English

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 SITTER 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 INNEHÅLLER EN LASERKOMPONENT.

③ VARNINGSSKYLTEN 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

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 INDENI APPARATET, SOM VIST I ILLUSTRATIONEN, SOM EN ADVARSEL OM YDERLIGERE INDGREB I APPARATET. APPARATET INDEHOLDER ET LASERKOMPONENT SOM AVGIVER LASESTRÄLING DER OVERSTIGER GÆNSEVERDIEN FOR LASERKLASSE 1.

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

Finnish

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

■ INTERLOCK OPERATION

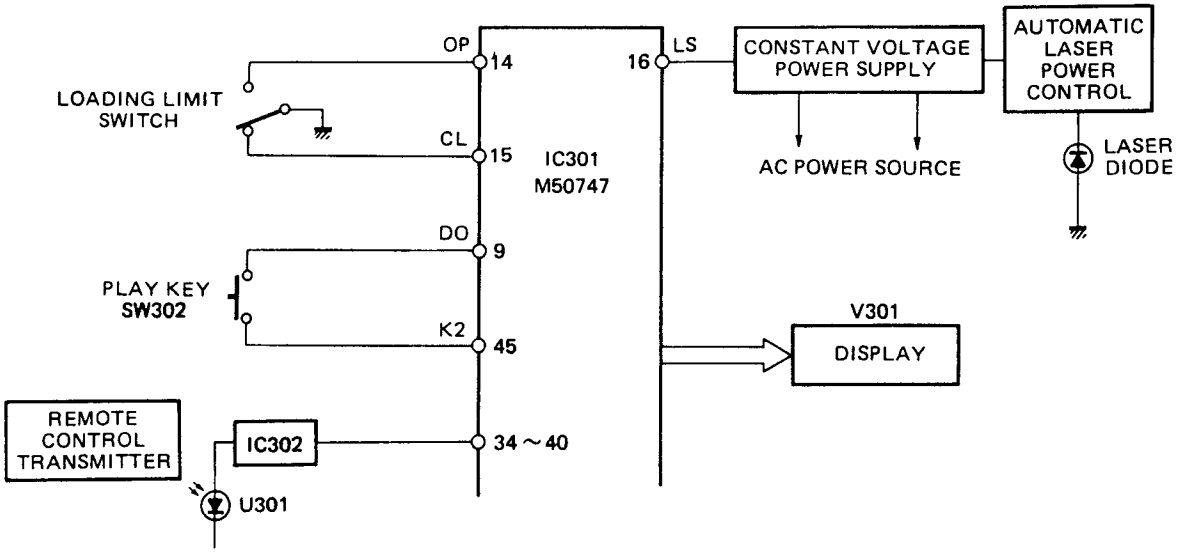
The Digital Compact Disc Player reads the disc signals by laser beam detection. It must be avoided for the human body to be directly exposed to the laser beam. Human eyes are especially badly affected by the laser beam. This unit is therefore equipped with an interlock to prevent unnecessary laser output.

Laser output is controlled by the injection or cutoff of the constant voltage source to the laser diode at Pin 16 (LS) of IC301 (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.

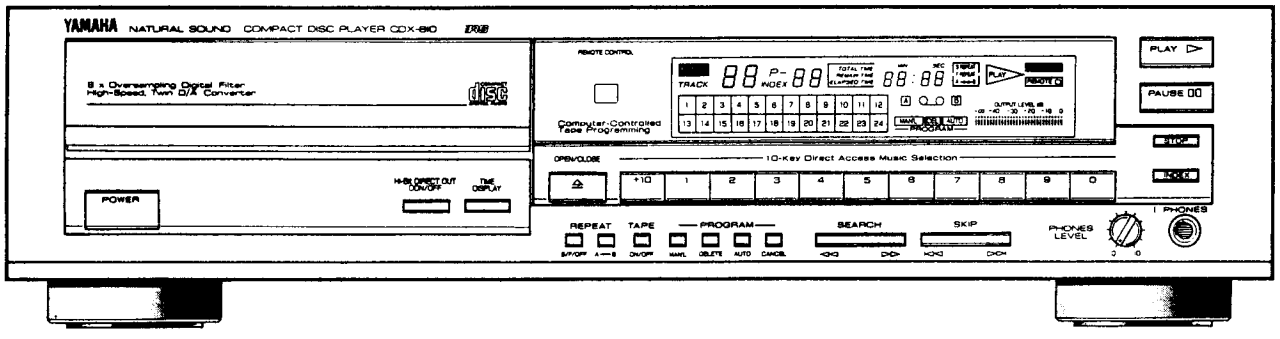
After the above conditions are met and the index signals have been read, the laser emits the beam when the following two conditions are met.

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

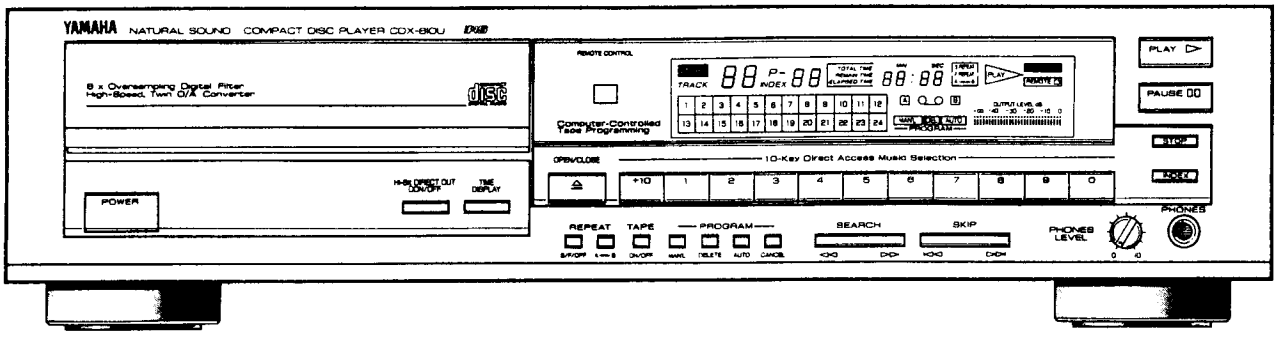


■ FRONT PANELS

• CDX-810

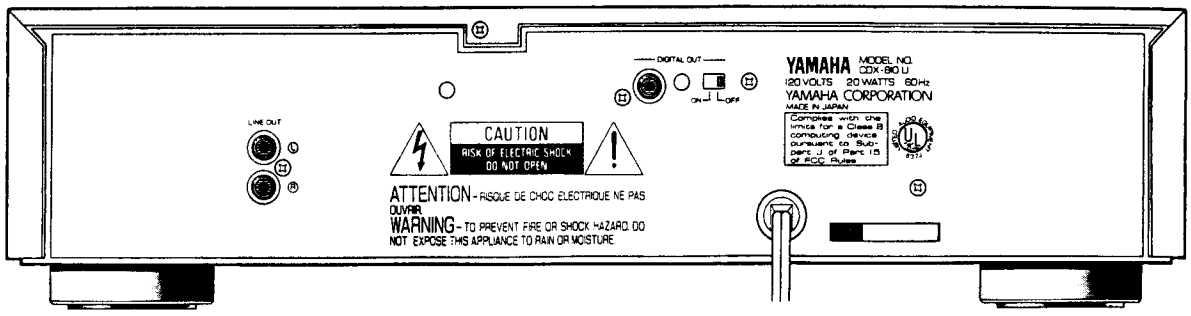


• CDX-810U

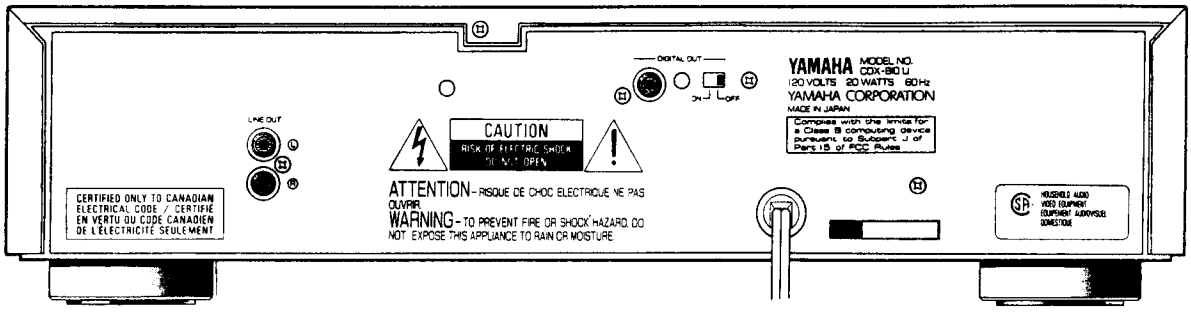


■ REAR PANELS

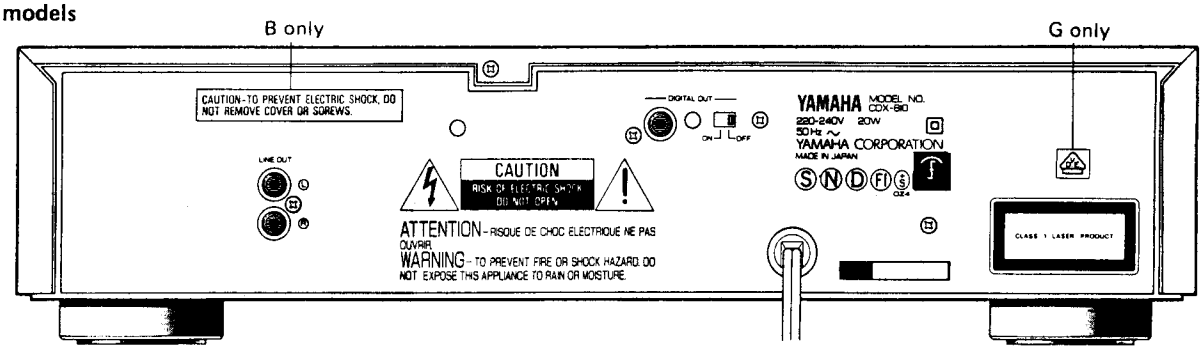
▼U model



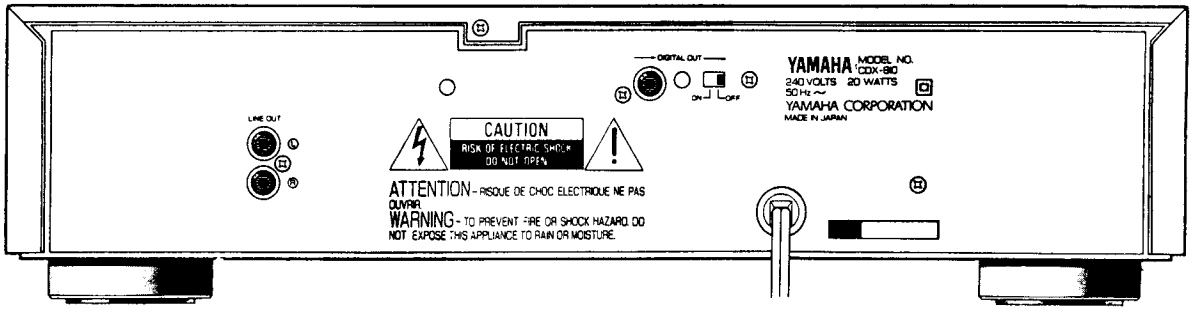
▼C model



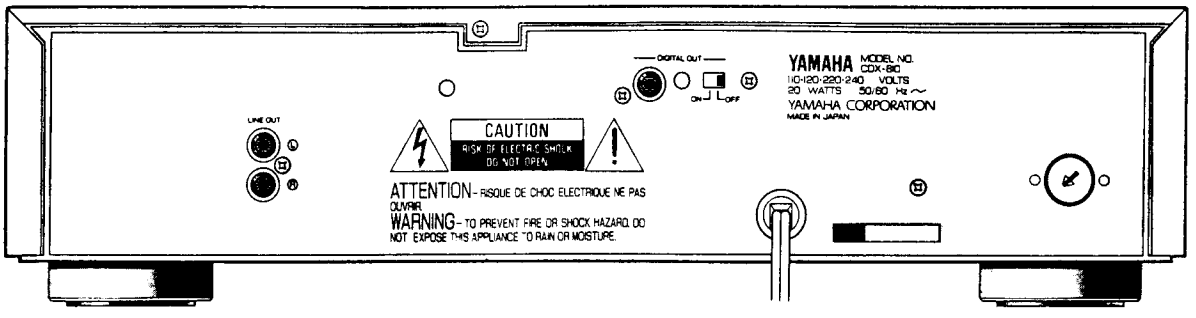
▼G, B models



▼A model



▼R model



■ 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	2.2kΩ
Headphone Output	450mV/150Ω (–20dB)

■ INTERNAL SYSTEMS

Optical Pick-up	3-beam laser
Error Correction System	CIRC, dual error correction system
D/A Conversion	16 bit floating (L, R twin)
Filter	Digital filter and 3rd order new active filter

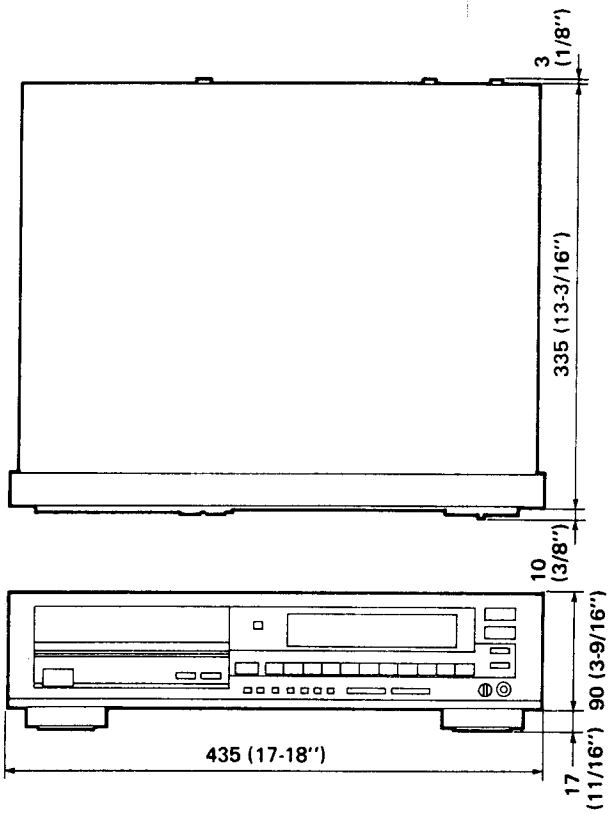
■ GENERAL

Power Requirements	
U, C models	120V AC, 60Hz
G, B models	220–240V AC, 50Hz
A model	240V AC, 50Hz
R model	110–120/220–240V AC, 50/60Hz
Power Consumption	20W
Dimensions (W x H x D)	435 x 107 x 348 mm (17-1/8" x 4-3/16" x 13-11/16")
Weight	5.5 kg (12 lbs 2 oz.)
Accessories	Pin plug cord Remote control transmitter (RS-CDX810) Dry-cell: X2 (Size "AA", "R06")

** Specification subject to change without notice.*

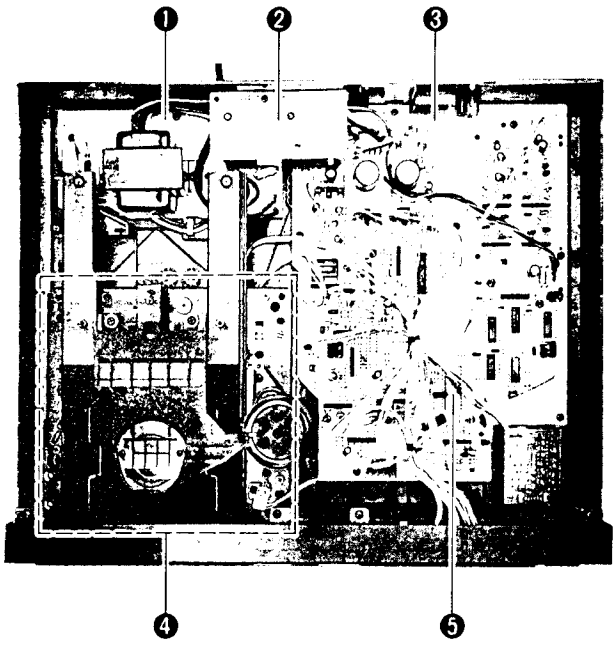
U ..... U. S. A. model
C ..... Canadian model
B ..... British model
A ..... Australian model
G ..... European model
R ..... General model

• DIMENSION



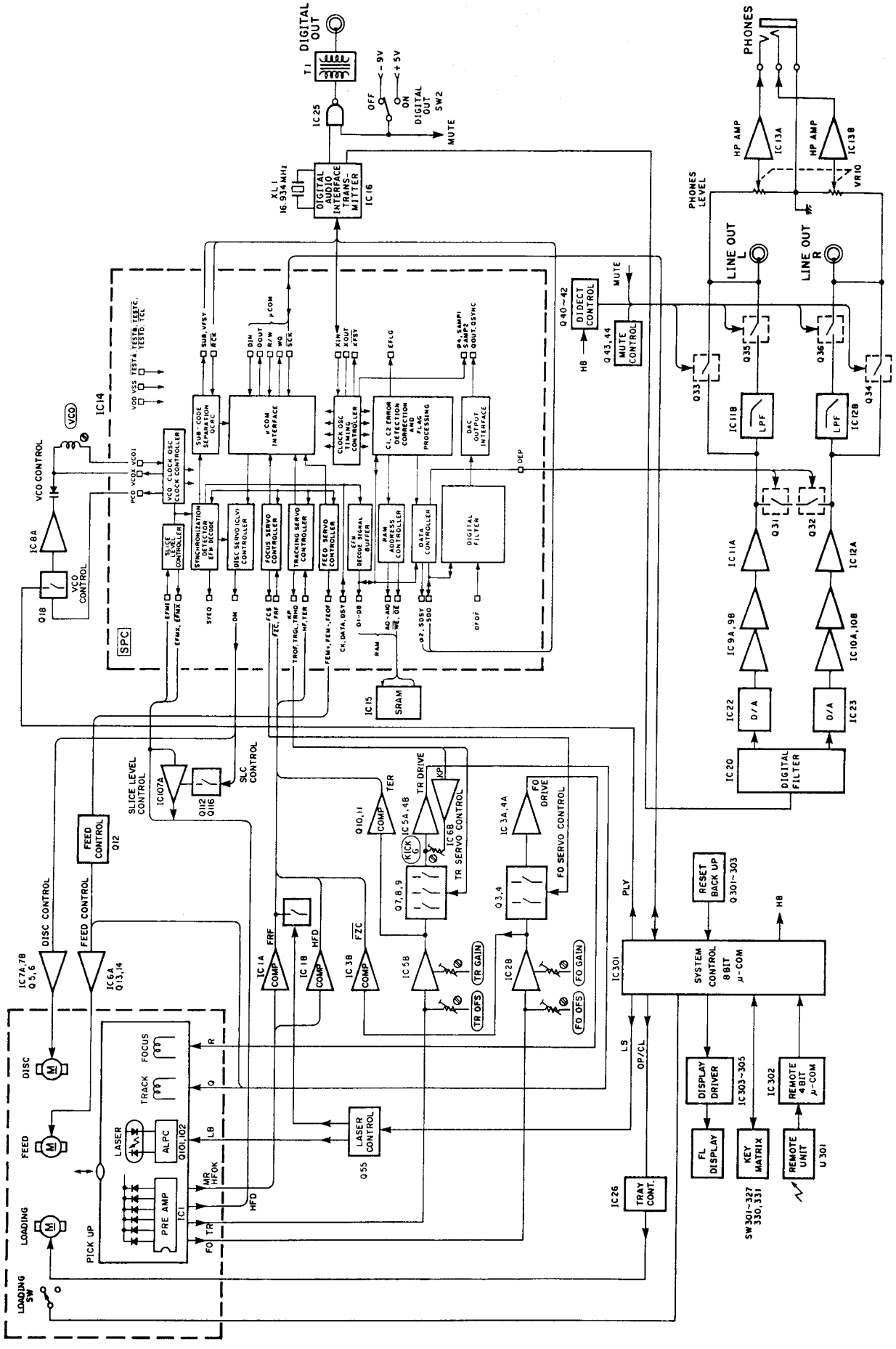
Unit ; mm (inch)

■ INTERNAL VIEW



❶ POWER SUPPLY UNIT
❷ MAIN CIRCUIT BOARD (2)
❸ MAIN CIRCUIT BOARD (1)
❹ DISC MECHANISM UNIT
❺ IC16 : YM3613B
(Digital Audio Interface Transmitter)

■ BLOCK DIAGRAM



■ DISASSEMBLY PROCEDURES

(Remove parts in disassembly order as numbered.)

1. Removal of Top Cover

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

2. Removal of Front Panel

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

3. Removal of Bottom Cover

a. Remove 12 screws (③) in Fig. 1.

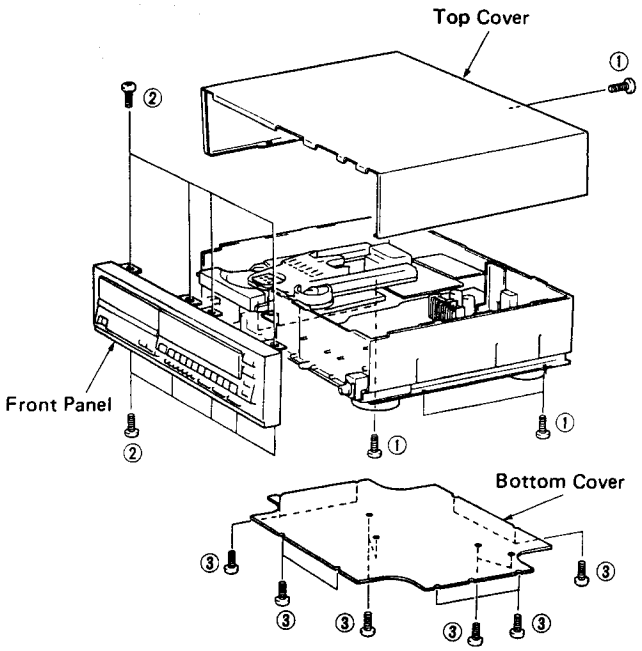


Fig. 1

4. Removal of Disc Tray Ass'y

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

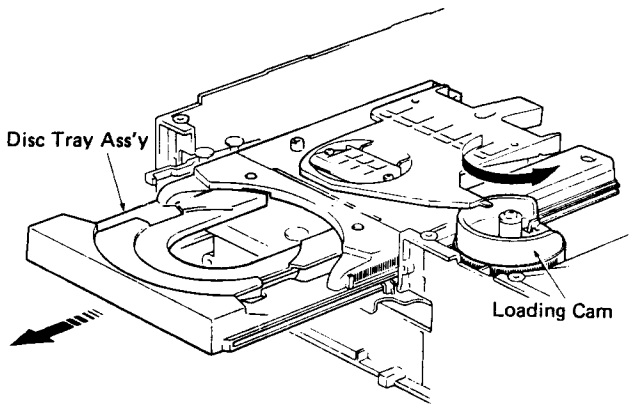


Fig. 2

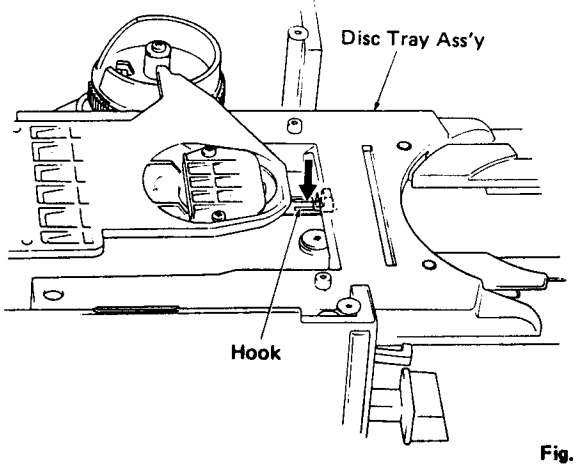


Fig. 3

5. Removal of Disc Mechanism Unit

a. Remove 4 screws (④) in Fig. 4.

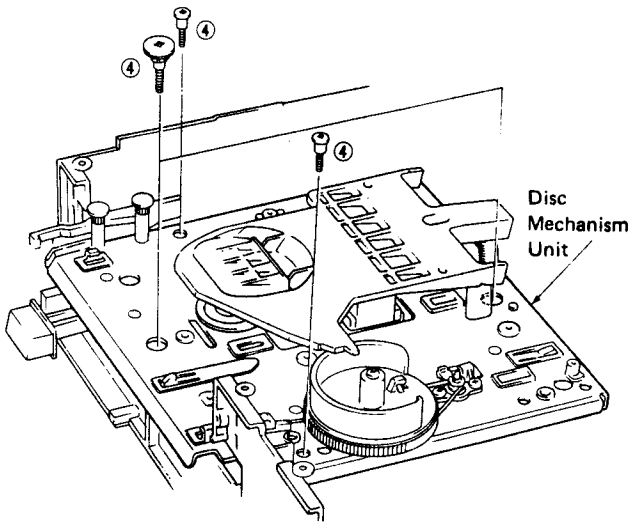


Fig. 4

6. **Removal of Disc Motor**

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

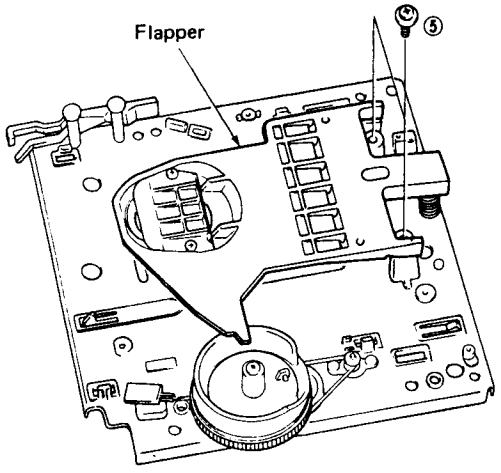


Fig. 5

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

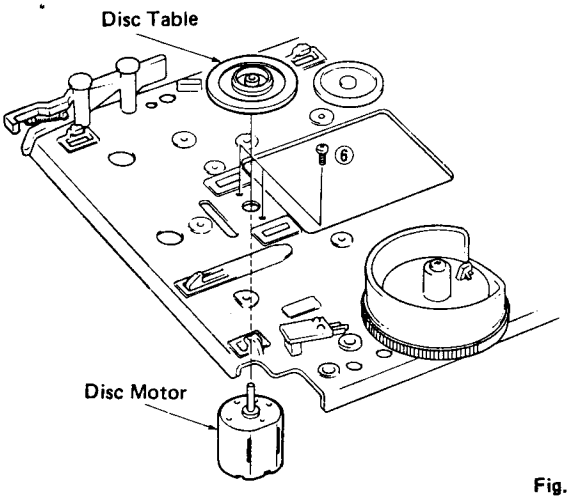
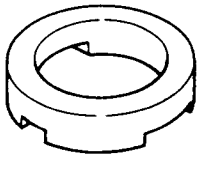


Fig. 6

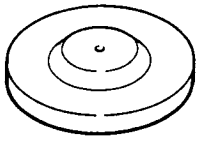
- **Installation of disc table**

※ The following tools are necessary for installation.

Height adjustment gauge (TX913130)



Disc table installer (TX913140)



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

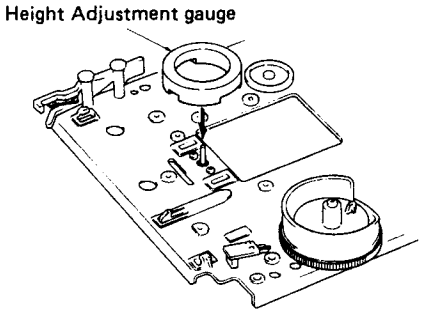


Fig. 7

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

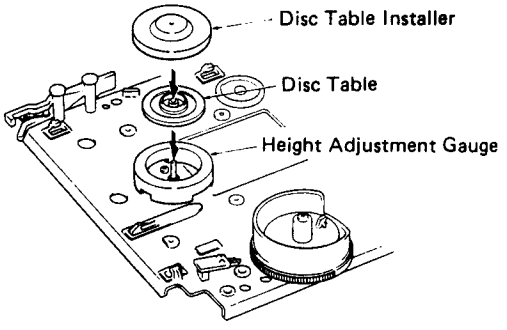


Fig. 8

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

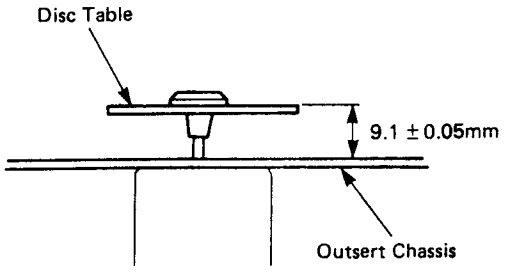


Fig. 9

■ ADJUSTMENTS

• Necessary items

Measuring instruments

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.

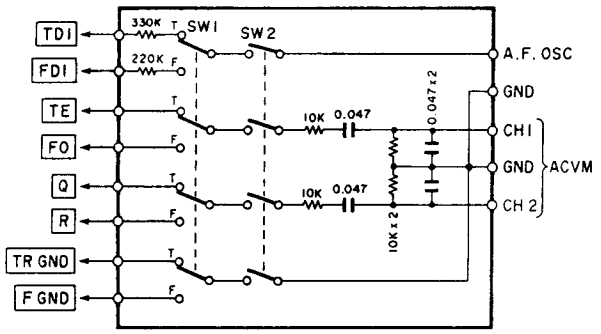


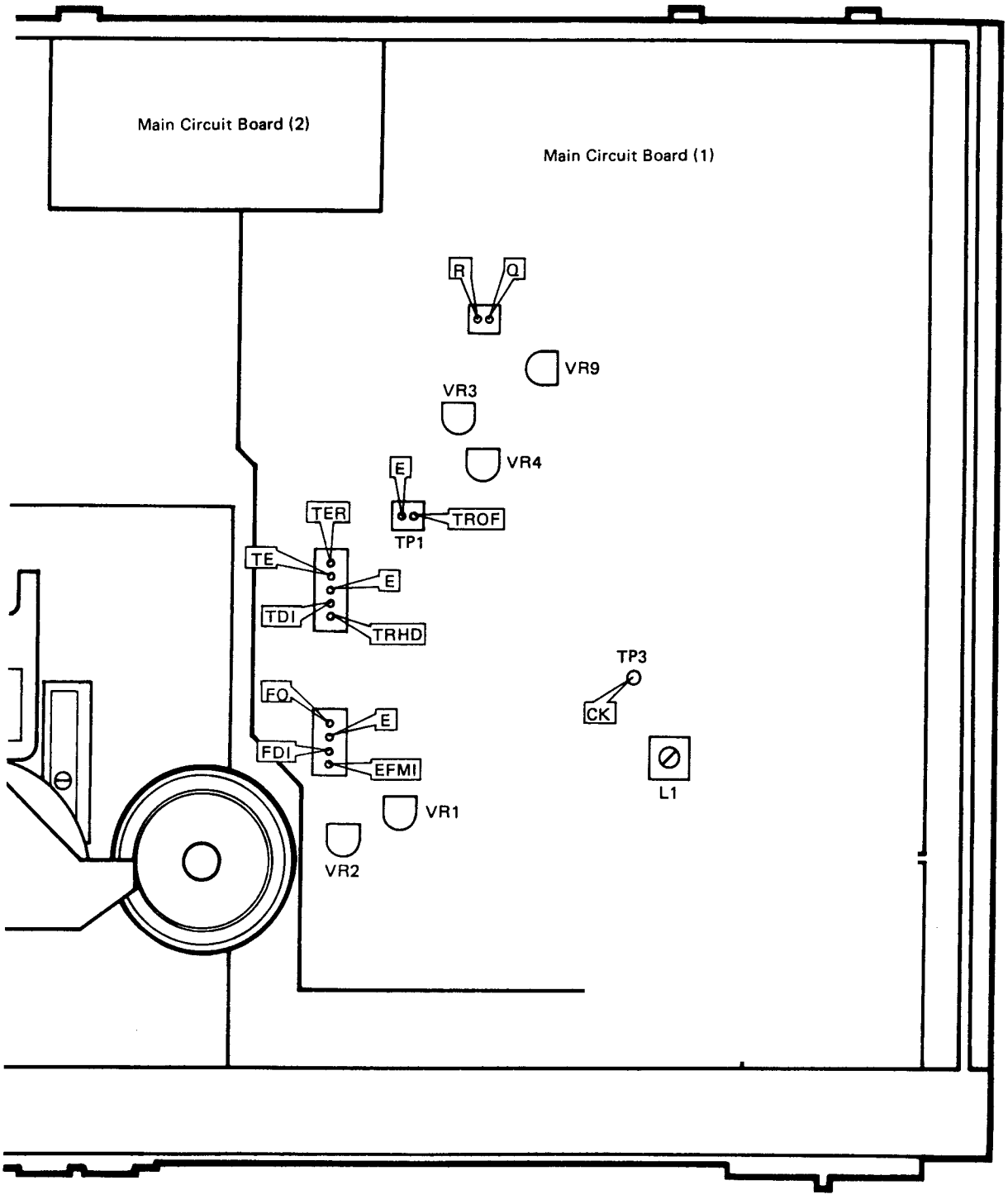
Fig. A

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 Point


Main Circuit Board (2)
Main Circuit Board (1)
R
Q
VR9
VR3
VR4
E
TROF
TP1
TER
TE
E
TDI
TRHD
TP3
CK
FO
E
FDI
EFMI
L1
VR1
VR2

★ **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

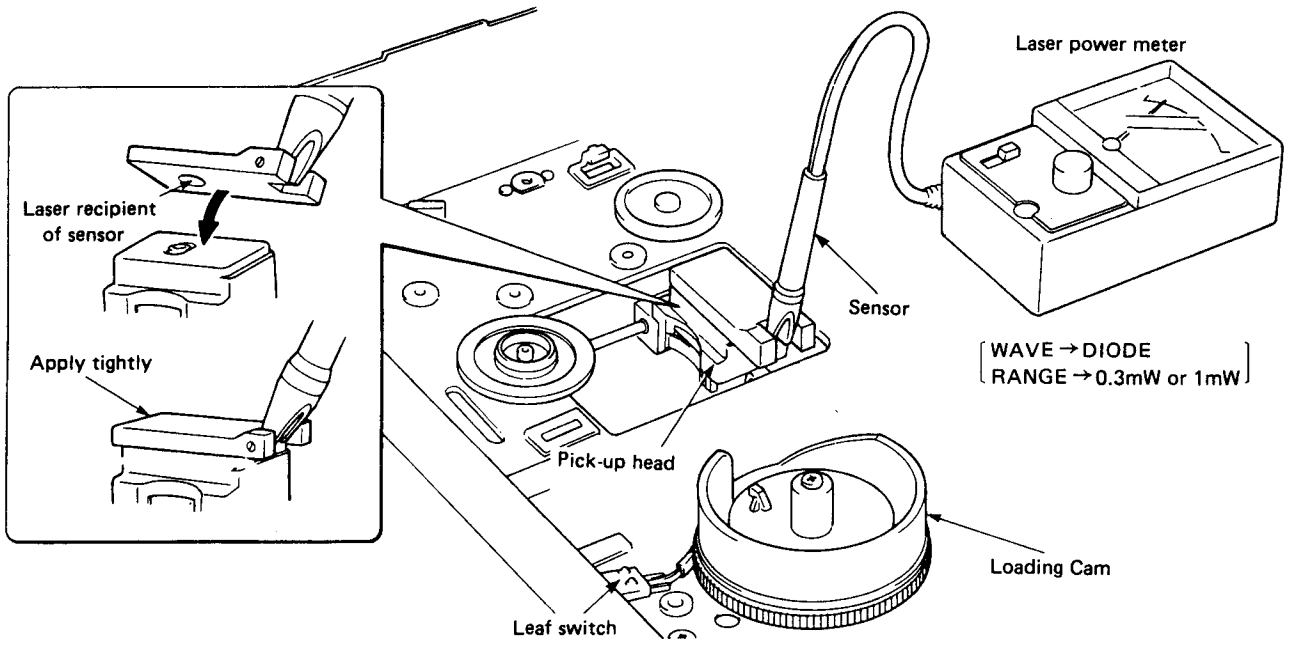


Fig. B

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 (Verticla)
  (0.1/div when 10:1 probe is used)
- 0.5 sec/div time (Horizontal)

① Do not load a 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.

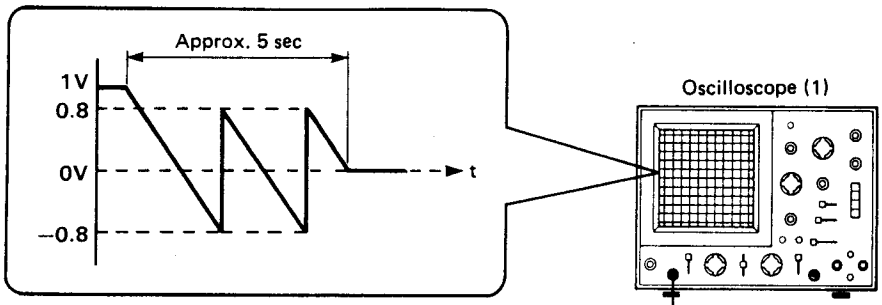
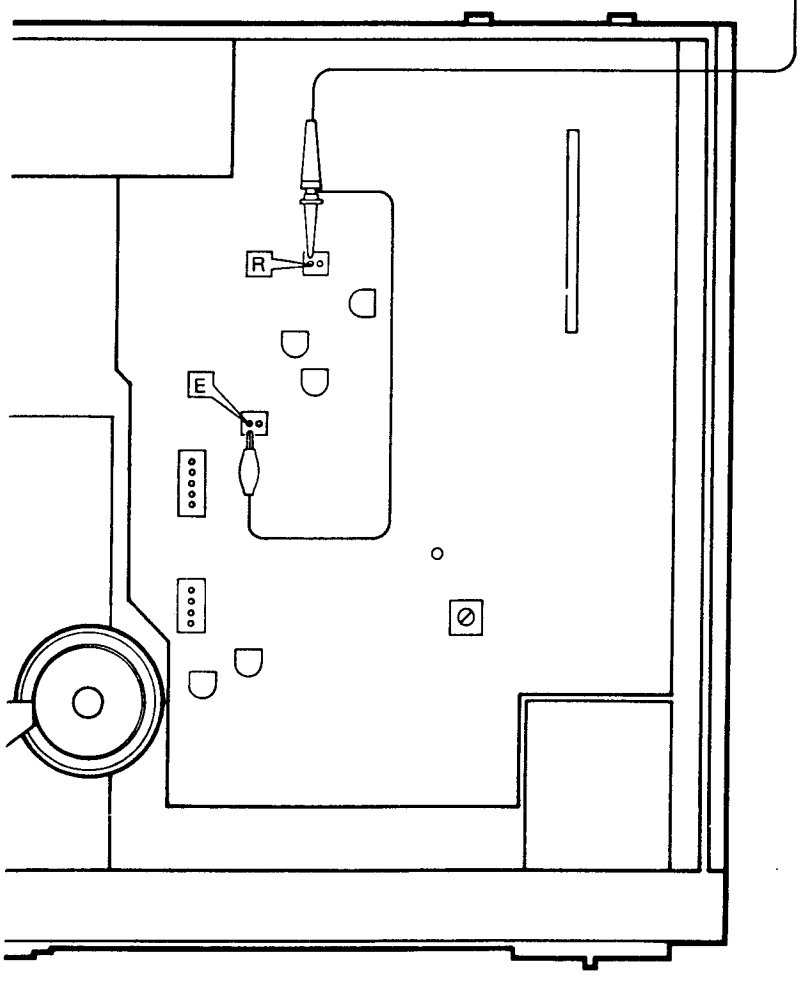


Fig. C



Adjustment of VCO (Step 3)

① Connect the shorting cord and measuring instruments, as shwon in Fig. D.
② Do not load a disc.
③ Press POWER key. (POWER ON)
④ While observing the frequency counter indication (FVCO), adjust L1 so that it satisfies the rating.
Rating: F_{VCO} = 4.3218 MHz ± 10 kHz

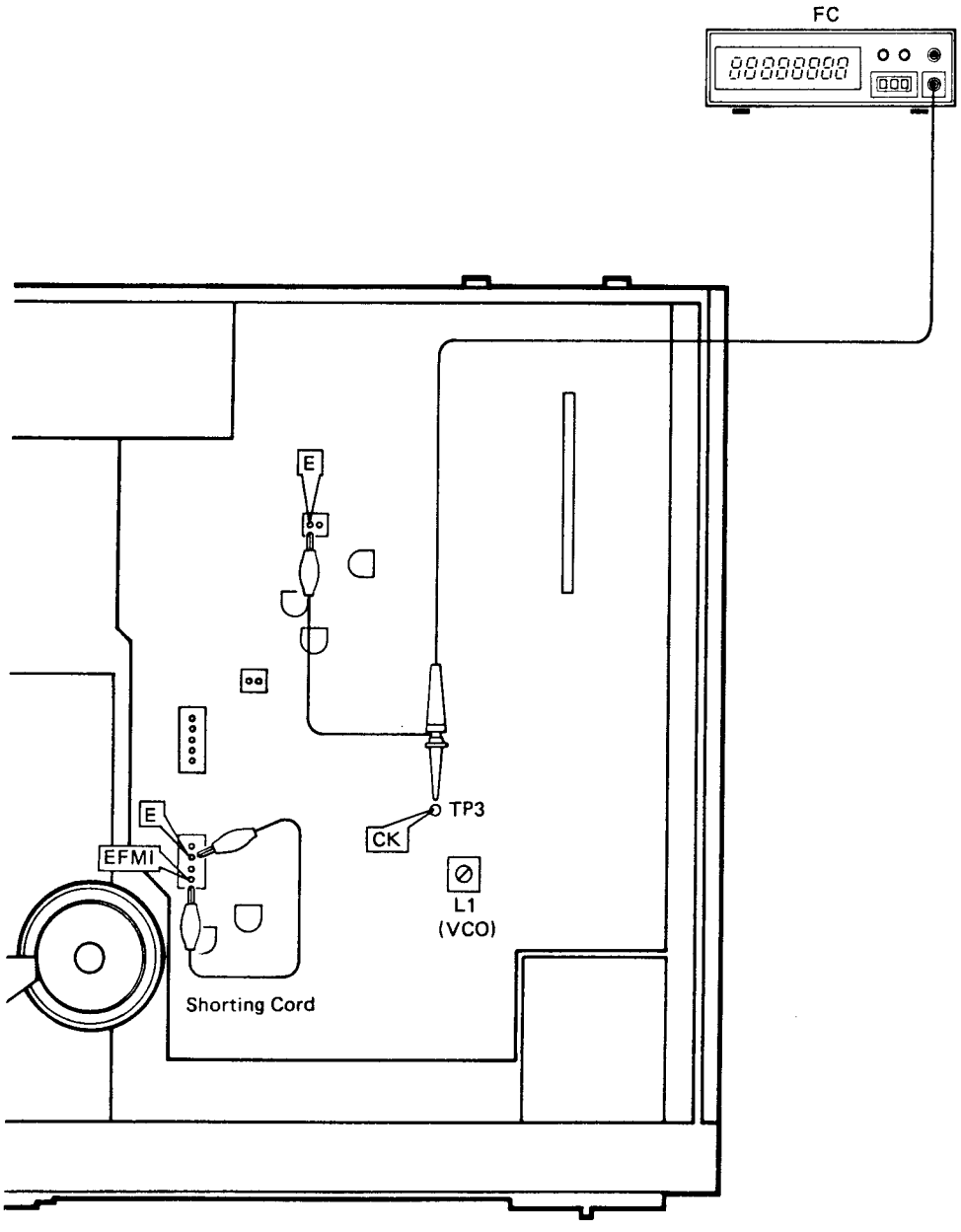


Fig. D

Adjutment of Tracking Gain (Step 4)

* This adjustment requires 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 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 VR3 (TRACKING GAIN) so that they satisfy the rating.

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

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

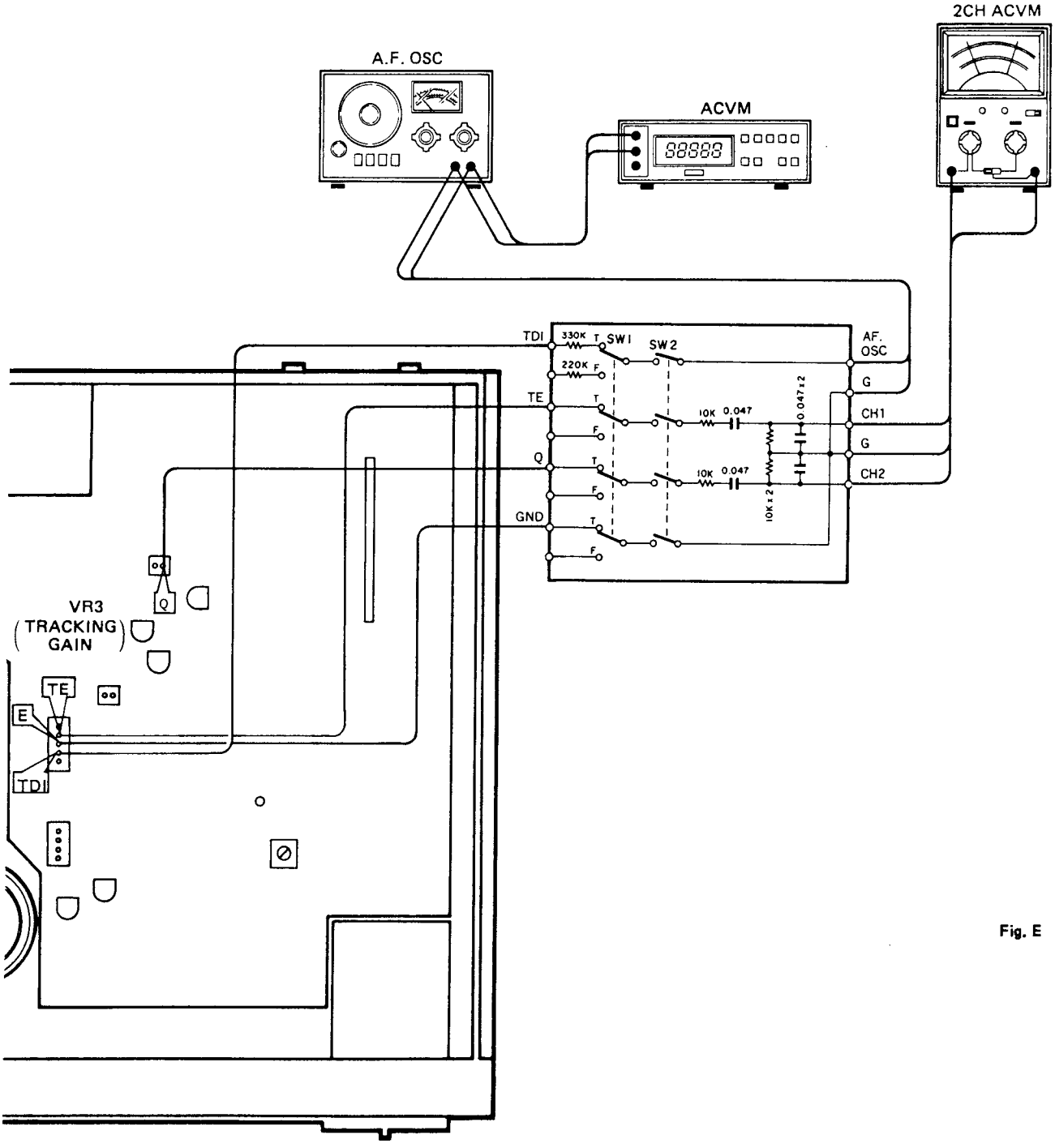


Fig. E

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 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 VR2 (FOCUS GAIN) so that they satisfy the rating.

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

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

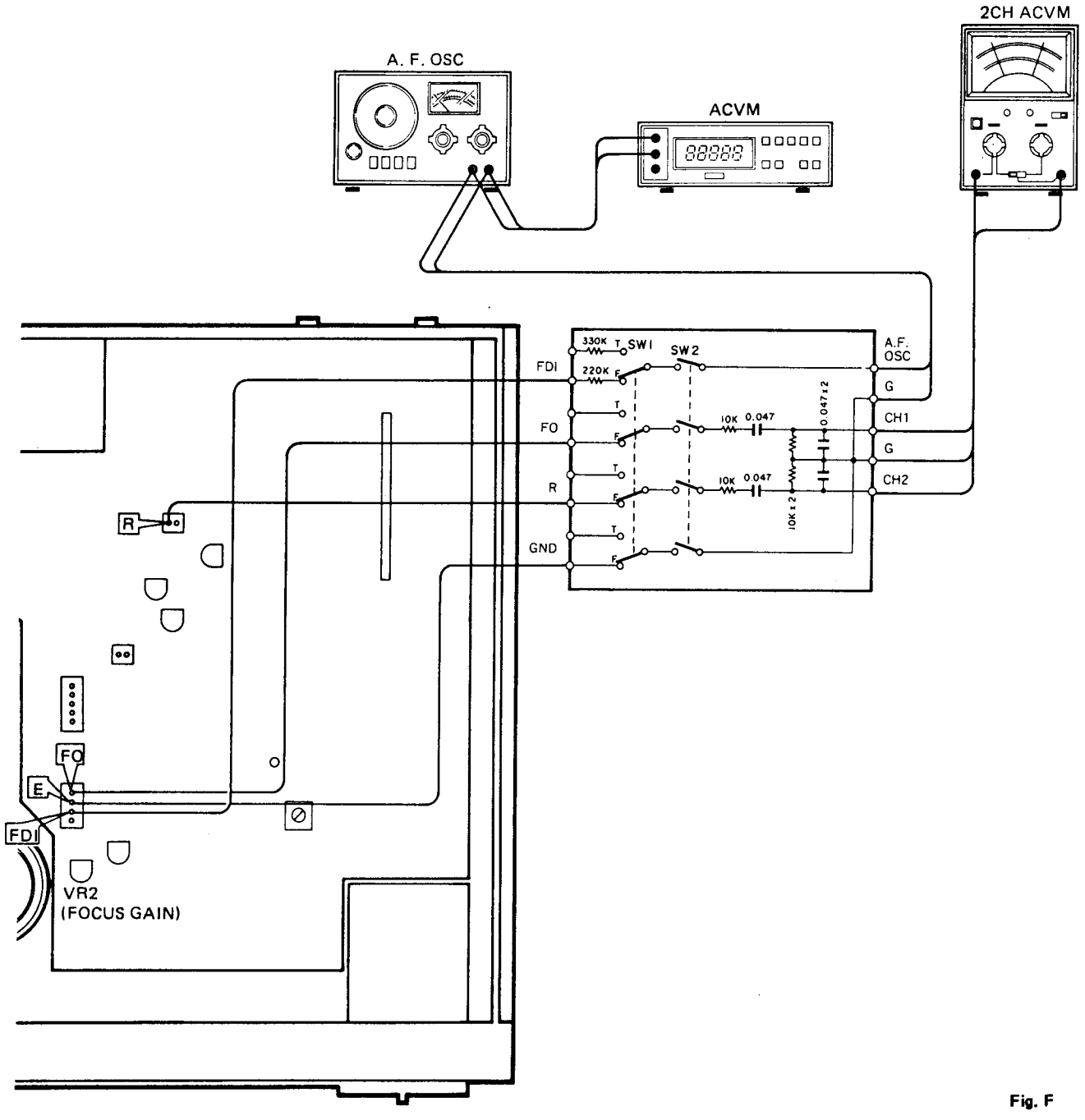


Fig. F

Adjustment of Tracking Offset (Step 6)

① Connect a DC voltmeter to [Q] and [E] terminals.
② Press POWER key. (POWER ON)
③ Press STOP key.
④ Short between the [TROF] and [E] terminals. (Laser OFF)
⑤ While observing the indication (E_Q) of the DC voltmeter, adjust VR4 (TRACKING OFFSET) so that it satisfies the rating.

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 VR1 (FOCUS OFFSET) so that it satisfies the rating.

Rating: E_R = 0V DC ± 25mV DC

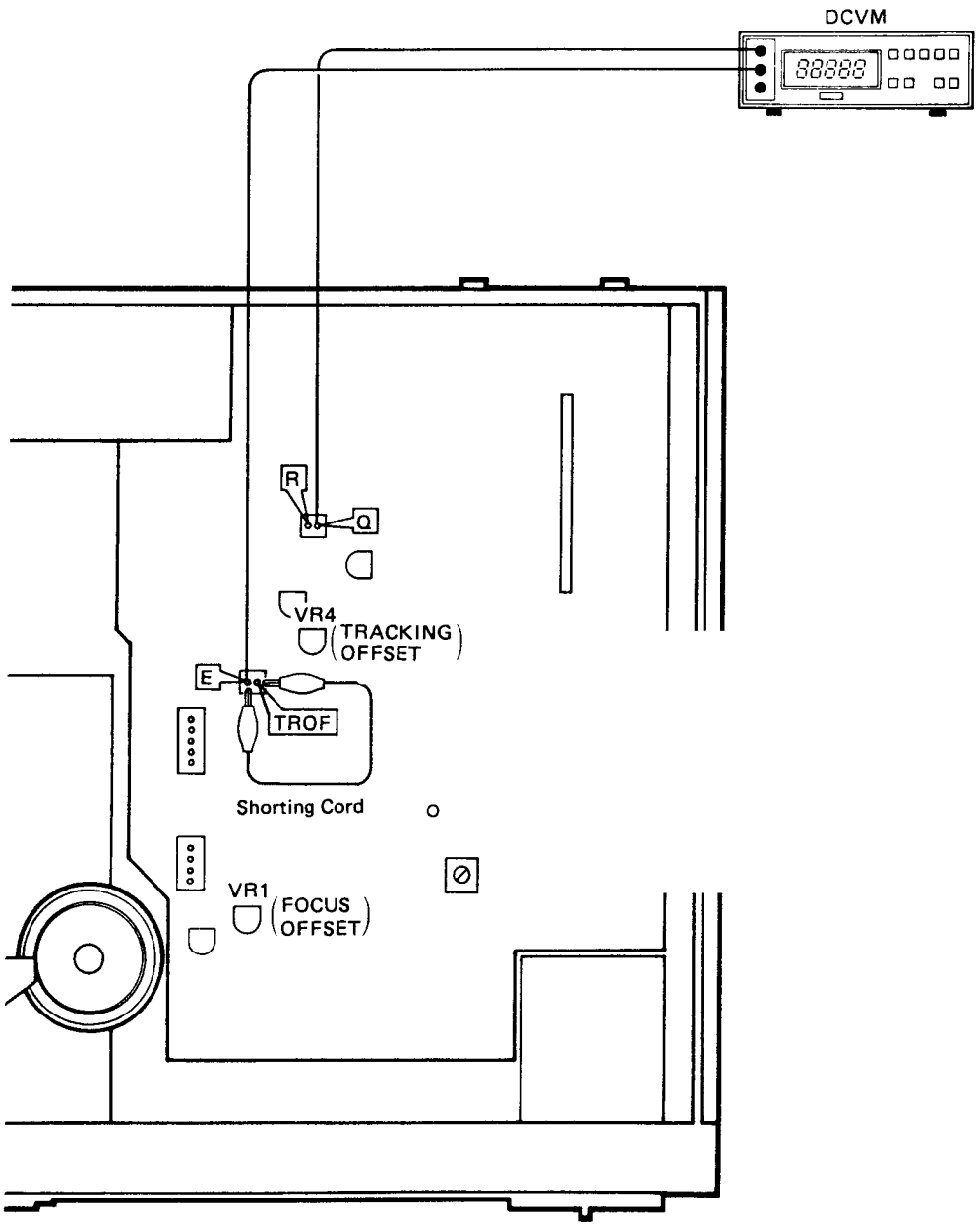


Fig. G

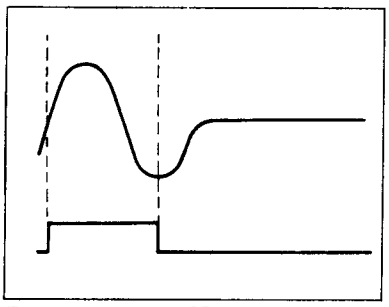
Adjustment of Kick Gain (Step 8)

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)

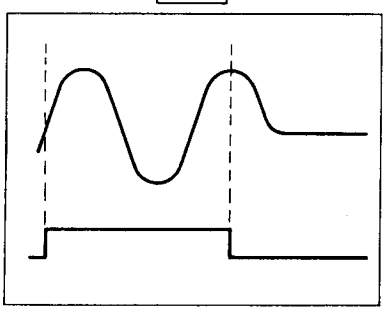
① Connect the measuring instruments, as shown in Fig. H.
② Press POWER key. (POWER ON)
③ Load the test disc.
④ Press PLAY key.
⑤ Observe waveform while pressing Fast Forward mode key (▶▶) for 3 seconds.
⑥ Adjust VR9 (KICK GAIN) so that the TER signal cycle is 1.0 when TRHD signal level is High.
* Adjust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

NG



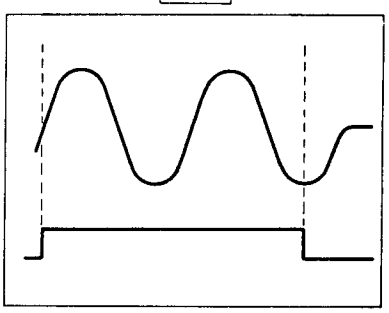
This shows about 0.75 cycle which is incorrect

OK



This shows about 1.25 cycle which is within specification.

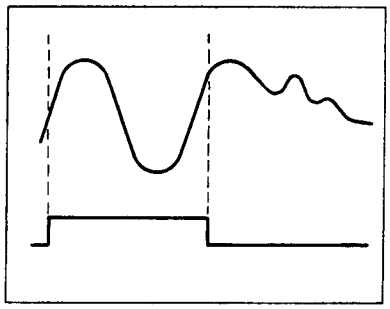
NG



This shows about 1.75 cycle which is incorrect

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

NG



Not converging gently

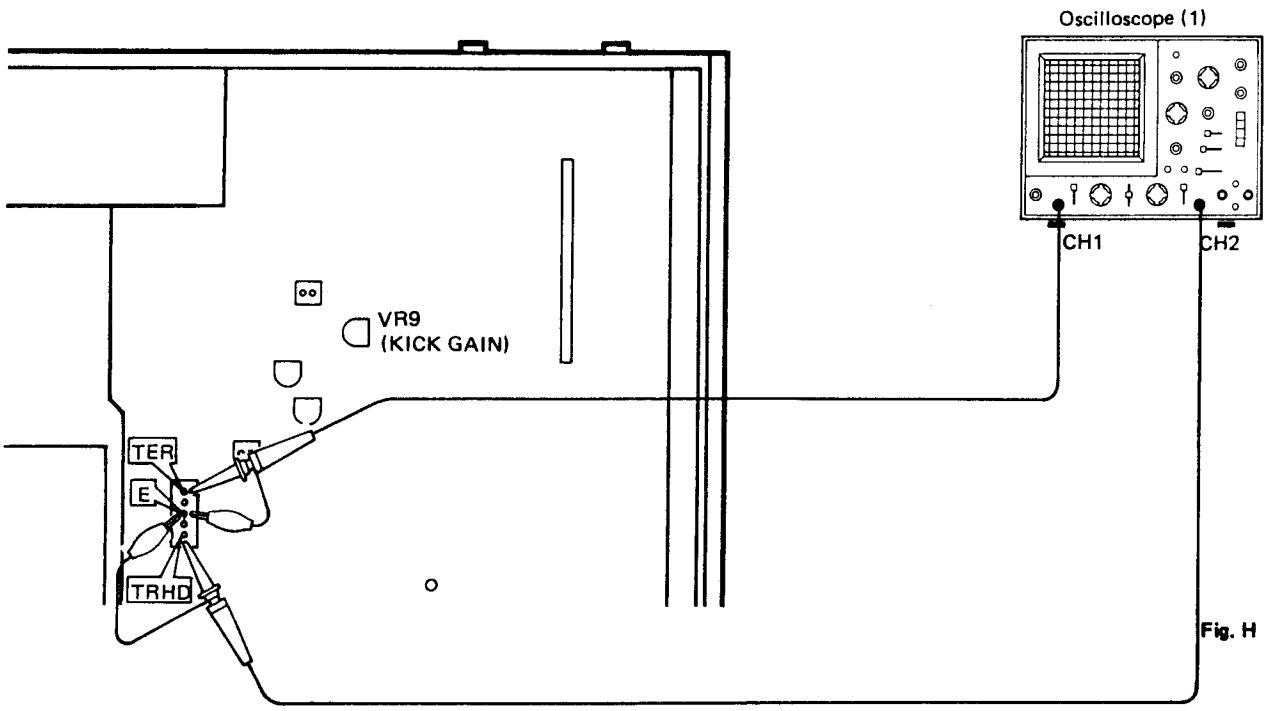


Fig. H

Confirmation of Jitter (Step 9)

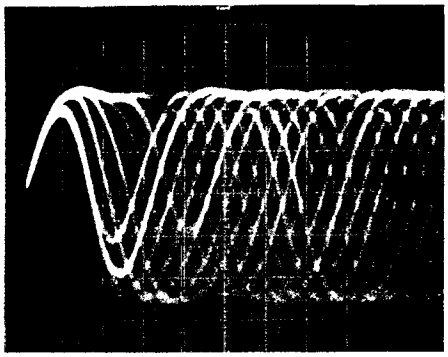
Oscilloscope (2) Settings

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

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

Oscilloscope (2)

Eye pattern



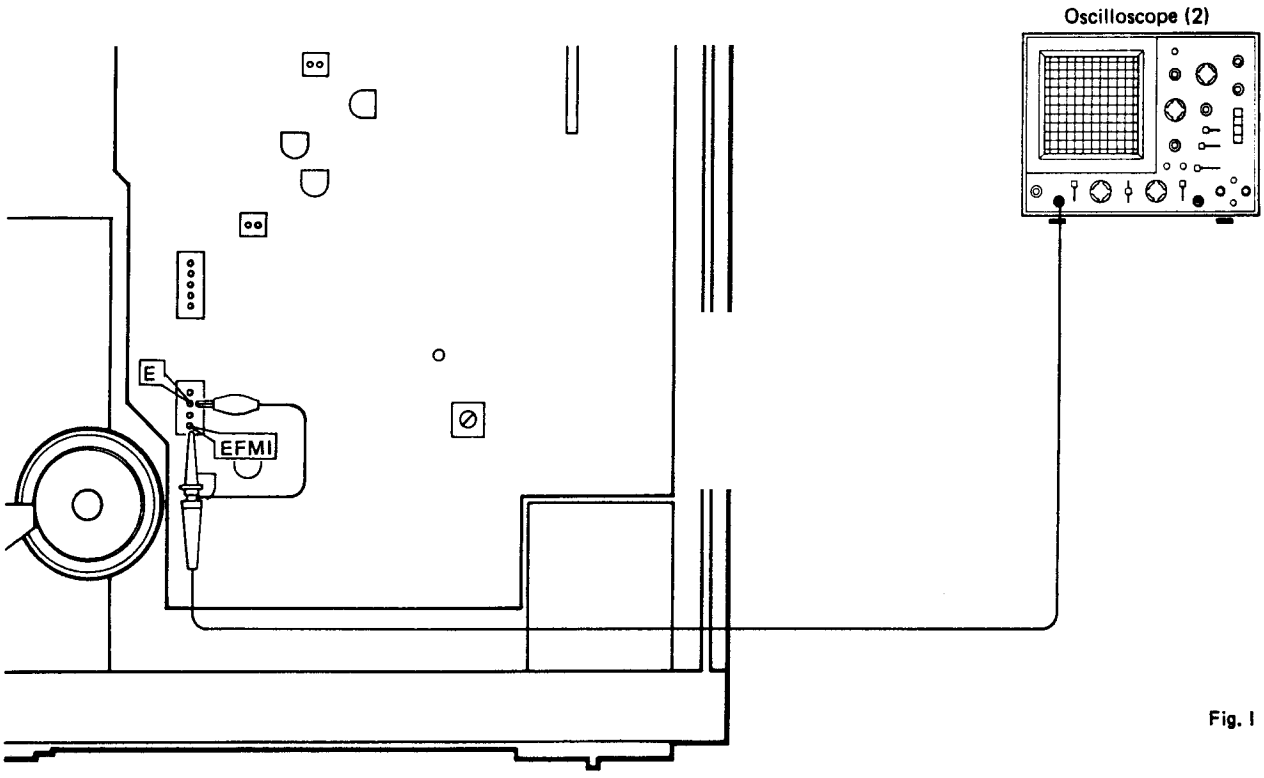
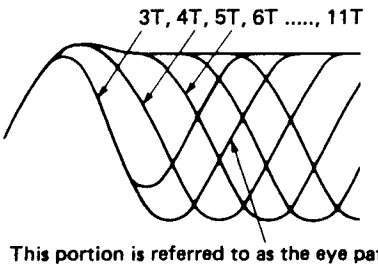


Fig. I

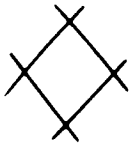
Waveforms 3T – 11T.



This portion is referred to as the eye pattern.

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

Good waveform



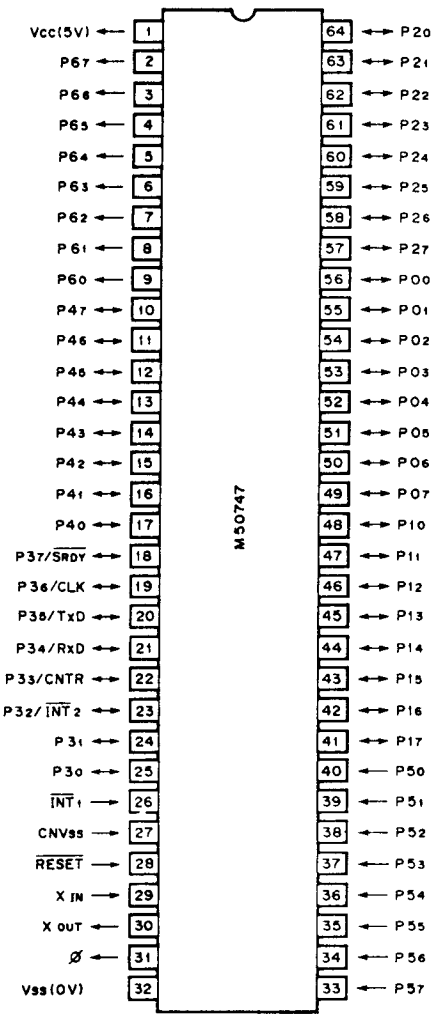
Abnormal waveform

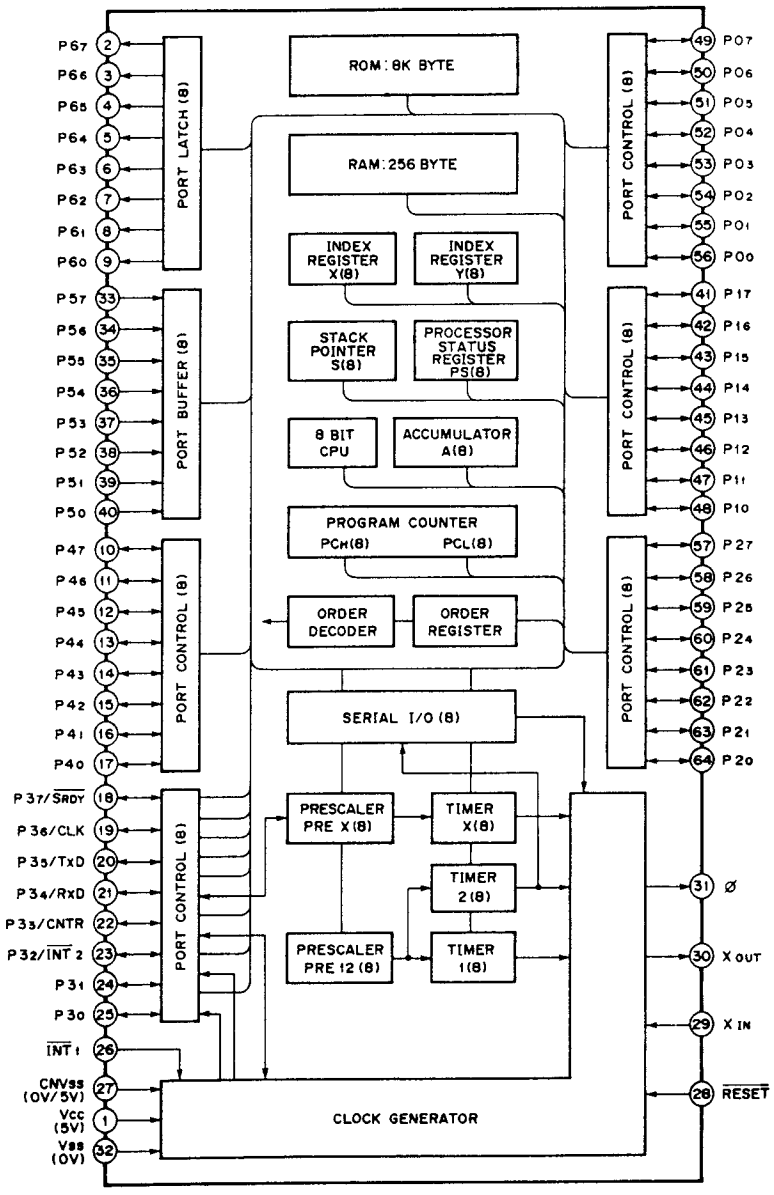
Confirmation of Skip Search Operation (Step 10)

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.

■ IC DATA

IC301 : M50747
8 bit μ-COM

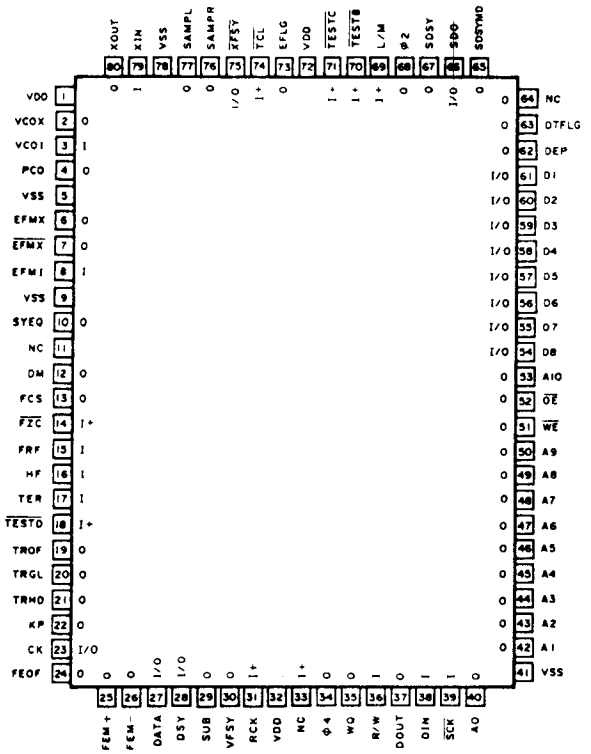


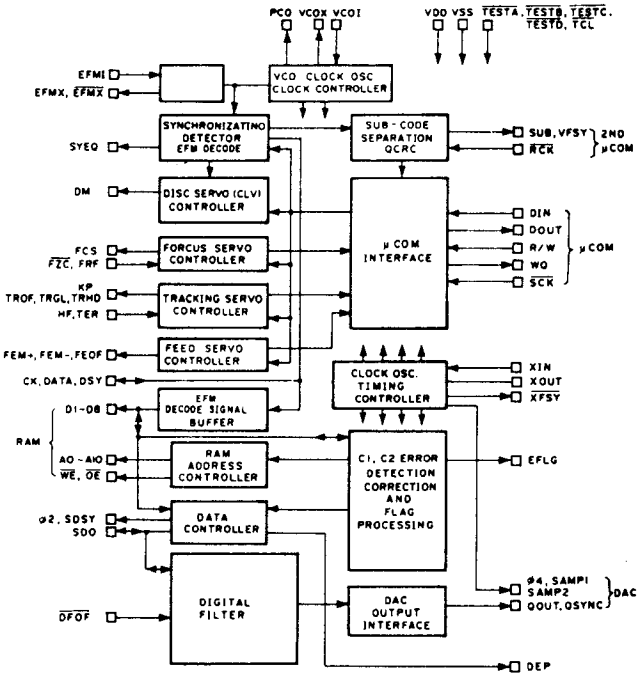


Pin No.	Pin Name	Description	I/O	Active	Function
1	Vcc				5V
2	P67 (O)				N. C.
3	P66 (O)	Sg	O	H	FLT segment n
4	P65 (O)	Sf	O	H	" m
5	P64 (O)	Se	O	H	" l
6	P63 (O)	Sd	O	H	" k
7	P62 (O)	Sc	O	H	" j
8	P61 (O)	Sb	O	H	" i
9	P60 (O)	Sa	O	H	" h
10	P47	D2	O	H	Digit line D2
11	P46	D1	O	H	" D1
12	P45	D0	O	H	" D0
13	P44	$\overline{BAK}$	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/$\overline{SRDY}$				N. C.
19	P36/CLK		I/O		SPC Interface
20	P35/TXD	SOUT	O		
21	P34/RXD	SIN	I		
22	P33/CNTR	R/W	O		
23	P32/$\overline{INT2}$	MODE	I	H/L	Mode switch
24	P30	WQ	I		SPC Interface
25	P31	CLK	O		
26	$\overline{INT1}$				N. C.
27	CNVSS				GND
28	$\overline{RESET}$		I		Reset
29	XIN		I		8 MHz Clock
30	XOUT		O		
31	ϕ		O		Timing output
32	VSS				GND
33	P57 (I)	$\overline{CD\_STOP}$	I	L	System input
34	P56 (I)	$\overline{CD\_PLAY}$	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	$\overline{CLOSESW}$	O	L	END switch (close)
50	P06	$\overline{OPENSW}$	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	" g
59	P25	Sm	O	H	" f
60	P24	Sl	O	H	" e
61	P23	Sk	O	H	" d
62	P22	Sj	O	H	" c
63	P21	Si	O	H	" b
64	P20	Sh	O	H	" a

IC14 : YM3616
Signal Processor & Controller

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

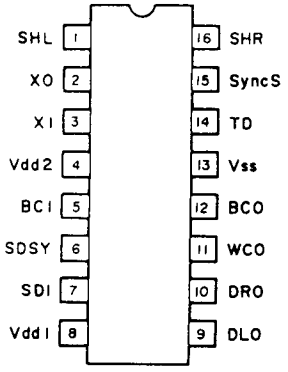


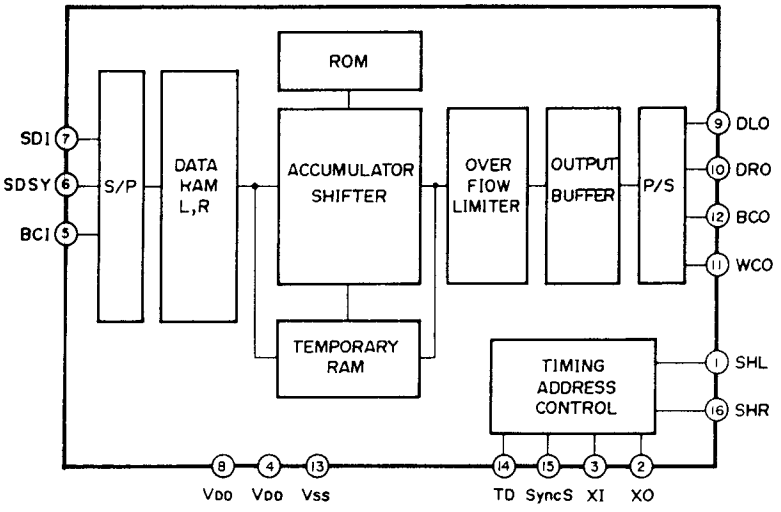


Pin No.	Pin Name	I/O	Function
1	VDD		Power Supply
2	VCOX	O	Clock Playback Circuit 4PCO
3	VCOI	I	
4	PCO	O	
5	VSS		GND
6	EFMX	O	EFM Signal External Circuit
7	$\overline{\text{EFMX}}$	O	
8	EFMI	I	
9	VSS		GND
10	SYEQ	O	Synchronized Uniform Signal
11	N.C.		Not Use
12	DM	O	Disc Servo { LOW (0V): FORWARD OPEN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

Pin No.	Pin Name	I/O	Function
23	CK		EFM Demodulated Signal Check Output (4.3218MHz, clock)
24	FEOF	O	Feed Servo System
25	FEM+	O	
26	FEM–	O	
23	CK	I/O	EFM Demodulated Signal Check Output (4.3218MHz clock)
27	DATA	I/O	
28	DSY	I/O	
29	SUB	O	Sub-code Output
30	VFSY	O	
31	RCK	I	
32	VDD		Power Supply
33	NC	I	Not Use
34	ϕ4		4.3218 MHz Clock
35	WQ	O	Q Code Output System: 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 Error Signal; Digital Data Output; LSB first/MSB first; 2.1659MHz Clock; SB first (H)/MSB first (L) Switch for SDO; Test Terminal } Data Control Circuit Board Serial Signal Output
66	SDO	O	
67	SDSY	O	
68	ϕ2	O	
69	L/M	I	
71	$\overline{TESTC}$	I	
64	NC	O	Not Use; BB Word Clock for DAC; Digrich Signal; 4.3218MHz Clock } DAC Interface
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	

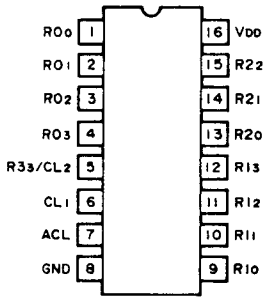
IC20: YM3414
Digital Filter

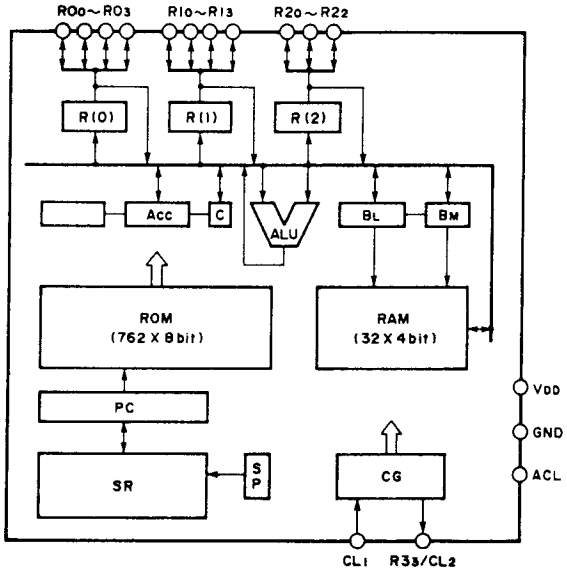




Pin Name	Pin No.	I/O	Description of function
SHL	1	O	At 1DAC (TD = 'L') : Deglitcher signal of Lch (when four-fold) At 2DAC (TD = 'H') : Deglitcher signal of L/Rch (when eight-fold)
X 0 X 1	2 3	O I	Generates quarts oscillation between XI and XO. 16.934MHz (Direct input into XI from the external source 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

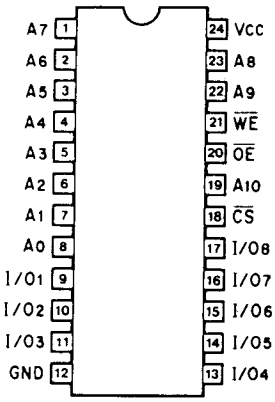
IC302: LU59521
4 bit μ-COM

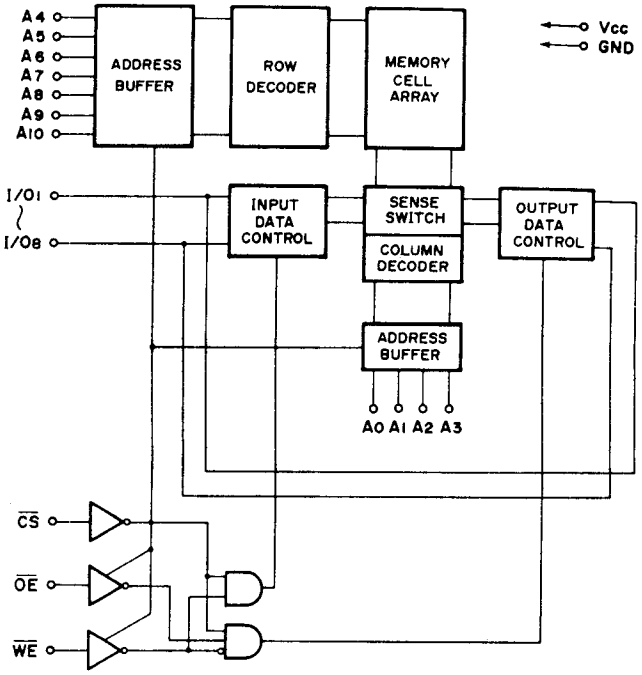




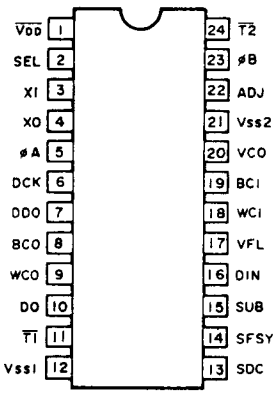
FUNCTION	CONTROL CODE									FUNCTION	CONTROL CODE								
		0	1	2	3	4	5	6	7			0	1	2	3	4	5	6	7
OPEN / CLOSE	01	1	0	0	0	0	0	0	0	10	20	0	0	0	0	0	1	0	0
PLAY	02	0	1	0	0	0	0	0	0	11	21	1	0	0	0	0	1	0	0
⏮	04	0	0	1	0	0	0	0	0	12	22	0	1	0	0	0	1	0	0
⏪	05	1	0	1	0	0	0	0	0	13	23	1	1	0	0	0	1	0	0
⏩	06	0	1	1	0	0	0	0	0	14	24	0	0	1	0	0	1	0	0
⏭	07	1	1	1	0	0	0	0	0	15	25	1	0	1	0	0	1	0	0
REPEAT S/F	08	0	0	0	1	0	0	0	0	16	26	0	1	1	0	0	1	0	0
REPEAT A–B	09	1	0	0	1	0	0	0	0	17	27	1	1	1	0	0	1	0	0
TIME DISP	0A	0	1	0	1	0	0	0	0	18	28	0	0	0	1	0	1	0	0
INDEX	0B	1	1	0	1	0	0	0	0	19	29	1	0	0	1	0	1	0	0
PROGRAM MAN'L	0C	0	0	1	1	0	0	0	0	20	2A	0	1	0	1	0	1	0	0
" CANCEL	0D	1	0	1	1	0	0	0	0	21	2B	1	1	0	1	0	1	0	0
" DEL	0E	0	1	1	1	0	0	0	0	22	2C	0	0	1	1	0	1	0	0
0	10	0	0	0	0	1	0	0	0	23	2D	1	0	1	1	0	1	0	0
1	11	1	0	0	0	1	0	0	0	24	2E	0	1	1	1	0	1	0	0
2	12	0	1	0	0	1	0	0	0	PAUSE	1E	0	1	1	1	1	0	0	0
3	13	1	1	0	0	1	0	0	0	STOP	1F	1	1	1	1	1	0	0	0
4	14	0	0	1	0	1	0	0	0	PROGRAM TAPE	0F	1	1	1	1	0	0	0	0
5	15	1	0	1	0	1	0	0	0	Hi - Bit	38	0	0	0	1	1	1	0	0
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 AUTO	1B	1	1	0	1	1	0	0	0										

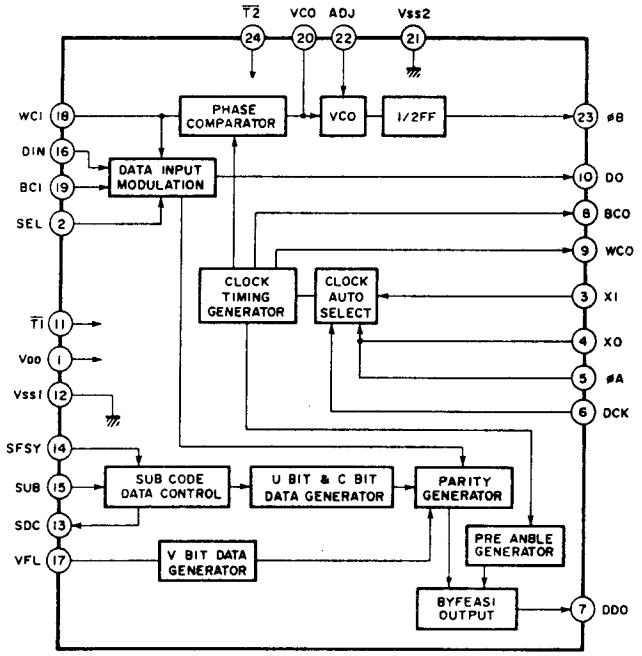
IC15: μPD4016-CX, LC3517A-15, TMM2015BP, TMM2016BP, CXK5816SP, CXK5816PS or CXK5816PN
2048-Word x 8 bit Static RAM



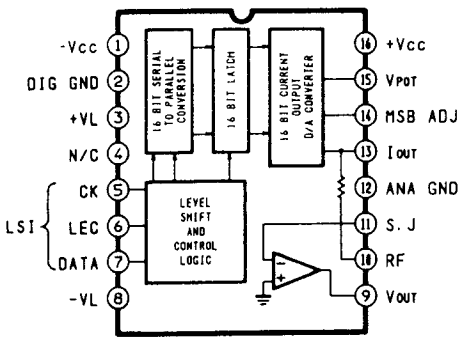


IC16: YM3613B
Digital Audio Interface Transmitter (DIT)

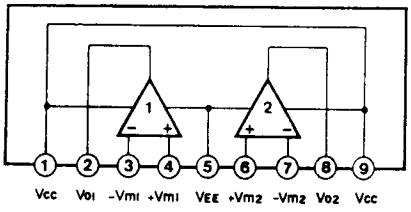




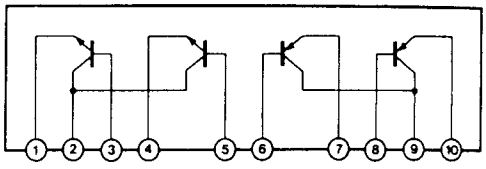
IC22, 23: PCM56J
D/A Converter



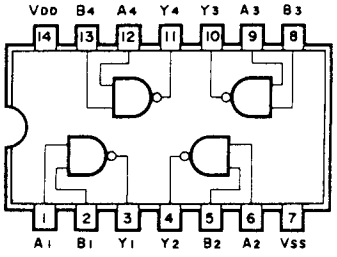
IC1, 8: NJM2043S
IC2, 3, 5 ~ 7: NJM4558S
IC9, 10: NJM2068S
IC11, 12: NJM2068S or μPC4570HA
IC13: NJM4556S
Dual Ope-amp



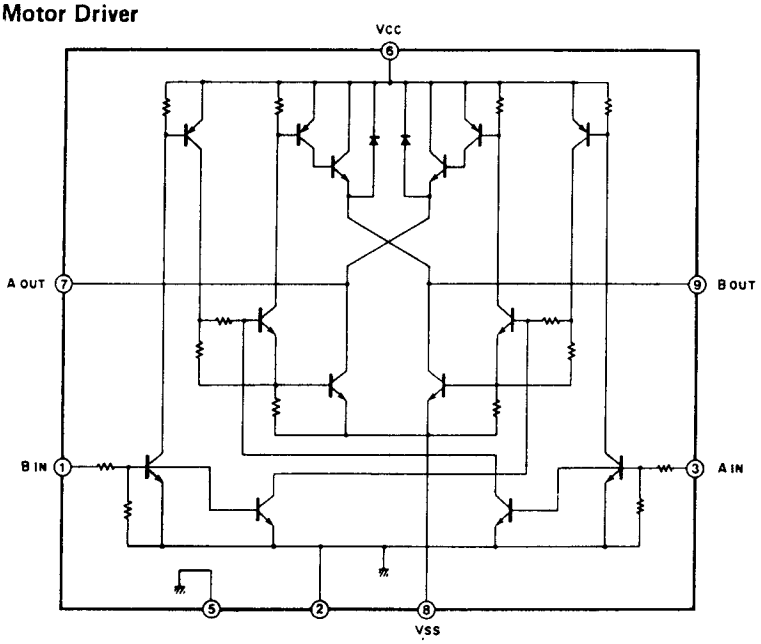
IC4: STA451C
Transistor Array



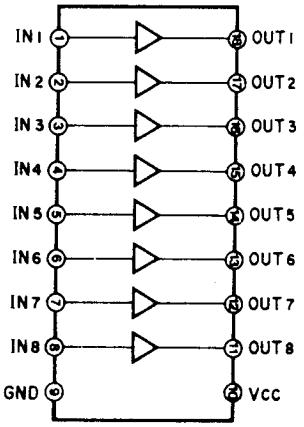
IC25: TC74HC00P
Quad 2-Input NAND Gate



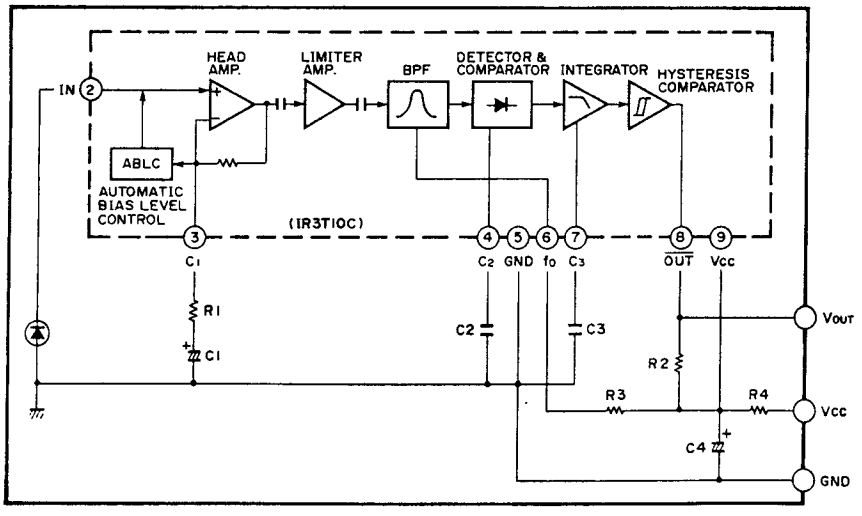
IC26: BA6218
Motor Driver



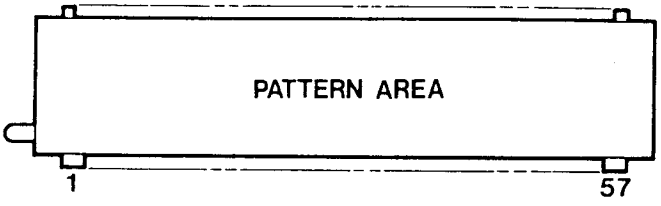
IC303 ~ 305: M54564P
LED Driver

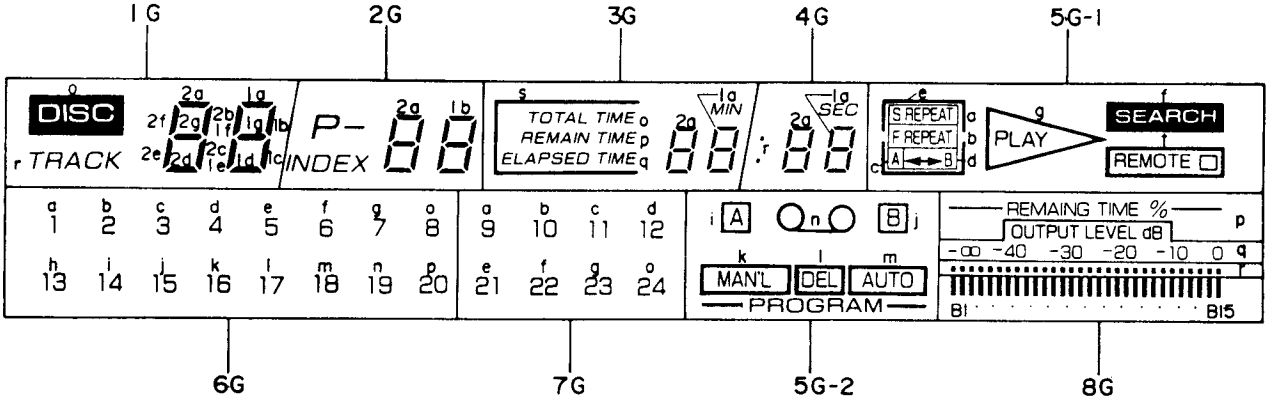


U301: GP1U501



■DISPLAY DATA (V301:FV210G)





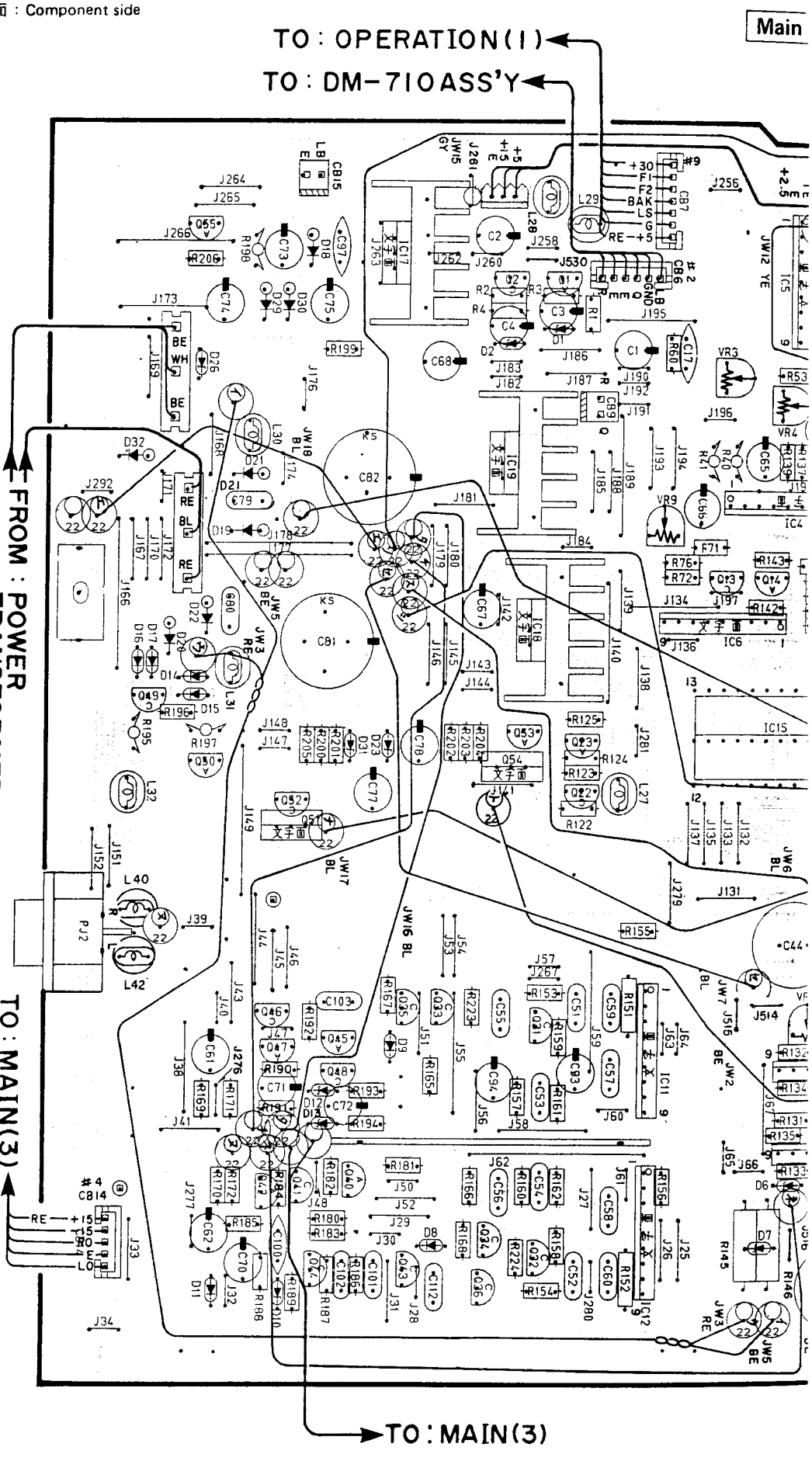
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
CONNECTION	F	F	NP	7G	6G	NC	4G	3G	2G	1G	NP	NP	a	b	c	d	NP	e	f	g	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

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	NP	i	j	k	5G	ℓ	m	8G	n	NP	o	p	NP	q	r	s	t	NP	NP	NP	F	F

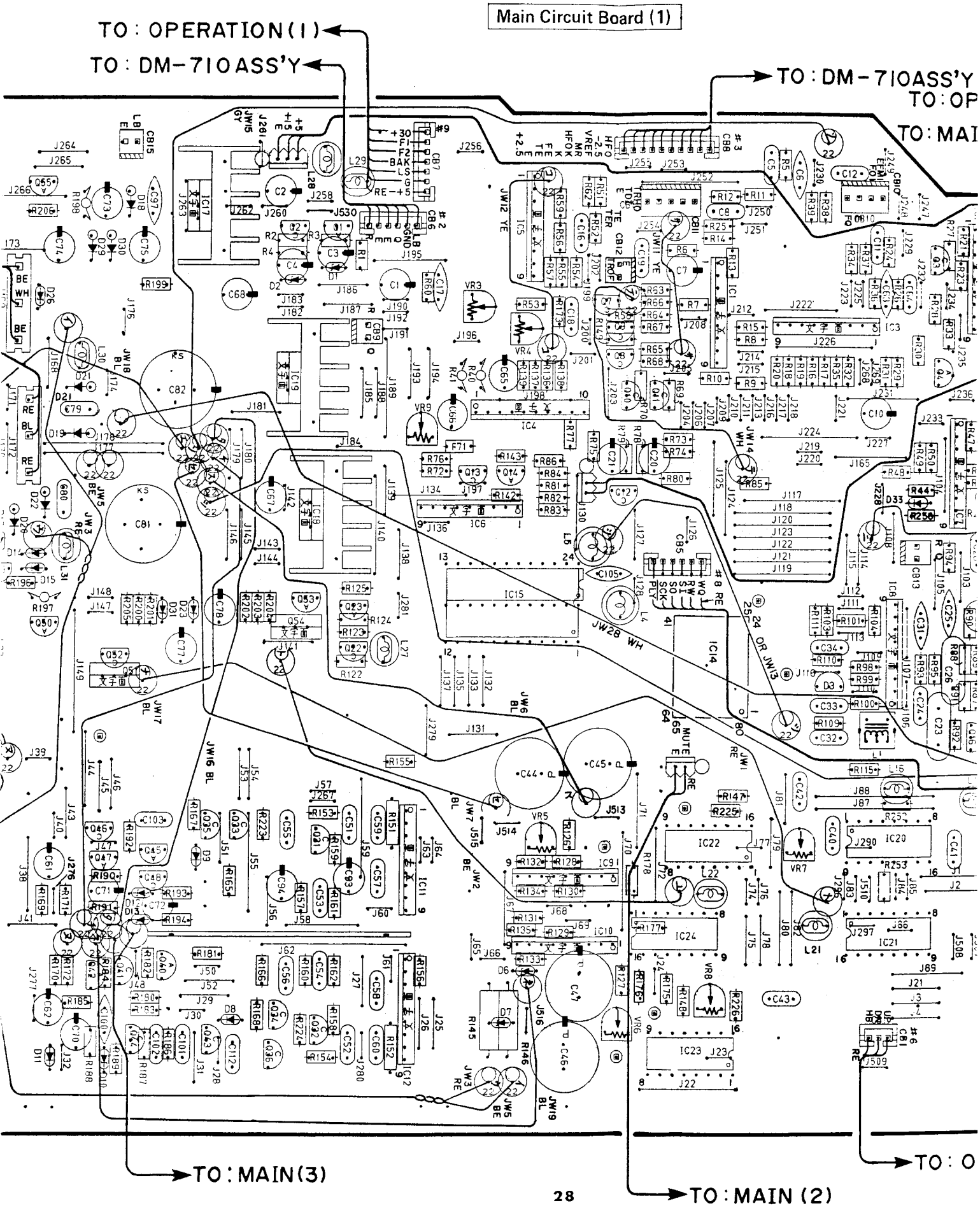
	8G	7G	6G	5G-2	5G-1	4G	3G	2G	1G
a	B7	9	1	–	S REPEAT	1a	1a	1a	1a
b	B6	10	2	–	F REPEAT	1b	1b	1b	1b
c	B3	11	3	–	A	1c	1c	1c	1c
d	B1	12	4	–	↔ B	1d	1d	1d	1d
e	B2	21	5	–	□	1e	1e	1e	1e
f	B5	22	6	–	SEARCH	1f	1f	1f	1f
g	B4	23	7	–	PLAY	1g	1g	1g	1g
h	B15	–	13	–	□	2a	2a	2a	2a
i	B14	–	14	A	–	2b	2b	2b	2b
j	B11	–	15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

■PRINTED CIRCUIT BOARD (Pattern side)

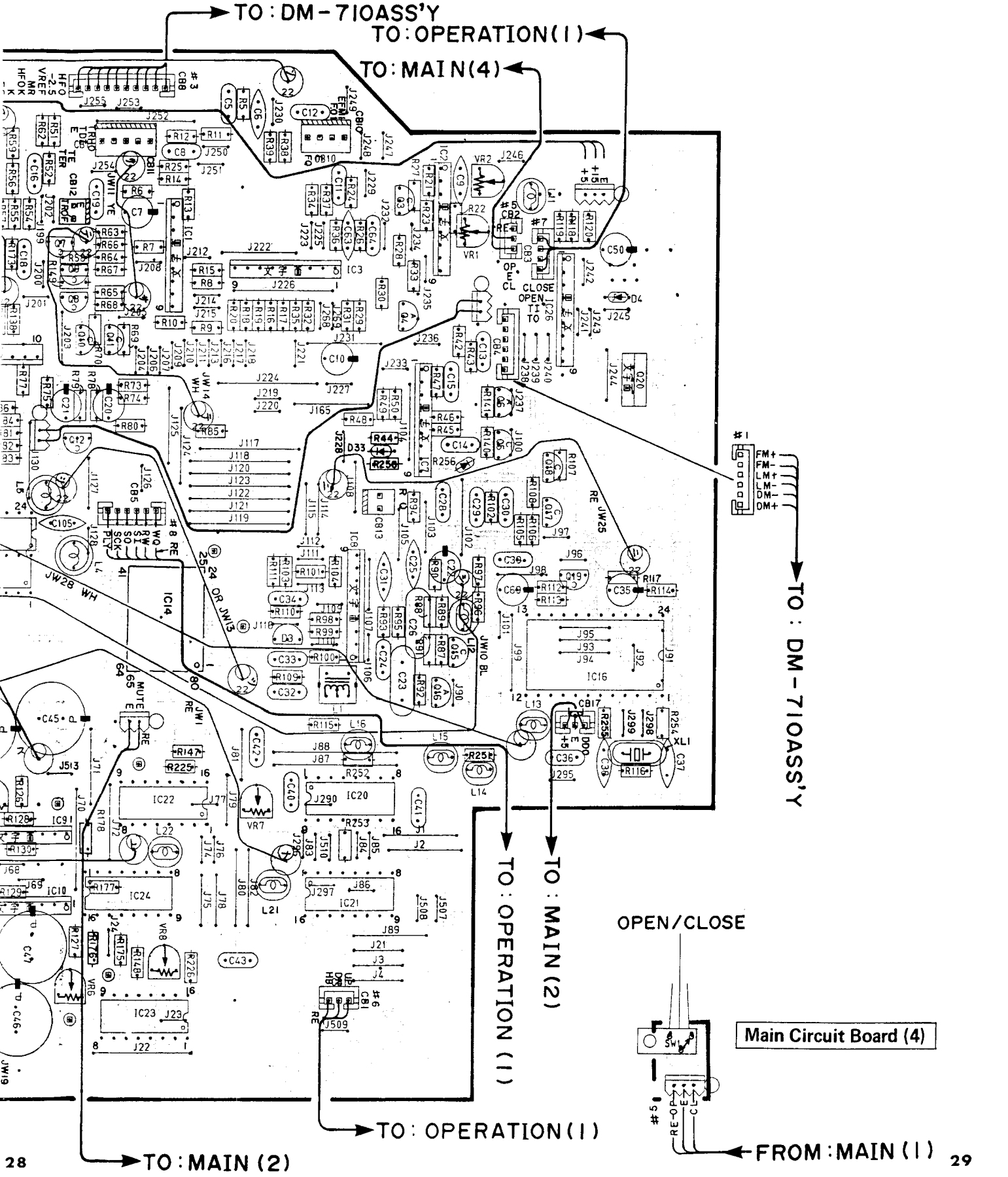
Note) 文字面 : Component side



IT BOARD (Pattern side)



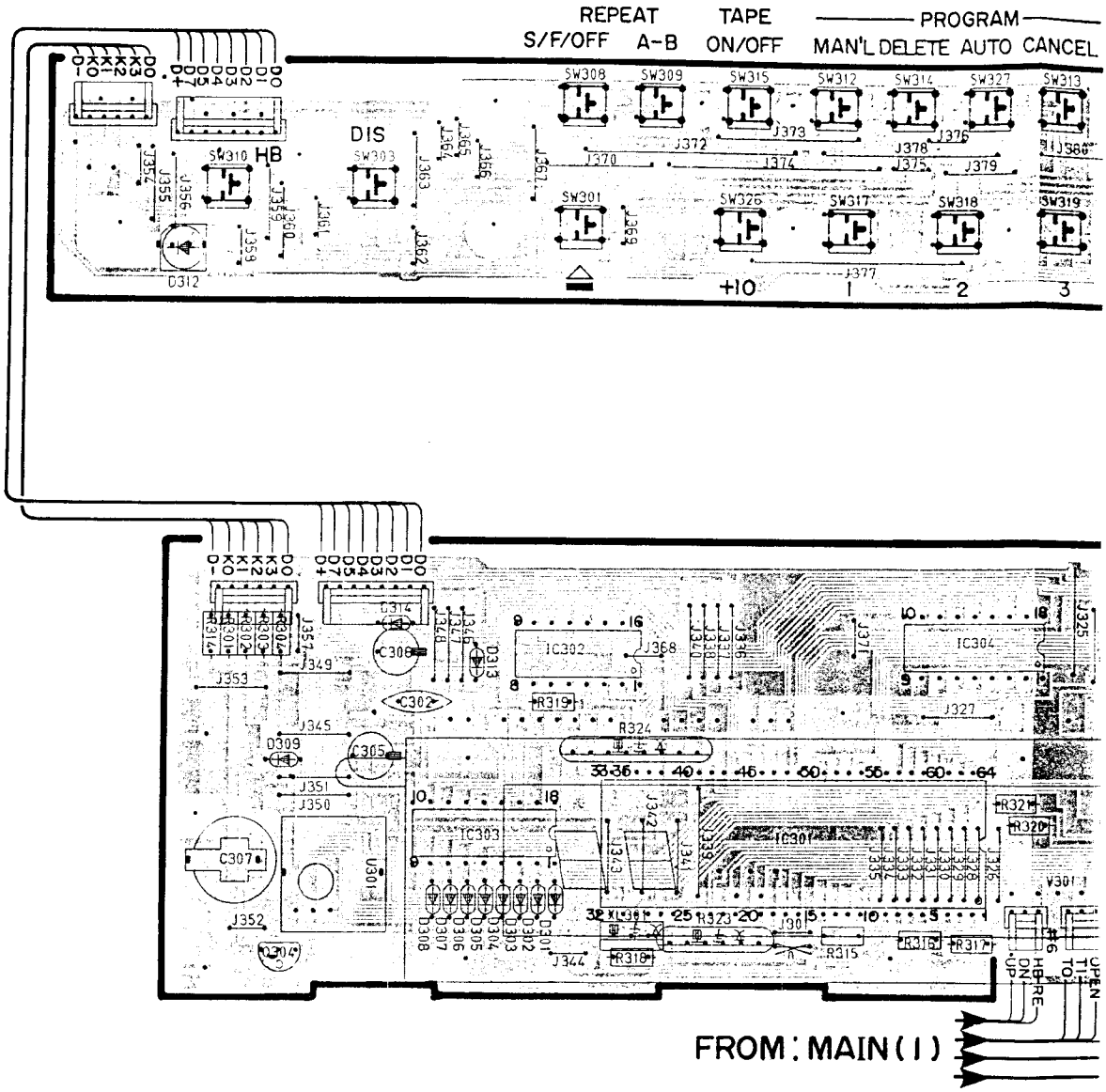
ircuit Board (1)



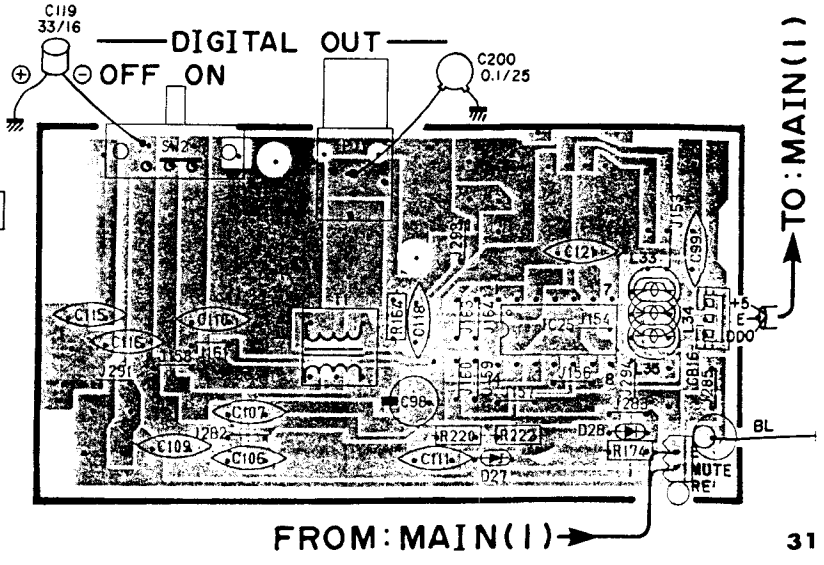
■PRINTED CIRCUIT BOARD(Pattern side)

Note) 文字面 : Component side

Operation Circuit Board (1)

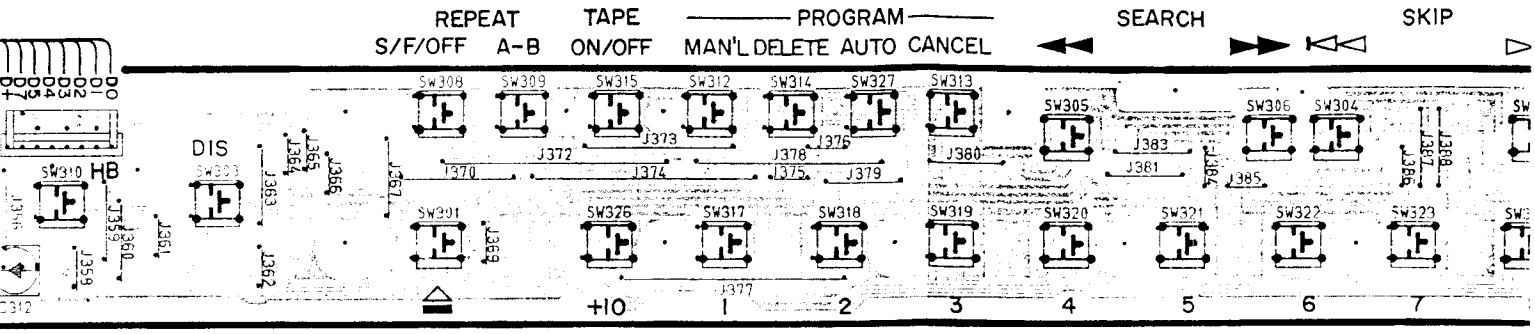


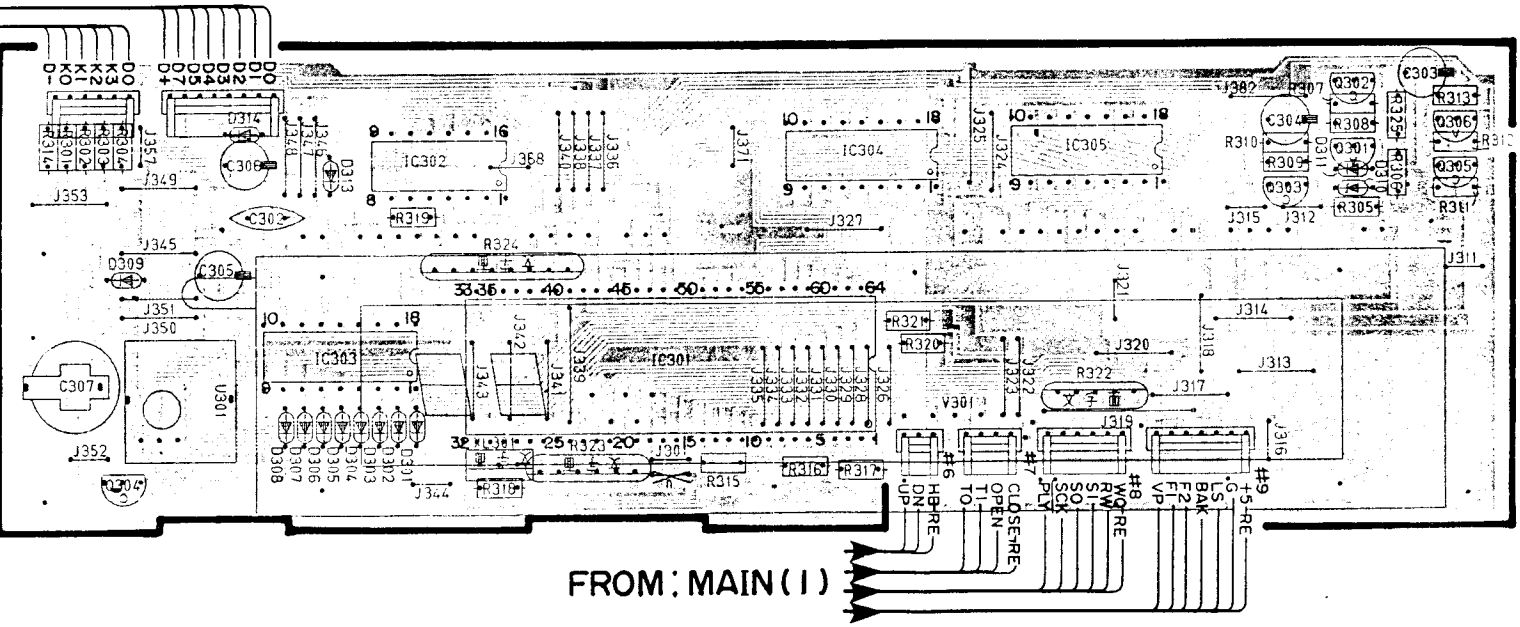
Main Circuit Board (2)



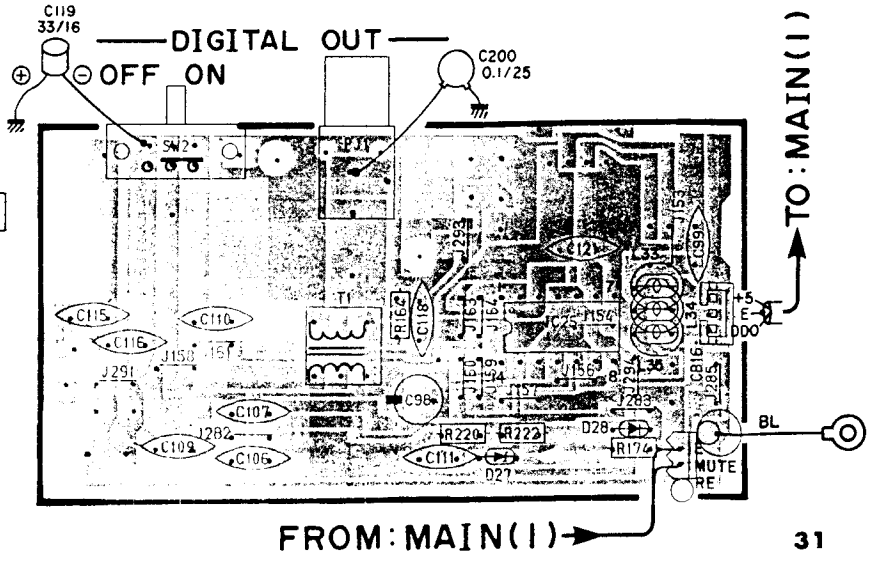
OARD(Pattern side)

Operation Circuit Board (1)

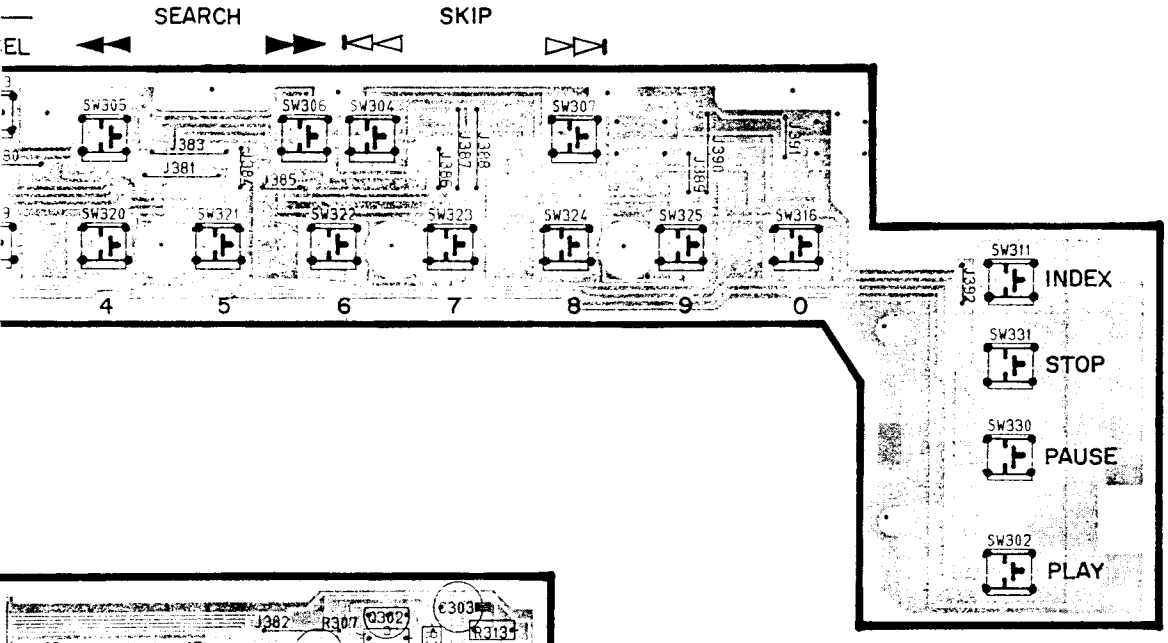


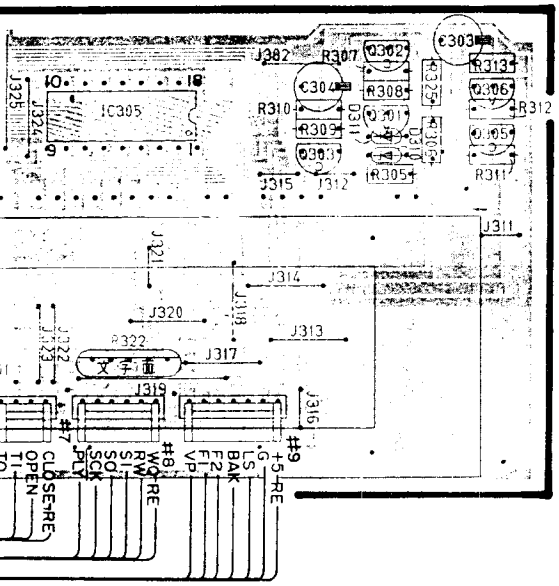


rcuit Board (2)

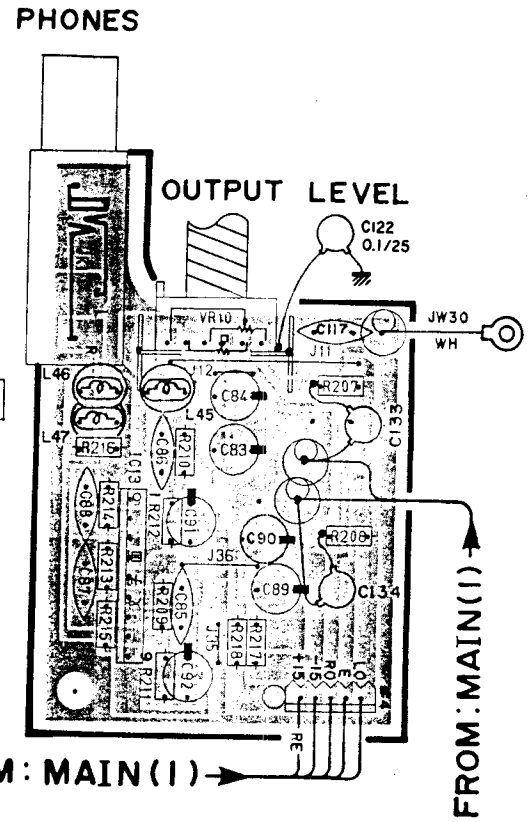


(1)





Operation Circuit Board (2)



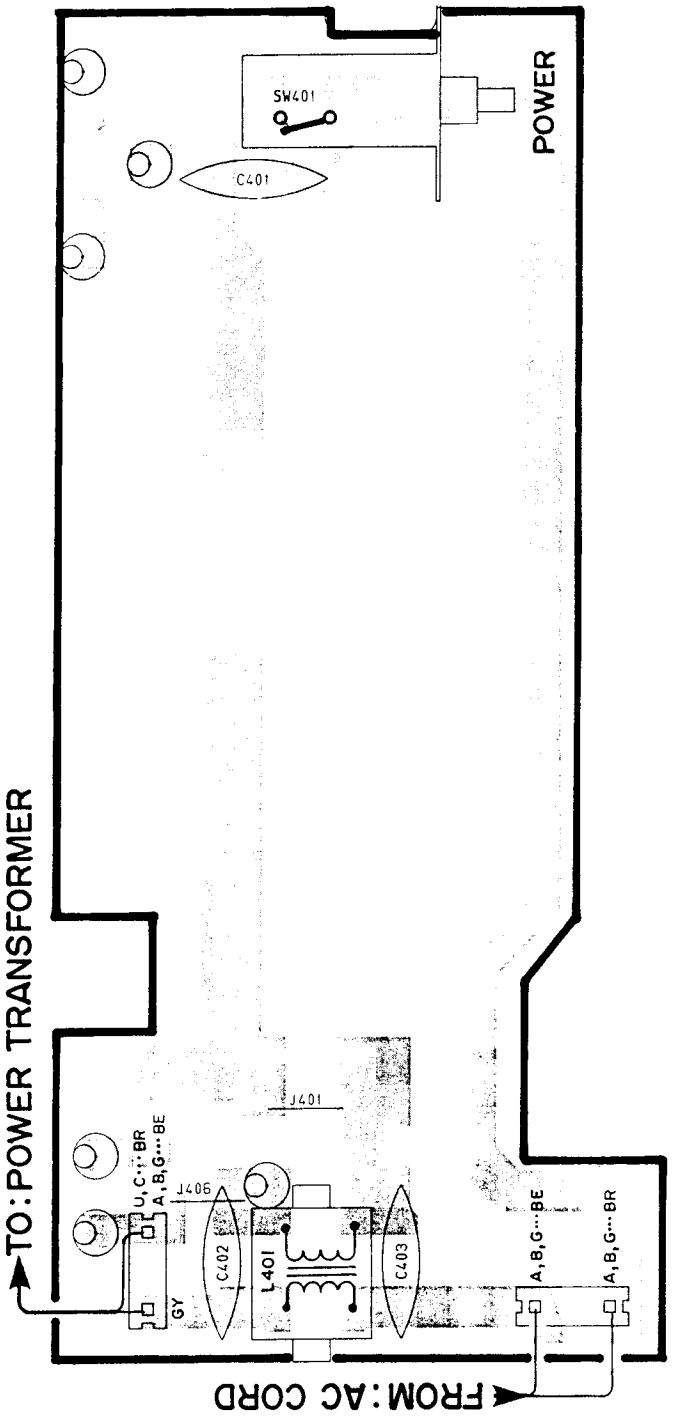
Main Circuit Board (3)

TO: MAIN (I)

FROM: MAIN (I)

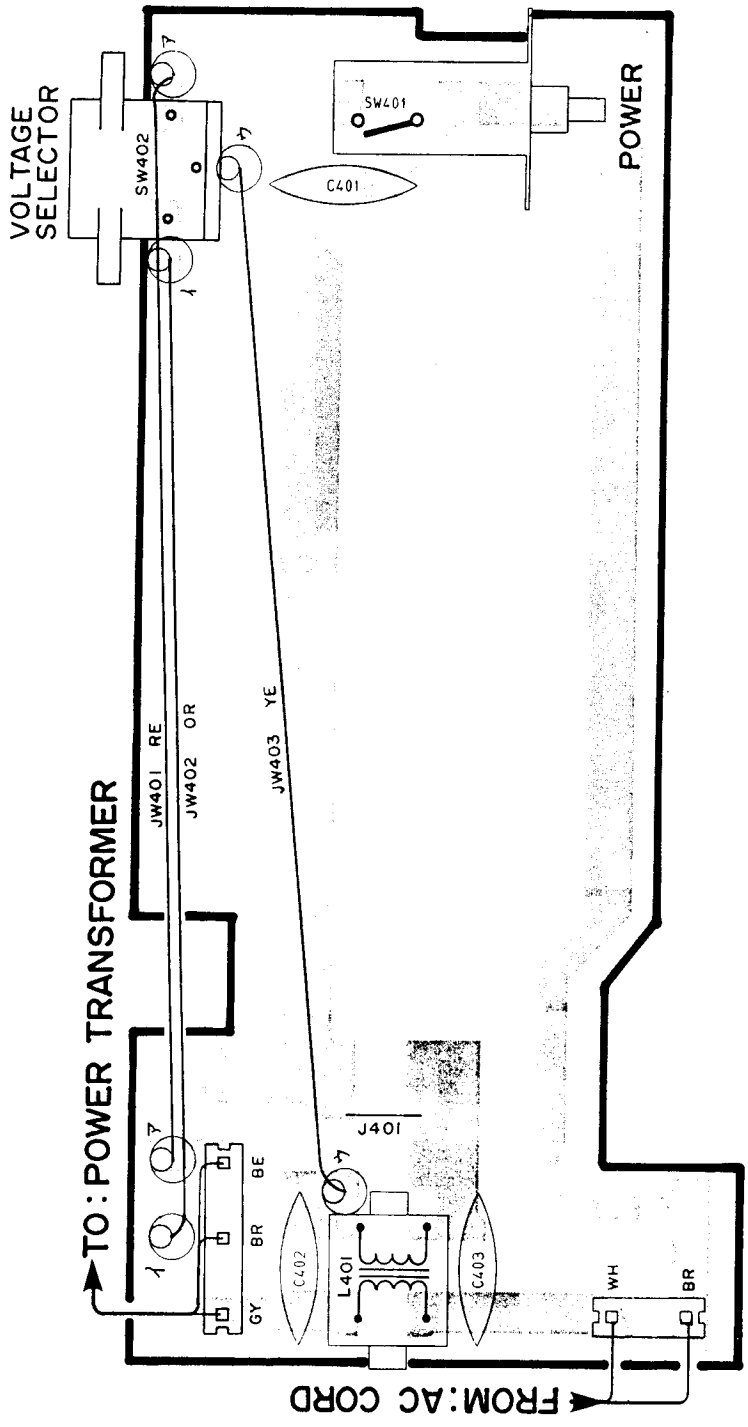
■ PRINTED CIRCUIT BOARD (Pattern side)

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



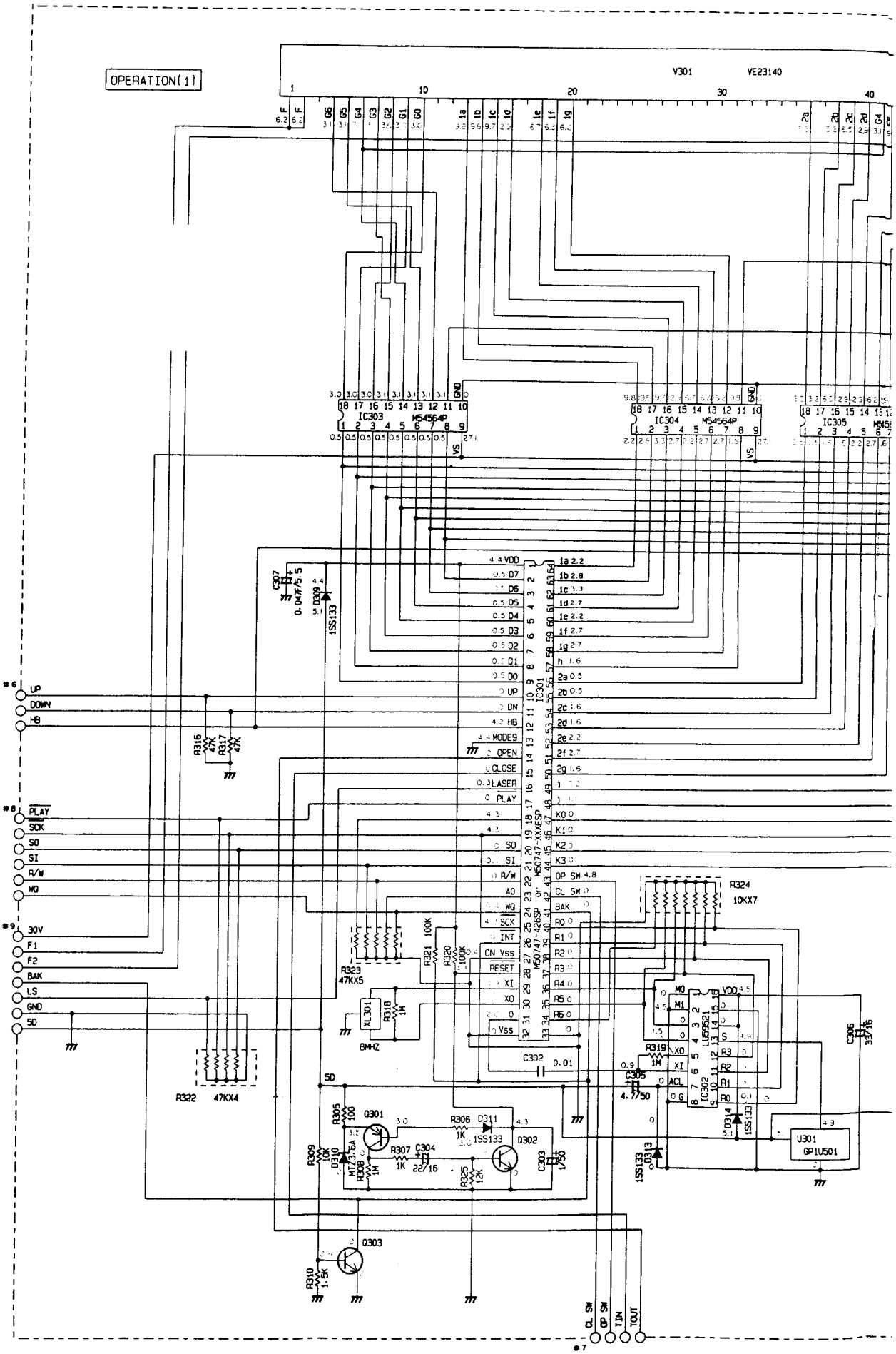
■ PRINTED CIRCUIT BOARD(Pattern side)

Power Circuit Board ..... R model

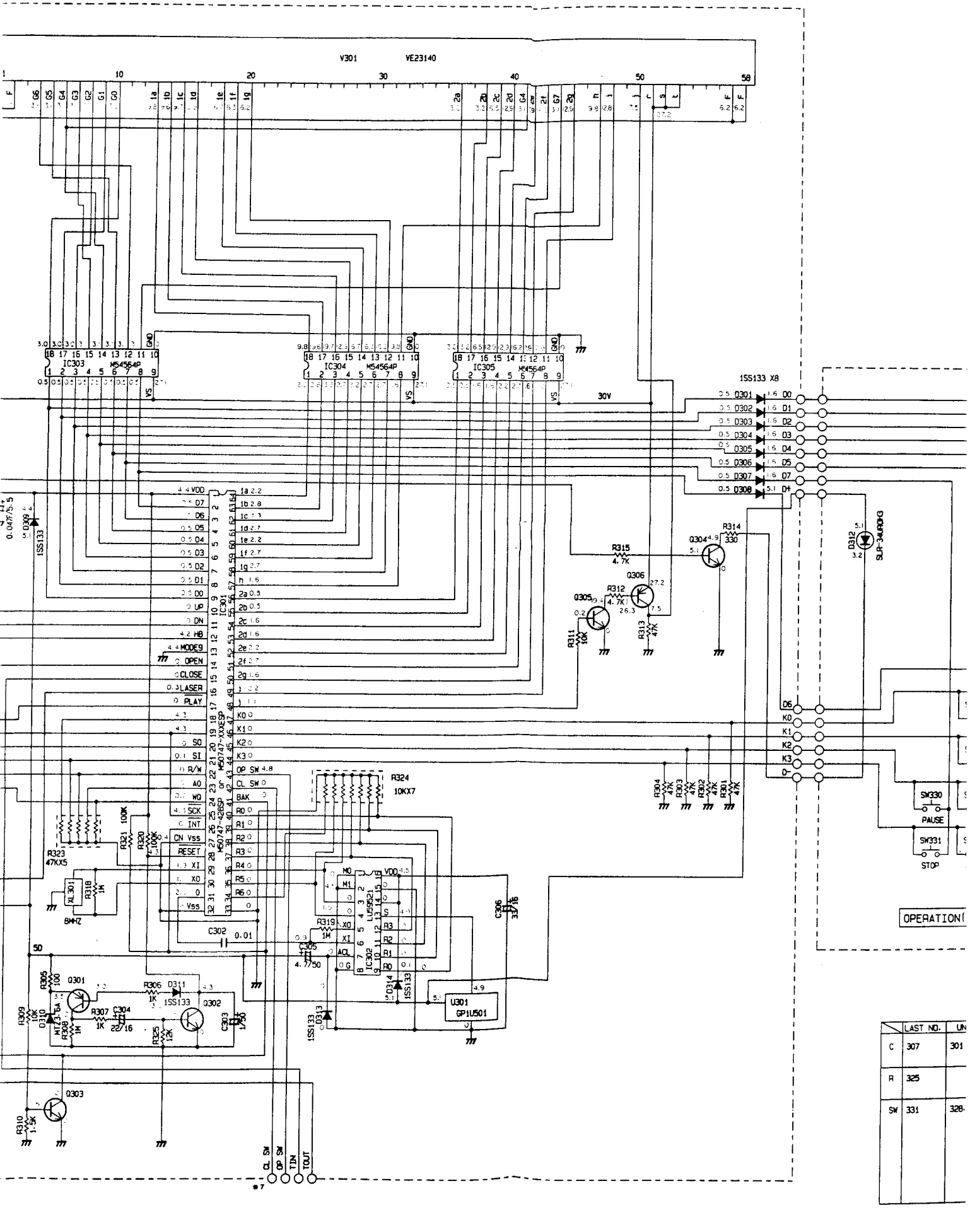


R model

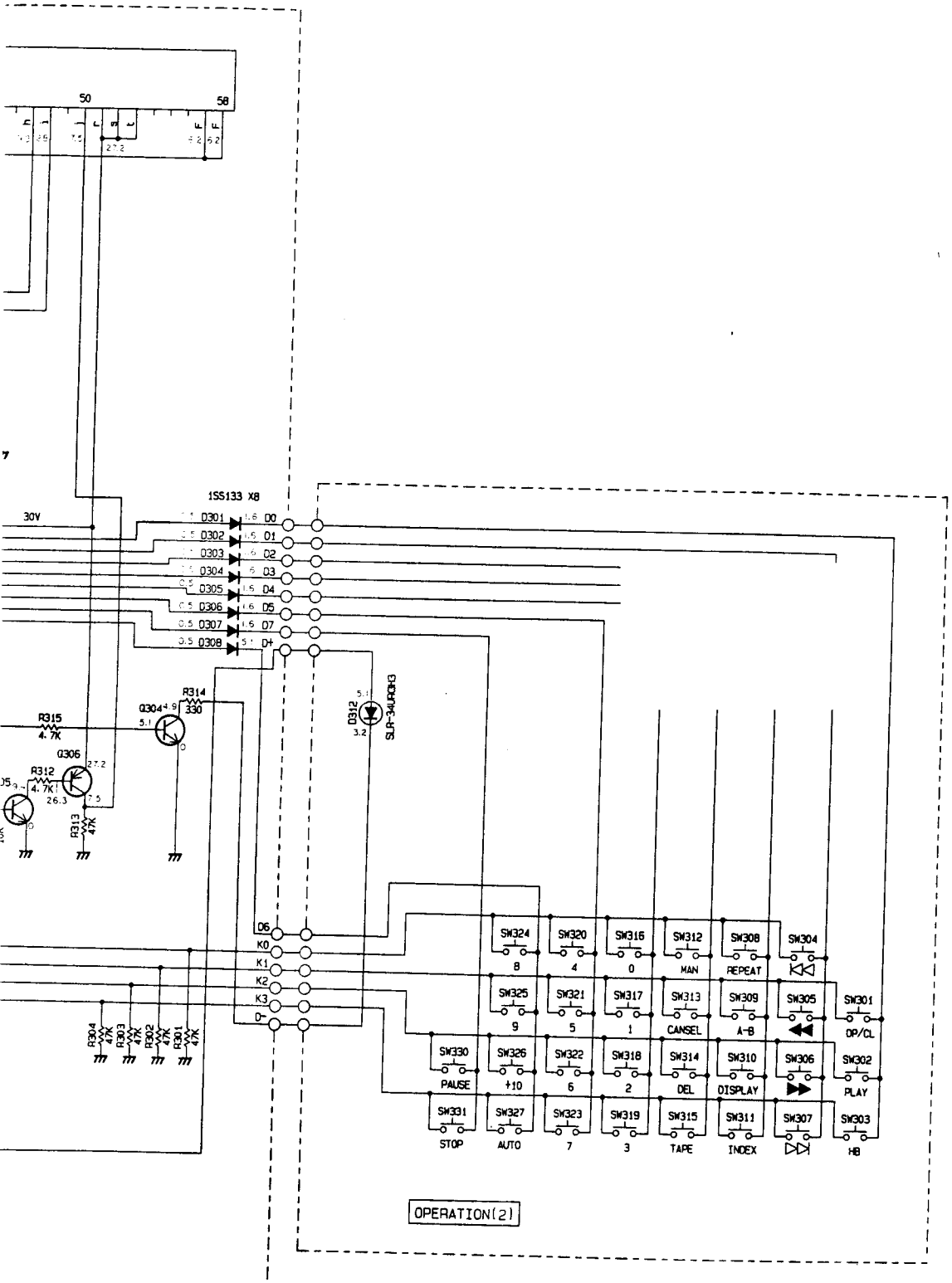
■SCHEMATIC DIAGAM(1/2)



1/2)



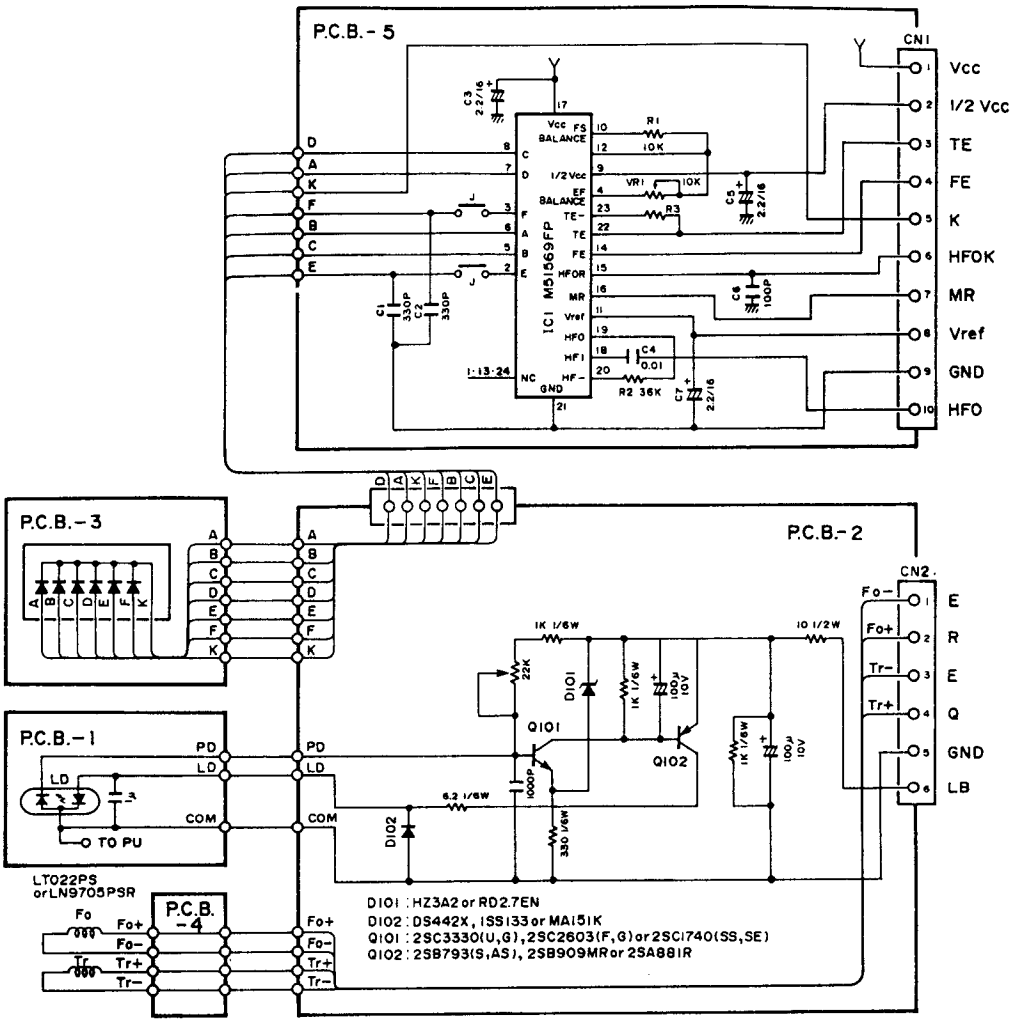
	LAST NO.	UN
C	307	301
R	325	
SW	331	328



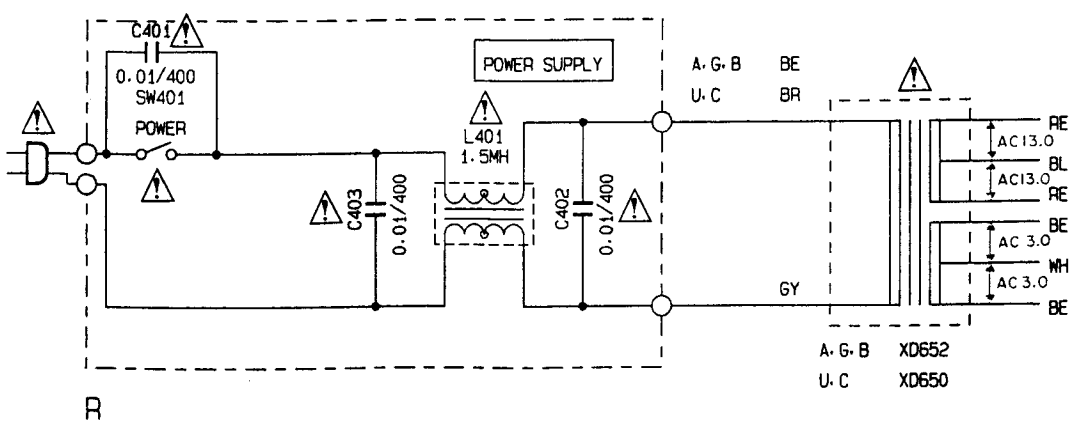
	LAST NO.	UN LISTED NO.
C	307	301
R	325	
SW	331	328-329

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

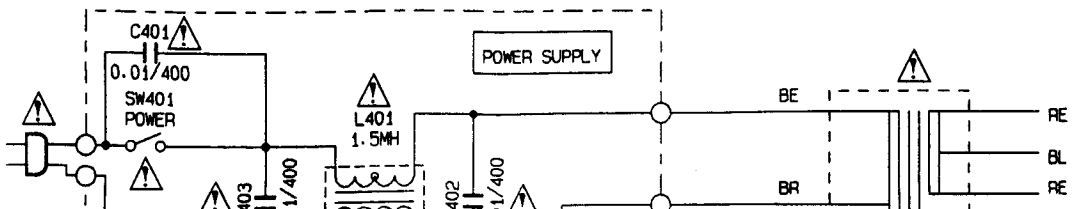
OPTICAL PICKUP HEAD (TAOHS-JP3)

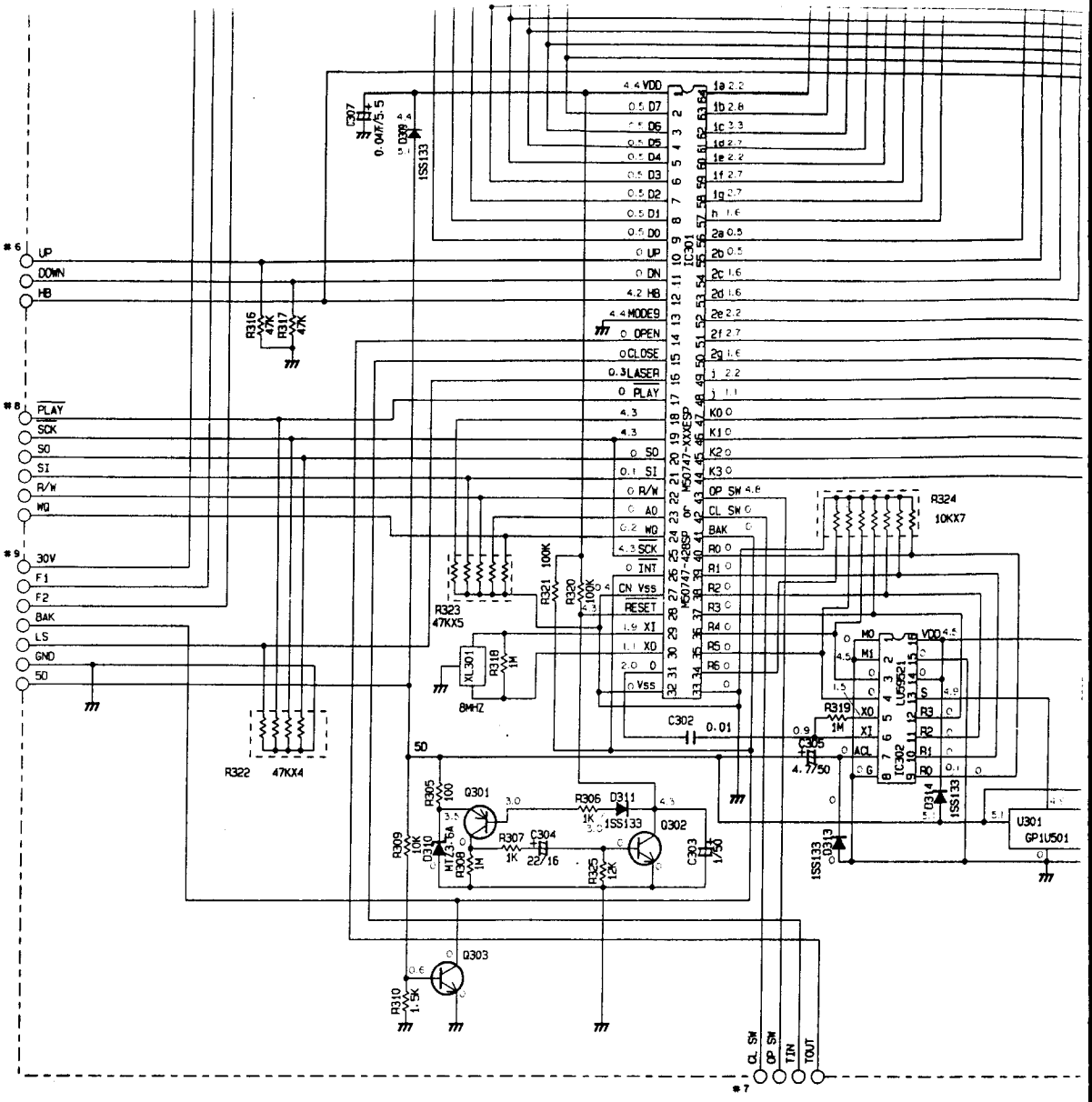


U, C, A, B, G



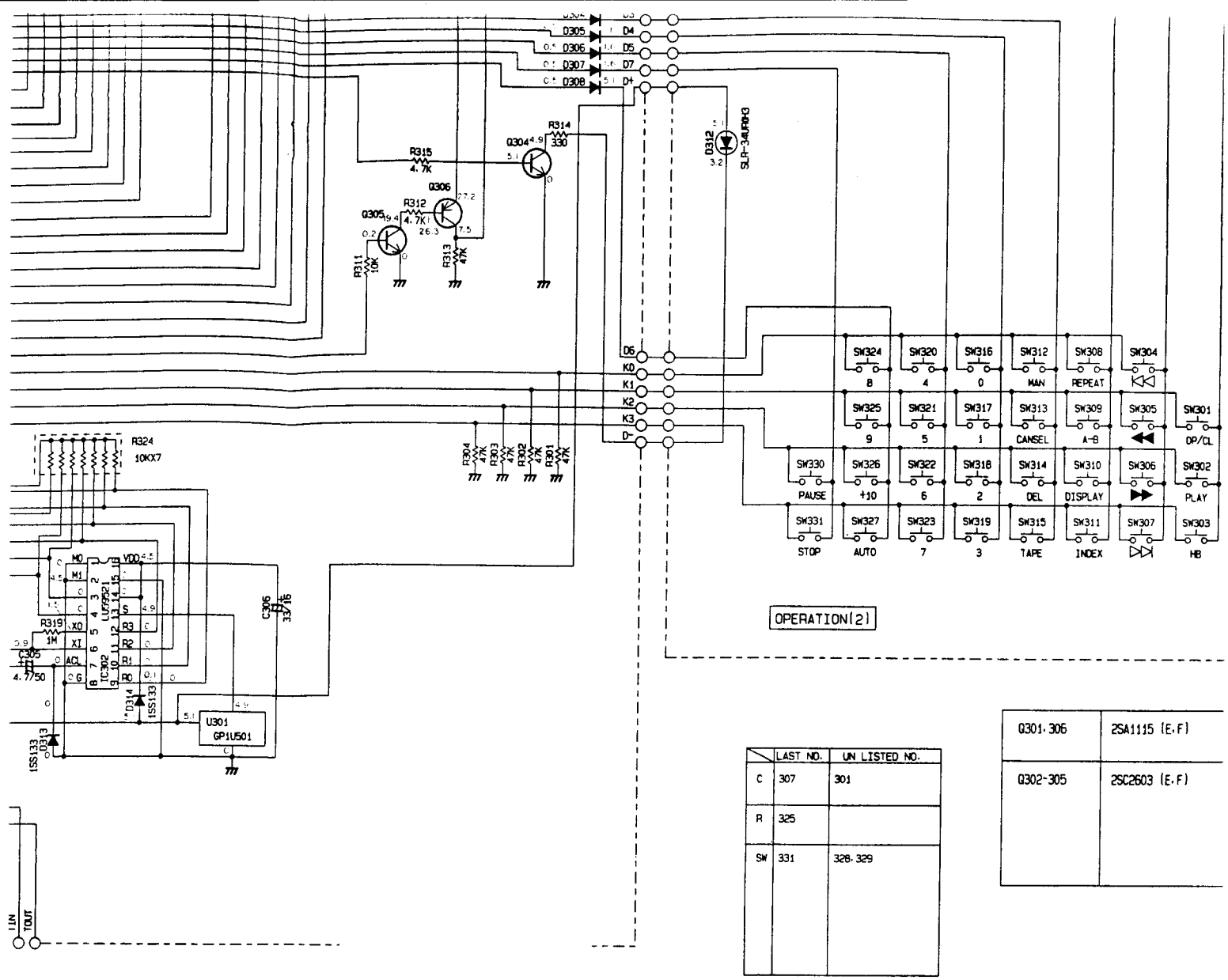
R





PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

2SA933S (Q, R) 2SA1115 (E, F) 2SA1310 (R, S, T) 2SA934 2SB544 2SB1274 (Q, R, S) 2SB1375 2SC1740S (S, R) 2SC2603 (E, F) 2SC3312 (R, S, T)	2SC2060 2SD400 2SD1913 (R, S) 2SD2012 2SC2878 (A, B) 2SC3327 2SD1915 2SC1983 2SD1985 (P, O)	ISR35-100AT-93X ISS133 MTZ12A MTZ6.2A MTZ7.5A MTZ9.1C MTZ5.6C MA4030-L MTZ3.9A MTZ3.6A	ISV55 SVC211	NJM7809FA AN7809F NJM78M05A NJM7909FA AN7909F	NJM4558S NJM4556S NJM2043S NJM2068S μPC4570HA	BA6218

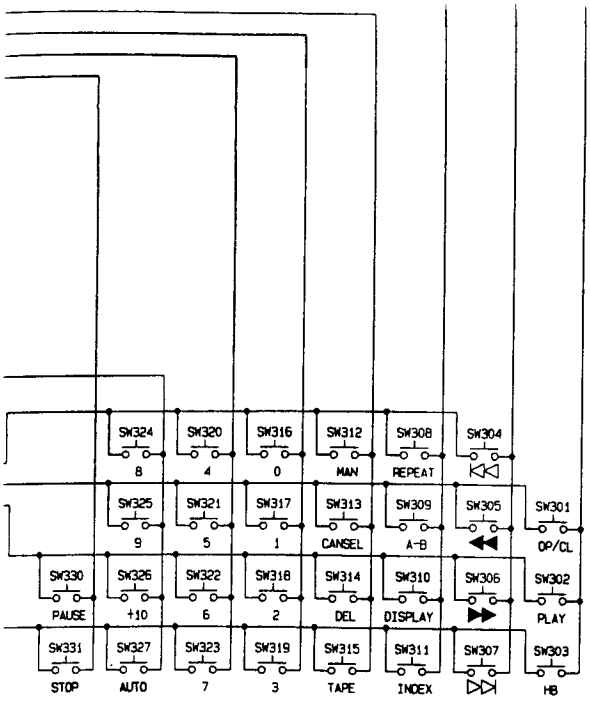


OPERATION(2)

	LAST NO.	UN LISTED NO.
C	307	301
R	325	
SW	331	328, 329

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

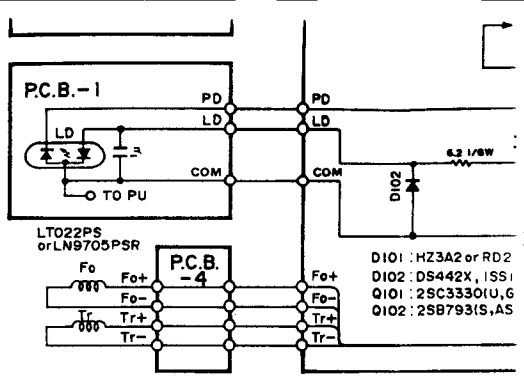
	NJM4558S NJM4556S NJM2043S NJM2068S μPC4570HA	BA6218	STA451C	TC74HC00P	YM3414 PCM56J	LU59521	M54564P	YM3613B μPD4016-CX LC3517A-15 TMM2015BP TMM2016BP CXK5816SP CXK5816PN CXK5816PS	M50747	YM38



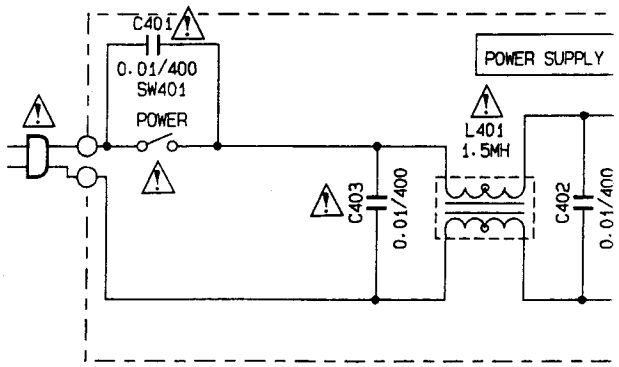
OPERATION(2)

	LAST NO.	UN LISTED NO.
:	307	301
;	325	
SW	331	328-329

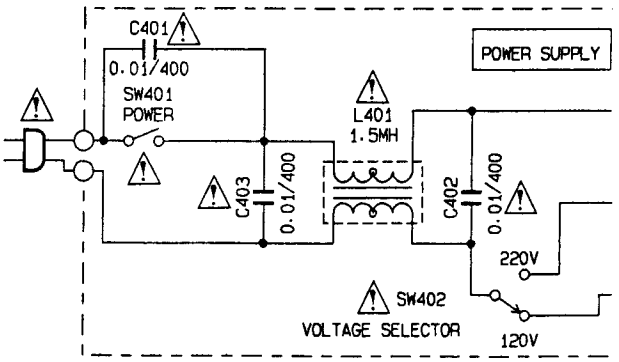
Q301-306	2SA1115 (E,F)
Q302-305	2SC2603 (E,F)

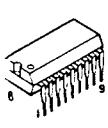
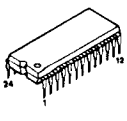
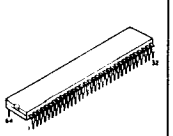
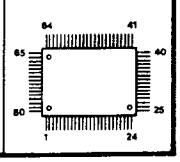


U, C, A, B, G

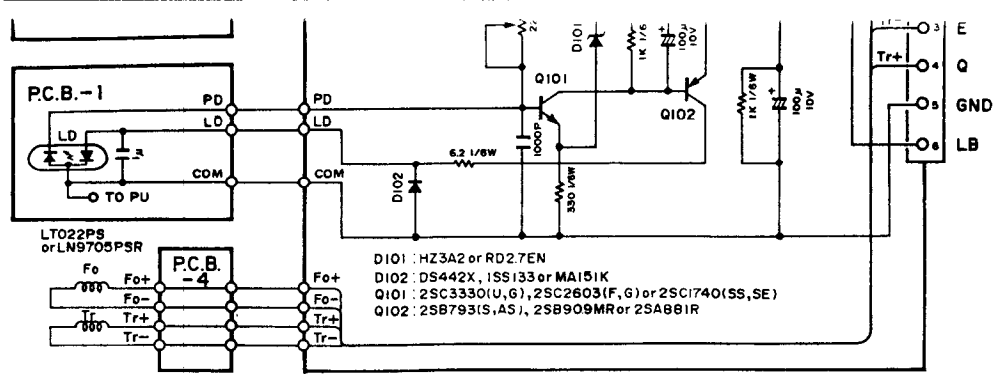


R

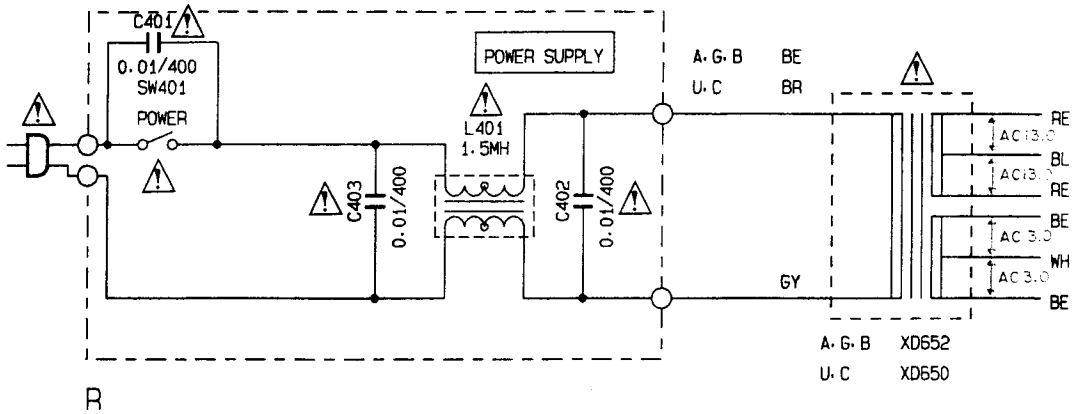


4564P 	YM3613B μPD4016-CX LC3517A-15 TMM2015BP TMM2016BP CXK5816SP CXK5816PN CXK5816PS 	M50747 	YM3816 

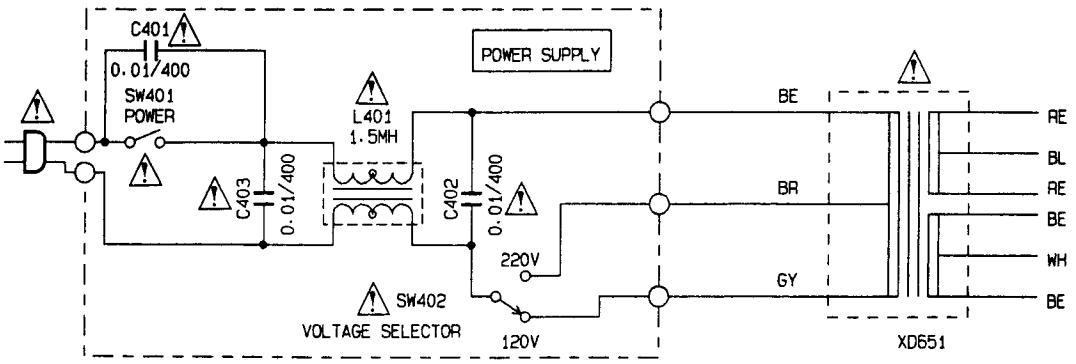
- *All voltages*
- *Component replaced wit*
- *Schematic d*



U, C, A, B, G

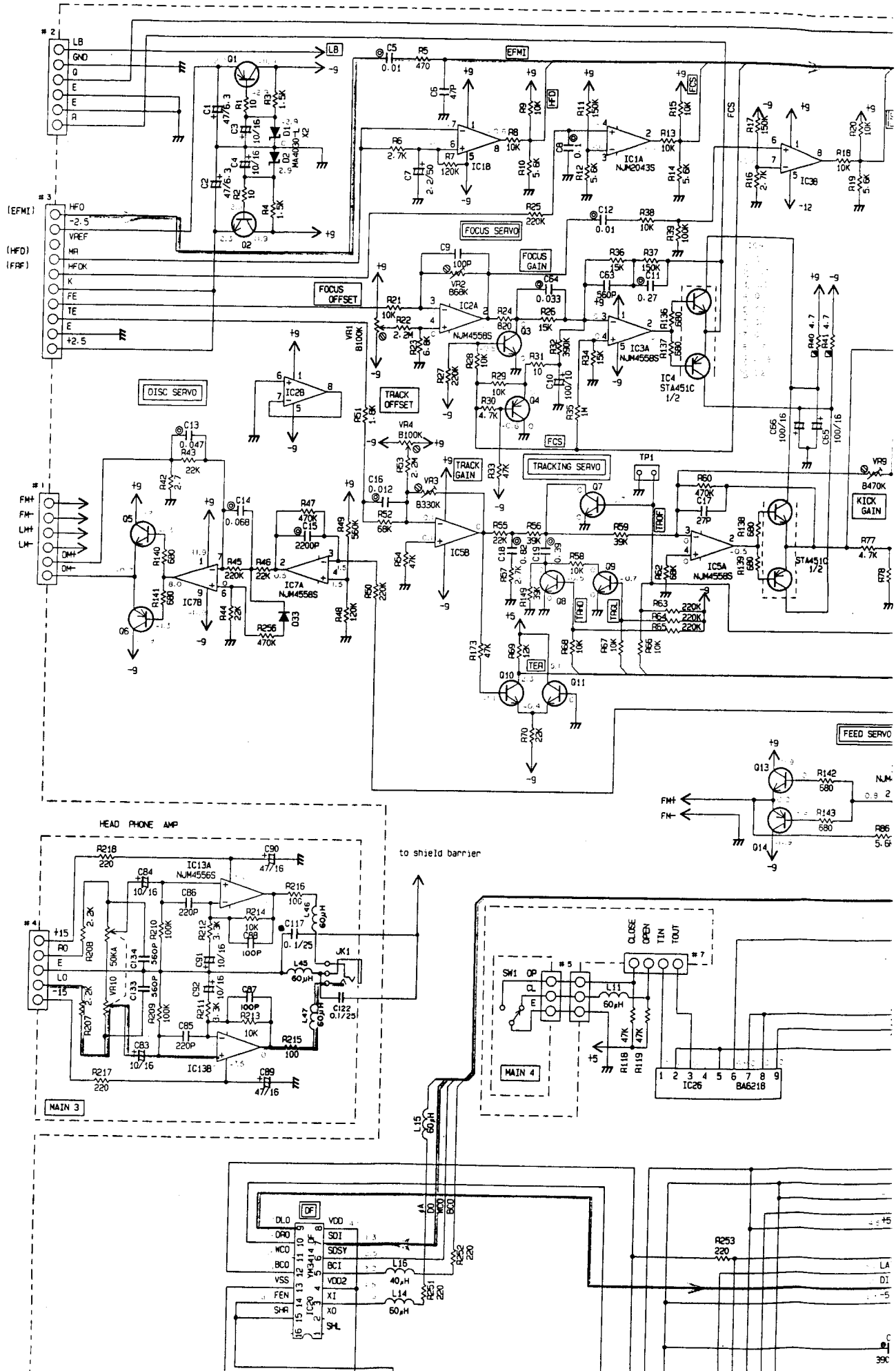


R



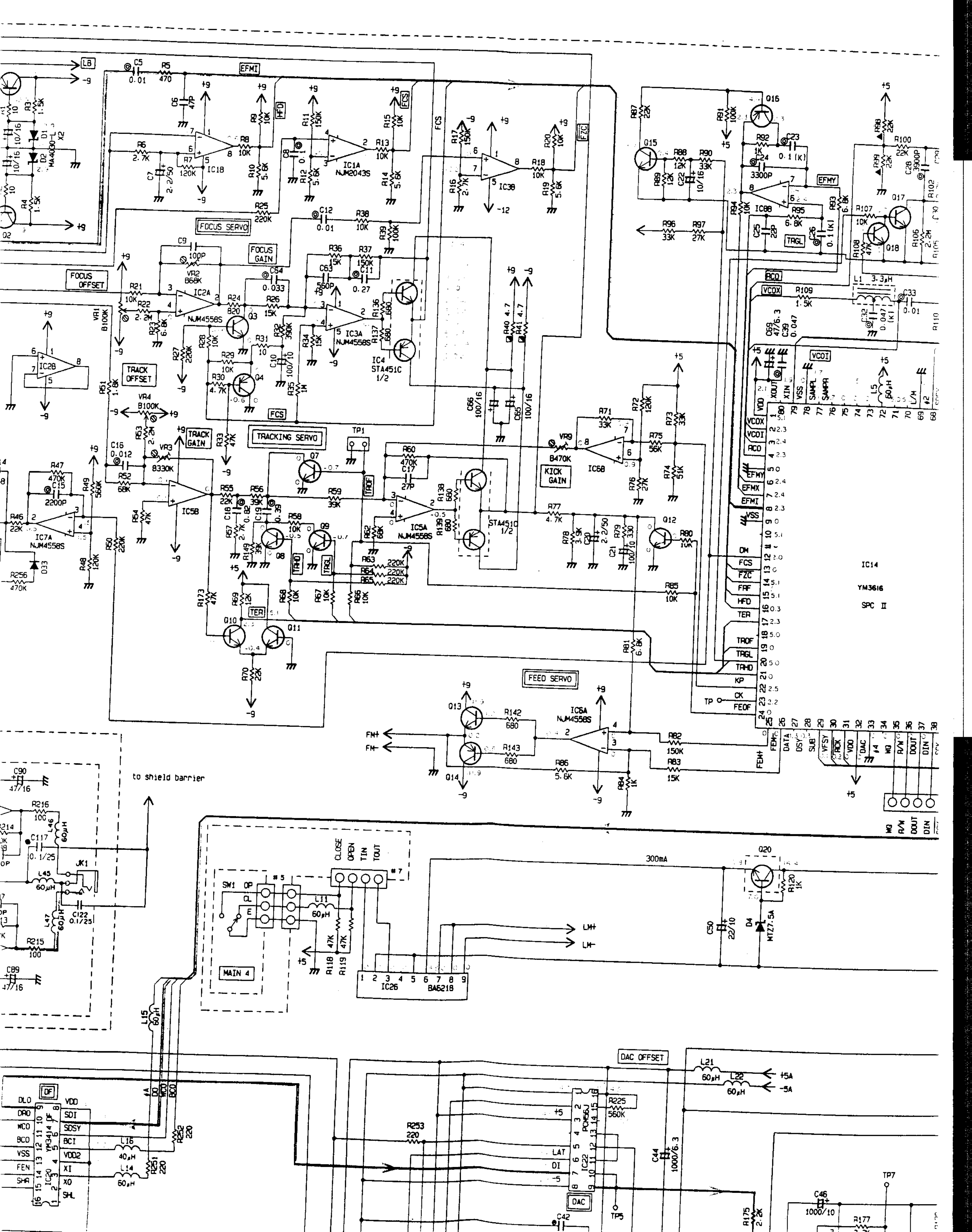
- *All voltages are measured with a 10MΩ/V DC electric volt meter.*
- *Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.*
- *Schematic diagram is subject to change without notice.*

■SCHEMATIC DIAGAM (2/2)

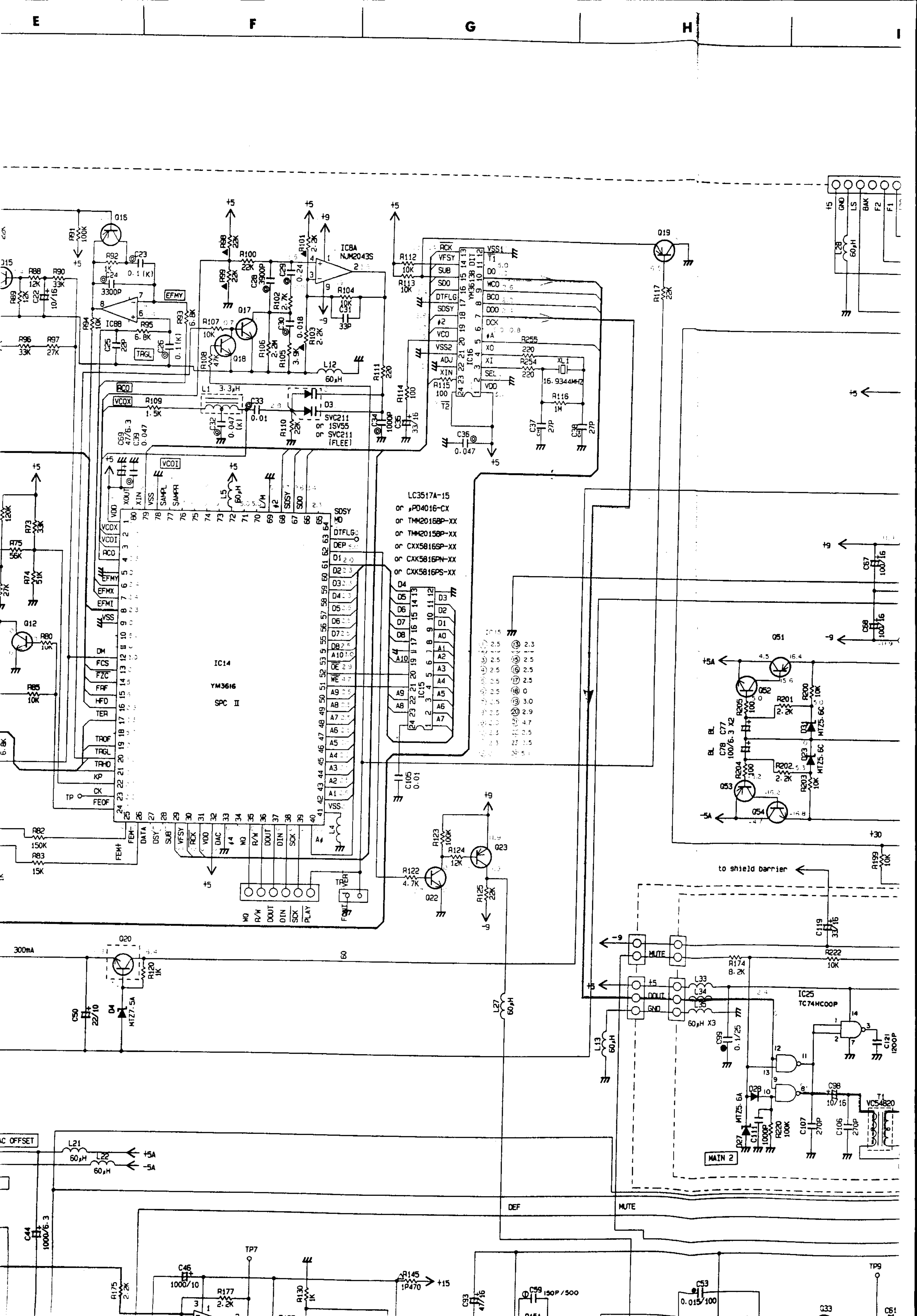


B C D E F

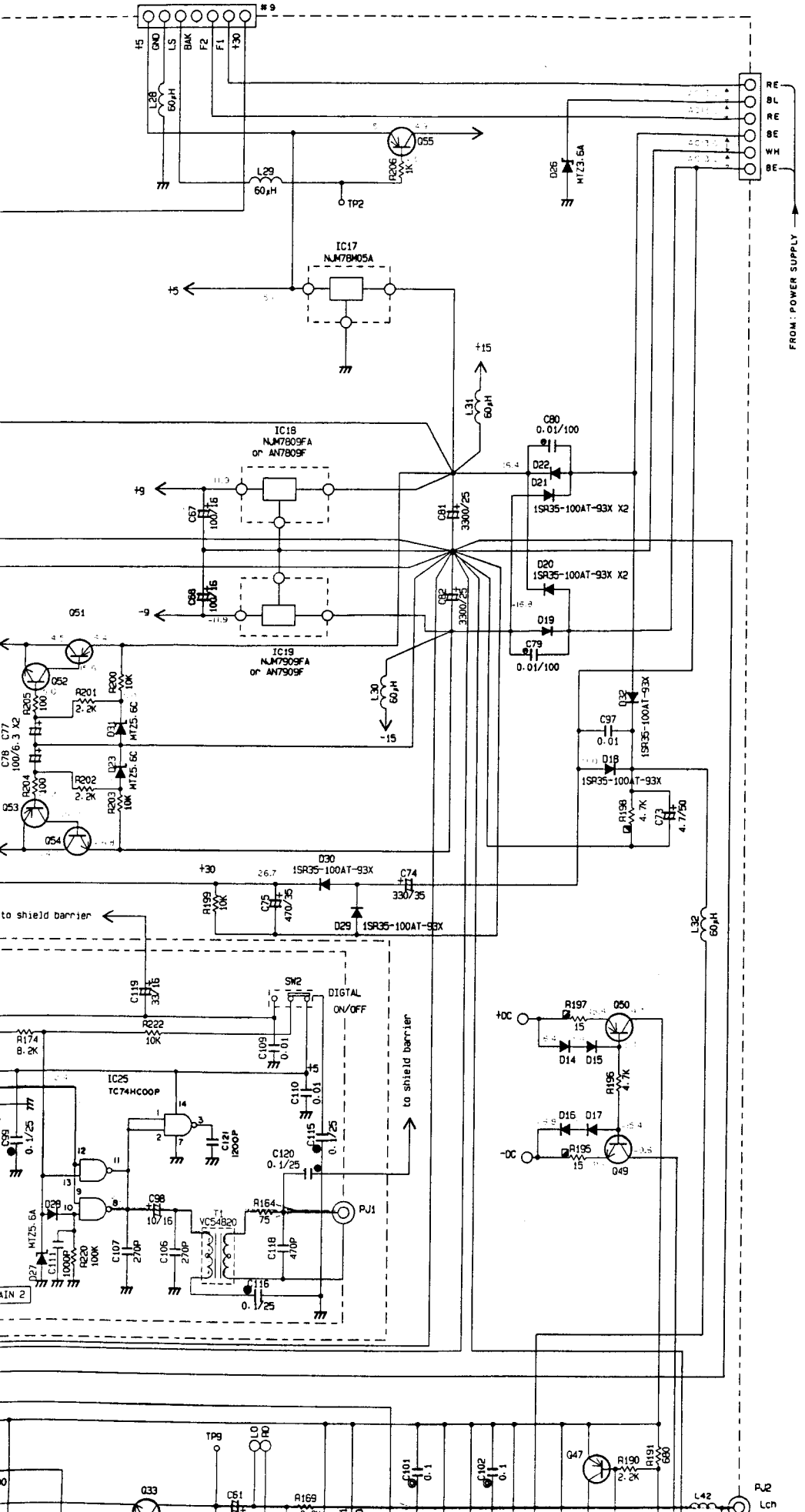
2/2)

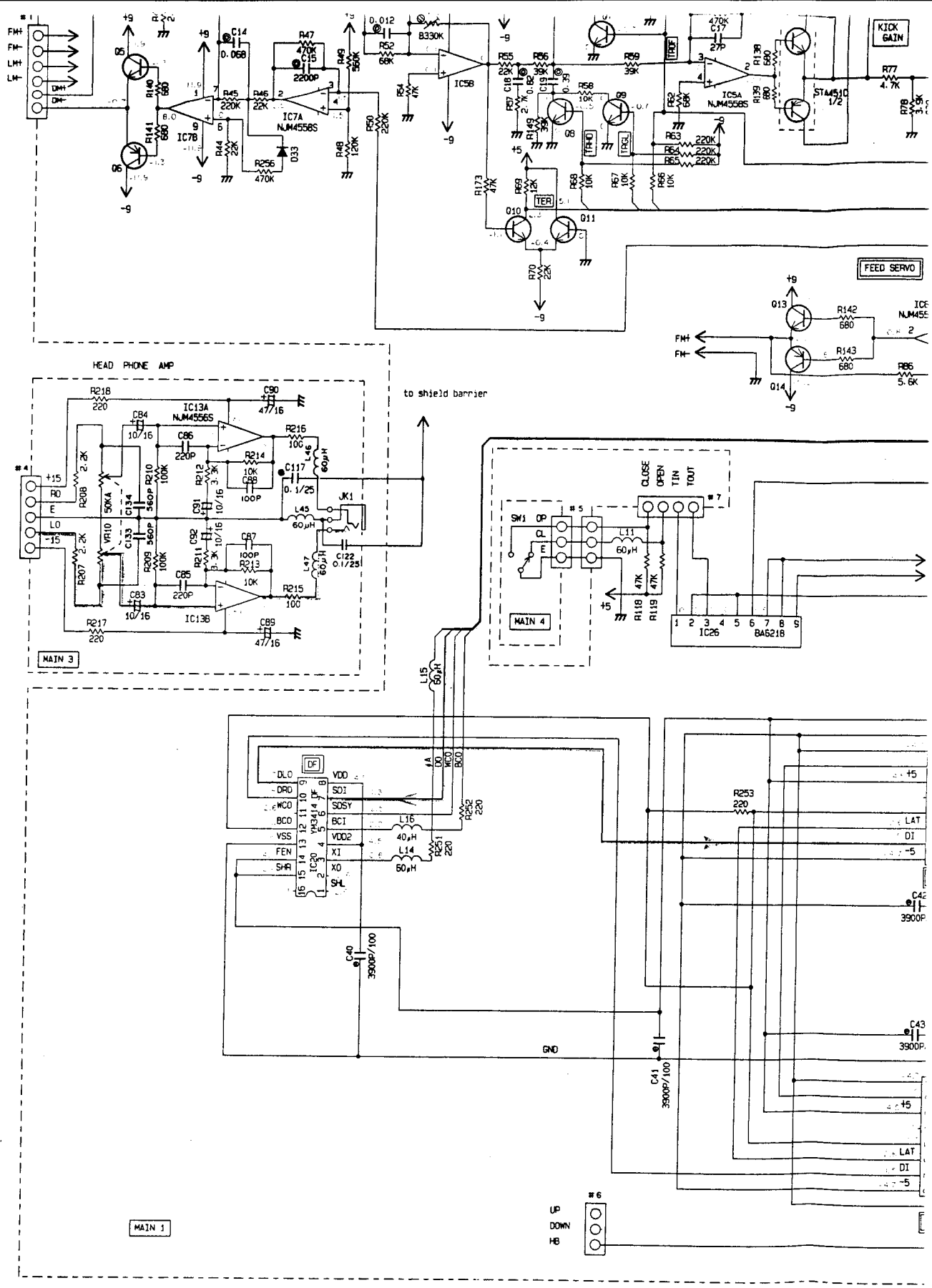


FOCUS SERVO
FOCUS GAIN
FOCUS OFFSET
TRACK OFFSET
TRACK GAIN
TRACKING SERVO
KICK GAIN
FEED SERVO
DAC OFFSET
to shield barrier
MAIN 4
IC14
YM3616
SPC II
IC1A NJM2043S
IC2A NJM4558S
IC3A NJM4558S
IC4 STA451C 1/2
IC5A NJM4558S
IC6A NJM4558S
IC7A NJM4558S
IC26 BA6218
IC22 PCM56J
IC20 YM3414 DF
EFMI
EFMY
EFMX
HFD
FCS
FZC
FRF
TER
TROF
TRGL
TRHD
KP
CK
FEOF
VCOX
VCOI
RCO
TRGL
300mA
LM+
LM-
FM+
FM-
CLOSE
OPEN
TIN
TOUT
TP1
TP5
TP7
+5A
-5A



E
F
G
H
I
IC8A NJM2043S
IC8B
YM3613B
IC16
XL1 16.9344MHZ
LC3517A-15
or μPD4016-CX
or TMM2016BP-XX
or TMM2015BP-XX
or CXK5816SP-XX
or CXK5816PN-XX
or CXK5816PS-XX
IC15
IC14
YM3616
SPC II
SVC211 or 1SV55 or SVC211 (FLEE)
WO R/W DOUT DIN SCK PLAY
to shield barrier
MUTE
DOUT
GND
IC25
TC74HC00P
MAIN 2
T1 VC54820
DAC OFFSET
DEF
MUTE
300mA


#9
+5
GND
LS
BAK
F2
F1
+30
L28 60μH
L29 60μH
TP2
Q55
R206 1K
D26 M123.6A
RE
BL
RE
BE
WH
BE
FROM : POWER SUPPLY
IC17 NJM78M05A
IC18 NJM7809FA or AN7809F
IC19 NJM7909FA or AN7909F
+15
-15
L31 60μH
L30 60μH
C80 0.01/100
C81 3300/25
C82 3300/25
C67 100/16
C68 100/16
C79 0.01/100
D22
D21
1SR35-100AT-93X X2
D20 1SR35-100AT-93X X2
D19
Q51
Q52
Q53
Q54
R205 100
R201 2.2K
R200 10K
R202 2.2K
R204 100
R203 10K
D31 M125.6C
D23 M125.6C
C78 100/6.3 X2
C77
D32 1SR35-100AT-93X
C97 0.01
D18 1SR35-100AT-93X
R198 4.7K
C73 4.7/50
+30
D30 1SR35-100AT-93X
C74 330/35
R199 10K
C75 470/35
D29 1SR35-100AT-93X
L32 60μH
to shield barrier
C119 33/16
SW2
DIGITAL ON/OFF
R222 10K
R174 8.2K
C109 0.01
IC25 TC74HCOOP
C110 0.01
C99 0.1/25
C121 1200P
C115 0.1/25
C120 0.1/25
D28
C98 10/16
T1 VC54B20
R164 75
PJ1
M125.6A
C111 1000P
R220 100K
C107 270P
C106 270P
C118 470P
C116 0.1/25
AIN 2
to shield barrier
+DC
-DC
R197 15
Q50
D14 D15
R196 4.7K
D16 D17
R195 15
Q49
TPG
LO
RO
C101 0.1
C102 0.1
Q47
R190 2.2K
R191 680
PJ2 Lch
Q33
C51
R169



Q1. 4. 16. 19. 23. 40. 42. 47. 53. 55	2SA933S(Q.R) or 2SA1115(E.F) or 2SA1310(R.S.T)
Q6. 14. 45. 50	2SA934 or 2SB544
Q51	2SB1274(Q.R.S) or 2SB1375
Q2. 10-12. 15. 17-19 22. 41. 48. 52.	2SC1740S(S.R) or 2SC2603(E.F) or 2SC3312(R.S.T)
Q5. 13. 46. 49	2SC2060 or 2SD400
Q54	2SD1913(R.S) or 2SD2012
Q3. 7-9. 31-36. 43. 44.	2SC3327 or 2SD1915 or 2SC2878(A.B)
Q20.	2SC1983 or 2SD1985(P.Q)
Q32~36	2SD1915(T)

Unless otherwise specified

PNP TRANSISTOR	
NPN TRANSISTOR	
DIODE	1SS133

	LAST NO.	UN LISTED NO.

RESIST

REMAR
NO MAR
☐
△
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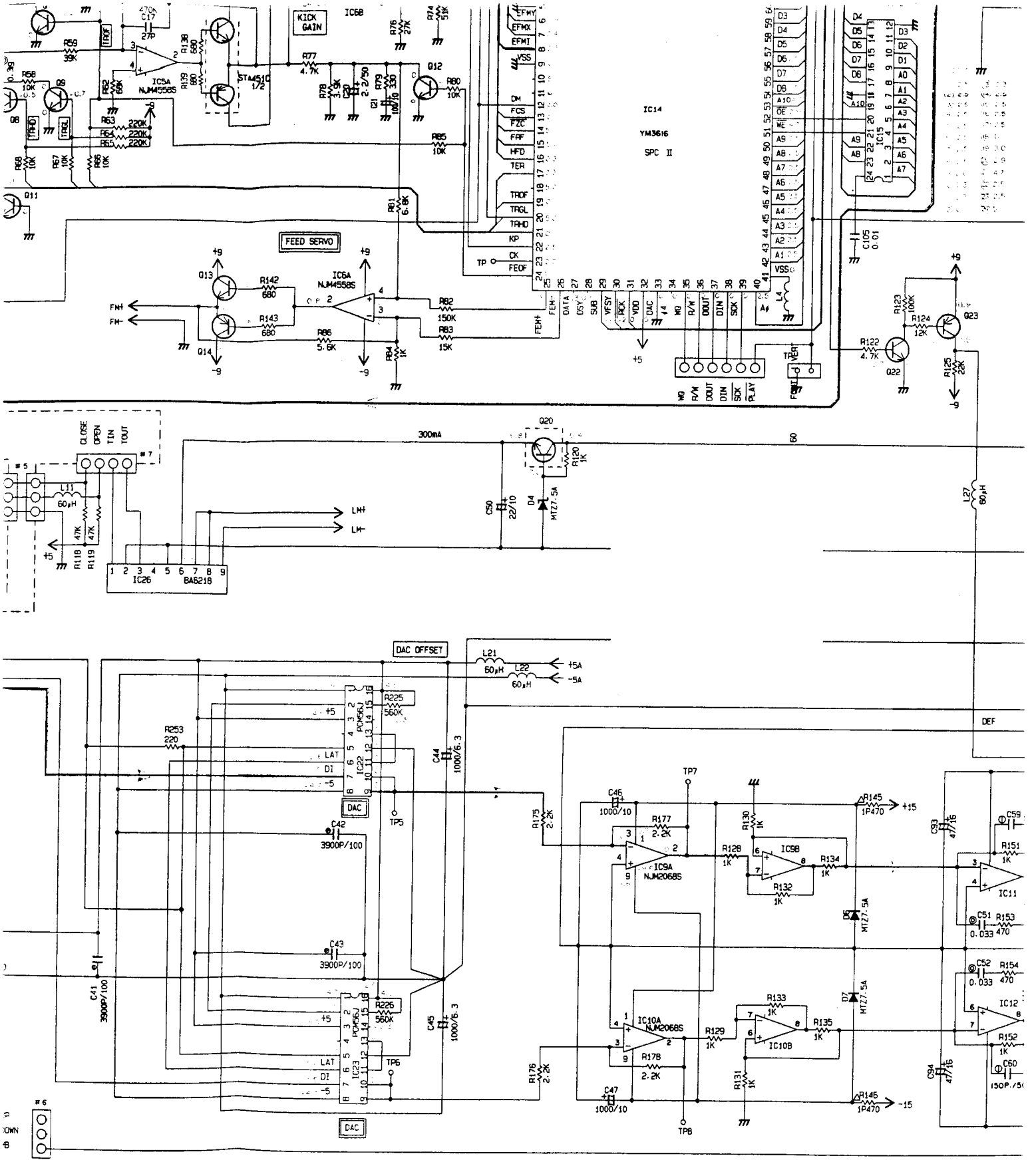
□
⊘



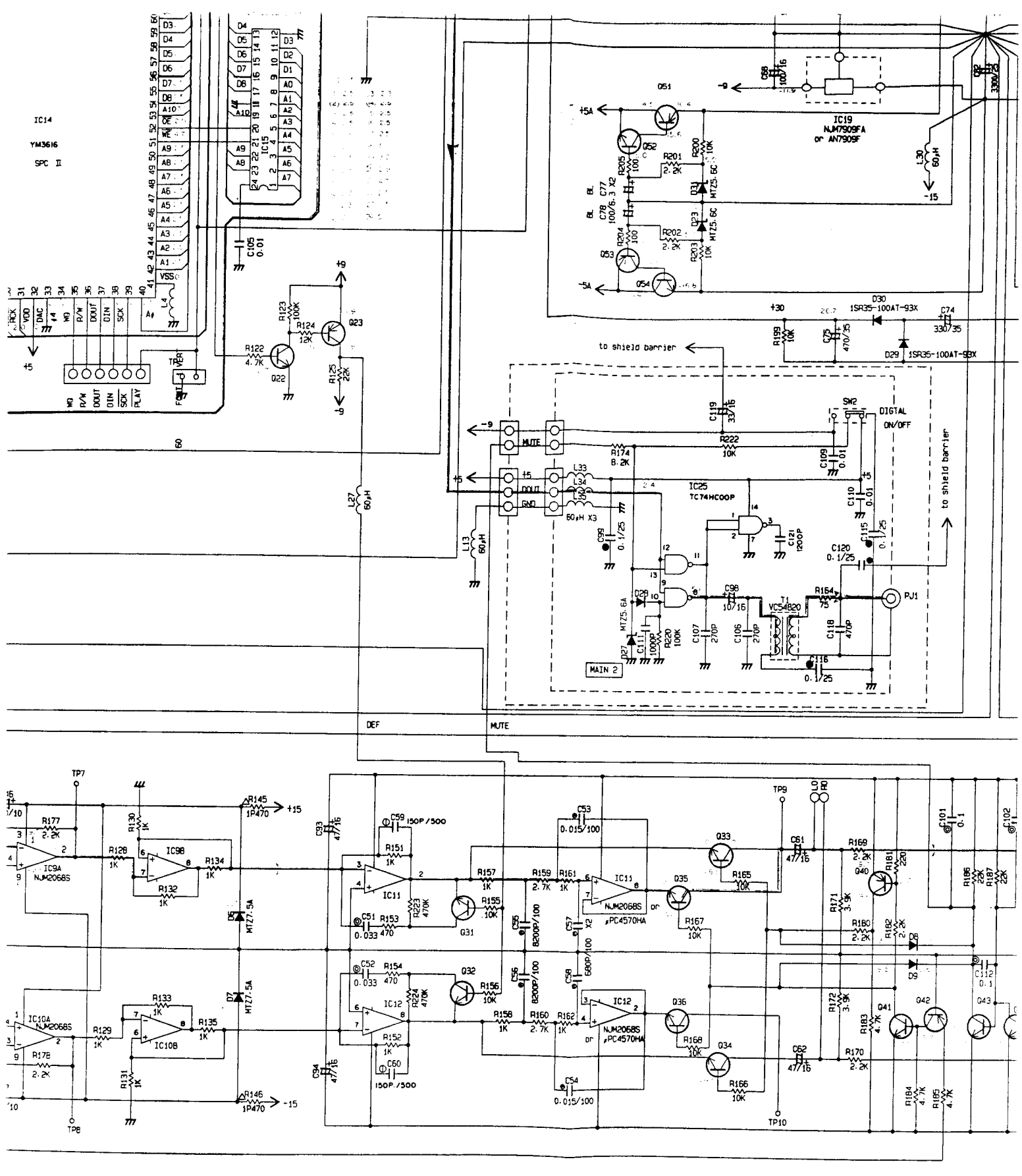
	LAST NO.	UN LISTED NO.

RESISTOR

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

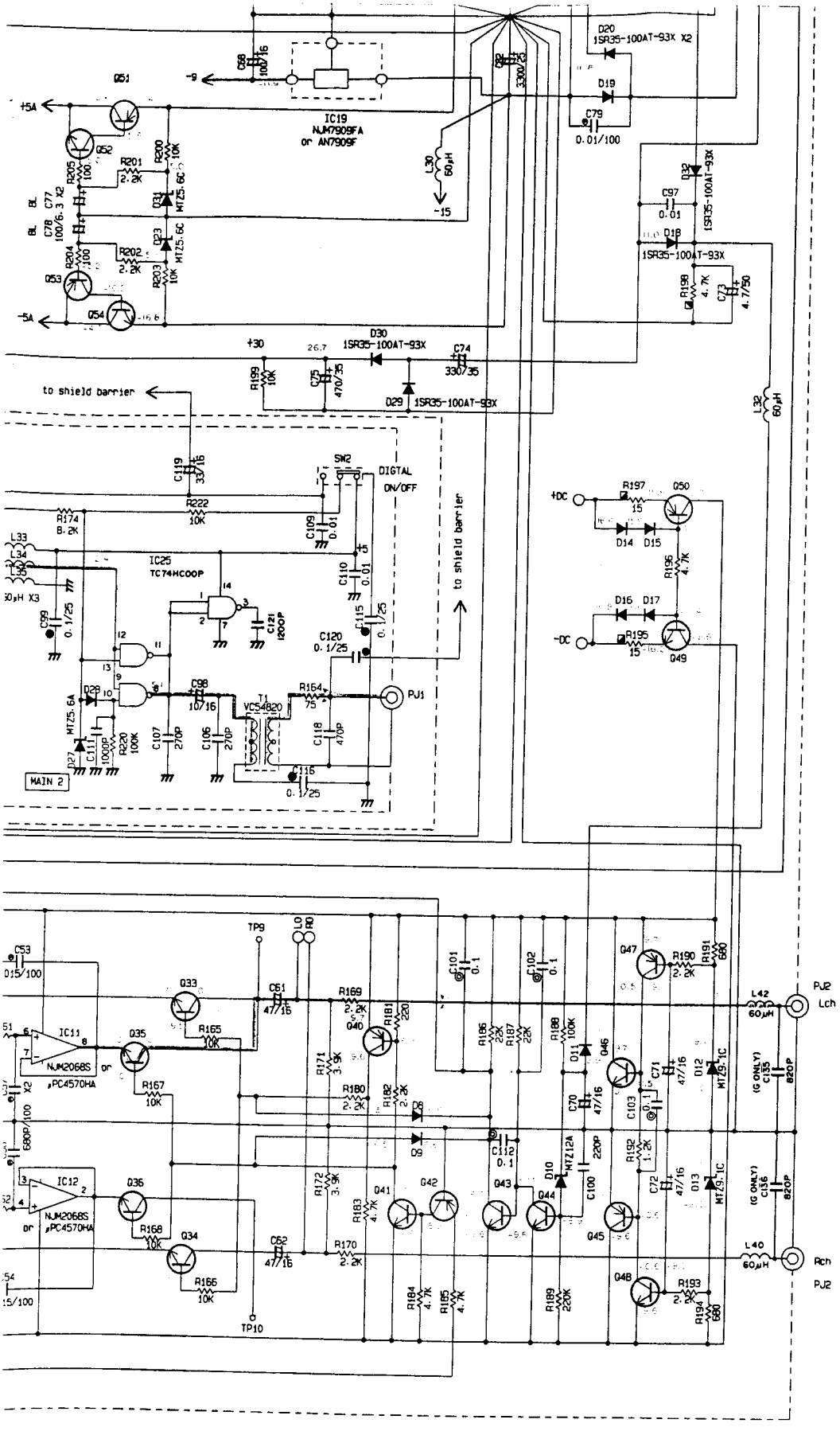
CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
NO MARK	CERAMIC CAPACITOR	
◎	POLYESTEL FILM CAPACITOR	##
○	POLYSTYRENE FILM CAPACITOR	
ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	



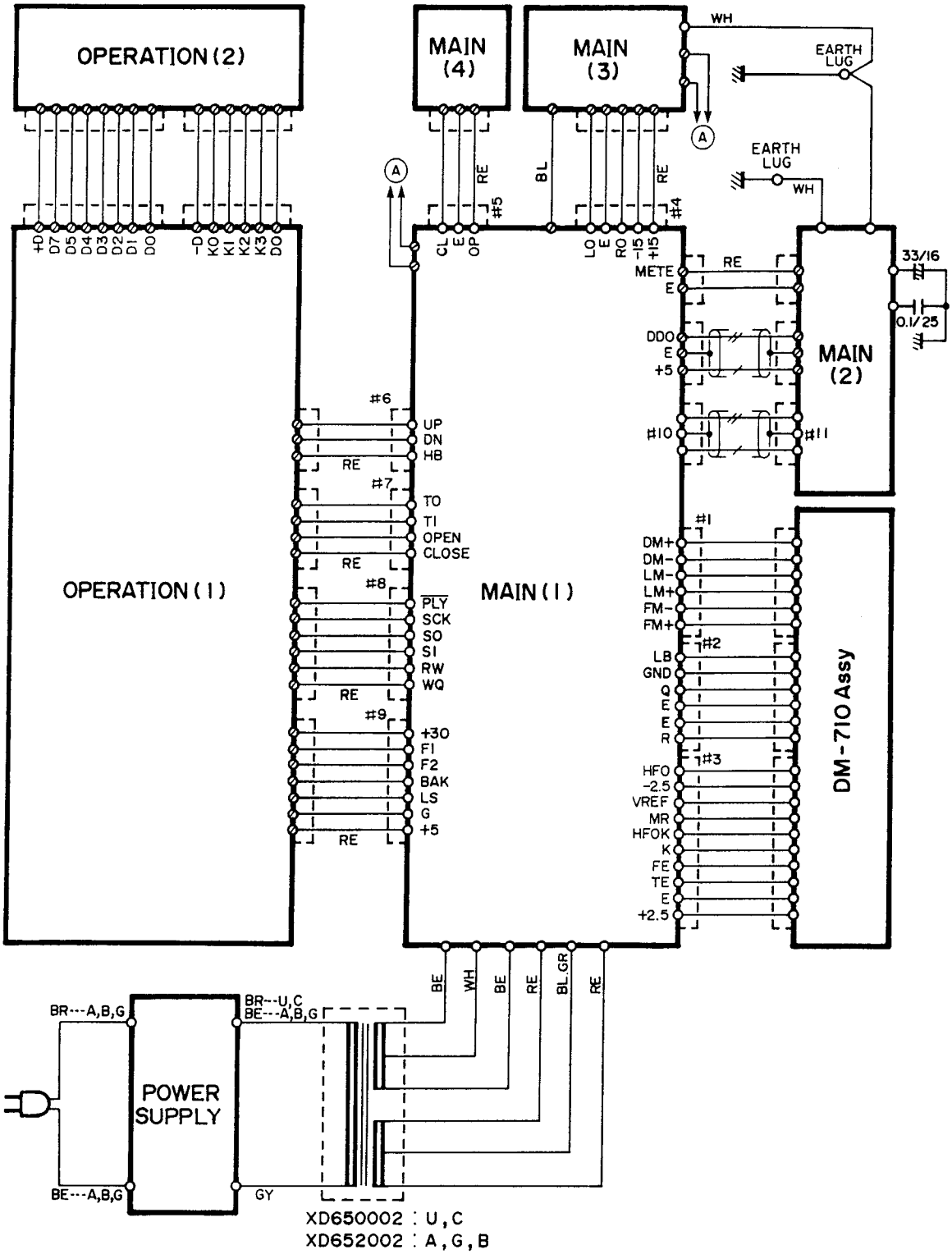
CAPACITOR

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



- *All voltages are measured with a 10MΩ/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.*

■ WIRING


OPERATION (2)
MAIN (4)
MAIN (3)
WH
EARTH LUG
EARTH LUG
WH
A
A
+D D7 D5 D4 D3 D2 D1 DO
-D KO K1 K2 K3 DO
RE
BL
RE
#5
#4
CL E OP
LO E RO -15 +15
METE
E
DDO
E
+5
#10
#11
RE
33/16
0.1/25
MAIN (2)
#6
UP
DN
HB
RE
#7
TO
TI
OPEN
CLOSE
RE
#8
PLY
SCK
SO
SI
RW
WQ
RE
#9
+30
F1
F2
BAK
LS
G
+5
RE
OPERATION (1)
MAIN (1)
#1
DM+
DM-
LM-
LM+
FM-
FM+
#2
LB
GND
Q
E
E
R
#3
HFO
-2.5
VREF
MR
HFOK
K
FE
TE
E
+2.5
DM-710 Assy
BE
WH
BE
RE
BL GR
RE
BR---A,B,G
BE---A,B,G
POWER SUPPLY
BR---U,C
BE---A,B,G
GY
XD650002 : U, C
XD652002 : A, G, B
U,C,A,B,G MODEL
R MODEL
XD651002
BL
WH
POWER SUPPLY
BE
BR
GY

PARTS LIST

■ ELECTRICAL PARTS

■ **WARNING**

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

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

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク	
※		*NA 09 64 70*	***Operation Circuit Board***		オペレーションシート	Black	CDX-910	J		
※		*NA 09 65 20*	//		//	Silver, Black		U,C,R,A,G,B		
※		*NA 09 76 40*	//		//	Titan	CDX-910	J		
		FG 24 41 00	Ceramic Cap.	0.01μF 50V	セラコン	C302				
※		VE 63 28 00	Electrolytic Cap.	0.047F 5.5V	スーパーキャパシタ	C307				
		UM 39 72 20	//	22μF 16V	ケミコン	C304				
		UM 39 73 30	//	33μF 16V	//	C306				
		UM 21 61 00	//	1μF 50V	//	C303				
		UJ 16 64 70	//	4.7μF 50V	//	C305				
※		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				
		iC 26 03 10	//	2SC2603(E,F)	//	Q302～305				
		iF 00 34 50	Diode	1SS133	ダイオード	D301～309,311,313,314				
		iF 00 87 30	LED (Red)	SLR-34URC3H3	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				
		XD 49 00 01	//	LU5952I	//	IC302				
※		XD 55 50 01	//	M50747-428SP	//	IC301				
※		VE 23 14 00	Display Unit		蛍光表示管	V301				
		VE 22 24 00	Ceramic Resonator	8MHz	セラミック発振子	XL301				
		KA 90 63 80	Switch	EVQ-QRB-04M	ライトタッチスイッチ	SW301～327,330,331				
		VD 85 31 00	Receiver Unit	GP1U501	受光ユニット	U301				
※		VE 31 18 00	Support, FL		サポートFL					
※		VE 31 19 00	Sheet, Filter		シートフィルター	Titan		J		
※		VE 85 88 00	//		//	Silver, Black				
※		*NA 09 65 10*	***Power Circuit Board***		電源シート		CDX-910	R		
※		*NA 09 71 20*	//		//			J,U,C,A,B,G		
		VE 17 92 00	Ceramic Cap.	0.01μF 400V	セラコン	C401～403				⚠
		VA 77 84 00	Line Filter	1.5mH	ラインフィルタ	L401				⚠
		VC 09 79 00	Push Switch	TV-3	プッシュスイッチ	SW401				⚠
		LA 00 58 10	Voltage Selector		電圧切換器	SW402		R		⚠
		LA 00 21 40	Lapping Terminal	P=10 2P i-Type	i型ラッピング端子板					
		LA 00 21 50	//	P=10 3P i-Type	//			R		

※New Parts (新規部品) NR

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		NA 09 65 30	Main Circuit Board		メインシート	Black		J	
※		NA 09 65 40	〃		〃	〃		U,C,R,A,B	
※		NA 09 65 50	〃		〃	〃		G	
※		NA 09 69 10	〃		〃	Silver		U,C,R,A,B	
※		NA 09 69 20	〃		〃	〃		G	
※		NA 09 69 40	〃		〃	Titan		J	
		FA 15 31 00	Mylar Cap.	1000pF 50V	マイラーコン	C34			
		FA 15 32 20	〃	2200pF 50V	〃	C15			
		FA 15 33 30	〃	3300pF 50V	〃	C24			
		FA 15 33 90	〃	3900pF 50V	〃	C28			
		FA 15 41 00	〃	0.01μF 50V	〃	C5,12,33			
		FA 15 41 20	〃	0.012μF 50V	〃	C16			
		FA 15 41 80	〃	0.018μF 50V	〃	C30			
		FA 15 43 30	〃	0.033μF 50V	〃	C51,52,64			
		FA 15 44 70	〃	0.047μF 50V	〃	C13,36,39			
		FA 15 46 80	〃	0.068μF 50V	〃	C14			
		FA 15 51 00	〃	0.1μF 50V	〃	C8,101～103,112			
		FA 15 53 90	〃	0.39μF 50V	〃	C19			
		FA 15 52 70	〃	0.27μF 50V	〃	C11			
		FA 15 52 40	〃	0.24μF 50V	〃	C29			
		FA 15 58 20	〃	0.82μF 50V	〃	C18			
		FC 36 51 00	〃	0.1μF 50V	銅リードマイラーコン	C23,26			
		FZ 00 55 80	〃	0.047μF 50V	〃	C32			
		FU 35 21 50	Mica Cap.	150pF 500V	FEマイカコン	C59,60			
		FZ 00 41 30	Semi-Conductive Ceramic Cap.	0.1μF 25V	半導体セラコン	C99,115,116			
		FZ 00 41 30	〃	0.1μF 25V	〃	C117		U,C,R,A,B,G	
		FG 21 12 70	Ceramic Cap.	27pF 50V(CH)	セラコン	C37,38			
		FG 21 12 20	〃	22pF 50V	〃	C25			
		FG 21 12 70	〃	27pF 50V	〃	C17			
		FG 21 13 30	〃	33pF 50V	〃	C31			
		FG 21 14 70	〃	47pF 50V	〃	C6			
		FG 21 21 00	〃	100pF 50V	〃	C9,87,88			
		FG 21 22 20	〃	220pF 50V	〃	C85,86,100			
		FG 21 24 70	〃	470pF 50V	〃	C118		U,C,R,A,B,G	
		FG 21 25 60	〃	560pF 50V	〃	C63,133,134		U,C,R,A,B,G	
		FG 24 41 00	〃	0.01μF 50V	〃	C97,105,109,110			
		FG 21 22 70	〃	270pF 50V	〃	C106,107			
		FG 21 28 20	〃	820pF 50V	〃	C135,136		G	
		FG 21 31 00	〃	1000pF 50V	〃	C111			
		FG 71 31 20	〃	1200pF 50V	〃	C121		U,C,R,A,B,G	
		UJ 11 74 70	Electrolytic Cap.	47μF 6.3V	ケミコン	C1,2,69			
		UJ 13 72 20	〃	22μF 16V	〃	C50			
		UJ 12 81 00	〃	100μF 10V	〃	C10,21			
		UJ 13 71 00	〃	10μF 16V	〃	C3,4,22,83,84,91,92,98			
		UJ 13 73 30	〃	33μF 16V	〃	C35			
		UJ 13 74 70	〃	47μF 16V	〃	C70,89,90,93,94			
		UJ 13 81 00	〃	100μF 16V	〃	C65～68			
		UJ 16 62 20	〃	2.2μF 50V	〃	C7,20			
		UJ 16 64 70	〃	4.7μF 50V	〃	C73			
※		VE 70 88 00	〃	47μF 16V	ケミコンDUOREX	C61,62,71,72			
		UJ 45 83 30	〃	330μF 35V	ケミコン	C74			
		UJ 15 84 70	〃	470μF 35V	〃	C75			
		FZ 00 62 70	〃	1000μF 6.3V	ブラックゲートコン	C44,45			
※		VE 70 90 00	〃	3300μF 25V	ケミコンDUOREX	C81,82			
※		VE 94 58 00	〃	1000μF 10V	ブラックゲートコン	C46,47			
		FZ 00 54 10	〃	100μF 6.3V	〃	C77,78			

※New Parts (新規部品) NR

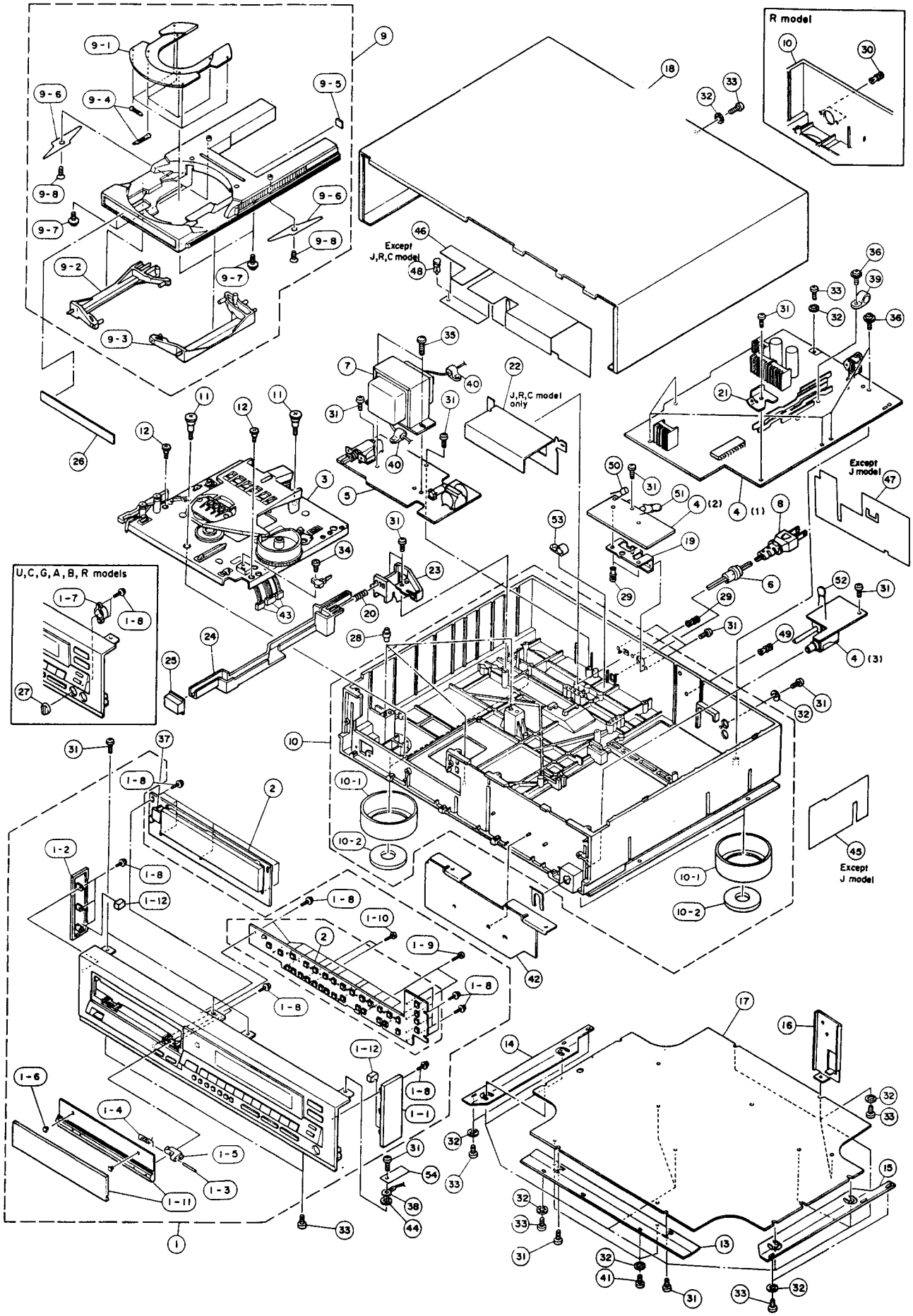
	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		UT 65 38 20	Polypropylene Film Cap.	8200pF 100V	ポリプロコン	C55,56			
※		UT 45 41 50	//	0.015μF 100V	//	C53,54			
		UT 45 22 20	//	220pF 100V	//	C48,49		J	
		UT 45 26 80	//	680pF 100V	//	C57,58			
		UT 45 33 90	//	3900pF 100V	//	C40～43			
		UT 45 41 00	//	0.01μF 100V	//	C79,80			
		VC 54 82 00	Pulse Trans		パルストランス	T1			
		GE 90 20 00	OSC Coil	3.3μH	発振コイル	L1			
※		VD 47 37 00	Micro Inductor	60μH	マイクロインダクター	L4,5			
※		VB 81 79 00	//	40μH	//	L16		U,C,R,A,B,G	
※		VD 47 37 00	//	60μH	//	L11～15, 21,22,27～35, 40,42,45～47		U,C,R,A,B,G	
		HL 31 54 70	Metal Oxide Film Resistor	470Ω 1W	酸金抵抗	R145,146			
		HV 45 41 50	Flame Proof Carbon Resistor	15Ω 1/4W	不燃化カーボン抵抗	R195,197			
		HV 45 34 70	//	4.7Ω 1/4W	//	R40,41			
		HV 45 64 70	//	4.7kΩ 1/4W	//	R198			
		HJ 35 61 00	Carbon Resistor	1kΩ 1/4W	カーボン抵抗	R151,152			
※		VF 45 91 00	Metal Film Resistor	2.2kΩ 1/6W	金属被膜抵抗	R101,103			
※		VF 45 92 00	//	22kΩ 1/6W	//	R98,99			
		VB 86 15 00	Pre-Set Potentiometer	B10kΩ	半固定抵抗	VR7,8			
		VB 86 19 00	//	B100kΩ	//	VR5,6			
		VB 86 19 00	//	B100kΩ	//	VR1,4			
		VB 86 22 00	//	B470kΩ	//	VR9			
		VC 61 25 00	//	B68kΩ	//	VR2			
※		VB 86 21 00	//	B330kΩ	//	VR3			
		VC 50 93 00	Rotary Volume	50KA×2	ロータリボリューム	VR10		U,C,R,A,B,G	
		iA 09 33 70	Transistor	2SA933S(Q,R)	トランジスタ	Q1,4,16,23,40,42,47, 53,55			
		iA 11 15 10	//	2SA1115(E,F)	//	//	Inter-changeable		
		iX 60 31 70	//	2SA1310(R,S,T)	//	//			
		iA 09 34 00	//	2SA934	//	Q6,14,45,50			
		iB 05 44 10	//	2SB544	//	//	Inter-changeable		
		VC 61 40 00	//	2SB1274(Q,R,S)	//	Q51			
		iC 17 40 70	//	2SC1740S(S,R)	//	Q2,10～12,15,17～19, 22,41,48,52			
		iC 26 03 10	//	2SC2603(E,F)	//	//	Inter-changeable		
		iX 60 31 80	//	2SC3312(R,S,T)	//	//			
		iC 20 60 00	//	2SC2060	//	Q5,13,46,49			
		iD 04 00 00	//	2SD400	//	//	Inter-changeable		
		VC 40 79 00	//	2SD1913(R,S)	//	Q54			
		iX 60 42 00	//	2SC2878(A,B)	//	Q3,7～9,31,32,43,44			
		iC 33 27 00	//	2SC3327	//	//	Inter-changeable		
		VC 50 21 00	//	2SD1915	//	//			
		iC 19 83 00	//	2SC1983	//	Q20			
※		VF 83 51 00	//	2SD1915(T)	//	Q33,34,35,36			
		iF 00 84 80	Diode	1SR35-100A	ダイオード	D18～22,29,30,32			
		iF 00 34 50	//	1SS133	//	D8,9,11,14～17,28,33			
		iF 00 88 50	Zener Diode	MTZ12A	ツェナーダイオード	D10			
		iF 01 07 90	//	MTZ7.5A	//	D4,6,7			
		iF 01 08 70	//	MTZ9.1C	//	D12,13			
		iF 01 07 20	//	MTZ5.6C	//	D23,31			

※New Parts (新規部品) NR

	Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
※		VE 50 71 00	Zener Diode	MA4030-L	ツェナーダイオード	D1,2		
		iF 00 88 00	〃	MTZ3.6A	〃	D26		
		iF 01 07 10	〃	MTZ5.6A	〃	D27		
		iF 00 49 10	Varactor Diode	ISV55	FMバラクターダイオード	D3 } Inter-changeable		
		iF 00 49 20	〃	SVC211	〃	〃 }		
		XB 69 80 01	IC	YM3616	IC	IC14		
		XC 85 30 01	〃	YM3613B	〃	IC16		
		XD 71 20 01	〃	YM3414	〃	IC20		
		XD 71 10 01	〃	YM6013	〃	IC21	J	
		XB 70 30 01	〃	YM3023	〃	IC24	J	
		XD 70 60 01	〃	NJM7809FA	〃	IC18		
		iG 07 68 00	〃	NJM4558S	〃	IC2,3,5~7		
		iG 07 74 00	〃	NJM4556S	〃	IC13		
		iG 08 02 00	〃	NJM2043S	〃	IC1,8		
		iG 11 94 00	〃	STA451C	〃	IC4		
		iG 15 35 00	〃	BA6218	〃	IC26		
		iG 07 56 00	〃	NJM78M05A	〃	IC17		
		XD 70 70 01	〃	NJM7909FA	〃	IC19		
		iR 00 00 00	〃	TC74HC00P	〃	IC25		
※		XD 89 70 01	〃	PCM56P-J	〃	IC22,23		
		iG 11 92 00	〃	μPD4016-CX	〃	IC15 } Inter-changeable		
		XD 84 30 01	〃	TMM2016BP	〃	〃 }		
		XA 95 60 01	〃	NJM2068S	〃	IC9~12		
		VC 39 88 00	Crystal Resonator	16.9344MHz	水晶振動子	XL1		
		LB 30 24 20	Phone Jack	Gray	ホーンジャック	JK1 Silver		
		LB 30 24 30	〃	Black	〃	〃 Black		
		VA 31 63 00	〃		〃	〃 Titan	J	
		LB 20 26 10	Pin Jack	2P	ピンジャック	PJ2	J	
※		VF 09 65 00	〃	2P	〃	〃	U,C,R,A,B,G	
		VD 76 02 00	〃	1P	〃	PJ1		
		KA 90 63 70	Switch	MSW-1485	エンドスイッチ	SW1		
		KA 40 14 30	Slide Switch		スライドスイッチ	SW2		
		LB 20 13 90	Base Pin	TEB2P-SHF	2.5ピッチベースピン	CB9,12,13,15		
		LB 40 05 70	〃	TEB4P-SHF	〃	CB10		
		LB 50 02 50	〃	TEB5P-SHF	〃	CB11		
		VD 00 46 00	〃	3P i-Type	PHベースピン	CB1,2,16,17		
		VD 00 47 00	〃	4P i-Type	〃	CB3		
		VD 00 49 00	〃	6P i-Type	〃	CB4~6		
		VD 00 50 00	〃	7P i-Type	〃	CB7		
		VD 00 53 00	〃	10P i-Type	〃	CB8		
		VD 00 48 00	〃	5P i-Type	〃	CB14		
		LA 00 23 20	Lapping Terminal	P=7.5 3P i-Type	i型ラッピング端子板			
		LA 00 25 70	〃	P=7.5 3P i-Type	〃			
		LA 00 41 20	Test Point Pin	1P	テストポイントピン			
		BB 06 95 10	Ground Plate		ランド金具			
		BB 07 04 10	Bus Bar	55mm	バスバー			
		BA 09 29 70	Heat Sinck		放熱板			
		ED 33 00 86	Binding Head Screw	3×8 FCRM3-BI	バインド小ネジ	PACK		
		VD 78 28 00	Firrite Core	ESD-R-16	フェライトコア			
		VF 37 64 00	〃	ESDR19D	〃			

※New Parts (新規部品) NR

■ EXPLODED VIEW



■ MECHANISM PARTS

Note) φ : Diameter

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク	
※	1	VE 56 16 00	Front Panel Ass'y		フロントパネル Ass'y	Black		R,A,B,G		
※	//	VE 56 14 00	//		//	//		U,C		
※	//	VE 56 17 00	//		//	Silver		R,A,B,G		
※	//	VE 56 15 00	//		//	//		U,C		
※	//	VE 56 13 00	//		//	Titan		J		
※	//	VE 56 11 00	//		//	Black		J		
※	1-1	VE 02 46 00	Panel, Side L		パネルサイドL	Black				
※	//	VE 31 07 00	//		//	Silver		U,C,R,A,B,G		
※	//	VE 43 39 00	//		//	Titan		J		
※	1-2	VE 22 71 00	Panel, Side R		パネルサイドR	Black				
※	//	VE 31 08 00	//		//	Silver		U,C,R,A,B,G		
※	//	VE 43 41 00	//		//	Titan		J		
※	1-3	VC 50 52 00	Shaft, Lid		シャフト／リッド					
※	1-4	VE 02 60 00	Spring, Lid		スプリング／リッド					
※	1-5	VE 02 57 00	Fulcrum, Lid		リッド支点					
※	1-6	VE 02 58 00	Cushion, Lid		クッションリッド					
※	1-7	VE 22 72 00	Knob Guid		ノブガイド	Black		U,C,R,A,B,G		
※	//	VE 35 65 00	//		//	Silver		U,C,R,A,B,G		
	1-8	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					
	1-9	Ei 02 00 66	Binding Head Tapping Screw	2×6 ZMC2-Y	バインドタッピングネジ	PACK				
	1-10	EJ 02 00 66	Pan Head Tapping Screw	2×6 ZMC2-Y	ナベタッピングネジ	PACK				
※	1-11	NX 60 11 80	Lid Ass'y		リッド Ass'y	Black		U,C,R,A,B,G		
※	//	NX 60 11 90	//		//	Silver		U,C,R,A,B,G		
※	//	NX 60 12 20	//		//	Titan		J		
※	//	NX 60 12 00	//		//	Black		J		
※	1-12	VE 97 64 00	Damper		ダンパ／サイド					
※	2	NA 09 64 70	Operation Circuit Board		オペレーションシート	Black	CDX-910	J		
※	//	NA 09 65 20	//		//	Silver, Black		U,C,R,A,B,G		
※	//	NA 09 76 40	//		//	Titan	CDX-910	J		
※	3	VE 30 59 00	Disc Mechanism Unit	DM-710	DMユニット					
※	4	NA 09 65 30	Main Circuit Board		メインシート	Black		J		
※	//	NA 09 65 40	//		//	//		U,C,R,A,B		
※	//	NA 09 65 50	//		//			G		
※	//	NA 09 69 10	//		//	Silver		U,C,R,A,B		
※	//	NA 09 69 20	//		//	//		G		
※	//	NA 09 69 40	//		//	Titan		J		
※	5	NA 09 65 10	Power Circuit Board		電源シート		CDX-910	R		
※	//	NA 09 71 20	//		//			J,U,C,A,B,G		
	6	CB 61 68 10	Cord Stopper	CM-22A	コードストッパー			J		
	//	CB 62 01 90	//	CM-22B	//			R,A,B,G		
	//	CB 62 02 00	//	CM-22C	//			U,C		
※	7	XD 64 90 02	Power Transformer		電源トランス			J		⚠
※	//	XD 65 00 02	//		//			U,C		⚠
※	//	XD 65 10 02	//		//			R		⚠
※	//	XD 65 20 02	//		//			A,B,G		⚠
	8	MG 00 22 90	Power Cord	7A 125V	電源コード			J		⚠
	//	MG 00 22 20	//	10A 125V	//			U,C		⚠
	//	MG 00 16 30	//	6A 250V	//			R		⚠
	//	MG 00 23 10	//	7.5A 250V	//			A		⚠
	//	MG 00 23 30	//	300/300V	//			B		⚠
	//	MG 00 23 20	//	2.5A 250V	//			G		⚠
※	9	VE 26 97 00	Tray Ass'y		トレイ Ass'y	Black	CDX-910			
※	//	VE 30 62 00	//		//	Silver	//	U,C,R,A,B,G		

※New Parts (新規部品) NR

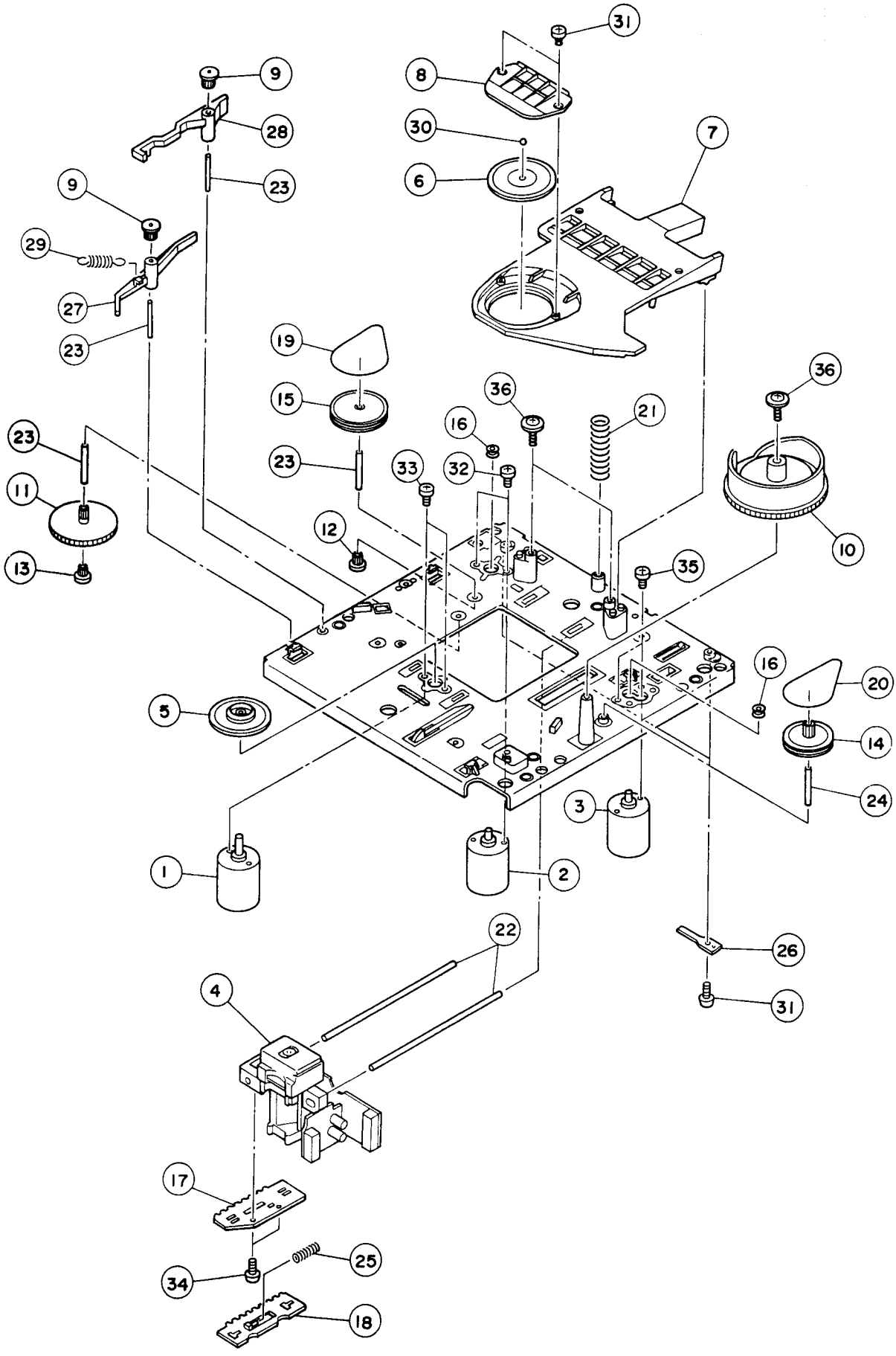
	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※	9	VE 45 37 00	Tray Ass'y		トレイ Ass'y	Titan	CDX-910	J	
※	9-1	VE 04 12 00	Tray, Disc		トレイ／ディスク	Black			
※	//	VE 30 63 00	//		//	Silver		U,C,R,A,B,G	
※	//	VE 45 34 00	//		//	Titan		J	
※	9-2	VE 26 98 00	Lifter Ass'y(L)		リフタ Ass'y (L)	Black			
※	//	VE 65 86 00	//		//	Silver		U,C,R,A,B,G	
※	//	VE 65 87 00	//		//	Titan		J	
※	9-3	VE 26 99 00	Lifter Ass'y(R)		リフタ Ass'y (R)	Black			
※	//	VE 65 88 00	//		//	Silver		U,C,R,A,B,G	
※	//	VE 65 89 00	//		//	Titan		J	
※	9-4	VE 04 16 00	Pad, Disc		パッド／ディスク				
※	9-5	CB 62 79 60	Cushion Rubber		クッションゴム				
※	9-6	VE 04 18 00	Spring		スプリング				
	9-7	EX 60 02 40	BW Head Tapping Screw	3×8(φ10) FCRM3-BI	BWヘッドタッピングネジ				
	9-8	EO 33 00 86	Flat Head Tapping Screw	3×8 FCRM3-BI	皿タッピングネジ	PACK			
※	10	VE 30 88 00	Main Chassis Ass'y		メインシャーシ Ass'y			J	
※	//	VF 70 29 00	//		//			U,C	
※	//	VF 51 59 00	//		//			G	
※	//	VE 30 89 00	//		//			A,B	
※	//	VE 30 90 00	//		//			R	
	10-1	VD 49 11 00	Leg Cap.		レッグキャップ			J	
	10-2	VC 96 54 00	Pad		パッド				
	11	NB 63 83 90	Spacial Screw Ass'y		段付ネジ Ass'y		CDX-305		
	12	VC 32 03 00	Spacial Screw	2.6×8 ZMC2-BI	段付ネジ				
※	13	VE 85 72 00	Ground Plate (F)		アースプレート (F)			J	
※	14	VE 83 11 00	// (L)		// (L)			J	
※	15	VE 83 12 00	// (R)		// (R)			J	
	16	AA 63 12 30	Ground Plate		アース金具				
	17	AA 63 12 10	Bottom Cover		ボトムカバー			J	
	//	VE 95 55 00	//		//			U,C,R,A,B,G	
※	18	VE 43 58 00	Top Cover		トップカバー	Silver		U,C,R,A,B,G	
※	//	VE 43 26 00	//		//	Black			
※	//	VE 43 51 00	//		//	Titan		J	
	19	VD 49 08 00	Support		サポート				
	20	VB 95 81 00	Spring		スプリング				
※	21	VE 76 46 00	Support		サポート			J	
※	22	VE 85 73 00	Shield Pl		シールドプレート			J,R,C	
	23	CB 65 91 50	Holder		ホルダー				
※	24	VE 02 52 00	Rod		ロッド		CDX-910		
※	25	VE 02 37 00	Button		ボタン	Black POWER	//		
※	//	VE 30 93 00	//		//	Silver //	//	U,C,R,A,B,G	
※	//	VE 43 30 00	//		//	Titan //	//	J	
※	26	VE 30 60 00	Plate		プレート	Black	//		
※	//	VE 30 61 00	//		//	Silver	//	U,C,R,A,B,G	
※	//	VE 45 36 00	//		//	Titan	//	J	
	27	CB 65 91 00	Knob		ツマミ	Black PHONES		U,C,R,A,B,G	
	//	VC 51 70 00	//		//	Silver //		U,C,R,A,B,G	
※	28	VE 30 92 00	Damper		ダンパー		CDX-910		
	29	CB 06 88 80	Plastic Rivet		プラスチックリベット				
	30	CB 65 77 50	//		//			R	
	31	Ei 33 01 06	Binding Head Tapping Screw	3×10 ZMC2-BI	バインドタッピングネジ	PACK			
	32	EV 41 30 36	Toothed Lock Washer	φ3 FCRM3-BI	歯付座金	PACK			
	33	Ei 33 01 26	Binding Head Tapping Screw	3×12 FCRM3-BI	バインドタッピングネジ	PACK			

※New Parts (新規部品) NR

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
	34	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			
	35	Ei 34 01 26	//	4×12 FCRM3-BI	//	PACK			
	36	EK 33 00 30	BW Hed Tapping Screw	3×10 FCRM3-BI	BWヘッドタッピングネジ				
	37	VD 94 08 00	Lens		レンズ				
	38	LA 00 53 50	Ground Lug		アースラグ			U,C,R,A,B,G	
	39	VE 85 42 00	Ferrite Core	ESD-R25DB	フェライトコア			U,C,R,A,B,G	
	40	BD 55 00 50	//	ESD-R-12	//				
	41	Ei 33 00 66	Binding Head Tapping Screw	3×6 FCRM3-BI	バインドタッピングネジ	PACK			
※	42	VF 16 84 00	Shield Plate Ass'y		シールドプレートAss'y				
※	43	VE 31 96 00	DM-710 Board In Kit		DM-710ボードインキット				
	44	EV 41 00 36	Toothed Lock Washer	φ3 ZMC2-Y	歯付座金	PACK			
※	45	VF 27 54 00	Shield Plate		シールドプレート(HP)			U,C,R,A,B,G	
※	46	VF 27 55 00	//		// (R)			U,R,A,B,G	
	47	VD 54 50 00	//		//			U,C,R,A,B	
※	//	VF 83 18 00	//		//			G	
	48	CB 09 96 00	Plastic Rivet		プラスチックリベット			U,A,B,G	
	49	CB 60 32 40	Plastic Rivet		//				
	50	UJ 13 73 30	Electrolytic Cap.	33μF 16V	ケミコン	C119		U,C,R,A,B,G	
	51	FZ 00 41 30	Semi-Conductive Ceramic Cap.	0.1μF 25V	セラコン	C120		U,C,R,A,B,G	
	52	FZ 00 37 90	//	0.1μF 25V	//	C122		U,C,R,A,B,G	
※	53	VF 37 65 00	Ferrite Core	ESDR25D	フェライトコア			U,C,R,A,B,G	
	54	BB 07 11 70	Cround Plate		アースプレート			U	
		CB 06 92 51	Binding Tie	BK-1	インシュロックタイ	PACK			
			Accessories		付属品				
※		VE 62 76 00	Remote Control Transmitter		リモートコントロールトランスミッター	Black			
※		VE 33 16 00	//		//	Silver			
		VD 77 99 00	Pin Cord	1P×2 1m	ピンコード				
			Dry Cell	AA,R6	単3乾電池				

※New Parts (新規部品) NR

■EXPLODED VIEW (DM-710)



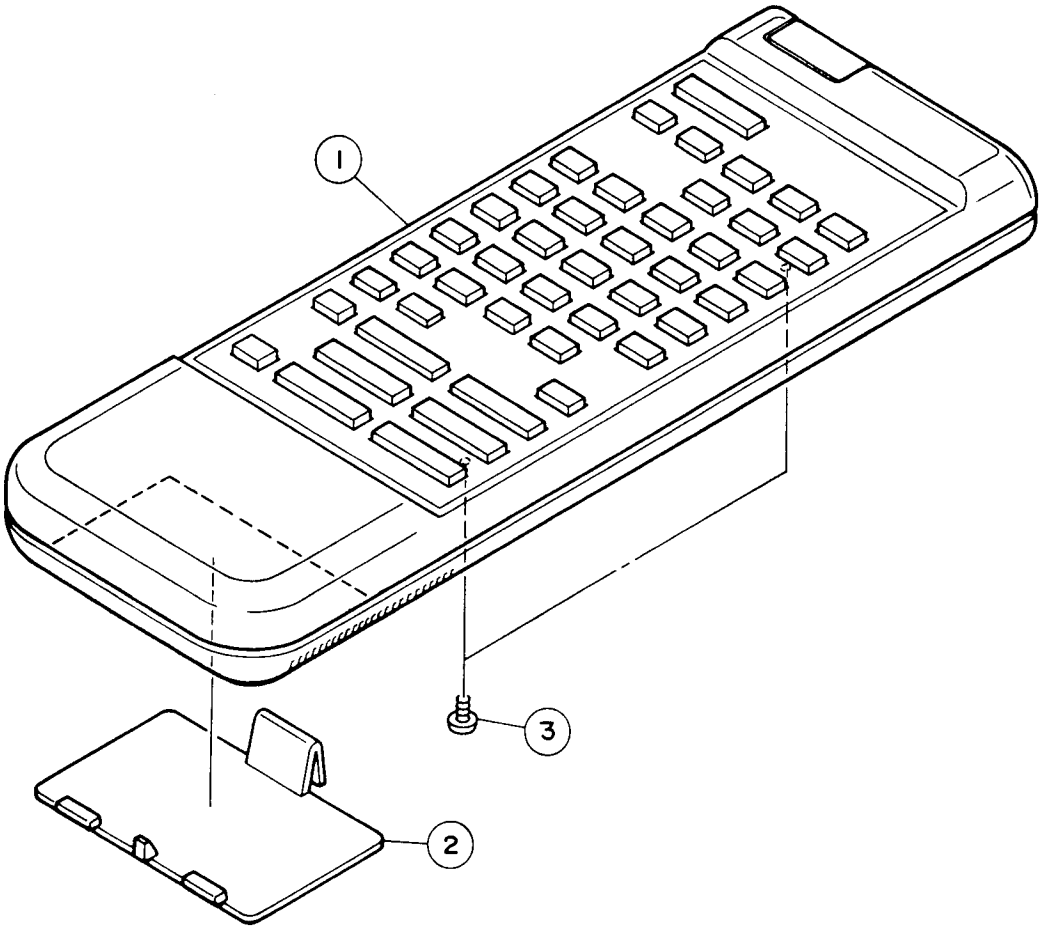
■MECHANISM PARTS (DM-710)

Note) φ : Diameter

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		***VE 30 59 00***	***Disc Mechanism Unit***	DM-710	D M ユ ニ ッ ト				
※	1	VE 35 62 00	Motor		モ ー タ	DISC			
※	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	Stanbilizer		スタビライザー2				
	7	CB 65 55 20	Flapper		フ ラ ッ パ ー 2				
	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	VE 88 79 00	Loading Cam		ローディングカム3				
※	11	VE 02 29 00	Gear, Drive		ギヤー／ドライブ				
※	12	VE 02 28 00	Gear, Pulley		ギヤー／プーリー				
※	13	VE 49 12 00	Ring Stopper		リングストッパー				
※	14	VE 98 00 00	Idle Pulley		アイドルプーリー				
※	15	VE 02 30 00	Pulley, Feed		プーリー／フィード				
	16	CB 65 85 10	P.Pulley		P プ ー リ ー				
※	17	VE 02 25 00	Rack, GearA		ラック／ギヤーA				
※	18	VE 02 26 00	Rack, GearB		ラック／ギヤーB				
※	19	VE 02 34 00	Belf, Feed		ベルト／フィード				
※	20	VE 80 18 00	Belf, Loading		ベルト／ローディング				
※	21	VE 64 78 00	Spring		スプリングフラッパ				
※	22	VE 02 31 00	Shaft, PU710		シャフト／PU710				
※	23	VE 02 33 00	Shaft, Drive Gear		シャフト／ドライブギヤー				
	24	AA 61 93 30	Shaft (S)		シ ャ フ ト (S)				
※	25	VE 17 93 00	Spring		スプリング／ラック710				
	26	VD 73 24 00	〃		スプリング／BE				
※	27	VE 27 00 00	Lever (A)		レ バ ー (A)				
※	28	VE 27 01 00	〃 (B)		〃 (B)				
※	29	VE 27 02 00	Spring		スプリング／TE				
※	30	VD 93 87 00	Roler, SP	φ2.5	ロ ー ラ ー S P				
	31	Ei 32 60 56	Binding Head Tapping Screw	2.6×5 FCRM3-BI	バインドタッピングネジ	PACK			
	32	ED 32 00 56	Binding Head Screw	2×5 ZMC2-BI	バ イ ン ド 小 ネ ジ	PACK			
	33	ED 32 00 46	〃	2×4 ZMC2-BI	〃	PACK			
	34	ED 32 60 66	〃	2.6×6 FCRM3-BI	〃	PACK			
	35	ED 33 00 66	〃	3×6 FCRM3-BI	〃	PACK			
	36	EK 33 00 10	BW Head Tapping Screw	3×12 FCRM3-BI	BWヘッドタッピングネジ				

※New Parts (新規部品) NR

■EXPLODED VIEW (RS-CDX810)



	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		VE 62 76 00	*Remote Control Transmitter*	RS-CDX810	リモートコントロールトランスミッター	Black			
※		VE 33 16 00	//	//	//	Silver			
※	1	CX 60 21 10	Case Ass'y		ケース Ass'y	Black			
※	//	CX 60 21 20	//		//	Silver			
	2	CX 60 19 60	Battery Case		電池蓋	Black			
※	//	CX 60 20 80	//		//	Silver			
	3	EX 60 02 60	Tapping Screw	2×4 BI	ネジ				

※New Parts (新規部品) NR

Parts List for Carbon Resistor

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