

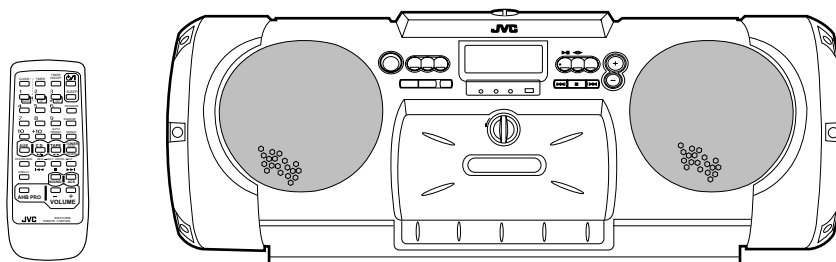
# JVC

# SERVICE MANUAL

CD PORTABLE SYSTEM

## RV-B550BU

### Supplement



COMPACT  
**disc**  
DIGITAL AUDIO

Area Suffix  
UY ..... Argentina

**This service manual adds UY version to the service manual (RV-B550BU No.20826) previously issued.**

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## Safety precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by ( $\triangle$ ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

### 5. Leakage current check (Electrical shock hazard testing)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

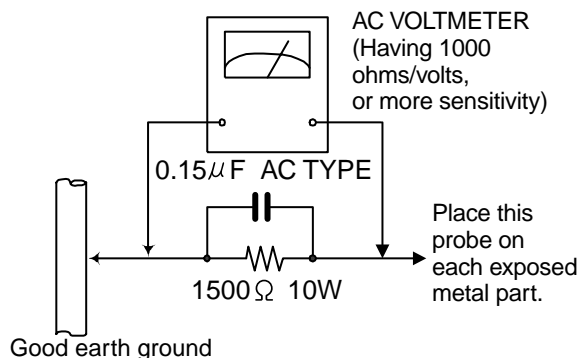
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)

- Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Voltage measured any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).

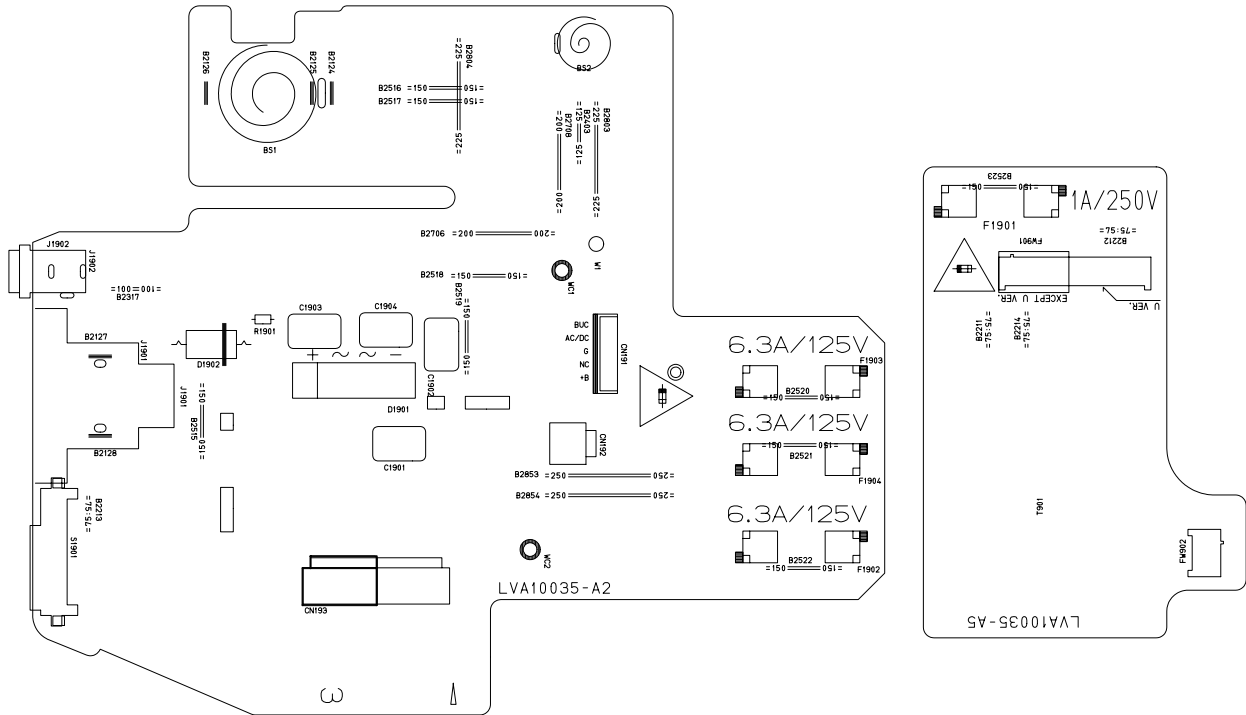


## Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

**CAUTION** Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.

# Importance administering point on the safety



Note : It's means "J" for U.S.A. and Canada market model.

<b>RV-B550J ONLY</b>
<b>Full Fuse Replacement Marking</b>
Graphic symbol mark (This symbol means fast blow type fuse.)
should be read as follows ;
<b>FUSE CAUTION</b>
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSES ;
<p><b>F1901 : 1.0-A, 250-V</b>  <b>F1902 : 6.3-A, 125-V</b>  <b>F1903 : 6.3-A, 125-V</b>  <b>F1904 : 6.3-A, 125-V</b></p>

<b>RV-B550J SEULEMENT</b>
<b>Marquage Pour Le Remplacement Complet De Fusible</b>
Le symbole graphique (Ce symbole signifie fusible de type á fusion rapide.)
doit être interprété comme suit ;
<b>PRECAUTIONS SUR LES FUSIBLES</b>
POUR UNE PROTECTION CONTINUE CONTRE DES RISQUES D'INCENDIE, REMPLACER SEULEMENT PAR UN FUSIBLE DU MEME TYPE ;
<p><b>F1901 : 1.0-A, 250-V</b>  <b>F1902 : 6.3-A, 125-V</b>  <b>F1903 : 6.3-A, 125-V</b>  <b>F1904 : 6.3-A, 125-V</b></p>

## Important for laser products

### 1.CLASS 1 LASER PRODUCT

**2.DANGER :** Invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.

**3.CAUTION :** There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

**4.CAUTION :** The compact disc player uses invisible laserradiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

**5.CAUTION :** If safety switches malfunction, the laser is able to function.

**6.CAUTION :** Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**⚠ CAUTION** Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

**VARNING :** Osynlig laserstrålning är denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

**VARO :** Avattaessa ja suojalukitus ohitettaessa olet alltiina näkymättömälle lasersäteilylle.Älä katso säteeseen.

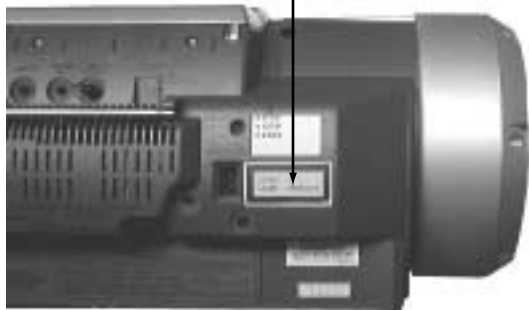
**ADVARSEL :** Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

**ADVARSEL :** Usynlig laserstrålning ved åbning,når sikkerhedsbryteren er avslott. unngå utsettelse for stråling.

## REPRODUCTION AND POSITION OF LABELS

### WARNING LABEL

CLASS 1  
LASER PRODUCT

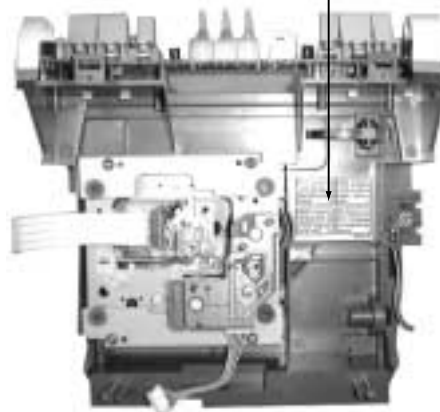


DANGER : Invisible laser radiation when open and interlock or defeated.  
AVOID DIRECT EXPOSURE TO BEAM (e)

VARO : Avattaessa ja suojalukitus ohitettaessa olet alltiina näkymättömälle lasersäteilylle.Älä katso säteeseen. (d)

VARNING : Osynlig laserstrålning är denna del är öppnad och spärren är urkopplad. Betrakta ej strålen. (s)

ADVARSEL : Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (f)



# Preventing static electricity

## 1. Grounding to prevent damage by static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

## 2. About the earth processing for the destruction prevention by static electricity

In the equipment which uses optical pick-up (laser diode), optical pick-up is destroyed by the static electricity of the work environment.

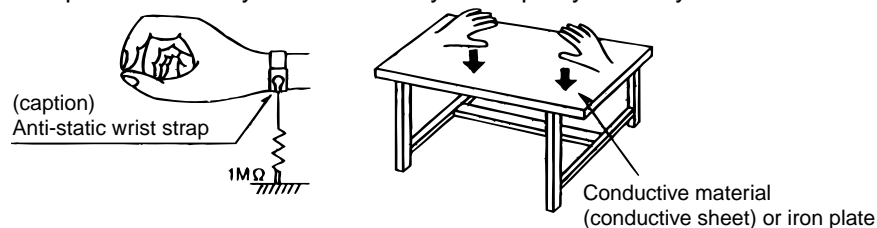
Be careful to use proper grounding in the area where repairs are being performed.

### 2-1 Ground the workbench

Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

### 2-2 Ground yourself

Use an anti-static wrist strap to release any static electricity built up in your body.



## 3. Handling the optical pickup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
2. Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

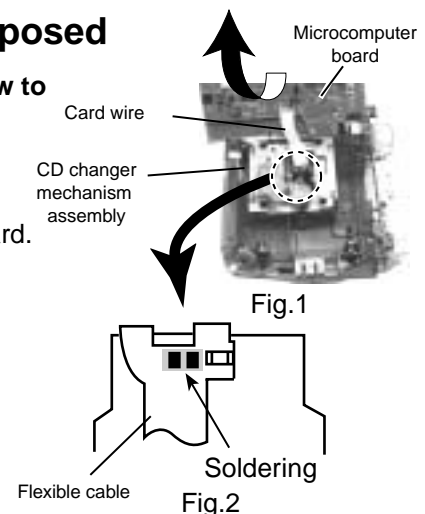
## 4. Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
2. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
3. Handle the flexible cable carefully as it may break when subjected to strong force.
4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it

## Attention when CD mechanism assembly is decomposed

**\*Please refer to "Disassembly method" in the text for pick-up and how to detach the CD mechanism.**

1. Remove CD mechanism assembly.
2. Remove the four screws on the microcomputer board.
3. Disconnect the connector CN907 and CN602 on the microcomputer board.
4. The microcomputer board is put up as shown in Fig.1.
5. Solder is put up before the card wire is removed from connector CN601 on the microcomputer board as shown in Fig. 2.  
(When the wire is removed without putting up solder, the CD pick-up assembly might destroy.)
6. Please remove solder after connecting the card wire with CN601 when you install picking up in the substrate.



## Disassembly method

<Main Body>

### ■ Removing the side grilles

(See Fig.1 and 2)

1. Remove the six screws **A** attaching the side grille on the left side of the body and pull out the side grille from the body.
2. Similarly, remove the side grille on the right side.

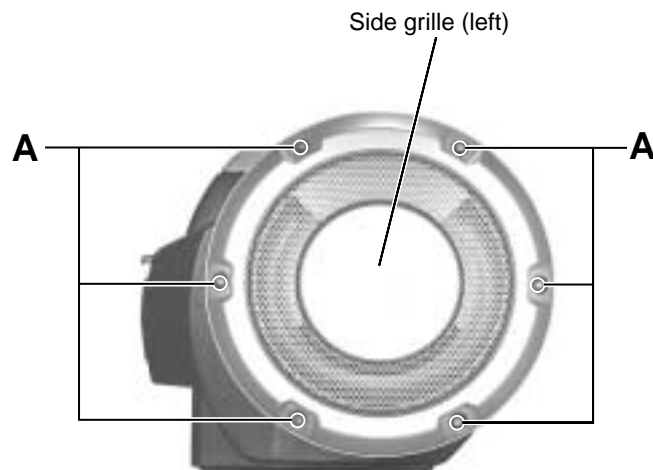


Fig.1

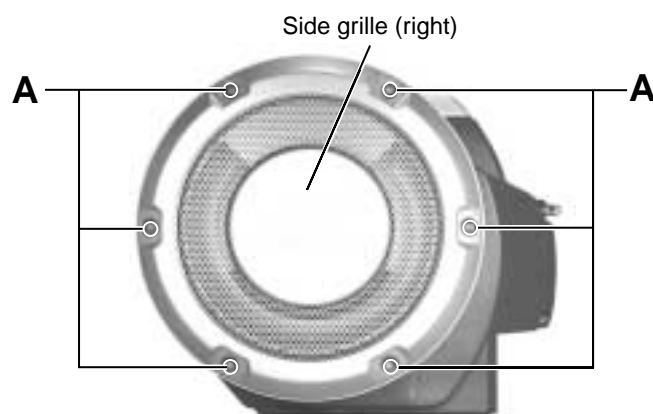


Fig.2

### ■ Removing the front cabinet assembly and the rear cabinet assembly (See Fig.3 and 3a)

- Prior to performing the following procedure, remove the right and left side grilles.

1. Remove the battery cover on the back of the body.
2. Remove the eight screws **B** on the back of the body and detach the front cabinet assembly and the rear cabinet assembly. Disconnect the connector CN904 on the LED (Illumination) board.

Attention: When reassembling, make sure that connector CN633 on the rear cabinet is connected to the speaker terminal on the front cabinet.

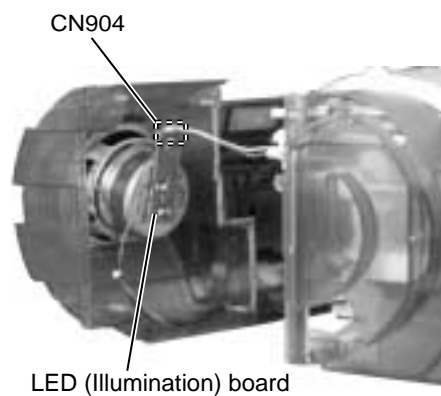


Fig.3a

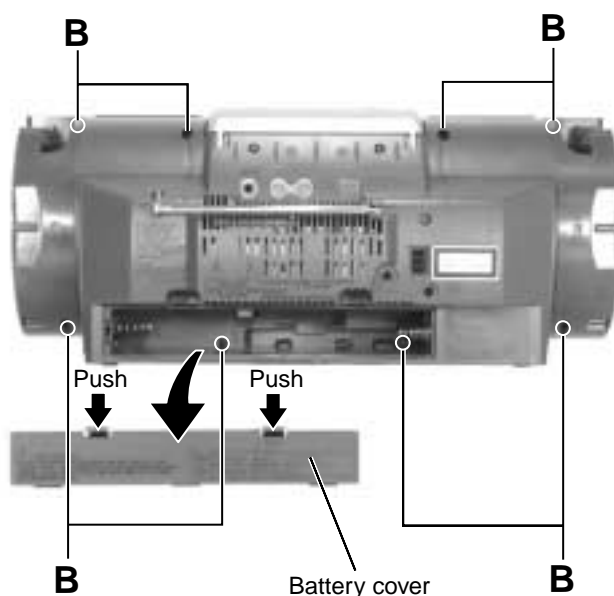
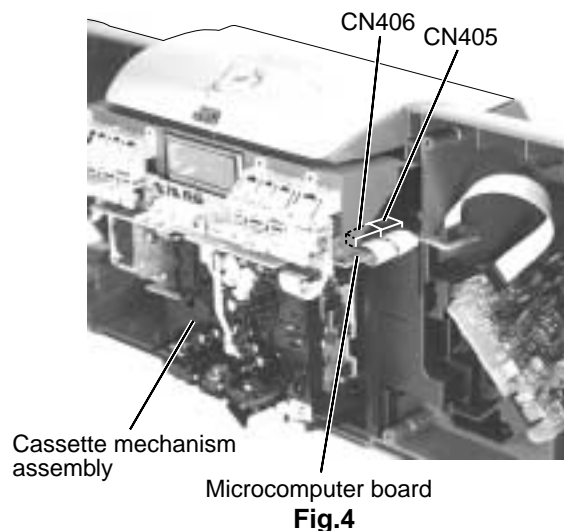


Fig.3

## ■ Removing the cassette mechanism assembly (See Fig.4 and 5)

- Prior to performing the following procedure, remove the right and left side grilles and the front cabinet assembly.

1. Disconnect the card wires from connector CN405 and CN406 on the microcomputer board located on the underside of the CD unit of the rear cabinet assembly.
2. Remove the four screws **C** attaching head shield and the cassette mechanism assembly.

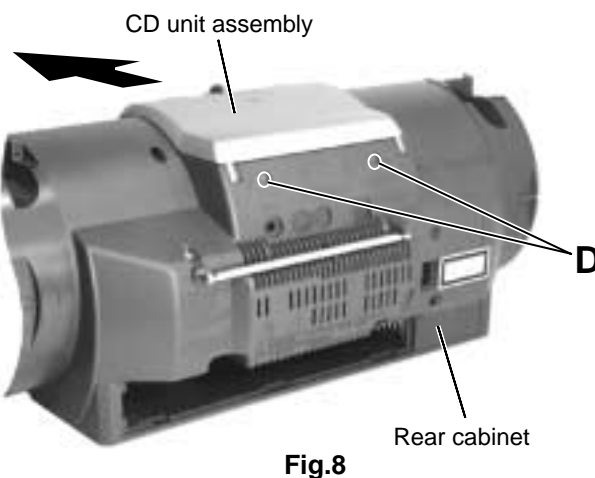
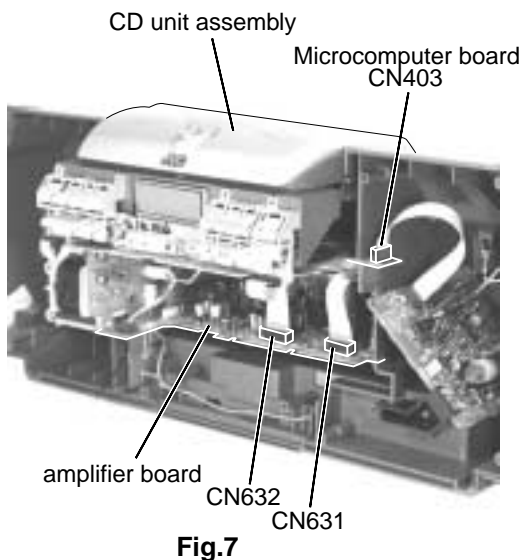
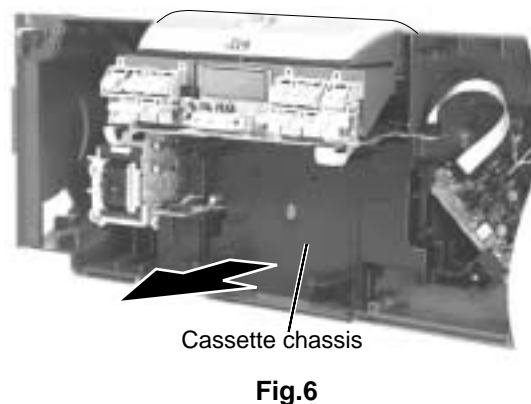
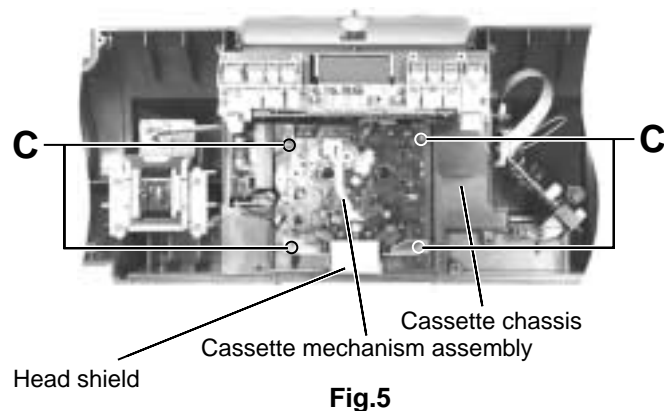


## ■ Removing the CD unit assembly (See Fig.6 to 8)

- ※ The CD unit assembly cannot be removed if the cassette mechanism assembly has not been removed.

- Prior to performing the following procedure, remove the right and left side grilles, the front cabinet assembly and the cassette mechanism assembly.

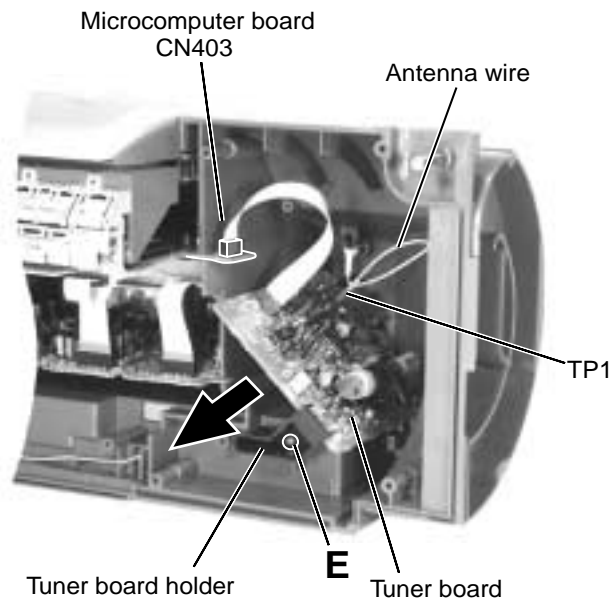
1. Remove the cassette chassis (See Fig.6).
2. Disconnect the card wires from connector CN631 and CN632 on the amplifier board.
3. Disconnect the card wires from connector CN403 on the microcomputer board.
4. Remove the two screws **D** attaching the CD mechanism assembly on the back of the rear cabinet (See Fig.8).
5. Pull out the CD unit assembly toward the front.



■ **Removing the tuner board (See Fig.9)**

- Prior to performing the following procedure, remove the right and left side grilles, the front cabinet assembly.

1. Disconnect the card wire from connector CN403 on the microcomputer board.
2. Remove the screw **E** attaching the tuner board holder and pull out the tuner board holder together with the tuner board. Disconnect the antenna wire from TP1.

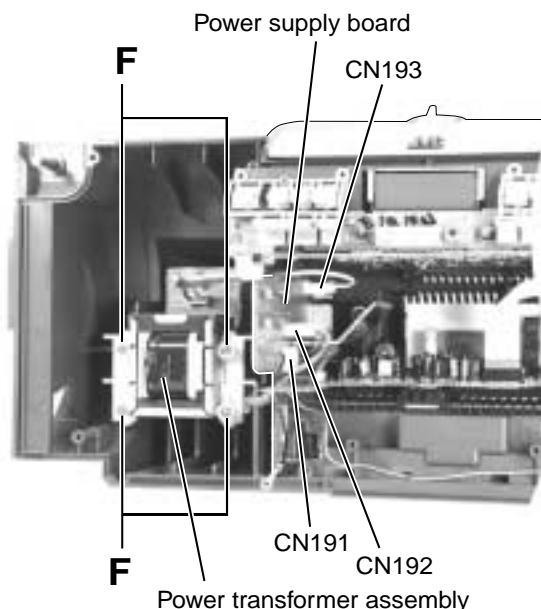


**Fig.9**

■ **Remove the power transformer assembly (See Fig.10)**

- Prior to performing the following procedure, remove the right and left side grilles, the front cabinet assembly, the cassette mechanism assembly and the cassette chassis.

1. Disconnect the harness from connector CN192 and CN193 on the power supply board respectively.
2. Remove the four screws **F** attaching the power transformer assembly.

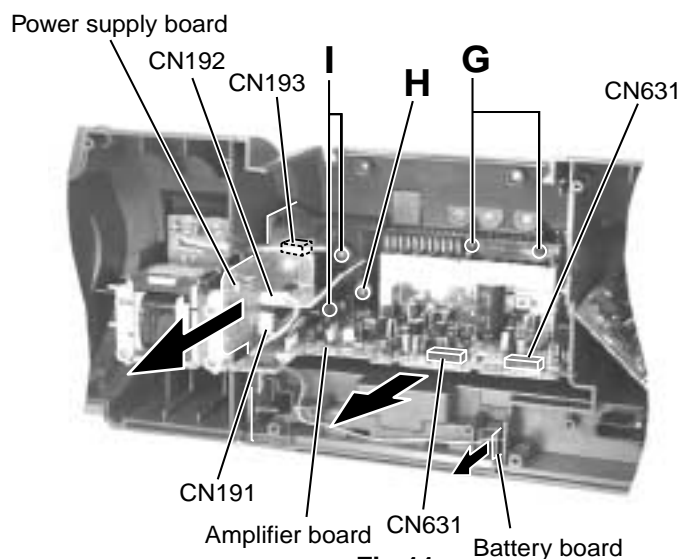


**Fig.10**

■ **Remove the amplifier board, the power supply board and the battery board (See Fig.11)**

- Prior to performing the following procedure, remove the right and left side grilles, the front cabinet assembly, the cassette mechanism assembly, the cassette chassis and the CD unit assembly.

1. Disconnect the 5pin harness from connector CN191 on the power supply board.
2. Remove the two screws **G** and the one screw **H** attaching the amplifier board.
3. Disconnect the harness from connector CN192 and CN193 on the power supply board respectively.
4. Remove the two screws **I** attaching the power supply board.
5. Pull out the battery board.



**Fig.11**



## &lt;CD unit assembly&gt;

### ■ Removing the microcomputer board

(See Fig.12 and 13)

1. Disconnect the card wire from connector CN251 and CN252 on the key switch board on the front side of the CD unit assembly.
2. Remove the four screws **J** attaching the microcomputer board on the underside of the CD unit assembly.
3. Disconnect the card wire or the harness from connector CN601, CN602 and CN907 on the microcomputer board respectively.

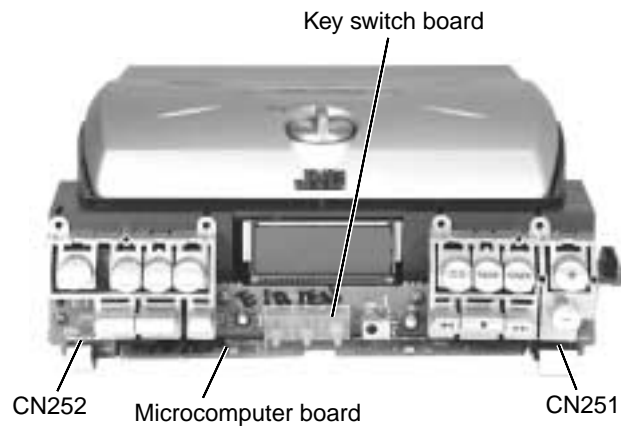


Fig.12

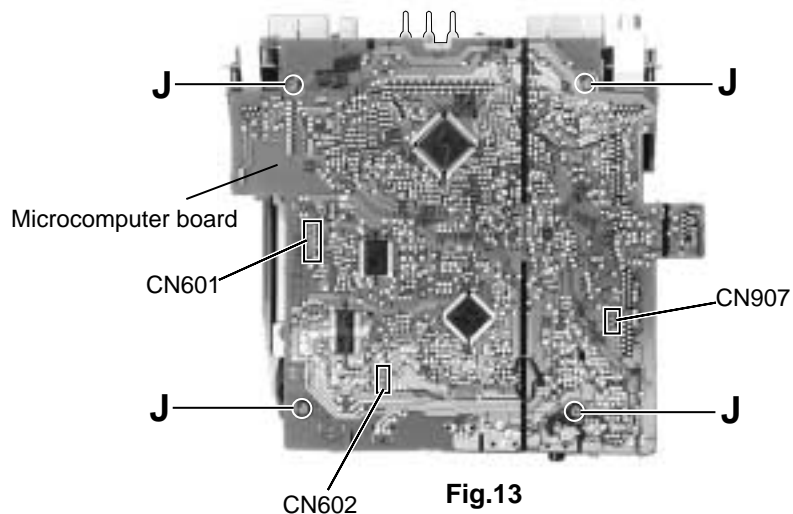


Fig.13

### ■ Removing the key switch board

(See Fig.14 and 15)

- Prior to performing the following procedure, remove the microcomputer board.

1. Release the four tabs **a** fixing the right and left function buttons and the three tabs **b** by the key switch board.

Push tabs **a** and **b** in the directions of the arrows carefully not to damage the function buttons

2. Remove the six screws **K** attaching the key switch board.

3. Pull out the key switch board from two tabs **c**.

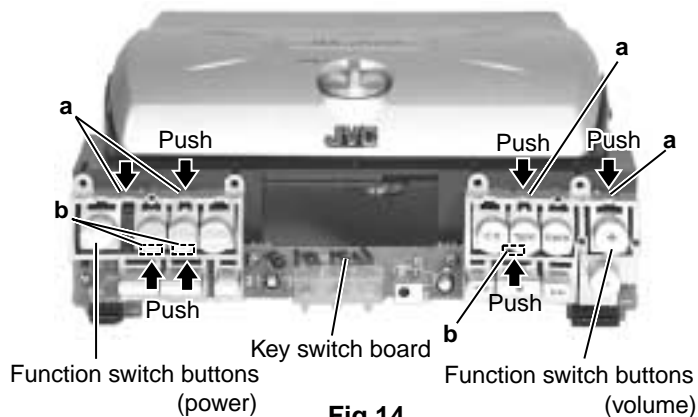


Fig.14

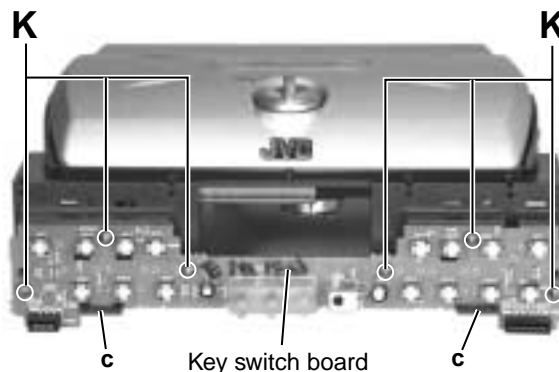


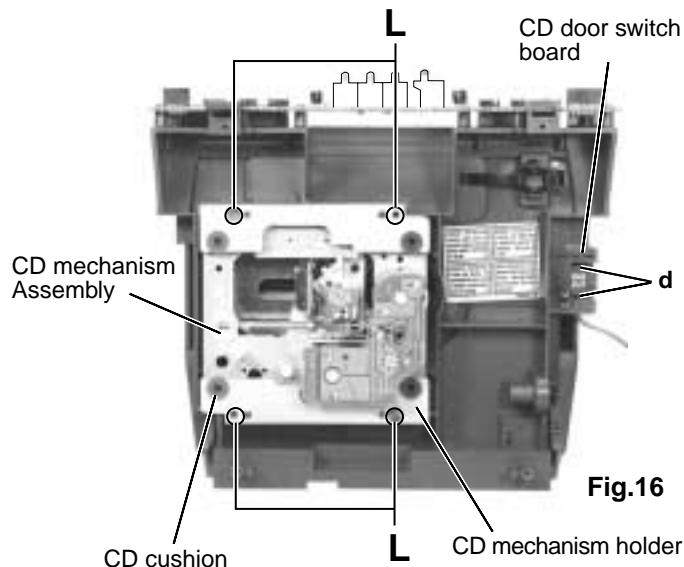
Fig.15

■ **Removing the CD door switch board**

(See Fig.16)

- Prior to performing the following procedure, remove the microcomputer board.

1. Release the two tabs **d** fixing the CD door switch board on the back of the CD unit assembly.



■ **Removing the CD mechanism assembly**

(See Fig.16)

- Prior to performing the following procedure, remove the microcomputer board.

1. Remove the four screws **L** attaching the CD mechanism holder on the back of the CD unit assembly.
2. Remove the CD mechanism holder, the CD cushion and the CD mechanism assembly respectively.

■ **Removing the pickup assembly**

(See Fig.17 to 19)

- Prior to performing the following procedure, remove the CD mechanism assembly.

1. Remove the four screws **M** attaching the pickup cover.
2. Push the shaft stopper by the turn table in the direction of the arrow and pull out the shaft. The pickup assembly comes off.

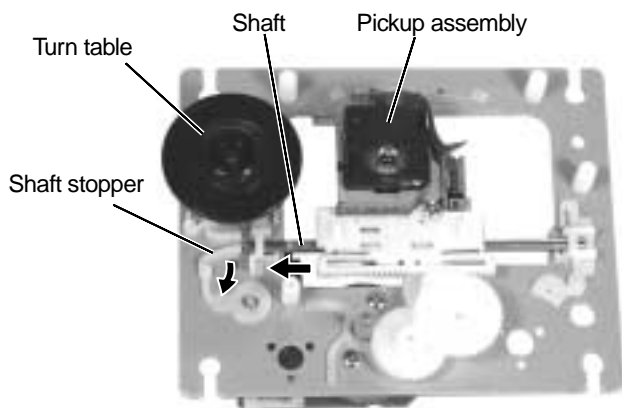
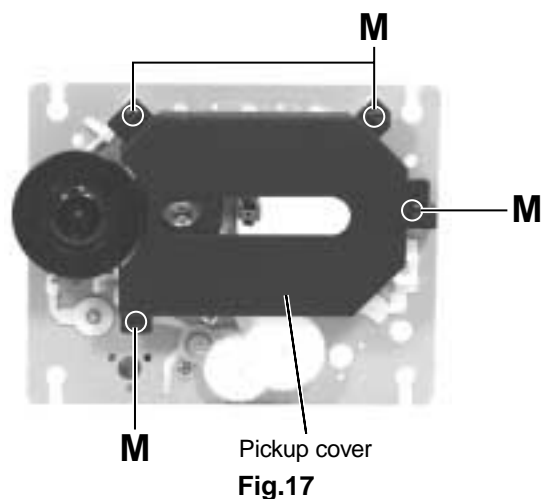


Fig.18

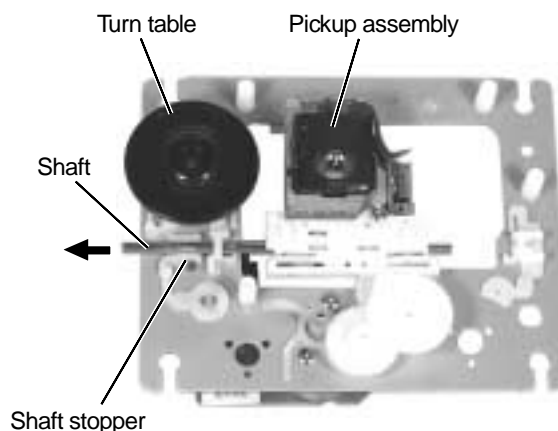


Fig.19

## &lt;Front Cabinet Assembly&gt;

## ■ Removing the LED boards (See Fig.20)

- Prior to performing the following procedure, remove the front cabinet assembly and the rear cabinet assembly.

1. Remove the two screws **N** and two screws **O** attaching the LED boards on the speaker.
2. Disconnect the harness from connector FW251 and FW261.

## ■ Removing the speakers (See Fig.20)

- Prior to performing the following procedure, remove the front cabinet assembly and the rear cabinet assembly.

1. Remove the eight screws **P** attaching the right and left speakers on the inside of the front cabinet assembly.
2. Remove the screw **Q** attaching the speaker terminal.

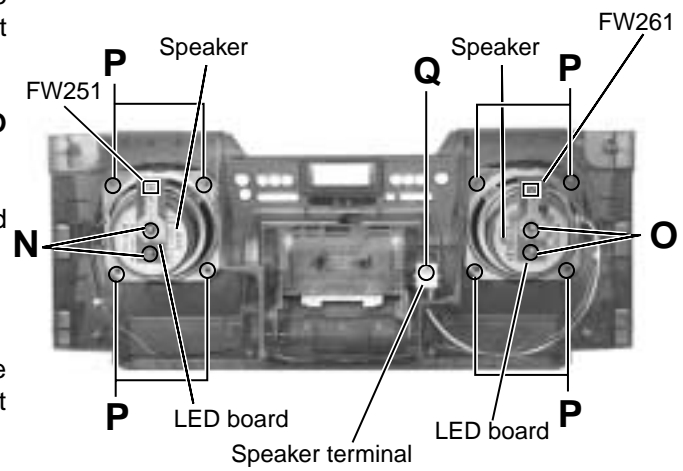


Fig.20

## &lt;&lt;Cassette mechanism section&gt;&gt;

### ■ Removing the playback/recording & eraser head ( See Figs. 1 and 2 )

1. While shifting the trigger arms seen on the right side of the head mount in the arrow direction, turn the flywheel R in counterclockwise direction until the head mount has gone out with a click (See Fig. 1).
2. When the flywheel R is rotated in counterclockwise direction, the playback/recording & eraser head will be turned in counterclockwise direction from the position in Fig. 2 to that in Fig. 3.
3. At this position, disconnect the flexible P.C. board (outgoing from the playback/recording & eraser head) from the connector CN31 on the head amplifier & mechanism control P.C. board.
4. After dismantling the FPC holder, remove the flexible P.C. board.
5. Remove the flexible P.C. board from the chassis base.
6. Remove the spring **a** from behind the playback/recording & eraser head.
7. Loosen the reversing azimuth screw retaining the playback /recording & eraser head.
8. Take out the playback/recording & eraser head from the front of the head mount.
9. The playback/recoring & eraser head should also be removed similarly according to Steps 1 ~ 8 above.

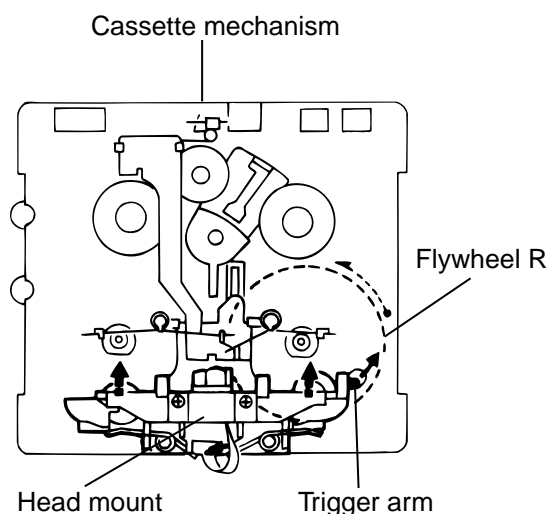


Fig. 1

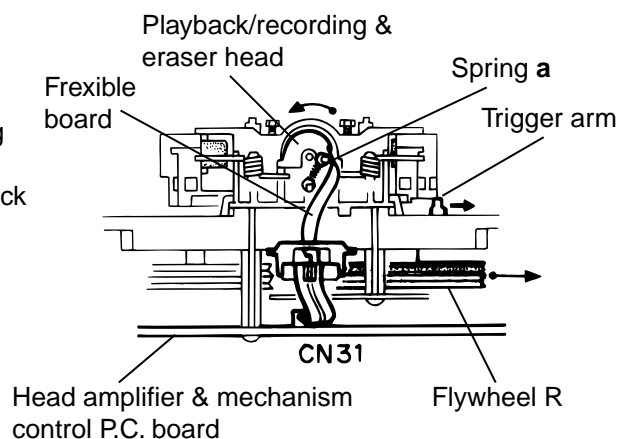


Fig. 2

### ■ Reassembling the playback/recording & eraser head

1. Reassemble the playback head from the front of the head mount to the position as shown in Fig. 3.
2. Fix the reversing azimuth screw.
3. Set the spring **a** from behind the Playback/Recording & Eraser head.
4. Attach the flexible P.C. board to the chassis base, and fix it with the FPC holder as shown in Fig. 3.
5. The playback/recording & eraser head should also be reassembled similarly to Step 1 ~ 4 above.

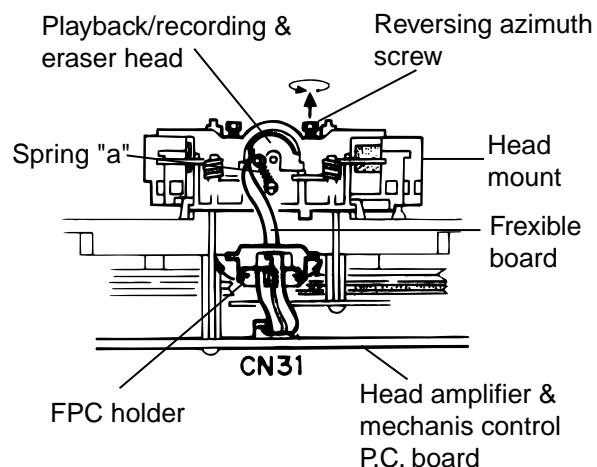
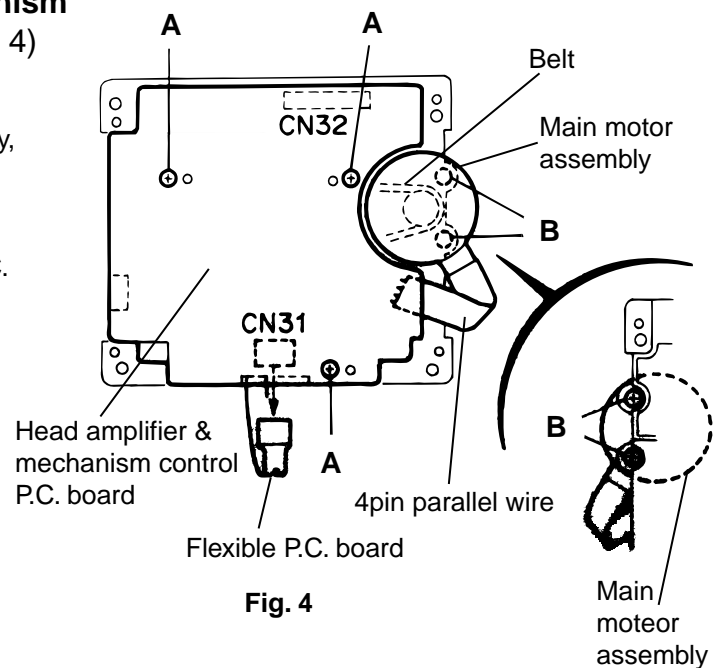


Fig. 3

## ■ Removing the head amplifier & mechanism control P.C. board (See Fig. 4)

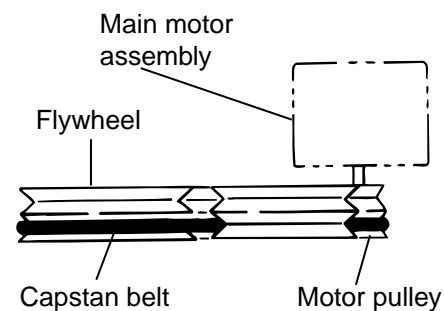
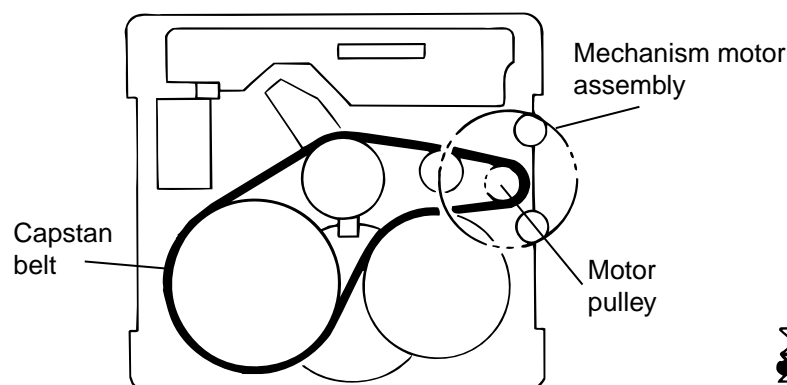
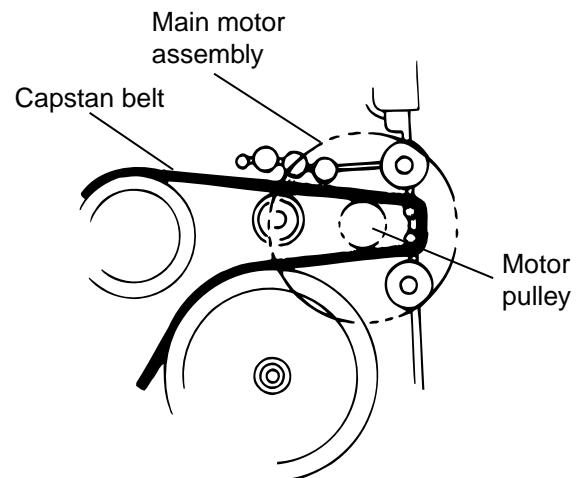
1. Remove the cassette mechanism assembly.
2. After turning over the cassette mechanism assembly, remove the three screws **A** retaining the head amplifier & mechanism control P.C. board.
3. Disconnect the connector CN32 on the P.C. board including the connector CN 1 on the reel pulse P.C. board.
4. When necessary, remove the 4 pin parallel wire soldered to the main motor.



## ■ Removing the main motor assembly (See Fig. 4~6)

1. Remove the two screws **B** retaining the main motor assembly (See Fig. 4, 4a).
2. While raising the main motor, remove the capstan belt from the motor pulley (See Fig. 4a).

**Caution 1:** Be sure to handle the capstan belt so carefully that this belt will not be stained by grease and other foreign matter. Moreover, this belt should be hung while referring to the capstan belt hanging method in Fig. 5, 6.



## ■ Removing the flywheel

(See Figs. 7 and 8)

1. Remove the head amplifier & mechanism control P.C. board.
2. Remove the main motor assembly.
3. After turning over the cassette mechanism, remove the slit washers **b** and **c** fixing the capstan shafts R and L, and pull out the flywheel R and L respectively from behind the cassette mechanism.

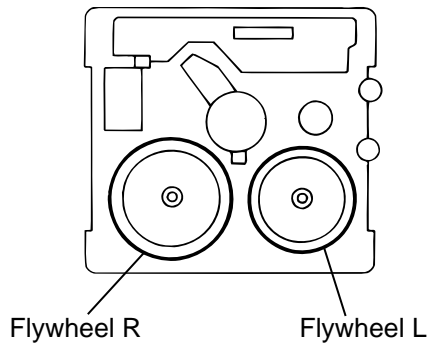


Fig. 8

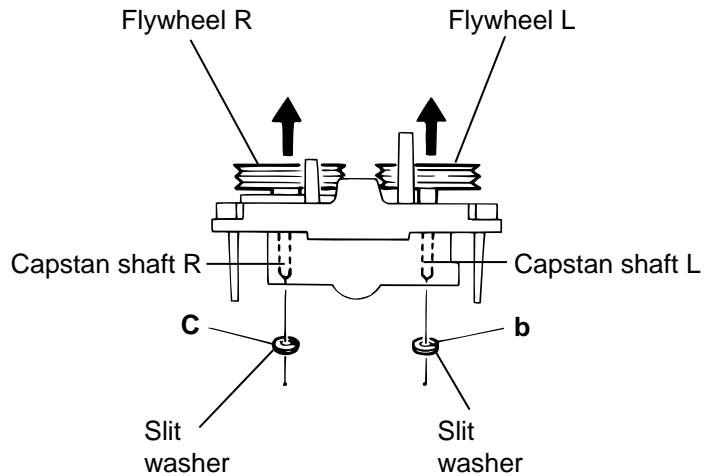


Fig.7

## ■ Removing the reel pulse P.C. board and solenoid

(See Fig. 9)

1. Remove the five pawls **d-h** and screw **C** retaining the reel pulse P.C. board.
2. From the surface of the reel pulse P.C. board parts, remove the two pawls **i** and **j** retaining the solenoid.

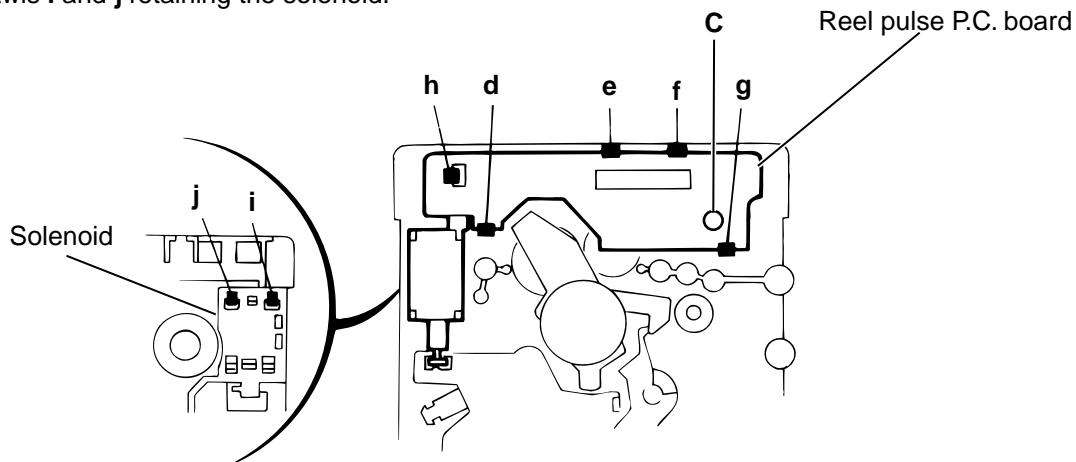


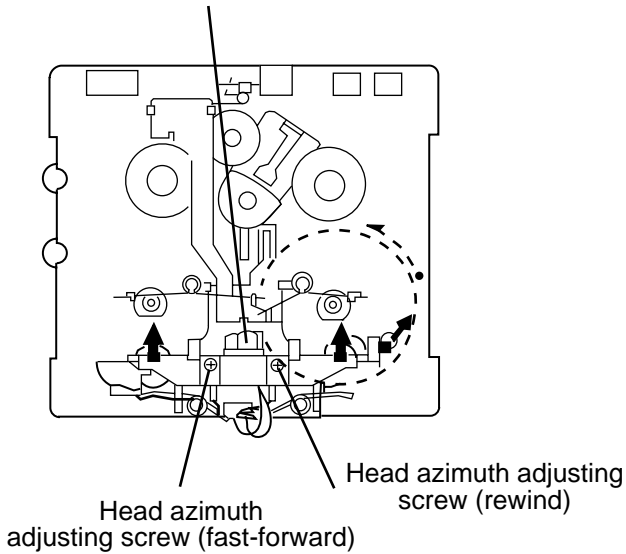
Fig. 9



**Location of parts to be adjusted**

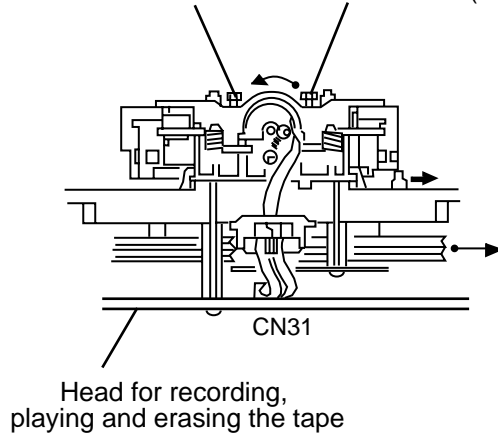
**■ Cassette handling mechanism**

Head for recording, playing and erasing the tape

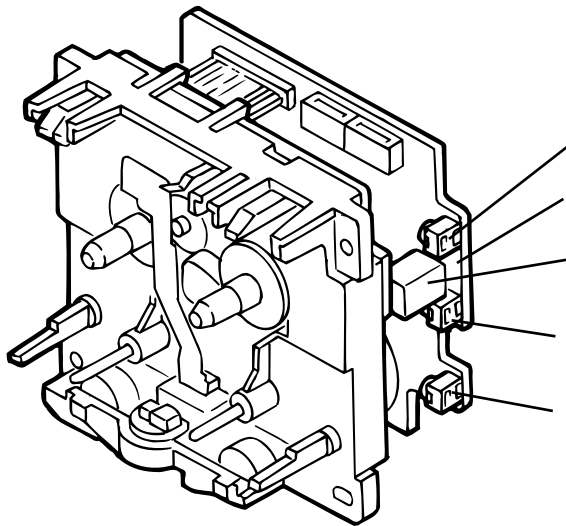


**■ Cassette handling mechanism (reverse side)**

Head azimuth adjusting screw (fast-forward)      Head azimuth adjusting screw (rewind)



**■ Location of parts to be adjusted**



- VR37  
Motor speed
- TP  
Bias oscillation frequency (wide pattern)
- L301  
Bias oscillation frequency
- VR31  
Lch recording frequency (bias adjustment)
- VR32  
Rch recording frequency (bias adjustment)



## ■ Adjustment of cassette handling mechanism

Items	Condition	Method for adjustment and confirmation	Standard value	Parts to be adjusted
Confirmation of head angle	Test tape: VT-703 (10 kHz) Measuring output terminal: Speaker terminal, speaker (R) (Load resistance: $4\Omega$ ), headphone terminal	(1) Play back the VT-703 test tape. (2) Adjust the head azimuth screws so that the tape playback mechanism records the maximum output level in both the fast-forward and rewind direction. (3) In all cases, both the fast-forward and rewind direction should be adjusted using head azimuth screws.	Maximum output	Adjust the head azimuth screws when changing the head.
Confirmation of tape speed	Test tape: VT-712 (3 kHz) Measuring output terminal: Headphone terminal	Adjust VR37 so that the frequency counter records $3,015\text{ Hz} \pm 15\text{ Hz}$ when playing back the end of the VT-712 test tape (3 kHz) in the fast-forward direction.	Tape speed of cassette deck: $3,015\text{ Hz} \pm 15\text{ Hz}$	VR37

## ■ Items to be confirmed and standard values

Items	Condition	Method for adjustment and confirmation	Standard value	Parts to be adjusted
Difference in speed between fast-forward and rewind	Test tape: VT-712 (3 kHz) Measuring output terminal: Speaker terminal, speaker (R) (Load resistance: $4\Omega$ ), headphone terminal	The difference between fast-forward and rewind should be less than 60 Hz on the frequency counter when playing back the beginning of the VT-712 test tape (3 kHz) in both directions.	Less than 60 Hz	Should be confirmed when changing the motor.
Wow and flutter	Test tape: VT-712 (3 kHz) Measuring output terminal: Headphone terminal	Wow and flutter should be recorded at less than 0.25% (WRMS) when playing back the VT-712 test tape (3 kHz) in the fast-forward direction.	Less than 0.25% (WRMS)	

## ■ Electronic performance

Items	Condition	Method for adjustment and confirmation	Standard value	Parts to be adjusted
Confirmation of output	Measuring output terminal: CN34-5 or 7-terminal preamp base Test tape: VT-724	Confirm that the output from the CN34-5 or 7-terminal preamp base connector is $-25\text{ dBs} \pm 3\text{ dB}$ when playing back the VT-724 test tape. Reference value: The output from the headphone terminal is $-7\text{ dB} \pm 4\text{ dB}$ .	Output of CN34-5 terminal: $-25\text{ dBs} \pm 3\text{ dB}$ Difference between Lch and Rch: within 3 dB	
Confirmation of reproduction of frequency characteristics	Measuring output terminal: Headphone terminal Test tape: VT-739	Confirm that the 10 kHz reproduction level is $-1\text{ dB} \pm 5\text{ dB}$ compared to the 1 kHz reproduction level when playing back the VT-739 test tape.	Difference between 10 kHz and 1 kHz should be $-1\text{ dB} \pm 5\text{ dB}$ .	
Recording bias frequency	Fast-forward or rewind direction: Test tape: TYPE II (AC-514) Measuring terminal: Bias TP on the base	Switch the bias (beat cut switch) between 1 and 2 to confirm that the frequency changes. Load the test tape (AC-514 for TYPE II) into the mechanism and preset it to the record-pause mode. Confirm that the bias TP frequency on the base is $100\text{ kHz} \pm 6\text{ kHz}$ .	$100\text{ kHz} \pm 6\text{ kHz}$	

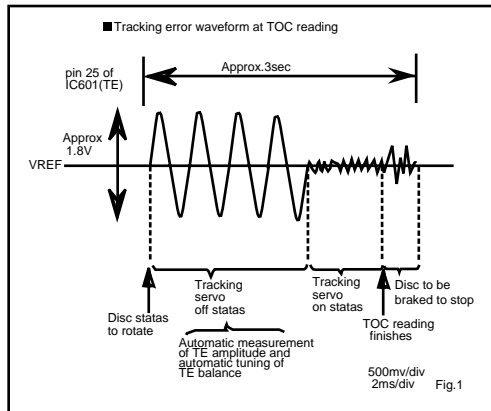
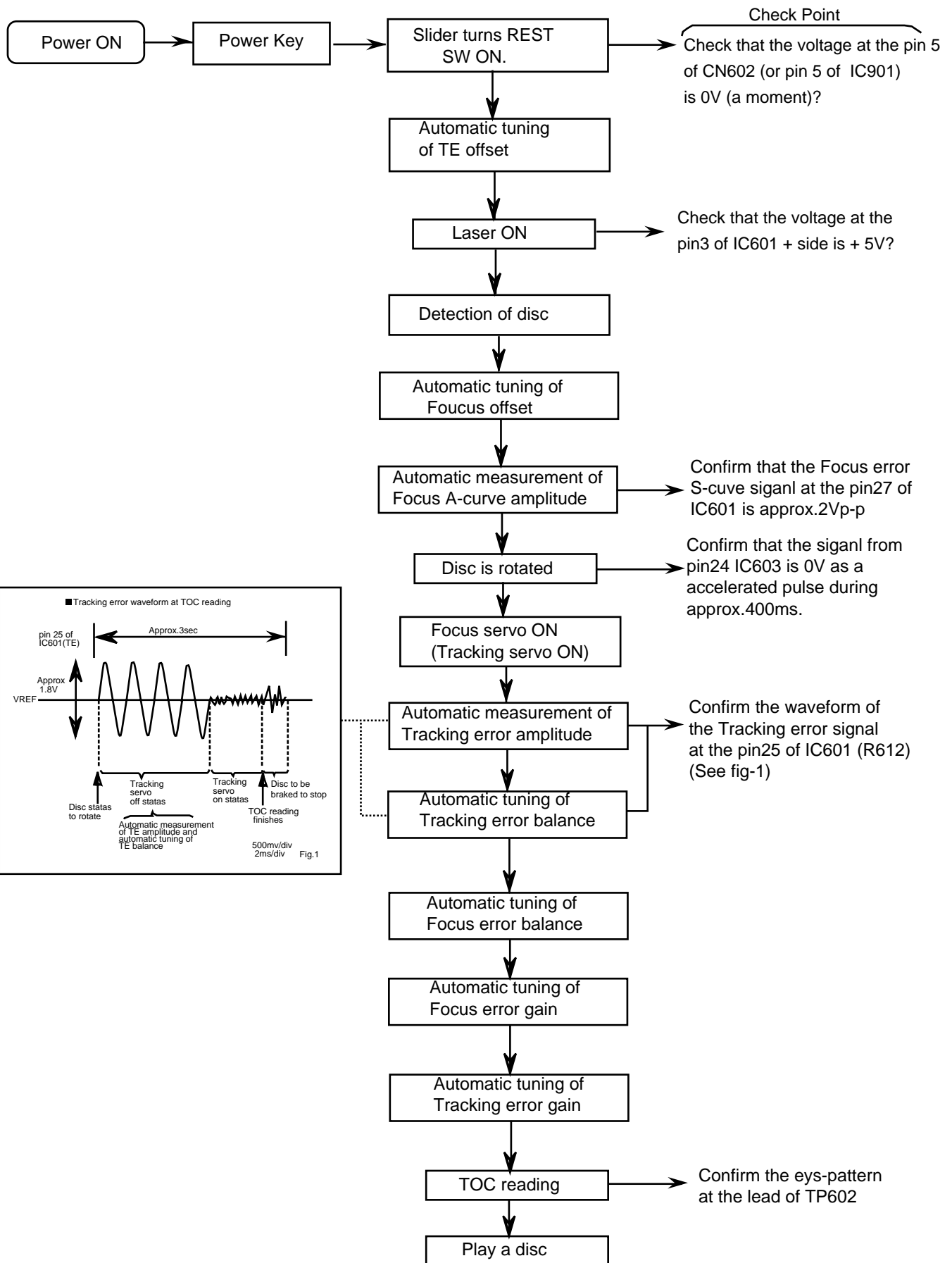
## ■ Standard values for confirmation of electronic performance

Items	Condition	Method for adjustment and confirmation	Standard value	Parts to be adjusted
Erasing current (standard and reference value)	Fast-forward and rewind direction: <ul style="list-style-type: none"> <li>▪ Recording mode</li> <li>▪ AC-514 for TYPE II, AC-225 for TYPE I</li> </ul> Measuring terminal: Both erase head terminals	Load the test tape (AC-514 for TYPE II, AC-225 for TYPE I) into the tape playback mechanism and preset it to the record-pause mode. After setting it to the recording mode, send 1 M in series to the erase head and measure the erasing current from both erase head terminals.	TYPE II: 110 mA TYPE I: 75 mA	
Adjustment of reproduction of frequency characteristics	Standard frequencies: 1 kHz and 10 kHz (REF: -20 dB) Test tape: TYPE II: AC-514 Measuring input terminal: OSC IN	Load the test tape (AC-514 for TYPE II, AC-225 for TYPE I) into the tape playback mechanism and preset it to the record-pause mode. Input the standard value of -20 dB and the standard frequencies of 1 kHz and 10 kHz repeatedly to the microphone input from the transmitter in the recording mode. Adjust VR31 for Lch and VR32 for Rch so that the difference in level between 10 kHz and 1 kHz is -1 dB $\pm$ 5 dB. Repeat the above for TYPE I and confirm that the difference in level is -XdB $\pm$ dB.	Difference in output between 1 kHz and 10 kHz: -1 dB $\pm$ 5 dB	Lch: VR31 Rch: VR32

### (U version only)

Sensitivity of reproduction of microphone mixing	Microphone input terminal: 1 kHz, -65 dB Test tape: VT-724	Based on the reproduction level of the VT-724 test tape, confirm that the microphone level is 0 dBs $\pm$ 3 dB when a 1 kHz, 65 dBs signal is input. (The mixing volume and sound volume should be at maximum.)	0 dBs $\pm$ 3 dB (Based on the reproduction level of the VT-724)	
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# Flow of functional operation until TOC read



## Maintenance of laser pickup

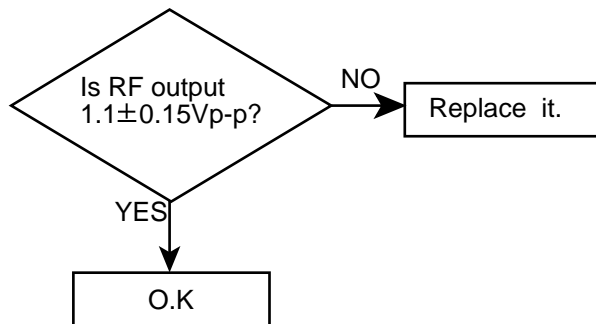
### (1) Cleaning the pick up lens

Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

### (2) Life of the laser diode (Fig.1)

When the life of the laser diode has expired, the following symptoms will appear.

- (1) The level of RF output (EFM output: amplitude of eye pattern) will below.



(Fig.1)

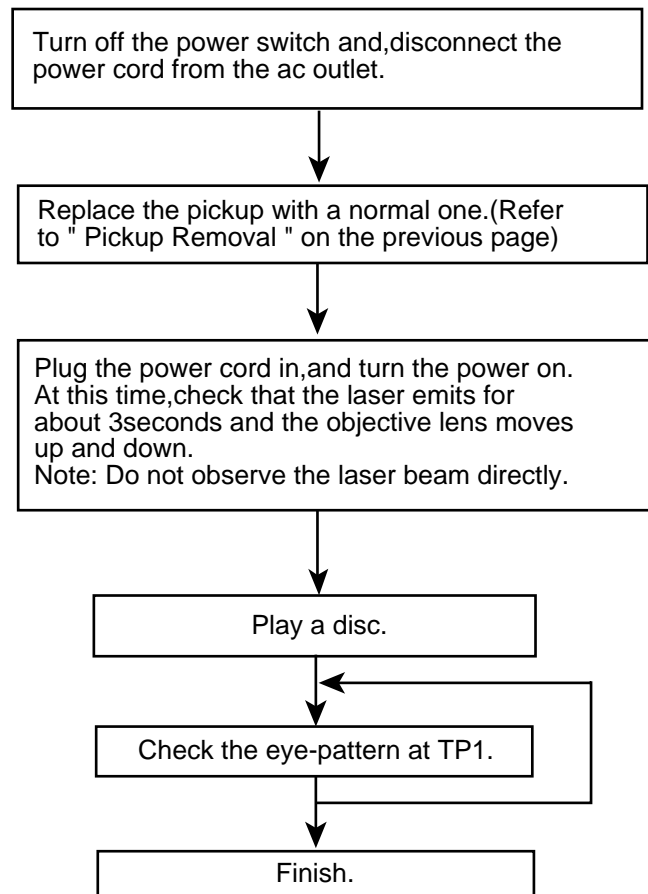
### (3) Semi-fixed resistor on the APC PC board

The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.

If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.

If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

## Replacement of laser pickup



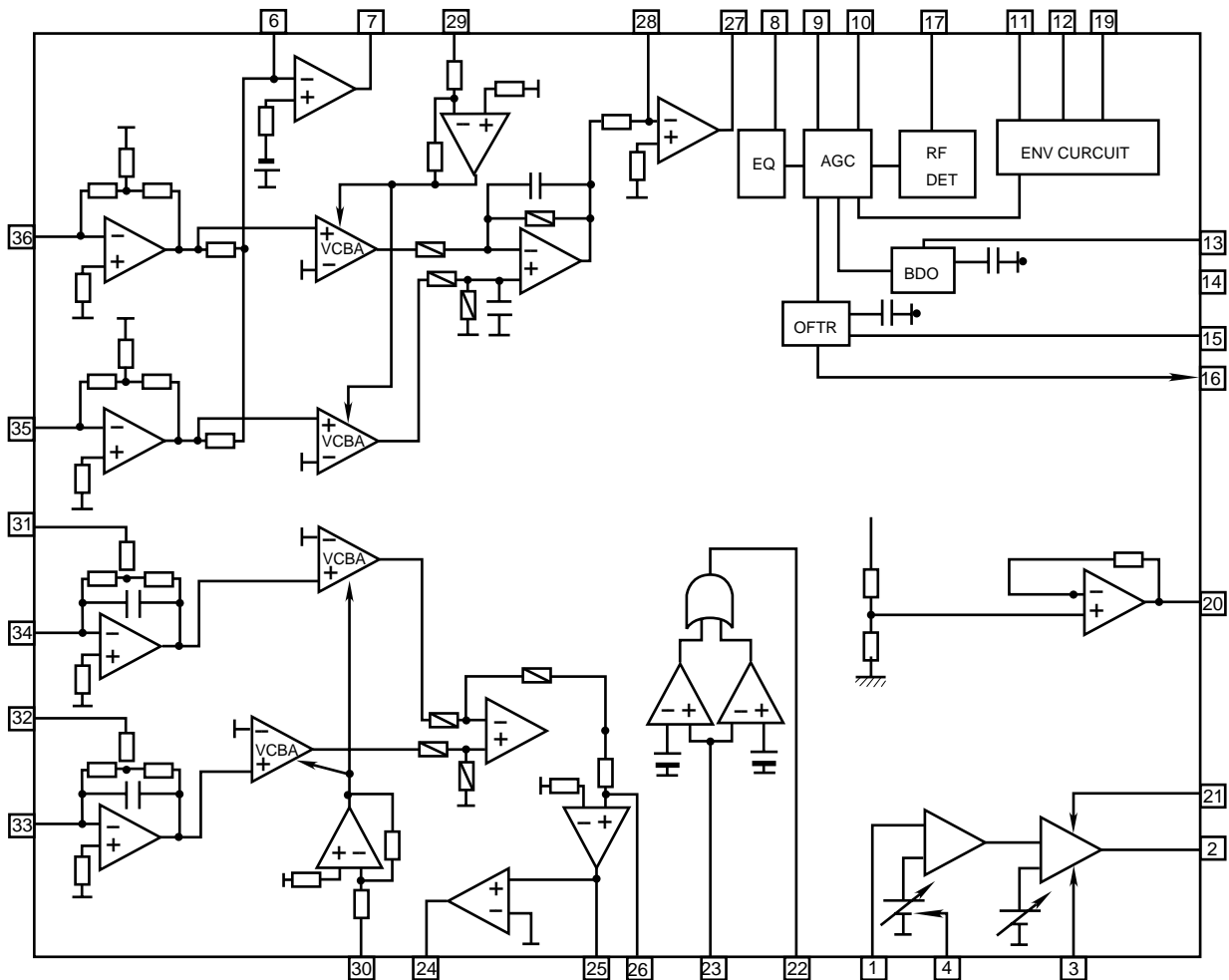
# Description of major ICs

## ■ AN8806SB (IC601) : RF&Servo AMP

### 1. Terminal Layout

PD	1	36	PDAC
LD	2	35	PDBD
LDON	3	34	PDF
LDP	4	33	PDE
VCC	5	32	PDER
RF-	6	31	PDFR
RF OUT	7	30	TBAL
RF IN	8	29	FBAL
C.AGC	9	28	EF-
ARF	10	27	EF OUT
C.ENV	11	26	TE-
C.EA	12	25	TE OUT
CS BDO	13	24	CROSS
BDO	14	23	TE BPF
CS BRT	15	22	VDET
OFTR	16	21	LD OFF
/NRFDET	17	20	VREF
GND	18	19	ENV

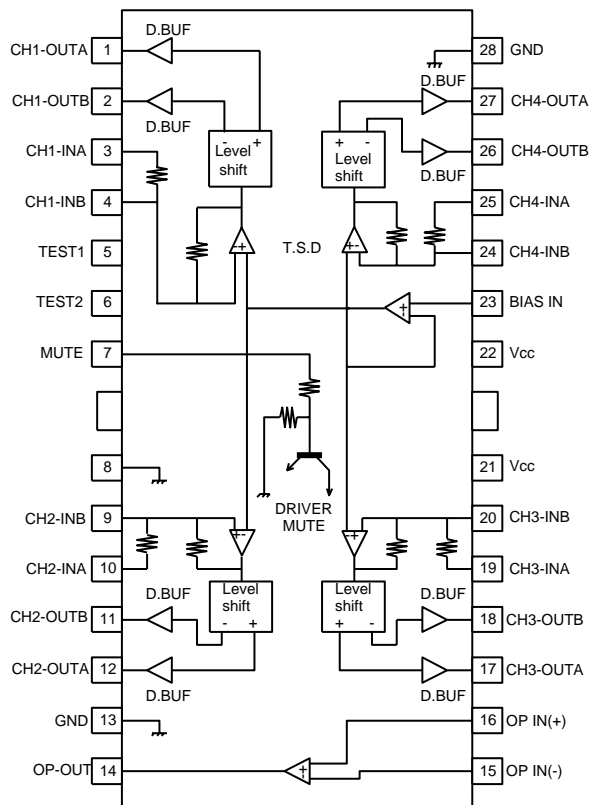
### 2. Block Diagram



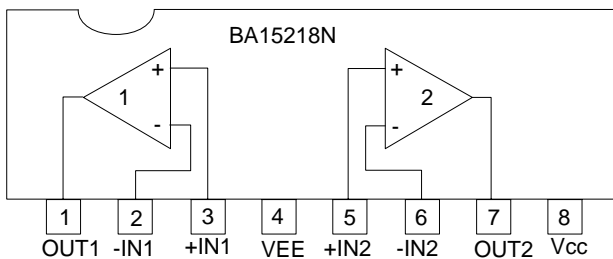
## 3. Functions

Pin No.	Symbol	I/O	Functions and operations
1	PD	I	APC amp input terminal
2	LD	O	APC amp output terminal
3	LD ON	I	APC ON/OFF control terminal
4	LDP	--	Connect to ground
5	VCC	--	Power supply
6	RF-	I	Inverse input pin for RF amp
7	RF OUT	O	RFamp output
8	RF IN	I	RF input
9	C.AGC	I/O	Connecting pin of AGC loop filter
10	ARF	O	RF output
11	C.ENV	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
12	C.EA	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
13	CS BDO	I/O	A capacitor is connected to detect the lower envelope of RF signal
14	BDO	O	BDO output pin
15	CS BRT	I/O	A capacitor is connected to detect the lower envelope of RF signal
16	OFTR	O	Of-track status signal output
17	/NRFDET	O	RF detection signal output
18	GND	--	Ground
19	ENV	O	Envelope output
20	VREF	O	Reference voltage output
21	LD OFF	--	Connect to ground
22	VDET	O	Vibration detection signal output
23	TE BPF	I	Input pin of tracking error through BPF
24	CROSS	O	Tracking error cross output
25	TE OUT	O	Tracking error signal output
26	TE-	I	Inverse input pin for tracking error amp
27	FE OUT	O	Output pin of focus error
28	FE-	I	Inverse input pin for focus error amp
29	FBAL	I	Focus balance control
30	TBAL	I	Tracking balance control
31	PDFR	I/O	F I-V amp gain control
32	PDER	I/O	E I-V amp gain control
33	PDF	I	I-V amp input
34	PDE	I	I-V amp input
35	PD BD	I	I-V amp input
36	PD AC	I	I-V amp input

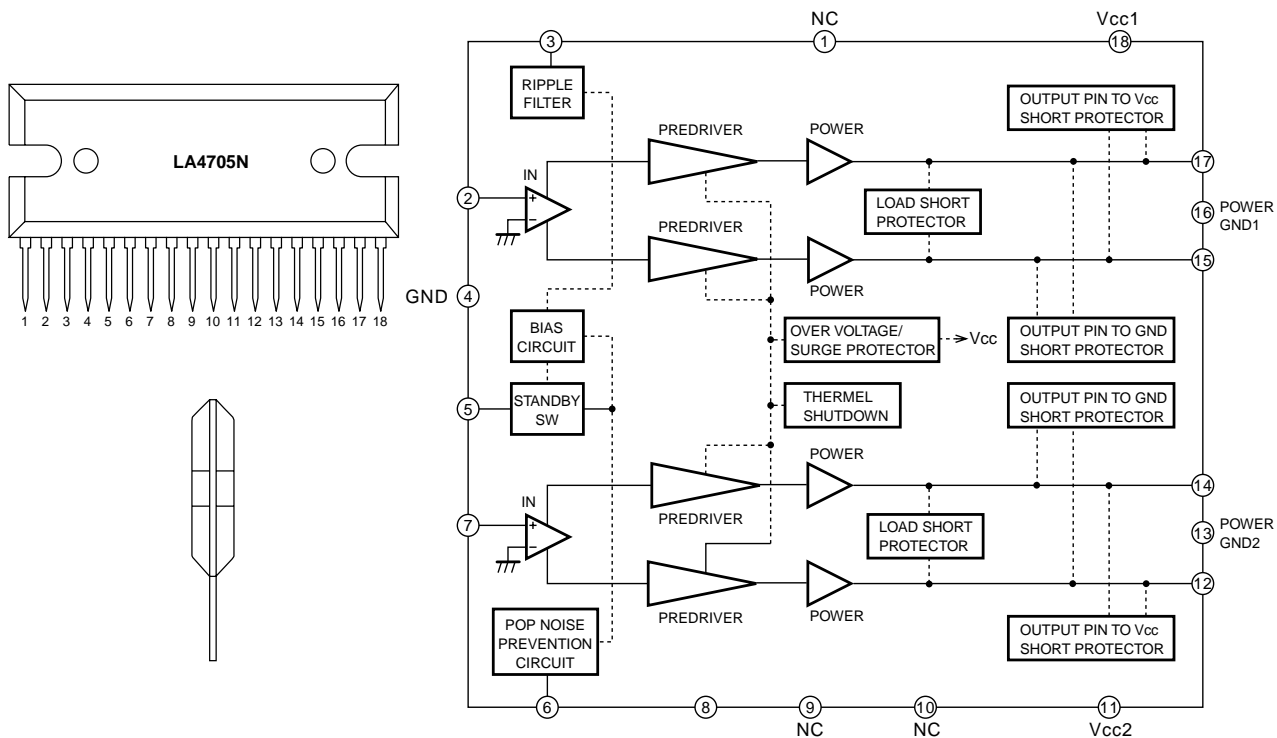
**BA6897FP-W (IC602)**  
: 4channel driver



**BA15218N (IC801/IC831)**  
: Dual op amplifier

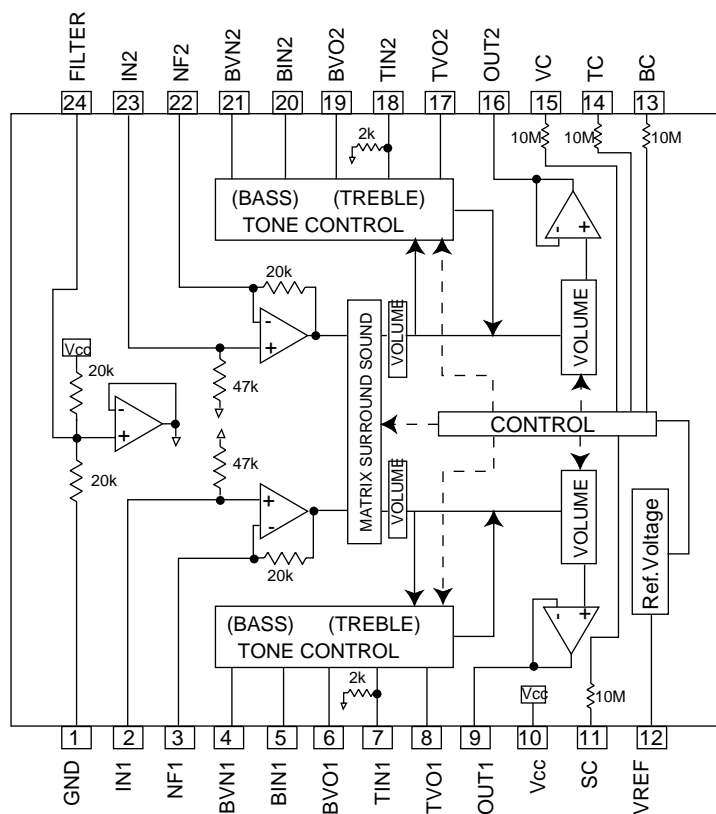


**LA4705NA (IC631) : power amplifier**



## ■ BH3852S (IC501) : E.Volume

### 1. Block diagram



### 2. Pin function

Pin No.	Pin name	I/O	Function	Pin No.	Pin name	I/O	Function
1	GND	-	Grand terminal	13	BASS	I	Terminal for bass control
2	IN1	I	Terminal for 1ch volume input	14	TRE	I	Terminal for treble control
3	NF1	I	Terminal for gain adjustment of input step amp.	15	VOL	I	Terminal for volume control
4~6	BASS1	-	Terminal for connection of 1ch low-frequency filter	16	OUT2	O	Terminal for 2ch volume output
7.8	TRE1	-	Terminal for connection of 1ch High frequency filter	17.18	TRE2	-	Terminal for connection of 2ch high-frequency filter
9	OUT1	O	Terminal for 1ch volume output	19~21	BASS2	-	Terminal for connection of 2ch low-frequency filter
10	VCC	-	Terminal for power supply	22	NF2	I	Terminal for gain adjustment of input step amp.
11	LIVE	-	Terminal for surround control	23	IN2	I	Terminal for 2ch volume output
12	VREF	O	Terminal for reference voltage output	24	VSET	-	Terminal for filter

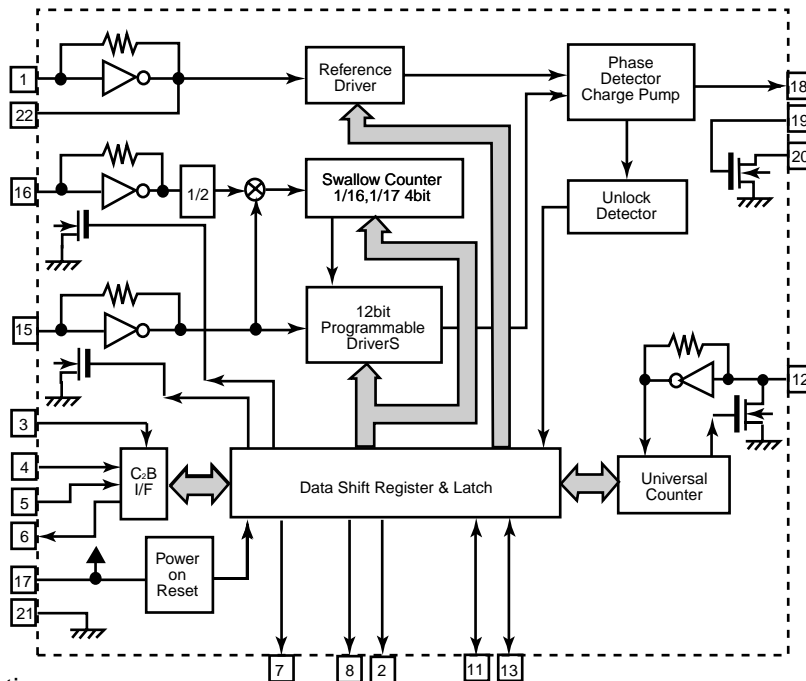


## ■ LC72136N(IC2):PLL Frequency synthesizer

### 1. Layout

XT	1	22	XT
FM/AM	2	21	GND
CE	3	20	LPFOUT
DI	4	19	LPFIN
CLOCK	5	18	PD
DO	6	17	VCC
FM/ST/VCO	7	16	FMIN
AM/FM	8	15	AMIN
	9	14	
	10	13	IFCONT
SDIN	11	12	IFIN

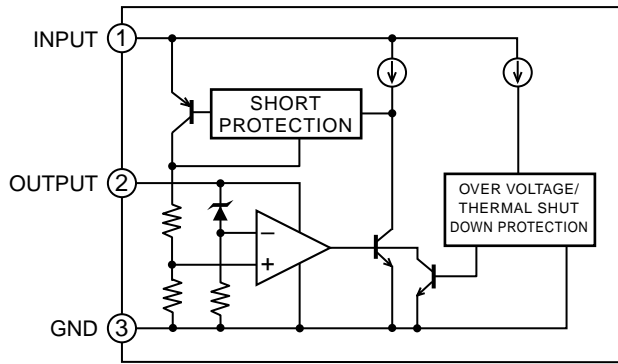
### 2. Block



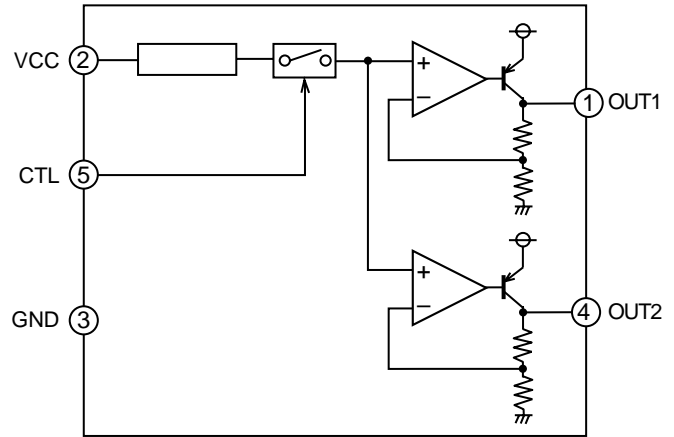
### 3. Function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XT	I	X'tal oscillator connect (75kHz)	12	IFIN	I	IF counter signal input
2	FM/AM	O	LOW:FM mode	13	IFCONT	O	IF signal output
3	CE	I	When data output/input for 4pin(input) and 6pin(output): H	14	-	-	Not use
4	DI	I	Input for receive the sirisl data from controller	15	AMIN	I	AM Local OSC signal output
5	CLOCK	I	Sync signal input use	16	FMIN	I	FM Local OSC signal input
6	DO	O	Data output for Controller Output port	17	VCC	-	Power supply(VDD=4.5-5.5V) When power ON:Reset circuit move
7	FM/ST/VCO	O	"Low": MW mode	18	PD	O	PLL charge pump output(H: Local OSC frequency Height than Reference frequency. L: Low Agreement: Height impedance)
8	AM/FM	O	Not use	19	LPFIN	I	Input for active lowpassfilter of PLL
9		-	Not use	20	LPFOUT	O	Output for active lowpassfilter of PLL
10		-	Input/output port	21	GND	-	Connected to GND
11	SDIN	I/O	Data input/output	22	XT	I	X'tal oscillator(75KHz)

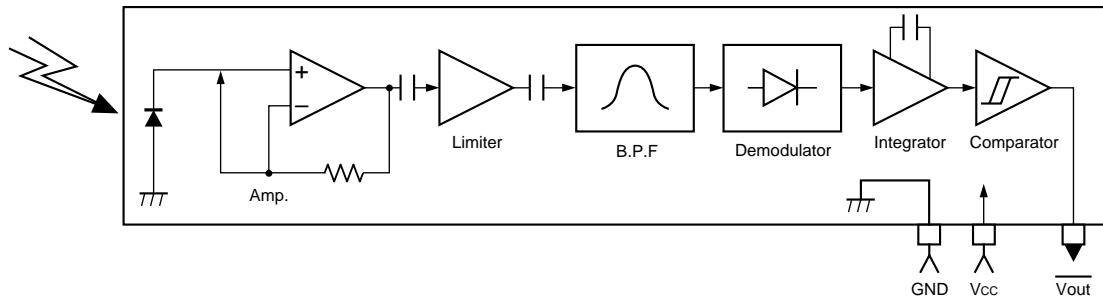
■ TA78DL06S(IC390) : Regulator



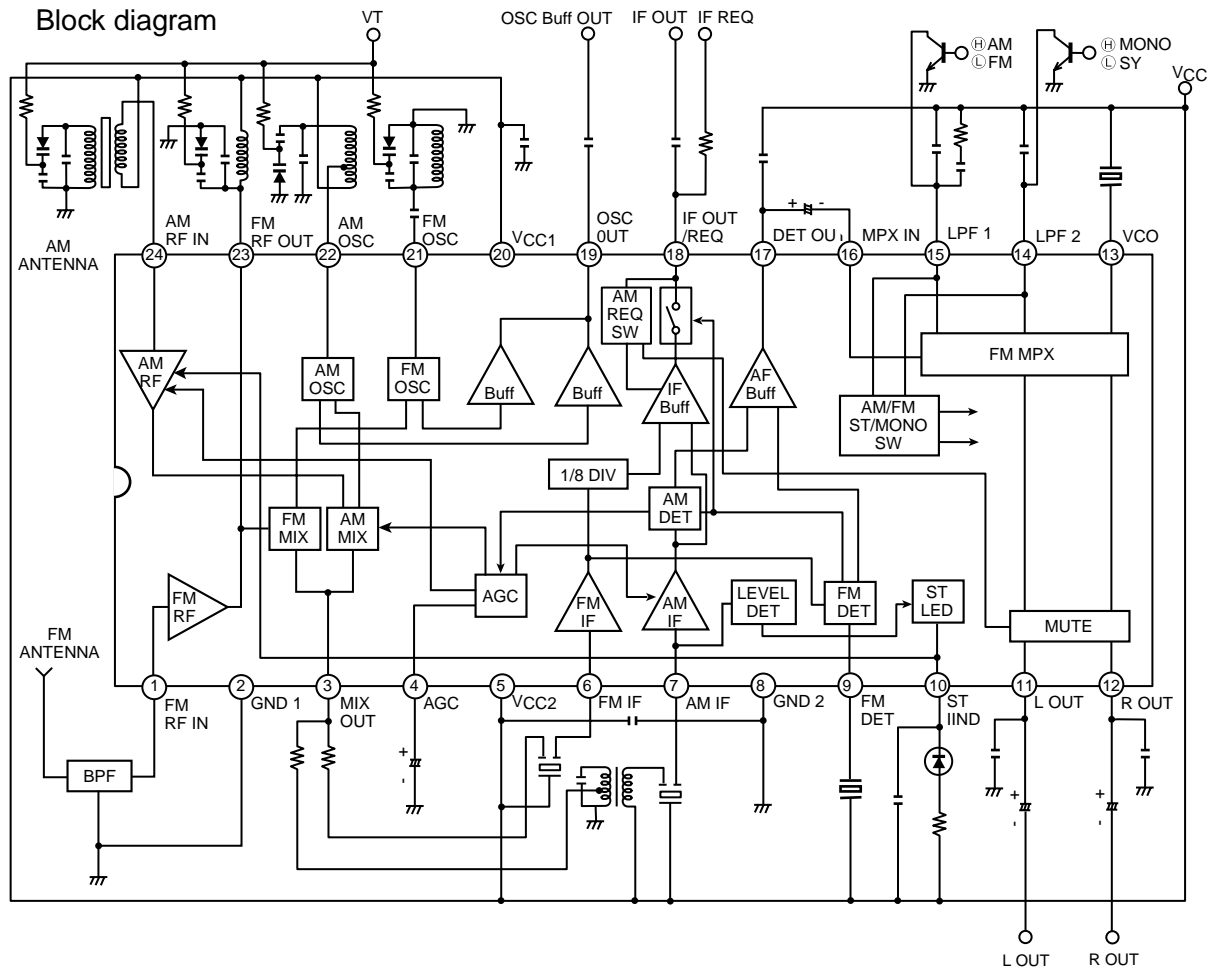
■ BA44W12ST-V5/Z1(IC310):Regulator



■ GP1U281X(IC903) : Remocon sensor

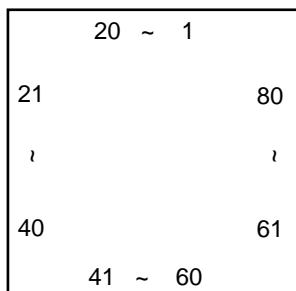


■ TA2008AN (IC 1): FM/AM,IF/DET

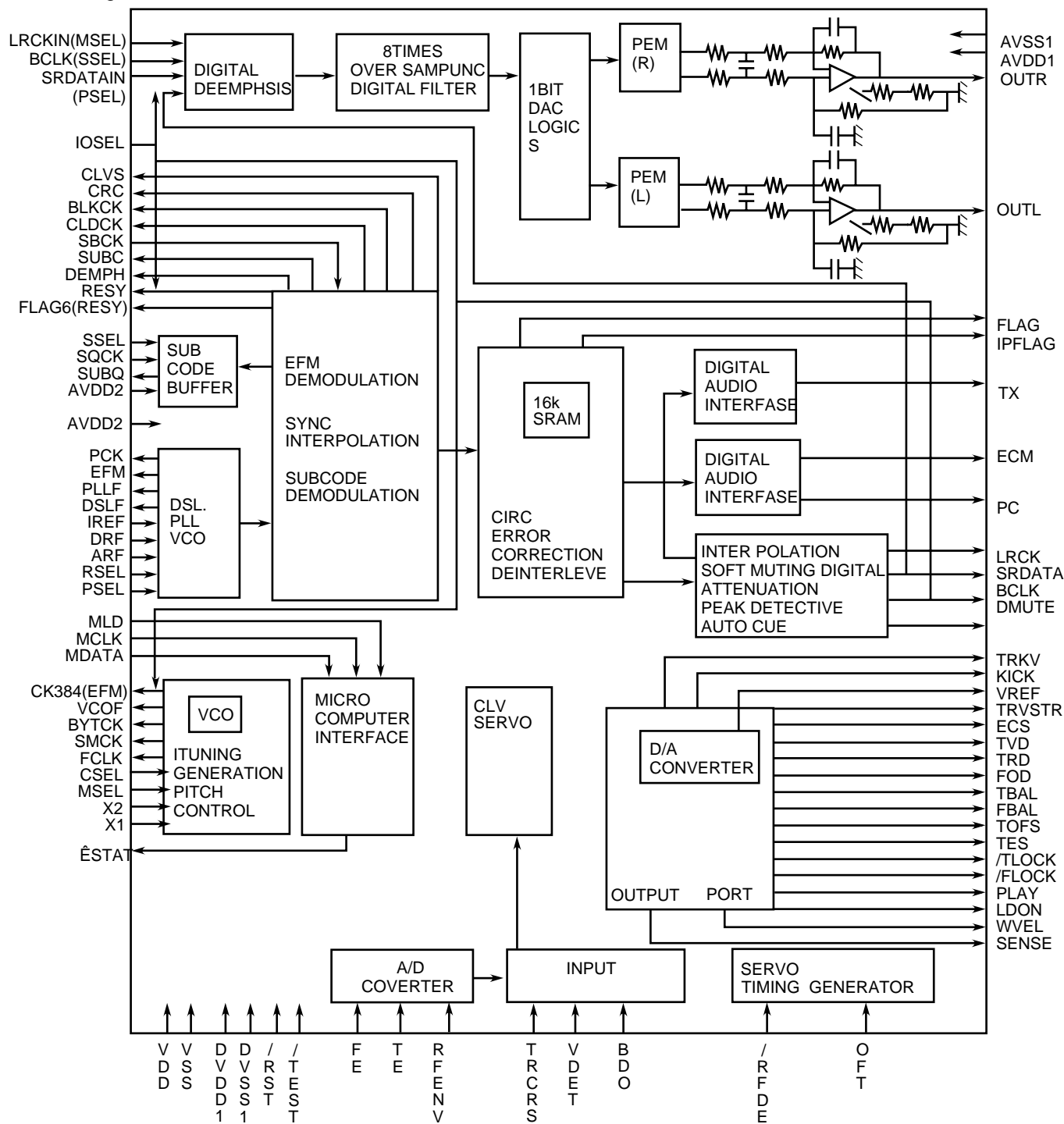


# MN35510(IC603):DIGITAL SERVO&DIGITAL SIGNAL PROCESSER

## 1. Terminal Layout

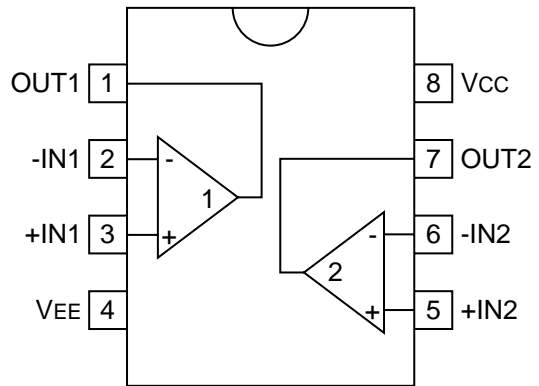


## 2. Block Diagram



## 3. Description

Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	BCLK	O	Not used	41	TES	O	Tracking error shunt signal output(H:shunt)
2	LRCK	O	Not used	42	PLAY	—	Not used
3	SRDATA	O	Not used	43	WVEL	—	Not used
4	DVDD1	—	Power supply (Digital)	44	ARF	I	RF signal input
5	DVSS1	—	Connected to GND	45	IREF	I	Reference current input pin
6	TX	O	Digital audio interface output	46	DRF	I	Bias pin for DSL
7	MCLK	I	Micom command clock signal input (Data is latched at signal's rising point)	47	DSLIF	I/O	Loop filter pin for DSL
8	MDATA	I	Micom command data input	48	PLLIF	I/O	Loop filter pin for PLL
9	MLD	I	Micom command load signal input	49	VCOF	—	Not used
10	SENSE	O	Sence signal output	50	AVDD2	—	Power supply(Analog)
11	FLOCK	O	Focus lock signal output Active :Low	51	AVSS2	—	Connected to GND(Analog)
12	TLOCK	O	Tracking lock signal output Active :Low	52	EFM	—	Not used
13	BLKCK	O	sub-code - block - clock signal output	53	PCK	—	Not used
14	SQCK	I	Outside clock for sub-code Q resister input	54	PDO	—	Not used
15	SUBQ	O	Sub-code Q -code output	55	SUBC	—	Not used
16	DMUTE	—	Connected to GND	56	SBCK	—	Not used
17	STATUS	O	Status signal (CRC,CUE,CLVS,TTSTOP,ECLV,SQOK)	57	VSS	—	Connected to GND(for X'tal oscillation circuit)
18	RST	I	Reset signal input (L:Reset)	58	XI	I	Input of 16.9344MHz X'tal oscillation circuit
19	SMCK	—	Not used	59	X2	O	Output of X'tal oscillation circuit
20	PMCK	—	Not used	60	VDD	—	Power supply(for X'tal cscillation circuit)
21	TRV	O	Traverse enforced output	61	BYTCK	—	Not used
22	TVD	O	Traverse drive output	62	CLDCK	—	Not used
23	PC	—	Not used	63	FLAG	—	Not used
24	ECM	O	Spindle motor drive signal (Enforced mode output) 3-State	64	IPPLAG	—	Not used
25	ECS	O	Spindle motor drive signal (Servo error signal output)	65	FLAG	—	Not used
26	KICK	O	Kick pulse output	66	CLVS	—	Not used
27	TRD	O	Tracking drive output	67	CRC	—	Not used
28	FOD	O	Focus drive output	68	DEMPH		Not used
29	VREF	I	Reference voltage input pin for D/A output block (TVD,FOD,FBA, TBAL)	69	RESY	—	Not used
30	FBAL	O	Focus Balance adjust signal output	70	IOSEL	—	pull up
31	TBAL	O	Tracking Balance adjust signal output	71	TEST	—	pull up
32	FE	I	Focus error signal input(Analog input)	72	AVDD1	—	Power supply(Digital)
33	TE	I	Tracking error signal input(Analog input)	73	OUT L	O	Lch audio output
34	RF ENV	I	RF envelope signal input(Analog input)	74	AVSS1	—	Connected to GND
35	VDET	I	Vibration detect signal input(H:detect)	75	OUT R	O	Rch audio output
36	OFT	I	Off track signal input(H:off track)	76	RSEL	—	pull up
37	TRCRS	I	Track cross signal input	77	CSEL	—	Connected to GND
38	RFDET	I	RF detect signal input(L:detect)	78	PSEL	—	Connected to GND
39	BDO	I	BDO input pin(L:detect)	79	MSEL	—	Connected to GND
40	LDON	O	Laser ON signal output(H:on)	80	SSEL	—	Pull up

**■ BA15218F-XE(IC401/751):OP AMP.**

**JVC**

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