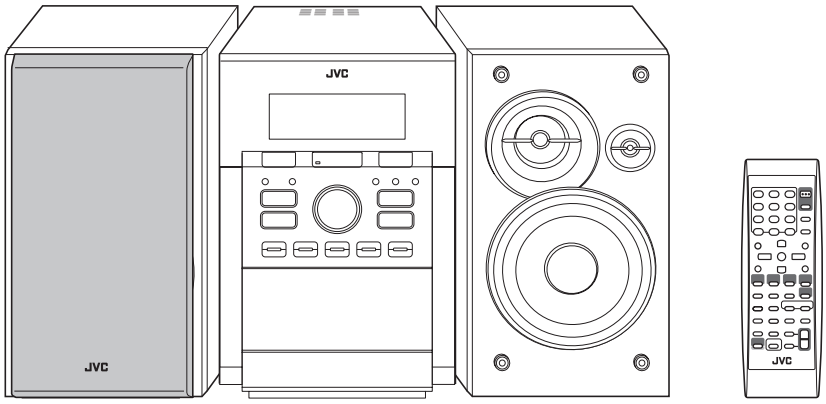
JVC

SERVICE MANUAL

MICRO COMPONENT SYSTEM

UX-G70J,UX-G70C,UX-G70B, UX-G70E,UX-G70EN, UX-G70EV,UX-G70EE



SP-UXG70 CA-UXG70 SP-UXG70

Radio Data System MP3/WMA PLAY BACK MPEG-4 ASF PLAYBACK Digital Direct Progressive Scan

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

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No.MB505
2006/6

SPECIFICATION

Amplifier section	Output Power	Northern america	120 W per channel, min. RMS, driven into 6 Ω at 1kHz with no more than 10% total harmonic distortion. (for northern america)
		Europe	160 W (80 W+80 W) at 6 Ω (10% THD) for europe
	Audio Input	LINE IN	500 mV/49 kΩ (at "L.IN LVL1") 250 mV/49 kΩ (at "L.IN LVL2") 125 mV/49 kΩ (at "L.IN LVL3")
		GAME IN (northern america)	500 mV/49 kΩ
		TV SOUND IN	500 mV/49 kΩ
	Audio Output	LINE OUT	1.0 Vrms (3 kΩ) (at "L.OUT LVL1") 500 mVrms (1.5 kΩ) (at "L.OUT LVL2")
		SUBWOOFER OUT	260 mVrms/3.9 kΩ
		HEADPHONES OUT	17 mW/32 Ω
	Digital output	DVD OPTICAL DIGITAL OUT	-21 dBm to -15 dBm (660 nm ±30 nm)
	USB input		USB AUDIO
	Video Output	Color system	NTSC (interlaced/progressive) for northern america PAL (interlaced/progressive) for europe
		VIDEO (composite)	1 V(p-p)/75 Ω
		S-VIDEO	Y (luminance) : 1 V(p-p)/75 Ω C (chrominance, burst) : 0.286 V(p-p)/75 Ω for northern america C (chrominance, burst) : 0.3 V(p-p)/75 Ω for europe
		RGB	0.7 V(p-p)/75 Ω for europe
		COMPONENT	(Y) : 1 V(p-p)/75 Ω (PB/PR) : 0.75 V(p-p)/75 Ω for northern america (PB/PR) : 0.7 V(p-p)/75 Ω for europe
		Speaker impedance	6 Ω - 16 Ω
		Headphone impedance	16 Ω - 1 kΩ
Tuner section	FM tuning range		87.5 MHz - 108.0 MHz
	AM tuning range		530 kHz - 1 710 kHz for northern america 522 kHz - 1 629 kHz fro europe
Disc player section	Playable disc		DVD Video/DVD Audio/CD/VCD/SVCD CD-R/CD-RW (CD/SVCD/VCD/MP3/WMA/JPEG format) DVD-R/-RW (DVD-VR/DVD Video/MP3/WMA/JPEG format) +R/+RW (DVD Video format) DVD-ROM (DVD Video format)
	Dynamic range		80 dB
	Horizontal resolution		500 lines
	Wow and flutter		Immeasurable
General	Power requirement		AC 120 V , 60 Hz for northern america AC 230 V , 50 Hz for europe
	Power consumption		90 W (at operation) for northern america 95 W (at operation) for europe 14 W (at standby) 1.0 W (at standby display OFF mode)
	Dimensions (approx.)(W/H/D)		175 mm × 250 mm × 411 mm (6-9/10 inch × 9-7/8 inch × 16-1/5 inch)
Speakers	Speaker units	Tweeter	1.5 cm (5/8 inch) dome × 1
		Squawker	4 cm (1-5/8 inch) cone × 1
		Woofer	13.5 cm (5-3/8 inch) cone × 1
	Impedance		6 Ω
	Dimensions (approx.) (W/H/D)		166 mm × 250 mm × 232 mm (6-9/16 inch × 9-7/8 inch × 9-3/16 inch)
	Mass (approx.)		2.8 kg (6.2 lbs) each

Design and specifications are subject to change without notice.

SECTION 1
PRECAUTION

1.1 Safety Precautions

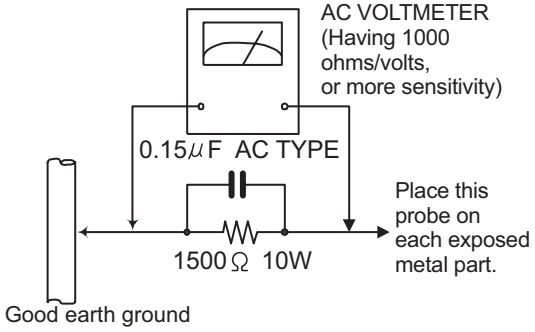
(1) This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the 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 manufacturers warranty and will further relieve the manufacture 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 (⚠) 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 reassembling.

(5) Leakage shock hazard testing
After reassembling 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, 1,000Ω per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF 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.).



1.2 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.

1.3 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.

1.4 Critical parts for safety

In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (▬), diode (▮) and ICP (●) or identified by the " ⚠ " mark nearby are critical for safety. When replacing them, be sure to use the parts of the same type and rating as specified by the manufacturer.
(This regulation dose not Except the J and C version)

1.5 Safety Precautions (U.K only)

(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.
(2) Any unauthorised design alterations or additions will void the manufacturer's guarantee; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.
(3) Essential safety critical components are identified by (⚠) on the Parts List and by shading on the schematics, and must never be replaced by parts other than those listed in the manual. Please note however that many electrical and mechanical parts in the product have special safety related characteristics. These characteristics are often not evident from visual inspection. Parts other than specified by the manufacturer may not have the same safety characteristics as the recommended replacement parts shown in the Parts List of the Service Manual and 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.

1.5.1 Warning

(1) Service should be performed by qualified personnel only.
(2) This equipment has been designed and manufactured to meet international safety standards.
(3) It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
(4) Repairs must be made in accordance with the relevant safety standards.
(5) It is essential that safety critical components are replaced by approved parts.
(6) 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.**

1.6 Preventing static electricity

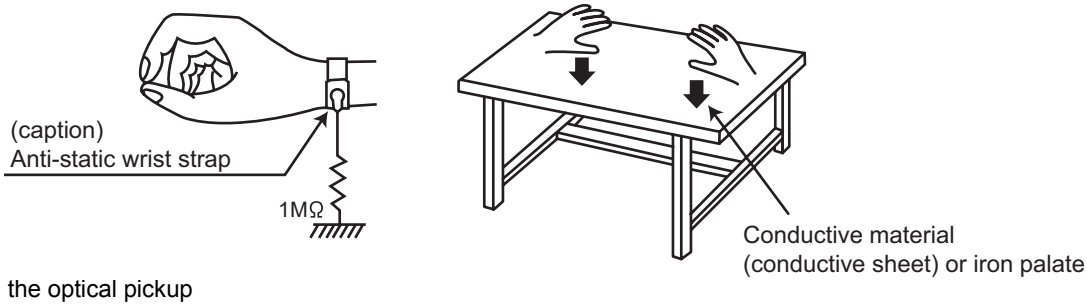
Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.6.1 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.



(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.

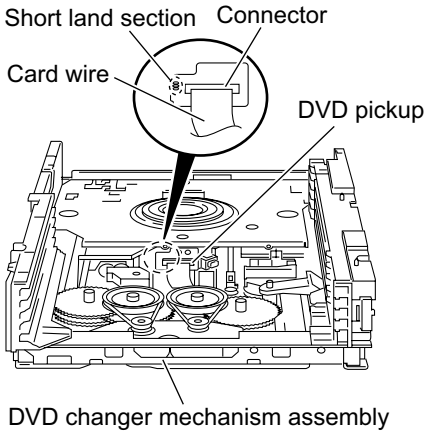
1.7 Handling the traverse unit (optical pickup)

(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) I t is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

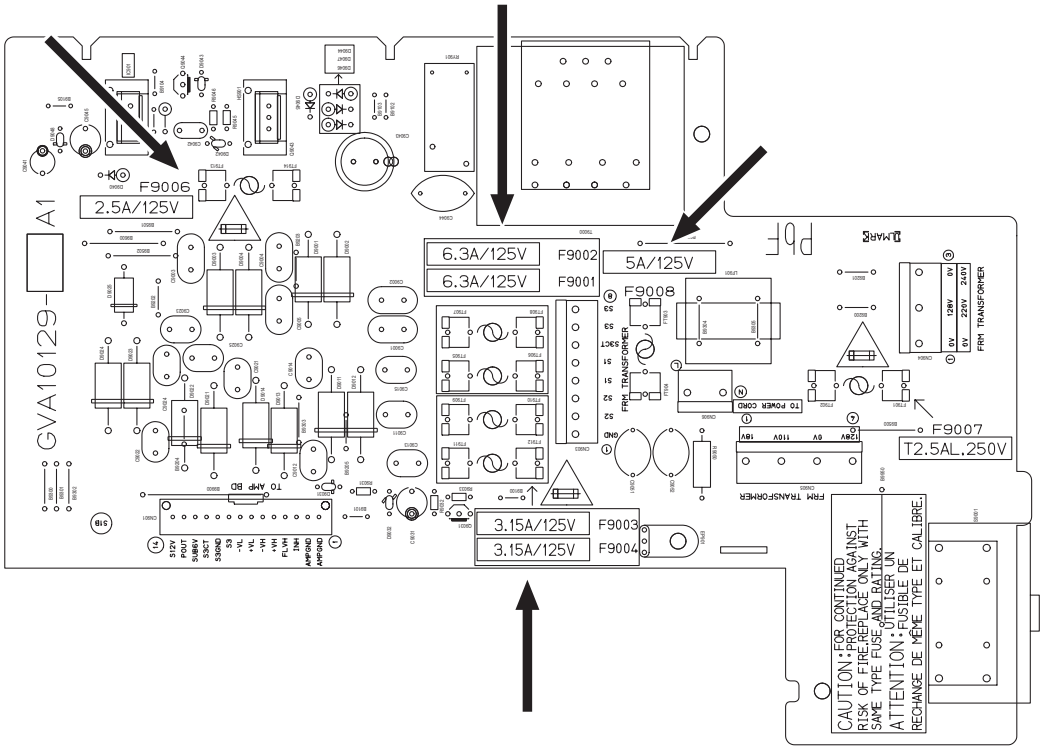
1.8 Attention when traverse unit is decomposed

***Please refer to "Disassembly method" in the text for the pickup unit.**

- Apply solder to the short land sections before the card wire is disconnected from the connecto on the servo board. (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 sections after connecting the card wire.



1.9 Importance administering point on the safety



Full Fuse Replacement Marking	**Marquage Pour Le Remplacement Complet De Fusible**
Graphic symbol mark (This symbol means fast blow type fuse.)  should be read as follows ;	Le symbole graphique (Ce symbole signifie fusible de type á fusion rapide.)  doit être interprété comme suit ;
FUSE CAUTION	**PRECAUTIONS SUR LES FUSIBLES**
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSES ; F9001 : 6.3A 125V F9002 : 6.3A 125V F9003 : 3.15A 125V F9004 : 3.15A 125V F9006 : 2.5A 125V	**POUR UNE PROTECTION CONTINUE CONTRE DES RISQUES D'INCENDIE, REMPLACER SEULEMENT PAR UN FUSIBLE DU MEME TYPE ;** F9001 : 6.3A 125V F9002 : 6.3A 125V F9003 : 3.15A 125V F9004 : 3.15A 125V F9006 : 2.5A 125V

1.10 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 nakyvalle 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。

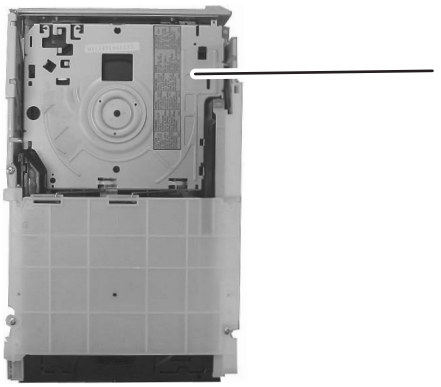
تنبيه: يوجد إشعاع ليزري مرئي و/أو غير مرئي من الفئة 1M عندما يكون الجهاز مفتوحا. تجنب النظر مباشرة داخل الجهاز باستخدام أدوات بصرية.

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 ÓPTICO. (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

CAUTION	VISIBLE AND/OR INVISIBLE CLASS 1M LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. IEC60825-1:2001 (ENG)
ATTENTION	RAYONNEMENT LASER VISIBLE ET/OU INVISIBLE DE CLASSE 1M UNE FOIS OUVERT. NE PAS REGARDER DIRECTEMENT AVEC DES INSTRUMENTS OPTIQUES. (FRA)
AVISO	RADIACIÓN LÁSER DE CLASE 1M VISIBLE Y/O INVISIBLE CUANDO ESTÁ ABIERTO. NO MIRAR DIRECTAMENTE CON INSTRUMENTAL ÓPTICO. (ESP)
VARNING	SYNLIG OCH/ELLER OSYNLIG LASERSTRÅLNING, KLASS 1M, NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN MED OPTISKA INSTRUMENT. (SWE)
注意	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)
CAUTION	VISIBLE AND/OR INVISIBLE CLASS II LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. (ENG) FDA 21 CFR LV44603-004A

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 side panel (Fig.1, 2)

(1) Remove the six screws **A** attaching the side panel. (See Fig.1)
(2) Remove the four screws **B** attaching the side panel. (See Fig.2)

3.1.2 Removing the top cover (Fig.1, 3)

(1) Remove the one screw **C** attaching the top cover. (See Fig.1)
(2) Remove the two screws **D** attaching the top cover. (See Fig.3)

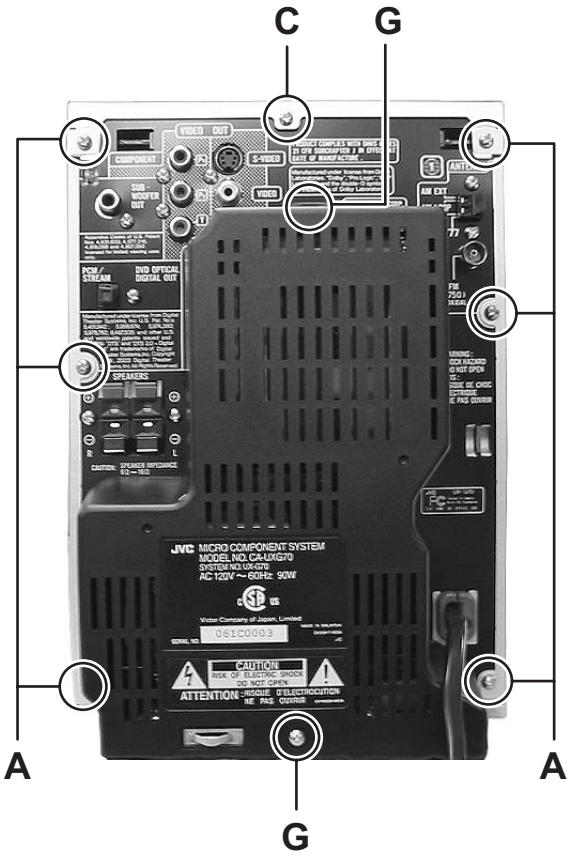


Fig.1

Fig.2

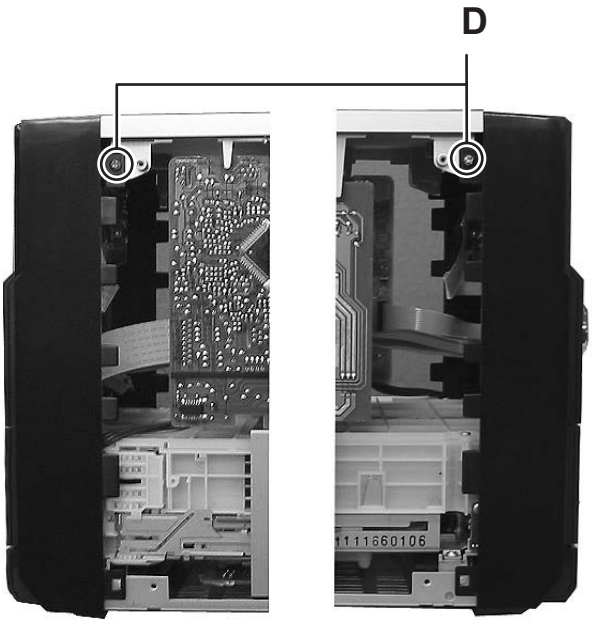


Fig.3

3.1.3 Removing the front panel (Fig.4 to 6)

(1) Disconnect the card wire from the connector CN359 and CN360 on the regulator board. (See the Fig.4)
(2) Disconnect the card wire from the connector CN760 on the main board. (See Fig.4)
(3) Disconnect the connector wire from the connector CN713 on the main board. (See Fig.4)
(4) Disconnect the connector wire from the connector CN405 on the video board. (See Fig.4)
(5) Remove the two screws **E** and two screws **F** attaching the front panel. (See Fig.5)
(6) Remove the hook **a**. (See Fig.5)
(7) Remove the hook **b** and then removing the front panel. (See Fig.6)

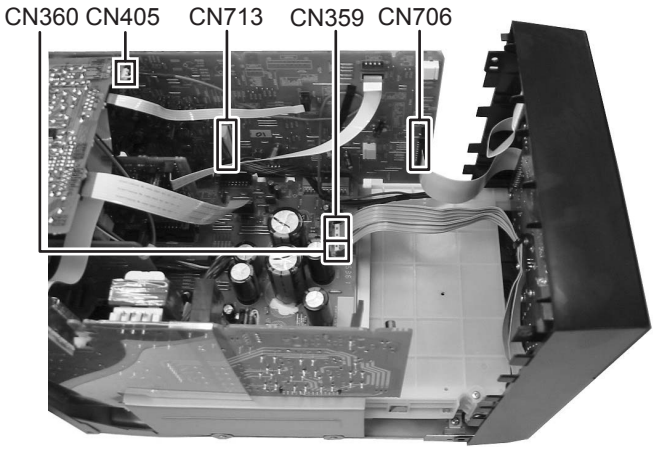


Fig.4

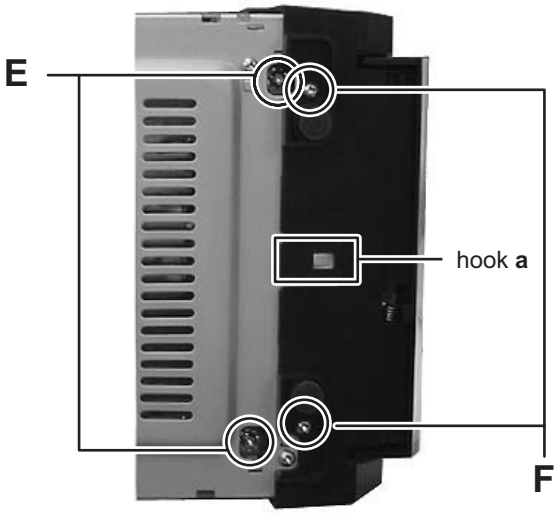


Fig.5

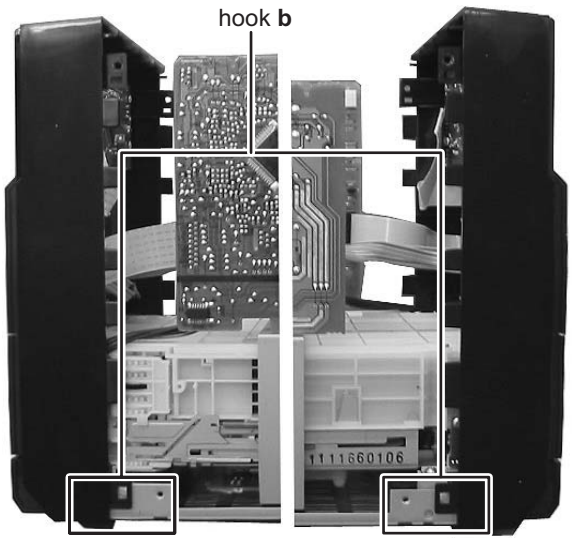


Fig.6

3.1.4 Removing the rear cover (Fig.1)

(1) Remove the two screws **G** attaching the rear cover.

3.1.5 Removing the video board (Fig.7, 8)

(1) Disconnect the card wire from the connector CN401 and CN402 on the video board. (See Fig.7)
(2) Remove the three screws **H** attaching the video board. (See Fig.8)

3.1.6 Removing the tuner pack (Fig.8, 9)

(1) Disconnect the card wire from the connector CN712 on the main board. (See Fig.9)
(2) Remove the two screws **J** attaching the tuner pack. (See Fig.8)

3.1.7 Removing the fan (Fig.8, 9)

(1) Disconnect the connector wire from the connector CN708 on the main board. (See Fig.9)
(2) Remove the two screws **K** attaching the fan. (See Fig.8)

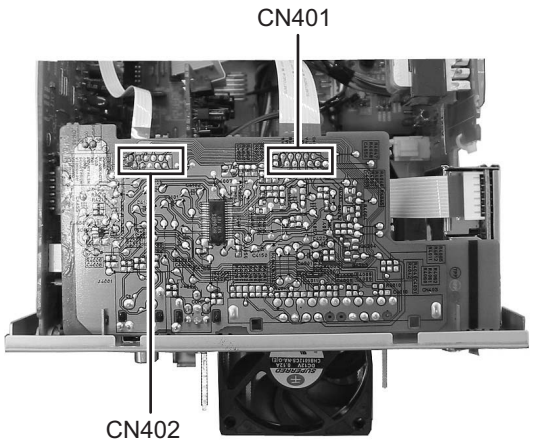


Fig.7

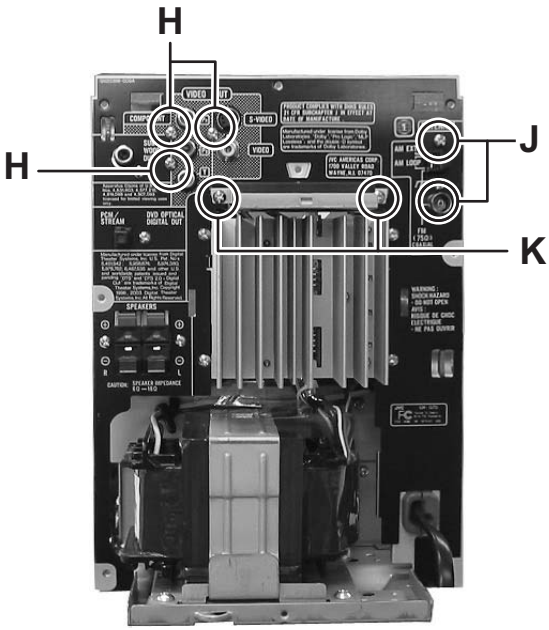


Fig.8

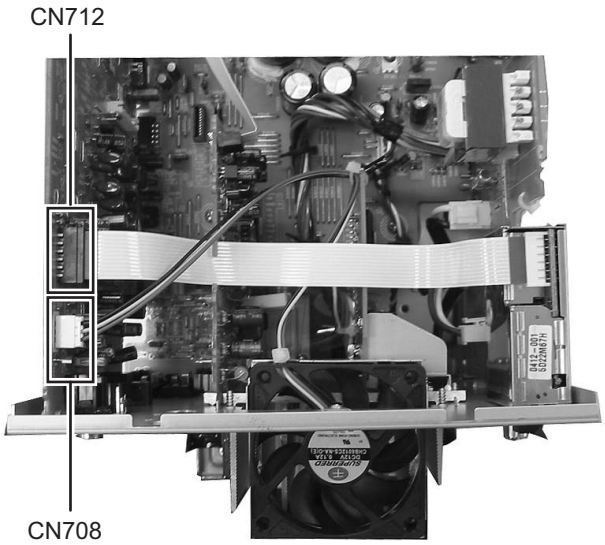


Fig.9

3.1.8 Removing the rear panel (Fig.10, 11)

(1) Remove the eight screws **L** attaching the rear panel. (See Fig.10)

(2) Remove the rear panel from the hook **c**. (See Fig.11)

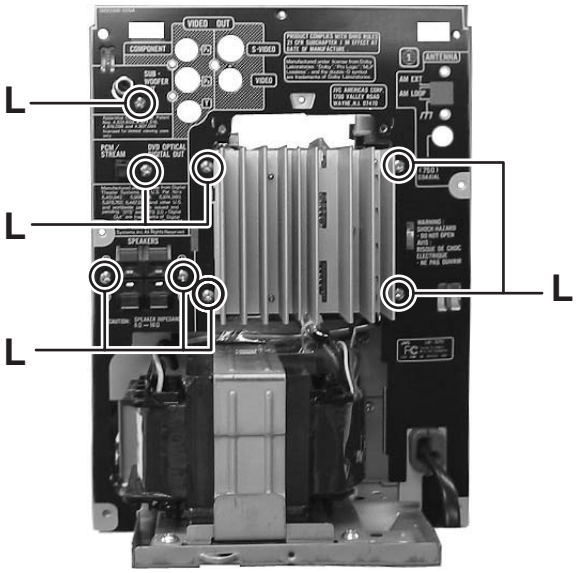


Fig.10

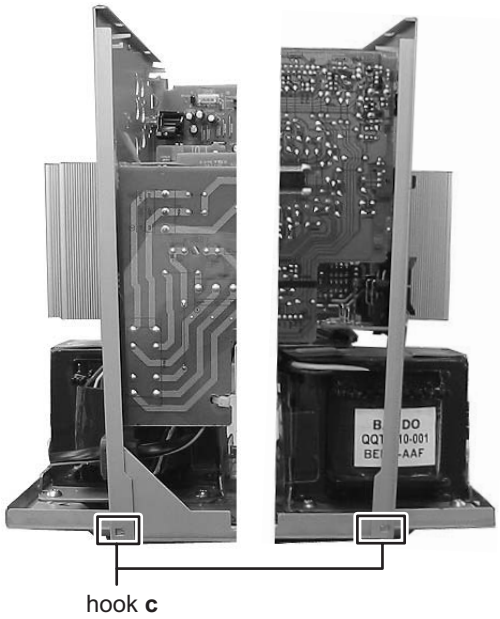


Fig.11

3.1.9 Removing the transformer board (Fig.12)

(1) Disconnect the connector wire from the connector CN903 on the transformer board.
(2) Remove the one screw **M** attaching the transformer board.
(3) Disconnect the connector CN901 connecting the regulator board and then removing the transformer board with power cord.

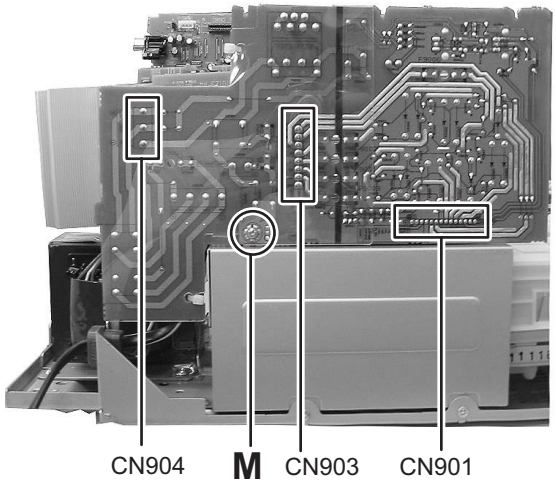


Fig.12

3.1.10 Removing the main board (Fig.13)

(1) Disconnect the card wire from the connector CN703 on the main board.
(2) Remove the one screw **N** attaching the main board.
(3) Disconnect the main board from the connector CN701 and CN702 connecting the regulator board.

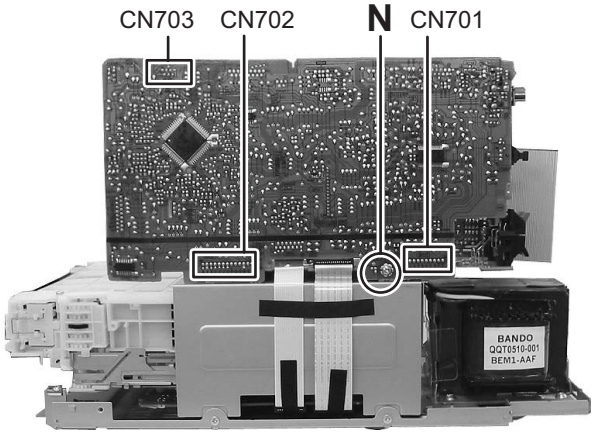


Fig.13

3.1.11 Removing the amplifier board (Fig.14)

(1) Disconnect the amplifier board from the connector CN353 and CN354.

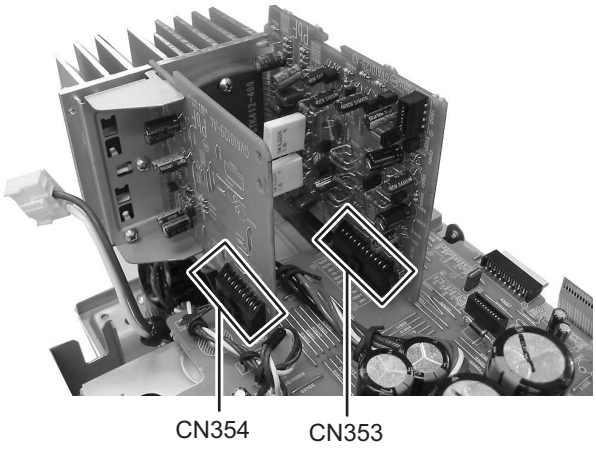


Fig.14

3.1.12 Removing the regulator board (Fig.15)

(1) Disconnect the connector wire from the connector CN361 on the regulator board.
(2) Remove the four screws **P** attaching the regulator board.
(3) Disconnect the card wire from the connector CN356.

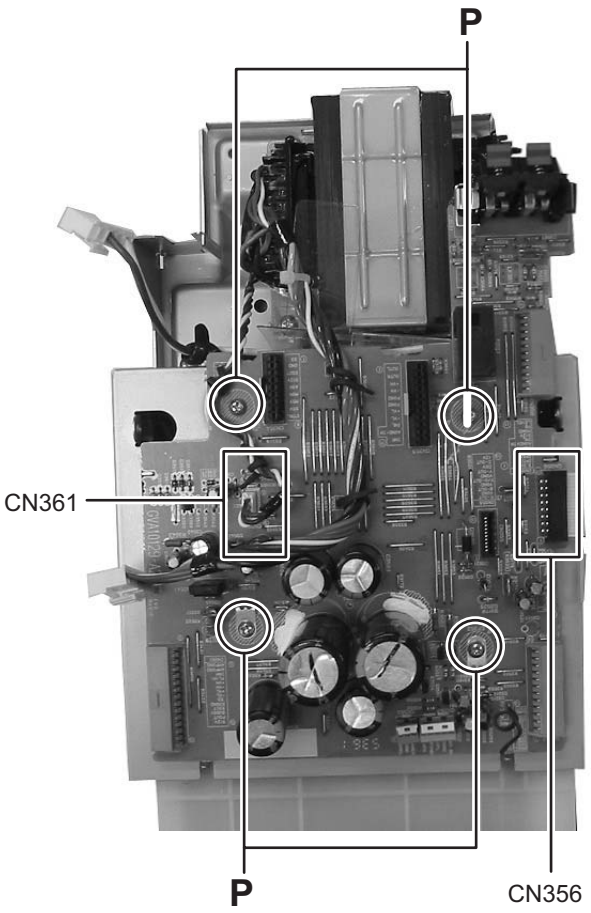


Fig.15

3.1.13 Removing the power transformer (Fig.16)

(1) Remove the four screws **Q** attaching the power transformer.

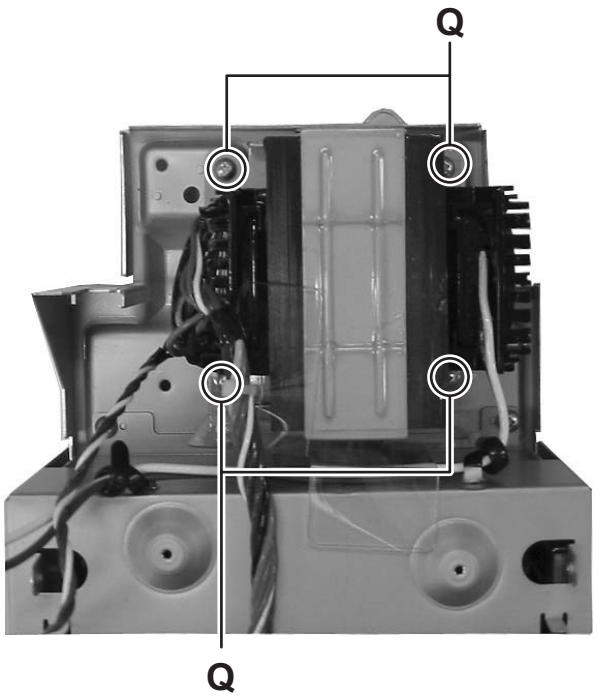


Fig.16

3.1.14 Removing the DVD changer mechanism assembly (Fig.17 to 19)

(1) Remove the four screws **R** attaching the main chassis. (See Fig.17)

(2) Remove the two screws **S** and two screws **T** attaching the DVD changer mechanism assembly. (See Fig.18, 19)

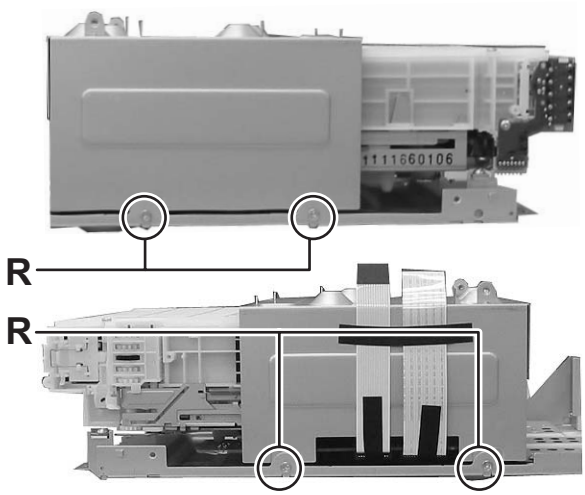


Fig.17

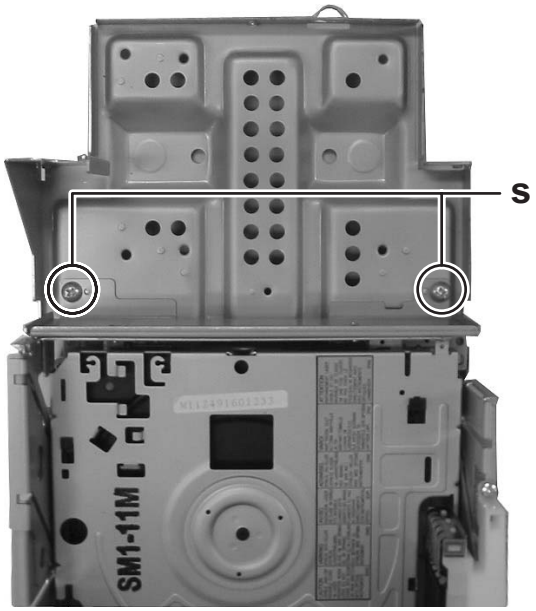


Fig.18

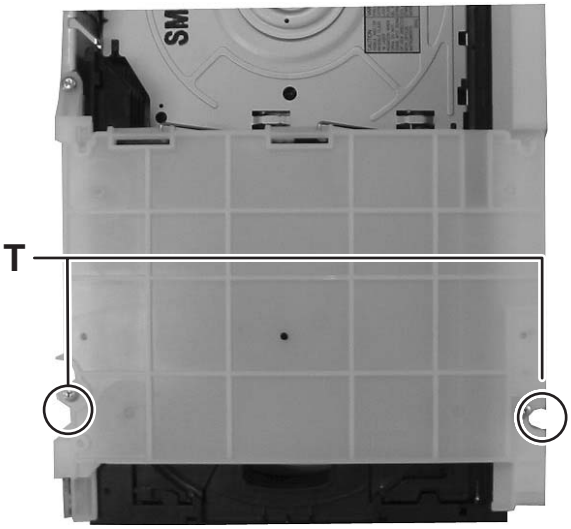


Fig.19

3.1.15 Removing the USB board
(Fig.20)

(1) Remove the three screws **U** attaching the USB board.

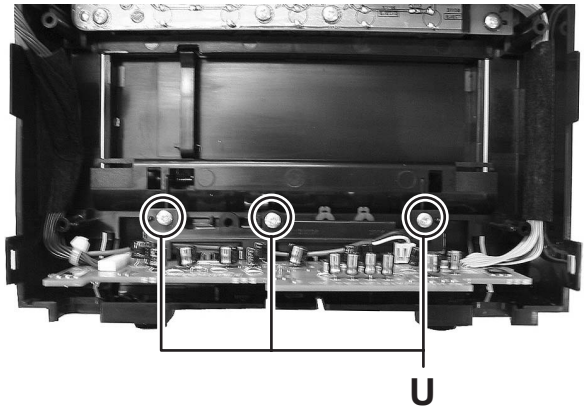


Fig.20

3.1.16 Removing the FL board
(Fig.21)

(1) Remove the four screws **V** attaching the FL board.
(2) Disconnect the card wire from the connector CN100 on the FL board.

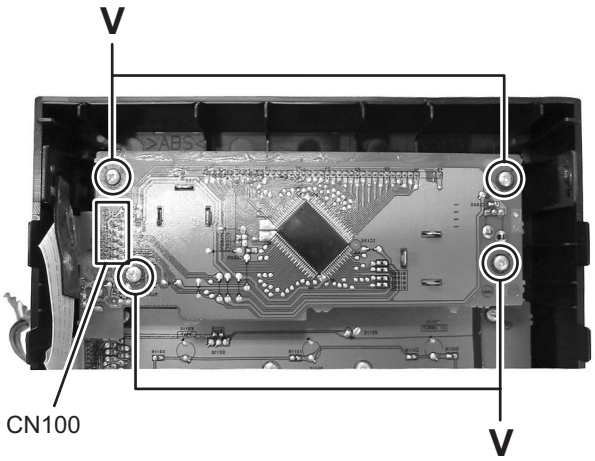


Fig.21

3.1.17 Removing the switch board
(Fig.22)

(1) Remove the volume knob.
(2) Remove the twelve screws **W** attaching the switch board.

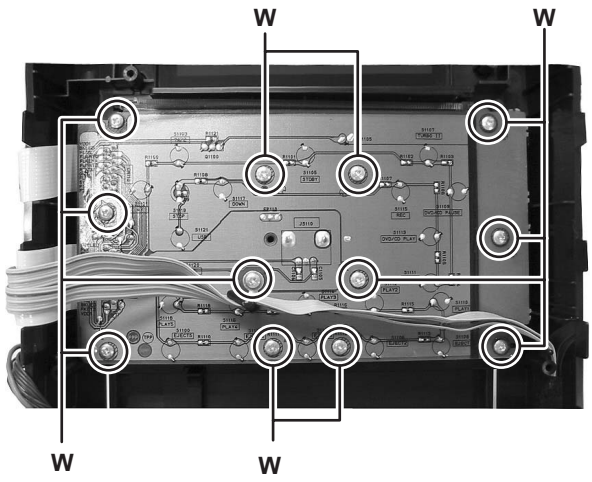


Fig.22

3.2 DVD changer mechanism assembly section

Remove the DVD changer mechanism assembly from the main body. (See "Removing the DVD changer mechanism assembly".)

3.2.1 Removing the tray assemblies (See Figs.1 to 5)

(1) From the top side of the main body, remove the two screws **A** from the top cover and release the two joints **a** on the both sides of the DVD changer mechanism assembly. (See Figs.1 and 2.)
(2) Remove the two rods from the top cover and remove the top cover from the lifter assembly. (See Figs.1 and 2.)
(3) Remove the open det. lever on the left side of the DVD changer mechanism assembly. (See Fig.3.)
(4) From the right side of the DVD changer mechanism assembly, draw out the tray assemblies toward the front while pushing the part **b** of the side (R) assembly. (See Figs.4 and 5.)

Note:
The tray can be locked if all tray assemblies are attached.

(5) From the topside of the DVD changer mechanism assembly, move the stopper tabs **c** in the direction of the arrow and release them. Pull out the tray assemblies from the DVD changer mechanism assembly. (See Fig. 5.)

Note:
Remove the tray assembly from top tray 5 in order.

Reference:
When reattaching the tray assembly, or when removing the disc remaining inside, refer to another section "3.3.15 Taking out the disc in the play mode".

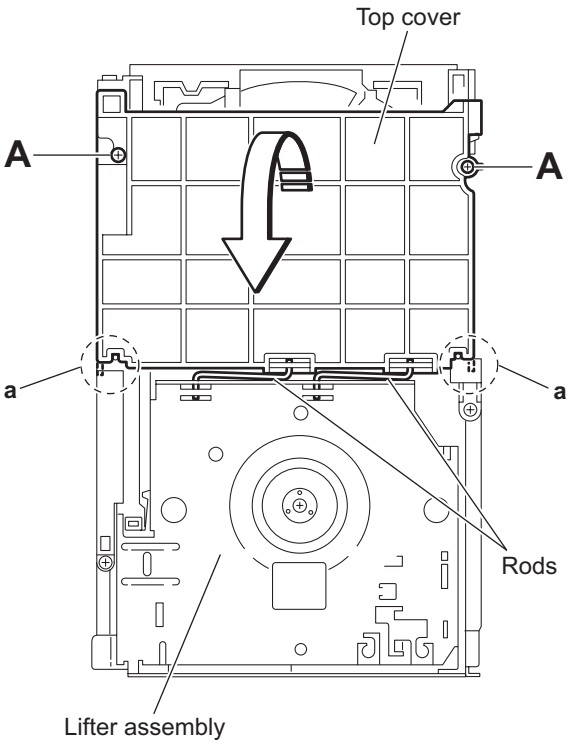


Fig.1

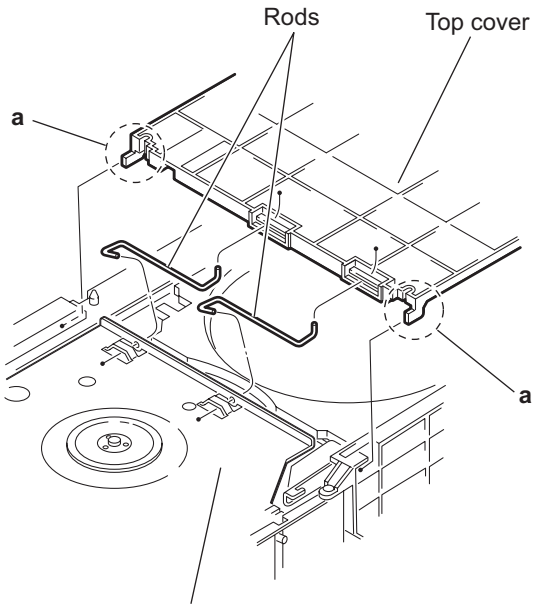


Fig.2

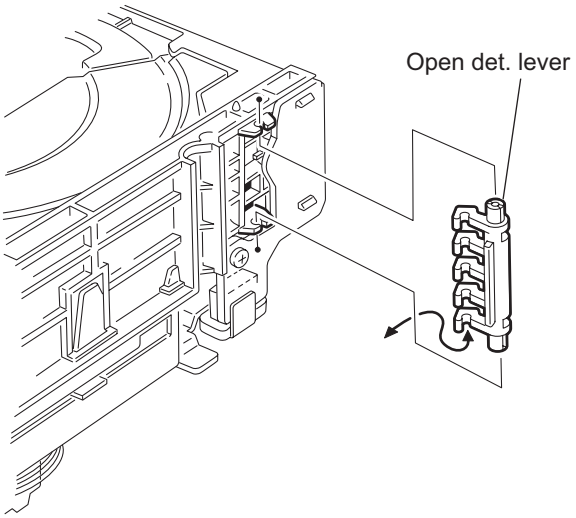


Fig.3

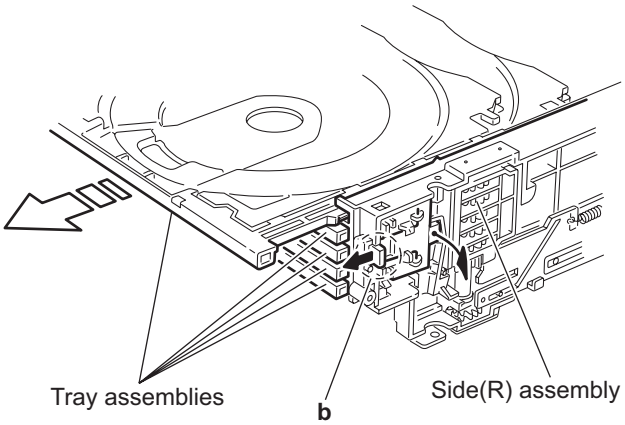


Fig.4

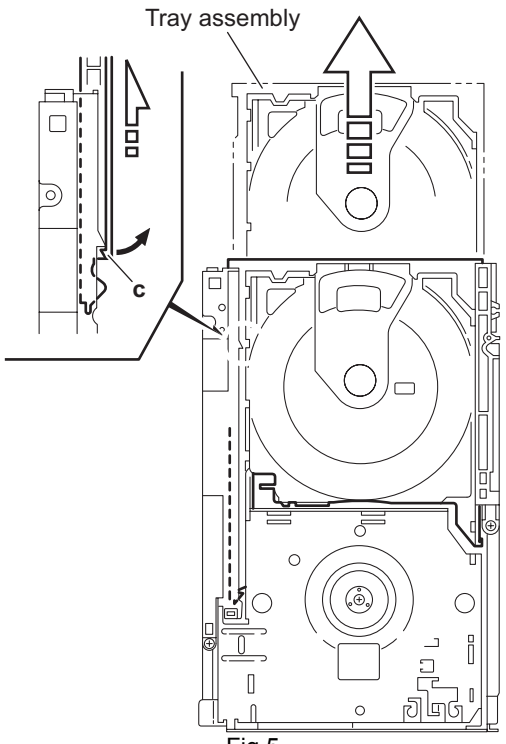


Fig.5

3.2.2 Removing the DVD servo board (See Figs.6 to 8)

Caution:

Solder the short land sections **d** on the DVD pickup before disconnecting the card wire extending from the DVD pickup. If you do not follow this instruction, the DVD pickup may be damaged.

(1) From the topside of the DVD changer mechanism assembly, solder the short land sections **d** on the DVD pick up. (See Fig.6.)

(2) From the bottom side of the DVD changer mechanism assembly, disconnect the card wire from the connectors (CN201, CN451) on the DVD servo board. (See Fig.7.)

Reference:

When connecting the card wire to the connector CN451, pass it through the sections **e** on the DVD traverse mechanism assembly. (See Fig.7.)

(3) Disconnect the wires from the connectors (CN452, CN453) on the DVD servo board. (See Fig.7.)

(4) Remove the two screws **B** attaching the DVD servo board. (See Fig.7.)

(5) From the reverse side of the DVD servo board, release the lock of the connector CN101 in the direction of the arrow and disconnect the card wire. (See Fig.8.)

Caution:

Unsolder the solders from the short land sections **d** after reassembling. (See Fig.6.)

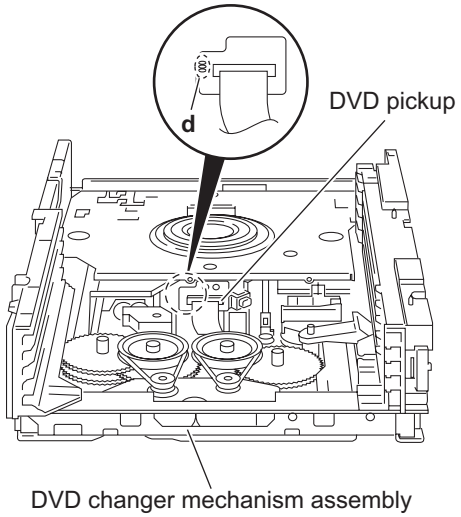


Fig.6

3.2.3 Removing the switch board (See Fig.7)

(1) From the bottom side of the DVD changer mechanism assembly, remove the screw **C** attaching the switch board on the DVD changer mechanism assembly.

(2) Disconnect the wires from the connectors (CN452, CN453) on the DVD servo board.

(3) Release the wires from the section **f** and remove the switch board.

(4) Release the wires from the sections **g** and remove the switch board.

Reference:

When reassembling, pass the wires through the sections (**f**, **g**) as before.

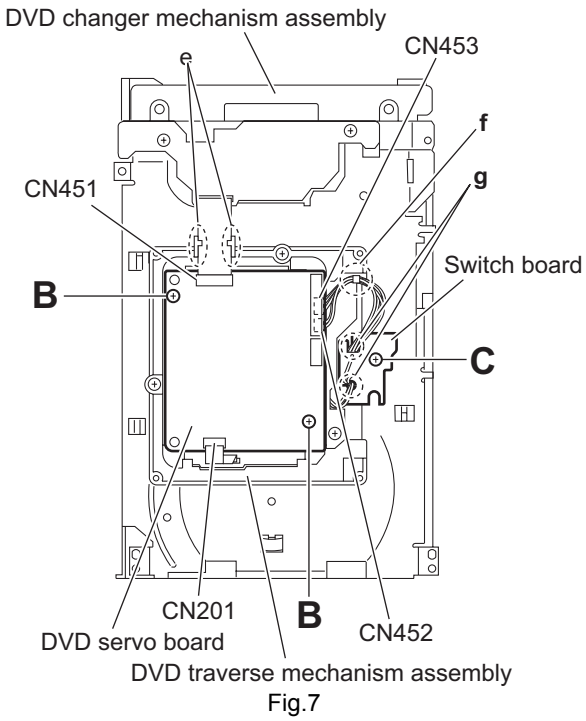


Fig.7

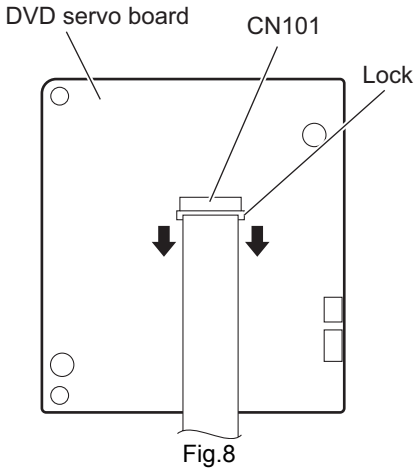


Fig.8

3.2.4 Removing the motor board (See Figs.9 and 10)

(1) From the top side of the DVD changer mechanism assembly, remove the two belts from the motor pulleys. (See Fig.9.)

Note:
Take care not to attach grease on the belt.

(2) Remove the two screws **D** attaching the motors to the loader assembly. (See Fig.9.)

(3) From the bottom side of the DVD changer mechanism assembly, remove the two screws **E**. (See Fig.10.)

(4) Disconnect the connector CN2 on the motor board from the tray switch board and remove the motor board. (See Fig.10.)

(5) Disconnect the card wire from the connector CN1 on the forward side of the motor board. (See Fig.10.)

Note:
When connecting the card wire, let the card wire through the slots **h** of the motor board. (See Fig.10.)

Reference:
You need not to remove the tray assemblies, and in such case, move it.

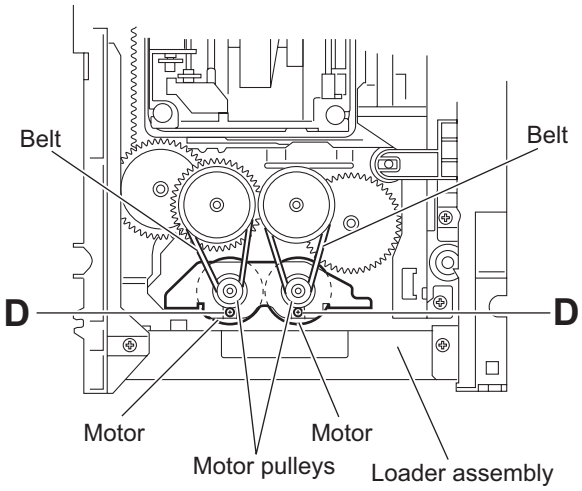


Fig.9

3.2.5 Removing the motor (See Fig. 10)

• Remove the motor board.

(1) From the reverse side of the motor board, unsolder the four soldered sections **i** on the motor board.

(2) From the forward side of the motor board, remove the motors.

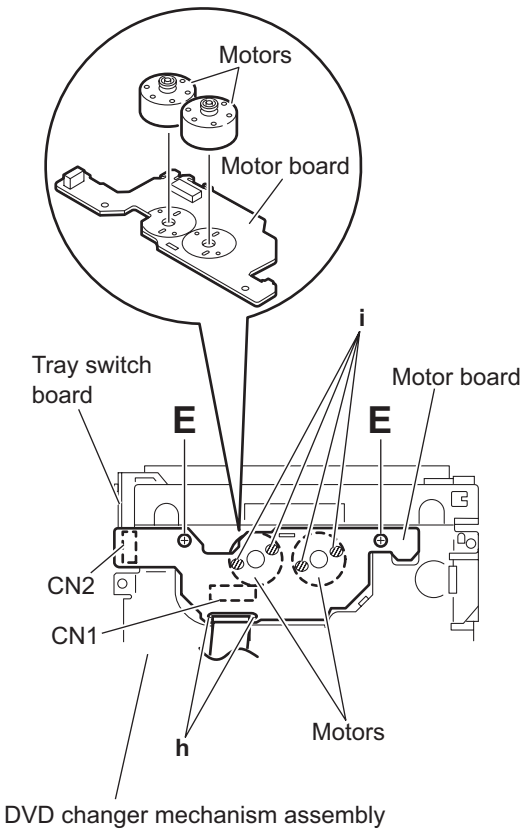


Fig.10

3.2.6 Removing the DVD traverse mechanism assembly (See Fig.11)

- Remove the tray assemblies and DVD servo board.
  (1) From the bottom side of the DVD changer mechanism assembly, remove the three screws **F** attaching the DVD traverse mechanism assembly.
  (2) Remove the wires from the section **j**.
  (3) Take out the DVD traverse mechanism assembly from the DVD changer mechanism assembly.

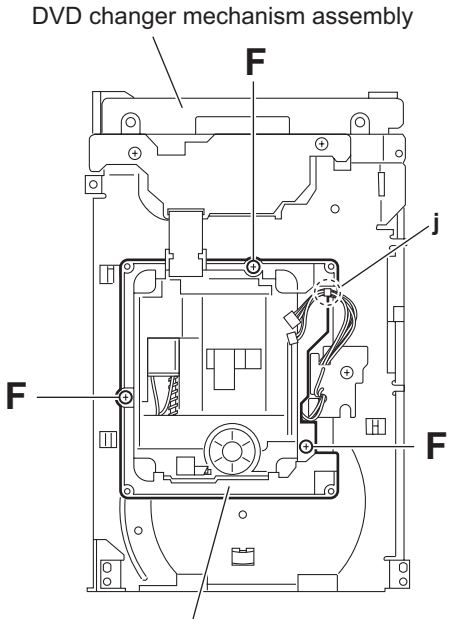


Fig.11

3.2.7 Removing the DVD pickup (See Figs.12 to 14)

- Remove the tray assemblies, DVD servo board and DVD traverse mechanism assembly.
  (1) From the top side of the DVD traverse mechanism assembly, release the lock of the connector on the DVD pickup and disconnect the card wire in the direction of the arrow. (See Fig.12.)
  (2) Turn the screw shaft gear in the direction of the arrow 1 to move the DVD pickup in the direction of the arrow 2. (See Fig.12.)
  (3) Remove the screw **G** attaching the feed bracket and remove the feed bracket from the sections **k**. (See Fig.12.)
  (4) Release the claw **m** of the thrust spring in the direction of the arrow and remove the thrust spring. (See Fig.12.)
  (5) Remove the guide shaft from the sections (**n**, **p**) on the C.TM chassis. (See Fig.13.)
  (6) Remove the section **q** of the DVD pickup. (See Fig.13.)
  (7) Remove the two screws **H** attaching the rack arm spring and rack arm. (See Fig.14.)
  (8) Pull the guide shaft from the DVD pickup in the direction of the arrow. (See Fig.14.)

3.2.8 Attaching the DVD pickup (See Figs.12 to 14)

(1) Attach the guide shaft to the DVD pickup and attach the rack arm spring and rack arm with the screws **H**. (See Fig.14.)
(2) Attach the section **q** of the DVD pickup to the C.TM chassis first and attach the guide shaft to the sections (**n**, **p**). (See Fig.13.)

Reference:

When attaching the guide shaft to the section **p**, attach it under the rod spring. (See Fig.13.)

(3) Attach the thrust spring and feed bracket with the screw **G**. (See Fig.12.)
(4) Turn the screw shaft gear in the direction of the arrow 1 to move the DVD pickup in the direction of the arrow 2. (See Fig.15.)
(5) Connect the card wire to the connector on the DVD pickup. (See Fig.15.)

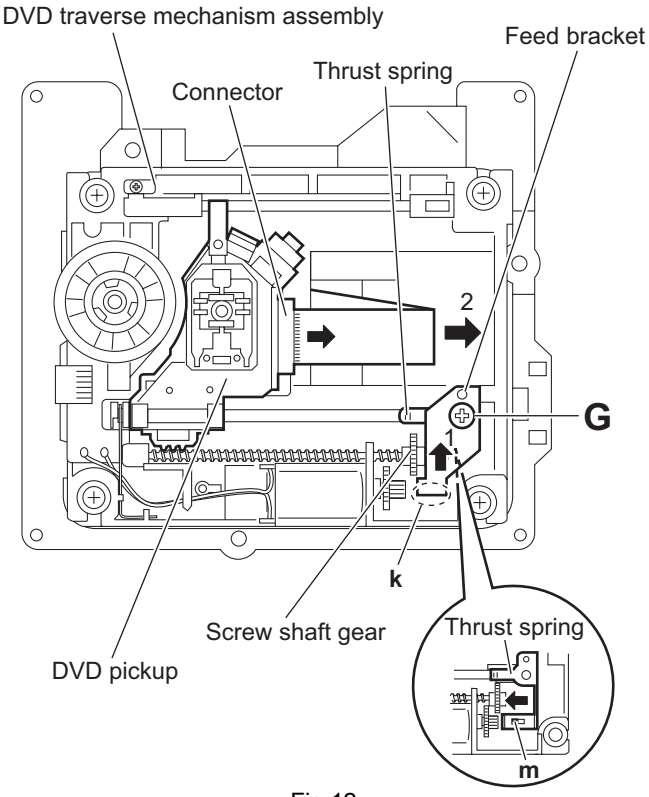


Fig.12

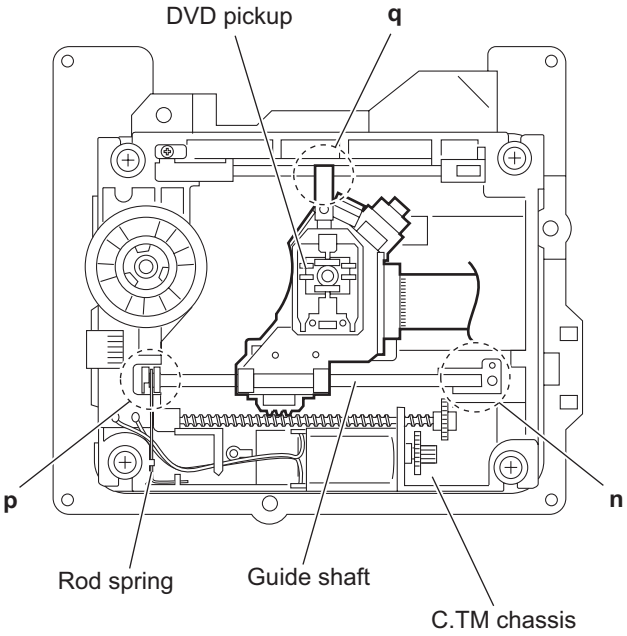
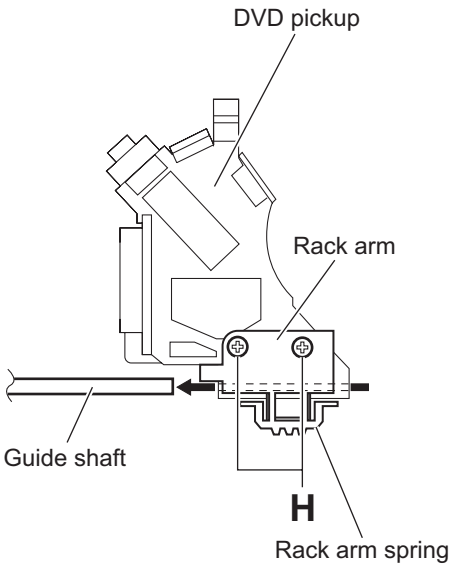
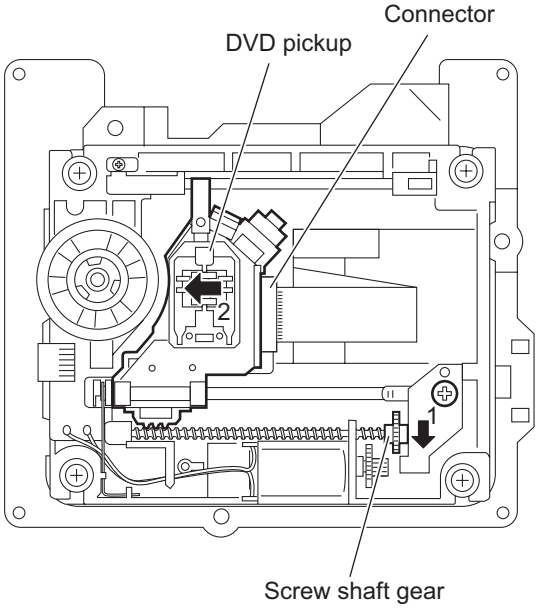


Fig.13


DVD pickup
Rack arm
Guide shaft
H
Rack arm spring
Fig.14


Connector
DVD pickup
2
1
Screw shaft gear
Fig.15

3.2.9 Removing the spindle motor board (See Figs.16 and 17)

- Remove the tray assemblies, DVD servo board and DVD traverse mechanism assembly.
  (1) From the top side of the DVD traverse mechanism assembly, remove the wires from the soldered sections **r** on the spindle motor board. (See Fig.16.)
  (2) From the bottom side of the DVD traverse mechanism assembly, remove the three screws **J** attaching the spindle motor board. (See Fig.17.)

Reference:

When attaching the spindle motor board, let the card wire through the hole **s** on the C.TM chassis. (See Fig.17.)

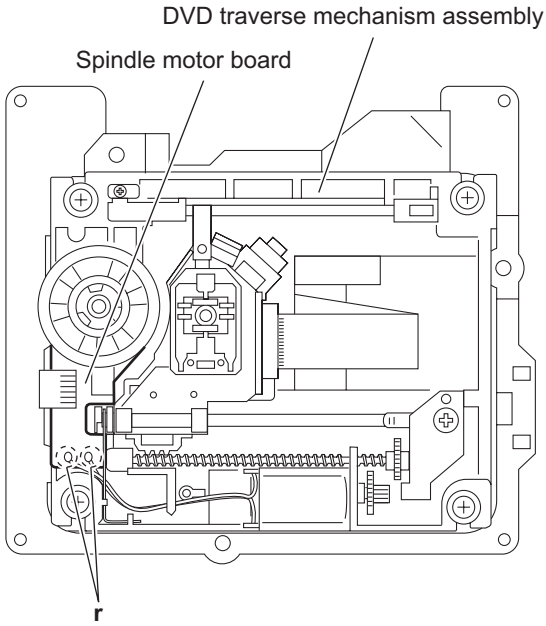


Fig.16

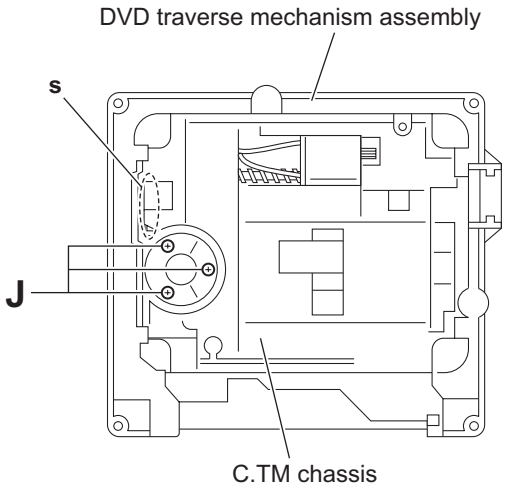


Fig.17

3.2.10 Removing the feed motor (See Figs.18 and 19)

- Remove the tray assemblies and DVD traverse mechanism assembly.
  (1) From the top side of the DVD traverse mechanism assembly, remove the screw **K** attaching the feed bracket and remove the feed bracket from the sections **t**. (See Fig.18.)
  (2) Release the claw **u** of the thrust spring in the direction of the arrow and remove the thrust spring. (See Fig.18.)
  (3) Remove the screw shaft from the section **v** and remove it in the direction of the arrow. (See Fig.19.)
  (4) Remove the middle gear. (See Fig.19.)
  (5) Remove the screw **L** attaching the feed motor to the C.TM chassis. (See Fig.19.)
  (6) Remove the wires from the soldered sections **w** on the spindle motor board. (See Fig.19.)
  (7) Take out the feed motor from the motor base.

Reference:

After attaching the feed motor, pass the wires through the sections **x** on the C.TM chassis as before. (See Fig.19.)

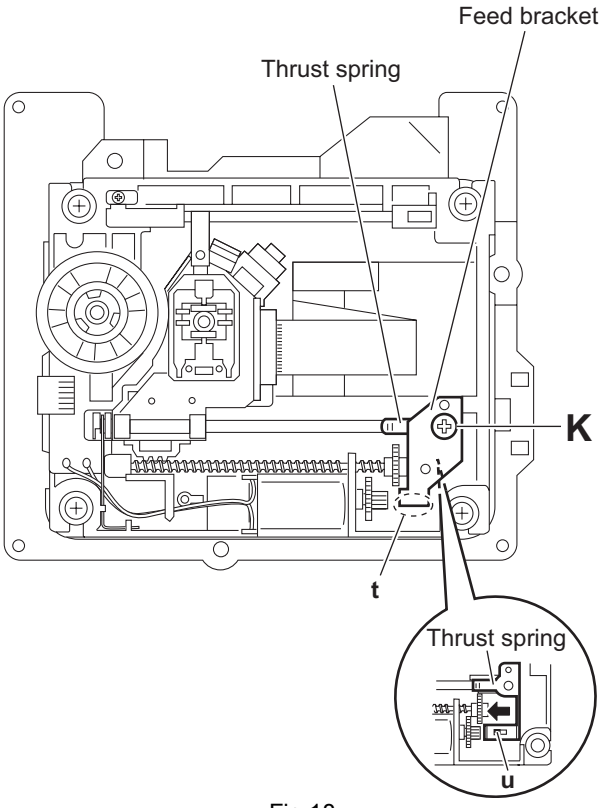


Fig.18

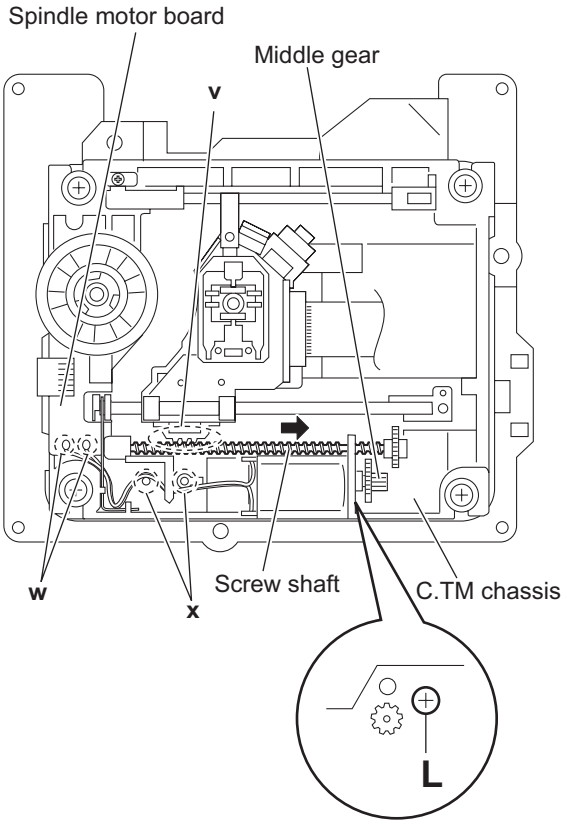


Fig.19

3.2.11 Removing the side (L) and tray switch board (See Figs.20 to 22)

- Remove the tray assemblies.
  (1) From the topside of the DVD changer mechanism assembly, remove the two screws **M** attaching the side (L). (See Fig.20.)
  (2) From the left side of the DVD changer mechanism assembly, disconnect the connector CN3 on the tray switch board from the motor board and detach the side (L) in an upward direction. (See Fig.21.)
  (3) Remove the screw **N** attaching the tray switch board to the side (L). (See Fig.22.)
  (4) Release the joint tab **y** of the side (L) in the direction of the arrow 1 and release the joint tab **z** while removing the tray switch board in the direction of the arrow 2. (See Fig.22.)

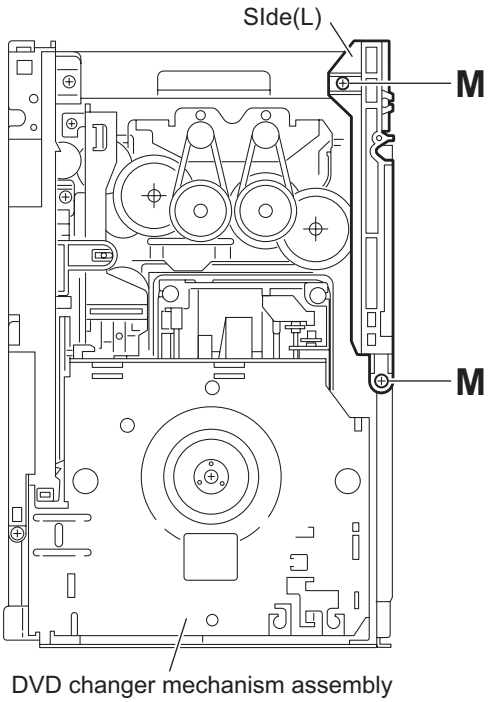


Fig.20

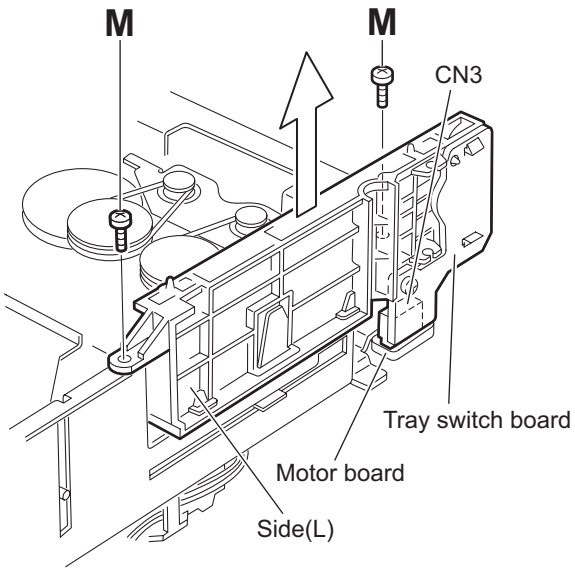


Fig.21

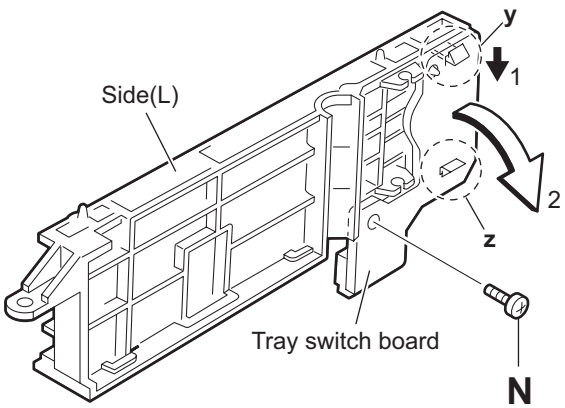


Fig.22

3.2.12 Removing the side (R) assembly (See Fig.23 to 27)

- Remove the tray assemblies and DVD servo board.
  (1) From the inside of the side (R) assembly, release the two tabs **aa** of the gear cover and remove the gear cover outward. (See Figs.23 and 24.)
  (2) From the right side of the DVD changer mechanism assembly, remove the elevator spring attached to the hook **ab** of the loader assembly. (See Figs.24 and 25.)
  (3) From the top side of the DVD changer mechanism assembly, turn the gear 1 clockwise to move the elevator cam rearward. (See Fig.25.)
  (4) Move the two slots **ac** and joint **ad** of the elevator cam and remove the elevator cam outward. (See Fig.25.)
  (5) Remove the three screws **P** and detaches the side (R) assembly upward. (See Figs.26 and 27.)

Note:

When reattaching the side (R) assembly, make sure to fit the shaft (part **ae**) into the slot of the select lever. (See Fig.26.)

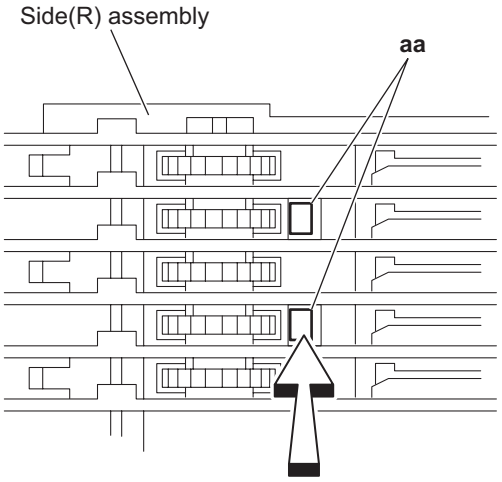


Fig.23

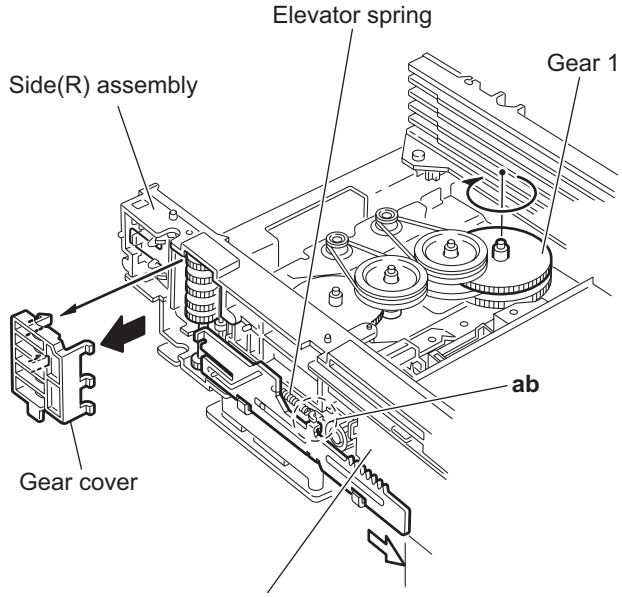


Fig.24

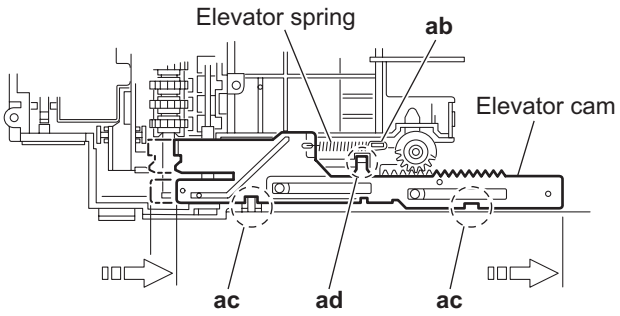


Fig.25

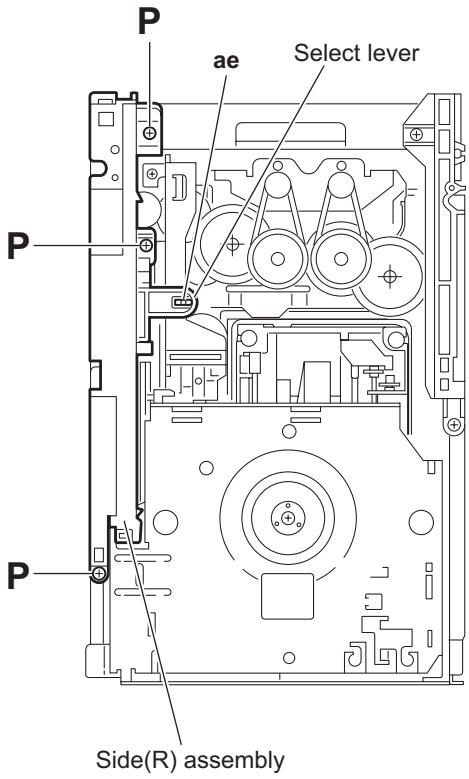


Fig.26

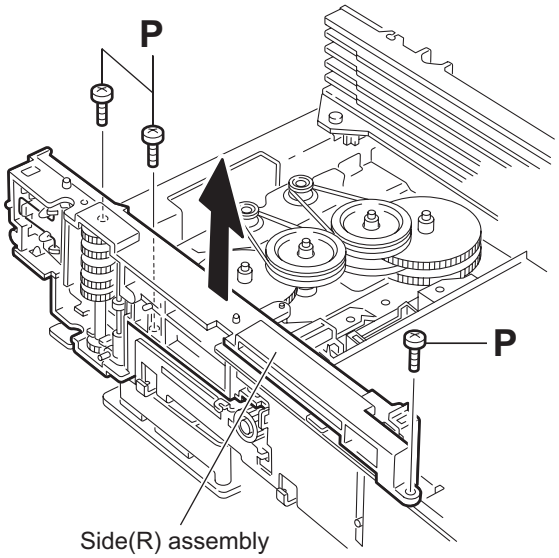


Fig.27

3.2.13 Removing the lifter assembly (See Figs.28 to 32)

- Remove the tray assemblies, DVD servo board, side (L) and side (R) assembly.
  (1) (1) From the top side of the DVD changer mechanism assembly, turn the gear 1 clockwise to move the lifter assembly upward. (See Figs.28 and 29.)
  (2) Turn the gear 2 clockwise to move the hook toward the front until it stops. (See Figs.28 and 29.)
  (3) Move the hook stopper in the direction of the arrow 2 while pushing the tab **af** of the hook stopper to unlock it in the direction of the arrow 1 and release four joints **ag** to detach from the rack holder. (See Fig.30.)
  (4) Release the rod (L) from part **ah**. (See Fig.30.)
  (5) Turn the gear 1 clockwise again to move the lifter assembly upward. (See Fig.31.)
  (6) Remove the lifter assembly from the DVD changer mechanism assembly upward at the positions ai where the four pins on the both sides of the lifter assembly fit to the notches of the loader assembly. (See Fig.31.)
  (7) Move the lifter assembly in the direction of the arrow and release it from the hook. (See Fig.32.)

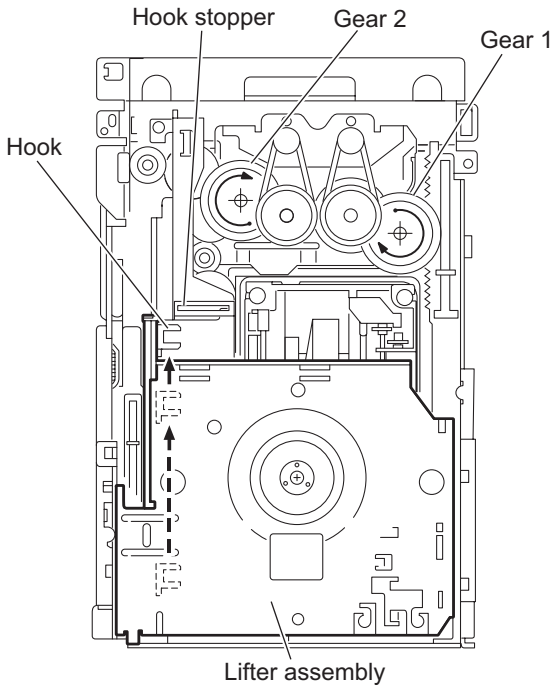


Fig.28

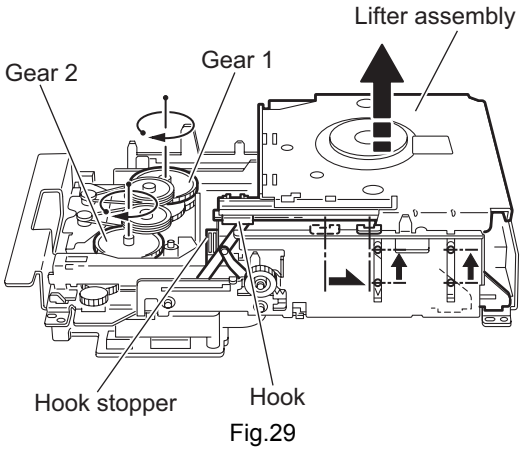


Fig.29

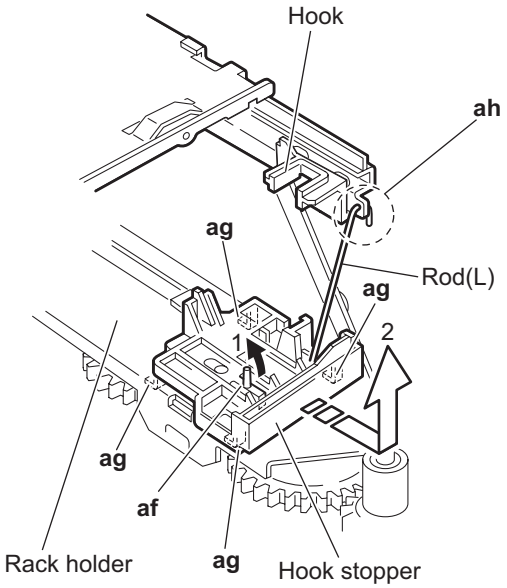


Fig.30

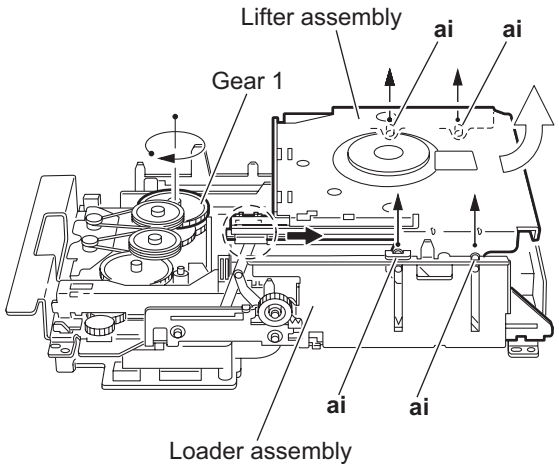


Fig.31

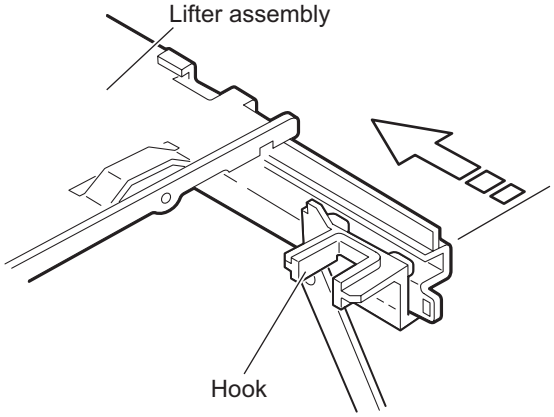


Fig.32

3.2.14 Removing the sensor board and SV resistor (See Fig.33)

- Remove the tray assemblies, side (L), side (R) assembly and lifter assembly.
  (1) Remove the solders from the soldered sections **aj** on the sensor board and remove the wires.
  (2) Remove the two screws **Q** and take out the sensor board with the SV resistor.

Reference:

- Remove the soldered section **ap** on the sensor board as required.
- When reassembling, pass the wires through the slot **ak** of the sensor board as before.

Note:

When reattaching the SV. resister, fit the projection am on the bottom of the SV. resister into slot **an** of the sensor slider.

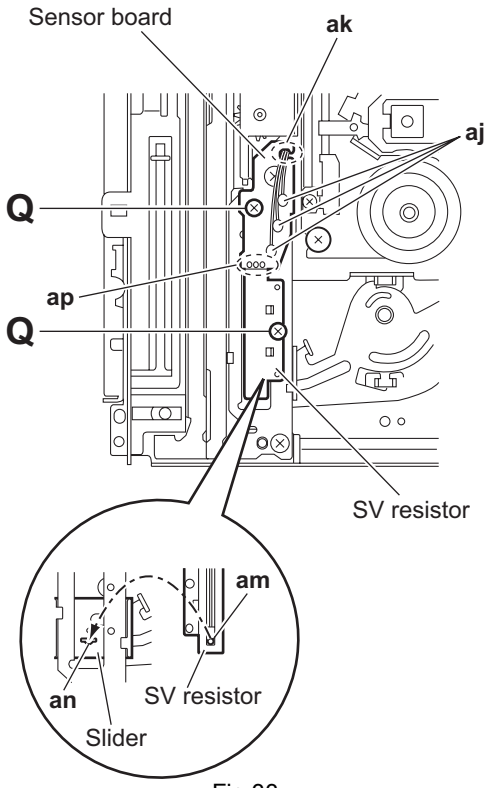


Fig.33

3.2.15 Taking out the disc in the play mode (See Fig.34 to 37)

Reference:

Refer to "3.3.1 Removing the tray assemblies".

(1) From the top side of the DVD changer mechanism assembly, remove the top cover.
(2) Unlock the tray assemblies and draw out the tray assemblies toward the front.
(3) From the top side of the DVD changer mechanism assembly, turn the gear 1 clockwise to move the lifter assembly upward. (See Fig.34.)
(4) Turn the gear 2 clockwise to move the sub tray remaining inside the lifter assembly toward the front, then pull out. (See Fig.34.)
(5) Take out the disc on the sub tray. (See Fig.35.)
(6) After clearing away the disc, insert the sub tray into the main tray. (See Fig.36.)

Note:

When reattaching the sub tray, move the tray stopper on the bottom of the main tray in the direction of the arrow to lock the sub tray certainly. (See Figs.36 and 37.)

(7) Push the tray assembly toward the DVD changer mechanism assembly and reattach.

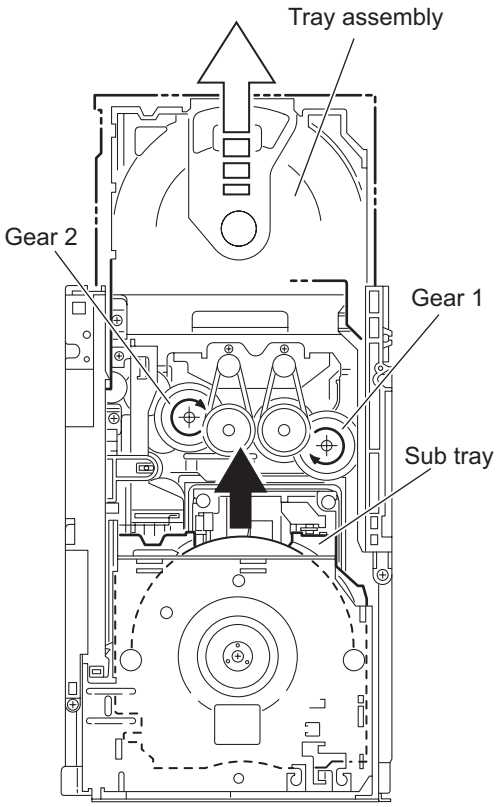


Fig.34

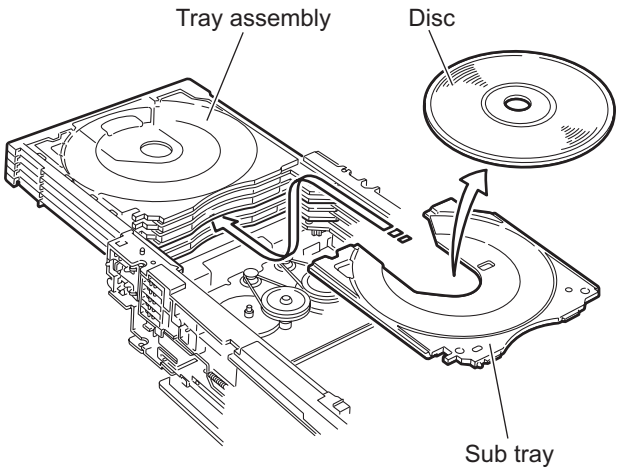


Fig.35

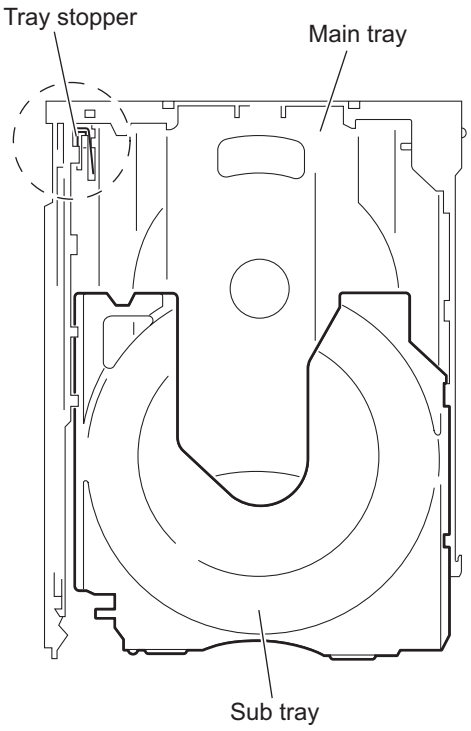


Fig.36

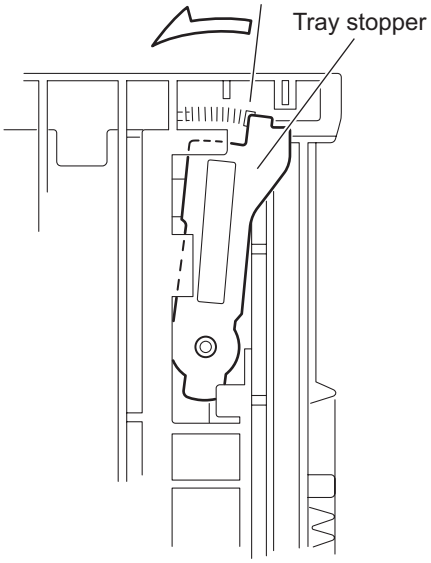


Fig.37

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 excuted, excute 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 Test mode

Item	Operation	Managemant
Tray lock	STOP [key] + DISC 1 EJECT (Only during Stanby Mode)	Loader-Mehca is locked. EJECT processing isn't done by pushing EJECT key at tray lock state. Then display to LOCKED/UNLOCKED. EJECT 1 is pushed, pushing STOP again, tray lock is off. Back up to tray locked ON/OFF.
Cold start	[Remocon key] STANDBY/ON + ENTER + 10	Cold start processing. After cold start is activated, FL temporary display COLD' for 2 seconds. Then return to previous display. To activate cold start AC OFF system, then AC ON again.
CLOCK FAST FORWARDING	[Remocon key] STANDBY/ON + ENTER + 2	Fast Forward Clock (Increase clock counter speed) Can only be activated after SYSTEM Clock is set To exit this TEST mode, AC OFF the system, then AC ON again.
FAN ON/OFF Setting	STOP [key] + DISC 2 EJECT (During STANDBY MODE)	Toggle between FAN switch ON and OFF. (FANCTRL : L -> H TOGGLE) This test mode is only effective during STANDBY MODE. Need to set POUTREG to H when FANCTRL is H. Test mode exit when system STANDBY -> P.ON
VOLUME LARGE STEP CHANGE	[Remocon Key] STANDBY/ON + ENTER + 1	VOLUME CHANGE VOLUME STEP MAX(40) -> VOLUME STEP CENTER(20) TOGGLE Normal Operation TEST mode. System returns to normal operation after performing VOLUME CHANGE.
MICON VERSION DISPLAY	[Remocon Key] STANDBY/ON + ENTER + 9	TEMPORARY DISPLAY FOR MICON VERSION (5SEC) After 5 seconds, return to previous display. Each key press will toggle temporary display for the following: SYSCON VERSION -> DVD LSI (BE) VERSION) and DVD MECHA VERSION * DVD LSI (BE & FE) VERSION CAN ONLY BEEN DISPLAY DURING SYSTEM POWER ON IN DVD MODE (WHEN DVD LSI P.ON) * IF THERE IS NO INFORMATION FEEDBACK, SYS-CON WILL DISPLAY "WAIT" BLINKING 0.5SEC ON & OFF Actual FL display SYSCOM version "012417-R**" or "030227-R**"
FL ALL SEGMENT and TEMPERATURE DATA	[Remocon Key] STANDBY/ON + ENTER + >=10	FL ALL SEGMENT ON (NO BLINK) Each key press will toggle between FL ALL SEGMENT, TEMP decimal data and DVD THERMISTOR Temperature data.
DVD test mode	STOP [key] + EJECT 5[key] (Hold during AC In)	Enters DVD-TEST mode. DVD-TEST mode specification based on DVD-MODULE spec. To exit DVD-TEST mode, AC OFF the system, then AC ON again. For Region Rewrite and DVD-AUDIO Device Key Writing, refer to Region Rewrite and Device Key Writing section below for exit procedure.

Item	Operation	Managemant
DVD initialize	>>| [key] during DVD test mode	DVD module initialized. FL 8 Segments will display 'INIT' after initialize. " T xxy v0 " <- " T xxy vw " Display will return to DVD Test Mode Area display. (" T xxy vw ") Press Power key to exit this TEST mode. To exit this TEST mode, AC OFF the system, then AC ON again.
DVD region confirm mode	STOP [key] + EJECT 5[key] (Hold during AC In)	FL display " T E*0 " (E=Euro) Region* FL display " T E2 0 " (E=Euro) Region 2 or " TJC10 " (JC=USA/CANADA)Region 1
Tuner test mode	[Remocon key] Standby + enter + 0	eg: V U2 9K " VE 9K " Euro or " VJC 10K " (USA/CANADA) V: version U2: A/UF/UN/US 9K: AM STEP SETTING
SAFETY MODE check by WHAT	STOP + LINE [key] In standby [after safety trigger]	(A) If safety-cassette deck trigger, FL show : " ACM SAFETY " (B) If /protect trigger, FL show : "AMP SAFETY" (C) If /safety-reg trigger, FL show : "REG SAFETY" (D) If flock trigger, FL show : "FAN SAFETY" (E) If DVD temperature trigger, FL show : "DVD-SAFETY"

POWER KEY PRESSED to exit

*Note:

1. Other than Device Key Writing & DVD Region Re-write case, other test mode can be exit by pressing POWER KEY on SET.
2. During any other Test Mode, when POWER KEY is pressed, wait until "POFF OK" displayed (with Backlight LED off) meaning that DVD Test mode is successfully exit.
3. "POFF OK" Display will be indicated for 5sec only, then it will return to Standby Mode Display
4. After "POFF OK" dsiplay, system is now go back to normal operation mode.

4.3 Other test mode's operation

1. To enter DVD TEST mode,
   a. AC POWER OFF
   b. Press and hold STOP+DVD5 EJECT/CLOSE keys.
   c. AC POWER ON while holding STOP+DVD5 EJECT/CLOSE keys.
   d. Sys-con will send the following commands:
      (INIT Command, TEST MODE Start)
      (MODE STATE REPORT Command, DELIVERY INFO)
      (STATUS REQUEST, DESTINATION AND REGION INFO)
      (DESTINATION INFO, DESTINATION NUMBER, REGION INFO).
   e. DVD Mecha will start in TEST MODE, FL will display:

	T		x	x	y		v	w	

   xx is the received DESTINATION information. Display as follows:
   xx = JC/1U/D/E/2U/3U/UB/UT/4U/UY/EE/UF
   y = region number
   v = study state information from MECHA-CON (Display Byte3 when Byte7 is "0x09")
   w = initialization state from MECHA-CON (Display Byte4 when Byte7 is "0x09".Display blank when Byte4 is "0xFF".)

2. To extie DVD TEST mode,
   a. During TEST MODE (except for Device Key write & DVD Region Re-write), press POWER KEY and wait until "POFF OK" is displayed for 5sec, then system goes into Standby Mode & Backlight LED is off This means that System now successfully exit the DVD Test Mode & back to normal mode
   b. To exit TEST mode for Device Key Write & DVD Region Re-write, first AC OFF, then AC ON again to return to normal state.

3. EEPROM INITIALIZATION

(1) NORMAL INITIALIZE

a. During DVD TEST MODE, Press >>| key on remote control to start NORMAL EEPROM INITIALIZATION.
b. Sys-con will send the following command:
c. Mecha will feedback the following information after finish INITIALIZATION:
Status: Byte 0 = 0x00 (NORMAL), Byte 7 = 0x09, Byte 4 = initialization state
d. When received status, FL will display:

	T		x	x	y		v	w	

w = initialization state from MECHA-CON (Display Byte4 when Byte7 is "0x09".Display blank when Byte4 is "0xFF".)

(2) FULL INITIALIZE

a. During DVD TEST MODE, STOP key on set 2 seconds control to start FULL EEPROM INITIALIZATION.
b. Sys-con will send the following command:
c. Mecha will feedback the following information after finish INITIALIZATION:
Status: Byte 0 = 0x00 (NORMAL), Byte 7 = 0x09, Byte 4 = initialization state
d. When received status, FL will display:

	T		x	x	y		v	w	

w = initialization state from MECHA-CON (Display Byte4 when Byte7 is "0x09".Display blank when Byte4 is "0xFF".)

4. DEVICE KEY CHECKSUM DISPLAY

a. During DESTINATION INFO display screen (1), press MENU key to enter DEVICE KEY CHECKSUM display
(TEST MODE, MODE STATE, CHECK MODE)
(DEVICE KEY CHECKSUM)

FL will display (Example):

	X	X	X	X	X	X	X	X	

DISPLAY BOTH CPPM AND CPRM

5. DVD CHECK MODES

a. Press MENU key again to enter CHECK MODE.
(TEST MODE, MODE STATE, CHECK MODE)

FL Display:

		C	H	E	C	K			

Press '1' key on REMOTE CONTROL to START PLAYBACK.

FL Display:

	P	L	A	Y	B	A	C	K	

Press '2' key on REMOTE CONTROL to perform SEARCH TNO+1

FL Display:

	W	O	B	B	L	E			

(2 seconds)

Status: 00(NORMAL) XX XX cc cc jj jj

	c	c	c	c	j	j	j	j	

cccc: Byte 0 = 0x00, Byte 7 = 0x00, Byte 3,4 → ¨DISPLAY
jjjj: Byte 0 = 0x00, Byte 7 = 0x00, Byte 5,6 → ¨DISPLAY

Press '3' key on REMOTE CONTROL to perform SEARCH TNO-1

FL Display:

		C	H	E	C	K			

Press '4' key on REMOTE CONTROL to light up CD_LD and display laser current.

FL Display:

	C	D	L	D		L	S	R	

(2 seconds)

Status: 00(NORMAL) XX XX cc cc jj jj

	c	c	c	c	j	j	j	j	

(Static)

cccc: Byte 0 = 0x00, Byte 7 = 0x00, Byte 3,4 → ¨DISPLAY
jjjj: Byte 0 = 0x00, Byte 7 = 0x00, Byte 5,6 → ¨DISPLAY

Press '5' key on REMOTE CONTROL to light up DVD_LD and display laser current.

FL Display:

	C	D	L	D		L	S	R		(2 seconds)

Status: 00(NORMAL) XX XX cc cc jj jj

	c	c	c	c	j	j	j	j		(Static)

cccc: Byte 0 = 0x00, Byte 7 = 0x00, Byte 3,4 → ¨DISPLAY
jjjj: Byte 0 = 0x00, Byte 7 = 0x00, Byte 5,6 → ¨DISPLAY

Press '6' key on REMOTE CONTROL to enter DVD x 2 JITTER MEASUREMENT MODE

FL Display:

	J	I	T	X	1					(2 seconds)

Status: 00(NORMAL) XX XX cc cc jj jj

	c	c	c	c	j	j	j	j		(Static)

cccc: Byte 0 = 0x00, Byte 7 = 0x00, Byte 3,4 → ¨DISPLAY
jjjj: Byte 0 = 0x00, Byte 7 = 0x00, Byte 5,6 → ¨DISPLAY

Press '7' key on REMOTE CONTROL to view EEPROM (MECHA) content in -1 address step.

FL Display:

	E	E	P			B	W	D		(2 seconds)

Status: 00(NORMAL) XX XX cc cc jj jj

	c	c	c	c	j	j	j	j		(Static)

cccc: Byte 0 = 0x00, Byte 7 = 0x00, Byte 3,4 → ¨DISPLAY
jjjj: Byte 0 = 0x00, Byte 7 = 0x00, Byte 5,6 → ¨DISPLAY

Press '8' key on REMOTE CONTROL to view EEPROM (MECHA) content in +1 address step.

FL Display:

	E	E	P			F	W	D		(2 seconds)

Status: 00(NORMAL) XX XX cc cc jj jj

	c	c	c	c	j	j	j	j		(Static)

Byte 3,4 → ¨DISPLAY
jjjj: Byte 0 = 0x00, Byte 7 = 0x00, Byte 5,6 → ¨DISPLAY

Press '9' key on REMOTE CONTROL to perform SEARCH DVD_SL DESIGNATED POSITION and JITTER MEASUREMENT

FL Display:

	T	E	M	P						(2 seconds)

Status: 00(NORMAL) XX XX cc cc jj jj

	c	c	c	c	j	j	j	j		(Static)

cccc: Byte 0 = 0x00, Byte 7 = 0x00, Byte 3,4 → ¨DISPLAY
jjjj: Byte 0 = 0x00, Byte 7 = 0x00, Byte 5,6 → ¨DISPLAY

Press '10' key on REMOTE CONTROL to perform SEARCH DVD_DL PARALLEL DISC DESIGNATED POSITION and JITTER MEASUREMENT

FL Display:

	D	V	D	-	D	L				(2 seconds)

Status: 00(NORMAL) XX XX cc cc jj jj

	c	c	c	c	j	j	j	j		(Static)

cccc: Byte 0 = 0x00, Byte 7 = 0x00, Byte 3,4 → ¨DISPLAY
jjjj: Byte 0 = 0x00, Byte 7 = 0x00, Byte 5,6 → ¨DISPLAY

Press '0' key on REMOTE CONTROL to perform monitor output.

FL Display:

	M	O	N	I	T	O	R			(2 seconds)

Status: 00(NORMAL) XX XX cc cc jj jj

	c	c	c	c	j	j	j	j		(Static)

cccc: Byte 0 = 0x00, Byte 7 = 0x00, Byte 3,4 → ¨DISPLAY
jjjj: Byte 0 = 0x00, Byte 7 = 0x00, Byte 5,6 → ¨DISPLAY

Press '>=10' key to INITIALIZE EEPROM (MECHA)

FL Display:

	I	N	I	T						(2 seconds)

Press PLAY key on REMOTE CONTROL to start PLAYING and obtain LASER CURRENT and JITTER value.

FL Display:

	L	S	R		J	I	T		

(2 seconds)

Status: 00(NORMAL) XX XX cc cc jj jj

	c	c	c	c	j	j	j	j	

(Static)

cccc: Byte 0 = 0x00, Byte 7 = 0x00, Byte 3,4 → ¨DISPLAY
jjjj: Byte 0 = 0x00, Byte 7 = 0x00, Byte 5,6 → ¨DISPLAY

Press STOP key on REMOTE CONTROL to stop JITTER measurement.

FL display remains.

	F	F	F	F	F	F	F	F	

(Static)

b. During CHECK mode, at any time press MENU key to exit CHECK mode and return to starting screen of DVD TEST MODE.

* During TEST mode,at press POWER key send POWER OFF command to MECHA-CON and if poweroff permit flag is 1, display "POFF OK"

	P	O	F	F		O	K		

SECTION 5
TROUBLESHOOTING

This service manual does not describe TROUBLESHOOTING.

JVC
Victor Company of Japan, Limited
Audio/Video Systems Category 10-1,1chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

(No.MB505)

Printed in Japan
VPT

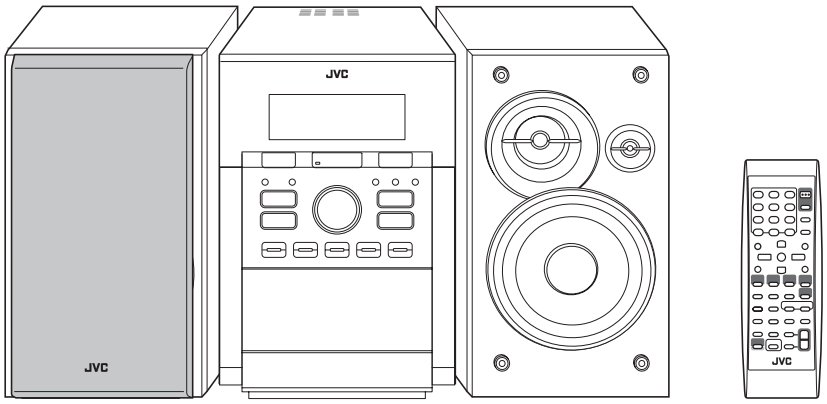
JVC

SCHEMATIC DIAGRAMS

MICRO COMPONENT SYSTEM

UX-G70J,UX-G70C,UX-G70B,UX-G70E
UX-G70EN,UX-G70EV,UX-G70EE

CD-ROM No.SML200606



SP-UXG70 CA-UXG70 SP-UXG70

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

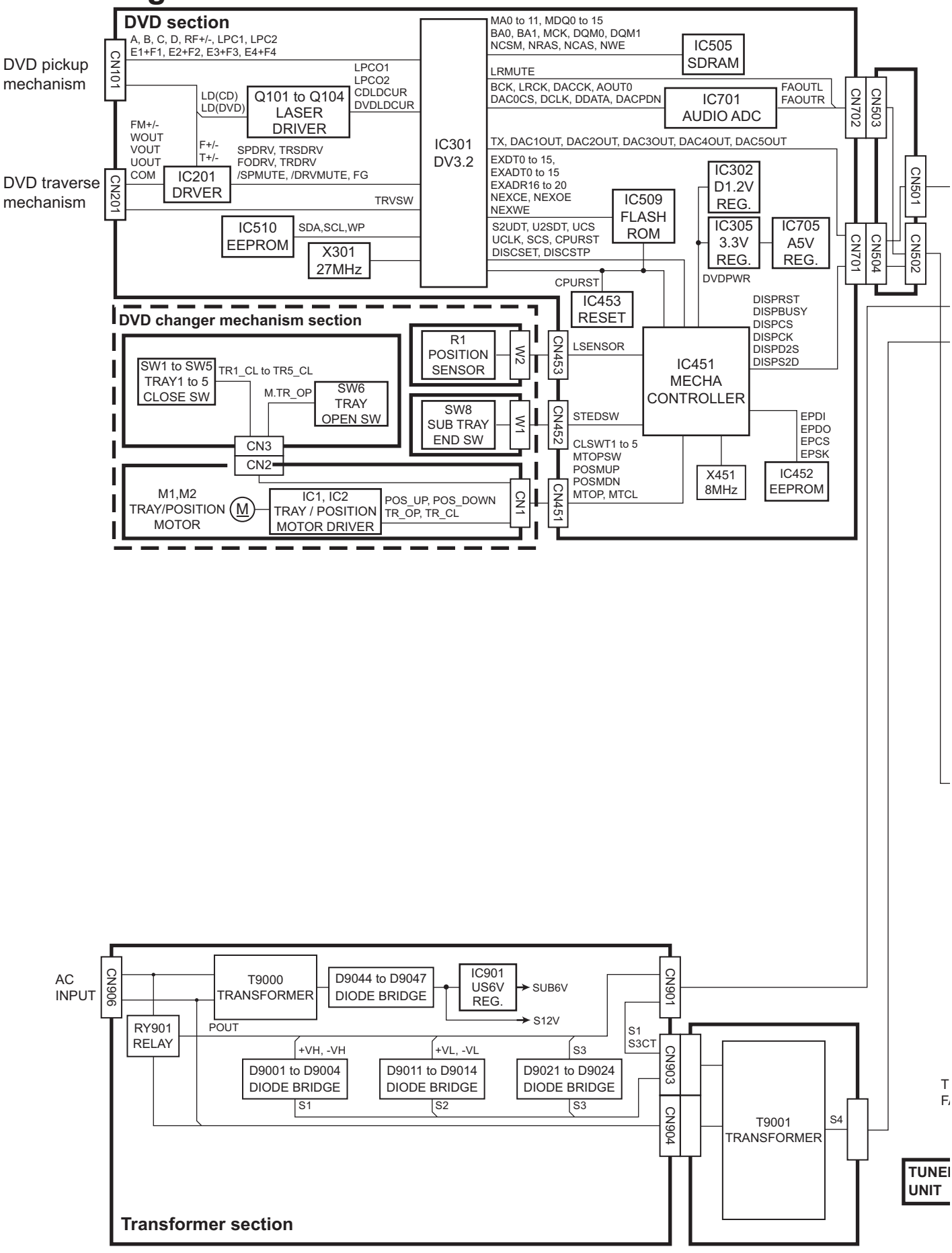
Contents

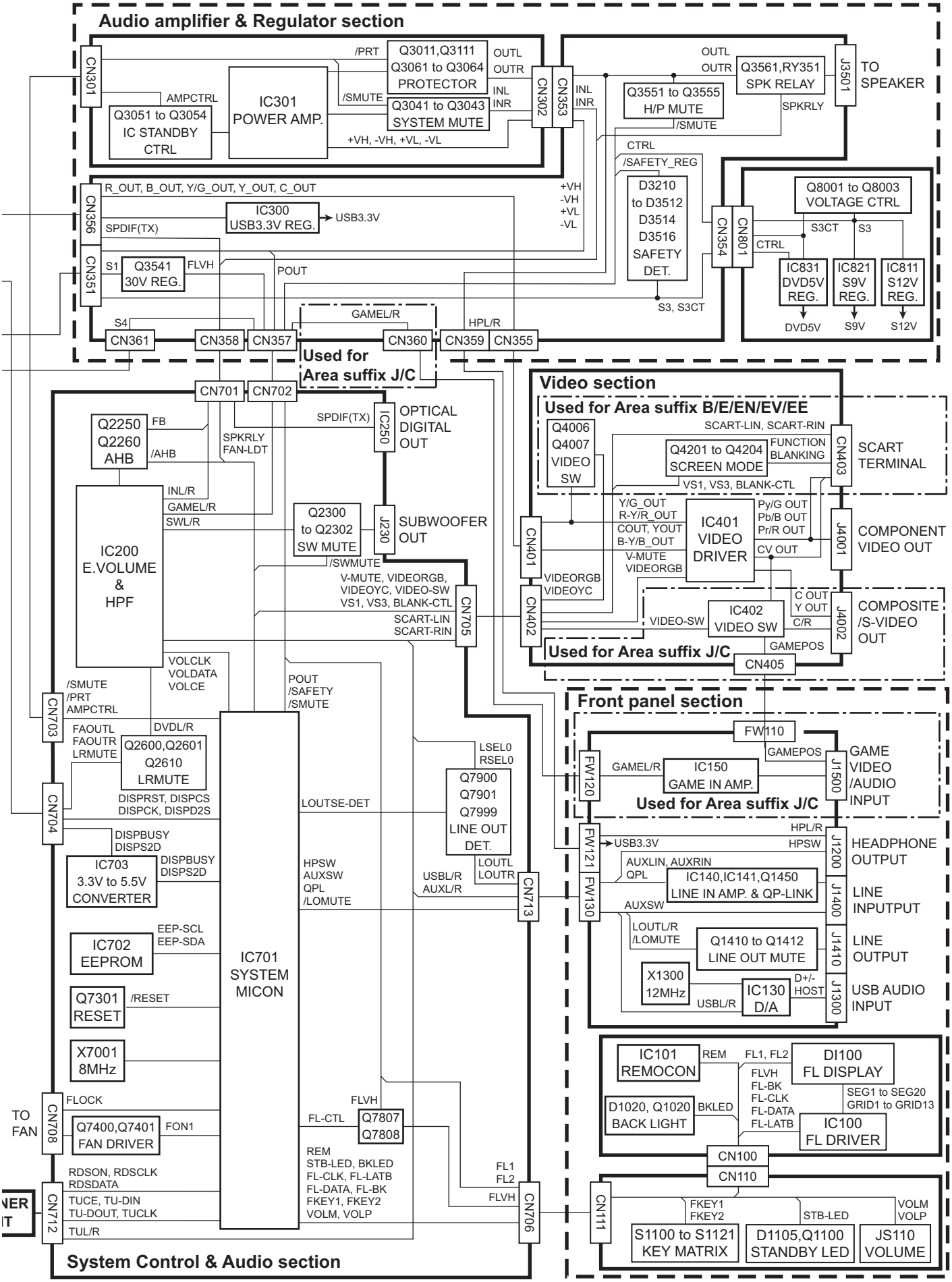
No.MB505SCH
2006/6

In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (▬), diode (▮) and ICP (●) or identified by the "⚠" mark nearby are critical for safety.

< MEMO >

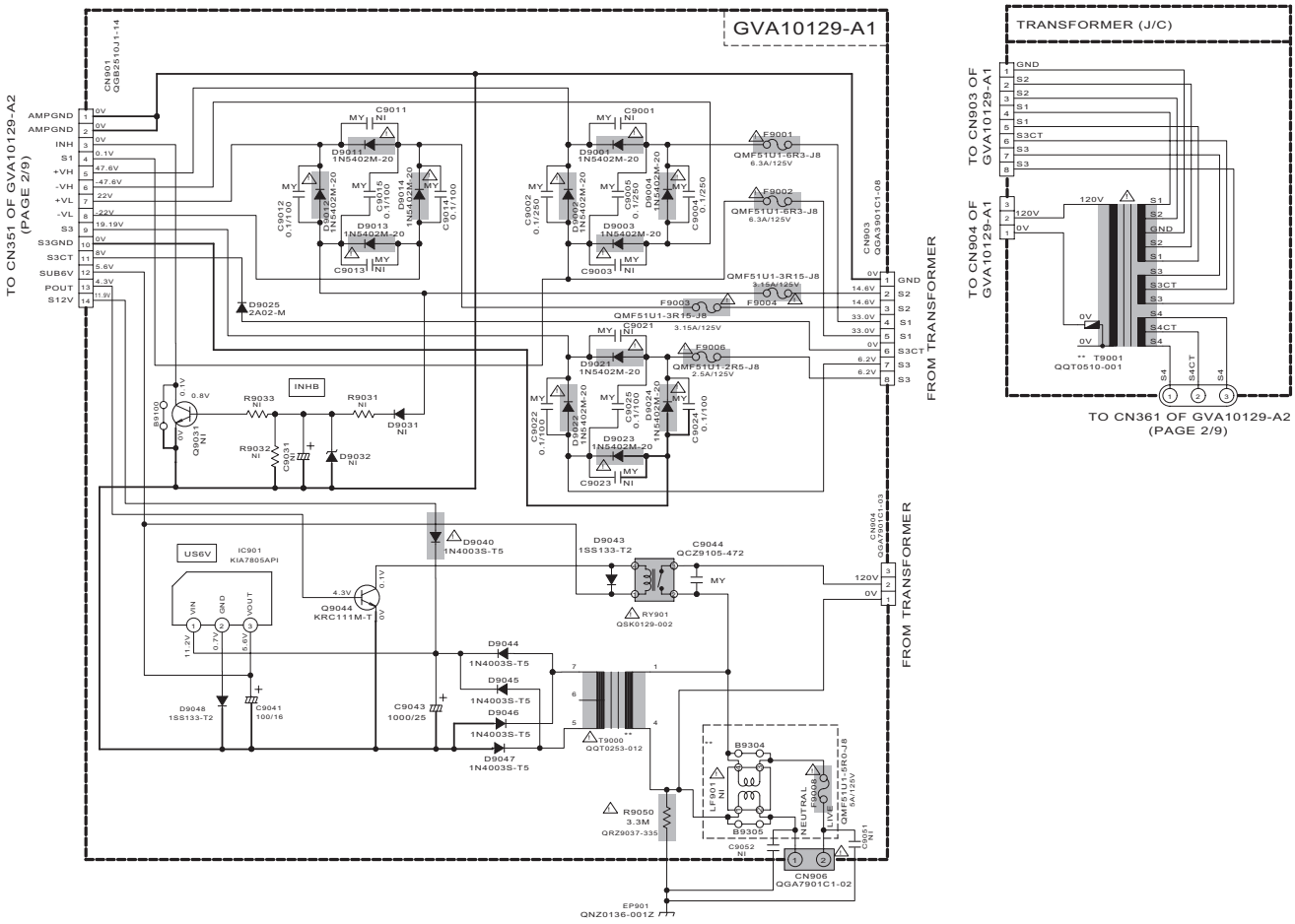
Block diagram




Audio amplifier & Regulator section
CN301
/PRT
Q3011,Q3111
Q3061 to Q3064
PROTECTOR
OUTL
OUTR
AMPCTRL
Q3051 to Q3054
IC STANDBY
CTRL
IC301
POWER AMP.
/SMUTE
Q3041 to Q3043
SYSTEM MUTE
INL
INR
+VH, -VH, +VL, -VL
CN302
CN353
Q3551 to Q3555
H/P MUTE
Q3561,RY351
SPK RELAY
SPKRLY
/SMUTE
J3501
TO
SPEAKER
CTRL
/SAFETY_REG
D3210
to D3512
D3514
D3516
SAFETY
DET.
S3, S3CT
CN356
R_OUT, B_OUT, Y/G_OUT, Y_OUT, C_OUT
SPDIF(TX)
IC300
USB3.3V REG.
USB3.3V
+VH
-VH
+VL
-VL
CN351
S1
Q3541
30V REG.
FLVH
POUT
CN354
CN801
Q8001 to Q8003
VOLTAGE CTRL
S3CT
S3
CTRL
IC831
DVD5V
REG.
IC821
S9V
REG.
IC811
S12V
REG.
DVD5V
S9V
S12V
S4
CN361
CN358
CN357
GAMEL/R
CN360
HPL/R
CN359
CN355
Used for
Area suffix J/C
CN701
CN702
Video section
Used for Area suffix B/E/EN/EV/EE
Q4006
Q4007
VIDEO
SW
SCART-LIN, SCART-RIN
Q4201 to Q4204
SCREEN MODE
FUNCTION
BLANKING
CN403
SCART
TERMINAL
VS1, VS3, BLANK-CTL
Q2250
Q2260
AHB
FB
/AHB
SPKRLY
FAN-LDT
SPDIF(TX)
IC250
OPTICAL
DIGITAL
OUT
Y/G_OUT
R-Y/R_OUT
COUT, YOUT
B-Y/B_OUT
V-MUTE
VIDEORGB
IC401
VIDEO
DRIVER
Py/G OUT
Pb/B OUT
Pr/R OUT
CV OUT
J4001
COMPONENT
VIDEO OUT
CN401
VIDEORGB
VIDEOYC
CN402
IC200
E.VOLUME
&
HPF
INL/R
GAMEL/R
SWL/R
Q2300
to Q2302
SW MUTE
J230
SUBWOOFER
OUT
/SWMUTE
V-MUTE, VIDEORGB,
VIDEOYC, VIDEO-SW
VS1, VS3, BLANK-CTL
SCART-LIN
SCART-RIN
CN705
VIDEO-SW
IC402
VIDEO SW
C OUT
Y OUT
C/R
J4002
COMPOSITE
/S-VIDEO
OUT
GAMEPOS
Used for Area suffix J/C
CN405
VOLCLK
VOLDATA
VOLCE
POUT
/SAFETY
/SMUTE
Front panel section
FW110
GAMEPOS
FW120
GAMEL/R
IC150
GAME IN AMP.
J1500
GAME
VIDEO
/AUDIO
INPUT
Used for Area suffix J/C
/SMUTE
/PRT
AMPCTRL
CN703
FAOUTL
FAOUTR
LRMUTE
DVDL/R
Q2600,Q2601
Q2610
LRMUTE
LSEL0
RSEL0
Q7900
Q7901
Q7999
LINE OUT
DET.
LOUTSE-DET
CN704
DISPRST, DISPCS
DISPCK, DISPD2S
DISPBUSY
DISPS2D
IC703
3.3V to 5.5V
CONVERTER
DISPBUSY
DISPS2D
HPSW
AUXSW
QPL
/LOMUTE
LOUTL
LOUTR
USBL/R
AUXL/R
CN713
FW121
FW130
HPL/R
USB3.3V
HPSW
J1200
HEADPHONE
OUTPUT
AUXLIN, AUXRIN
QPL
IC140,IC141,Q1450
LINE IN AMP. & QP-LINK
J1400
LINE
INPUTPUT
AUXSW
LOUTL/R
/LOMUTE
Q1410 to Q1412
LINE OUT MUTE
J1410
LINE
OUTPUT
X1300
12MHz
IC130
D/A
D+/-
HOST
USBL/R
J1300
USB AUDIO
INPUT
IC702
EEPROM
EEP-SCL
EEP-SDA
IC701
SYSTEM
MICON
Q7301
RESET
/RESET
X7001
8MHz
IC101
REMOCON
REM
FL1, FL2
DI100
FL DISPLAY
FLVH
FL-BK
FL-CLK
FL-DATA
FL-LATB
SEG1 to SEG20
GRID1 to GRID13
D1020, Q1020
BACK LIGHT
BKLED
IC100
FL DRIVER
CN100
CN110
TO
FAN
FLOCK
CN708
Q7400,Q7401
FAN DRIVER
FON1
FLVH
FL-CTL
Q7807
Q7808
REM
STB-LED, BKLED
FL-CLK, FL-LATB
FL-DATA, FL-BK
FKEY1, FKEY2
VOLM, VOLP
FL1
FL2
FLVH
CN706
CN111
FKEY1
FKEY2
STB-LED
VOLM
VOLP
RDSON, RDSCLK
RDSDATA
TUCE, TU-DIN
TU-DOUT, TUCLK
TUL/R
CN712
S1100 to S1121
KEY MATRIX
D1105,Q1100
STANDBY LED
JS110
VOLUME
System Control & Audio section

Standard schematic diagrams

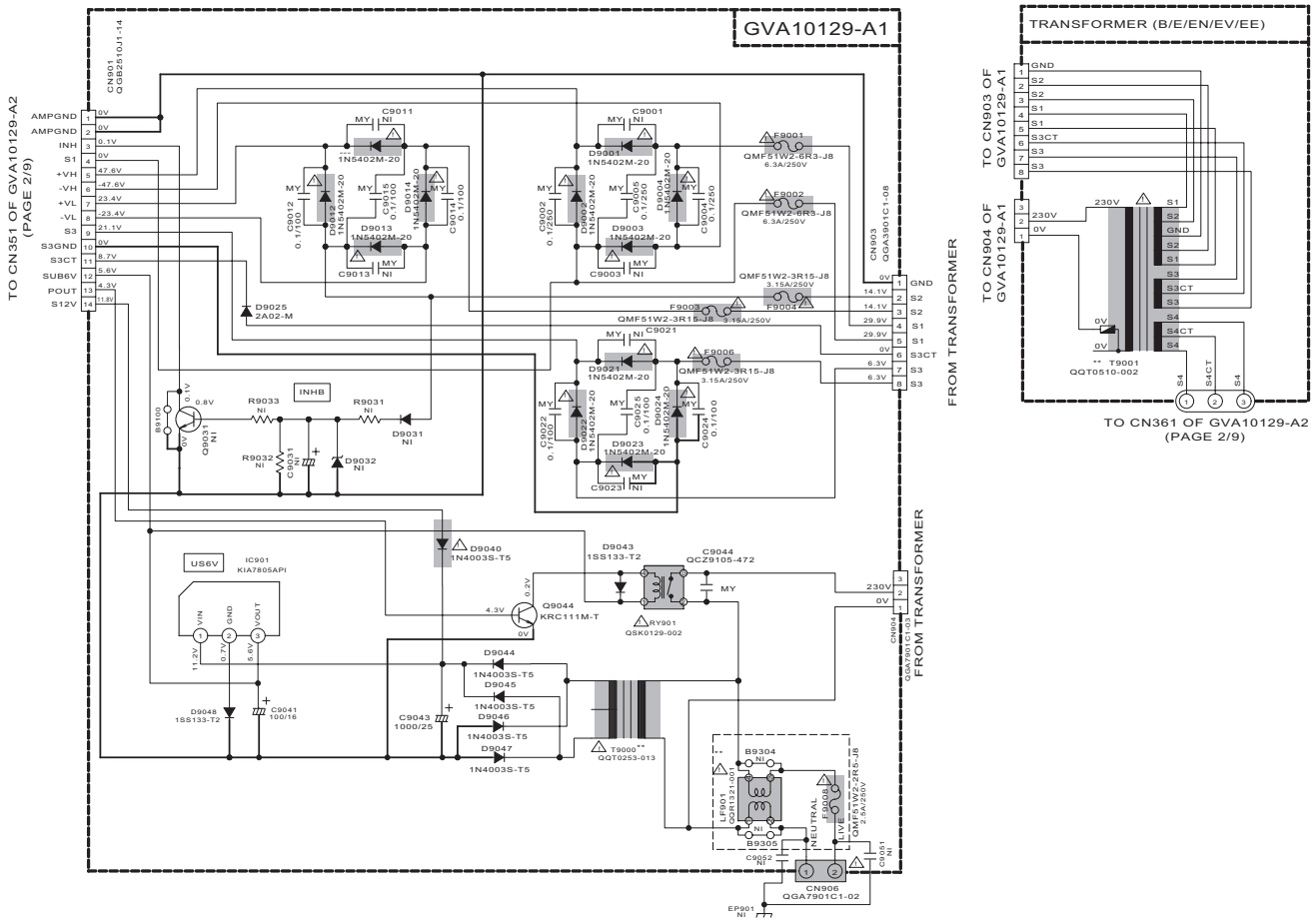
■ Primary section



--

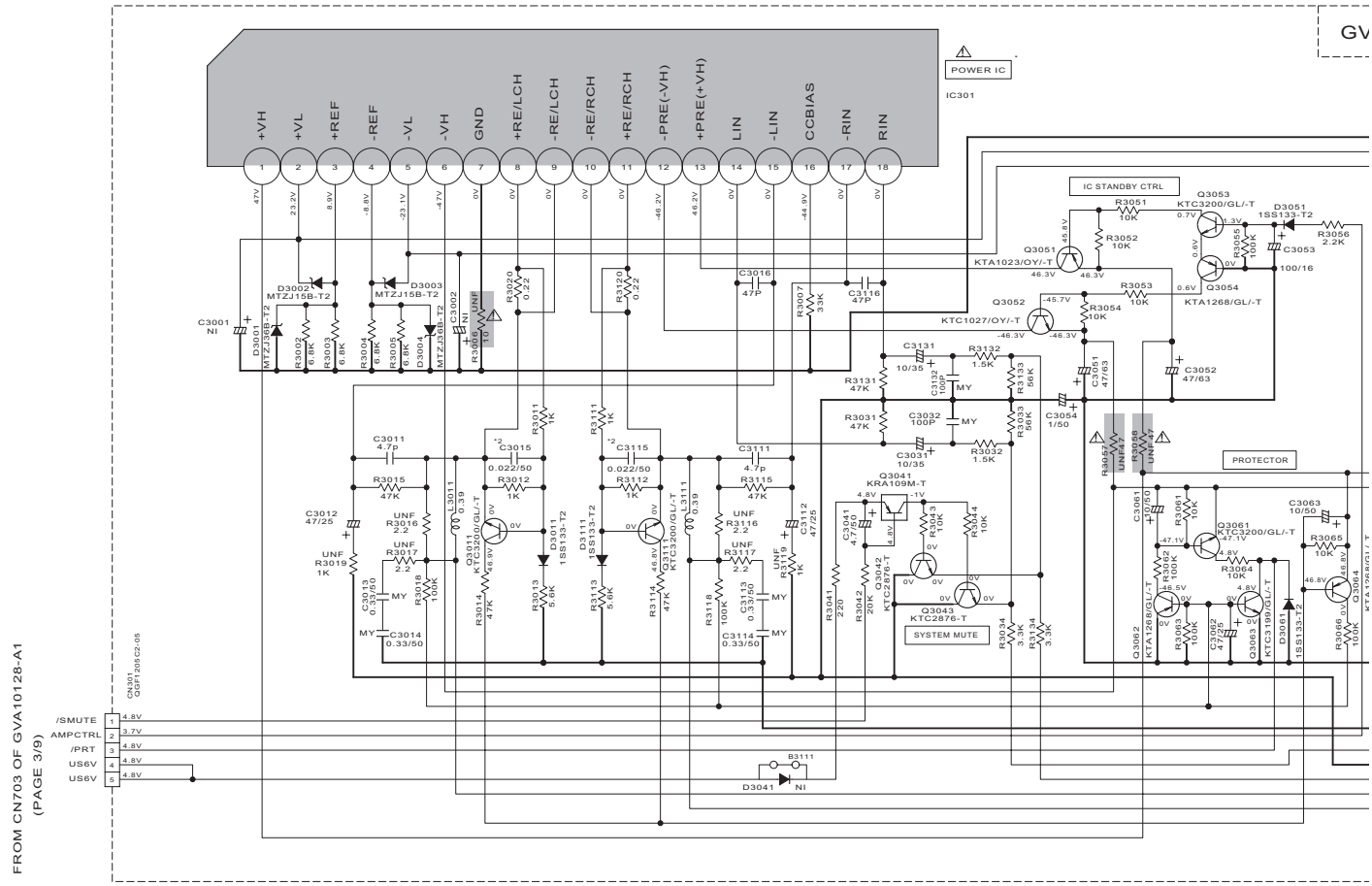
REF. NO.	UP	A	US/UX/UN/UG/UJ	J/C	E/EN/B/EV/EE
T9001	QQT0510-004	QQT0510-004	QQT0510-003	QQT0510-001	QQT0510-002
T9000	QQT0253-002	QQT0253-002	QQT0370-012	QQT0253-012	QQT0253-013
S9001	NI	NI	QSW0812-001	NI	NI
LF901	QQR1321-001	NI	NI	NI	QQR1321-001
B9304	NI	INSERT	INSERT	INSERT	NI
B9305	NI	INSERT	INSERT	INSERT	NI
B9200	INSERT	NI	INSERT	INSERT	INSERT
B9201	NI	INSERT	NI	NI	NI
CN905	NI	NI	QGA7901C1-04	NI	NI
F9006	QMF51W2-3R15-J8	QMF51W2-3R15-J8	QMF51W2-3R15-J8	QMF51W2-2R5-J8	QMF51W2-3R15-J8
F9007	NI	NI	QMF51W2-2R5-J8	NI	NI
F9008	QMF51W2-2R5-J8	QMF51W2-2R5-J8	QMF51W2-5R0-J8	QMF51u1-5R0-J8	QMF51W2-2R5-J8

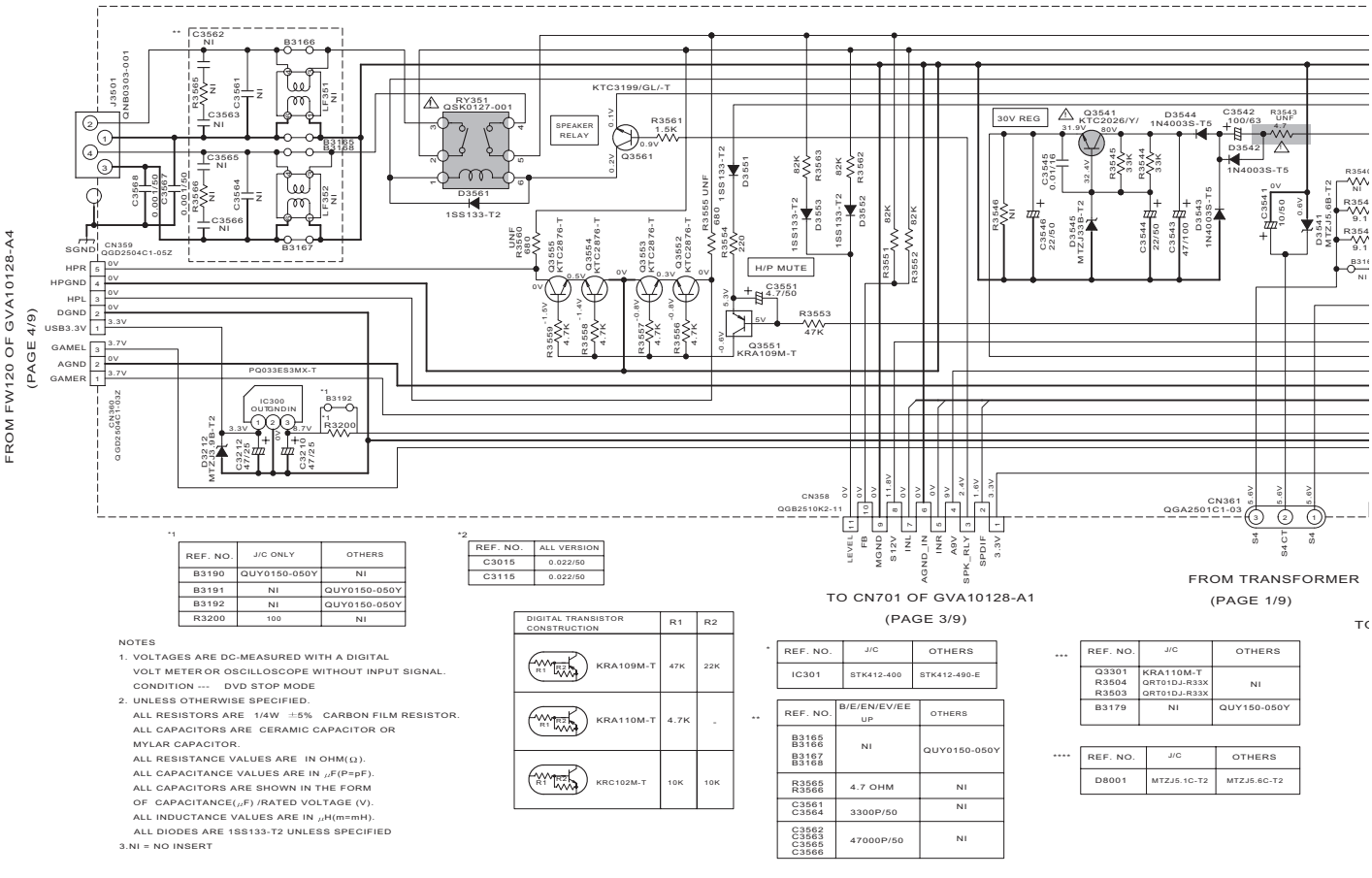
NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION --- DVD STOP MODE
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/4W ±5% CARBON FILM RESISTOR
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).
3. NI = NO INSERT



⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

■ Amplifier section





*1

REF. NO.	J/C ONLY	OTHERS
B3190	QUY0150-050Y	NI
B3191	NI	QUY0150-050Y
B3192	NI	QUY0150-050Y
R3200	100	NI

*2

REF. NO.	ALL VERSION
C3015	0.022/50
C3115	0.022/50

DIGITAL TRANSISTOR CONSTRUCTION	R1	R2
KRA109M-T	47K	22K
KRA110M-T	4.7K	-
KRC102M-T	10K	10K

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION --- DVD STOP MODE
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/4W ±5% CARBON FILM RESISTOR.
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF) /RATED VOLTAGE (V).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).
   ALL DIODES ARE 1SS133-T2 UNLESS SPECIFIED
3. NI = NO INSERT

*

REF. NO.	J/C	OTHERS
IC301	STK412-400	STK412-490-E

**

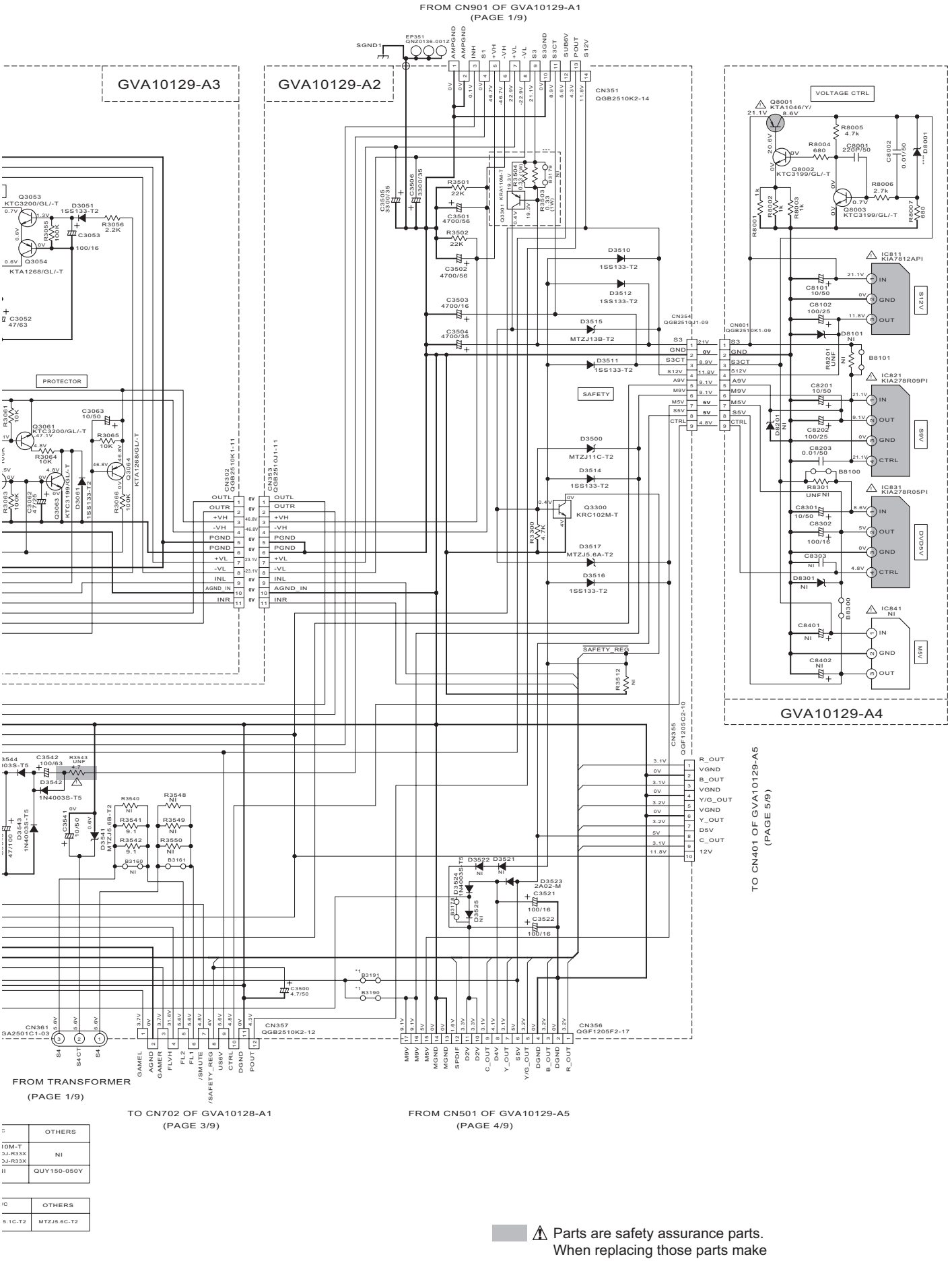
REF. NO.	B/E/EN/EV/EE UP	OTHERS
B3165 B3166 B3167 B3168	NI	QUY0150-050Y
R3565 R3566	4.7 OHM	NI
C3561 C3564	3300P/50	NI
C3562 C3563 C3565 C3566	47000P/50	NI

***

REF. NO.	J/C	OTHERS
Q3301 R3504 R3503	KRA110M-T QRT01DJ-R33X QRT01DJ-R33X	NI
B3179	NI	QUY150-050Y

****

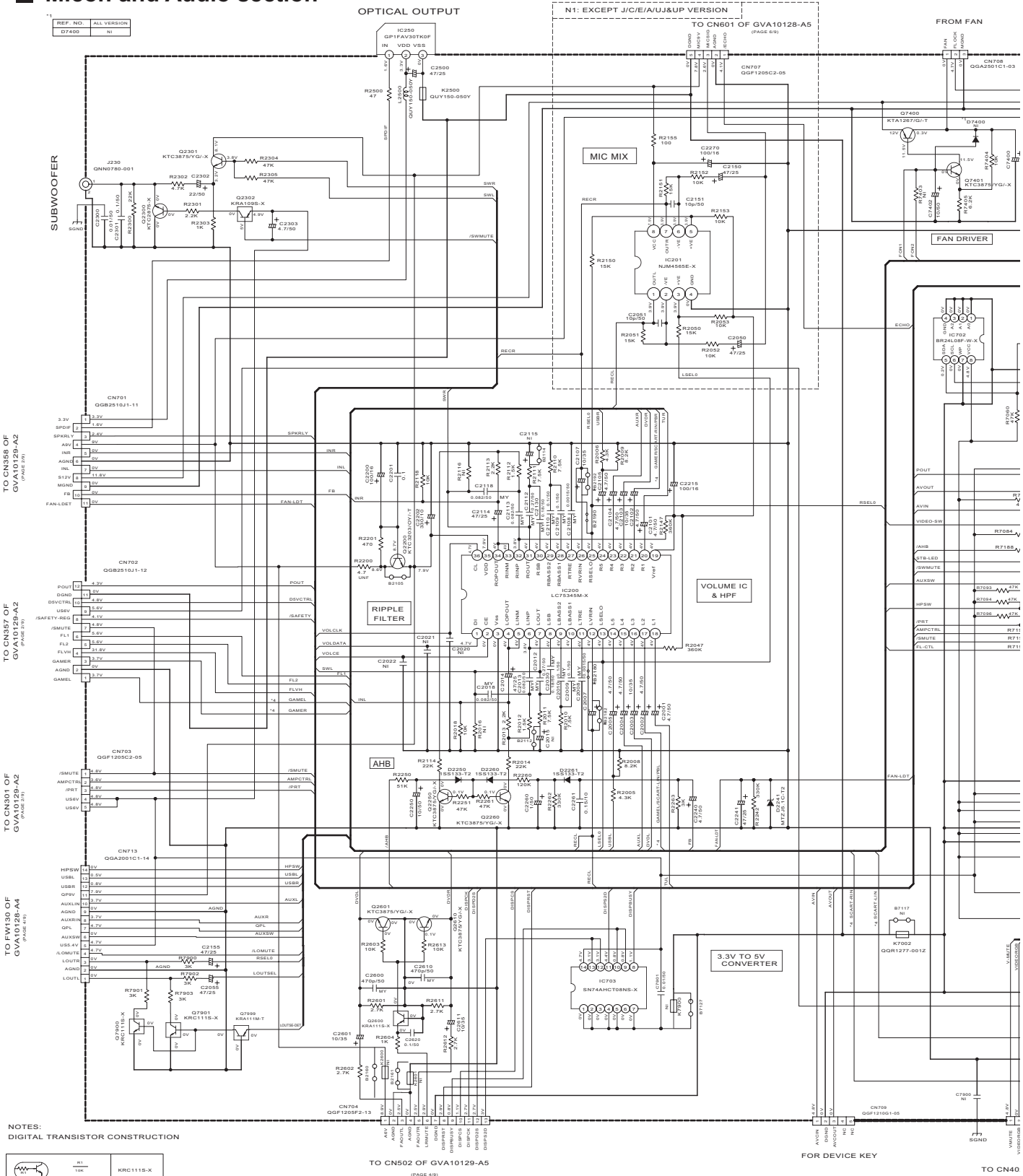
REF. NO.	J/C	OTHERS
D8001	MTZJ5.1C-T2	MTZJ5.6C-T2



	OTHERS
	NI
	QUY150-050Y

	OTHERS
	MTZJ5.6C-T2

■ Micon and Audio section



NOTES:
DIGITAL TRANSISTOR CONSTRUCTION

R1 10K	KRC111S-X
R1 10K	KRA111M-X
R1 10K / R2 10K	KRC102S-X
R1 47K / R2 22K	KRA109S-X

ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF) /RATED VOLTAGE (V).
ALL INDUCTANCE VALUES ARE IN μH(m=mH).
ALL DIODES ARE 1SS133-T2

NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
CONDITION --- DVD STOP MODE
2. UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS ARE 1/4W ±5% CARBON FILM RESISTOR OR 0.063W ±5% THICK FILM CHIP RESISTOR
ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
3.NI = NO INSERT

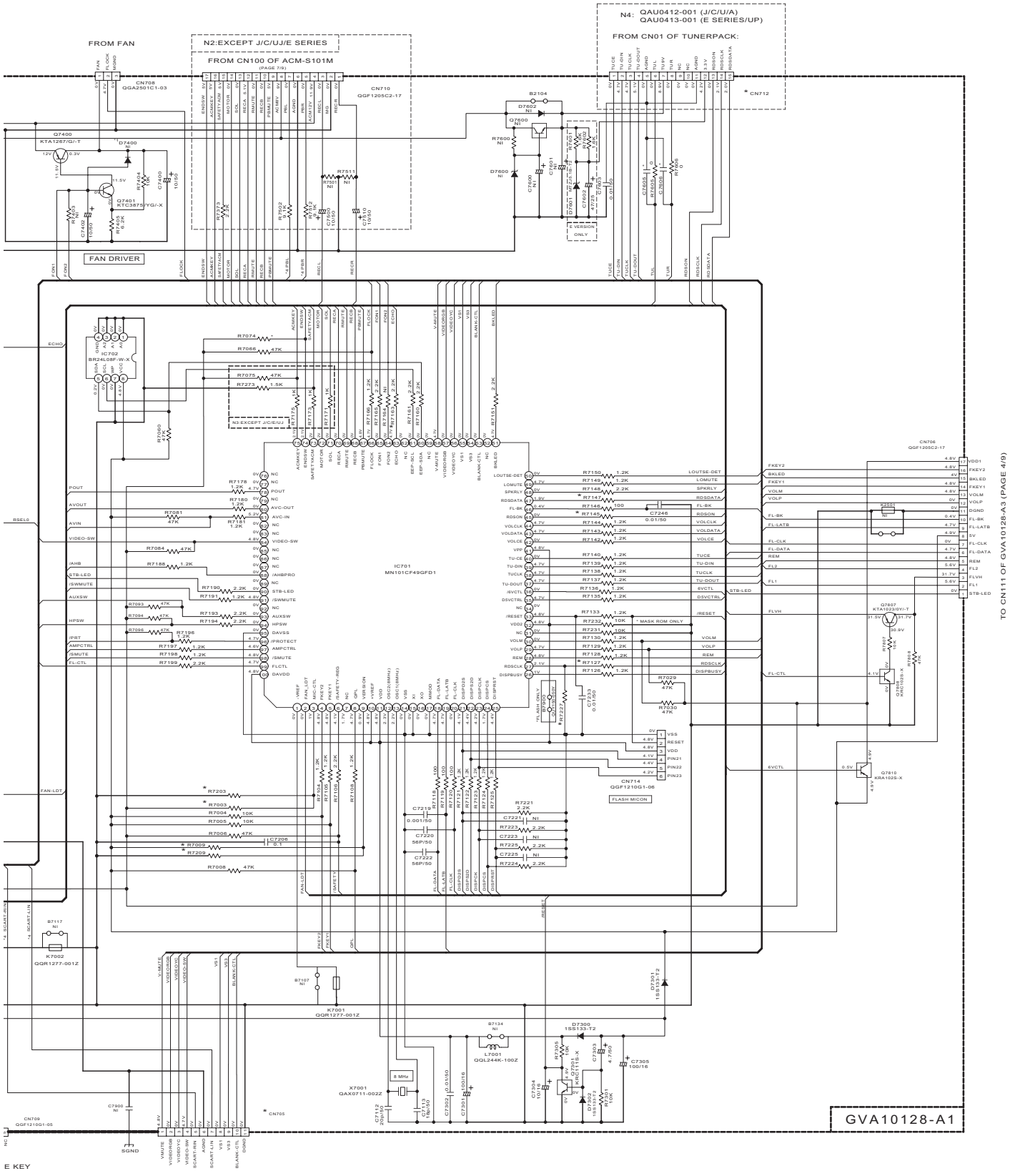
REF. NO.	ALL VERSION
D7400	NI

VERSION / PARTS	J/C/UJ	US/UN/UG/UX	E/B/EN/EV EE	A / UP	REMARK
R7127	NI	NI	2.2K	NI	RDSCLK
R7145	NI	NI	1.2K	NI	RDSON
R7147	NI	NI	2.2K	NI	RDSDATA
R7227	10K	10K	NI	10K	RDSCLK
CN712	QGF1205C1-11	QGF1205C1-11	QGF1205C1-15	QGF1205C1-11(A) QGF1205C1-15(UP)	TUNER CONN.
C7605/C7606	NI	NI	0.0027/50	0.0027/50 (UP)	TUNER
R7074	NI	10K	NI	10K	ENDSW
C2007/C2107	NI	10/35	NI	NI	LSELO/RSELO
B2180/B2182	5MM	NI	5MM	5MM	NO MIC OR NO TAPE
B2190/B2192	5MM	NI	5MM	5MM	NO MIC OR NO TAPE
R7003	NI	10K	NI	NI	MIC CTRL VERSION
R7203	10K	2.2K	10K	10K	MIC CTRL VERSION

VERSION / PARTS	J/C	US/UN/UG/UX	E/B/EN/EV EE	A / UP	REMARK
CN705	QGF1205C1-04	QGF1205C1-04	QGF1205C1-11	QGF1205C1-04	VIDEO CONN
R7163	NI	2.2K	NI	NI	ECHO

REMARK : MICOM VERS

PARTS / VERSION	R700
J/C	10K
A	10K
UP	10K
US/UN	10K
UX/UG	10K
UJ	10K
B/E/EN/EV/EE	NI



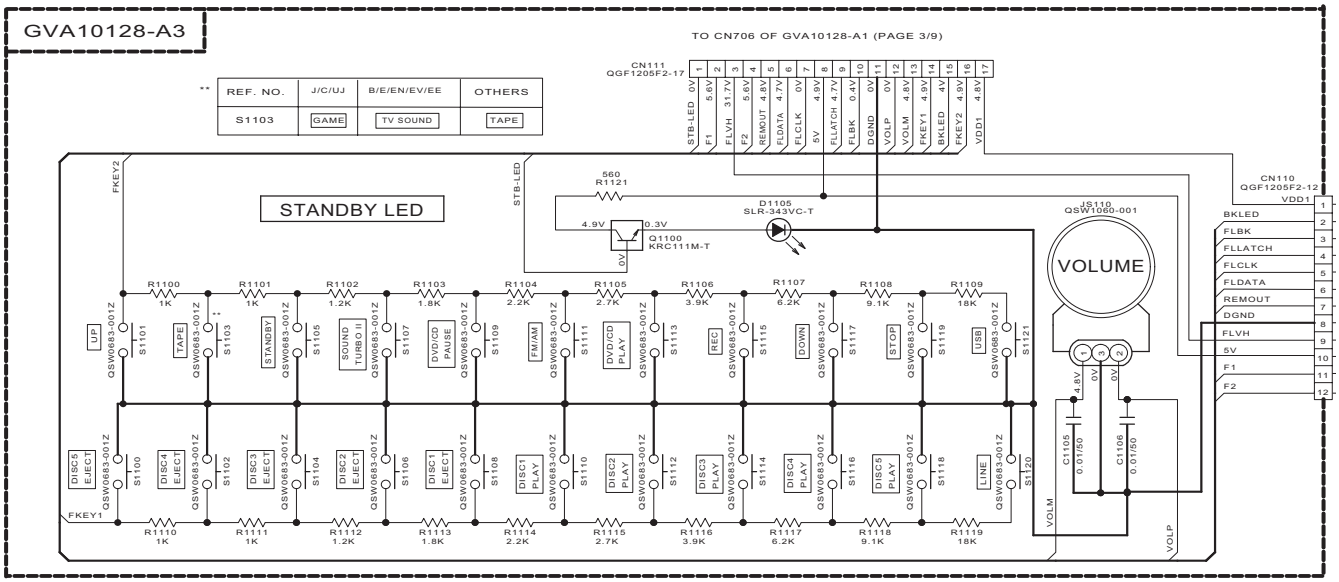
(PAGE 5/9)

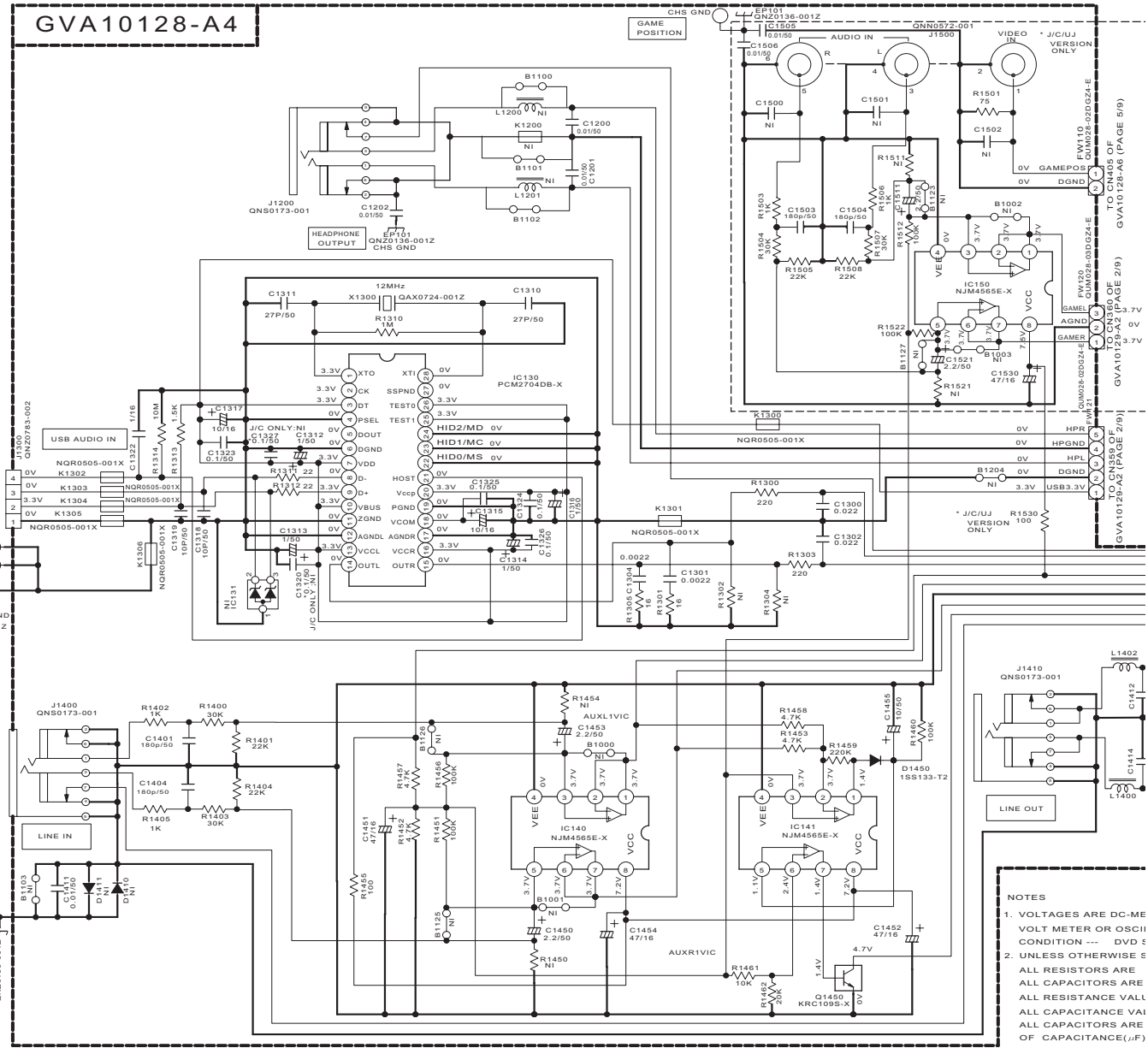
REMARK : MICOM VERSION CTRL

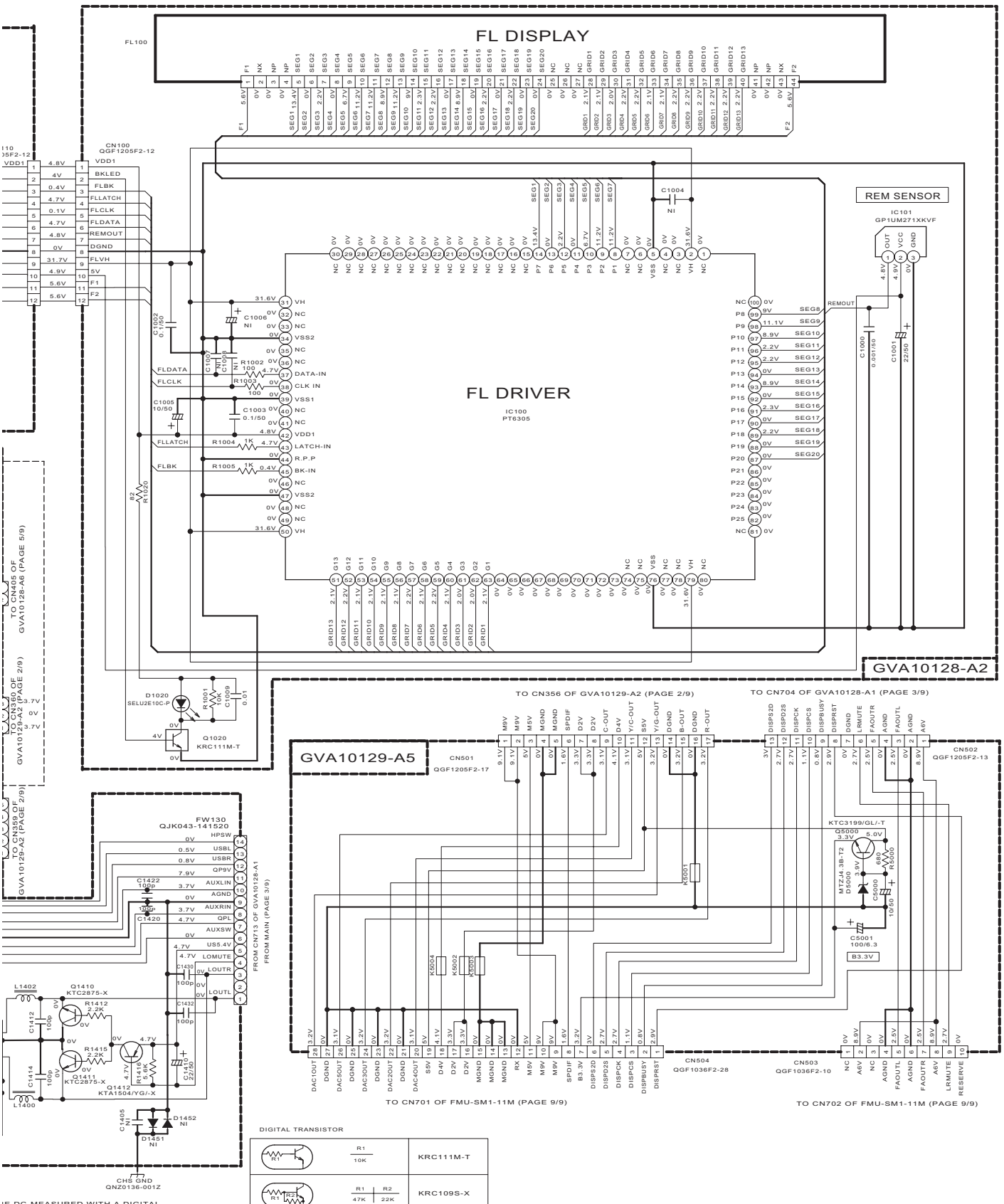
PARTS / VERSION	R7009	R7209
J/C	10K	2.2K
A	10K	NI
UP	10K	12K
US/UN	10K	NI
UX/UG	10K	6.2K
UJ	10K	22K
B/E/EN/EV/EE	NI	10K

A / UP	REMARK
IF1205C1-04	VIDEO CONN
NI	ECHO

■ Front panel and Connection section



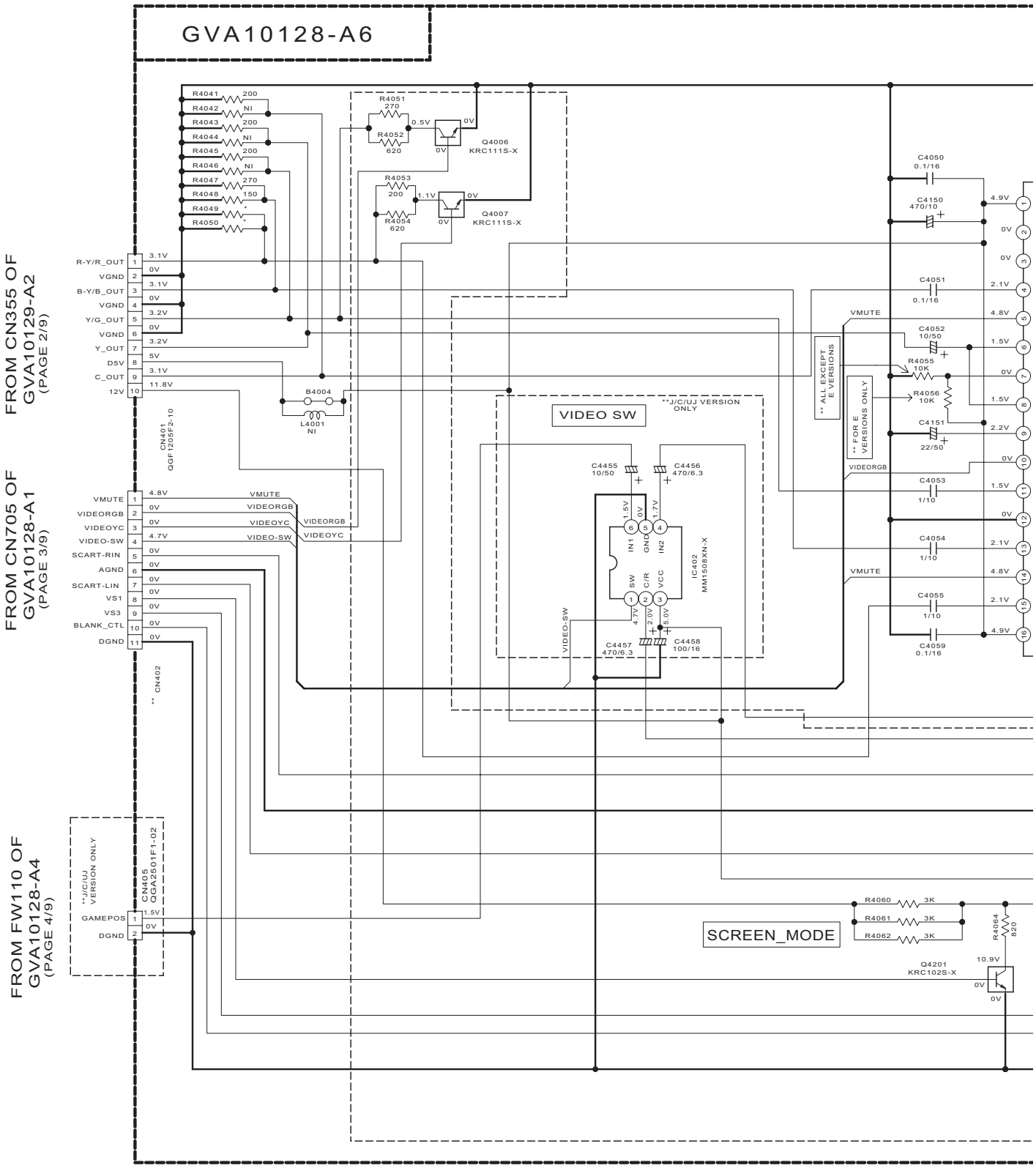




E DC-MEASURED WITH A DIGITAL
OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
· DVD STOP MODE
ERWISE SPECIFIED.
RS ARE 1/4W ±5% CARBON FILM RESISTOR
ORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
ACE VALUES ARE IN OHM(Ω).
ANCE VALUES ARE IN μF(P=pF).
ORS ARE SHOWN IN THE FORM
ANCE(μF) /RATED VOLTAGE (V).

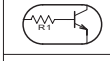
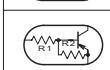
ALL INDUCTANCE VALUES ARE IN μH(m=mH).
ALL FERRITE BEADS ARE QQR0621-001Z
3.NI = NO INSERT

■ Video driver and Output section



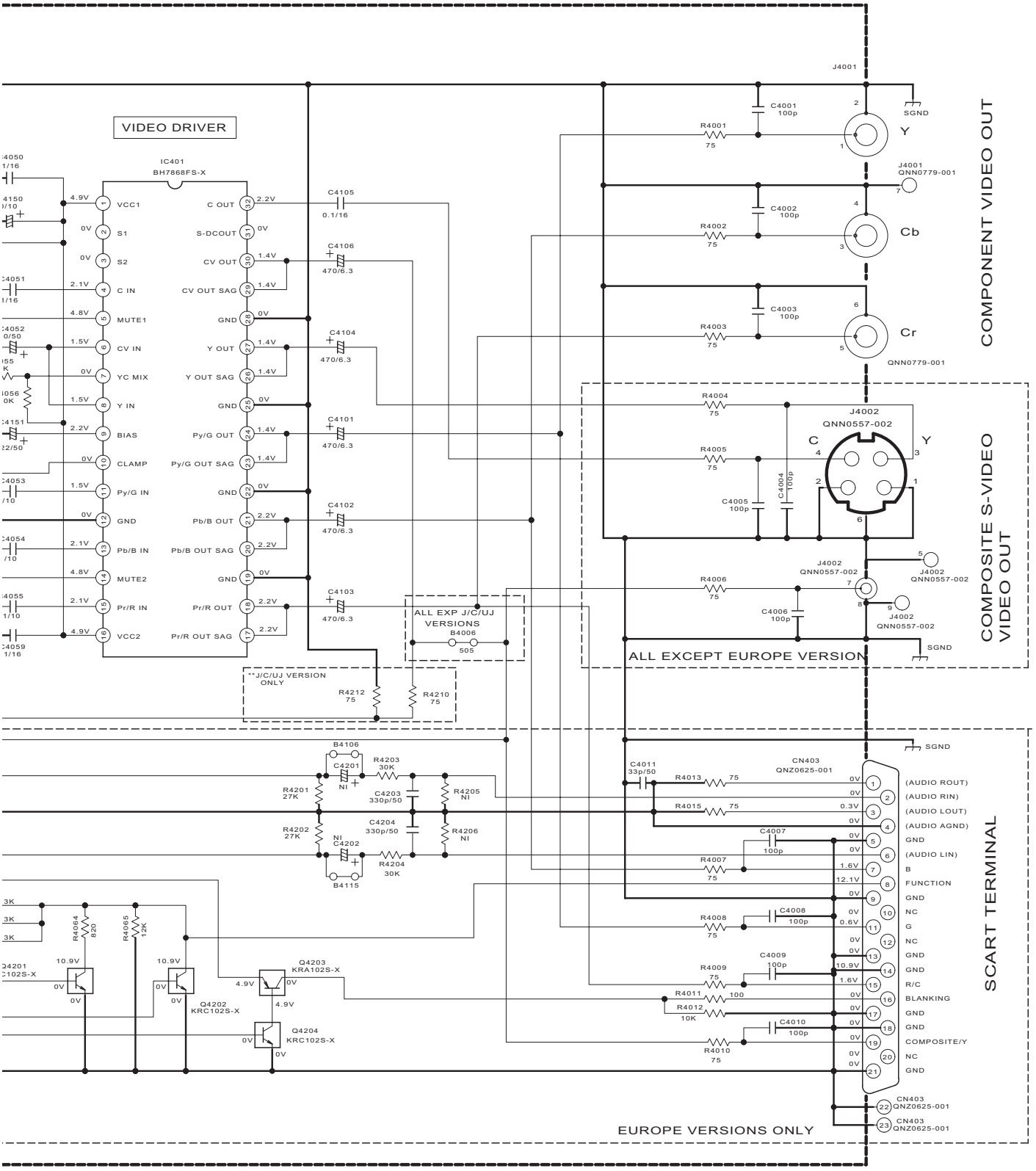
DIGITAL TRANSISTOR

REFERENCE NO.	PART NO.		
	B/E/EE/EN/EV	J/C/UJ	OTHERS
CN402	QGF1205F2-11	QGF1205F2-04	QGF1205F2-04
R4050	NRSA63J-511X	NRSA63J-151X	NRSA63J-151X
R4049	NRSA63J-511X	NRSA63J-271X	NRSA63J-271X

	R1 = 10K	KRC111S-X
	R1 = 10K, R2 = 10K	KRC102S-X
	R1 = 10K, R2 = 10K	KRA102S-X

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGI
   VOLT METER OR OSCILLOSCOPE WITHOUT
   CONDITION --- DVD STOP MODE
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/4W ±5% CARBON FIL
   OR 0.063W ±5% THICK FILM CHIP RESISTOR
   ALL CAPACITORS ARE CERAMIC CAPACITOR
   MYLAR CAPACITOR.

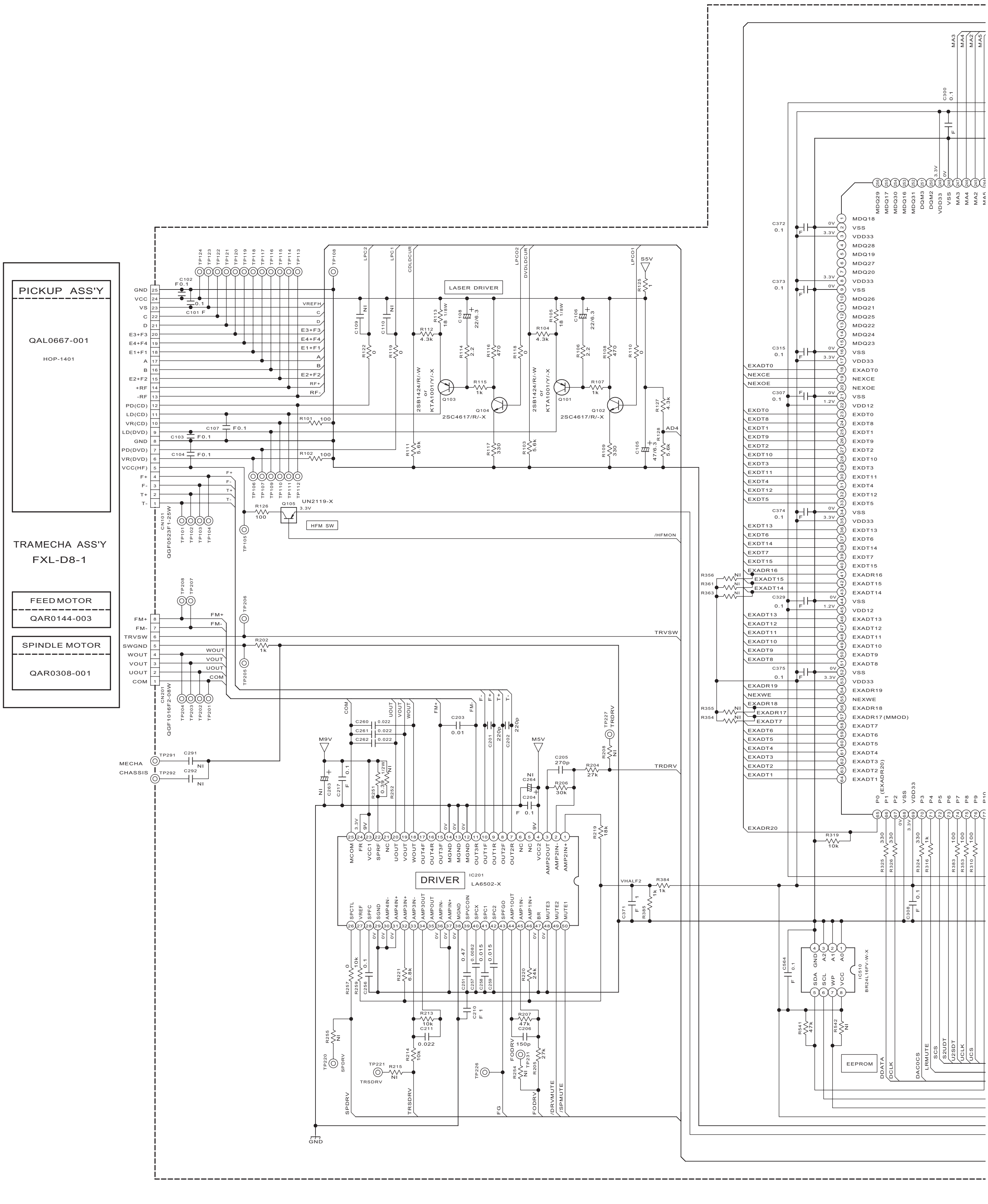


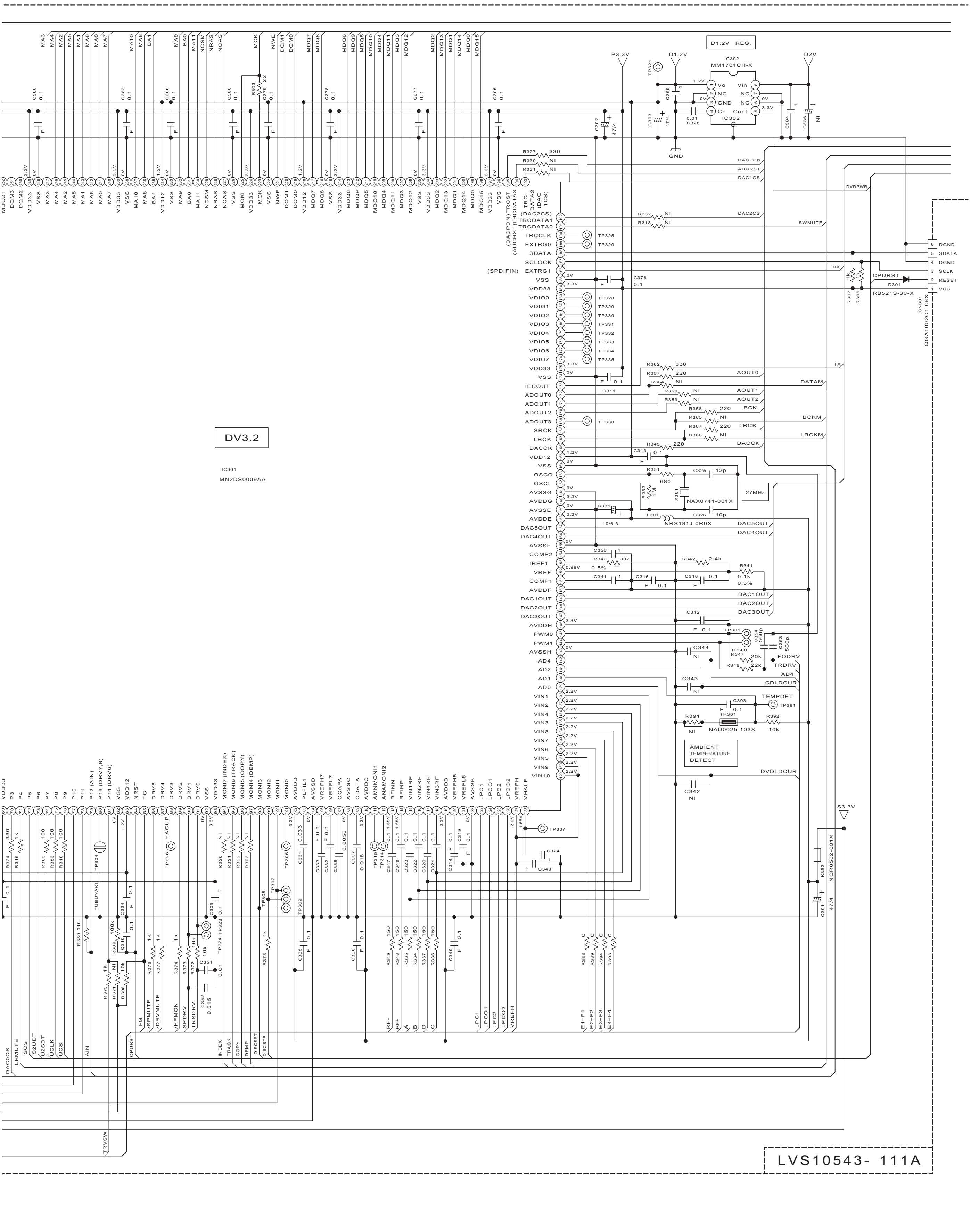
ASURED WITH A DIGITAL
LOSCOPE WITHOUT INPUT SIGNAL.
DP MODE
PECIFIED.
4W ±5% CARBON FILM RESISTOR
FILM CHIP RESISTOR
CERAMIC CAPACITOR OR

ALL RESISTANCE VALUES ARE IN OHM (Ω).
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
ALL INDUCTANCE VALUES ARE IN μH(m=mH).
ALL FERRITE BEADS ARE QQR0621-001Z

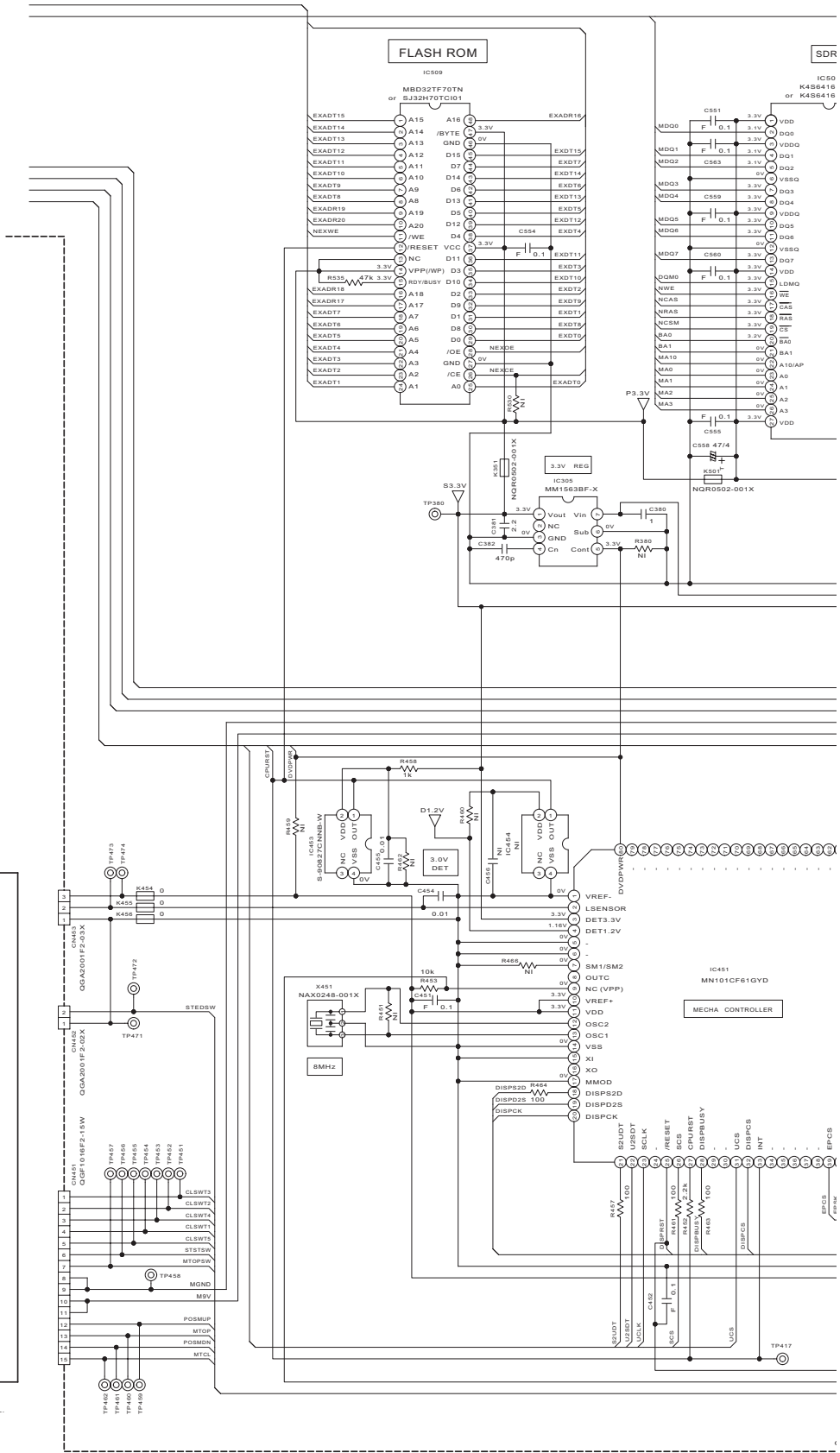
3. NI = NO INSERT

■ DVD section (1/2)




DV3.2
IC301
MN2DS0009AA
D1.2V REG.
IC302
MM1701CH-X
P3.3V
D1.2V
D2V
S3.3V
GND
27MHz
NAX0741-001X
NRS181J-0R0X
AMBIENT
TEMPERATURE
DETECT
NAD0025-103X
TEMPDET
RB521S-30-X
QGA1002C1-06X
FOR ICE
DACPDN
ADCRST
DAC1CS
DAC2CS
SWMUTE
DVDPWR
AOUT0
AOUT1
AOUT2
BCK
BCKM
LRCK
LRCKM
DACCK
DATAM
DAC5OUT
DAC4OUT
DAC1OUT
DAC2OUT
DAC3OUT
FODRV
TRDRV
AD4
CDLDCUR
DVDLDCUR
CPURST
LVS10543- 111A

■ DVD section (2/2)



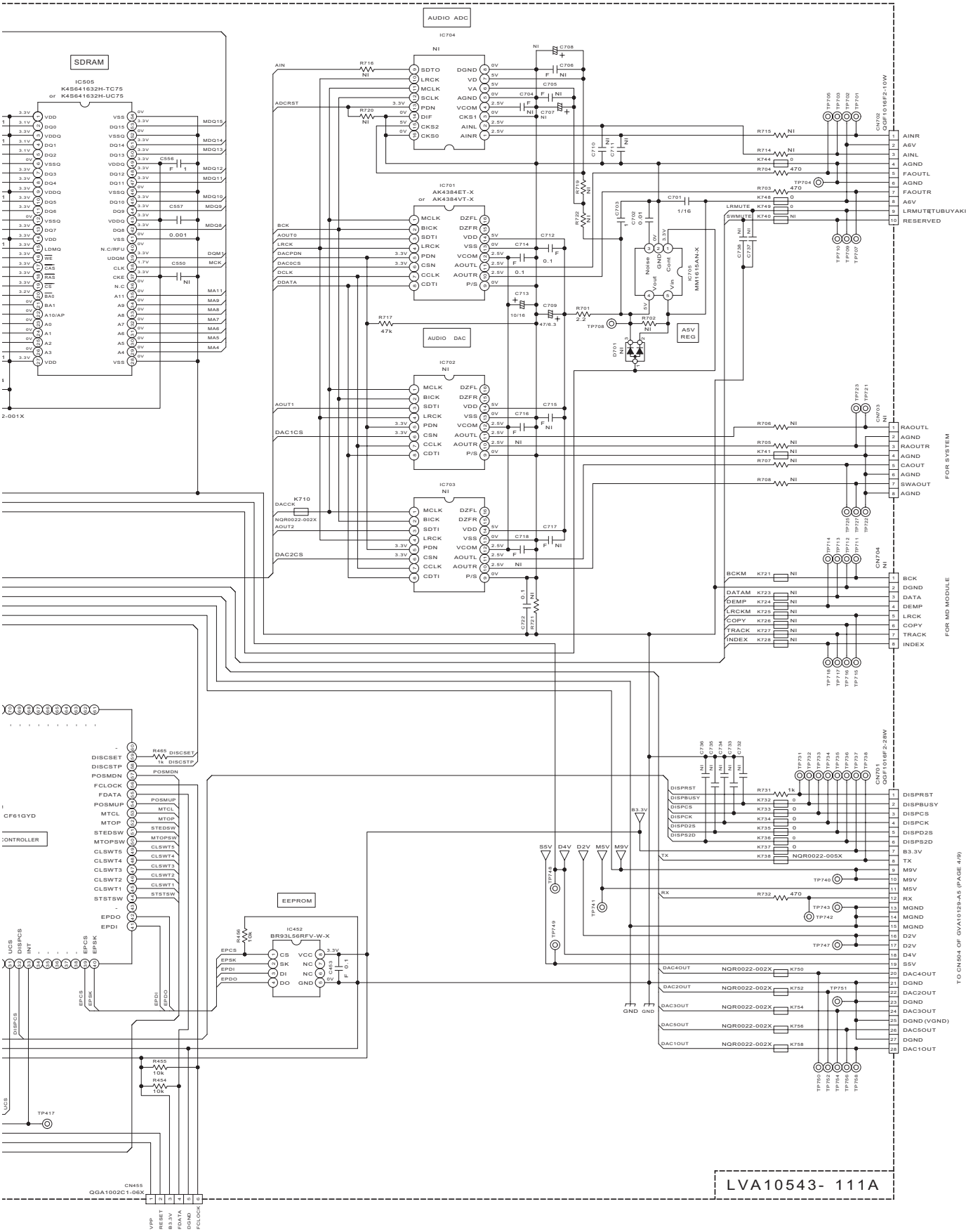
NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION --- A DVD disc in the Tray 1, and STOP mode.

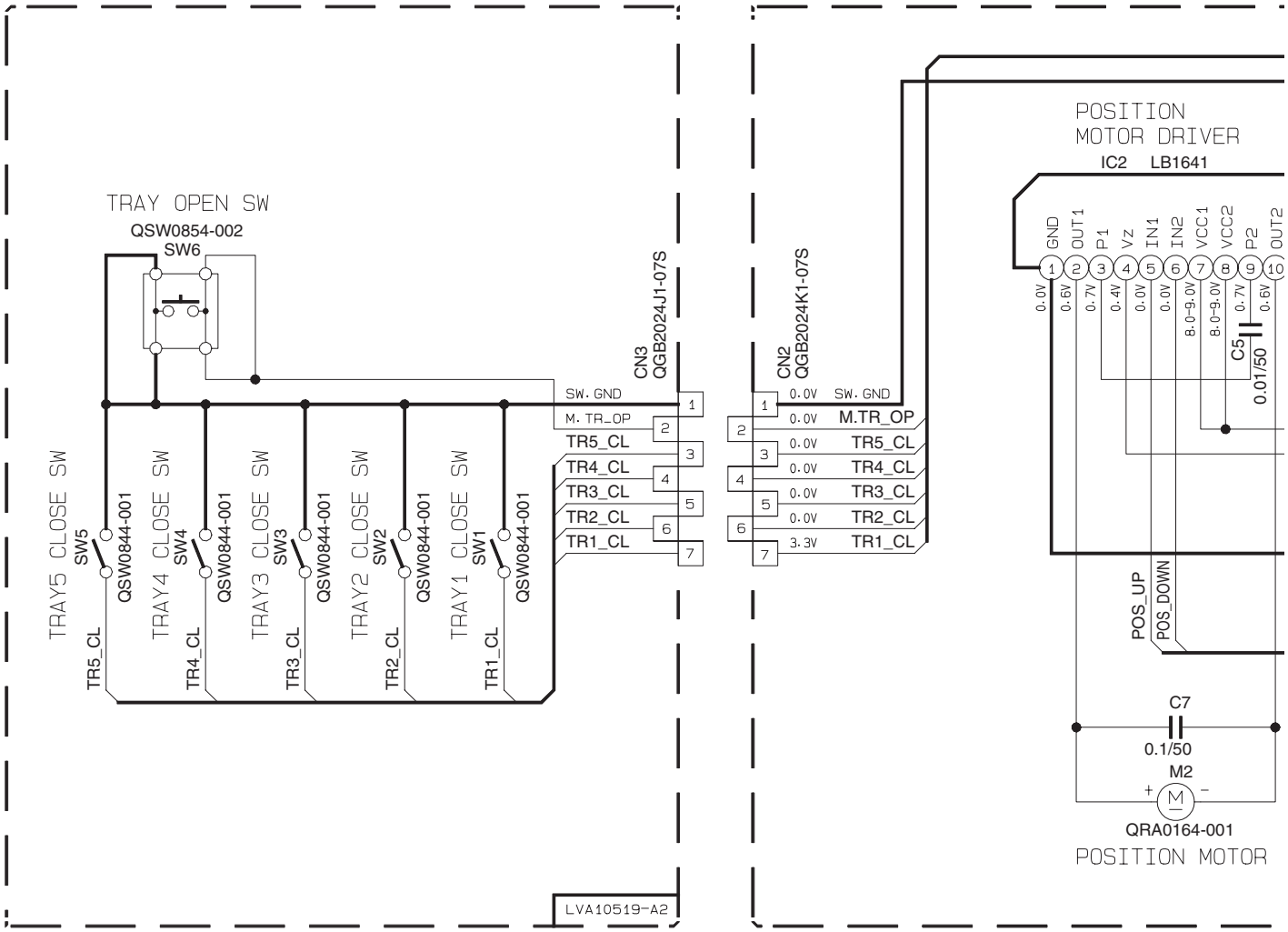
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/16W ±5% METAL GLAZE RESISTOR. OR 0.5% METAL GLAZE RESISTOR.
   ALL CAPACITORS ARE 50V, 25V, 16V, 10V or 6.3V CERAMIC CAPACITOR
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(p=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF) /RATED VOLTAGE (V).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).

3. NI STANDS FOR NOT INSERTED PARTS.

4.DIGITAL TRANSISTOR

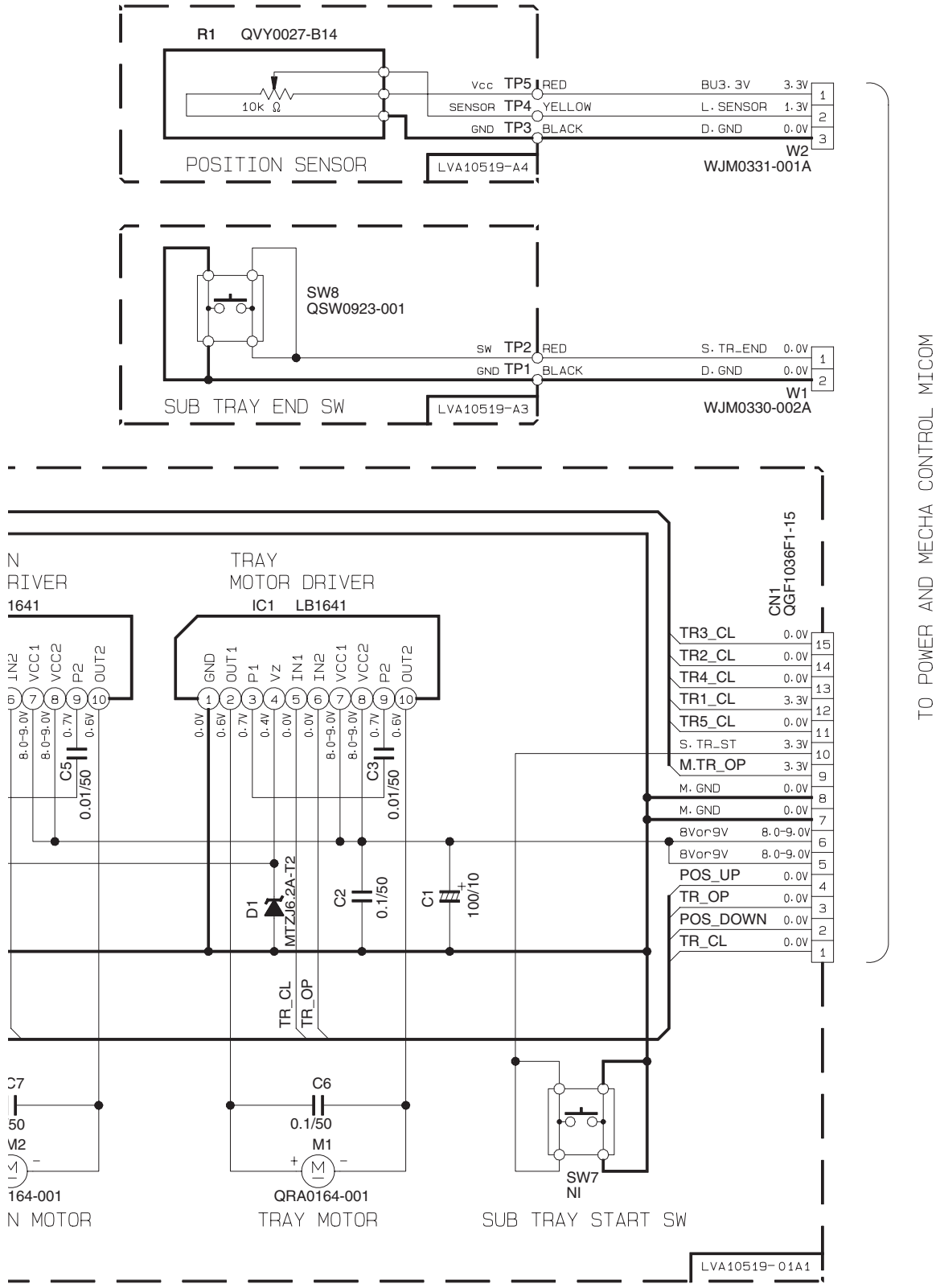

SDRAM
IC505
K4S641632H-TC75
or K4S641632H-UC75
AUDIO ADC
IC704
IC701
AK4384ET-X
or AK4384VT-X
AUDIO DAC
IC702
IC703
IC705
MM1615AN-X
A5V REG
EEPROM
IC452
BR93L56RFV-W-X
CF61GYD
CONTROLLER
CN702
QGF1016F2-10W
CN703
CN704
CN701
QGF1016F2-26W
FOR SYSTEM
FOR MD MODULE
TO CN503 OF GVA10129-A5 (PAGE 4/9)
TO CN504 OF GVA10129-A5 (PAGE 4/9)
CN455
QGA1002C1-06X
FOR FLASH WRITER
LVA10543- 111A

■ Loader section



NOTES

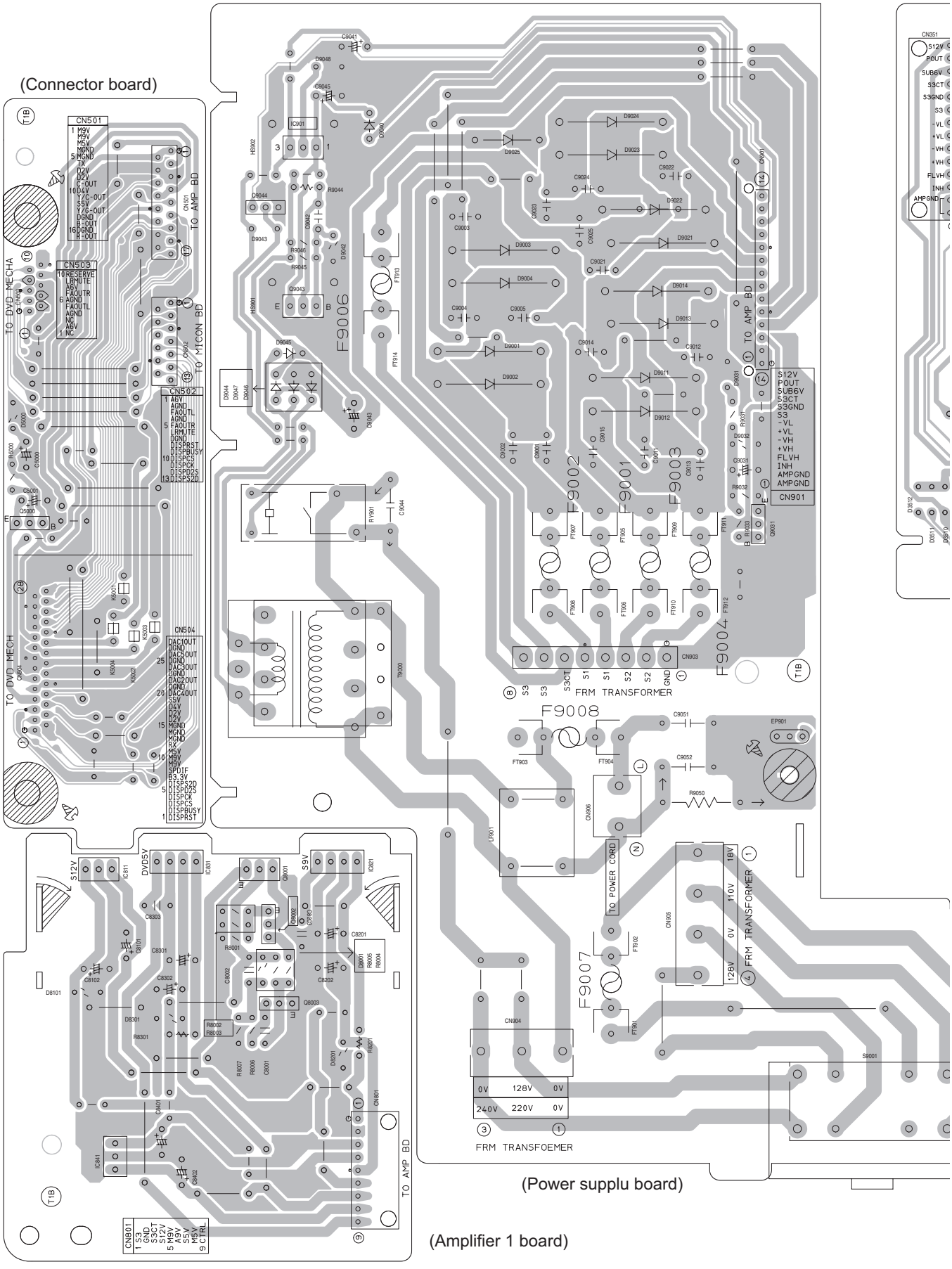
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER.
   CONDITION:DISC1 STOP
2. UNLESS OTHERWISE SPECIFIED.
   ALL CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE(V).
3. NI STANDS FOR NOT INSERTED PARTS.


R1 QVY0027-B14
10k Ω
Vcc TP5 RED
SENSOR TP4 YELLOW
GND TP3 BLACK
BU3.3V 3.3V
L.SENSOR 1.3V
D.GND 0.0V
W2
WJM0331-001A
POSITION SENSOR
LVA10519-A4
SW8
QSW0923-001
SW TP2 RED
GND TP1 BLACK
S.TR_END 0.0V
D.GND 0.0V
W1
WJM0330-002A
SUB TRAY END SW
LVA10519-A3
TRAY
MOTOR DRIVER
IC1 LB1641
GND OUT1 P1 Vz IN1 IN2 VCC1 VCC2 P2 OUT2
0.0V 0.6V 0.7V 0.4V 0.0V 0.0V 8.0-9.0V 8.0-9.0V 0.7V 0.6V
C5 0.01/50
C3 0.01/50
D1 MTZJ6.2A-T2
C2 0.1/50
C1 100/10
TR_CL
TR_OP
CN1
QGF1036F1-15
TR3_CL 0.0V 15
TR2_CL 0.0V 14
TR4_CL 0.0V 13
TR1_CL 3.3V 12
TR5_CL 0.0V 11
S.TR_ST 3.3V 10
M.TR_OP 3.3V 9
M.GND 0.0V 8
M.GND 0.0V 7
8Vor9V 8.0-9.0V 6
8Vor9V 8.0-9.0V 5
POS_UP 0.0V 4
TR_OP 0.0V 3
POS_DOWN 0.0V 2
TR_CL 0.0V 1
C6
0.1/50
M1
QRA0164-001
TRAY MOTOR
SW7
NI
SUB TRAY START SW
LVA10519-01A1
TO POWER AND MECHA CONTROL MICOM

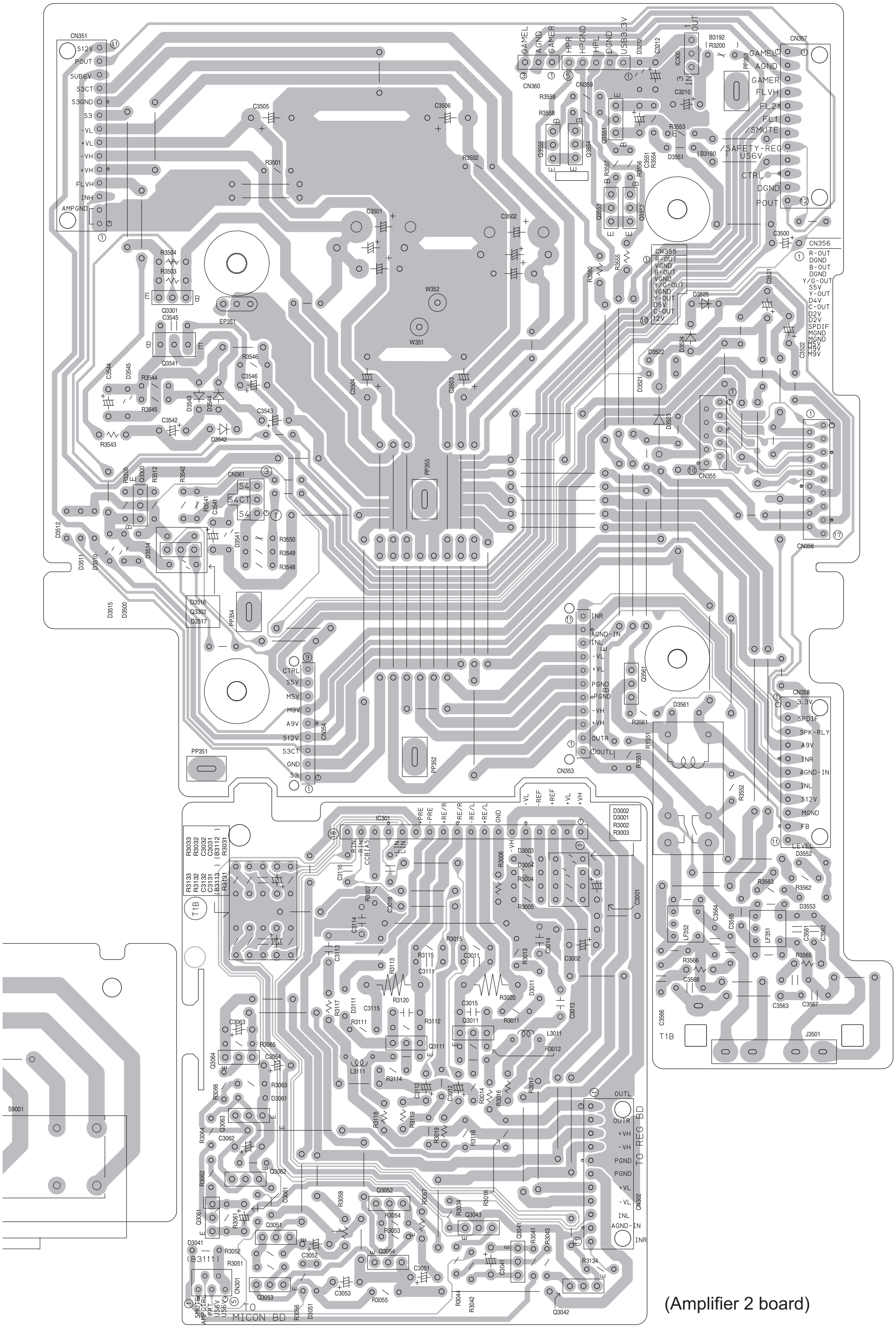
Printed circuit boards

■ Amp board

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



(Power amplifier board)

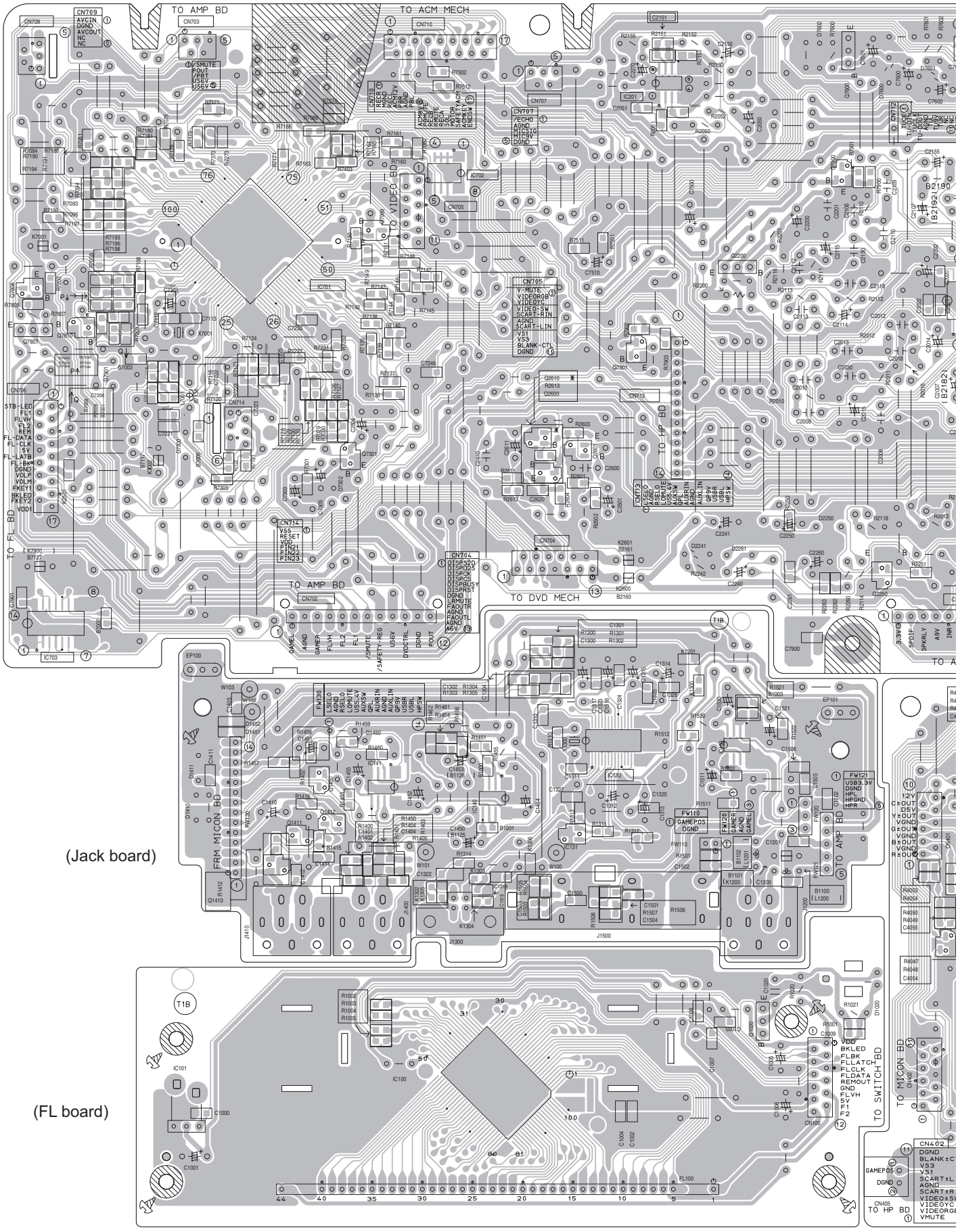


(Amplifier 2 board)

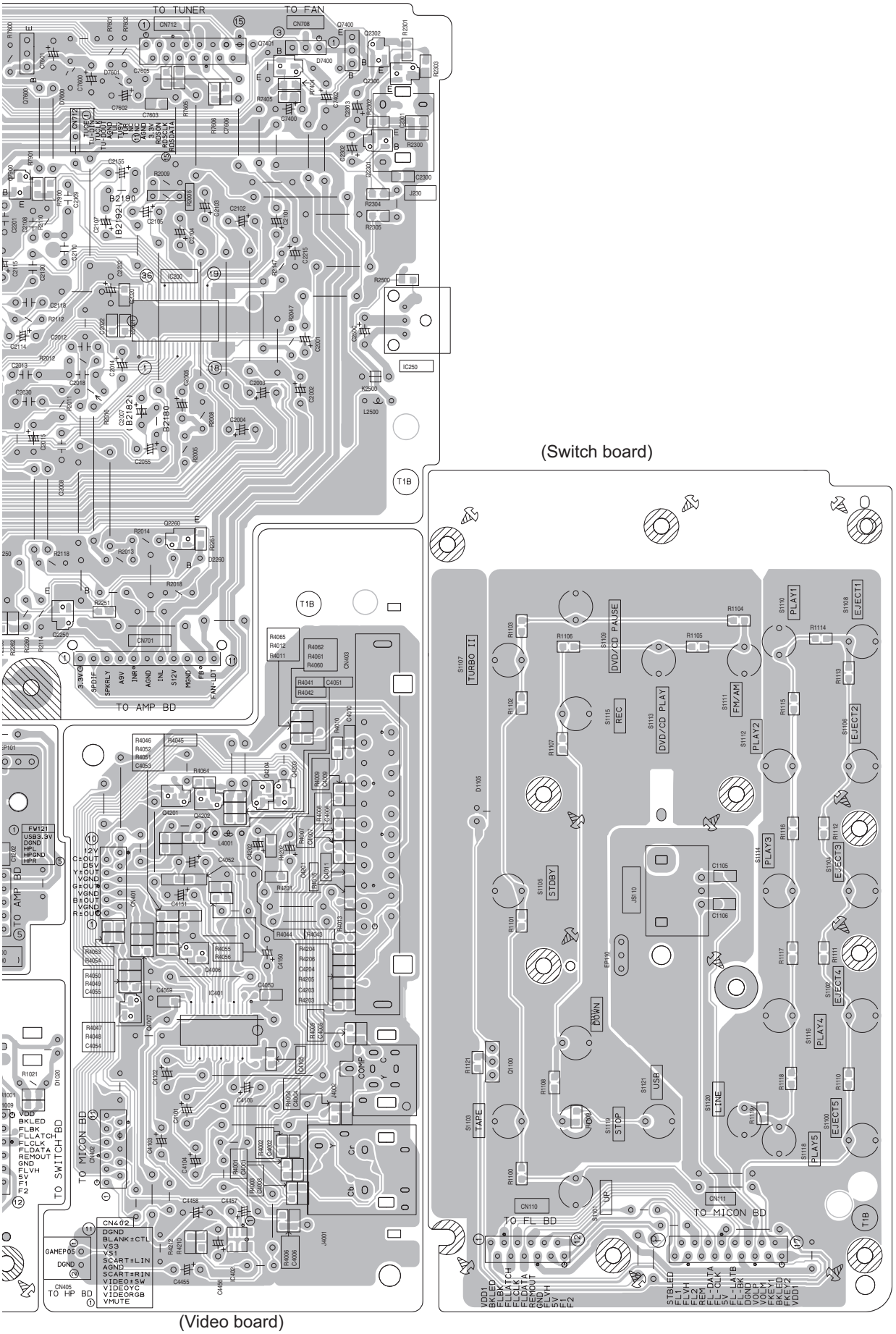
■ Main board

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

(Mair



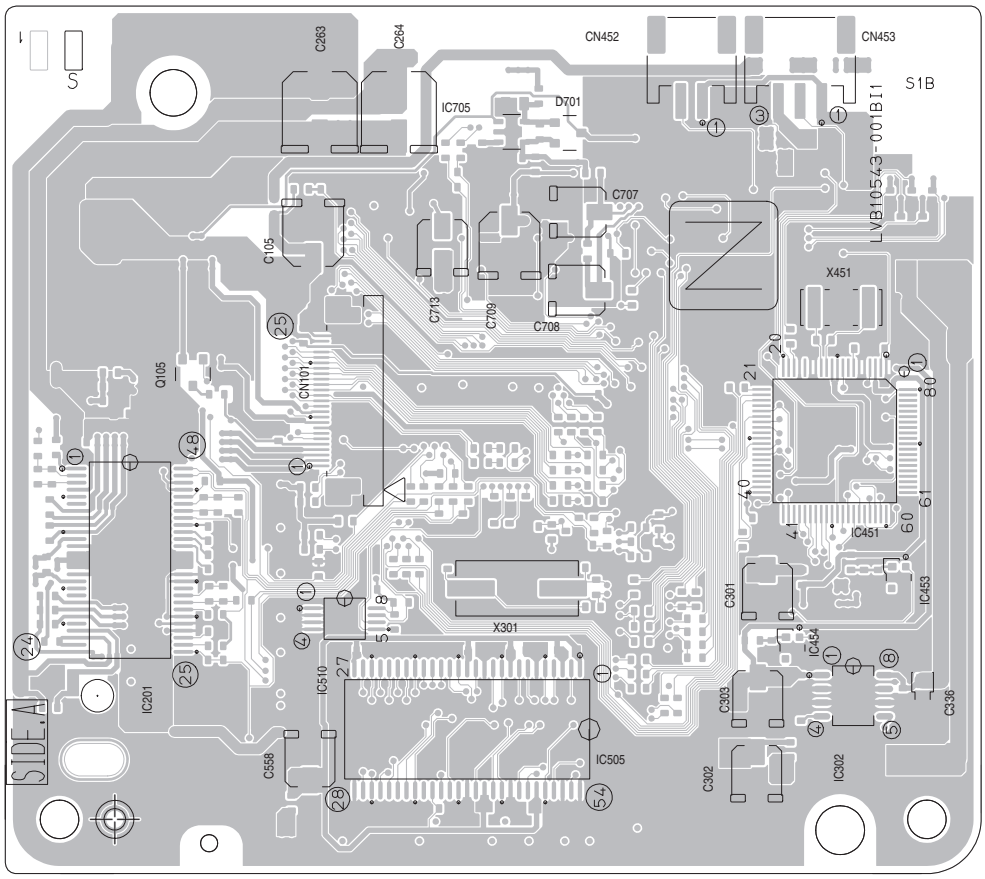
(Main board)


TO TUNER
TO FAN
TO AMP BD
TO SWITCH BD
TO MICON BD
TO HP BD
TO FL BD
(Switch board)
(Video board)

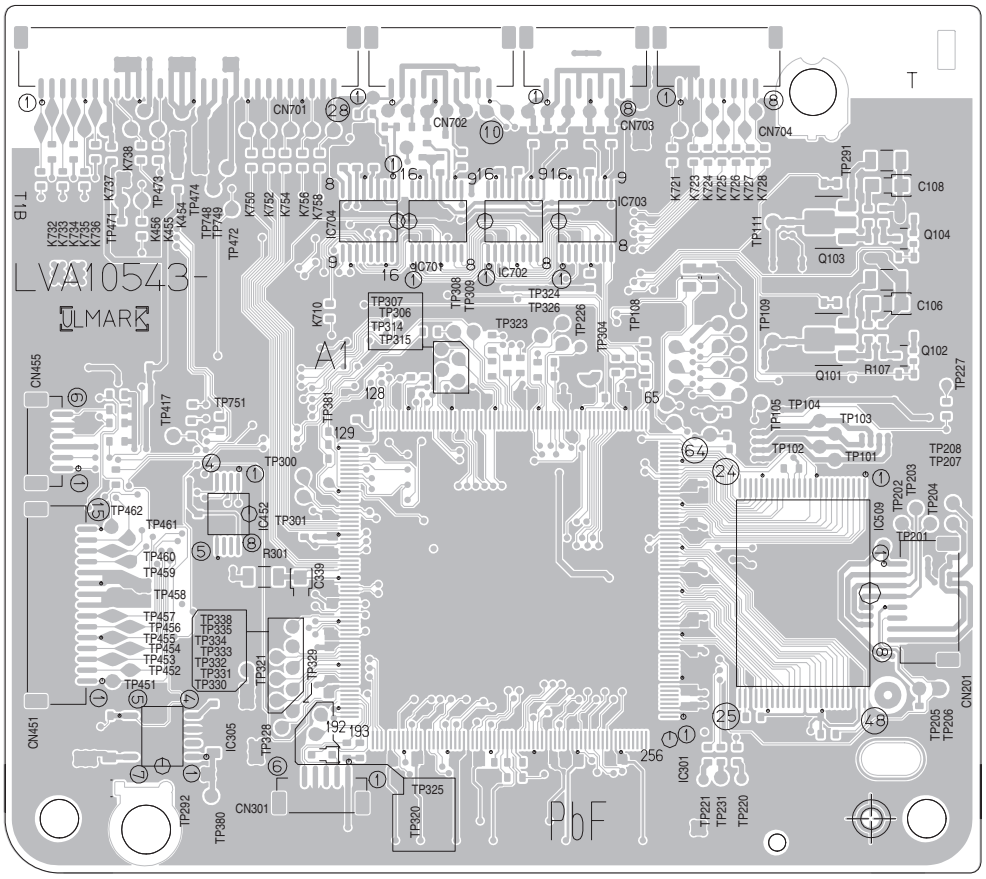
■ DVD board

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

forward side

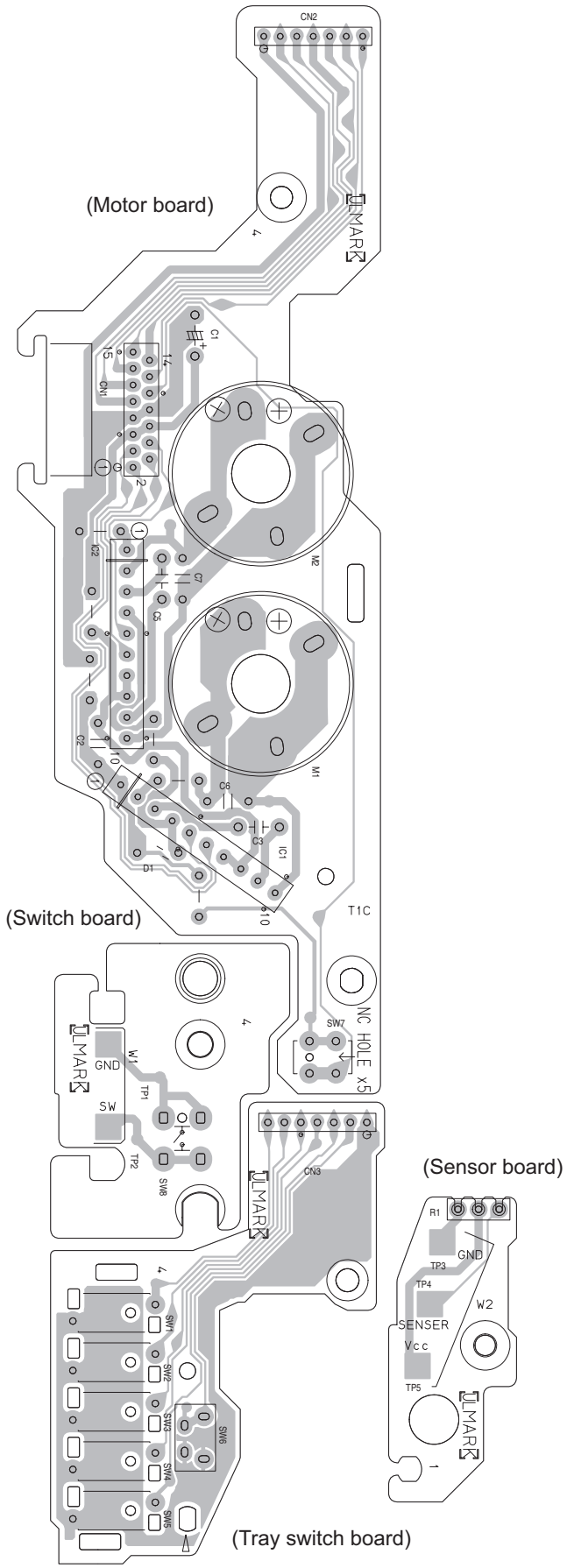


reverse side



■ Loader board

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



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