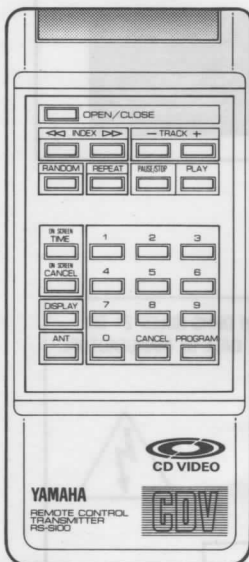
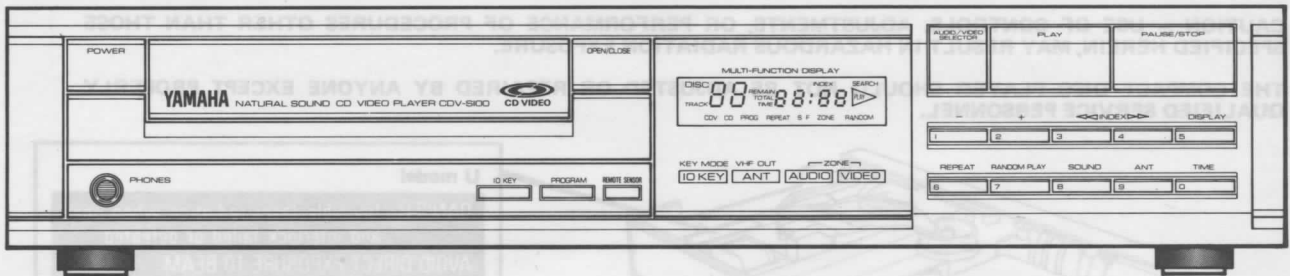


CD VIDEO PLAYER CDV-S100

SERVICE MANUAL



IMPORTANT NOTICE

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

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

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

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

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

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

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100149

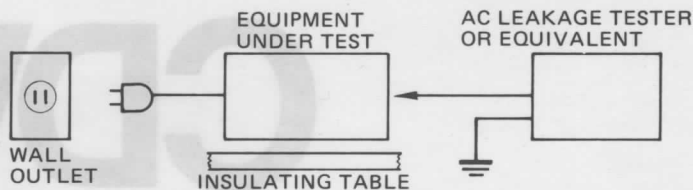
YAMAHA
YAMAHA CORPORATION
P.O. Box 1, Hamamatsu, Japan

I.45k-968 Printed in Japan. '88.2

CDV-S100

TO SERVICE PERSONNEL

- Critical Components Information.**
Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
 - Leakage Current Measurement (For 120V Model Only).**
When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.
- Meter impedance should be equivalent to 1500 ohm shunted by $0.15\mu\text{F}$.
 - Leakage current must not exceed 0.5mA.
 - Be sure to test for leakage with the AC plug in both polarities.

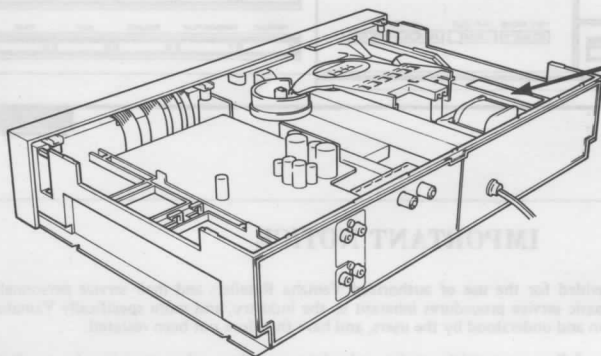


POLARIZATION

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

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

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



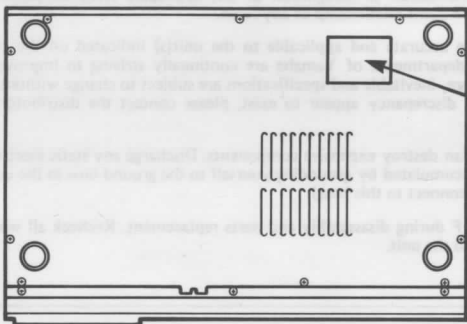
U model

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

C model

CAUTION HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED
ATTENTION RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ENCLICHEMENT DE SECURITE ANNULE (BB4/R)

Bottom side



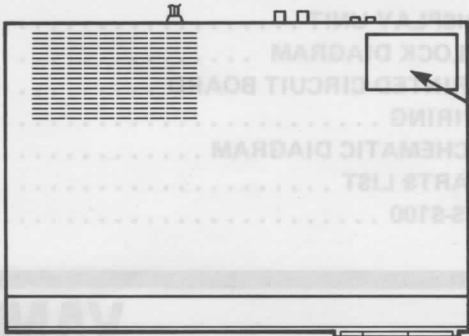
U.S.A. model

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

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

MANUFACTURED:

Top side



U.S.A. model

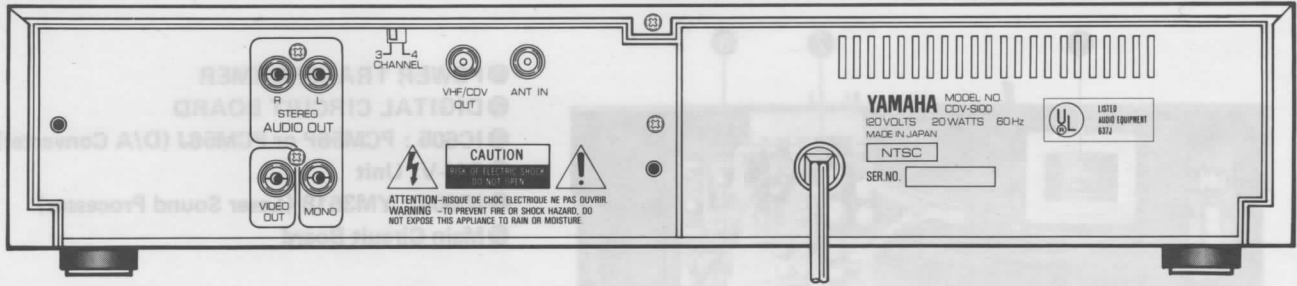
FCC ID : A6R9LVC0VSI00
YAMAHA
MADE IN JAPAN

This device complies with FCC Rule Part 15. Operation is subject to the following two conditions : (1) This device may not cause harmful interference and (2) this device must accept any interference that may be received. Including interference that may cause undesired operation.

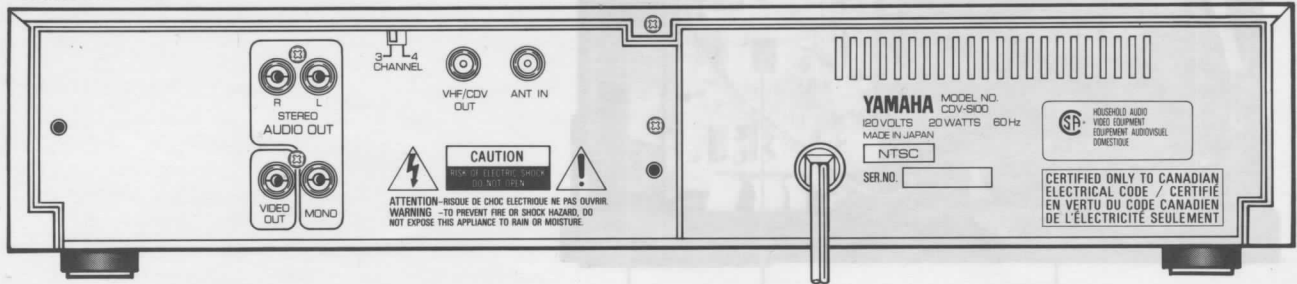
Complies with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC Rules.

REAR PANELS

U.S.A. model



Canadian model



SPECIFICATIONS

● FORMAT

- System (or Type):** Optical video disc system complies with MCA/Philips specifications (Laservision system)
- Usable disc:** CD: 72 min.
CDV: Video 5 min.
Audio 20 min.
- Spindle revolution:** CD: 200 to 500 rpm
CDV: Video 1,800 to 2,700 rpm
Audio 300 to 500 rpm

● INPUT/OUTPUT TERMINALS

- INPUT:**
- ANT IN:** VHF input (75-ohms)
- OUTPUTS:**
- VIDEO SIGNAL:** 1 Vp-p (75-ohms load, sync. negative) Phono pin jack
- VHF OUT:** Applied to NTSC standard TV receiver F-type jack (75-ohms, unbalanced), Channel 3 or 4 switchable
- AUDIO SIGNAL:** 200 mVrms (1 kHz, -20 dB), Stereo or 2-channel individual Stereo pin jacks
- MONO:** Pin jack for mono TV/VCR
- Frequency response:** 5 Hz - 20 kHz, +0.5, -1 dB
- De-Emphasis Equalization Deviation:** +/- 0.5 dB
- Signal-to-noise ratio:** 100 dB
- Harmonic Distortion + Noise:** 0.004% (1 kHz, -20 dB)
- Channel Separation:** 90 dB (1 kHz)
80 dB (10 kHz)
- Output Level:** 2.0 V
- Output Impedance:** 2.2 k-ohms
- Headphone Output/Load Impedance:** 150 mV/8 ohms

● GENERAL

- Power requirements:** AC 120V, 60 Hz
- Power consumption:** 20 W
- Weight:** 5.0 kg (11 lb 0 oz)
- Dimensions:** 435 (W) x 92.5 (H) x 302 (D) mm
(17-1/8" x 3-5/8" x 11-7/8")

Operable temperature/humidity range: +5 to 35°C (41 to 95 F)/0 to 90% (No condensation)

● ACCESSORIES

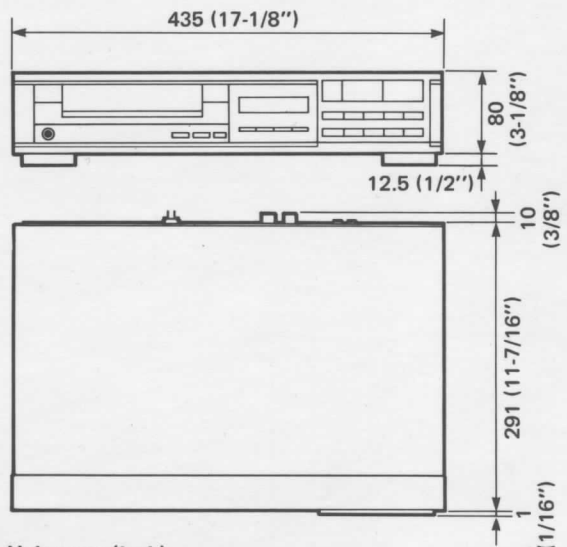
- Remote Control Transmitter
- Size "AA" battery x 2
- 75-ohm/300-ohm antenna adapter x 1
- Coaxial cable with F-plug x 1
- Audio cord x 1
- Video cord x 1

● OTHERS

- Auto audio digital output:** When playing discs having a digitally-recorded audio signal, the audio reproduction circuit is automatically changed to the audio digital circuit.

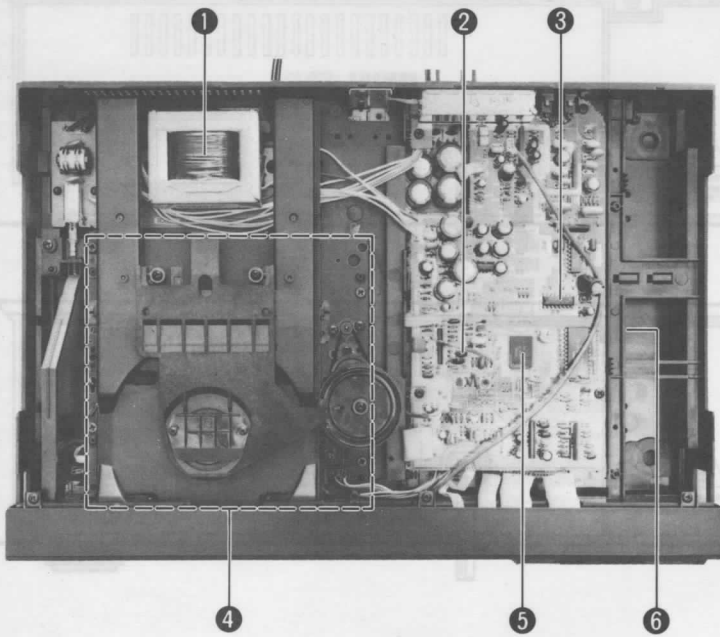
*Specifications and design subject to change without notice.
(U) U. S. A. model (C) Canadian model*

● Dimension



Unit : mm (inch)

INTERNAL VIEW



- ① POWER TRANSFORMER
- ② DIGITAL CIRCUIT BOARD
- ③ IC605 : PCM56P or PCM56J (D/A Converter)
- ④ DM-VI Unit
- ⑤ IC604 : YM3618 (Laser Sound Processor)
- ⑥ Main Circuit Board

DISASSEMBLY PROCEDURES

- 1. Removal of Top Cover**
Remove 5 screws (①) in Fig. 1, and slide the Top Cover to the back side.
- 2. Removal of Bottom Cover**
Remove 9 screws (②) in Fig. 1
- 3. Removal of Front Panel**
Remove 6 screws (③) in Fig. 1, and pull the Front Panel forward.

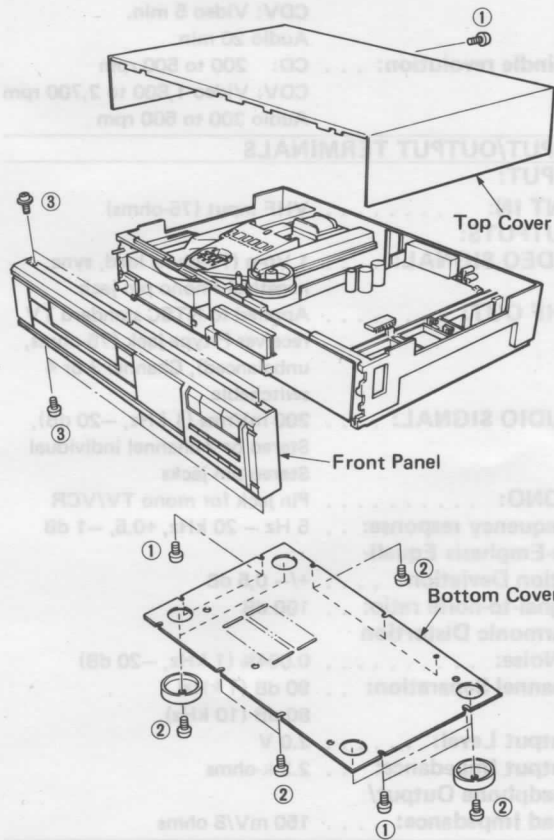


Fig. 1

4. Removal of Disc Tray Ass'y

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

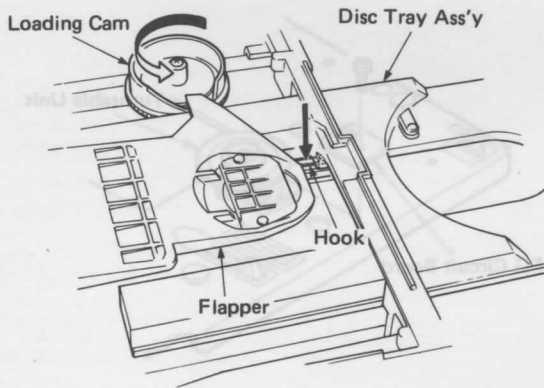


Fig. 2

b. Remove the shield case by removing the screw (6) and unsoldering the HF amplifier circuit board.

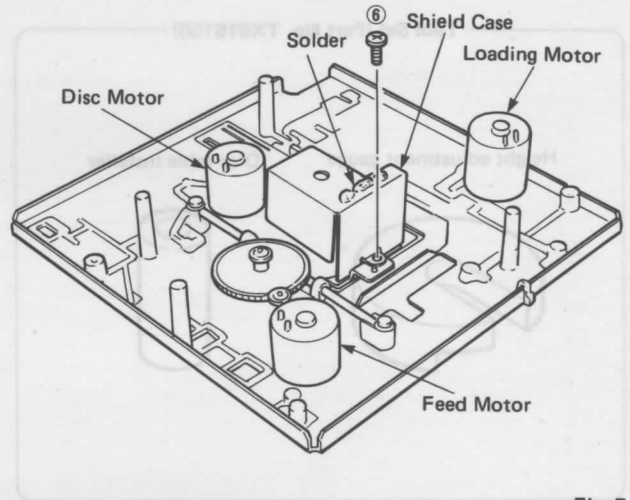


Fig. 5

5. Removal of Disc Mechanism Unit

Remove 4 screws (4) in Fig. 3.

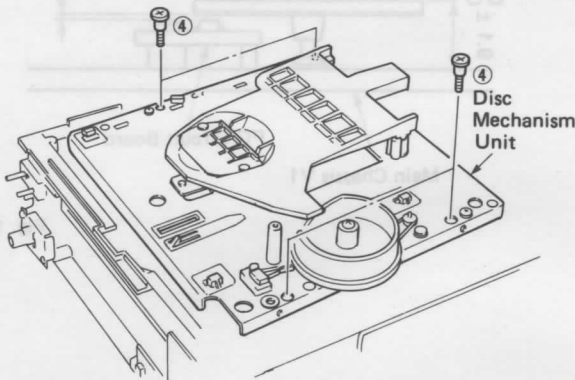


Fig. 3

c. Remove the Pickup Head by removing 3 screws (7).

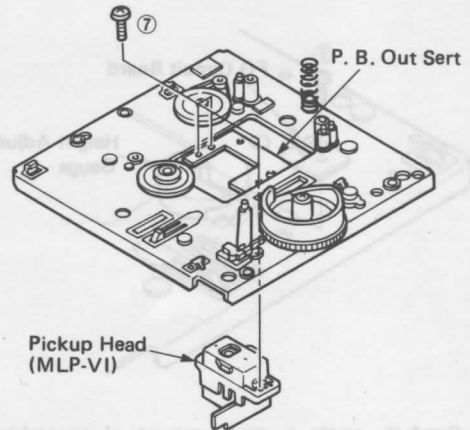


Fig. 6

6. Removal of Pickup head

a. Remove 2 screws (5) fixing Flapper in Fig. 4 and then remove the flapper.

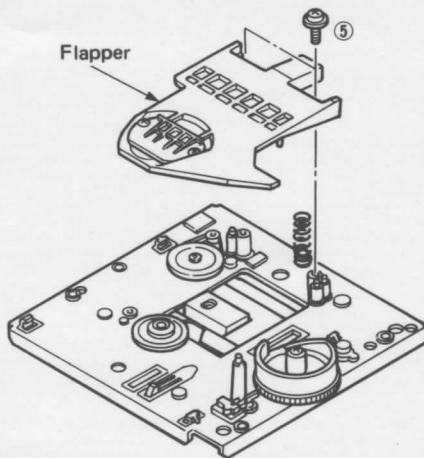


Fig. 4

7. Removal of Disc Motor

Pull off the turntable unit and remove 2 screws (8).

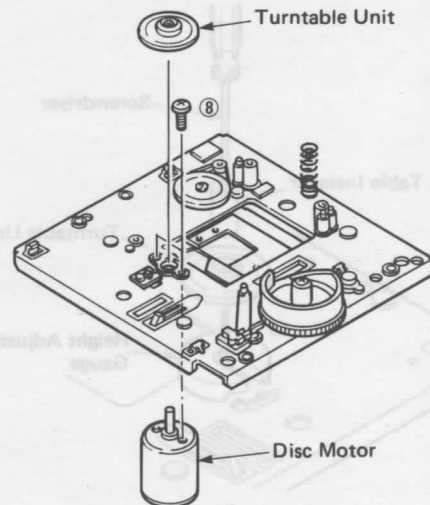
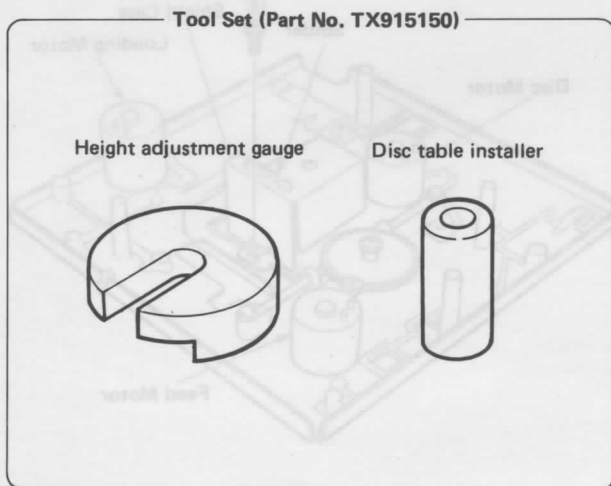


Fig. 7

● Installation of turntable unit

* The following tools are necessary for installation.



a. Remove the FG circuit board by removing the screw (9) and set the height adjustment gauge as shown below.

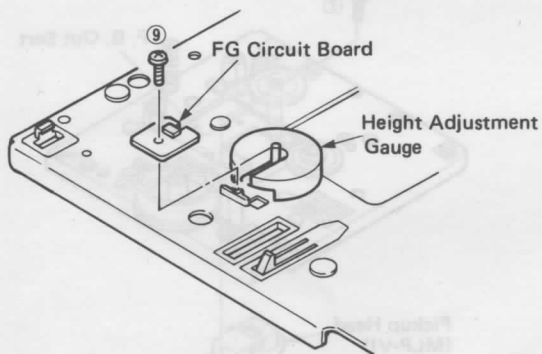


Fig. 8

b. Carefully apply a small amount of anaerobic glue to motor shaft (Loc-Tite # 638).

c. Insert a screwdriver or the like into the disc table installer and push the turntable unit down into place.

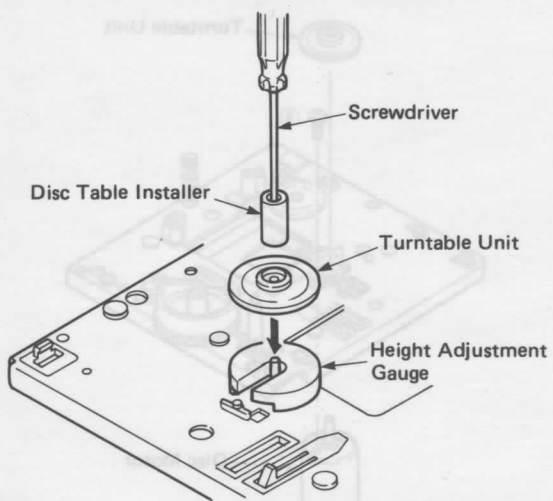


Fig. 9

- d. Clean excess glue from top of turntable.
- e. Allow 5 minutes for glue to cure before removing disc table installer and height gauge.
- f. Install the FG circuit board.
- g. Check that the disc table height is as specified in Fig. 11.

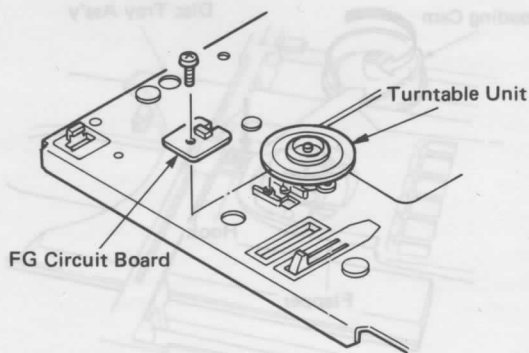


Fig. 10

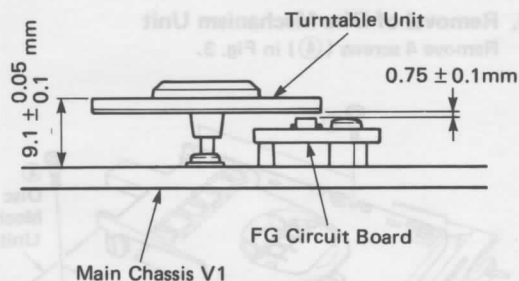


Fig. 11

CHIP COMPONENTS DESCRIPTION

CAUTION: AFTER REMOVING CHIP TYPE COMPONENTS, DO NOT REUSE THEM.

1. KIND OF CHIP DEVICE

We have five kinds of chip devices:

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

2. IDENTIFICATION OF FOUR KINDS OF CHIP DEVICES

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

a. Resistor/Jumper resistor

All chip resistors have a 3 digit indication of the value of resistance.

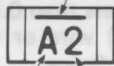
For example, "472" stands for 4.7k ohms and "000" stands for the jumper resistor.

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

b. Ceramic capacitor

Some chip capacitors have a 2 digit indication of the value of capacitance. For example, "A2" stands for 100pF. Some chip capacitors have no indication.

(Example) Special mark



$$1.0 \times 10^2 = 100pF$$

Alphabet Number

• Contents of indication

Alphabet The numerical value of electrostatic capacity.

Number The value of the multiplier.

Special mark Temperature characteristic.

• Electrostatic capacity

(Alphabet)

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

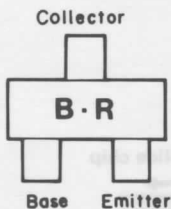
Alphabet	N	P	Q	R	S	T	U	V	W	X	Y	Z
Numerical value	3.3	3.6	3.9	4.3	4.7	5.1	5.6	6.2	6.8	7.5	8.2	9.1

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

(Number)

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

Ex. Transistor: 2SC2412(R)



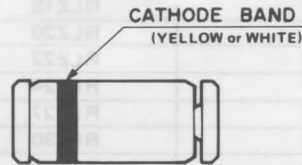
c. Transistor

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

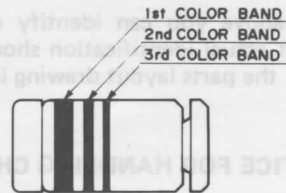
Indication	Parts No.	Description	HFE rank
BQ	iC241200	" 2SC2412	Q-rank
BR	"	" "	R-rank
BS	"	" "	S-rank
YQ	iD060100	" 2SD601	Q-rank
YR	"	" "	R-rank
YS	"	" "	S-rank
UB	VC112000	" 2SC2404	B-rank
UC	"	" "	C-rank
UD	"	" "	D-rank

d. Diode and Zener Diode

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



The zener diode has three color bands as shown below.



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

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

Table 1

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

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

Table 2

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

3. SPECIAL NOTICE FOR HANDLING CHIP DEVICES

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

a. For shock

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

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

b. For heat

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

c. Soldering

- Chip devices can not withstand rapid heating or cooling. Do not heat the chip itself, heat the terminals of chip devices.
- Solder quickly, excessive soldering time will cause damage to chip device.

- Try to reduce amount of solder when soldering. Amount of solder will effect the strength of the chip bending against the printed circuit board. Refer to amount of solder as shown below.

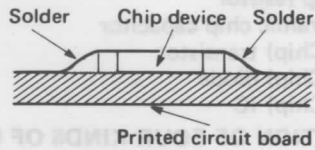


Fig. 1

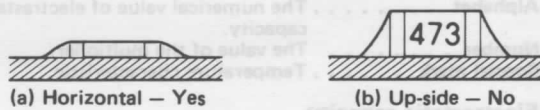
d. Soldering iron

When soldering chip devices, use the right soldering iron.

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

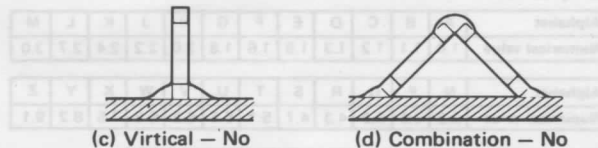
e. Mounting chip device onto printed circuit board

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



(a) Horizontal - Yes

(b) Up-side - No



(c) Vertical - No

(d) Combination - No

Fig. 2

f. Removal of defective device for repair

When removing chip devices with a forked tip iron, heat the chip device with the fork tip and slide.

When you are going to remove chip devices using regular tip iron, heat two terminals of chip device repeatedly about 2 or 3 times and slide the chip device.

Slide chip device only in the direction specified as shown below.

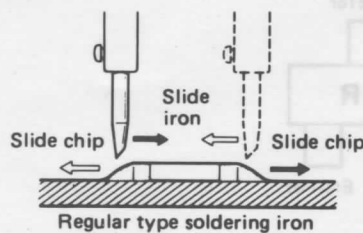


Fig. 3


TEST DISC

• CDV-11 (Part No. TX913150)

CD part

Track No.	Time m : s	Item	L ch	R ch	Pre-emphasis
1	0:00 ~ 1:00	Reference signal	1kHz 0dB	1kHz 0dB	ON
2	1:00 ~ 1:15	Frequency response	20Hz 0dB	20Hz 0dB	ON
3	1:15 ~ 1:30	"	100Hz 0dB	100Hz 0dB	ON
4	1:30 ~ 1:45	"	5kHz 0dB	5kHz 0dB	ON
5	1:45 ~ 2:00	"	10kHz 0dB	10kHz 0dB	ON
6	2:00 ~ 2:15	"	18kHz 0dB	18kHz 0dB	ON
7	2:15 ~ 2:30	"	20kHz 0dB	20kHz 0dB	ON
	2:30 ~ 3:00	S/N	-∞	-∞	
8	3:00 ~ 3:15	Separation	1kHz 0dB	-∞	ON
9	3:15 ~ 3:30	"	-∞	1kHz 0dB	ON
10	3:30 ~ 3:45	"	10kHz 0dB	-∞	ON
11	3:45 ~ 4:00	"	-∞	10kHz 0dB	ON
12	4:00 ~ 4:15	Emphasis	5kHz -4.53dB	5kHz -4.53dB	OFF
13	4:15 ~ 4:30	"	16kHz -9.04dB	16kHz -9.04dB	OFF
14	4:30 ~ 5:00	Dynamic range	1kHz -60dB	1kHz -60dB	ON
15	6:00 ~ 7:30	"	400Hz -4dB	400Hz -4dB	ON
16	8:30 ~ 10:00	"	400Hz -4dB	400Hz -4dB	ON
17	11:00 ~ 12:30	"	400Hz -4dB	400Hz -4dB	ON
18	13:30 ~ 15:00	"	400Hz -4dB	400Hz -4dB	ON
19	16:00 ~ 17:30	"	400Hz -4dB	400Hz -4dB	ON

Video part

Track No.	Time m : s	Picture	Sound	L ch	R ch	Pre-emphasis
20	0:00 ~ 0:30	Three-division 	Reference signal	1kHz 0dB	1kHz 0dB	ON
21	0:30 ~ 1:00	White 100 IRE	Frequency response	20kHz 0dB	20kHz 0dB	ON
22	1:00 ~ 1:15	Gray 50 IRE	Separation	1kHz 0dB	-∞	ON
23	1:15 ~ 1:30	Black 0 IRE	"	1kHz 0dB	-∞	ON
24	1:30 ~ 2:00	Magenta Brightness 50 IRE Saturation 100 IRE	"	-∞	1kHz 0dB	ON
25	2:00 ~ 2:30	Color staircase	S/N	-∞	-∞	ON
26	2:30 ~ 3:00	Multi-burst	Dynamic range	1kHz -4dB	1kHz -4dB	ON
27	3:00 ~ 3:30	Composite signal	"	1kHz -14dB	1kHz -14dB	ON
28	3:30 ~ 4:00	EIA color bar	"	1kHz -34dB	1kHz -34dB	ON
29	4:00 ~ 4:50	Resolution chart	"	1kHz -54dB	1kHz -54dB	ON
30	4:50 ~ 5:00	Moving picture	"	1kHz -66dB	1kHz -66dB	ON

ADJUSTMENTS

• Necessary items

Measuring instrument:

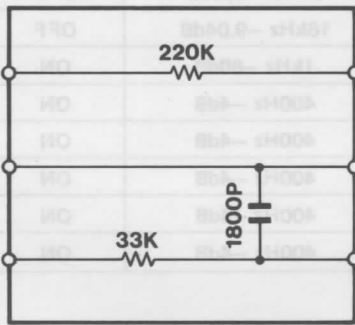
	Q'ty
Oscilloscope (50 MHz or over, 2ch type with X-Y position)	1
Frequency counter	1
Monitoring TV	1
Audio frequency oscillator (AF OSC)	1
DC voltmeter (DCVM)	1
AC voltmeter (ACVM)	1

Test disc:

CDV-11 (P/No. TX913150)	1
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Jigs:

Connector pin (8P)	1
Filter	1



• Make adjustments in numerical order

1 Verification of Power Supply Voltage and Operation

1. Verification of power supply voltage
2. Reset and muting
3. Loading and clamp
4. Focus servo and tracking servo

2 Pick-up Servo Adjustment

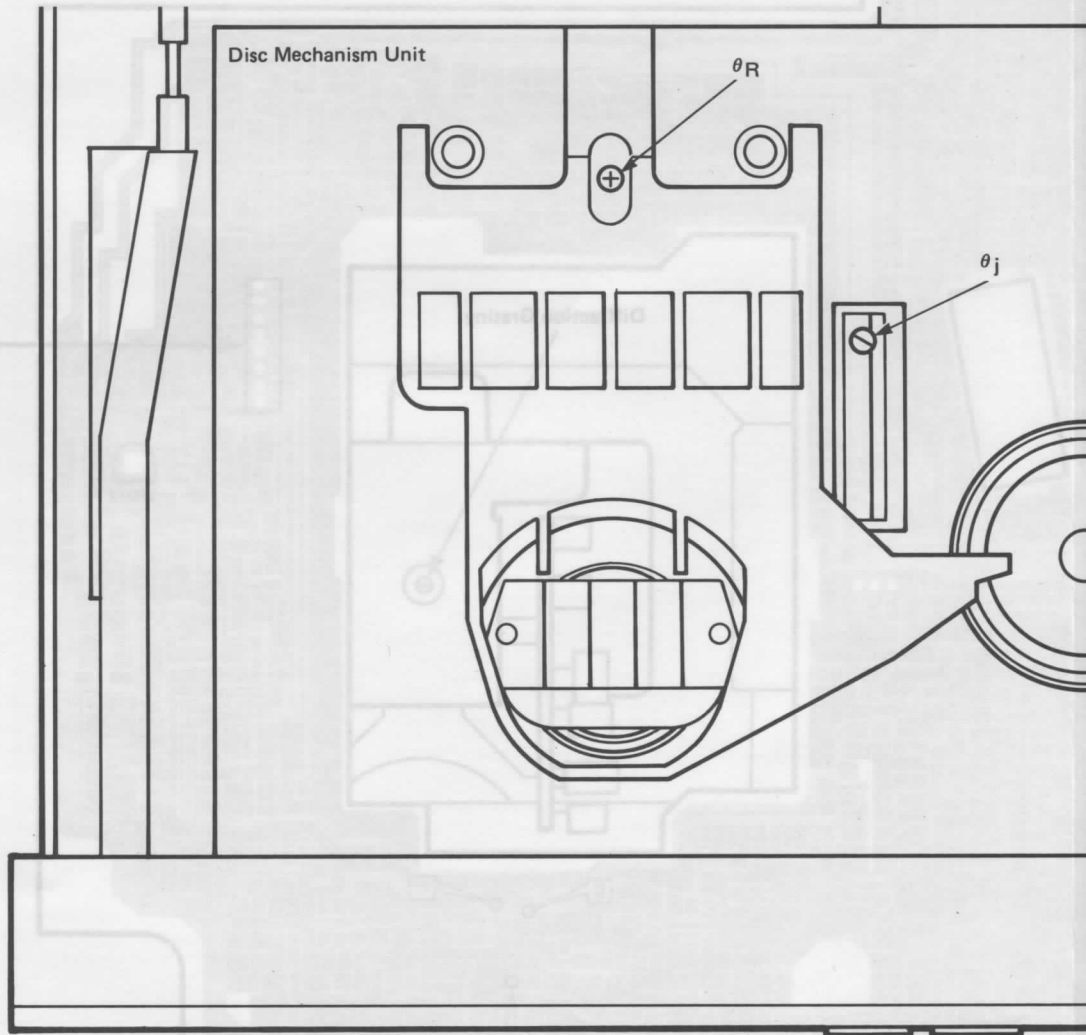
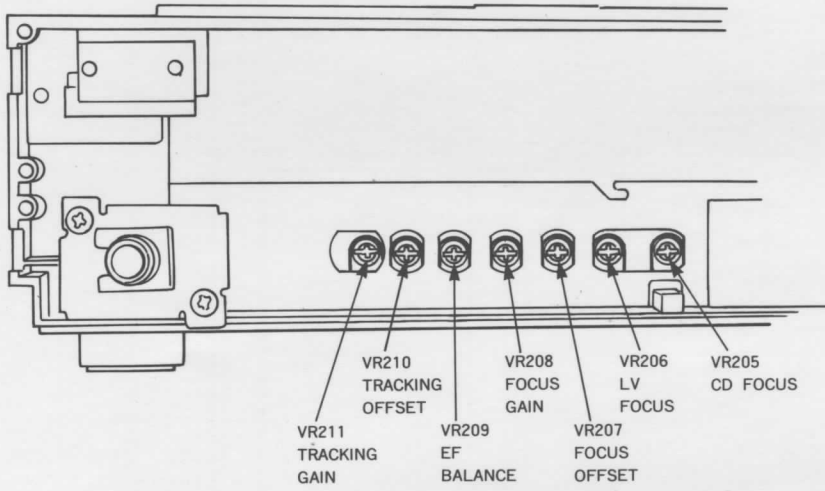
1. Focus offset confirmation
2. Tracking offset adjustment
3. ON-track Confirmation
4. Rough adjustment of diffraction grating
5. EF balance adjustment
6. Diffraction grating adjustment
7. CDV focus adjustment
8. θ_R adjustment
9. θ_j adjustment
10. Precision adjustment of diffraction grating
11. CD focus adjustment
12. Focus gain adjustment
13. Tracking gain adjustment
14. Crosstalk confirmation
15. Focus offset adjustment
16. Tracking offset confirmation

3 Audio-visual Systems Adjustment

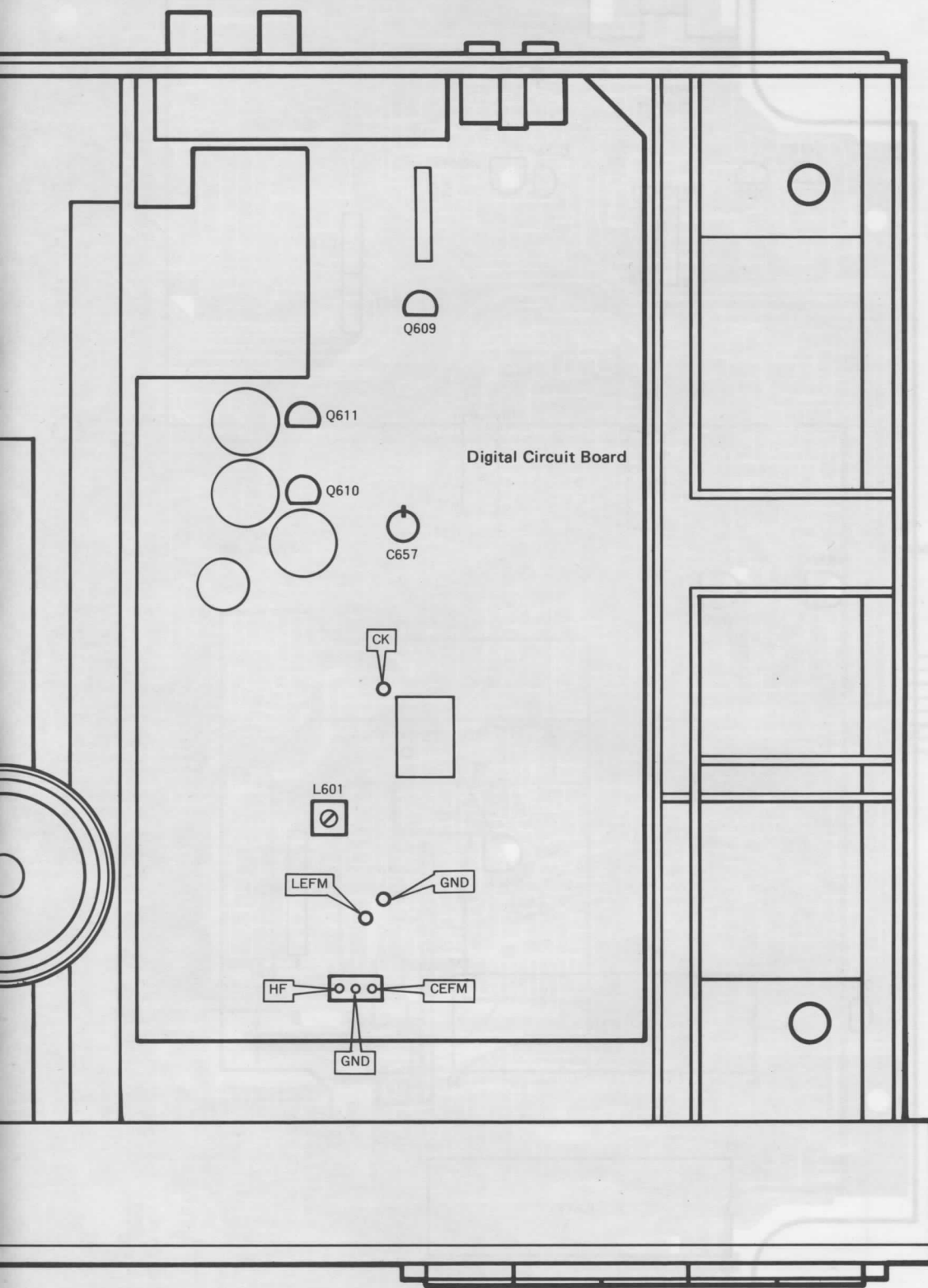
1. Spindle servo
2. Main TBC servo
3. Color TBC
4. Visual RF system
5. Visual detector and video amplifier
6. Digital sound
7. RF modulator

No.	Time	Item	Level	Unit
20	0:00 ~ 0:30	Spindle servo	1kHz ~ 4dB	dB
21	0:30 ~ 1:00	Main TBC servo	1kHz ~ 4dB	dB
22	1:00 ~ 1:15	Color TBC	1kHz ~ 4dB	dB
23	1:15 ~ 1:30	Visual RF system	1kHz ~ 4dB	dB
24	1:30 ~ 2:00	Visual detector and video amplifier	1kHz ~ 4dB	dB
25	2:00 ~ 2:30	Digital sound	1kHz ~ 4dB	dB
26	2:30 ~ 3:00	RF modulator	1kHz ~ 4dB	dB
27	3:00 ~ 3:30	RF modulator	1kHz ~ 4dB	dB
28	3:30 ~ 4:00	RF modulator	1kHz ~ 4dB	dB
29	4:00 ~ 4:30	RF modulator	1kHz ~ 4dB	dB
30	4:30 ~ 5:00	RF modulator	1kHz ~ 4dB	dB

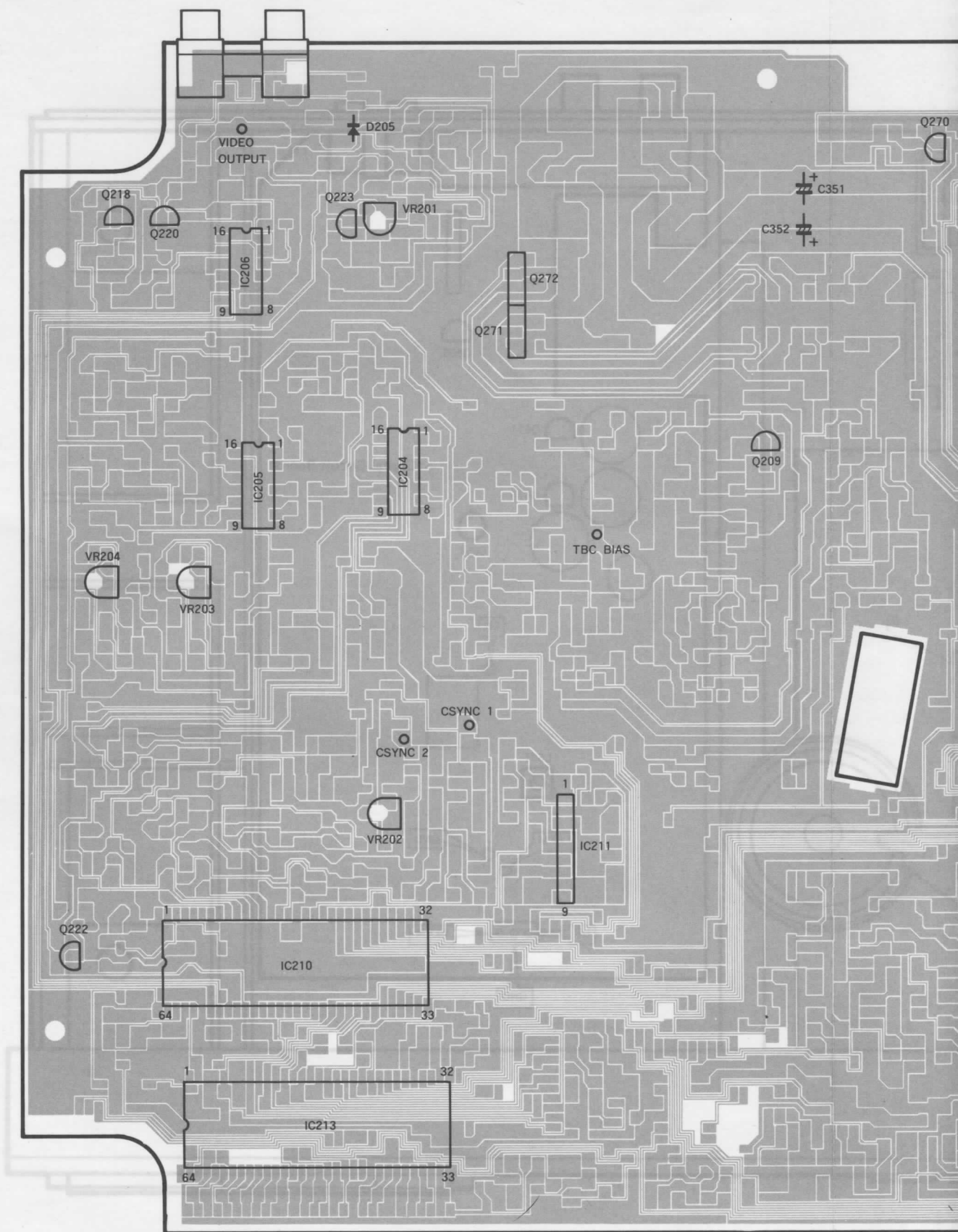
• Test Points / Adjustment Locations (1)

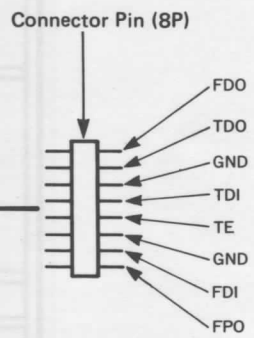
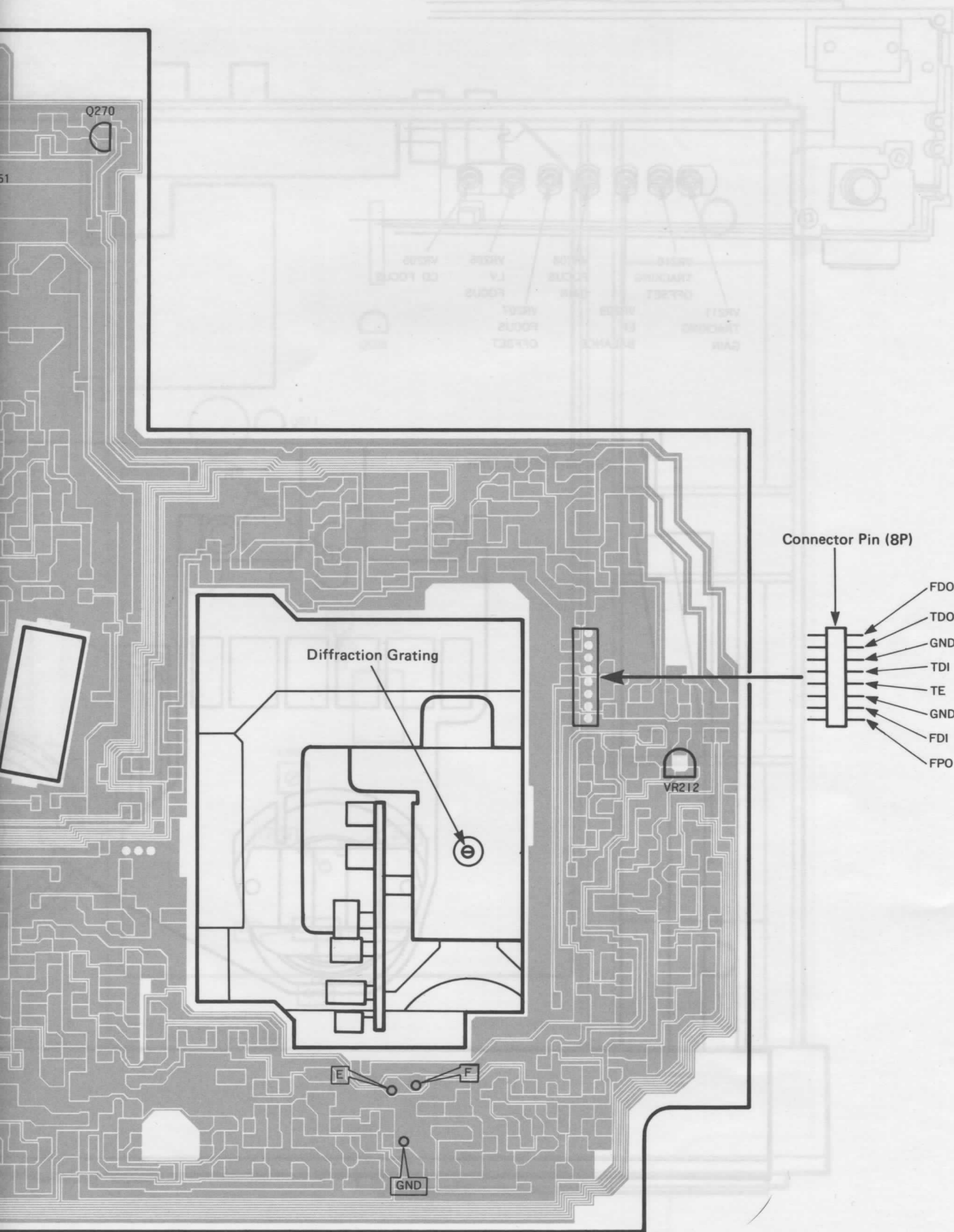


Test Points / Adjustment Location (S)



● Test Points / Adjustment Location (2)





1. Verification of Power Supply Voltage and Operation

Power Supply Voltage Verification	+5V	Main Circuit Board: +5V ± 0.25V across collector of Q272
	-5V	Main Circuit Board: -5V ± 0.25V across collector of Q271
	+B	Main Circuit Board: More than +7V across Q272 emitter at the ripple bottom
	+SB	Main Circuit Board: More than +12V across the positive (+) side of C351 at the ripple bottom
	-SB	Main Circuit Board: Less than -12V across the negative (-) side of C352 at the ripple bottom
	+10V	Digital Circuit Board: +9.8V ± 0.3V across emitter of Q610
	-10V	Digital Circuit Board: -9.8V ± 0.3V across emitter of Q611
	D5V	Digital Circuit Board: +5V ± 0.2V across the positive (+) side of C657
Reset and Muting	Reset	Main Circuit Board with Power SW ON : Verify that the voltage of No.6 pin (RESET) of IC213 (Microcomputer) rises more slowly than that of No.33 pin (VDD) and falls faster with Power SW OFF.
	Muting	Digital Circuit Board with Power SW ON/OFF : Verify that the collector of Q609 turns quickly to +10.5V and turns to -10V a while later.
Loading and Clamp	Verification of Motor Operation	Verify that when pressing Operation SW803 (OPEN/CLOSE), the tray goes in and the clamper lowers and that when pressing the SW again, the clamper ascends and the tray comes out.
Focus Servo and Tracking Servo	Focus Search	Verify that when pressing Operation Circuit Board SW801 (10 KEY) without a disc, the clamper lowers, the voltage of Q270 emitter of the main circuit board changes from about 0V to -7V and the laser diode starts emission. At the same time, the lens starts ascending and falls about 2 second later.

2. Pick-up Head Servo Adjustment

1. Starting the Test Mode

To set to the test mode, turn on the POWER SW with SW808 ("6" : REPEAT key) and SW809 ("5" : DISPLAY key) pressed. Carry out steps 1 to 12 in this state.

2. Connecting the connector pin

Referring to the test point (2), insert the connector pin (8P) into the main circuit board to use it as a test point.

● Description of Test Mode Keys

- SW801 (10KEY) : FOCUS SEARCH
- SW815 ("1") : FEED -
- SW812 ("2") : FEED +
- SW811 ("3") : SEARCH -
- SW810 ("4") : SEARCH +
- SW809 ("5") : TRACKING OFF
- SW808 ("6") : Track No.1 (CD)
- SW807 ("7") : Track No.18 (CD)
- SW806 ("8") : Track No.20 (VIDEO)
- SW804 ("0") : 2700rpm, TRACKING OFF



Step 1. Focus OFF-set Confirmation

- (1) Set to the test mode.
- (2) Confirm that the voltage at **FDO** terminal is DC 0V ± 0.05V.
If not adjust VR212 so that the voltage of **FDO** terminal.
- (3) Adjustment VR207 so that the voltage of **FDO** terminal becomes DC 0V ± 0.05V.

Step 5. EF Balance Adjustment

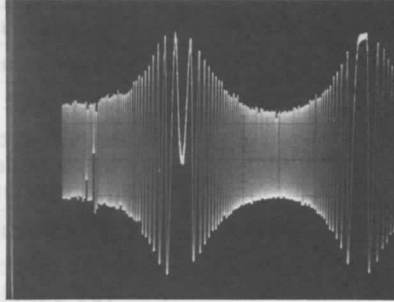
- (1) Set to the test mode.
- (2) Perform adjustment with the tracking servo turned OFF by pressing SW804 ("0"), SW801 (10KEY) and SW809 ("5") in that order.
- (3) Press SW806 ("8") to play back the video part.
- (4) Connect the oscilloscope to **TE** terminal.
- (5) Adjust VR209 so that the DC of the TE signal becomes 0V.

Step 2. Tracking OFF-set Adjustment

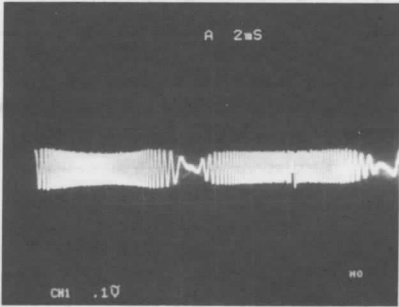
- (1) Set to the test mode.
- (2) Adjustment VR210 so that the voltage of **TE** terminal becomes DC 0V ± 0.05V.

Step 3. ON-track Confirmation

- (1) Set to the test mode.
- (2) Perform adjustment with the tracking servo turned OFF by pressing SW804 ("0"), SW801 (10KEY) and SW809 ("5") in that order.
- (3) Connect the oscilloscope to **TE** terminal.
- (4) Confirm that the envelope is neat when the tracking error level is minimum.



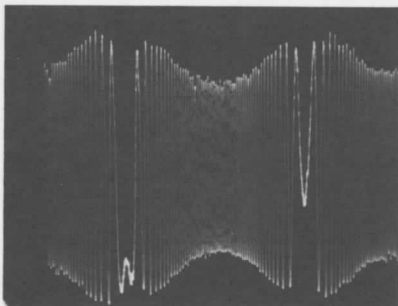
V: 50mV/div
H: 2msec/div
DC range
10:1 probe used



V: 0.1V/div
H: 2msec div
DC range
10:1 probe used

Step 4. Rough Adjustment of Diffraction Grating

- (1) Set to the test mode.
- (2) Perform adjustment with the tracking servo turned off by pressing SW804 ("0"), SW801 (10KEY) and SW809 ("5") in that order.
- (3) Connect the oscilloscope to **TE** terminal.
- (4) Adjust the diffraction grating so that the amplitude of TE signal becomes maximum.



V: 50mV/div
H: 2msec/div
DC range
10:1 probe used

2. Pick-up Head Servo Adjustment

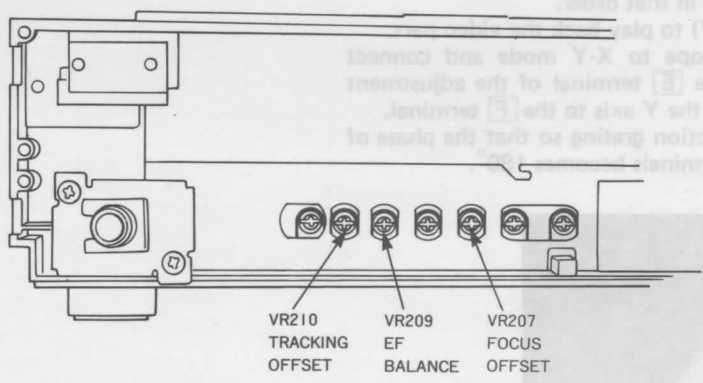
1. Starting the Test Mode
To set to the test mode, turn on the POWER SW with SW808 ("8") : REPEAT key) and SW809 ("5") : DISPLAY key) pressed. Carry out steps 1 to 12 in this state.

Description of Test Mode Keys

SW801 (10KEY) :	FOCUS SEARCH
SW812 ("1") :	FEED -
SW813 ("2") :	FEED +
SW811 ("3") :	SEARCH -
SW810 ("4") :	SEARCH +
SW802 ("5") :	TRACKING OFF
SW803 ("6") :	Track No.1 (CD)
SW807 ("7") :	Track No.18 (CD)
SW805 ("8") :	Track No.30 (VIDEO)
SW804 ("0") :	STOP/PAUSE, TRACKING OFF

Step 6. Diffraction Grating Adjustment

- (1) Set to the test mode.
- (2) Perform adjustment with the tracking zero turned Off by pressing SW804 ("0"), SW801 (LOCKY) and SW809 ("8") in that order.
- (3) Press SW808 ("8") to place the oscilloscope to X-Y mode and connect the X axis to the [E] terminal of the adjustment circuit board and the Y axis to the [F] terminal.
- (4) Adjust the diffraction grating so that the phase of the [E] and [F] terminals is 90 degrees.



CH1 X
X: 10mV/div
Y: 10mV/div
AC mode

Step 7. CDV FOCUS

- (1) Set to the test mode.
- (2) Press SW803 ("3") to place the oscilloscope to X-Y mode and connect the X axis to the [E] terminal of the adjustment circuit board and the Y axis to the [F] terminal.
- (3) Adjust VR212 so that the phase of the [E] and [F] terminals is 90 degrees.

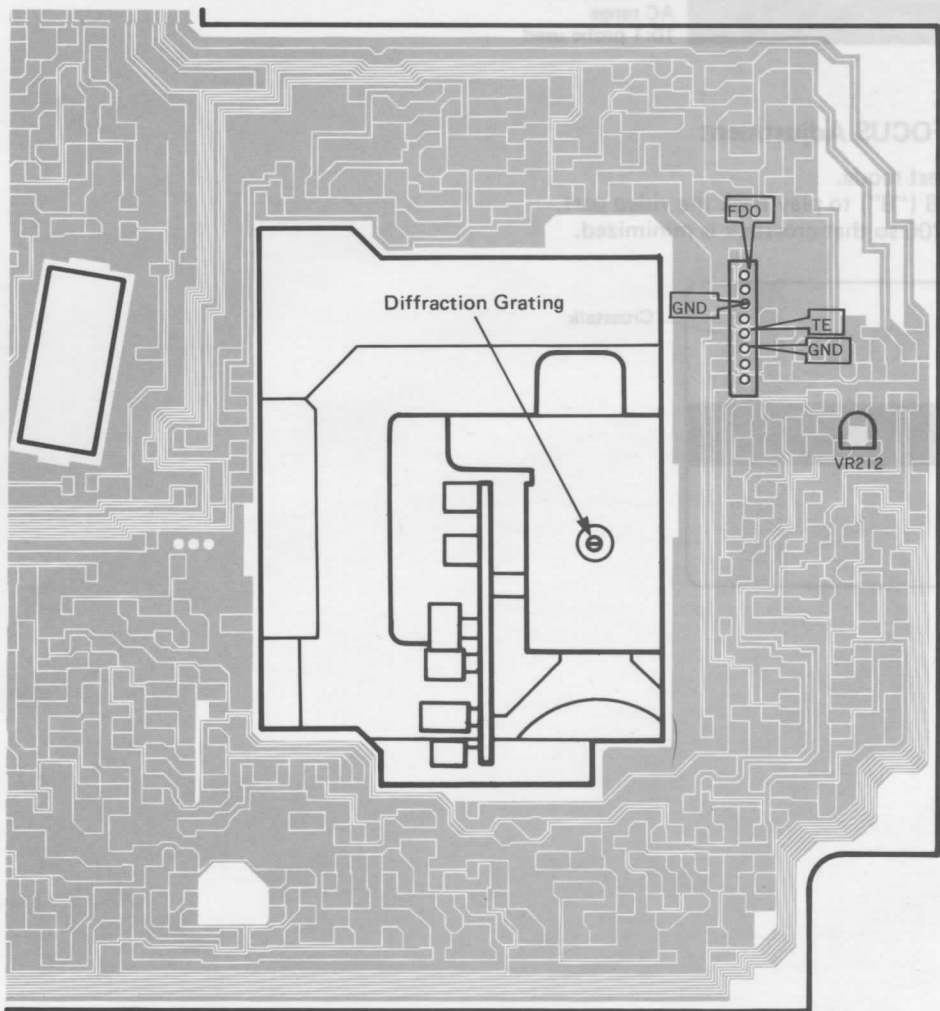
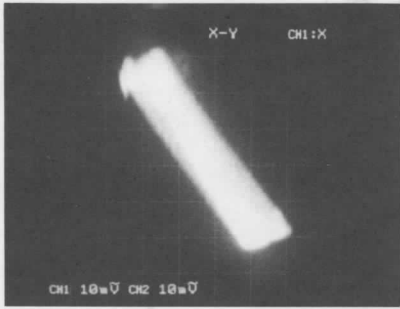


Fig. A

Step 6. Diffraction Grating Adjustment

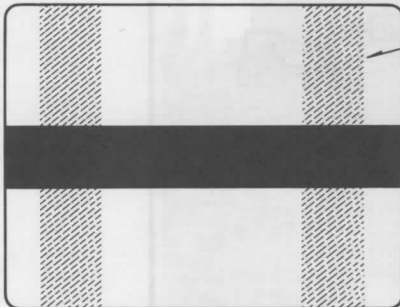
- (1) Set to the test mode.
- (2) Perform adjustment with the tracking servo turned OFF by pressing SW804 ("0"), SW801 (10KEY) and SW809 ("5") in that order.
- (3) Press SW806 ("8") to play back the video part.
- (4) Set the oscilloscope to X-Y mode and connect the X axis to the [E] terminal of the adjustment circuit board and the Y axis to the [F] terminal.
- (5) Adjust the diffraction grating so that the phase of the [E] and [F] terminals becomes 180°.



CH1: X
 X: 10mV/div
 Y: 10mV/div
 AC range
 10:1 probe used

Step 7. CDV FOCUS Adjustment

- (1) Set to the test mode.
- (2) Press SW806 ("8") to play back the video part.
- (3) Adjust VR206 so that crosstalk is minimized.



Crosstalk

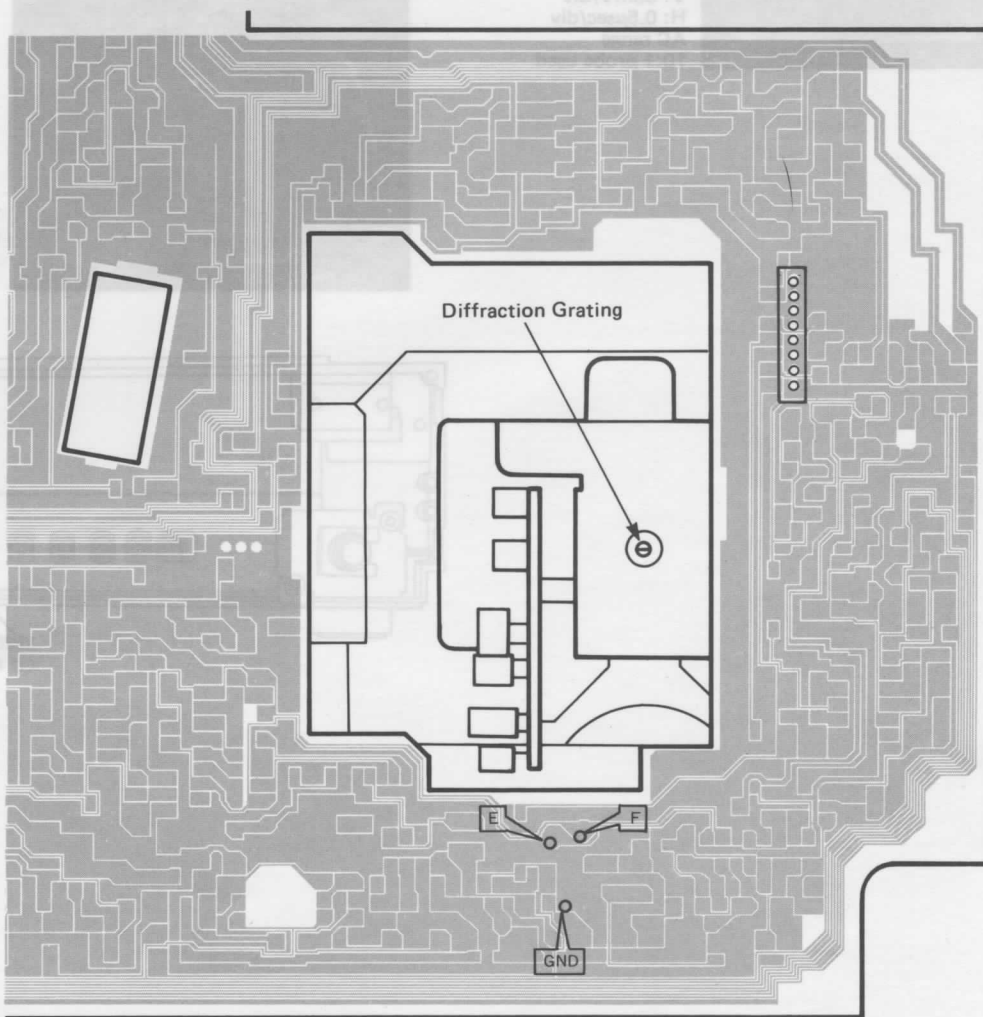
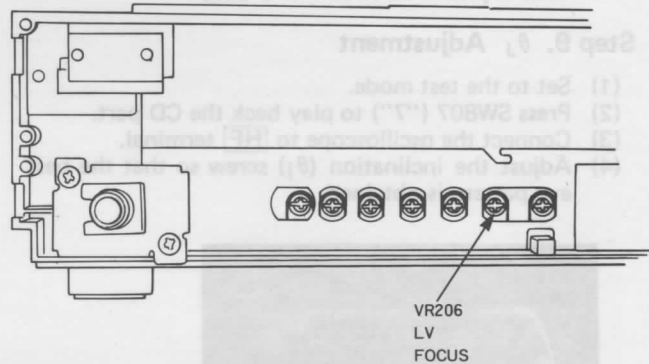
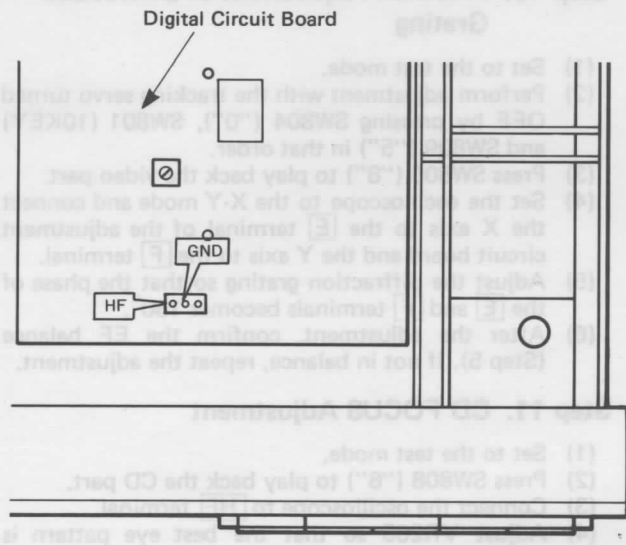


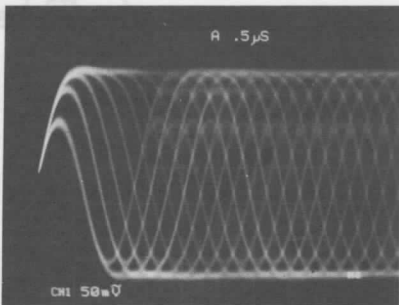
Fig. B

Step 8. θ_R Adjustment

- (1) Set to the test mode.
 - (2) Press SW806 ("8") to play back the video part.
 - (3) Adjust θ_R so that crosstalk is minimized.
- * Be sure to apply anaerobic glue to the θ_R screw after adjustment. (Loc-Tite # 638)

Step 9. θ_J Adjustment

- (1) Set to the test mode.
- (2) Press SW807 ("7") to play back the CD part.
- (3) Connect the oscilloscope to [HF] terminal.
- (4) Adjust the inclination (θ_j) screw so that the best eye pattern is obtained.



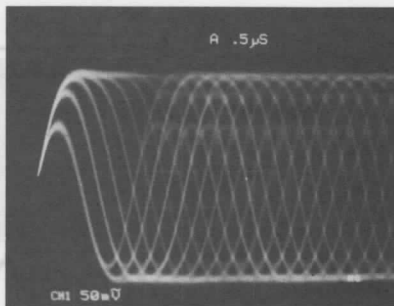
V: 50mV/div
H: 0.5µsec/div
AC range
10:1 probe used

Step 10. Precision Adjustment of Diffraction Grating

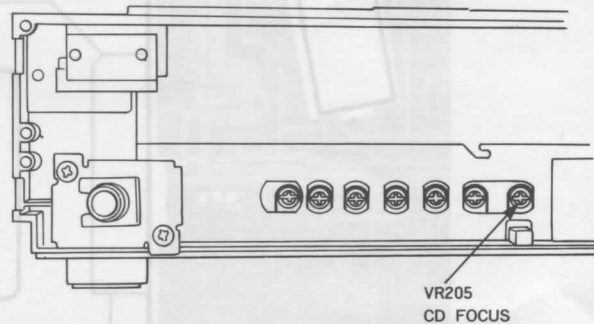
- (1) Set to the test mode.
- (2) Perform adjustment with the tracking servo turned OFF by pressing SW804 ("0"), SW801 (10KEY) and SW809 ("5") in that order.
- (3) Press SW806 ("8") to play back the video part.
- (4) Set the oscilloscope to the X-Y mode and connect the X axis to the [E] terminal of the adjustment circuit board and the Y axis to the [F] terminal.
- (5) Adjust the diffraction grating so that the phase of the [E] and [F] terminals becomes 180°.
- (6) After the adjustment, confirm the EF balance (Step 5). If not in balance, repeat the adjustment.

Step 11. CD FOCUS Adjustment

- (1) Set to the test mode.
- (2) Press SW808 ("6") to play back the CD part.
- (3) Connect the oscilloscope to [HF] terminal.
- (4) Adjust VR205 so that the best eye pattern is obtained.



V: 50mV/div
H: 0.5µsec/div
AC range
10:1 probe used



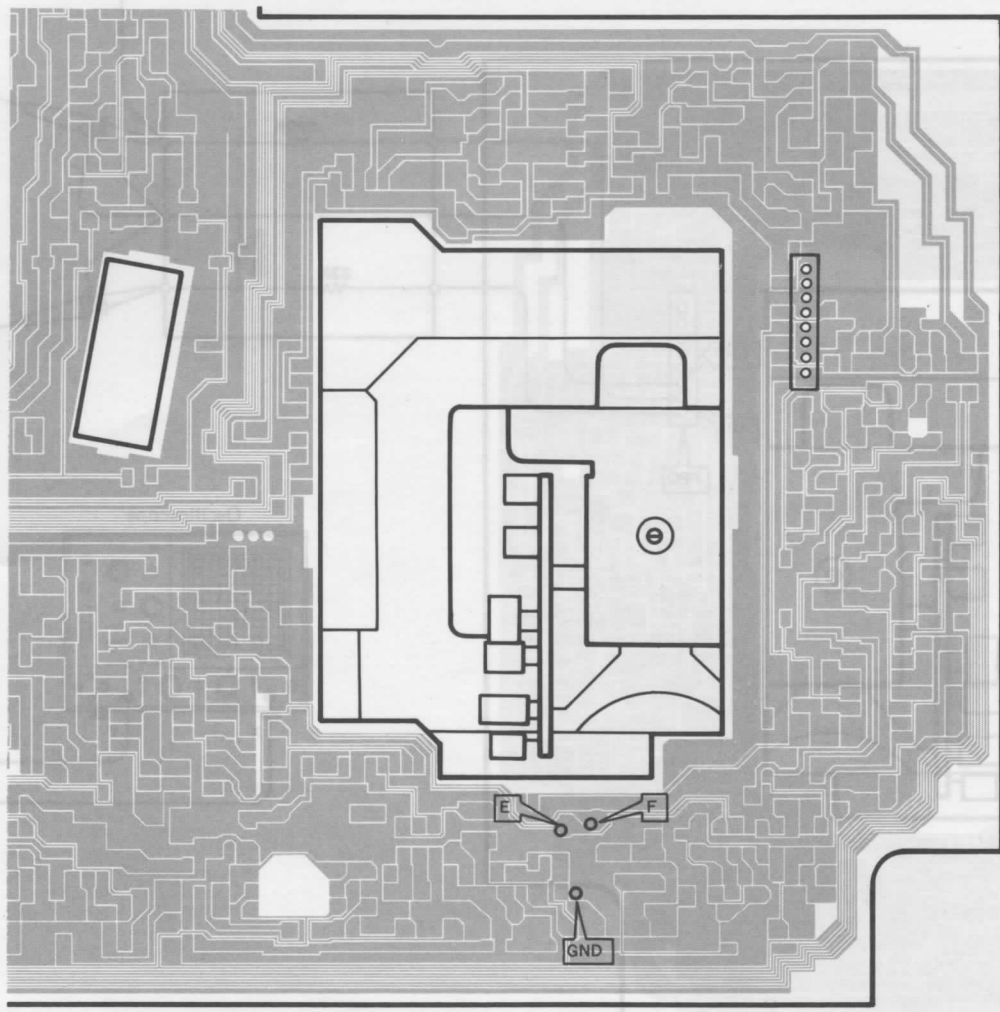
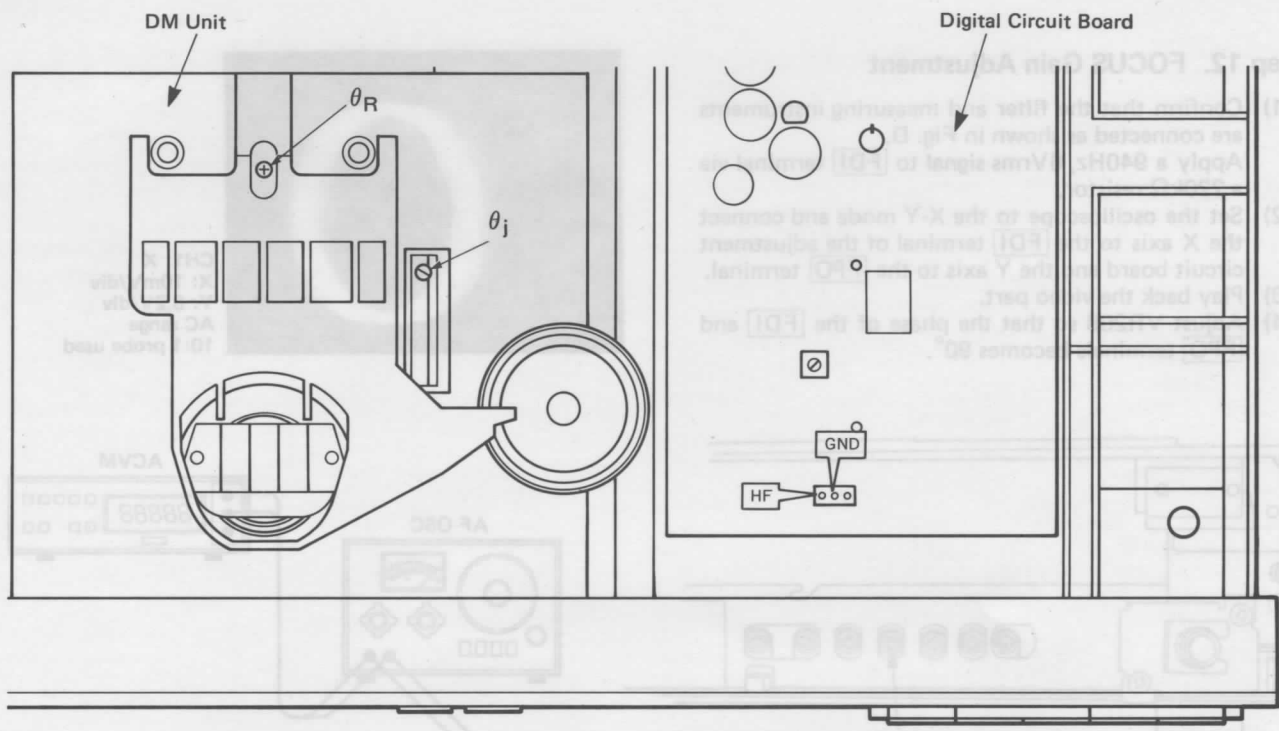
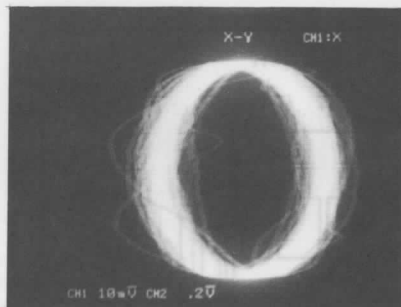


Fig. C

Step 12. FOCUS Gain Adjustment

- (1) Confirm that the filter and measuring instruments are connected as shown in Fig. D.
Apply a 940Hz, 6Vrms signal to **[FDI]** terminal via a 220kΩ resistor.
- (2) Set the oscilloscope to the X-Y mode and connect the X axis to the **[FDI]** terminal of the adjustment circuit board and the Y axis to the **[FPO]** terminal.
- (3) Play back the video part.
- (4) Adjust VR208 so that the phase of the **[FDI]** and **[FPO]** terminals becomes 90°.



CH1: X
X: 10mV/div
Y: 0.2V/div
AC range
10:1 probe used

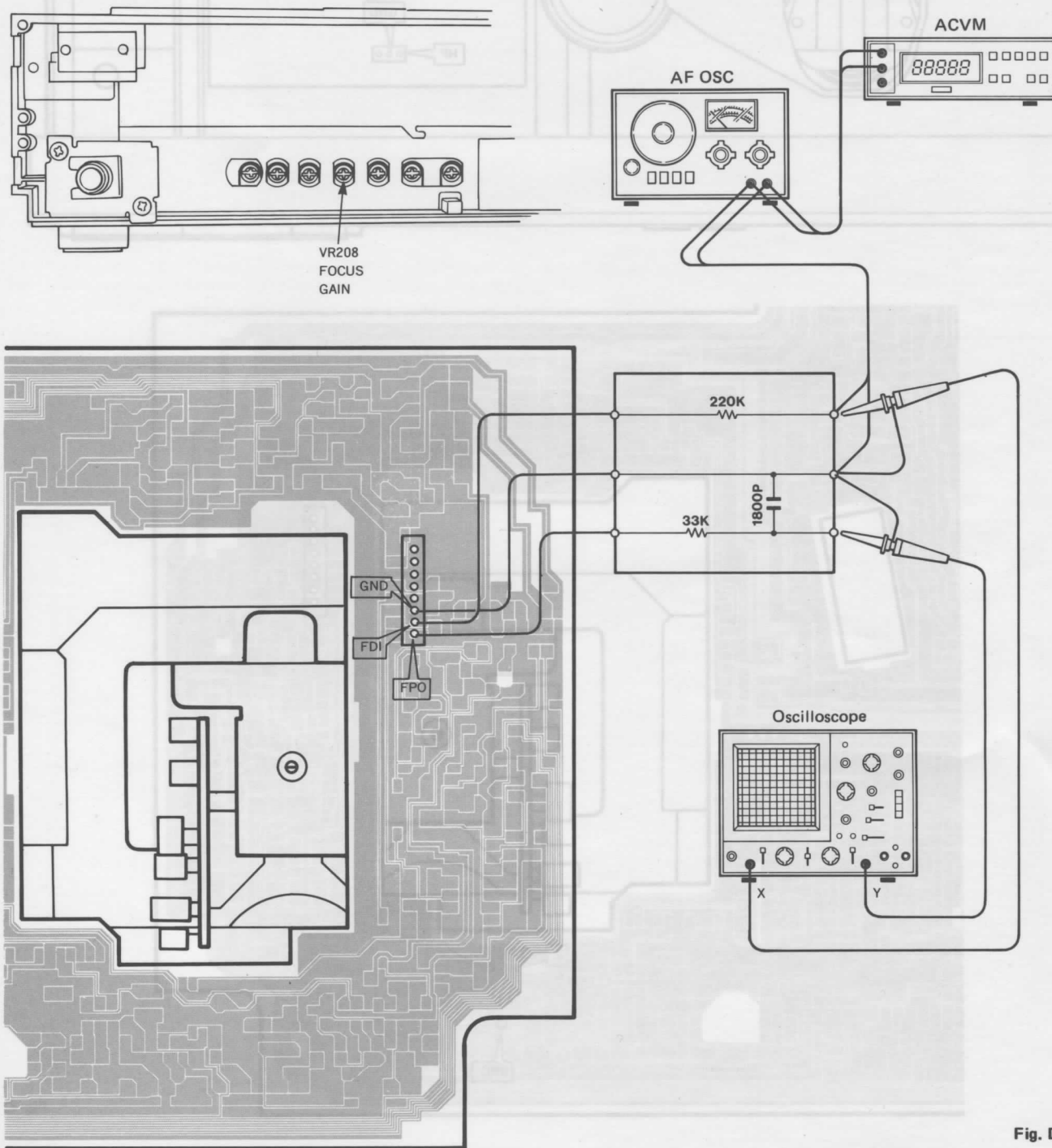


Fig. D

Step 13. TRACKING Gain Adjustment

- (1) Connect the filter and measuring instruments as shown in Fig. E.
Apply a 1.2kHz, 1Vrms signal to **TDI** terminal via a 220kΩ resistor.
- (2) Set the oscilloscope to the X-Y mode and connect the X axis to the **TDI** terminal of the adjustment circuit board and the Y axis to the **TE** terminal.
- (3) Play back the video part.
- (4) Adjust VR211 so that the phase of the **TDI** and **TE** terminals becomes 90°.

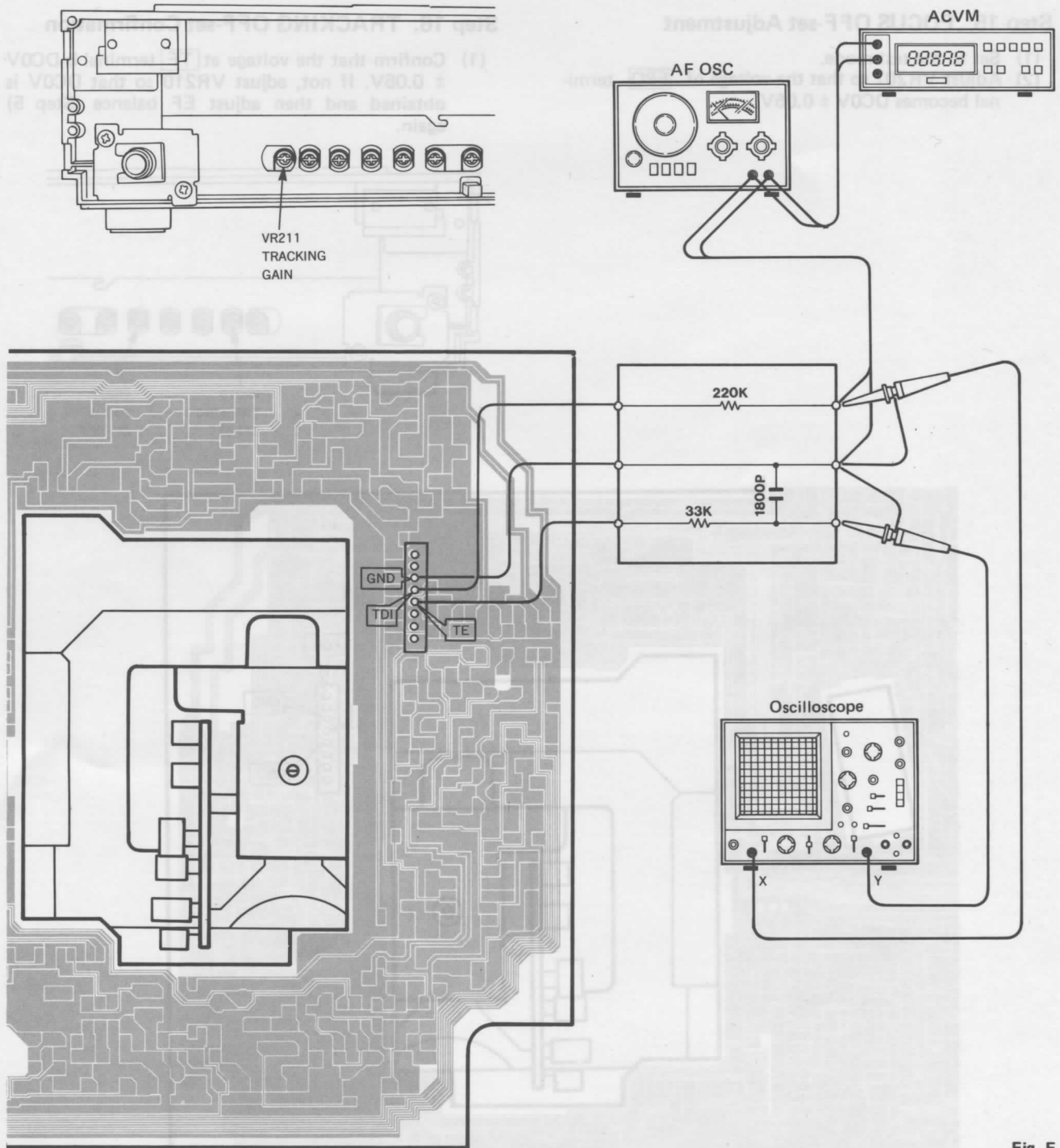
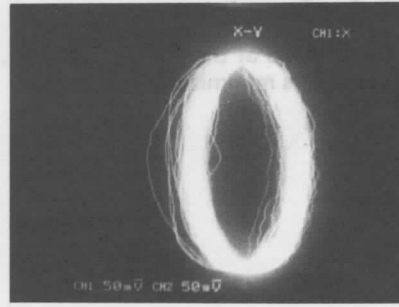
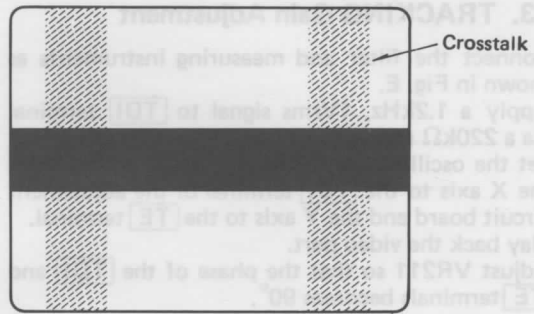


Fig. E

Step 14. Crosstalk Confirmation

- (1) Play back the track No. 20 of the test disc CDV-11.
- (2) Confirm that crosstalk is minimized.



Step 15. FOCUS OFF-set Adjustment

- (1) Set to the test mode.
- (2) Adjust VR207 so that the voltage of **FPO** terminal becomes $DC0V \pm 0.05V$.

Step 16. TRACKING OFF-set Confirmation

- (1) Confirm that the voltage at **TE** terminal is $DC0V \pm 0.05V$. If not, adjust VR210 so that $DC0V$ is obtained and then adjust EF balance (Step 5) again.

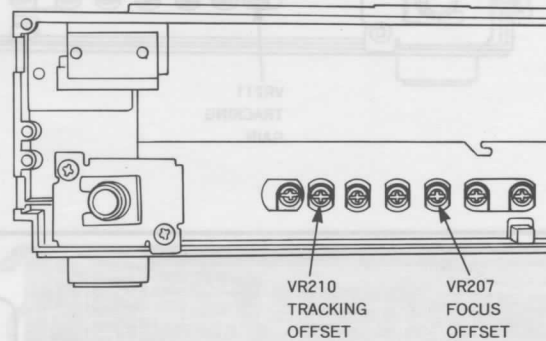
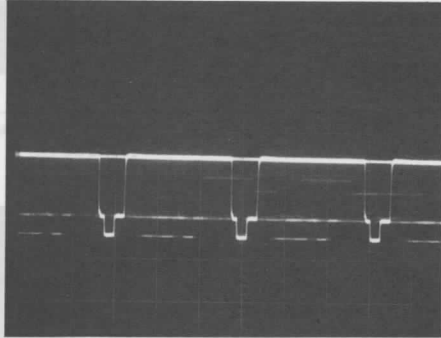
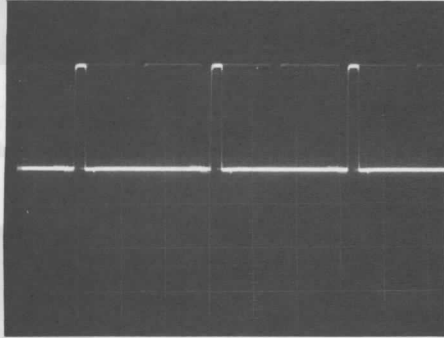
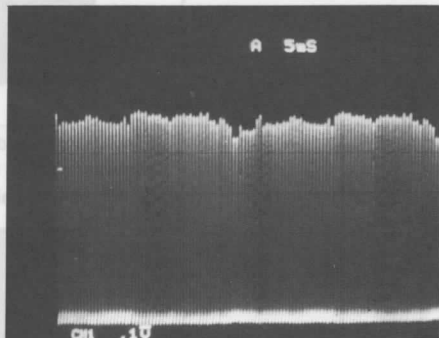
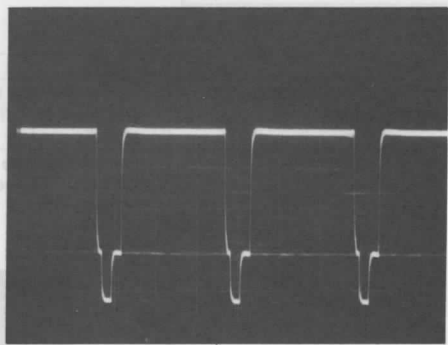
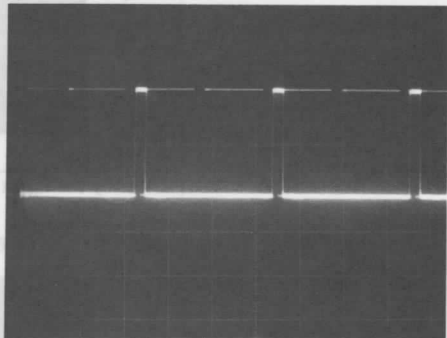
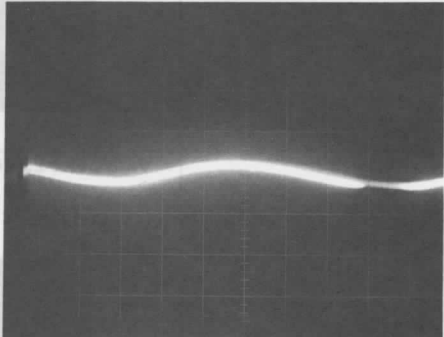
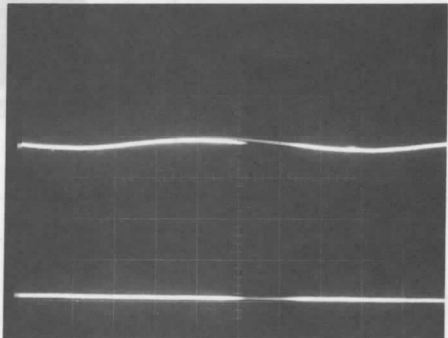
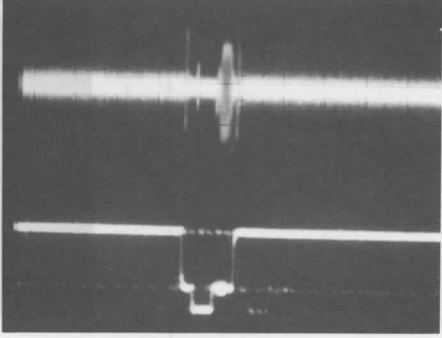
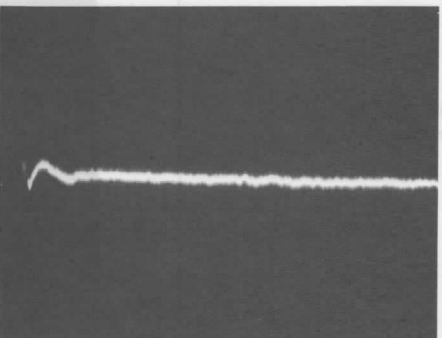
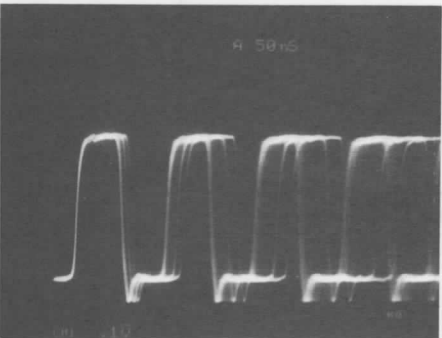


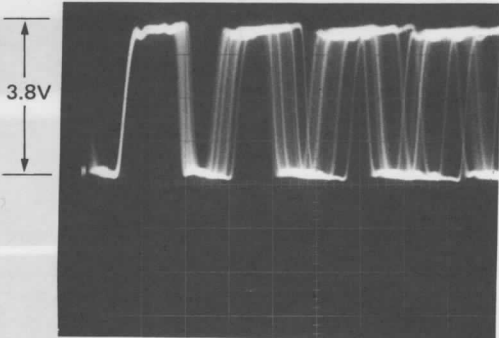
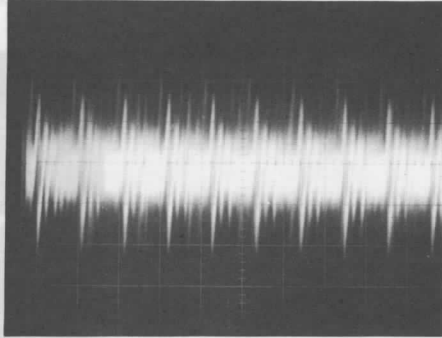
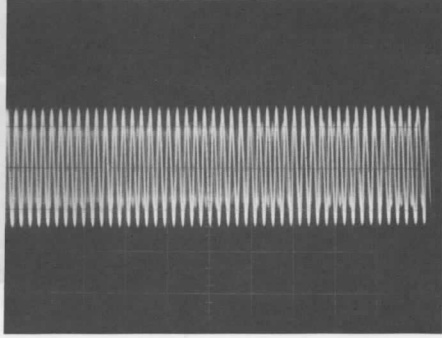
Fig. F

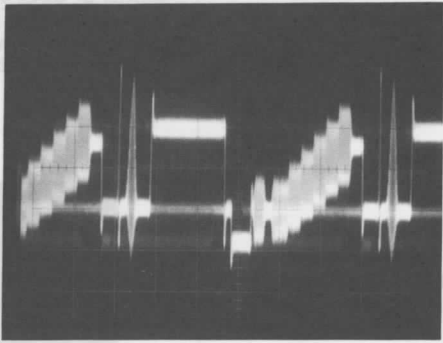
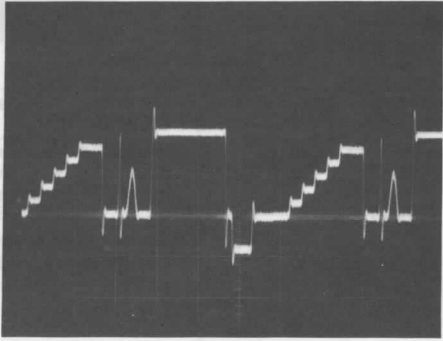
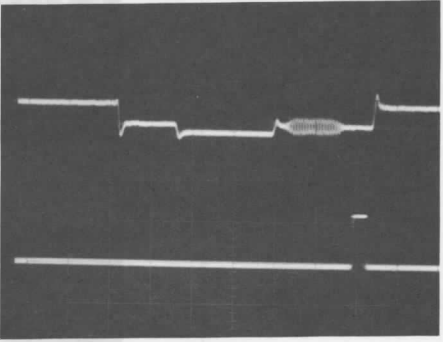
3. Audio/Visual System Adjustment

Adjustment Items		Adjustment Methods
	Verification of Spindle Error Output	Put in the test disc and set to the play state. Verify that IC211's No. 2 pin of the main circuit board changes with the acceleration or deceleration of the spindle motor.
Spindle Servo	CSYNC1 Level Setting	<p>Reproduce the white 100% (100 IRE) by the test disk. Observe the test pin CSYNC1 of the main circuit board, and adjust VR203 so that the voltage between the V sync bottom and the 100 IRE becomes $4.5V \pm 0.3V$.</p>  <p>V = 0.2V/div H = 20μsec/div AC range 10 : 1 Probe used.</p>
	CSYNC1 Output Verification	<p>Verify the input of No. 20 pin (CSYNC1) of the main circuit board IC210 (YM3621).</p>  <p>V = 0.2V/div H = 20μsec/div AC range 10 : 1 Probe used.</p>
	FG Output Verification	<p>Verify No. 25 pin (FG output) of IC210 (YM3621) of the main circuit board.</p>  <p>V = 0.1V/div H = 5 msec AC range 10 : 1 Probe used.</p>

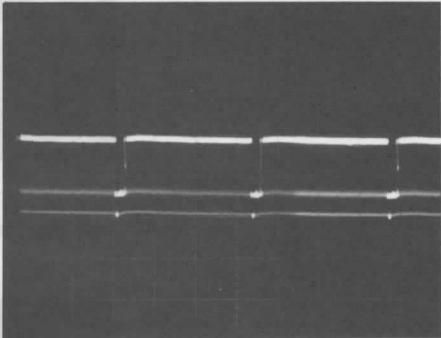
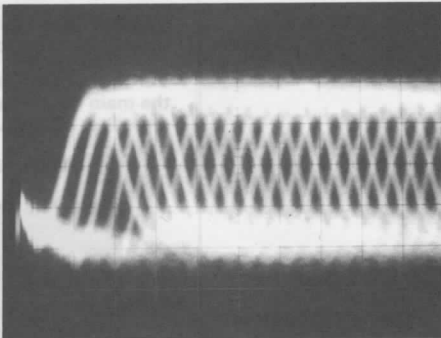
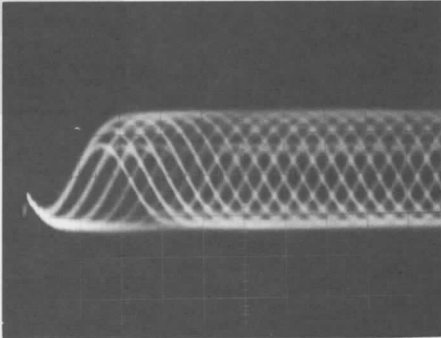
Adjustment Items		Adjustment Methods
	<p>CSYNC2 Level Setting</p>	<p>Reproduce the white 100% (100 IRE) by the test disk. Observe the test pin CSYNC2 of the main circuit board and adjust VR204 so that the voltage between V sync bottom and the 100 IRE becomes $4.5V \pm 0.3V$.</p>  <p>V = 0.1V/div H = 20μsec/div AC range 10 : 1 Probe used.</p>
<p>Main TBC Servo</p>	<p>CSYNC2 Output Verification</p>	<p>Verify the input of No. 19 pin (CSYNC2) of the main circuit board IC210 (YM3621).</p>  <p>V = 0.2V/div H = 20μsec AC range 10 : 1 Probe used.</p>
	<p>Verification of Main TBC Operation</p>	<p>During the disc reproduction, verify that the TBC drive voltage (test pin TBC BIAS of the main circuit board) varies with the eccentricity of the disc.</p>  <p>V = 50mV/div H = 5msec/div AC range 10 : 1 Probe used.</p>
	<p>TBC Bias Setting</p>	<p>Reproduce the disc with smaller eccentricity, and adjust VR202 of the main circuit board so that the central value of the TBC drive voltage (test pin TBC BIAS on the main circuit board) becomes 3.8V.</p>  <p>V = 0.1V/div H = 5msec/div AC range 10 : 1 Probe used.</p>

Adjustment Items		Adjustment Methods
<p>Color TBC</p>	<p>Verification of Color TBC Operation</p>	<p>Verify that the color burst signal is output during the color burst to No. 9 pin of the main circuit board IC210 (YM3621).</p>  <p>V = 0.1V/div H = 1msec/div AC range 10 : 1 Probe used.</p> <p>While reproducing the disc, observe the waveform of No. 12 pin of IC204 (YM3567) and verify that the waveform changes with the remaining jitter amount which could not be eliminated by the main TBC.</p>  <p>V = 50mV/div H = 2msec/div AC range 10 : 1 Probe used.</p>
<p>Picture RF System</p>	<p>Input Verification</p>	<p>Verify that the output is input to the emitter of the main circuit board Q209.</p>  <p>About 8MHz, 3Vp-p</p> <p>V = 0.1V/div H = 0.05μsec/div AC range 10 : 1 Probe used.</p>

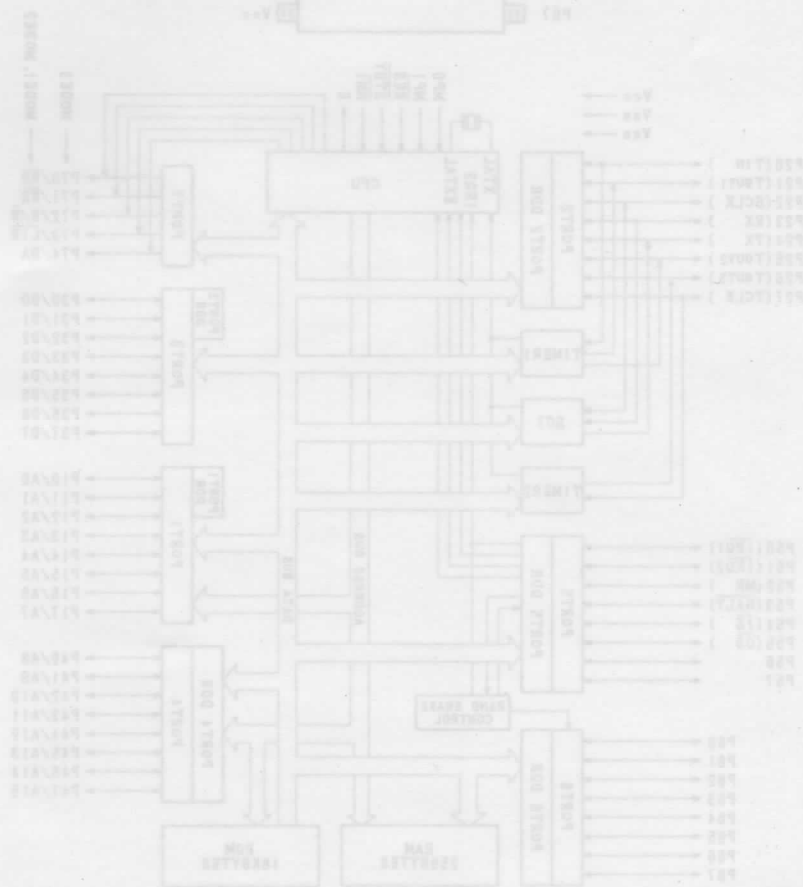
Adjustment Items	Adjustment Methods
<p>Picture RF System</p> <p>MAIN TBC Output Verification</p>	<p>Verify that RF output is input to No. 10 pin of the main circuit board IC203 (YM3599B).</p>  <p>3.8V</p> <p>V = 0.1V/div H = 0.05μsec/div AC range 10 : 1 Probe used.</p>
<p>Color TBC Output Verification</p>	<p>Verify the output to No. 11 of the main circuit board IC204 (YM3567).</p>  <p>V = 5mV/div H = 0.1μsec/div AC range 10 : 1 Probe used.</p>
<p>Verification of Dropout Control Detection</p>	<p>Verify that the LOW is output to No. 9 pin of the main circuit board IC204 (YM3567) during the dropout.</p>
<p>Verification of 1H Glass Delay Line Output</p>	<p>Verify that the delay line is input to No. 5 pin of the main circuit board IC205 (YM3558).</p> <p>Rating $\geq 200\text{mVp-p}$</p>  <p>600 mV</p> <p>V = 20mV/div H = 0.5μsec/div AC range 10 : 1 Probe used.</p>

Adjustment Items	Adjustment Methods
<p>Verification of Main Output</p>	<p>Observe the input to No. 13 Pin of the main circuit board IC206 (4053 series) and verify that the voltage between the sync bottom and the 100 IRE is about 1.7V.</p>  <p>V = 50mV/div H = 10μsec/div AC range 10 : 1 Probe used.</p>
<p>Verification of Dropout Control Output</p>	<p>Observe the input to No. 12 pin of the main circuit board IC206 (4053 series) and verify that the voltage between the sync bottom and the 100 IRE is about 1.7V.</p>  <p>V = 50mV/div H = 10μsec/div AC range 10 : 1 Probe used.</p>
<p>Verification of Switching to Dropout Control Output</p>	<p>Verify that the output of No. 14 pin of the main circuit board IC206 (4053 series), switches to dropout control output from main output during the dropout.</p>
<p>Pedestal Clamp Verification</p>	<p>Verify that the clamp timing signal (BLTM) is output to the base of Q218 of the main circuit board. Also, verify that the pedestal level is clamped in Q220 regardless of the luminance brightness of the visual signal.</p> <p>White 100%</p>  <p>Q220 Base</p> <p>Q218 Base</p> <p>V = 0.2V/div H = 4μsec/div AC range 10 : 1 Probe used.</p>

Picture Detector and Video Amplifier

	Adjustment Items	Adjustment Methods
<p>Picture Defector and Video Amplifier</p>	<p>Verification of Video Attenuator</p>	<p>Verify that the luminance brightness level of the visual signal is attenuated to about 70%, 0 in the base of Q223 of the main circuit board in accordance with the control by IC210 (YM3621).</p>
	<p>Superimpose</p>	<p>Verify that the superimpose composit signal (DISPLAY) is output to the emitter of Q222 of the main circuit board.</p>
	<p>Setting of Video Output</p>	<p>Connect the 75Ω load to the video output and set VR201 of the main circuit board so that the voltage between the sync bottom and the 100 IRE becomes $1.0 \pm 0.2V$. When observing the test point VIDEO OUT, set it for $2.0V \pm 0.4V$.</p> <div style="text-align: center;"> <p>White 100%</p>  </div> <p style="text-align: right;"> V = 50mV/div H = 5msec/div AC range 10 : 1 Probe used. </p>
	<p>Verification of Video Noise Reduction</p>	<p>Verify that S/N has been improved in the video output compared to when D205 of the main circuit board is shorted.</p>
<p>Digital Sound</p>	<p>VCO Adjustment</p>	<p>Set to the test mode and with the test point EFM of the digital circuit board and GND shorted, adjust L601 so that the frequency counter reading of CK becomes $4.3218 \pm 0.01MHz$.</p>
	<p>Verification of Input</p>	<p>Verify that the EFM signal is input to the test pin LEFM of the digital circuit board when the DCV disc is played back and to the test pin CEFM when the CD is played back.</p> <div style="text-align: center;"> <p>CDV</p>  </div> <p style="text-align: right;"> V = 50mV/div H = 0.5μsec/div AC range 10 : 1 Probe used. </p> <div style="text-align: center;"> <p>CD</p>  </div> <p style="text-align: right;"> V = 50mV/div H = 0.5μsec/div AC range 10 : 1 Probe used. </p>

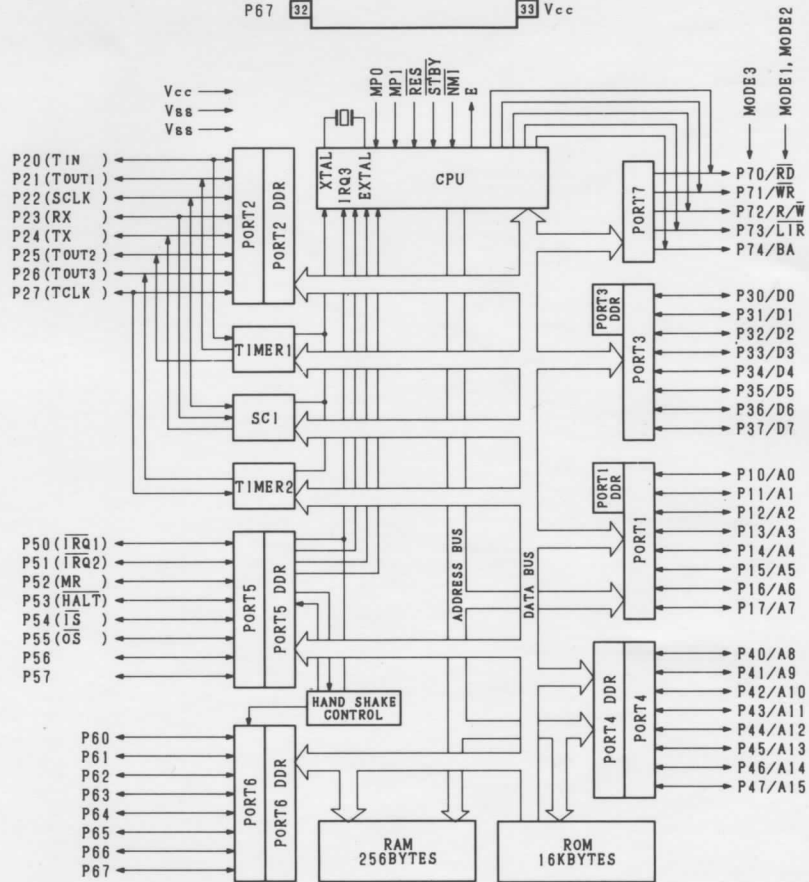
Adjustment Items		Adjustment Methods
Digital Sound	Verification of VCXO Operation	Observe R637 side (hot side) of C624 of the digital circuit board and verify that VCXO varies with the eccentricity when using a disc with digital sound and that it is fixed to the ground potential when using a CD.
	Verification of Output	Verify that a -20dB , $0.2\text{V} \pm 0.02\text{V}$ output is obtained at the sound output terminal when the picture part of the CDV disc is played back and a 0dB , $2.0\text{V} \pm 0.2\text{V}$ output when the CD is played back.
RF Modulator	Verification of RF Modulator Operation	Connect TV to VHF OUT terminal. Verify that picture and sound are reproduced on VHF 3ch or 4ch. Also verify that the switching of 3ch and 4ch is done by the channel switching switch. Furthermore, verify that the input to ANT IN terminal is output through VHF OUT terminal when ANTENNA is selected by SW805 ("9").



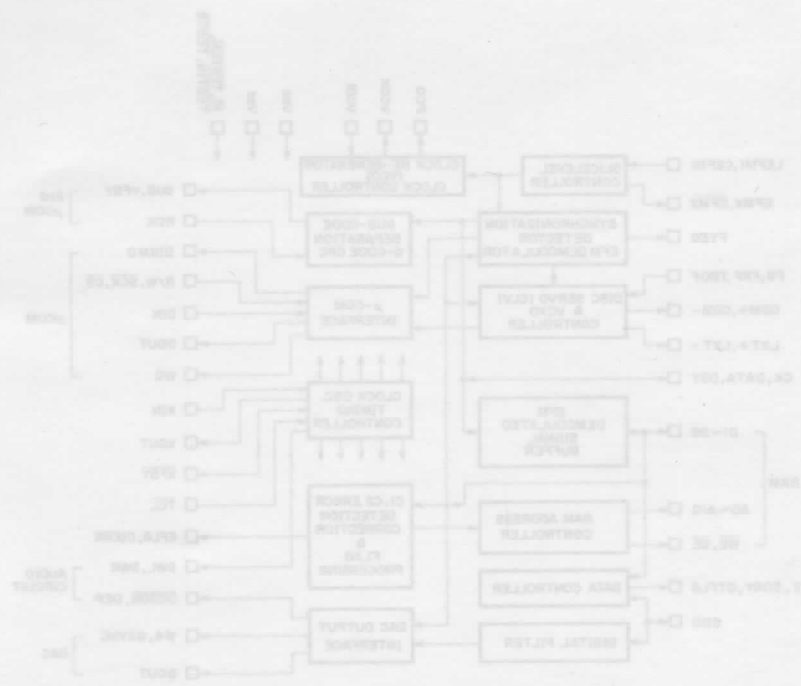
IC DATA

IC213: HD63B01YOD44P, HD637B01YO or HD637B01YO
8 bit μ -COM

Pin	Signal	Pin	Signal
1	Vss	84	E
2	XTAL	83	P70
3	EXTAL	82	P71
4	MP0	81	P72
5	MP1	80	P73
6	RES	79	P74
7	STBY	78	P30
8	NMI	77	P31
9	P20	76	P32
10	P21	75	P33
11	P22	74	P34
12	P23	73	P35
13	P24	72	P36
14	P25	71	P37
15	P26	70	P10
16	P27	69	P11
17	P50	68	P12
18	P51	67	P13
19	P52	66	P14
20	P53	65	P15
21	P54	64	P16
22	P55	63	P17
23	P56	62	Vss
24	P57	61	P40
25	P60	60	P41
26	P61	59	P42
27	P62	58	P43
28	P63	57	P44
29	P64	56	P45
30	P65	55	P46
31	P66	54	P47
32	P67	53	Vcc

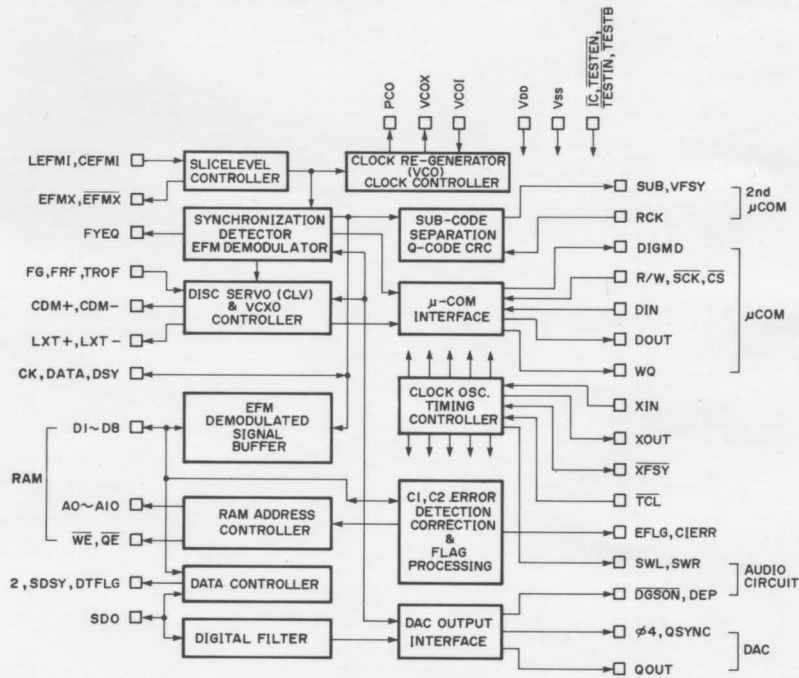


Pin No.	Pin Name	I/O	Function	Pin No.	Pin Name	I/O	Function
1	Vss	-	GND	33	Vcc	-	+5V
2	XTAL	-	Not Use	34	P47	-	Not Use
3	EXTAL	I	Clock (φ7 7.16MHz)	35	P46 (ELV)	O	Motor Drive
4	MP0	I	+5V	36	P45 (TRAY)	O	
5	MP1	I		37	P44 (REV)	O	
6	RES (RST)	I	Reset	38	P42 (UP)	I	Switch Input
7	STBY	I	+5V	39	P43 (DOWN)	I	
8	NMI	I		40	P40 (OPEN)	I	
9	P20 (FG)	I	Spindle FG	41	P41 (CLOSE)	I	
10	P21 (R/W)	O	Reed/Write Select	42	Vss	-	GND
11	P22 (SCK)	O	Serial Clock	43	P17	-	Not Use
12	P23 (SI)	I	Serial Input	44	P16	-	
13	P24 (SO)	O	Serial Output	45	P15 (FS OF)	O	FEED Servo OFF
14	P25 (VSYNC)	I	Vertical Synchronization	46	P14	-	Not Use
15	P26 (WQ)	I	Write Request	47	P13	-	
16	P27 (TER)	I	Track Count	48	P12	-	
17	P50 (CSO)	O	LSP Select	49	P11	-	
18	P51 (CSI)	O	VDC Select	50	P10	-	
19	P52	O	Not Use	51	P37 (FEED2)	I	CD/CDV Select
20	P53 (EXT)	I	Auxiliary Input Select	52	P36 (FEED1)	I	Feed SW
21	P54 (REM)	I	Remocon	53	P35	I	GND
22	P55 (CX)	O	SOUND CX	54	P34 (YEQ)	I	YEQ Signal
23	P56 (R)	O	SOUND Rch	55	P33	I	GND
24	P57 (L)	O	SOUND Lch	56	P32 (OEM1)	I	OEM Select
25	P60 (MOD)	O	VHF Select	57	P31 (OEM0)	I	
26	P61 (MTF)	O	MTF	58	P30 (KEY)	I	OPEN/CLOSE Key Input
27	P62 (CD/LV)	O	CD Select	59	P74	-	Not Use
28	P63 (TILT)	O	Tilt OFF	60	P73 (STB)	O	Display Output
29	P64 (LAS)	O	Laser Output	61	P72	O	
30	P65	-	Not Use	62	P71 (DO)	O	DATA Output
31	P66	-		63	P70 (CK)	O	Clock Output
32	P67 (CDV)	O	CDV Select	64	E	-	Not Use

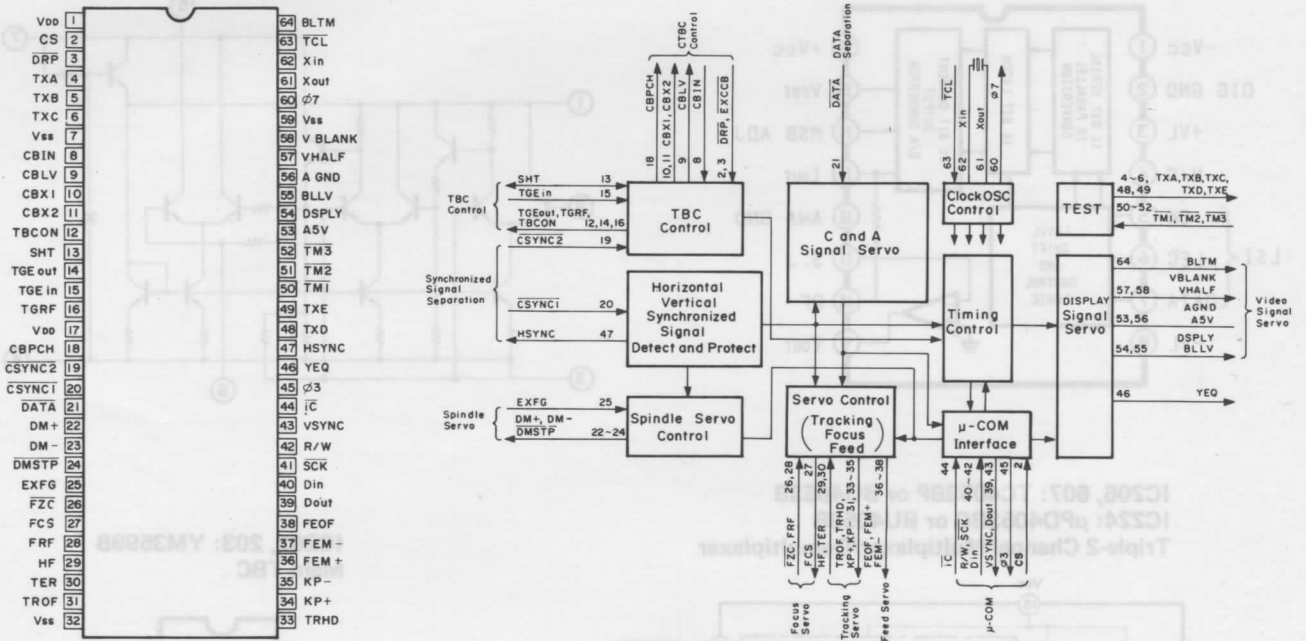


IC604: YM3618
Leser Sound Processor

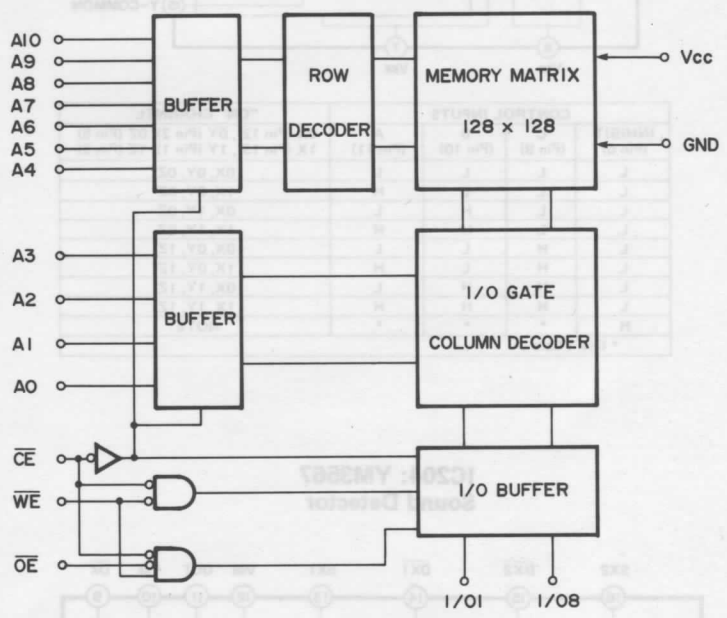
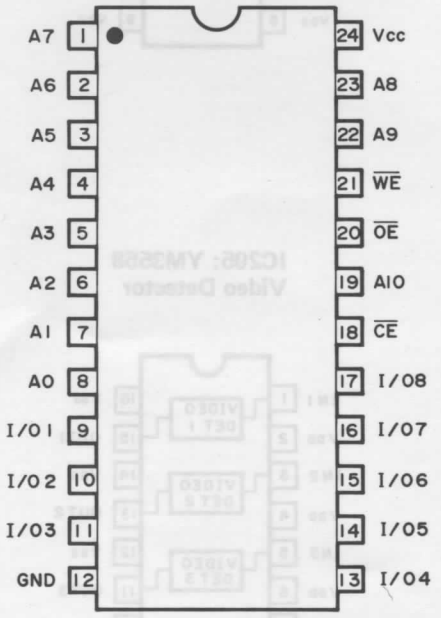
Pin No.	Pin Name	Function	Pin No.	Pin Name	Function
1	V _{DD}		64	V _{SS}	
2	DOUT	DATA OUTPUT	63	PCO	CLOCK RE-GENERATOR
3	DIN	DATA INPUT	62	VCOI	CLOCK RE-GENERATOR
4	SCK	SERIAL CLOCK	61	VCOX	CLOCK RE-GENERATOR
5	R/W	R/W CONTROL	60	V _{DD}	
6	WQ	WRITE ENABLE	59	IC	CLOCK RE-GENERATOR
7	A0	ADDRESS 0	58	SYEQ	SYNCHRONIZATION
8	A1	ADDRESS 1	57	V _{SS}	
9	A2	ADDRESS 2	56	RCK	SUB-CODE SEPARATION
10	A3	ADDRESS 3	55	VFSY	SUB-CODE SEPARATION
11	A4	ADDRESS 4	54	SUB	SUB-CODE SEPARATION
12	A5	ADDRESS 5	53	DSY	DATA CONTROLLER
13	A6	ADDRESS 6	52	DATA	DATA CONTROLLER
14	A7	ADDRESS 7	51	CK	CLOCK OSC. TIMING
15	A8	ADDRESS 8	50	KFSY	CLOCK OSC. TIMING
16	A9	ADDRESS 9	49	TCL	CLOCK OSC. TIMING
17	WE	WRITE ENABLE	48	V _{DD}	
18	OE	OUTPUT ENABLE	47	XOUT	CLOCK OSC. TIMING
19	A/D	ADDRESS/DATA	46	XIN	CLOCK OSC. TIMING
20	V _{SS}		45	V _{SS}	
21	D8	DATA 8	44	DGSON	DATA CONTROLLER
22	D7	DATA 7	43	DEP	DATA CONTROLLER
23	D6	DATA 6	42	SWL	DATA CONTROLLER
24	D5	DATA 5	41	SWR	DATA CONTROLLER
25	D4	DATA 4			
26	D3	DATA 3			
27	D2	DATA 2			
28	D1	DATA 1			
29	DTFLG	DATA TEST FLAG			
30	SDO	SERIAL DATA OUTPUT			
31	SDSY	SERIAL DATA STROBE			
32	V _{DD}				
33	φ2	CLOCK 2			
34	Q OUT	QUADRATURE OUTPUT			
35	Q SYNC	QUADRATURE SYNC			
36	φ4	CLOCK 4			
37	CIERR	CLOCK INPUT ERROR			
38	EFLG	ERROR FLAG			
39	TESTEN	TEST ENABLE			
40	TESTIN	TEST INPUT			
41	SWR	SERIAL WRITE REGISTER			
42	SWL	SERIAL WRITE LENGTH			
43	DEP	DATA ERROR POSITION			
44	DGSON	DATA GROUP SIGNAL ON			
45	V _{SS}				
46	XIN	CLOCK INPUT			
47	XOUT	CLOCK OUTPUT			
48	V _{DD}				
49	TCL	CLOCK TEST			
50	KFSY	CLOCK FEEDBACK			
51	CK	CLOCK			
52	DATA	DATA			
53	DSY	DATA STROBE			
54	SUB	SUB-CODE			
55	VFSY	VARIABLE FEEDBACK			
56	RCK	RATE CONTROL			
57	V _{SS}				
58	SYEQ	SYNCHRONIZATION			
59	IC	CLOCK RE-GENERATOR			
60	V _{DD}				
61	VCOX	CLOCK RE-GENERATOR			
62	VCOI	CLOCK RE-GENERATOR			
63	PCO	CLOCK RE-GENERATOR			
64	V _{SS}				
65	EFMX	EFM DEMODULATOR			
66	EFMI	EFM DEMODULATOR			
67	L-EFMI	LEFT EFM DEMODULATOR			
68	C-EFMI	CLOCK EFM DEMODULATOR			
69	LXT+	LEFT X-TALK			
70	LXT-	LEFT X-TALK			
71	CDM+	CLOCK DEMODULATOR			
72	V _{DD}				
73	CDM-	CLOCK DEMODULATOR			
74	DIGMD	DIGITAL MODULATOR			
75	TESTD	TEST DATA			
76	V _{SS}				
77	TROF	TROUBLE OFF			
78	FRF	FRONT FEEDBACK			
79	FG	FRONT GATE			
80	CS	CLOCK STROBE			



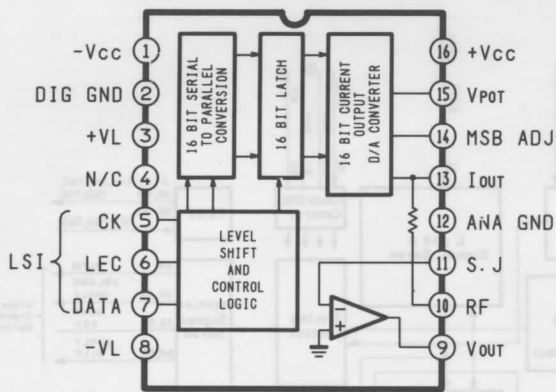
IC210: YM3621
Video Disc Controller



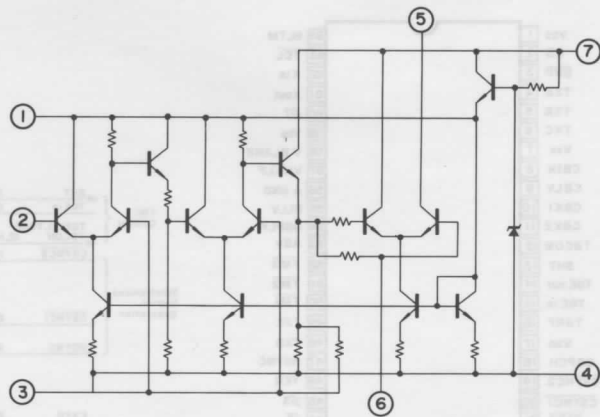
IC605: CXK5816PS, CXK5816SP, CXK5816PN, TMM2015BP
or TMM2016BP
2048 Word x 8 bit Static RAM



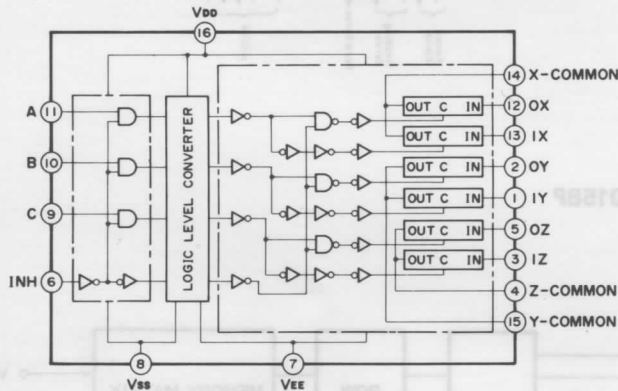
IC606: PCM56P or PCM56J
D/A Converter



IC201: μ PC577H (E,F)
IF Amp.



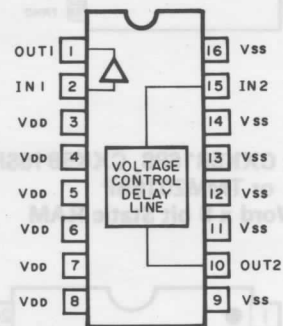
IC206, 607: TC4053BP or BU4053B
IC224: μ PD4053BC or BU4053B
Triple-2 Channel Multiplexer/Demultiplexer



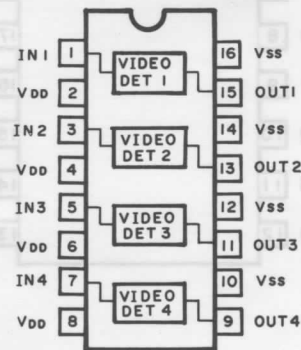
CONTROL INPUTS				"ON" CHANNEL
INHIBIT (Pin 6)	C (Pin 9)	B (Pin 10)	A (Pin 11)	OX (Pin 12), OY (Pin 2), OZ (Pin 5) 1X (Pin 13), 1Y (Pin 11), 1Z (Pin 3)
L	L	L	L	OX, OY, OZ
L	L	L	H	1X, OY, OZ
L	L	H	L	OX, 1Y, OZ
L	L	H	H	1X, 1Y, OZ
L	H	L	L	OX, OY, 1Z
L	H	L	H	1X, OY, 1Z
L	H	H	L	OX, 1Y, 1Z
L	H	H	H	1X, 1Y,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

* Don't Care

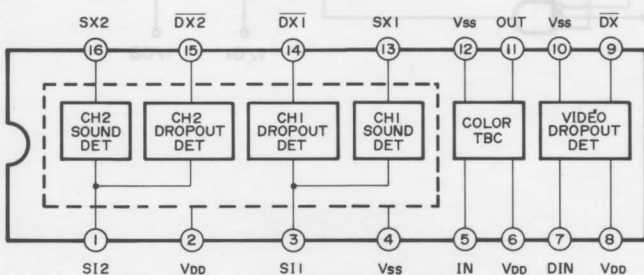
IC202, 203: YM3599B
Main TBC



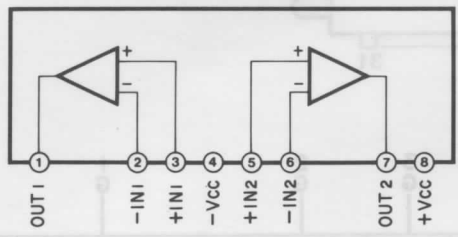
IC205: YM3558
Video Detector



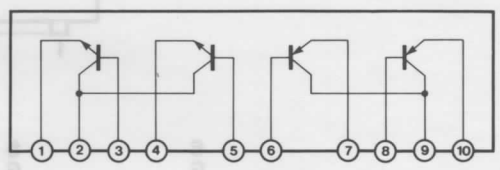
IC204: YM3567
Sound Detector



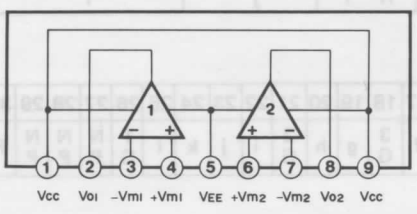
IC207: NJM072S or M5238L
IC608: M5238L
Dual Ope-amp.



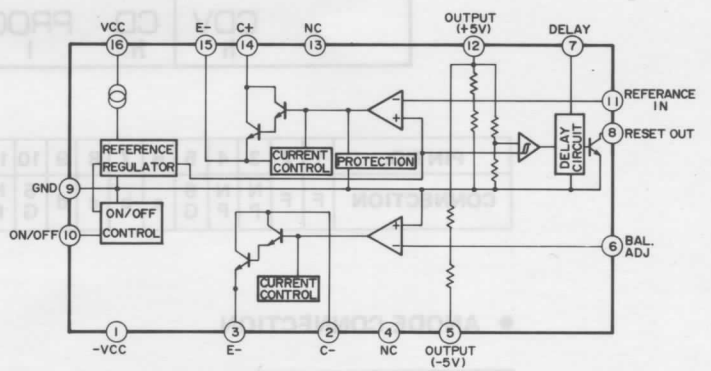
IC214, 220: STA451C
Transistor Array



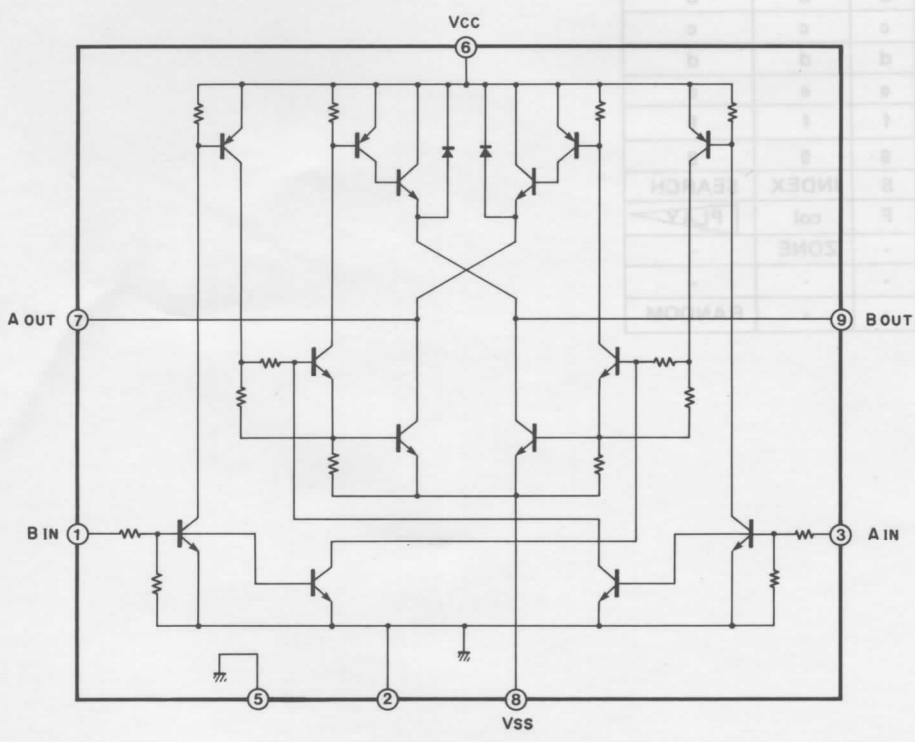
IC208: NJM4560S
IC209, 211, 215, 216, 218, 219, 221: AN6551, NJM4558S or BA715
IC602, 603, 609, 611: AN6551 or NJM4558S
IC217, 223, 601: NJM2043S
Dual Ope-amp.



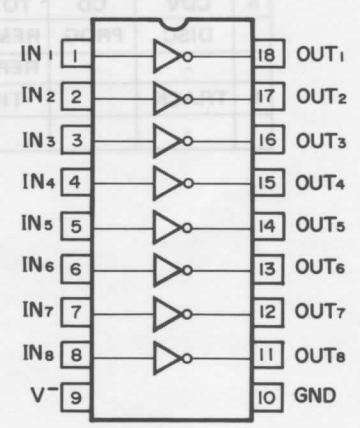
IC222: M5290P
±5V Regulator with Reset Circuit



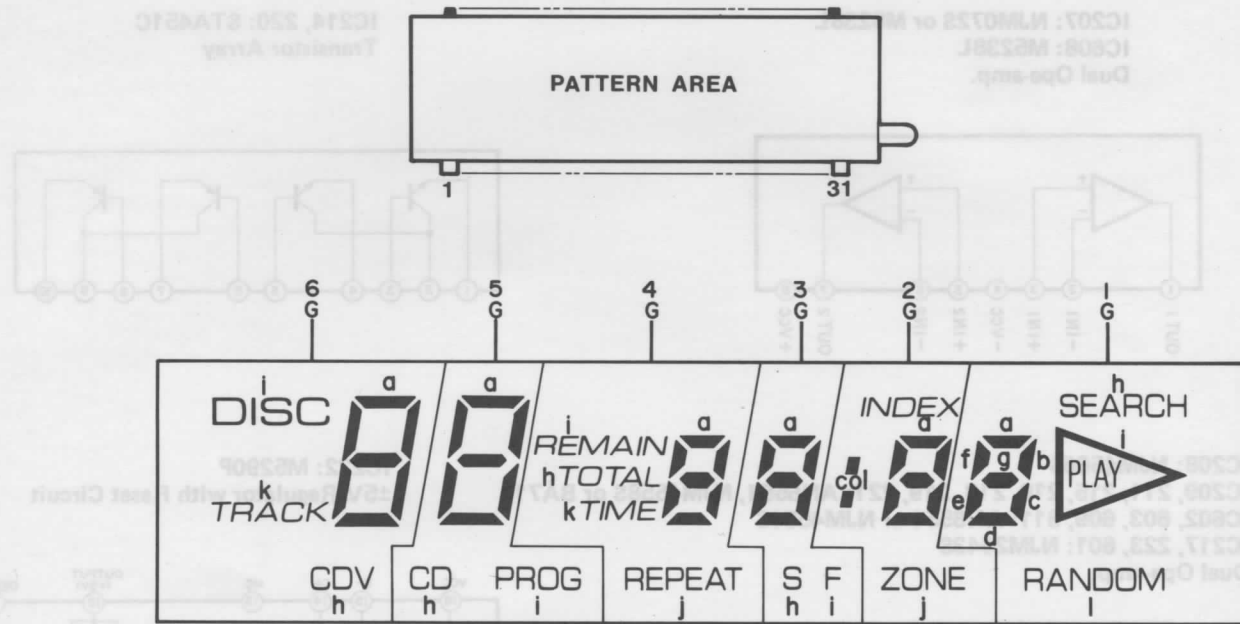
IC212: BA6218
Motor Driver



IC801, 802: MSL915RS
LED Driver



■ DISPLAY UNIT(V801:6-BT-96ZK)

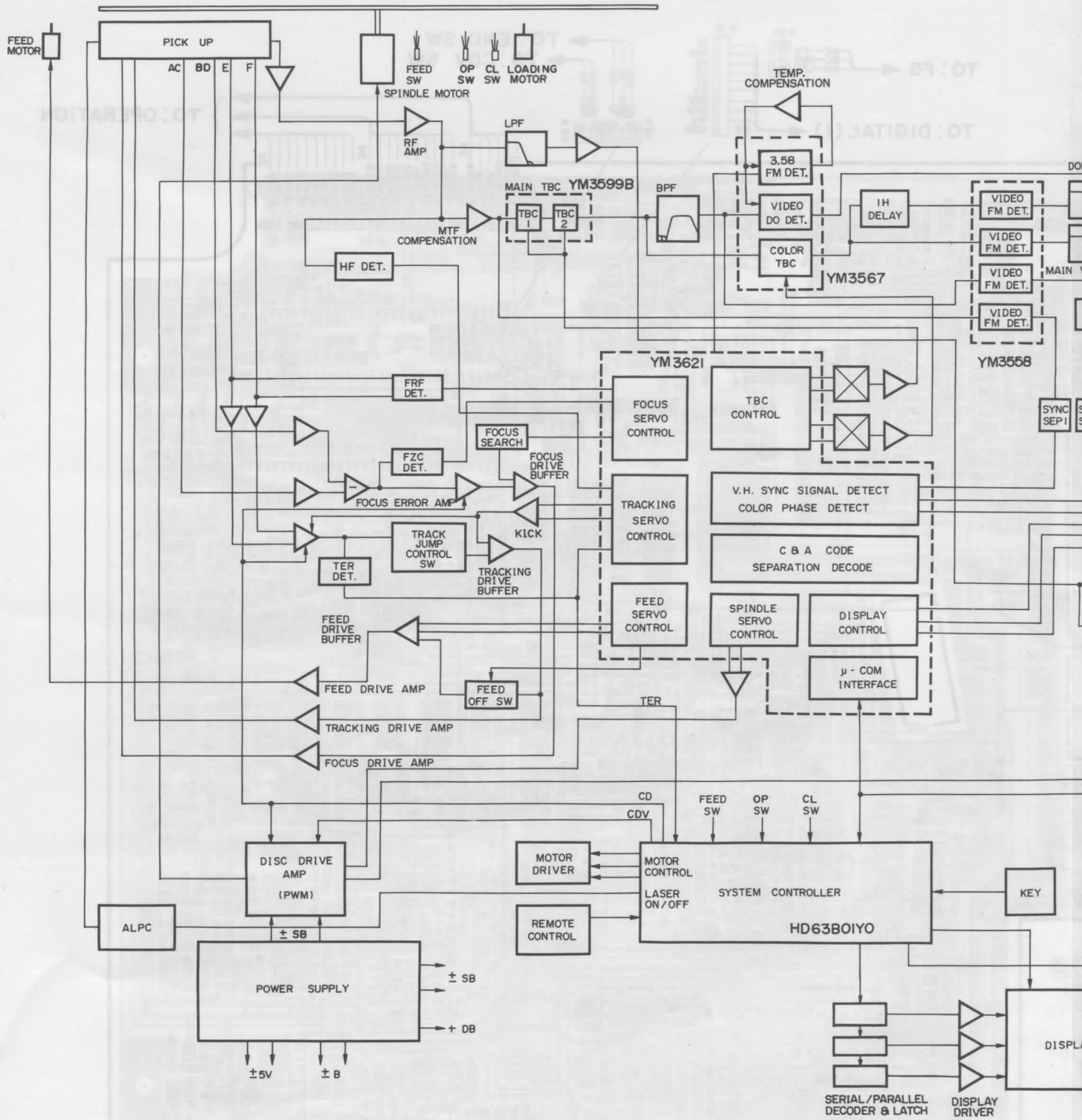


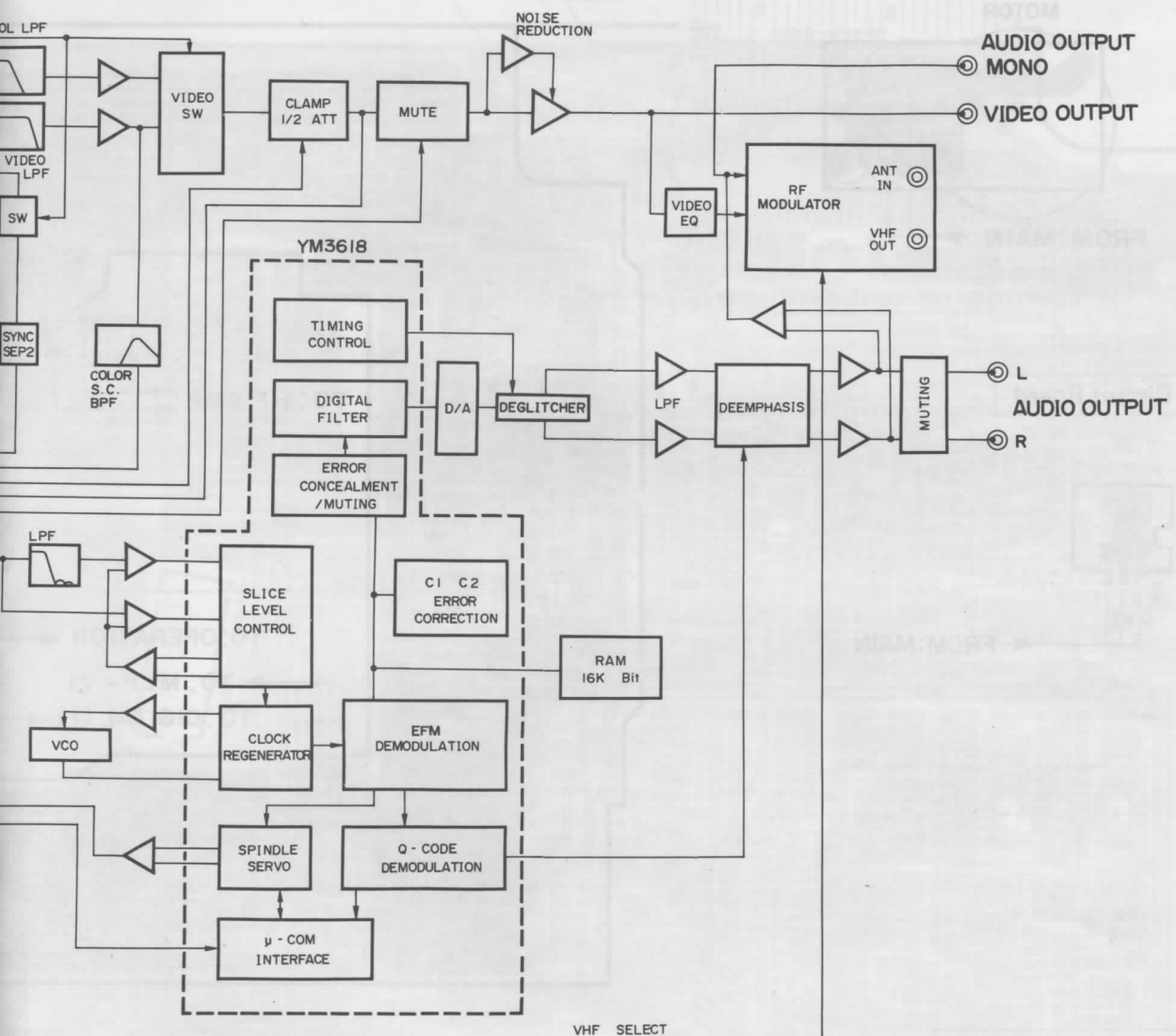
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
CONNECTION	F	F	N P	N P	6 G	a	b	c	d	5 G	N P	N P	N P	N P	4 G	e	f	3 G	g	h	2 G	i	j	k	l	1 G	N P	N P	N P	F	F

● ANODE CONNECTION

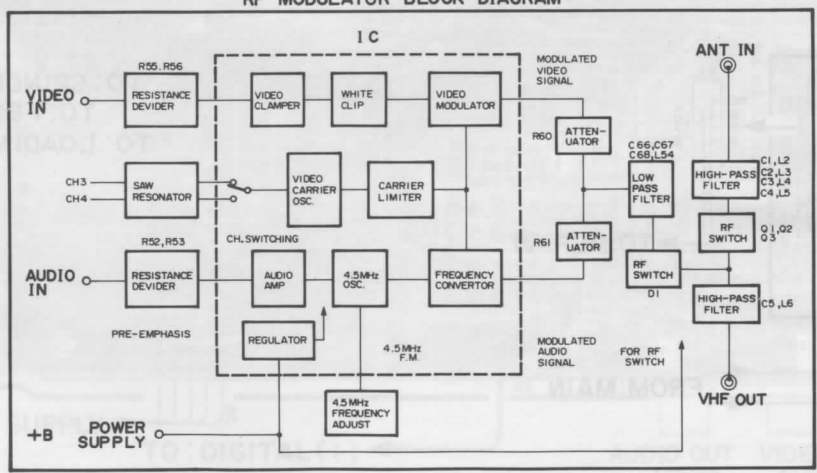
	6G	5G	4G	3G	2G	1G
a	a	a	a	a	a	a
b	b	b	b	b	b	b
c	c	c	c	c	c	c
d	d	d	d	d	d	d
e	e	e	e	e	e	e
f	f	f	f	f	f	f
g	g	g	g	g	g	g
h	CDV	CD	TOTAL	S	INDEX	SEARCH
i	DISC	PROG	REMAIN	F	col	PLAY
j	-	-	REPEAT	-	ZONE	-
k	TRACK	-	TIME	-	-	-
l	-	-	-	-	-	RANDOM

BLOCK DIAGRAM





RF MODULATOR BLOCK DIAGRAM

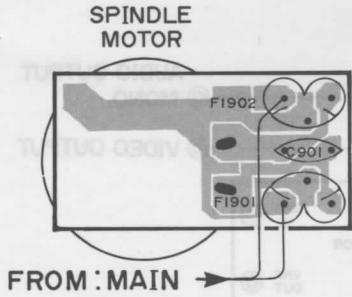


PRINTED CIRCUIT BOARD (Pattern side)

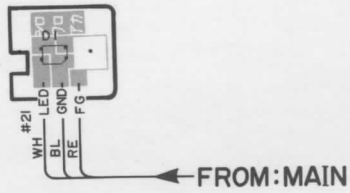
Note) 文字面 : Component side

Main Circuit Board

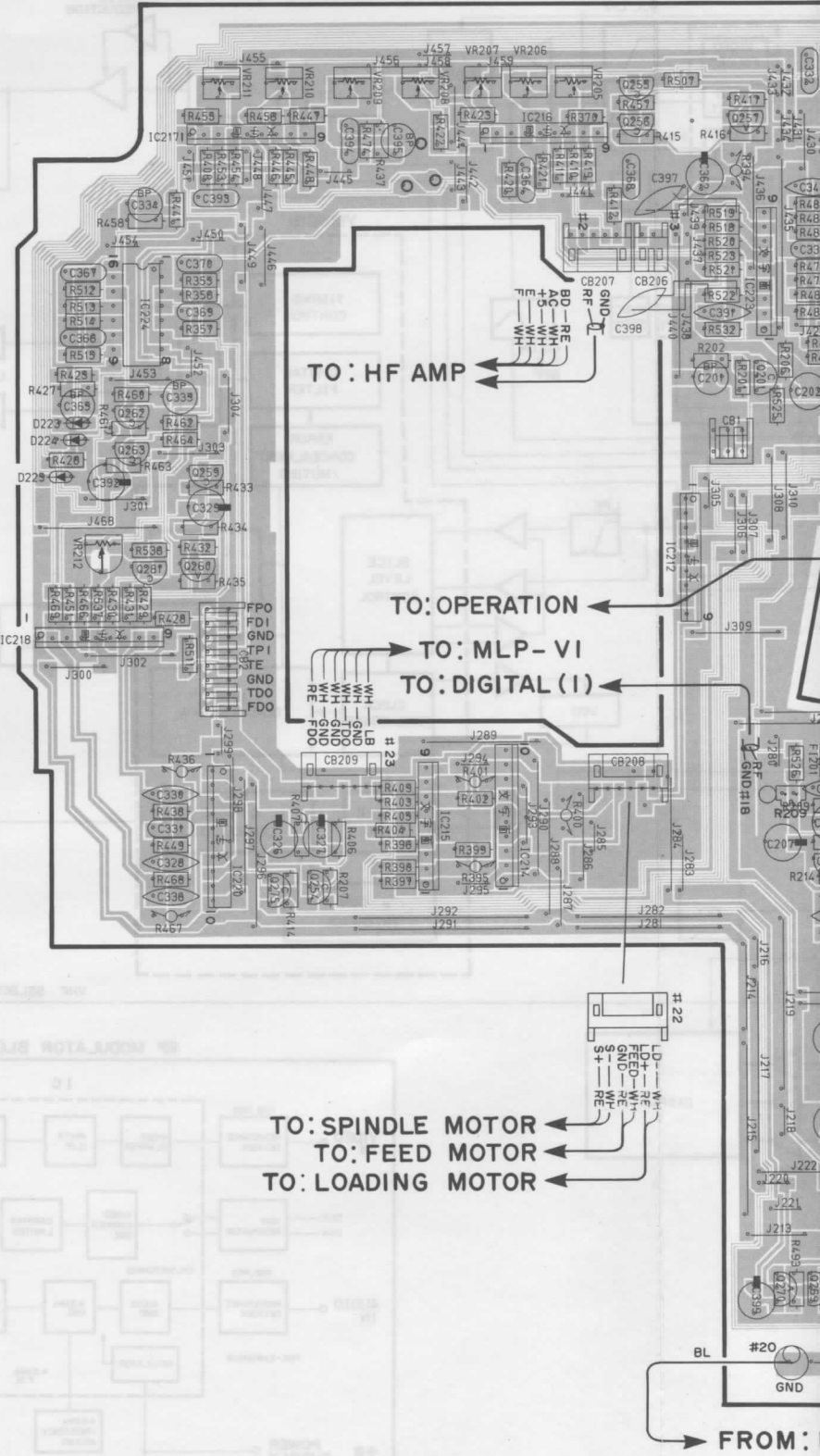
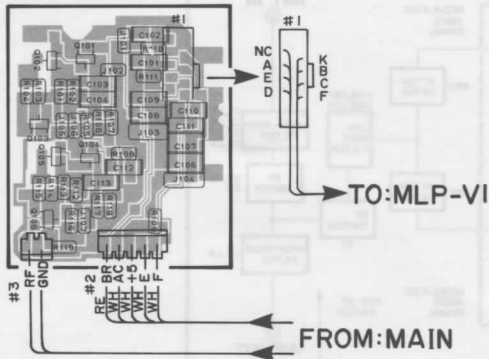
Motor Circuit Board



FG Circuit Board



HF Amp Circuit Board



TO:

TO:

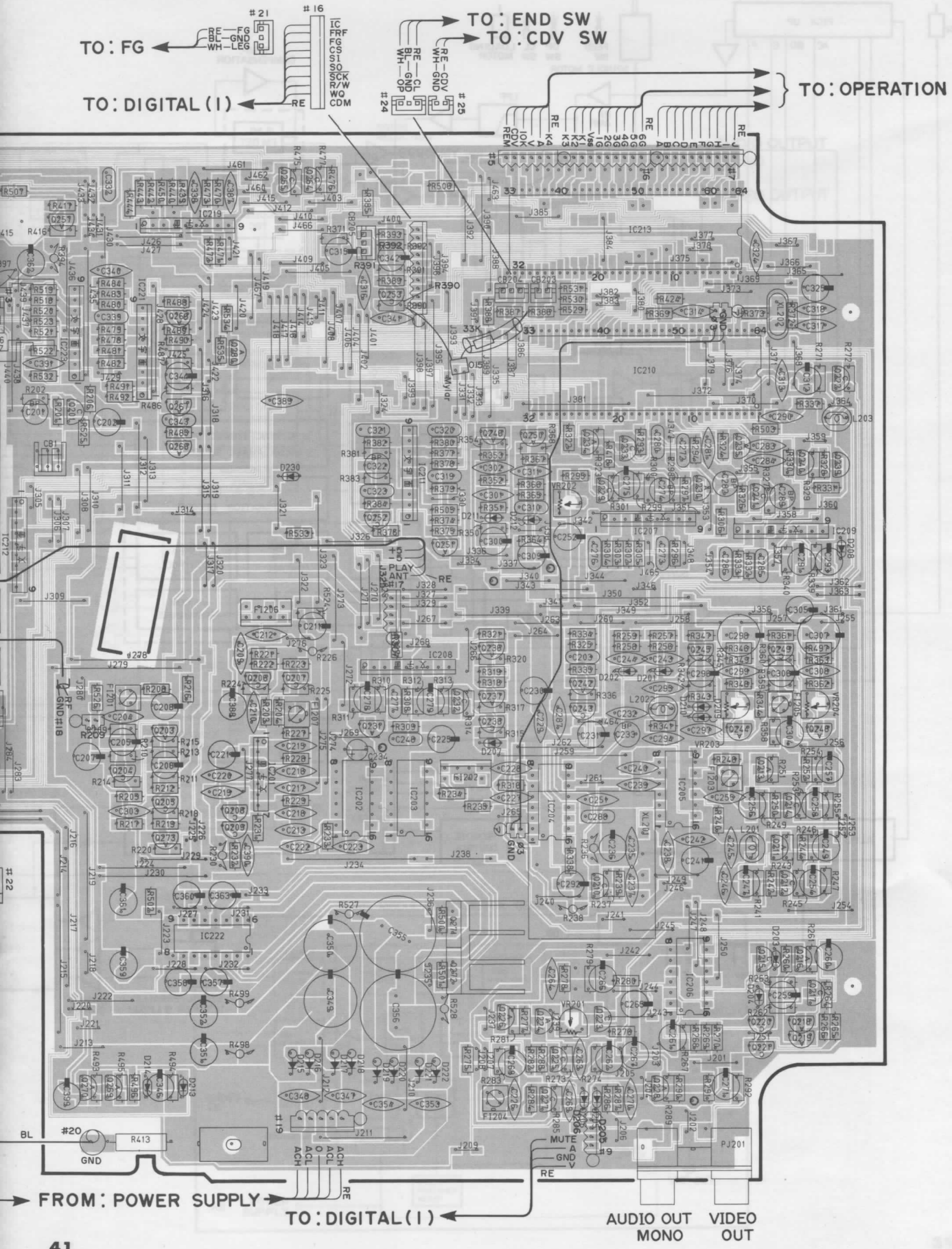
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5

41

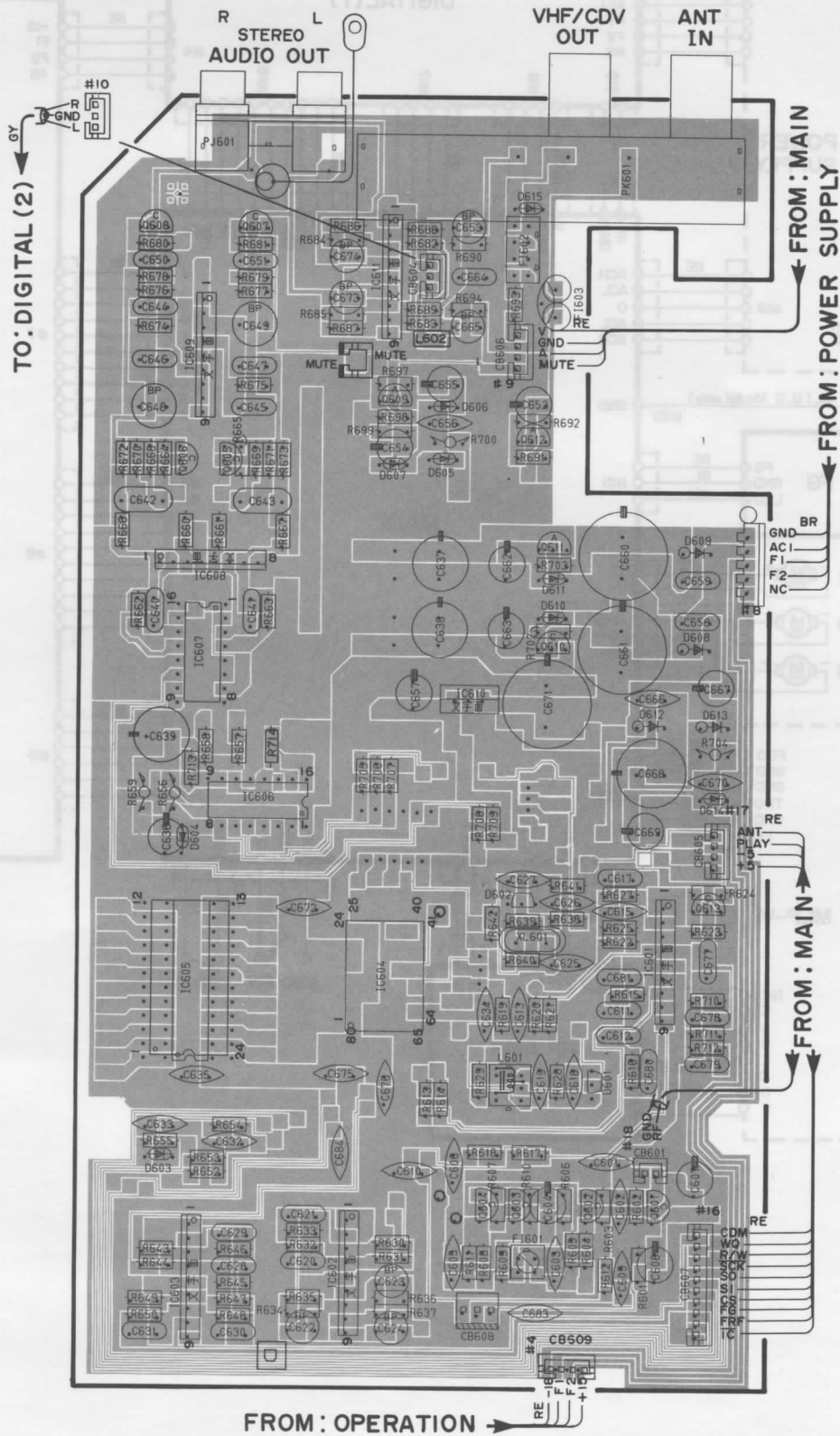
BLOCK DIAGRAM



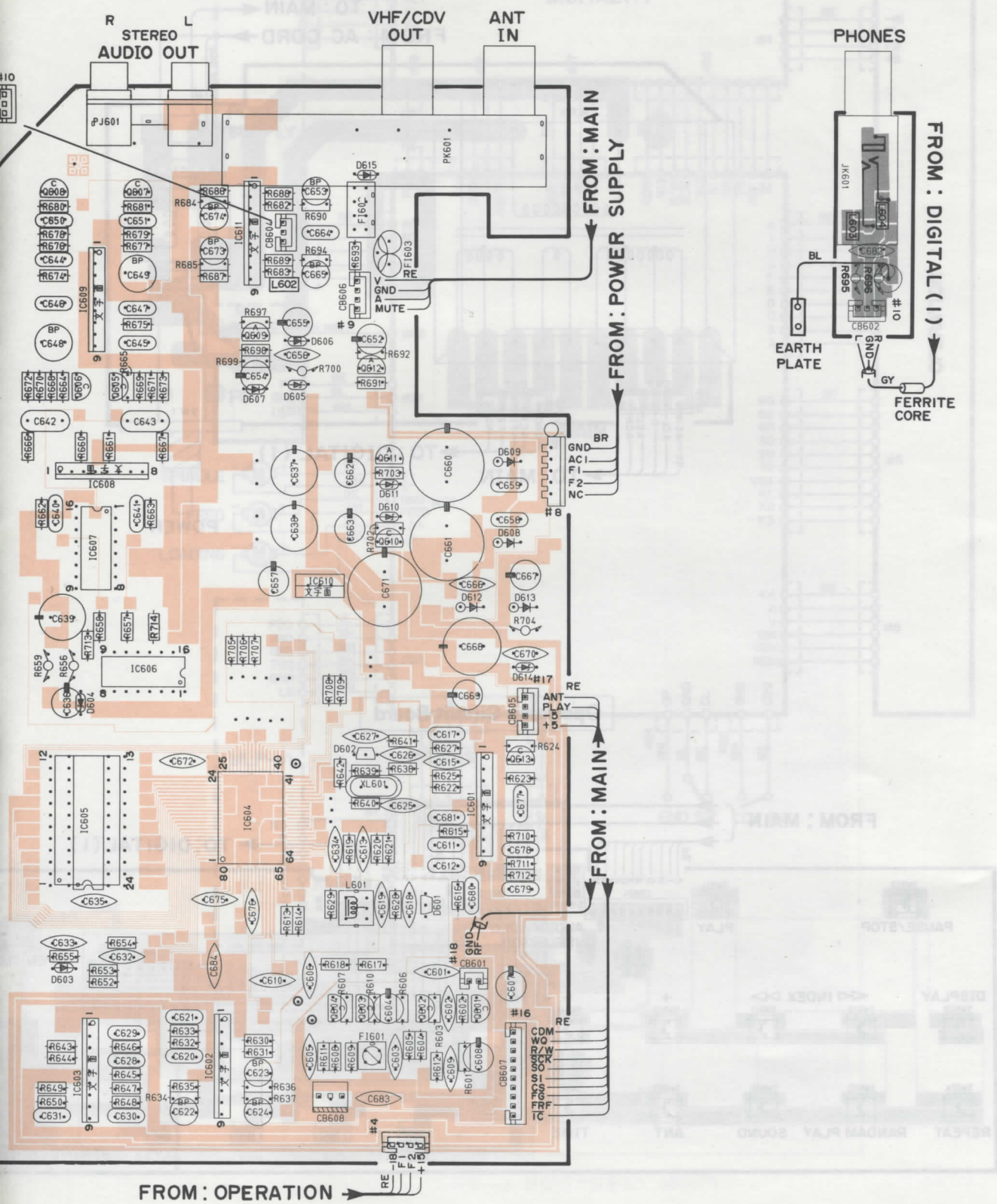
PRINTED CIRCUIT BOARD (Pattern side)

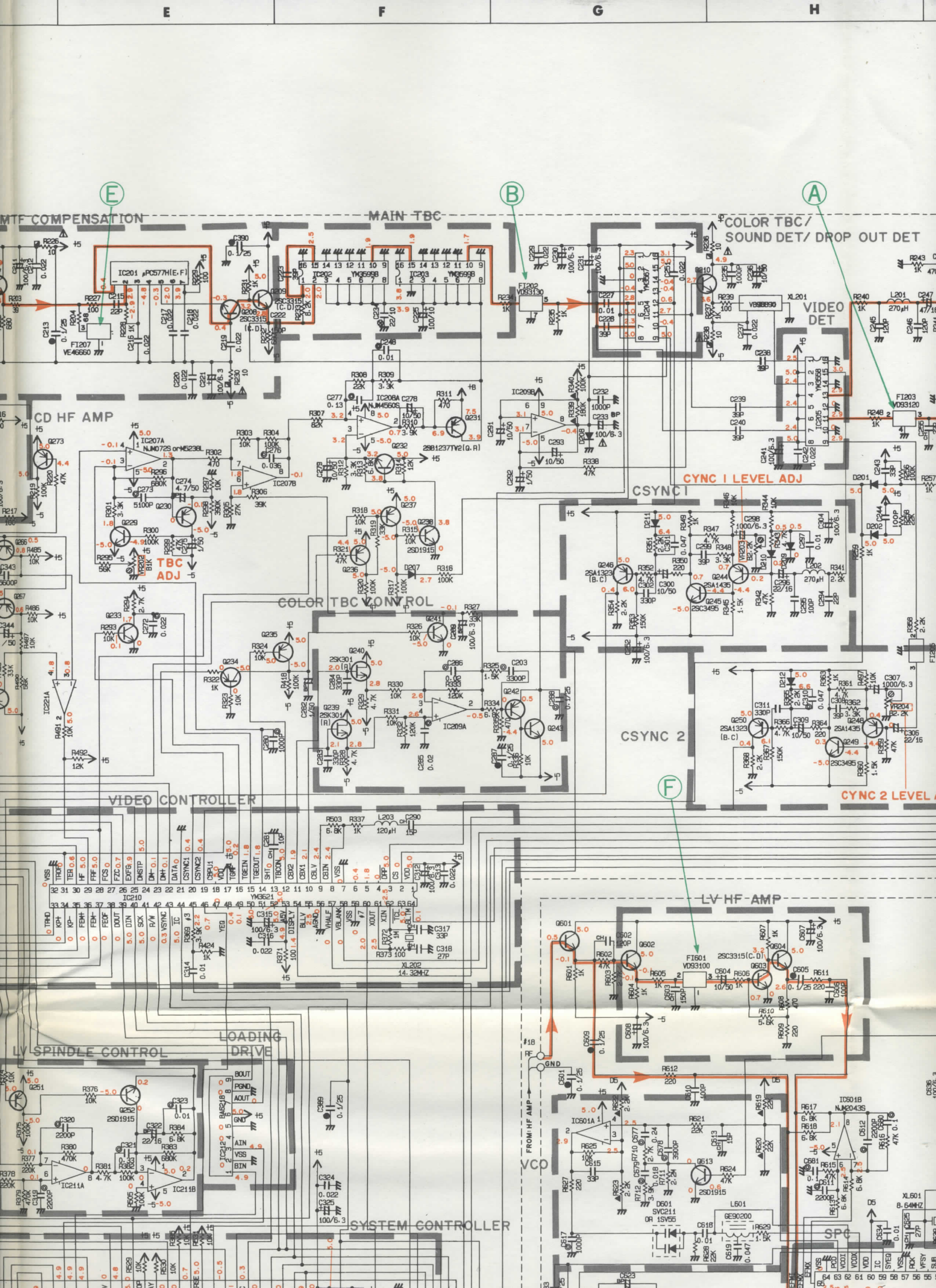
Note) 文字面 : Component side

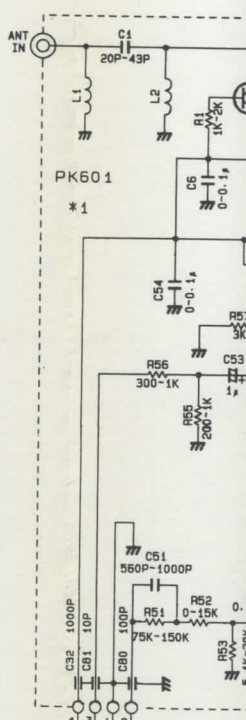
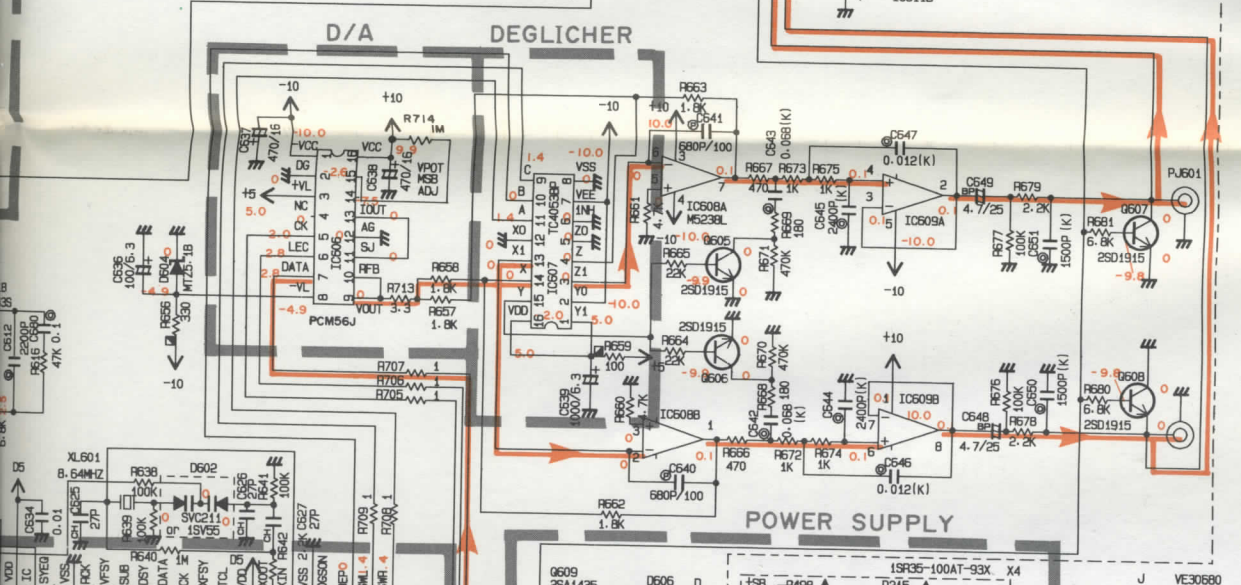
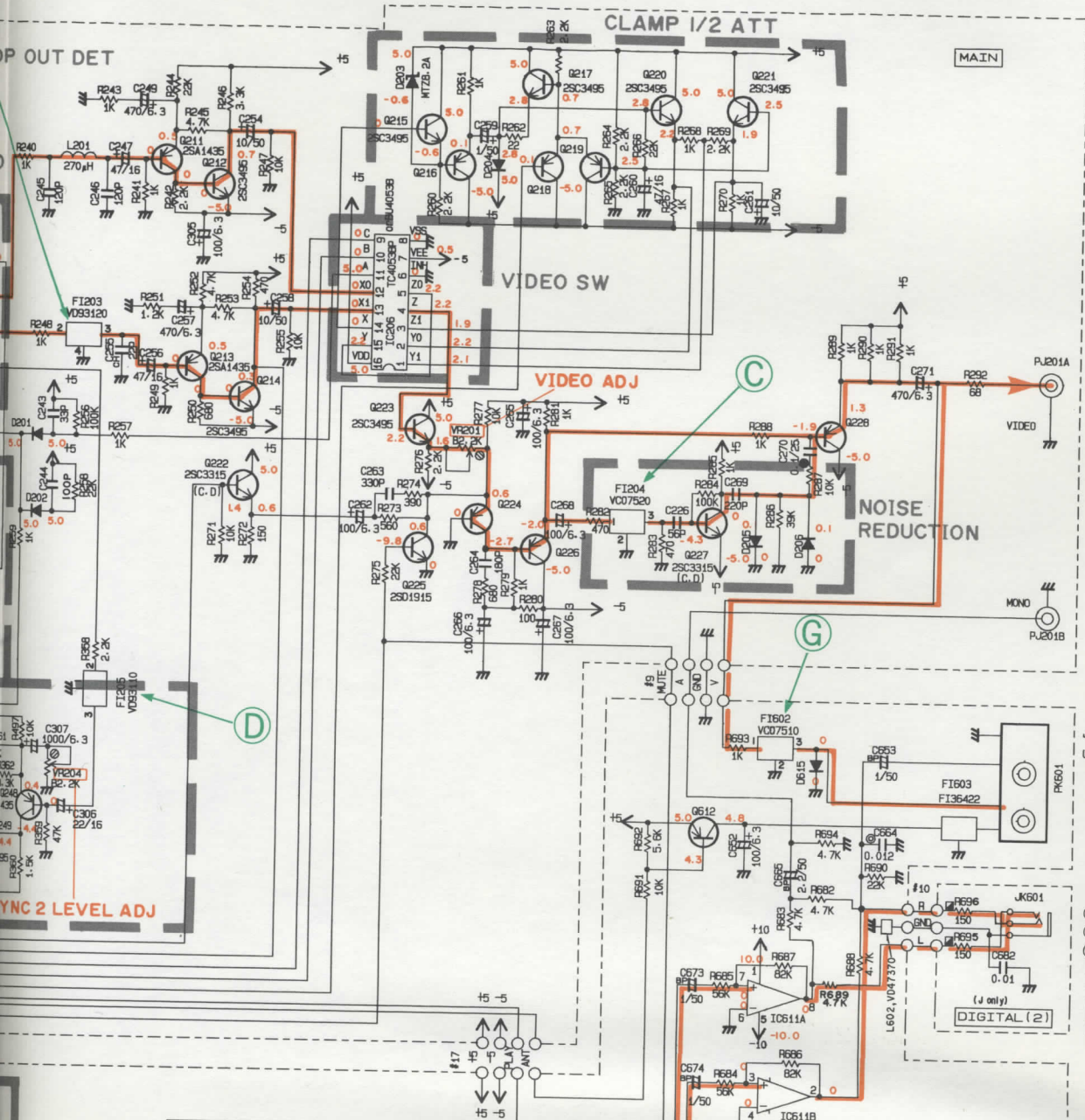
Digital Circuit Board (1)



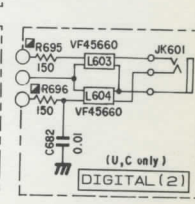
Digital Circuit Board (2)







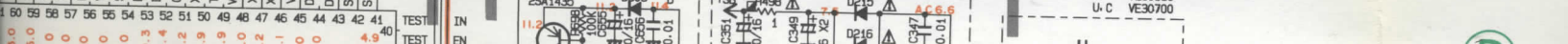
J VB96970 or VC11210
 U.C VC13110

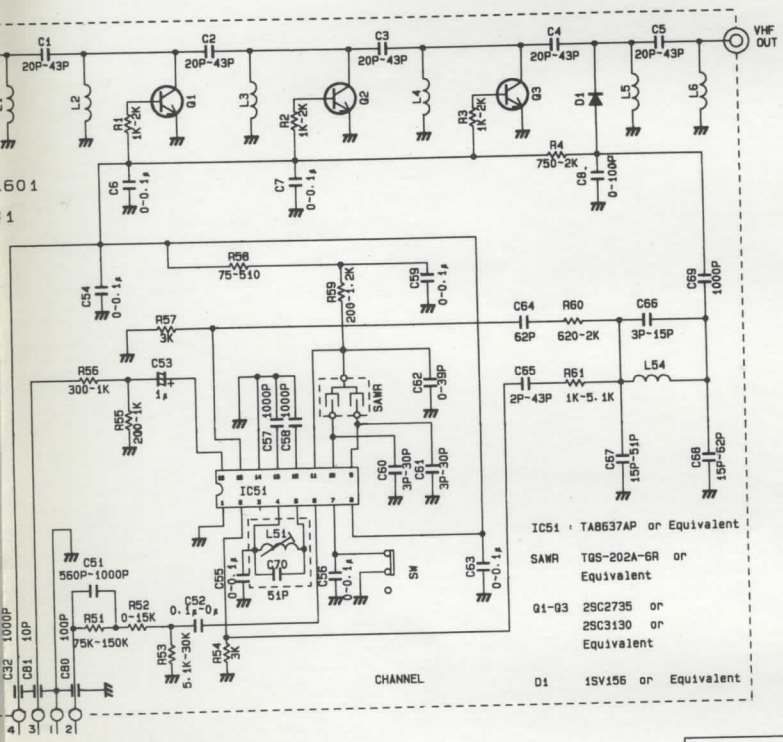


(A)

(B)

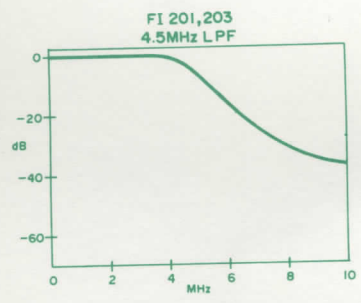
(C)



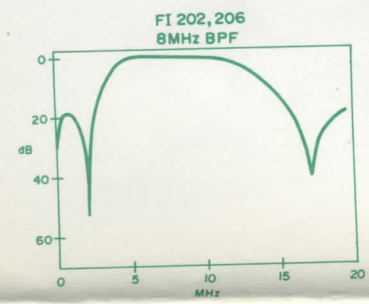


RF MOD

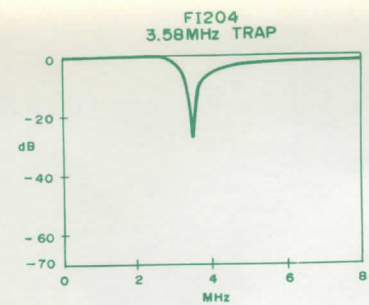
A



B



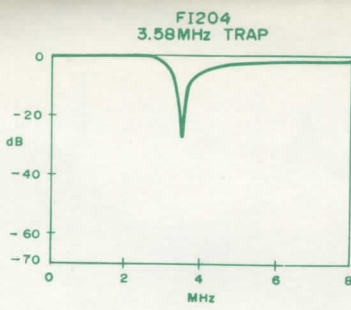
C



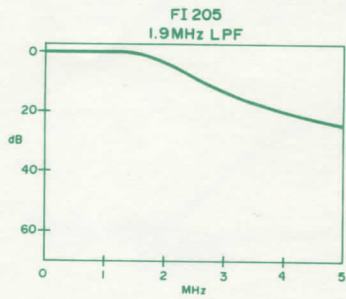
D



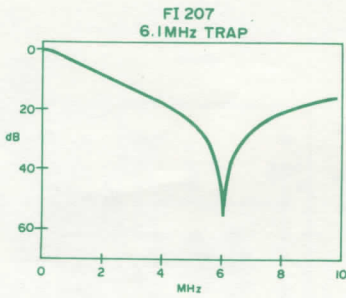
(C)



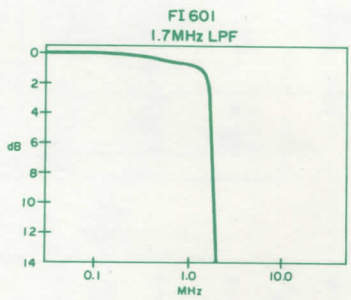
(D)



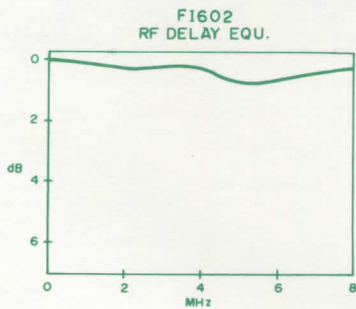
(E)



(F)



(G)



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

PARTS LIST

■WARNING

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

● Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS list. For the parts No. of the carbon resistor, refer to p. 61.

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■ ELECTRICAL PARTS

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	NA 09:61:60	Main Circuit Board	メ イ ン シ ー ト			J	
※	NA 09:61:70	"	"			U,C	
	FG 21 11:00	Ceramic Cap.	10pF 50V(CH)	セ ラ コ ン	C281		
	FX 60 01:70	"	15pF 50V(CH)	"	C290, 398		
	FG 21 12:20	"	22pF 50V(CH)	"	C204, 255		
	FG 21 12:70	"	27pF 50V(CH)	"	C318		
	FG 21 13:30	"	33pF 50V(CH)	"	C317, 336		
	VA 77 76:00	"	180pF 50V(CH)	"	C328, 391		
	FG 21 11:00	"	10pF 50V	"	C338, 387, 397		
	FG 21 12:20	"	22pF 50V	"	C215, 294		
	FG 21 13:30	"	33pF 50V	"	C243		
	FG 21 13:90	"	39pF 50V	"	C223, 228, 238~240, 299, 308		
	FG 21 14:70	"	47pF 50V	"	C330		
	FG 21 15:60	"	56pF 50V	"	C226		
	FG 21 21:00	"	100pF 50V	"	C244, 295		
	FG 21 21:20	"	120pF 50V	"	C245, 246		
	FG 21 21:50	"	150pF 50V	"	C209, 222, 303		
	FG 21 21:80	"	180pF 50V	"	C264		
	FG 21 22:20	"	220pF 50V	"	C269		
	FG 21 23:30	"	330pF 50V	"	C210, 263, 283, 284, 302, 311, 341		
	FG 21 31:00	"	1000pF 50V	"	C232, 235		
	FG 24 41:00	"	0.01 μ F 50V	"	C227, 297, 314, 347, 348, 353, 354		
	FG 24 42:20	"	0.022 μ F 50V	"	C212, 216~220, 229, 237, 242, 251, 313, 316, 324		
	FG 24 44:70	"	0.047 μ F 50V	"	C301		
	FZ 00 41:30	Semiconductive Ceramic Cap.	0.1 μ F 25V	半 導 体 セ ラ コ ン	C213, 270, 287, 340, 389, 390		
	FA 15 31:00	Mylar Cap.	1000pF 50V	マ イ ラ ー コ ン	C280		
	FA 15 32:20	"	2200pF 50V	"	C319, 320		
	FA 15 33:30	"	3300pF 50V	"	C203		
	FA 15 35:60	"	5600pF 50V	"	C343, 393		
	FA 15 35:10	"	5100pF 50V	"	C273		
	FA 15 41:00	"	0.01 μ F 50V	"	C248, 323		
	FA 15 41:10	"	0.011 μ F 50V	"	C367		
	FA 15 41:50	"	0.015 μ F 50V	"	C364		
	FA 15 41:60	"	0.016 μ F 50V	"	C370		
	FA 15 42:00	"	0.02 μ F 50V	"	C285, 286, 366, 368		
	FA 15 42:20	"	0.022 μ F 50V	"	C272		
	FA 15 42:40	"	0.024 μ F 50V	"	C369, 394		
	FA 15 43:30	"	0.033 μ F 50V	"	C331		
	FA 15 43:60	"	0.036 μ F 50V	"	C276		
	FA 15 44:70	"	0.047 μ F 50V	"	C310		
	FA 15 51:00	"	0.1 μ F 50V	"	C288, 332, 339		
	FA 15 51:30	"	0.13 μ F 50V	"	C277		
	FA 15 53:30	"	0.33 μ F 50V	"	C321		
	Ui 91 91:00	Electrolytic Cap.	1000 μ F 6.3V	ケ ミ コ ン	C298, 307, 359, 361		
	UJ 11 81:00	"	100 μ F 6.3V	"	C202, 207, 208, 211, 221, 230, 231, 241, 252, 262, 265~268, 304, 305, 312, 315, 325, 362, 388		
	UJ 11 84:70	"	470 μ F 6.3V	"	C249, 257, 271, 327		
	UJ 12 81:00	"	100 μ F 10V	"	C225		
	UJ 13 72:20	"	22 μ F 16V	"	C206, 296, 306		
	UJ 13 73:30	"	33 μ F 16V	"	C329, 399		
	UJ 13 74:70	"	47 μ F 16V	"	C247, 256, 260, 357, 363		
	UJ 13 82:20	"	220 μ F 16V	"	C346, 351, 352		
	UJ 16 61:00	"	1 μ F 50V	"	C205, 259, 275, 326, 344, 358, 360, 392		
	UJ 16 64:70	"	4.7 μ F 50V	"	C342		

※New Parts (新規部品) NR

CDV-S100

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	リンク
	UJ 16 71 00	Electrolytic Cap.	10 μ F 50V ケ ミ コ ン	C254,258,261,278,279,291,293,300,309			
	UM 21 61 00	//	1 μ F 50V オーディオケミコン	C292			
	UM 41 71 00	//	10 μ F 50V //	C236			
	UK 11 81 00	//	100 μ F 6.3V B P コ ン	C233,289			
	UK 13 72 20	//	22 μ F 16V //	C322			
	UK 14 71 00	//	10 μ F 25V //	C335			
	FM 11 61 00	//	1 μ F 50V //	C201,282,365,395			
	UK 16 63 30	//	3.3 μ F 50V //	C334			
	UK 16 64 70	//	4.7 μ F 50V //	C274			
※	VE 69 10 00	Tantalum Cap.	22 μ F 10V タ ル タ ル コ ン	C234			
	UW 92 96 80	Electrolytic Cap.	6800 μ F 10V ケ ミ コ ン	C355,356			
	UH 13 92 20	//	2200 μ F 16V //	C349,350			
	GE 90 19 80	Inductor	120 μ H イ ン ダ ク タ	L203			
	GE 90 19 90	//	270 μ H //	L201,202			
※	VD 93 11 00	Low Pass Filter	1.9MHz ローパスフィルター	Fi205			
※	VD 93 12 00	//	4.5MHz //	Fi201,203			
※	VD 93 13 00	Band Pass Filter	8.0MHz バンドパスフィルター	Fi202,206			
	VC 07 52 00	Trap	3.58MHz ト ラ ッ プ	Fi204			
※	VE 46 66 00	//	6.1MHz //	Fi207			
	HG 30 92 20	Carbon Resistor	2.2M Ω 1/2W カ ー ボ ン 抵 抗	R413		U,C	△
	HU 57 81 80	Metal Film Resistor	180k Ω 1/4W 金 属 皮 膜 抵 抗	R339			
	HU 59 81 00	//	100k Ω 1/4W //	R340			
	HV 45 31 00	Flame Proof Carbon Resistor	1 Ω 1/4W 不 燃 化 カ ー ボ ン 抵 抗	R498,499,527,528			
	HV 45 32 20	//	2.2 Ω 1/4W //	R400			
	HV 45 41 00	//	10 Ω 1/4W //	R226,230,236,238,394			
	HV 45 44 70	//	47 Ω 1/4W //	R395,401,436,467			
	VB 86 11 00	Pre-Set Potentiometer	B1k Ω 半 固 定 抵 抗	VR202			
	VB 86 12 00	//	B2.2k Ω //	VR201,203,204			
	VB 85 98 00	//	B10k Ω //	VR207,209,210			
	VB 85 99 00	//	B22k Ω //	VR208,211			
	VB 86 01 00	//	B47k Ω //	VR205,206			
	VB 86 15 00	//	B10k Ω //	VR212			
	iA 09 33 00	Transistor	2SA933S(Q,R) ト ラ ン ジ ス タ	Q216,218,219,224,226,228,230,234~237,242,251,257,260,266~269,273,280	} Inter-changeable		
	iA 11 15 10	//	2SA1115(E,F) //	//			
	iX 60 31 70	//	2SA1310(R,S,T) //	//			
	VC 26 81 00	//	2SA1435 //	Q203,211,213,244,248			
	VC 61 91 00	//	2SA1323(B,C) //	Q246,250			
	iC 17 40 00	//	2SC1740S(S,R) //	Q207,210,229,232,241,243,253,264,265	} Inter-changeable		
	iC 26 03 10	//	2SC2603(E,F) //	//			
	iX 60 31 80	//	2SC3312(R,S,T) //	//			
	VA 75 83 00	//	2SC3495 //	Q204,212,214,215,217,220,221,223,245,249			
	VC 52 94 00	//	2SC3315(C,D) //	Q201,206,208,209,222,227			
	VC 50 21 00	//	2SD1915 //	Q205,225,238,252,254~256,259,262,263,275,281			
	VC 14 19 00	//	2SB941(P,Q) //	Q272			
※	VE 61 33 00	//	2SB1237 TV2 //	Q231,270			
※	VE 02 92 00	//	2SD1985(P,Q) //	Q271			
	iE 10 21 20	FET	2SK301(R) F E T	Q239,240			

※New Parts (新規部品) NR

CDV-S100

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
iF	00:34:50	Diode	ISSI33	ダイオード	D201,202,204~213,223~225,230		
iH	00:14:30	//	ISR35-100A	//	D215~222		
iF	01:08:20	Zener Diode	MTZ8.2A	ツェナーダイオード	D203,214		
iG	03:45:00	IC	μPC577H(E,F)	I C	IC201		
iG	03:47:00	//	AN6551	//	IC209,211,215~219,221,223	Inter-changeable	
iG	07:68:00	//	NJM4558S	//	//		
iG	13:22:00	//	BA715	//	//		
iG	05:51:00	//	TC4053BP	//	IC206		
iG	10:59:00	//	μPD4053BC	//	IC224		
iG	11:94:00	//	STA451C	//	IC214,220		
iG	12:18:00	//	NJM4560S	//	IC208		
iG	15:35:00	//	BA6218	//	IC212		
XA	77:80:01	//	NJM072S	//	IC207		
※ XD	20:10:01	//	M5290P	//	IC222		
XC	10:00:01	//	HD637B01YO	//	IC213		
XA	41:00:01	//	YM3558	//	IC205		
※ XC	80:50:01	//	YM3599B	//	IC202,203		
XB	65:50:01	//	YM3567	//	IC204		
XB	80:70:01	//	YM3621	//	IC210		
※ VE	48:47:00	Pin Jack	2P	ピンジャック	PJ201		
QU	00:95:00	Quartz Crystal Unit	14.32MHz	水晶振動子	XL202		
VB	96:89:00	Delay Line	EFD-KD645D08A	ディレーライン	XL201		
VD	00:45:00	Base Pin	2P i-Type	PHベースピン	CB203		
VD	00:46:00	//	3P i-Type	//	CB204,205		
VD	00:54:00	//	2P L-Type	//	CB206		
VD	00:57:00	//	5P L-Type	//	CB207		
VD	00:58:00	//	6P L-Type	//	CB208,209		
※ VE	34:03:00	Test Point Pin	iRS-1169	テストポイントピン			
BB	06:95:10	Ground Plate		ランド金具			
VC	13:23:00	Heat Sink		放熱板			
ED	33:00:66	Binding Head Screw	3×6 FCRM3-BI	バインド小ネジ	PACK		
VE	85:42:00	Ferrate Core	ESD-R-25DB	フェライトコア			

※New Parts (新規部品) NR

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	NA 09:61:80	Digital Circuit Board	デジタルシート			J	
※	NA 09:61:90	"	"			U,C	
	FG 21:12:70	Ceramic Cap.	セラコン	27pF 50V(CH)	C625~627		
	FX 60:01:70	"	"	15pF 50V(CH)	C613		
	FG 21:21:20	"	"	120pF 50V(CH)	C602		
	VA 77:75:00	"	"	150pF 50V(CH)	C603		
	FG 21:13:30	"	"	33pF 50V	C615		
	FG 21:15:60	"	"	56pF 50V	C633		
	FG 21:21:00	"	"	100pF 50V	C606,610		
	FG 21:23:90	"	"	390pF 50V	C632		
	FG 24:41:00	"	"	0.01μF 50V	C618,634,635,656,666,670,682		
	FG 24:44:70	"	"	0.047μF 50V	C619		
	FZ 00:41:30	Semiconductive Ceramic Cap.	半導体セラコン	0.1μF 25V	C601,605,609,672,675,676,683,684		
	FA 15:31:00	Mylar Cap.	マイラーコン	1000pF 50V	C617		
	FA 15:32:20	"	"	2200pF 50V	C611,612,628,629		
	FA 15:33:90	"	"	3900pF 50V	C678		
	FA 15:41:20	"	"	0.012μF 50V	C664		
	FA 15:41:80	"	"	0.018μF 50V	C679		
	FA 15:44:70	"	"	0.047μF 50V	C630,631		
	FA 15:51:00	"	"	0.1μF 50V	C620,621,680,681		
	FA 15:52:40	"	"	0.24μF 50V	C677		
	FC 44:31:50	"	"	1500pF 50V	C650,651		
	FC 44:32:40	"	"	2400pF 50V	C644,645		
	FC 44:41:00	"	"	0.01μF 50V	C658,659		
	FC 36:41:20	"	"	0.012μF 50V	C646,647		
	FC 36:46:80	"	"	0.068μF 50V	C642,643		
	UJ 11:81:00	Electrolytic Cap.	ケミコン	100μF 6.3V	C607,608,636,652		
	UJ 11:84:70	"	"	470μF 6.3V	C657		
	UJ 13:82:20	"	"	220μF 16V	C655,662,663		
	UJ 15:81:00	"	"	100μF 35V	C667		
	UJ 16:71:00	"	"	10μF 50V	C604,654,669		
	UJ 11:91:00	"	"	1000μF 6.3V	C639		
	UJ 13:84:70	"	"	470μF 16V	C637,638		
	UJ 14:91:00	"	"	1000μF 25V	C660,661		
	UH 36:84:70	"	"	470μF 50V	C668,671		
	UK 13:72:20	"	B P コ ン	22μF 16V	C622		
	UK 14:71:00	"	"	10μF 25V	C623,624		
	FM 11:61:00	"	"	1μF 50V	C653,673,674		
	FM 11:62:20	"	"	2.2μF 50V	C665		
	FV 34:64:70	"	オーディオケミコンBP	4.7μF 25V	C648,649		
	UT 45:26:80	Polypropylene Film Cap.	ポリプロコン	680pF 100V	C640,641		
	VC 07:51:00	RF Delay EQ	RF DELAY EQ	NTSC	Fi602		
※	VD 93:10:00	Low Pass Filter	ローパスフィルター	1.7MHz	Fi601		
	Fi 36:42:20	Filter	エミフィル	DSS310-55D223S	Fi603		
	GE 90:20:00	OSC Coil	発振コイル	3.3μH	L601		
	VD 47:37:00	Coil	コイル	SBT-0460TF	L602		
	VF 45:66:00	"	"	SBT-0180W	L603,604	U,C	
	HV 45:51:50	Flame Proof Carbon Resistor	不燃化カーボン抵抗	150Ω 1/4W	R695,696		
	HV 45:53:90	"	"	390Ω 1/4W	R700		
	HV 45:51:00	"	"	100Ω 1/4W	R659		
	HV 45:58:20	"	"	820Ω 1/4W	R704		
	HV 45:53:30	"	"	330Ω 1/4W	R656		

※New Parts (新規部品) NR

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	HU 57 62 20	Metal Film Resistor	2.2kΩ 1/4W 金属皮膜抵抗	R622,623			
	HU 57 72 20	//	22kΩ 1/4W //	R619,620			
	iA 09 33 00	Transistor	2SA933S(Q,R) トランジスタ	Q612	} Inter-changeable		
	iA 11 15 10	//	2SA1115(E,F) //	//			
	iX 60 31 70	//	2SA1310(R,S,T) //	//			
	VD 28 84 00	//	2SA1435 //	Q609			
※	VE 61 33 00	//	2SB1237(Q,R) //	Q611			
	iC 17 40 00	//	2SC1740S(S,R) //	Q601,602,604	} Inter-changeable		
	iC 26 03 10	//	2SC2603(E,F) //	//			
	iX 60 31 80	//	2SC3312(R,S,T) //	//			
	VC 52 94 00	//	2SC3315(C,D) //	Q603			
※	VE 61 34 00	//	2SD1858(Q,R) //	Q610			
	VC 50 21 00	//	2SD1915 //	Q605~608,613			
	iF 00 34 50	Diode	ISS133 ダイオード	D603,606,607,615			
	iH 00 14 30	//	ISR35-100A //	D608,609,612,613			
	iF 00 49 10	Varactor Diode	ISV55 F Mバラクタダイオード	D601,602	} Inter-changeable		
	iF 00 49 20	//	SVC211 //	//			
	iF 00 62 90	Zener Diode	MTZ5.6B ツェナーダイオード	D614			
	iF 01 06 90	//	MTZ5.1B //	D604			
	iF 00 88 20	//	MTZ11A //	D610,611			
※	iF 00 88 40	//	MTZ11C //	D605			
	iG 03 47 00	IC	AN6551 I C	IC602,603,609,611	} Inter-changeable		
	iG 07 68 00	//	NJM4558S //	//			
	iG 08 02 00	//	NJM2043S //	IC601			
	iG 07 56 00	//	NJM78M05/A //	IC610			
	iG 05 51 00	//	TC4053BP //	IC607			
	XB 24 80 01	//	M5238L //	IC608			
	XD 89 70 01	//	PCM56P-J //	IC606			
	XB 70 40 01	//	YM3618 //	IC604			
※	XD 84 30 01	//	TMM2016BP //	IC605			
	VA 80 23 00	Quartz Crystal Unit	8.64MHz 水晶振動子	XL601			
	VB 96 97 00	RF Modulator	A1XE9028YH R F モジュレータ	PK601	} Inter-changeable	J	
	VC 11 21 00	//	MCB5-VJ1201 //	//			J
	VC 13 11 00	//	MCB5-VU3402 //	//			U,C
※	VE 48 46 00	Pin Jack	2P ピンジャック	PJ601			
	LB 30 24 30	Phone Jack	ホーンジャック	JK601			
	VD 00 45 00	Base Pin	2P P H ベースピン	CB601			
	VD 00 47 00	//	4P //	CB605,606,609			
	VD 00 53 00	//	10P //	CB607			
	VD 00 46 00	//	3P //	CB602,604			
	LB 30 07 30	//	TEB3P-SHF 2.5ピッチベースピン	CB608			
※	VE 34 03 00	Test Point Pin	iRS-1169 テストポイントピン				
※	VE 65 48 00	Ground Plate	アースプレート				
	BB 07 11 70	//	//			U,C	
	VF 45 65 00	Ferrate Core	ESD-R-10D フェライトコア			U,C	

※New Parts (新規部品) NR

CDV-S100

Ref. No.	Part No.	Description	部品名		Remarks	Common Model	Markets	ランク
※	NA 09 62 10	Operation Circuit Board	オペレーションシート					
	iC 17 40 00	Transistor	2SC1740(S,R)	トランジスタ	Q801~804	Inter-changeable		
	iC 26 03 10	//	2SC2603(E,F)	//	//			
	iX 60 31 80	//	2SC3312(R,S,T)	//	//			
	iF 00 34 50	Diode	ISS133	ダイオード	D801~806			
	XB 67 90 01	IC	MSL915RS	I C	IC801,802			
	VA 94 56 00	LED (Green)	SLV-31MC3H	L E D	D807~810			
	KA 90 63 80	Switch	EVQ-QRB-04M	ライトタッチスイッチ	SW801~815			
	VD 83 52 00	Push Switch	SPPH21	プッシュスイッチ	SW816			
	VD 85 31 00	Receiver Unit	GPIU501	受光ユニット	U801			
※	VE 43 64 00	Display Unit	6-BT-96ZK	蛍光表示管	V801			
	VD 00 49 00	Base Pin	6P i-Type	P H ベースピン	CB802			
	VD 00 53 00	//	10P i-Type	//	CB803,804			
※	VD 96 95 00	Ground Plate, FL		アースプレート/FL				
※	VB 96 55 00	Reflector (1)		リフレクター (1)				
※	VC 16 73 00	Sheet (1)		シート (1)/リフレクター				
※	VE 35 08 00	Sheet Filter		シートフィルター				
※	VF 07 69 00	Sheet, FL 2		シート / F L 2				
※	VE 41 19 00	Tape, FL		テープ / F L				
※	VE 30 68 00	Power Transformer Ass'y		電源トランス Ass'y			J	
※	VE 30 70 00	"		"			U,C	
※	GX 60 17 00	Power Transformer		電源トランス	PT1 ETP66PR423A		J	△
※	GX 60 17 10	//		//	// ETP66PU156A		U,C	△
※	GX 60 17 20	Line Filter		ラインフィルター	LI ELF18D290V			△
	Fi 41 41 00	Ceramic Cap.	0.01μF 250V	セラコン	C1,2 ECKWAE103ZV			△
	Fi 41 41 00	//	0.01μF 250V	//	C3 AC250F103ZW			△
※	KX 60 10 70	Power Switch		電源スイッチ	SW1 ESB-8210W			△
※	LX 60 11 00	Lapping Terminal	i-Type	i型ラッピング端子板	CN1 AKWTM-21			
	LX 60 11 10	Connector		2次コネクタ	CN2,3 AKB5B-XH-AM			

※New Parts (新規部品) NR

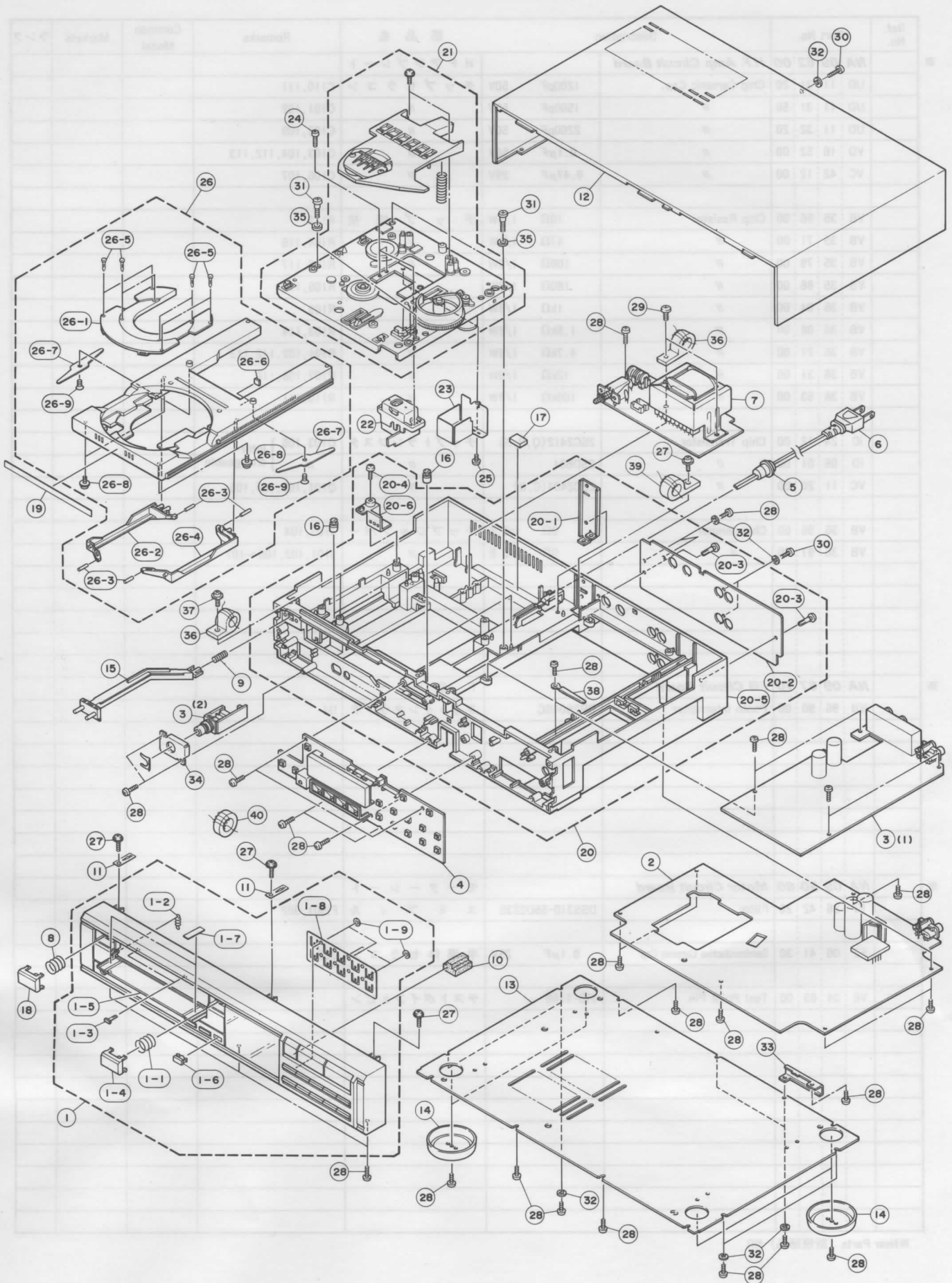
EXPLODED VIEW

Ref. No.	Part No.	Description			部 品 名	Remarks	Common Model	Markets	ランク
※	NA 09 62 00	H.F. Amp Circuit Board			H F アンプシート				
	UD 11 31 20	Chip Ceramic Cap.	1200pF	50V	チップセラコン	C110,111			
	UD 11 31 50	//	1500pF	50V	//	C101,102			
	UD 11 32 20	//	2200pF	50V	//	C108,109			
	VD 16 52 00	//	0.1μF	50V	//	C103,104,112,113			
	VC 42 12 00	//	0.47μF	25V	//	C106,107			
	VB 35 56 00	Chip Resistor	10Ω	1/8W	チップ抵抗	R119			
	VB 35 71 00	//	47Ω	1/8W	//	R104,115			
	VB 35 79 00	//	100Ω	1/8W	//	R106,117			
	VB 35 86 00	//	180Ω	1/8W	//	R105,116			
	VB 36 04 00	//	1kΩ	1/8W	//	R109			
	VB 36 08 00	//	1.5kΩ	1/8W	//	R103,114			
	VB 36 21 00	//	4.7kΩ	1/8W	//	R101,102,112,113			
	VB 36 31 00	//	12kΩ	1/8W	//	R107,108,118			
	VB 36 53 00	//	100kΩ	1/8W	//	R110,111			
	iC 24 12 00	Chip Transistor	2SC2412(Q,R,S)		チップトランジスタ	Q103,106	} Inter-changeable		
	iD 06 01 00	//	2SD601		//	//			
	VC 11 20 00	//	2SC2404(C,D)		//	Q101,102,104,105			
	VB 36 96 00	Chip Jamper	0Ω	I=3.5	チップジャンパー	J103,104			
	VB 36 97 00	//	0Ω	I=2.0	//	J101,102,105~107			
※	NA 09 67 70	FG Circuit Board			F G シ ー ト				
	VB 96 90 00	Photo Interrupter	GP2S04BC		フォトインタラプタ	DI			
※	NA 09 80 60	Motor Circuit Board			モ ー タ ー シ ー ト				
	Fi 36 42 20	Filter	DSS310-55D223S		エ ミ フ ィ ル	F1901,902			
	FZ 00 41 30	Semiconductive Ceramic Cap	0.1μF	25V	半 導 体 セ ラ コ ン	C901			
	VE 34 03 00	Test Point Pin	iRS-1169		テ ス ト ポ イ ン ト ピ ン				

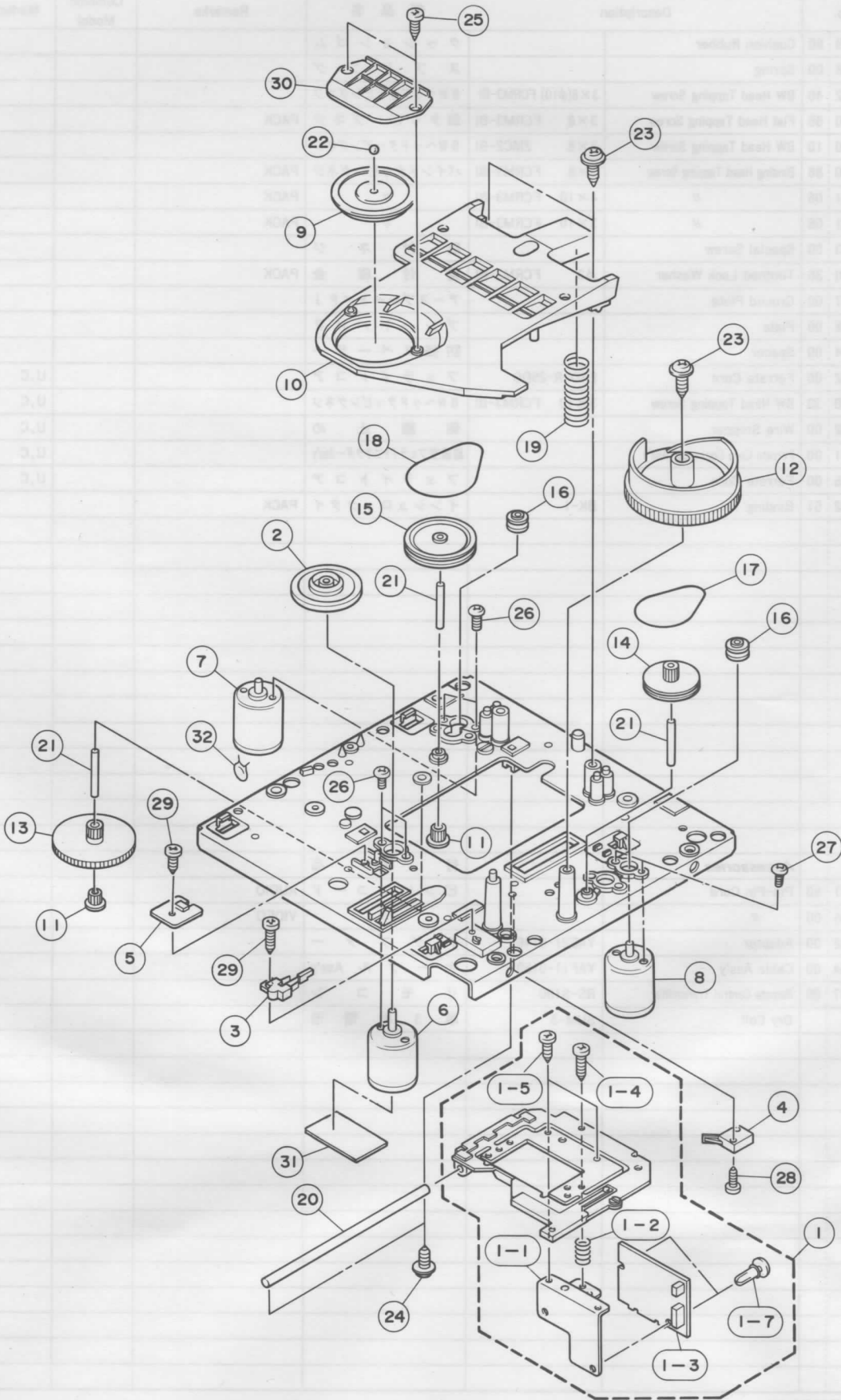
※New Parts (新規部品) NR

CDV-S100

EXPLODED VIEW



1 ■EXPLODED VIEW(DM-V1)



MECHANISM PARTS (DM-V1)

Note) ϕ : Diameter

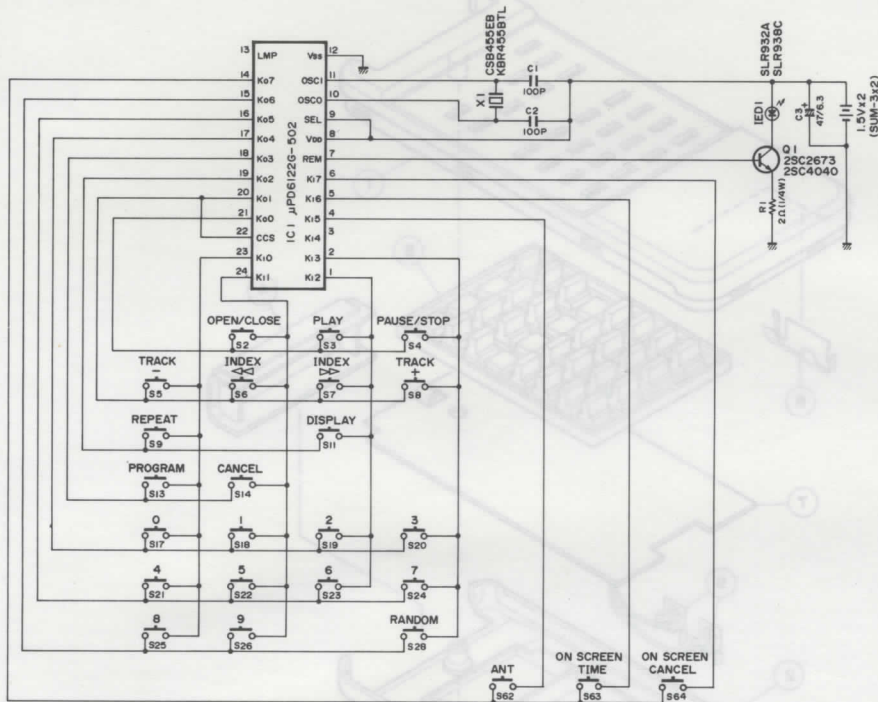
MECHANISM PARTS

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
※	VE 41 41 00	Disc Mechanism Unit	DM-V1	ディスクメカユニット			
※	1	VD 94 24 00	P.B. Ass'y	P. B. Ass'y			
※	1-1	VD 87 00 00	Adjusting Plate	P.B.アジャストプレート			
※	1-2	VE 67 09 00	Spring	スプリング A D J 2			
※	1-3	NA 09 62 00	H.F. Amp Circuit Board	H F アンプシート			
	1-4	ED 02 61 06	Binding Head Screw	2.6×10 ZMC2-Y	バインド小ネジ	PACK	
	1-5	ED 02 60 46	//	2.6×4 ZMC2-Y	//	PACK	
	1-6	Ei 02 60 66	Binding Head Tapping Screw	2.6×6 ZMC2-Y	バインドタッピングネジ	PACK	
	1-7	CB 06 88 80	Plastic Rivet		プラスチックリベット		
※	2	VD 94 25 00	Turn Table Unit		T. T ユニット		
※	3	KA 90 63 70	End Switch	MSW-1485	エンドスイッチ		
※	4	VE 64 26 00	Lever Switch	SSCTLI	レバースイッチ		
※	5	NA 09 67 70	FG Circuit Board		F G シート		
※	6	VE 41 50 00	Motor		モーター	SPINDLE	
※	7	VE 41 51 00	//		//	FEED	
※	8	VE 41 52 00	//		//	LOADING	
	9	CB 64 24 00	Stabilizer		スタビライザ 2	DM-X5	
	10	CB 65 55 20	Flapper		フラッパ 2	//	
	11	CB 65 55 50	Pinion Gear		ピニオンギア 2	//	
	12	VE 88 79 00	Loading Cam		ローディングカム 3	//	
	13	CB 65 55 41	Drive Gear		ドライブギア 2	//	
※	14	VE 98 00 00	Idle Pulley		アイドルプーリー	DM-710	
	15	VE 02 30 00	Pulley		プーリー	//	
	16	CB 65 85 10	P. Pulley		P プーリー	DM-X5	
※	17	VE 80 18 00	Belt		ベルト		
	18	VE 02 34 00	//		//	DM-710	
	19	VE 64 78 00	Spring		スプリング/フラッパ 3		
	20	AA 61 93 20	Shaft (L)	4×100	シャフト (L)	DM-X5	
	21	AA 61 93 30	// (S)	2×23	// (S)	//	
※	22	VD 93 87 00	Roller	$\phi 2.5$	ローラ S P		
	23	EK 33 00 10	BW Head Tapping Screw	3×12($\phi 10$)FCRM3-BI	BWヘッドタッピングネジ		
	24	EK 93 00 10	//	3×8($\phi 8$) FCRM3-BI	//		
	25	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	
	26	ED 32 00 56	Binding Head Screw	2×5 ZMC2-BI	バインド小ネジ	PACK	
	27	ED 33 00 66	//	3×6 FCRM3-BI	//	PACK	
	28	Ei 32 00 86	Binding Head Tapping Screw	2×8 FCRM3-BI	バインドタッピングネジ	PACK	
	29	Ei 32 61 06	//	2.6×10 ZMC2-BI	//	PACK	
	30	CB 65 55 40	Bearing		スラストベアリング	DM-X5	
※	31	NA 09 80 60	Motor Circuit Board		モーターシート		
	32	FZ 00 41 30	Semiconductive Ceramic Cap.	0.1 μ F 25V	半導体セラコン		
		CB 06 92 50	Binding Tie	BK-1	インシュロックタイ		

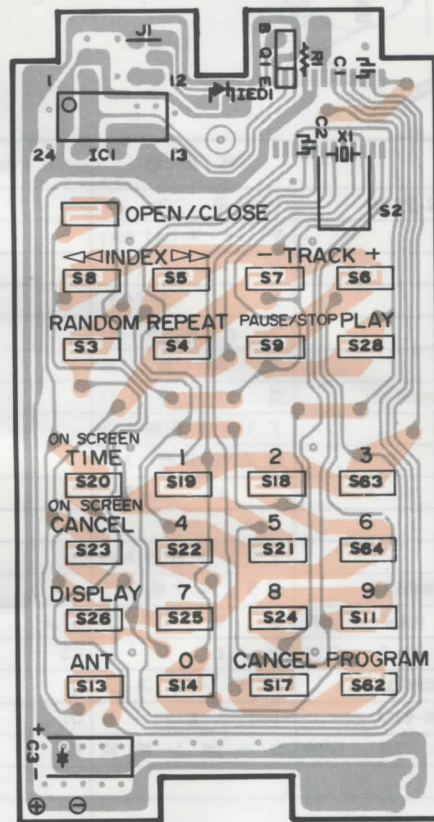
※New Parts (新規部品) NR

RS-S100 REMOTE CONTROL TRANSMITTER

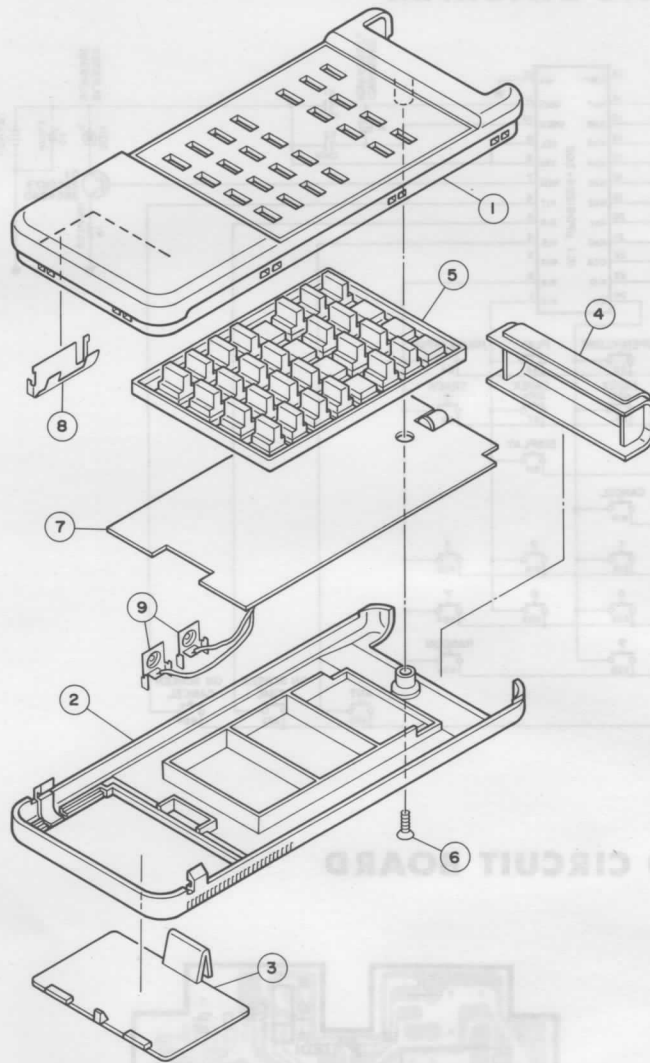
SCHEMATIC DIAGRAM



PRINTED CIRCUIT BOARD



EXPLODED VIEW(RS-S100)



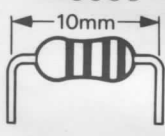
Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
※	VD : 96 : 57 : 00	Remote Control Transmitter	RS-S100				
※	1	CX : 60 : 31 : 80 Case (A) Ass'y	リモコン ケース (A) Ass'y				
	2	XX : 67 : 16 : 20 Case (B)	ケース (B)				
	3	XX : 67 : 16 : 30 Case (C)	ケース (C)				
	4	XX : 67 : 19 : 40 Filter	フィルター				
※	5	CX : 60 : 31 : 90 Rubber Contact	ゴム接点				
	6	XX : 67 : 19 : 60 Flat Head Screw	皿小ネジ				
※	7	NX : 60 : 16 : 80 P.C. Board Ass'y	プリント基板 Ass'y				
	8	XX : 64 : 24 : 80 Dry Cell Terminal (A)	電池電極板 (A)				
	9	XX : 64 : 24 : 90 // (B)	// (B)				
※	NX : 60 : 16 : 80	P.C. Board Ass'y	プリント基板 Ass'y				
	QX : 60 : 00 : 40	Ceramic Resonator	KBR455BTL セラミック振動子	XI			
	FG : 21 : 21 : 00	Ceramic Cap.	100pF 50V セラコン	C1,2			
	UJ : 11 : 74 : 70	Electrolytic Cap.	47μF 6.3V ケミコン	C3			
	iC : 26 : 73 : 00	Transistor	2SC2673 トランジスタ	Q1			
	iX : 60 : 36 : 00	IED	SLR-932A I E D	D1			
	HX : 60 : 14 : 00	Carbon Resistor	2Ω 1/4W カーボン抵抗	R1			

Parts List for Carbon Resistor

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

1/4W Type

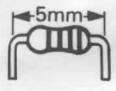
HJ35○○○○



10mm

1/6W Type

HF85○○○○



5mm

CDV-S100

YAMAHA

Value	18W Type Part No.	Value	18W Type Part No.	Value	18W Type Part No.
1.0	W4100	1.0	W4100	1.0	W4100
1.8	W4180	1.8	W4180	1.8	W4180
2.2	W4220	2.2	W4220	2.2	W4220
2.7	W4270	2.7	W4270	2.7	W4270
3.3	W4330	3.3	W4330	3.3	W4330
3.8	W4380	3.8	W4380	3.8	W4380
4.7	W4470	4.7	W4470	4.7	W4470
5.6	W4560	5.6	W4560	5.6	W4560
6.8	W4680	6.8	W4680	6.8	W4680
8.2	W4820	8.2	W4820	8.2	W4820
10.0	W5100	10.0	W5100	10.0	W5100
11.0	W5110	11.0	W5110	11.0	W5110
12.0	W5120	12.0	W5120	12.0	W5120
15.0	W5150	15.0	W5150	15.0	W5150
18.0	W5180	18.0	W5180	18.0	W5180
18.0	W5180	18.0	W5180	18.0	W5180
22.0	W5220	22.0	W5220	22.0	W5220
27.0	W5270	27.0	W5270	27.0	W5270
33.0	W5330	33.0	W5330	33.0	W5330
38.0	W5380	38.0	W5380	38.0	W5380
47.0	W5470	47.0	W5470	47.0	W5470
56.0	W5560	56.0	W5560	56.0	W5560
68.0	W5680	68.0	W5680	68.0	W5680
82.0	W5820	82.0	W5820	82.0	W5820
100.0	W6100	100.0	W6100	100.0	W6100
110.0	W6110	110.0	W6110	110.0	W6110
120.0	W6120	120.0	W6120	120.0	W6120
150.0	W6150	150.0	W6150	150.0	W6150
180.0	W6180	180.0	W6180	180.0	W6180
180.0	W6180	180.0	W6180	180.0	W6180
220.0	W6220	220.0	W6220	220.0	W6220
270.0	W6270	270.0	W6270	270.0	W6270
330.0	W6330	330.0	W6330	330.0	W6330
380.0	W6380	380.0	W6380	380.0	W6380
470.0	W6470	470.0	W6470	470.0	W6470
560.0	W6560	560.0	W6560	560.0	W6560
680.0	W6680	680.0	W6680	680.0	W6680
820.0	W6820	820.0	W6820	820.0	W6820
1000.0	W7100	1000.0	W7100	1000.0	W7100
1100.0	W7110	1100.0	W7110	1100.0	W7110
1200.0	W7120	1200.0	W7120	1200.0	W7120
1500.0	W7150	1500.0	W7150	1500.0	W7150
1800.0	W7180	1800.0	W7180	1800.0	W7180
1800.0	W7180	1800.0	W7180	1800.0	W7180
2200.0	W7220	2200.0	W7220	2200.0	W7220
2700.0	W7270	2700.0	W7270	2700.0	W7270
3300.0	W7330	3300.0	W7330	3300.0	W7330
3800.0	W7380	3800.0	W7380	3800.0	W7380
4700.0	W7470	4700.0	W7470	4700.0	W7470
5600.0	W7560	5600.0	W7560	5600.0	W7560
6800.0	W7680	6800.0	W7680	6800.0	W7680
8200.0	W7820	8200.0	W7820	8200.0	W7820
10000.0	W8100	10000.0	W8100	10000.0	W8100
11000.0	W8110	11000.0	W8110	11000.0	W8110
12000.0	W8120	12000.0	W8120	12000.0	W8120
15000.0	W8150	15000.0	W8150	15000.0	W8150
18000.0	W8180	18000.0	W8180	18000.0	W8180
18000.0	W8180	18000.0	W8180	18000.0	W8180
22000.0	W8220	22000.0	W8220	22000.0	W8220
27000.0	W8270	27000.0	W8270	27000.0	W8270
33000.0	W8330	33000.0	W8330	33000.0	W8330
38000.0	W8380	38000.0	W8380	38000.0	W8380
47000.0	W8470	47000.0	W8470	47000.0	W8470
56000.0	W8560	56000.0	W8560	56000.0	W8560
68000.0	W8680	68000.0	W8680	68000.0	W8680
82000.0	W8820	82000.0	W8820	82000.0	W8820
100000.0	W9100	100000.0	W9100	100000.0	W9100

18W Type



CDV-S100