JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

EX-AK2DB

WOOD CONE

DVD AUDIO /VIDEO™

DOLBY DIGITAL

dts™ 2.0+Digital Out

DAB
Digital Audio Broadcasting
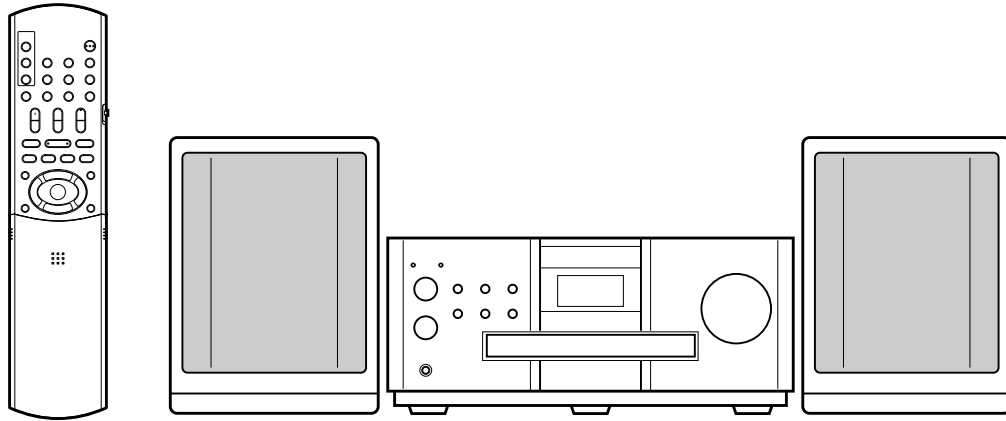
Hybrid Feedback
Digital Amplifier

COMPACT disc SUPER VIDEO

K2 TECHNOLOGY

Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)
Lead free solder used in the board (material : Sn-Cu, melting point : 230 Centigrade)

TABLE OF CONTENTS

SPECIFICATION

EX-AK2DB

General	
Power source	AC 230 V~, 50 Hz
Power consumption	24 W (in operation)
	0.9 W (on standby)
Mass	3.1kg
External dimensions (W × H × D)	232 mm × 100 mm × 269 mm
DVD player	
Playable discs/files	DVD VIDEO, DVD AUDIO, DVD,VR, VCD, Super VCD, CD, CD-R/RW
	(CD, VCD, MP3, WMA, WAV,JPEG, MPEG1, MPEG2 format),DVD-R/RW (video format)
Video output	
Color system	PAL
Horizontal resolution	500 lines
Audio output	
Analog sound output	Speakers × 2
Output power (IEC 268-3)	60 W (30 W + 30 W) at 4 C (1 kHz/10% THD)
Fitting impedance	4 Ω to 16Ω
Headphones	11 mW/32 Ω
Fitting impedance	16 Ω to 1 kΩ
Subwoofer	500 mVrms/10 kΩ
Digital sound output	
Optical	-21 dBm to -15 dBm
Audio input	
Sound input	AUX × 1
Level 1	250 mV/50 kΩ
Level 2	500 mV/50 kΩ
Tuner (Digital Audio Broadcasting)	
Band III tuner	Receiving Frequency: 5A (174.928) - 13F(239.200) MHz
L-Band tuner	Receiving Frequency: LA (1452.960) - LW(1490.624) MHz
Speaker	
Type	1-way bass-reflex type
	Magnetically shielded type
Speaker	8cm cone × 1
Power handling capacity	30 W
Impedance	4Ω
Sound pressure level	81 dB/W●m
Dimension (W × H × D)	120 mm × 161 mm × 239 mm
Mass (1 unit)	1.7 kg

Designs and Specifications are subject to change without notice.

SECTION 1
PRECAUTION

1.1 Safety Precautions

⚠ *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.**

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

1.2 Preventing 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.

1.2.1 Grounding to prevent damage by static electricity
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as laser products.
Be careful to use proper grounding in the area where repairs are being performed.
  (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) Ground yourself
      Use an anti-static wrist strap to release any static electricity built up in your body.

(caption)
Anti-static wrist strap

1MΩ

Conductive material
(conductive sheet) or iron plate
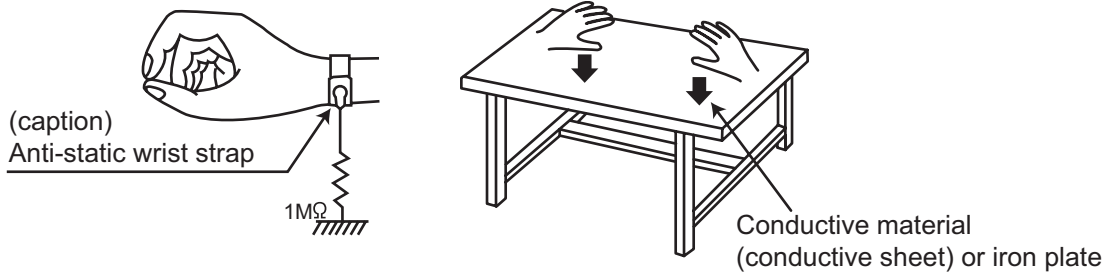
  (3) Handling the optical pickup
    • In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition.
      (Refer to the text.)
    • Do not use 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.

1.3 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.

1.4 Attention when traverse unit is decomposed

*Please refer to "Disassembly method" in the text for the pickup unit.
• Apply solder to the short land before the card wire is disconnected from the connector on the pickup unit.
  (If the card wire is disconnected without applying solder, the pickup may be destroyed by static electricity.)
• In the assembly, be sure to remove solder from the short land after connecting the card wire.

Solder short land section
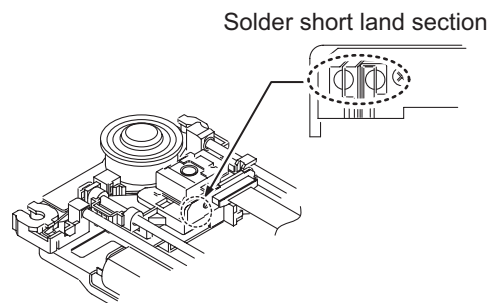
1.5 Important for laser products

1.CLASS 1 LASER PRODUCT

2.CAUTION :
(For U.S.A.) Visible and/or invisible class II laser radiation when open. Do not stare into beam.
(Others) Visible and/or invisible class 1M laser radiation when open. Do not view directly with optical instruments.

3.CAUTION : Visible and/or invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.

4.CAUTION : This laser product uses visible and/or invisible laser radiation 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 here in 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.

(For U.S.A.)
CAUTION : Visible and/or invisible class II laser radiation when open. Do not stare into beam.
(Others)
CAUTION : Visible and/or invisible class 1M laser radiation when open. Do not view directly with optical instruments

ACHTUNG: Sichtbare und/oder unsichtbare Laserstrahlung der Klasse 1M bei offenen Abdeckungen. Nicht direkt mit optischen Instrumenten betrachten.

ATTENTION: Rayonnement laser visible et/ou invisible de classe 1M une fois ouvert. Ne pas regarder directement avec des instruments optiques.

VOORZICHTIG: Zichtbare en/of onzichtbare klasse 1M laserstralen indien geopend. Bekijk niet direct met optische instrumenten.

ATTENZIONE: Radiazione laser in classe 1M visibile e/o invisibile quando aperto. Non osservare direttamente con strumenti ottici.

VARNING: Synlig och/eller osynlig laserstrålning, klass 1M, när denna del är öppnad. Betrakta ej strålen med optiska instrument.

VARO!: Avattaessa olet alttiina näkyvalle ja/tai näkymättömälle luokan 1M lasersateilylle. Älä tarkastele sitä optisen laitteen läpi.

ADVARSEL: Synlig og/eller usynlig klasse 1M-laserstråling ved åbning. Se ikke direkte med optiske instrumenter.

AVISO: Radiación láser de clase 1M visible y/o invisible cuando está abierto. No mirar directamente con instrumental óptico.

PRECAUÇÃO: Radiação laser de classe 1M visível e/ou invisível quando aberto. Não olhe directamente com instrumentos ópticos.

PRECAUÇÃO: Radiação laser de classe 1M visível e/ou invisível quando aberto. Não olhe diretamente com instrumentos óticos.

ПРЕДУПРЕЖДЕНИЕ: В открытом состоянии происходит видимое и/или невидимое излучение лазера класса 1M. Не смотрите непосредственно в оптические инструменты.

UWAGA: Otwarcie spowoduje narażenie na widzialne i/lub niewidzialne promieniowanie lasera klasy 1M. Nie patrzeć bezpośrednio w przyrządy optyczne.

UPOZORNĚNÍ: Při otevření vydává viditelné popř. neviditelné laserové ozáření třídy 1M. Nedívejte se do otvoru přímo s optickými nástroji.

FIGYELMEZTETÉS: Látható és/vagy láthatatlan 1M osztályú sugárzás nyitott állapotban. Ne nézze közvetlenül optikai műszerekkel.

注意：打開蓋板可能會產生可見或不可見的 1M 級鐳射。不要使用光學儀器直接進行窺視。

注意：打开盖板可能会产生可见或不可见的 1M 级镭射。不要使用光学仪器直接进行窥视。

تنبيه: يوجد إشعاع ليزري مرئي و/أوٍ غير مرئي من الفئة 1M عندما يكون الجهاز مفتوحا. جّنب النظر مباشرة داخل الجهاز باستخدام أدوات بصرية.

احتياط: هنگامی که باز گردد، تشعشع مرئی و یا نامرئی کلاس 1M لیزر وجود دارد. با لوازم چشمی مستقیماً به آن نگاه نکنید.

주의: 개방하면 가시 및/또는 비가시 클래스 1M 레이저 방사선이 나옵니다. 광학 기구로 직접 들여다보지 마십시오.

REPRODUCTION AND POSITION OF LABELS and PRINT
WARNING LABEL and PRINT

CAUTION	ATTENTION	AVISO	VARNING	注意	CAUTION
VISIBLE AND/OR INVISIBLE CLASS 1M LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. IEC60825-1:2001 (ENG)	RAYONNEMENT LASER VISIBLE ET/OU INVISIBLE DE CLASSE 1M UNE FOIS OUVERT. NE PAS REGARDER DIRECTEMENT AVEC DES INSTRUMENTS OPTIQUES. (FRA)	RADIACIÓN LÁSER DE CLASE 1M VISIBLE Y/O INVISIBLE CUANDO ESTÁ ABIERTO. NO MIRAR DIRECTAMENTE CON INSTRUMENTAL OPTICO. (ESP)	SYNLIG OCH/ELLER OSYNLIG LASERSTRÅLNING, KLASS 1M, NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN MED OPTISKA INSTRUMENT. (SWE)	ここを開くと可視及び/または不可視のクラス1Mレーザー放射が出ます。光学装置で直接見ないでください。(JPN)	VISIBLE AND/OR INVISIBLE CLASS II LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR (ENG) LV44603-003A

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3
DISASSEMBLY

3.1   Main body

3.1.1   Removing the Top cover (See Fig 1, 2)
   (1) Remove the four screws **A** attaching the Top cover. (See Fig.1)
   (2) Takeout two washers **B** and two washers **C** on the Top cover. (See Fig.2)

Fig.1

Fig.2

3.1.2 Removing the AL panel L and AL panel R (See Fig.3 to 5)

(1) Remove the two screws **D** and two screws **E** attaching the Bridge **A**. (See Fig.3)

(2) Remove the two screws **F** attaching the Bridge **B**. (See Fig.3)

(3) Remove the two screws **G** and three screws **H** attaching the bridge **C**. (See Fig.3, 4)

(4) Remove the two screws **J** attaching the AL panel L and AL panel R. (See Fig.3)

(5) Remove the two screws **K** and six screws **L** attaching the AL panel L and AL panel R. (See Fig.5)
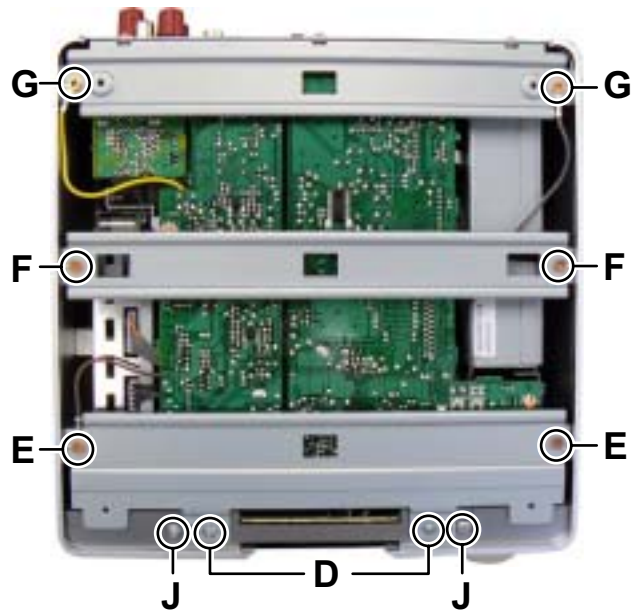
Fig.3
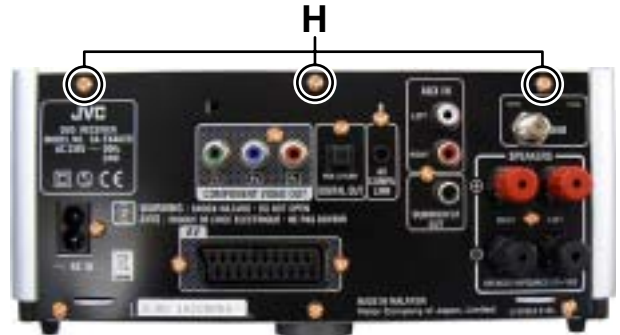
Fig.4

Fig.5

3.1.3 Removing the Front panel (See Fig.6, 7)

(1) Remove the two screws **M** attaching the Foot. (See Fig.6)
(2) Remove the three screws **N** attaching the Foot. (See Fig.6)
(3) Disengage two hooks **a** engaged both side of the Front panel. (See Fig.7)

Fig.6

hook **a**
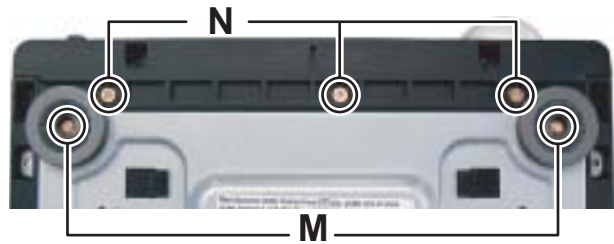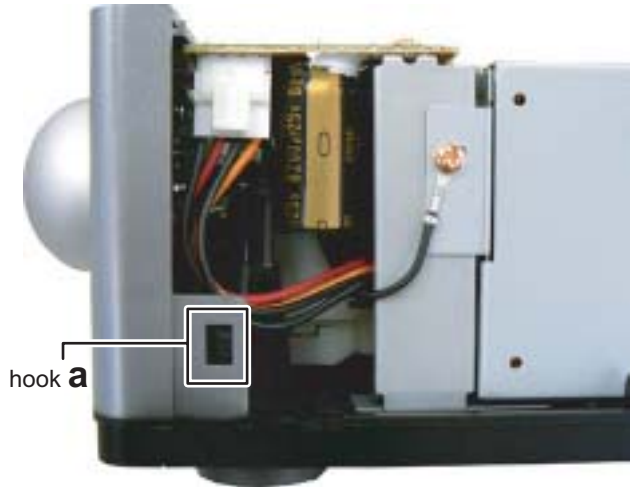
Fig.7

3.1.4 Removing the Rear panel (with DAB tuner pack) (See Fig.8, 9)

(1) Disconnect the card wire from DAB tuner pack connected to connector CN21 of the Micon board. (See Fig,8)
(2) Remove the eleven screws **P** attaching the Rear panel. (See Fig.9)

CN21
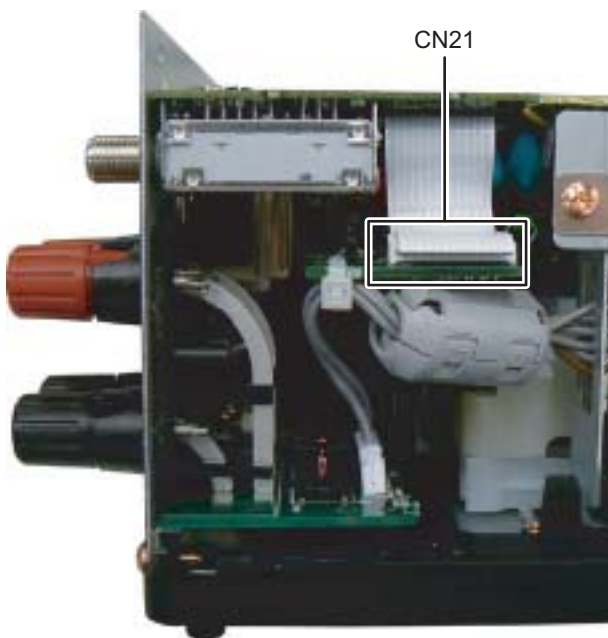
Fig.8
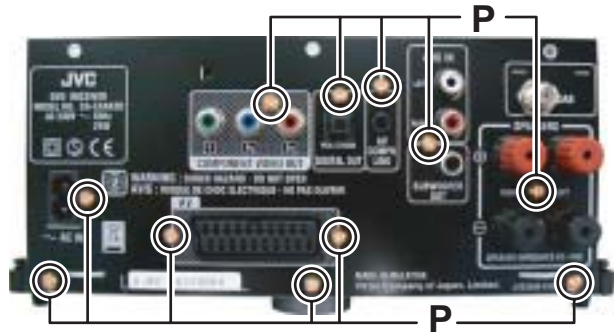
Fig.9

3.1.5 Removing the Switching power supply unit (see Fig.10)

(1) Disconnect the connector wire from Switching power supply unit connected to connector CN201 of the Main board.
(2) Remove the one screw **Q** attaching the Switching power supply unit.

Fig.10
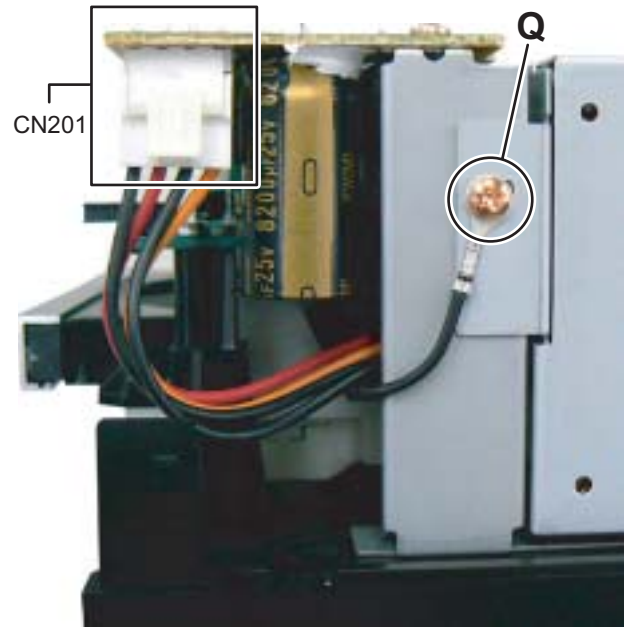
3.1.6 Removing the Headphone board (See Fig.11)

(1) Disconnect the connector wire from Main board connected to connector CN443 of the Headphone board.
(2) Disconnect the earth wire from Bottom chassis connected to post pin TP401 of the Headphone board.
(3) Remove the one screw **R** attaching the Headphone board.
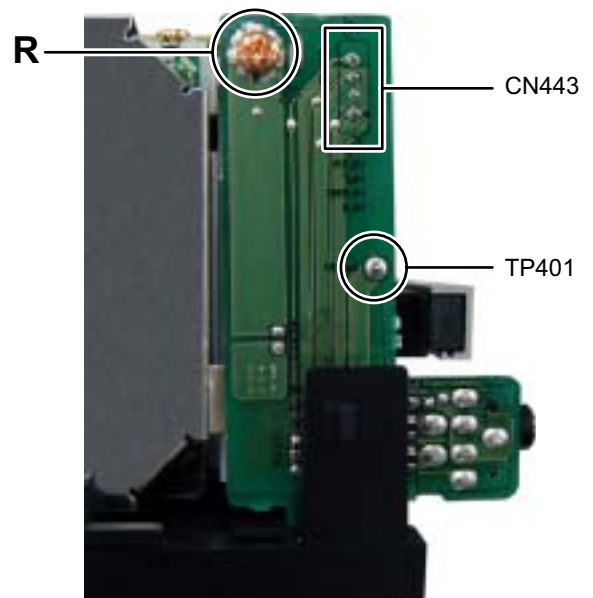
Fig.11

3.1.7 Removing the Main board (See Fig.12 to 14)

(1) Disconnect the card wire from Micon board connected to connector CN202 of the Main board. (See Fig.12)
(2) Disconnect the card wire from DVD mechanism connected to connector CN206 of the Main board. (See Fig.12)
(3) Disconnect the connector wires from Main board connected to connector CN102 and CN103 of the Digital amp board. (See Fig.12)
(4) Remove the three screws **S** attaching the Main board. (See Fig.12)
(5) Disconnect the connector wires from Main board connected to connector CN713 and CN714 of the Micon board. (See Fig.13)
(6) Disconnect the Earth wire from bottom chassis connected to test point TP201 and TP204 of the Main board. (See Fig.14)
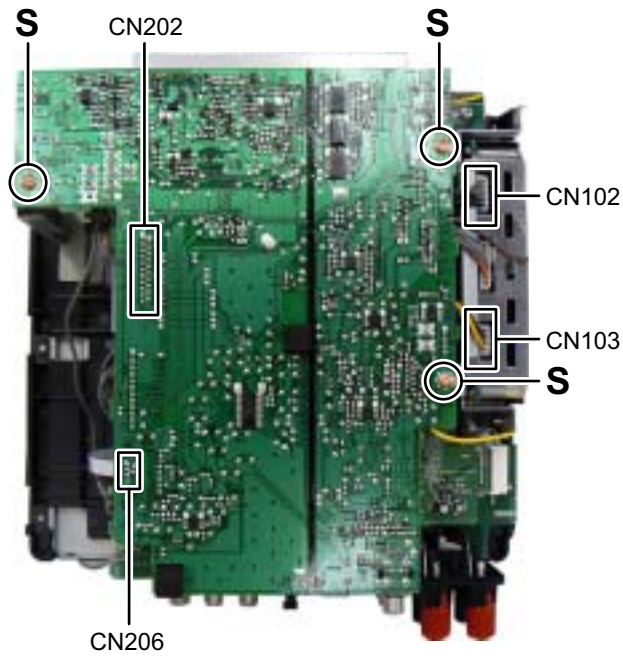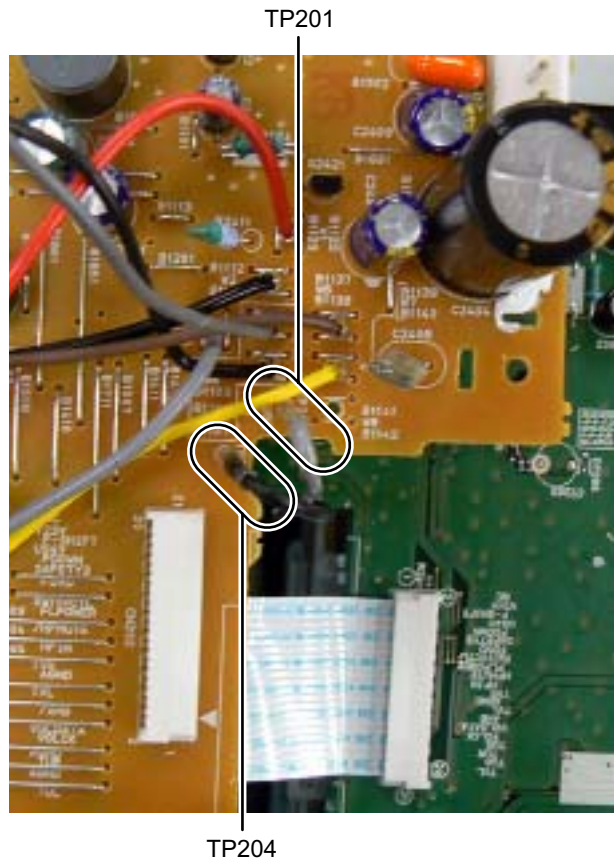

Fig.12

Fig.13

Fig.14

3.1.8 Removing the Micon board (See Fig.15)

(1) Disconnect the connector wire from Micon board connected to connector CN101 of the Digital amp board.
(2) Disconnect the card wire from SCART board connected to connector CN711 of the Micon board.
(3) Disconnect the card wire from Loader board connected to connector CN701 of the Micon board.
(4) Disconnect the card wire from Front end board connected to connector CN708 of the Micon board.
(5) Remove the two screws **T** attaching the Micon board.

CN701

T   **T**

CN711   CN708   CN101

Fig.15

3.1.9 Removing the Digital amp board (See Fig.16)

(1) Disconnect the connector wire from Digital amp board connected to connector CN301 of the Speaker terminal board.
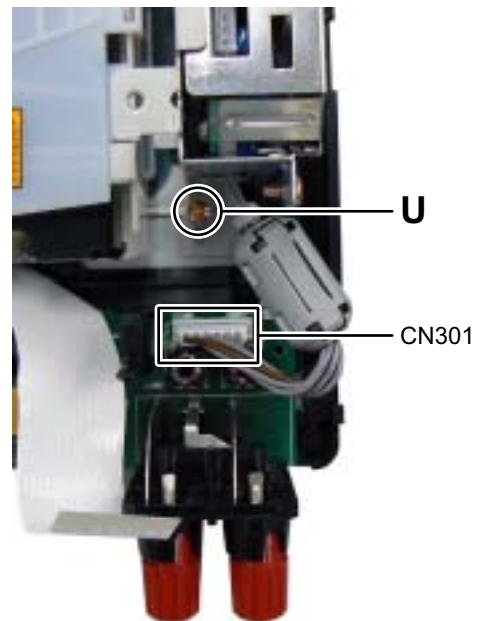(2) Remove the one screw **U** attaching the Digital amp board.

U

CN301

Fig.16

3.1.10 Removing the DVD mechanism (See Fig.17)

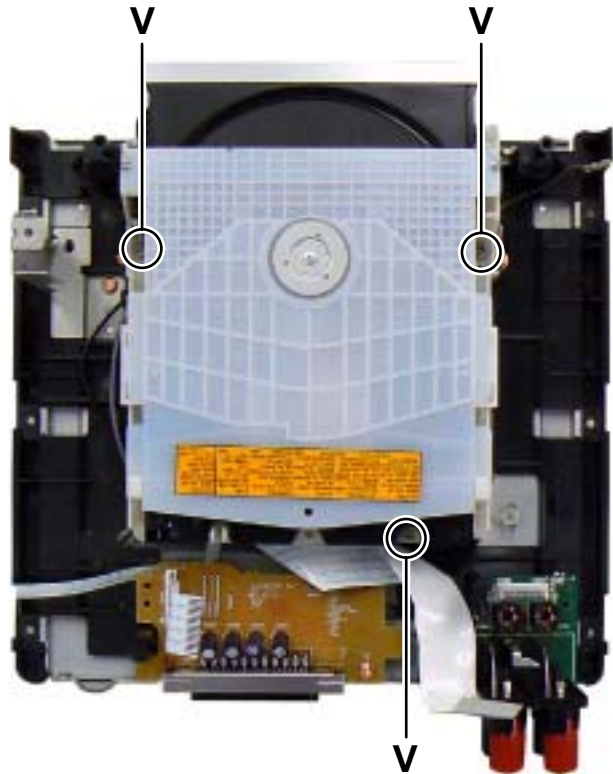(1) Remove the three screws **V** attaching the DVD mecha-
nism.

Fig.17

3.1.11 Removing the SCART board (See Fig.18)

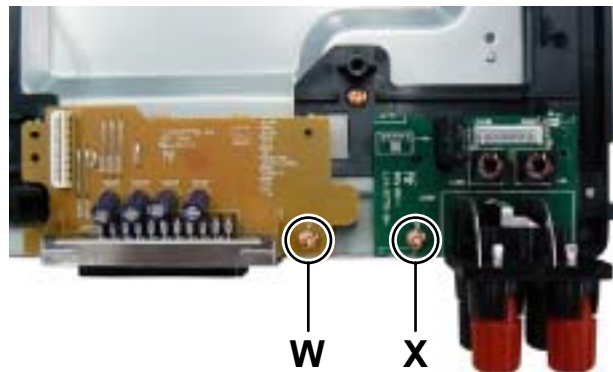(1) Remove the one screw **W** attaching the SCART board.

Fig.18

3.1.12 Removing the Speaker terminal board (See Fig.18)

Remove the one screw **X** attaching the Speaker terminal board.

3.1.13 Removing the Front board (See Fig.19)

(1) Remove the volume knob.
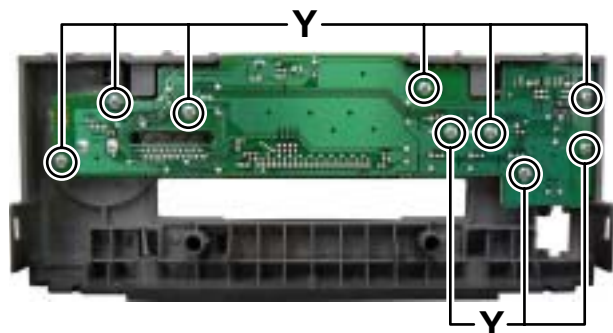(2) Remove the nine screws **Y** attaching the Front board.

Fig.19

3.2 DVD mechanism

3.2.1 Removing the traverse mechanism (See Fig.1 to 6)

(1) Remove the two screws **A** attaching the tramecha holder from top side of DVD mechanism assembly. (See Fig.1)
(2) Remove the two screws **B** attaching the DVD module board. (See Fig.2)
(3) Remove the four screws **C** attaching the CB holder and take out it. (See Fig.3)
(4) Remove the four screws **D** attaching the traverse mechanism. (See Fig.4)
(5) Solder the solder part of DVD pick up. (See Fig.5)
(6) Disconnect the card wire from CN101 and CN201 on the DVD module board. (See Fig. 6)

Caution:

- Solder the short land section on the DVD pickup before disconnecting the card wire from the connector on the DVD pickup. If the card wire is disconnected without attaching solders, the pickup may be destroyed by static electricity.
- When attaching the DVD pickup, be sure to remove solders from the short land section after connecting the card wire to the connector on the DVD pickup.
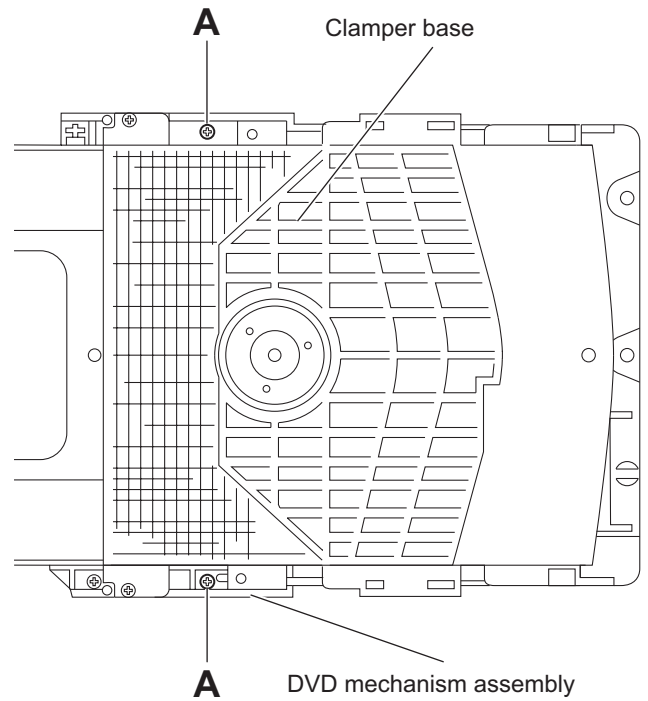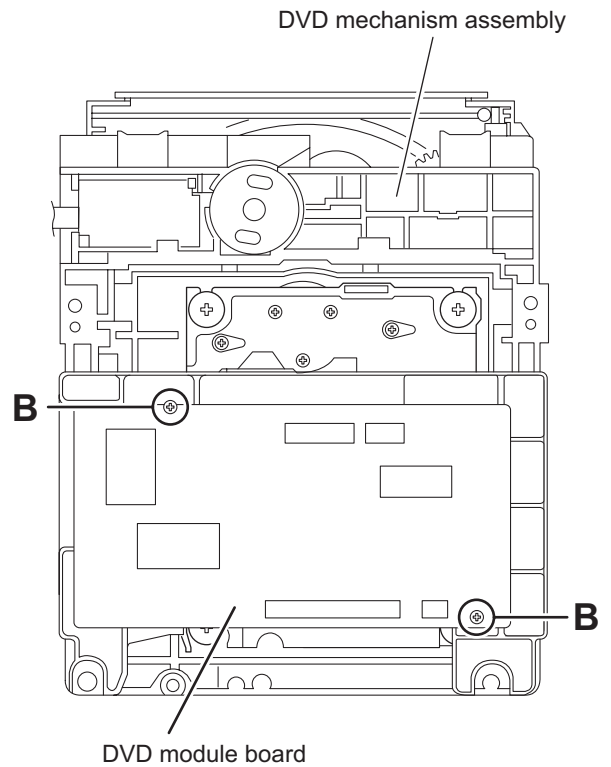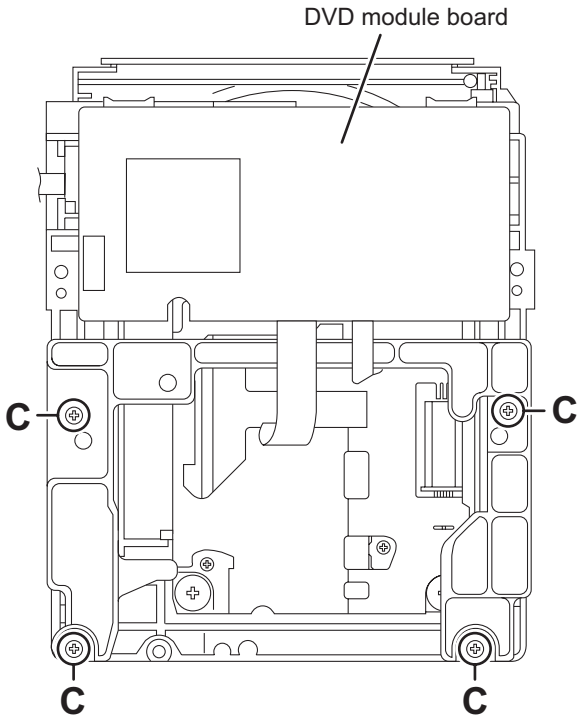
A   Clamper base

A   DVD mechanism assembly

Fig.1

DVD mechanism assembly

DVD module board

Fig.2

DVD module board

DVD module board

CN101

CN201

Fig.6

C — C

C   C

Fig.3

DVD mechanism assembly

Traverse mechanism assembly

D — D

Fig.4

Solder short land section
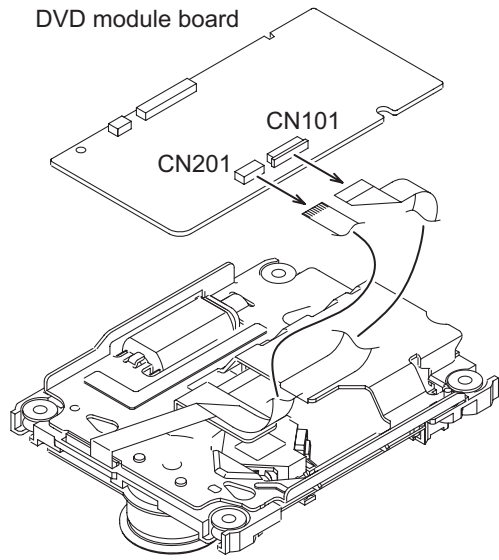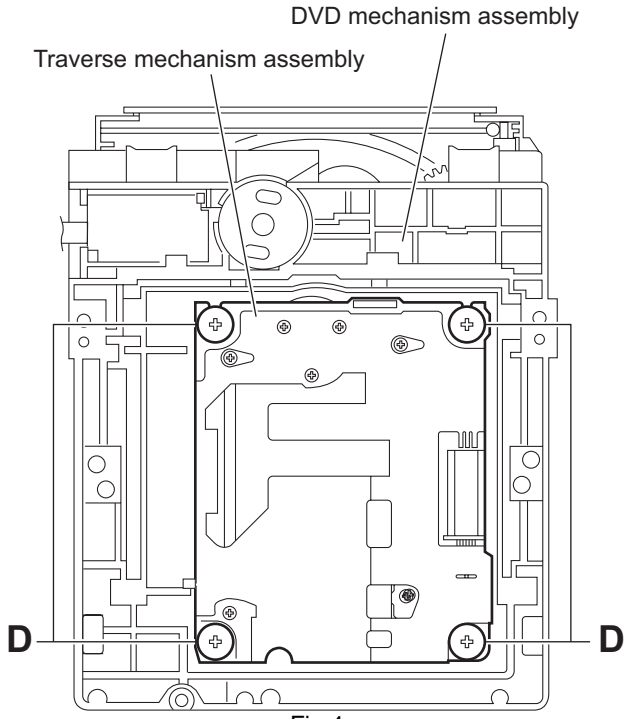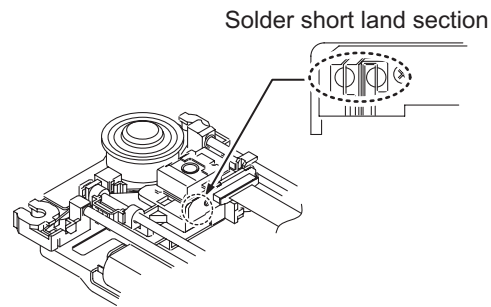
Fig.5

3.2.2 Removing the pickup assembly (See Fig.7 to 11)

(1) Remove the two rod springs pressing the guide shaft. (See Fig.7)

(2) Remove the screw **E** and **F** attaching the spring holder. (See Fig.8)

(3) Remove the read screw from traverse mechanism assembly. (See Fig.9)

Caution:
When remove the lead screw, do not loss the middle gear. (See Fig.10 and 11)

(4) Remove the bar spring pressing the shaft. (See Fig.10)

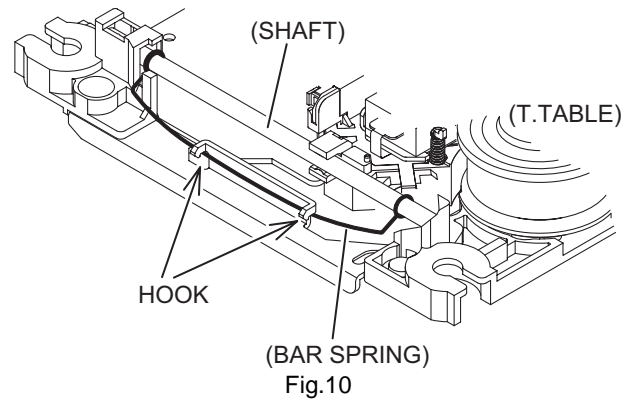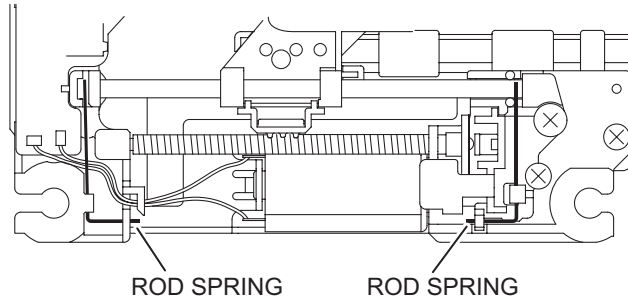(5) Take out the pickup assembly from traverse mechanism chassis by order. (See Fig.11)

ROD SPRING   ROD SPRING

Fig.7

Spring holder

F   **E**

Fig.8

Middle gear

Lead screw

Fig.9

(SHAFT)

(T.TABLE)

HOOK

(BAR SPRING)

Fig.10

order 2

order 3

order 1
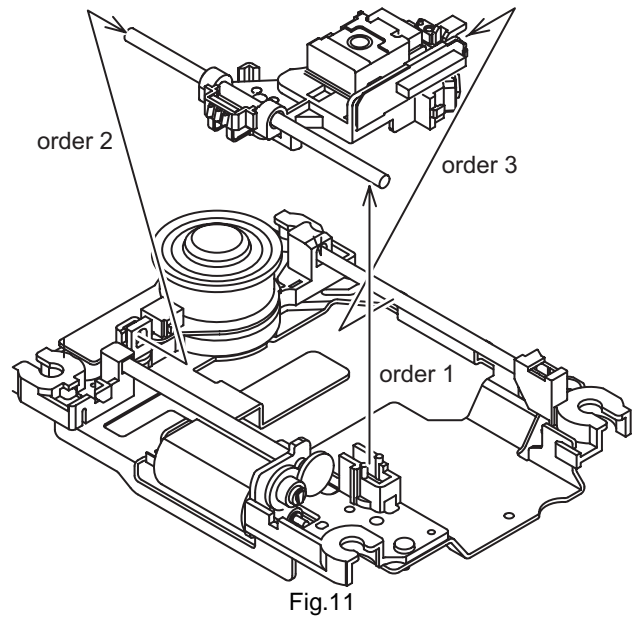
Fig.11
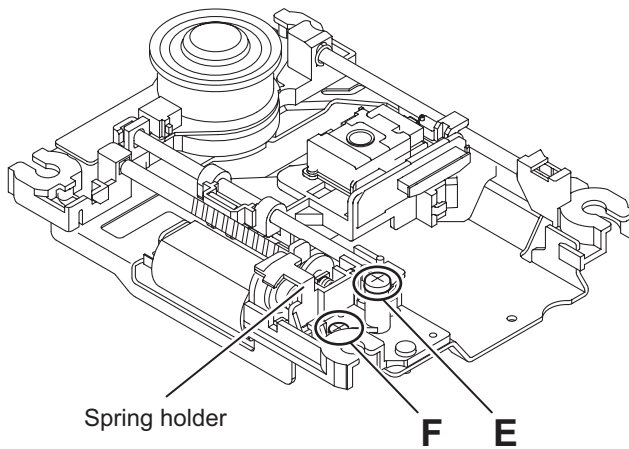
3.2.3 Removing the feed motor assembly (See Fig.12)

(1) Remove the one screw **G** attaching the feed motor assembly.
(2) Remove the feed motor wires from solder part of spindle motor board.

Solder part

Middle gear

Lead screw

G

Fig.12

3.2.4 Removing the spindle motor assembly (See Fig.13)

(1) Remove the three screws **H** attaching the spindle motor from spindle motor board.

H

Spindle motor

Fig.13
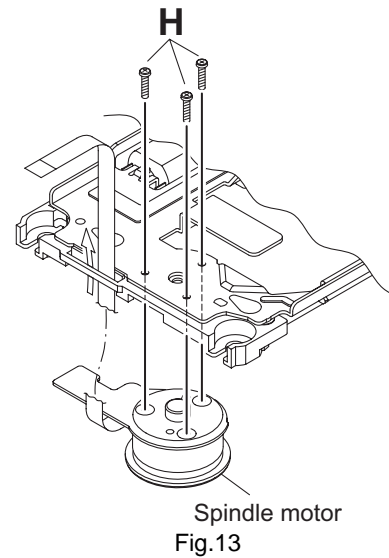
3.2.5 Removing the tray assembly
(See Fig.14 & 15)
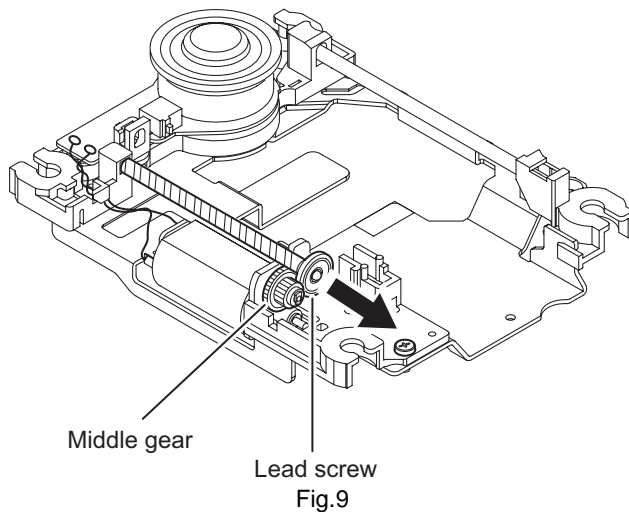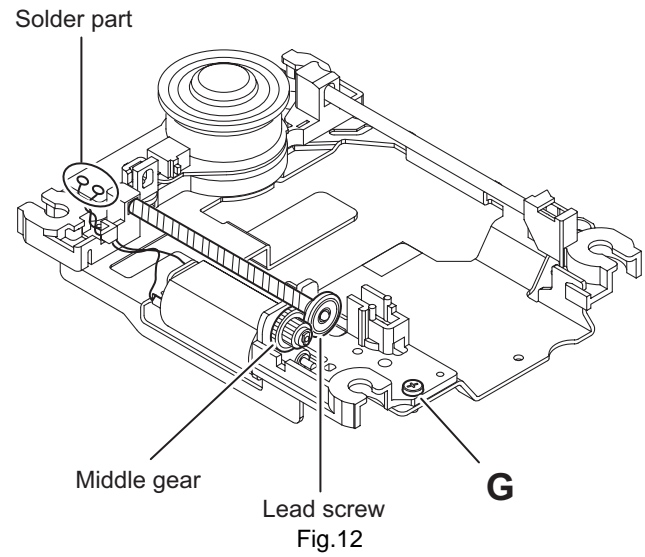
(1) Remove the two screws **J** attaching the clamper base. (See Fig.14)
(2) Remove the one screw **K** attaching the shaft guide from bottom side. (See Fig.14)
(3) Remove the two screws **L** attaching the shaft guide from top side. (See Fig.15)

Caution:

When attach the tray assembly, boss of loading sub assembly should attach to guide of bottom side at tray assembly. (See Fig.15)

J

order 1

order 2

clamper base

K

[bottom side]

Fig.14

L

Fig.15

SECTION 4
ADJUSTMENT

4.1 ATTENTION IN SERVICE OF DVD SECTION

(1) When pickup, Flash ROM ,DVD module board were changed, initialize EEPROM by all means.
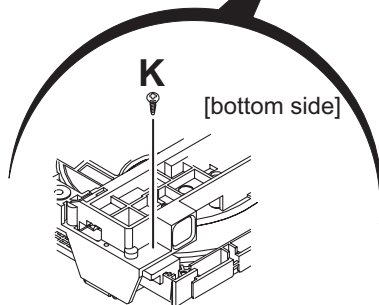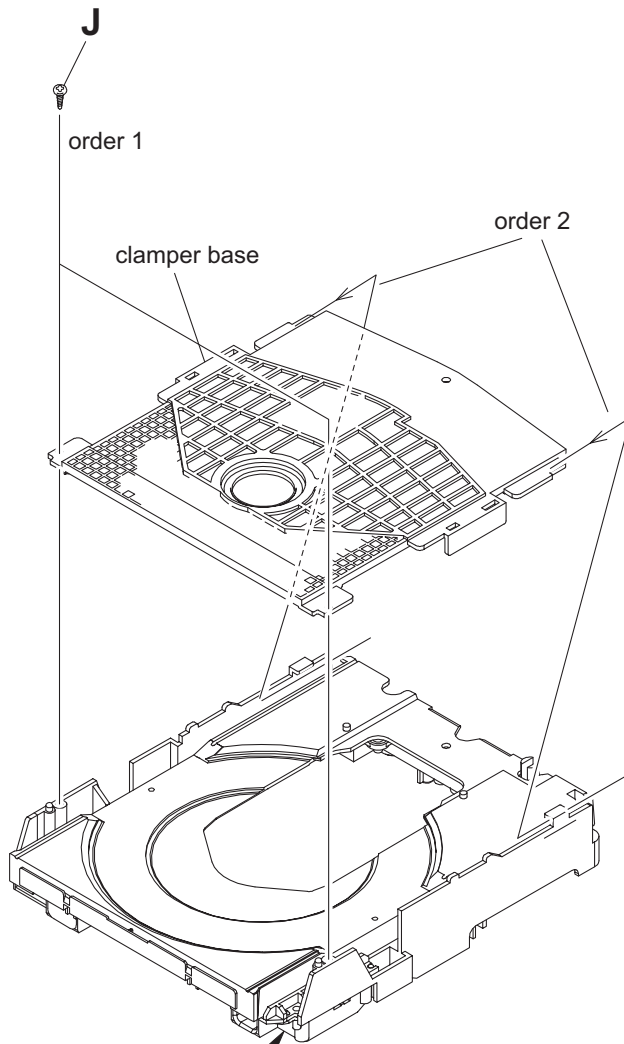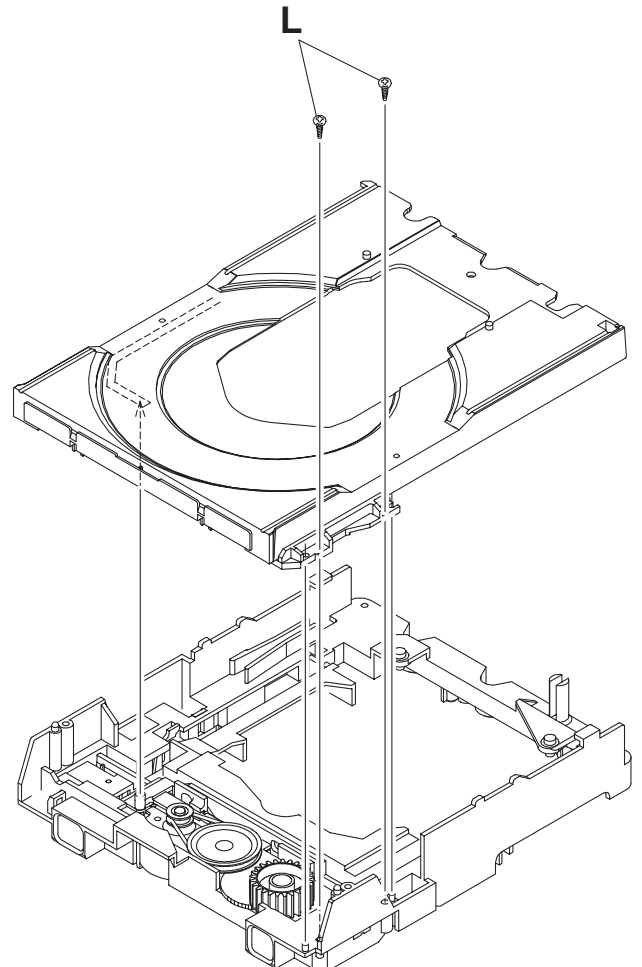(2) When full initialization was executed, execute learning with a DVD test disc by all means.
Test disc : VT-501, VT-502
Learning method : It is adjusted automatically by normal playback of a DVD disc.

4.2 DVD TEST MODE

4.2.1 Content of correspondence TEST MODE

(1) Version, Region, Learning status check mode
(2) NORMAL initialize, FULL initialize
(3) Device key checksum indication mode
(4) Micon version indication mode
(5) FL all on mode
(6) FRONT END check mode

4.2.2 Mode transition

TEST MODE into the press [PLAY] key and [STOP] key together of main body, connect the AC power.
After into the TEST MODE, mode select by [MENU] key.
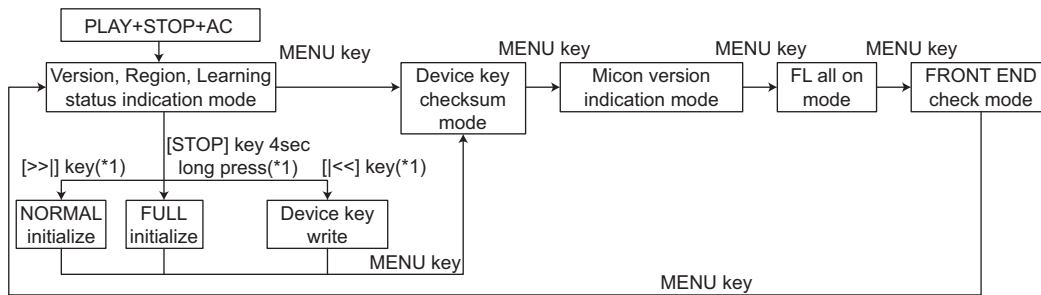
(*1): Change form Version, Region, Learning status indication mode to NORMAL initialize, FULL initialize is effective only main body key.
The following keys are allocated when there are neither [>>|] key nor [|<<] key in the main body.
   NORMAL initialize: PAUSE key
   FULL initialize: STOP key 4sec long press
   Device key write: PLAY key
When a basic key cannot be allocated by the set, it is assumed it is arbitrary.

4.2.3 Processing details

The communication of operated FL(LCD) display and DVD back end microcomputer is shown as follows.
 *It is assumed to be OK to differ from the content of the specification because the number of digits is different according to the set for the FL(LCD) display.
 *It is assumed to be OK to differ from the content of the specification because it also has the relation between arrangement and presence by the set also for the key.

STEP	Operation	Movement	FL(LCD)indication 1 2 3 4 5 6 7 8 1 2 3	Remarks
1	AC is pulled out, and double press [PLAY] and [STOP] key of the main body			
2	Keep step 1, connect AC	**Version, Region, Learning status indication mode** Power on by test mode, version indication to FL	T E S T J C # ＊ ＊	**Version indication** The display to the version code is as follows. JC, 1U, D, E 2U, 3U, UB, UT 4U, UY, EE, UF **Region indication (# part)** Learning and Initialization from the back end is displayed in the second line(＊＊) of the FL display. Blank indication at 0xFF

STEP	Operation	Movement	FL(LCD)indication 1 2 3 4 5 6 7 8 / 1 2 3	Remarks
				Learning status (first digit) BCA CHECK OK incomplete, DVD learning incomplete, CD learning incomplete (indication 7) BCA CHECK OK incomplete, DVD learning complete, CD learning incomplete (indication 6) BCA CHECK OK incomplete, DVD learning incomplete, CD learning complete (indication 5) BCA CHECK OK incomplete, DVD learning complete, CD leaning complete (indication 4) BCA CHECK OK complete, DVD learning incomplete, CD learning incomplete (indication 3) BCA CHECK OK complete, DVD learning complete, CD learning incomplete (indication 2) BCA CHECK OK complete, DVD learning incomplete, CD learning complete (indication 1) BCA CHECK OK complete DVD learning complete CD learning complete (indication 0) (BCA READ CHECK result is only BCA READ OK, it to complete) **Initialization status (second digit)** FULL initialize complete (indication 3) NORMAL initialize complete (indication 0) Initialize incomplete (blank indication)
①	Press a [>>|] key of the main body. NORMAL initialize		T E S T _ J C # / _ * * _	
②	Continue pressing a [STOP] key of the main body.(4sec) FULL initialize		T E S T _ J C # / _ * * _	
3	Press a [MENU] key of the remote controller.	**DEVICE CHECKSUM indication mode** Indicate the CHECKSUM of the Device key to FL (4 byte)	①②③④⑤⑥⑦⑧ / S U M	The AVC protocol is returned from high speed to normal speed. (Return it to the normal mode when coming off the TEST mode.) Indicate CHECKSUM to FL ①,②,③,④ : CPPM ⑤,⑥,⑦,⑧ : CPRM
4	Press a [MENU] key of the remote controller.	**Micon version indication mode ①** Indicate the version of micon to FL	* * * * _ # # / S C	**** : Syscon Version ## : Syscon Romcorr Version $$$$: DVD Backend Version
	Press a [ON SCREEN] key of the remote controller.	**Micon version indication mode ②** Indicate the version of micon to FL	$ $ $ $ / B E	
5	Press a [MENU] key of the remote controller.	**FL all on mode** All FL and all LED to ON		
6	Press a [MENU] key of the remote controller.	**FRONT END check mode** Indicate the front end check mode to FL	C H E C K	

STEP	Operation	Movement	FL(LCD)indication 1 2 3 4 5 6 7 8 / 1 2 3	Remarks
①	Press a [1] key of the remote controller	Disc startup and through playback (Playback starts from the start position)	C H E C K	
②	Press a [2] key of the remote controller	Presence of WOBBLE 0:WOBBLE_NO_CHECK (un check) 1:WOBBLE_PRESS_MEDIA (press) 2:WOBBLE_MINUS_MEDIA (DVD-R/-RW media) 3:WOBBLE_PLUS_MEDIA (DVD+R/+RW media)	* * * * * * * * / W O B	Upper : 0 Lower : WOBBLE detection result
③	Press a [3] key of the remote controller	Port check mode (TRACK,INDEX,DEMP,COPY) 1:INDEX Port = High 2:TRACK Port = High 3:COPY Port = High 4:DEMP Port = High	* * * * * * * * / P O T	Upper : 0x01-0x04 (check port number) Lower : 0
④	Press a [4] key of the remote controller	CD_LD lights and laser current is displayed	* * * * * * * * / C L D	Upper : Laser current value (BACKUP value,Real measured value) Lower : 0
⑤	Press a [5] key of the remote controller	DVD_LD lights and laser current is displayed	* * * * * * * * / D L D	Upper : Laser current value (BACKUP value,Real measured value) Lower : 0
⑥	Press a [6] key of the remote controller	DVD_SL x1 jitter measurement mode	* * * * * * * * / J I T	Upper : Laser current value (BACKUP value,Real measured value) Lower : Real measured value
⑦	Press a [8] key of the remote controller	Content of BACKUP memory(0x00-0x63) indication (FWD)	* * * * * * * * / B U P	Upper Byte1 : Display option 0x00 : BACKUP area 0xFF : permanent area Upper Byte2 : BACKUP memory address (0x00-0x63) Lower : Content of BACKUP memory
⑧	Press a [9] key of the remote controller	Temperature sensor (AD value) indication	* * * * * * * * / T M P	Upper : 0 Lower : Temperature sensor value
⑨	Press a [10] key of the remote controller	DVD-DL(parallel,opposite) Search & jitter measurement of the specified position of DVD-SL	* * * * * * * * / - D L	Upper : 0x00-0x06(measure at VT501) Lower : Jitter value
⑩	Press a [0] key of the remote controller	MONITOR output switch 1: SRV_MONI_CIRC 2: SRV_MONI_SERVO 3-5: SRV_MONI_ANALOG 6-7: SRV_MONI_DRC 8-11: SRV_MONI_SERVO _JIG 12: SRV_MONI_DEFAULT	* * * * * * * * / M O T	Upper : 0x00-0x0C Lower : 0
⑪	Press a [≥10] key of the remote controller	BCA READ CHECK 0:During BCA READ 1:BCA READ OK 2:BCA SEEK ERROR 3:BCA READ ERROR 4:SPINUP adjust ERROR	* * * * * * * * / B C A	

STEP	Operation	Movement	FL(LCD)indication 1 2 3 4 5 6 7 8 / 1 2 3	Remarks
⑫	Press a [STOP] key of the main body or remote controller	Disc stop, LD-OFF	C H E C K	
⑬	Press a [OPEN/CLOSE] key of the main body or remote controller	Tray Open/Close	C H E C K	
⑭	Press a [PLAY] key of the main body or remote controller	Disc playback	* * * * * * * *	Upper:Laser current value (BACKUP value, Real measured value) Lower:Jitter value
7	Press a [MENU] key of the remote controller	Back to STEP 2	T E S T J C # / * *	
	Press a [POWER] key of the main body	Release the TEST MODE		Release at each step

*1 Mode toggle done by press [MENU] key.
*2 STEP3 are only for DVD-AUDIO or VR correspondence model.

4.3 TEST MODE

4.3.1 Mode transition

It shall be in the mode in normal POWER ON and prepare five modes.

(1) The test mode which enters by the receive of remote controller cord [STOP] + [POWER] + [1].
   * It invalidate the whole test mode anything other than test remote controller cord [STOP] + [POWER] + [1].

(2) The version confirmation mode which enters by the receive of remote controller cord [STOP] + [POWER] + [10].
   * The whole version confirmation mode invalidates wireless remote controller cord
   [STOP] + [POWER] + [1], [STOP] + [POWER] + [2] and [STOP] + [POWER] + [≧10].

(3) The model excellent + act confirmation mode which enters by the reception of wireless remote controller cord [STOP] + [POWER] + [≧10].
   * The whole model name + destination confirmation mode invalidates remote controller cord   [STOP] + [POWER] + [1], [STOP] + [POWER] + [2] and [STOP] + [POWER] + [10].
   * Only for in confirmation mode 5 indication and source DAB, it is decided that [UPPER] is specialized in a service mode Lite indication change.

(4) The temperature indication mode which enters by the receive of remote controller cord [STOP] + [POWER] + [2].
   * The whole temperature indication mode invalidates remote controller cord [STOP] + [POWER] + [1],
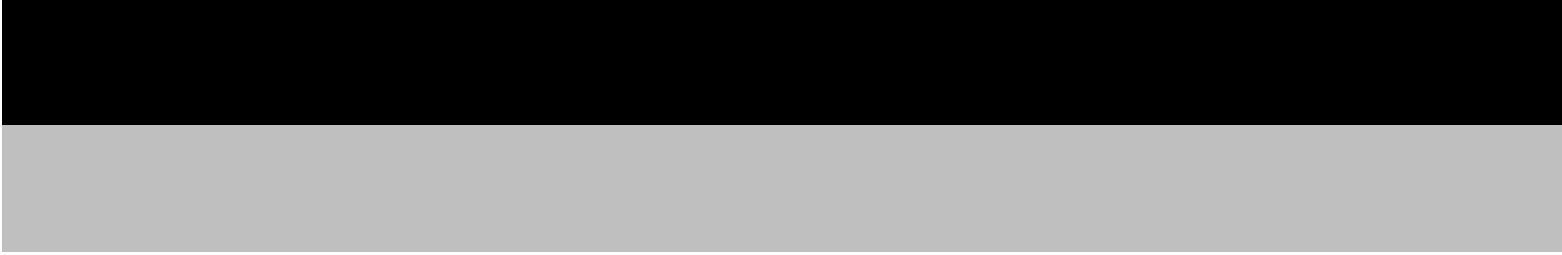   [STOP] + [POWER] + [10] and [STOP] + [POWER] + [≧10].
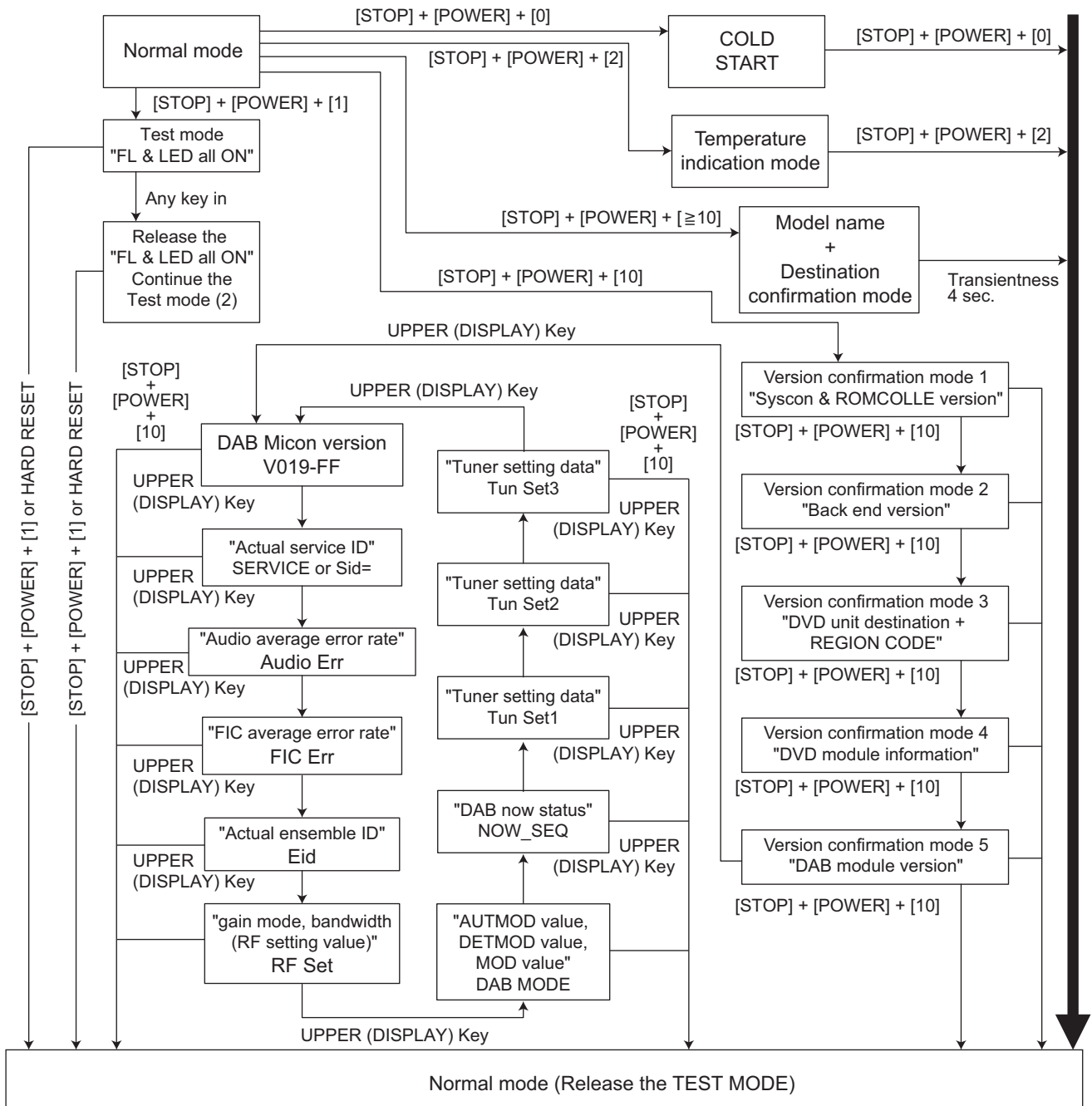
4.3.2 Set to DAB Test mode
  (1) Source to DAB.
  (2) Press [STOP] + [POWER] + [10] key together.
  (3) Press [STOP] + [10], keep this state version indication is replaced whenever press [POWER] key.

Mode change to version confirmation mode 5 "DAB module version", press [UPPER] key of remote controller to shift the DAB test mode.

SECTION 5
TROUBLESHOOTING

This service manual does not describe TROUBLESHOOTING.